

GW - 001

**GENERAL
CORRESPONDENCE**

2007 - 1982

6 of 11



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

June 17, 1993

DOCKET NUMBER: FRP-06-NM-00015
BLOOMFIELD REFINING COMPANY
BLOOMFIELD REFINING CO.
PO BOX 159
BLOOMFIELD ,NM 87413

NOTIFICATION OF SIGNIFICANT AND SUBSTANTIAL HARM

The U.S. Environmental Protection Agency (EPA) has received a Facility Response Plan for the above referenced facility. After a review of the plan, EPA has determined that your facility could reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters, adjoining shorelines, or exclusive economic zone. As such, your facility response plan will be reviewed for approval, along with other plans received.

Because of the volume of plans received, EPA will not be able to complete the required review and approval by August 18, 1993. Therefore, EPA is requesting facility owners or operators to certify that they have ensured by contract or other approved means the availability of private personnel and equipment necessary to respond, to the maximum extent practicable, to a worst case discharge or to a substantial threat of a discharge. In order for EPA to authorize your facility to operate without an approved plan after August 18, 1993, we ask you to provide this information to EPA by July 18, 1993. Refer to the proposed regulation (58 FR 8847) published on February 17, 1993, for guidance concerning a definition of "contracts or other approved means." Upon submission of acceptable certification, EPA will authorize your facility to operate without an approved response plan for up to 2 years after the date of plan submission in accordance with Clean Water Act section 311(j)(5)(F). Prior to the expiration of the extension, EPA will complete its review of the plan and notify you of the results.

Return certification information for the facility, referencing the docket number, to the following address:

U.S. EPA Region VI
Contingency Planning Section
P.O. Box 303
Dallas, Texas 75201-9998

Sincerely,

Donald P. Smith
Senior On-Scene Coordinator



BLOOMFIELD REFINING COMPANY

SPILL PREVENTION CONTROL & COUNTERMEASURE PLAN

EMERGENCY PLAN

THREAT ASSESSMENT

Nature of Business Activity

Bloomfield Refining Company 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 Refining Company facility is located near latitude 36°41'50" and longitude 107°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 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 between 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 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 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.

EMERGENCY PLAN

GENERAL

Explosions, fires, releases, or serious accidents may occur despite the finest possible safety precautions. In these times of emergency, it is essential for the protection of personnel, property, and the environment that preplanned, well rehearsed action be taken. It is the purpose of this emergency plan to outline the action to be taken, and to assign the responsibility for these actions.

This plan is intended to cover foreseeable types of emergencies. Examples are:

1. Fire and/or explosions.
2. Release of Flammable Vapor or Gas.
3. Release of Toxic Vapor or Gas.
4. Release of Crude Oil, Intermediates, or Products
5. Bomb Threats.

All Bloomfield Refinery personnel are part of the emergency organization and are expected to carry out their assigned duties of firefighting operations involving incipient stage fires as well as more advanced fires and emergencies to the ability of received training. Each employee will participate in combined academic and practical training to better equip them with the knowledge and skill required for performance of their duties.

All members of the emergency organization should remain currently informed as to their roles in handling these emergency situations.

Each employee will receive training in the following aspects of industrial firefighting and emergency control:

- a. Hose handling and appliances
- b. Inspection, maintenance and use of portable fire extinguishers
- c. Agents and modes of extinguishment
- d. Tank fire fighting (pressure and atmospheric)
- e. Operation of mobile fire equipment
- f. Operation of fire pumps
- g. Use of protective clothing
- h. Use and inspection of breathing apparatus
- i. Control of hazardous materials
- j. Control of hazardous wastes
- k. Control of leaks (with or without fire)
- l. Control of spills (with or without fire)

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I. RESPONSIBILITIES**SHIFT SUPERVISOR**

The Operation's Shift Supervisor has special knowledge of operating equipment and process flows and is generally most available at any time day or night. For this reason it will be the Shift Supervisor's responsibility to assume command of emergency control efforts and act as Fire Chief until arrival of a member of the Safety Department. The Shift Supervisor will then assist the control effort as a member of the command team.

SAFETY MANAGER

Direct field command at emergency scene and assure all functions pertaining to the emergency operation are being carried out in an efficient manner. Later references in this order may signify this position by the title of "Fire Chief".

SAFETY SUPERVISOR

Assist the direction of field command by establishing an Emergency Command Post to coordinate activities and establish lines of communication. In the absence of the Safety Manager the Safety Supervisor will assume duties required as Fire Chief.

OPERATIONS SUPERVISOR

Coordinate activities between emergency command post at emergency scene and process equipment control in control room. The Operations' Supervisor is also responsible for maintaining an updated list of employees and their phone numbers in a readily accessible location in the control room.

CHIEF OPERATOR

Maintain control of process unit(s) left operating and act as dispatch operator until an Emergency Control Center can be established. It is also the Chief Operators responsibility to know the call-out system and how to activate it on moments notice.

OPERATORS

Perform necessary shut down of involved equipment as required by the situation and assist emergency control efforts as fire crew member.

PUMPER

Assist as fire crew member until relieved by the Fire Chief to take command of gate guard duties as outlined in the section of this order titled "Plant Security".

MAINTENANCE SUPERVISORS/PLANNER

Proceed to emergency scene and assume responsibility of fire crew leaders under direction of acting Fire Chief. The Maintenance Supervisors and Maintenance employees will insure all necessary fire equipment is taken to the scene.

MAINTENANCE EMPLOYEES

Proceed to emergency scene and assume fire crew duties under direction of assigned fire crew leaders.

TECHNICAL SERVICES MANAGER / PROCESS and ENVIRONMENTAL ENGINEERS

Act as information chief between emergency scene and Emergency Control Center. Provide technical and process information to command team.

OFFICE STAFF

Assume duties of coordinating first aid and medical treatment. Coordinate ambulance/rescue personnel. Reports to Emergency Control Center for obtaining needed supplies and equipment.

PLANT MANAGER

Coordinate all activities by establishing and Emergency Control Center in the main office building aided by the Administrative Manager, Maintenance Manager, and Operation Manager.

EMERGENCY CONTROL CENTER

Make available outside services, equipment, and supplies as needed. Coordinate support services and provide communication to necessary corporate offices and news media.

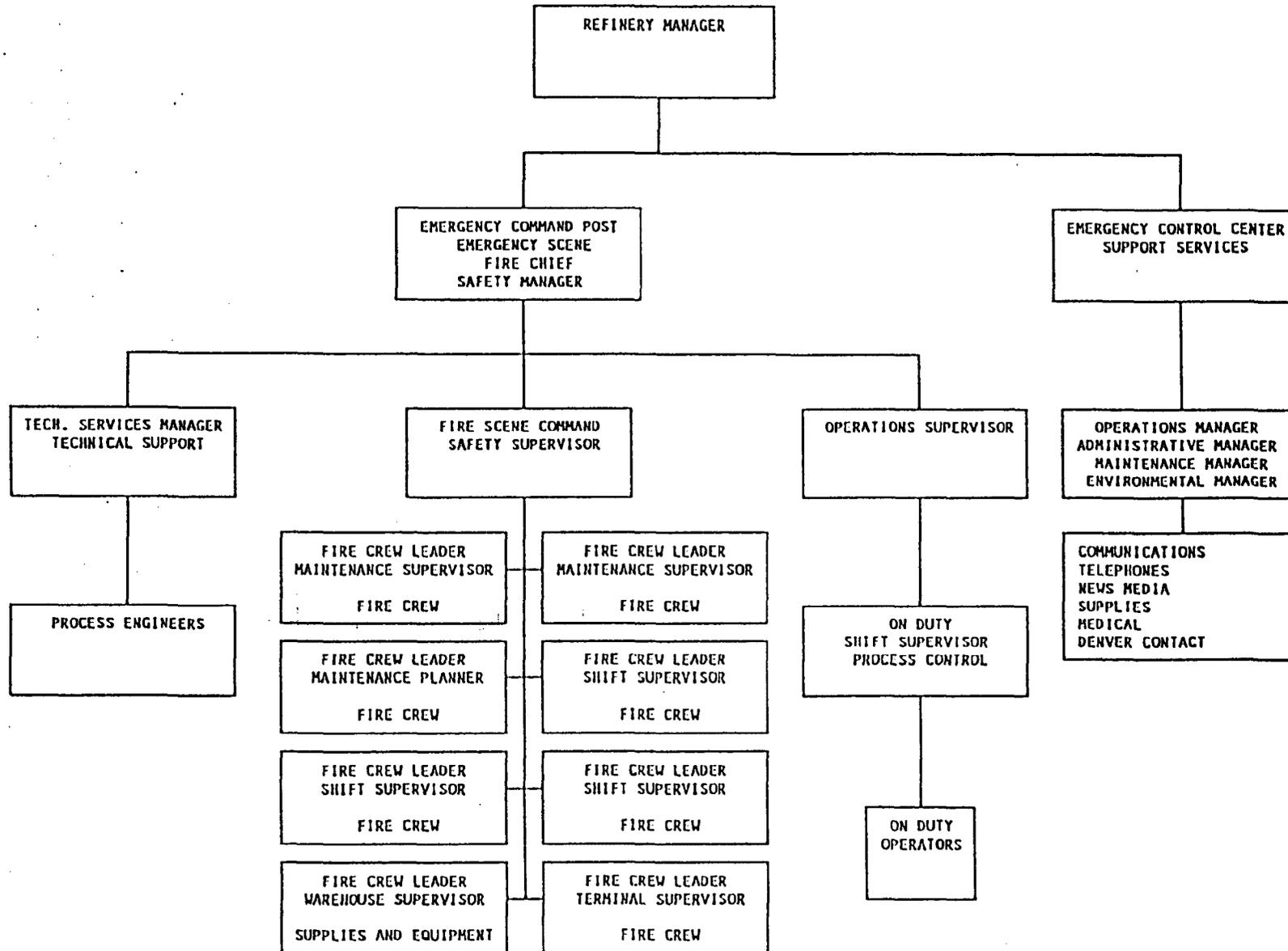
WAREHOUSE SUPERVISOR & EMPLOYEES

Responsible for delivery of fire fighting foam and/or supplies to the emergency scene as required by Command Post.

LAB EMPLOYEES

Proceed to emergency scene and report to command post for assignment of fire crew duties.

EMERGENCY ORGANIZATIONAL CHART



II. FIRE AND/OR EXPLOSION

A. REPORTING THE FIRE

Upon discovering a fire, unless it is obvious that it is so small that it can be easily extinguished, proceed immediately to one of the alert sounding stations either south of the control room or in the roadway between the Poly unit and Treator then signal the alarm. The alarm signals will identify the general location of the emergency by use of fire zones. (See Chart).

If the nearest alert station is not readily accessible, the alert should be communicated to the control room by radio or telephone, they will in turn sound the alert over the alarm system. When contact is made to the control room, give your name, the location of the fire, and the fire zone. Be calm; be sure that the person answering has received the proper information before discontinuing the conversation.

B. FIRE ZONES

To make it possible to quickly designate the general area of a fire or emergency, the Bloomfield Complex has been divided into three fire zones. The fire alarms should be sounded in a manner to identify the general location of the emergency. The alarm should sound a long blast (3-5 seconds), followed by short blast(s) (1-2 seconds) which indicate the fire zone, and then repeated after a short time lapse. The following table lists the fire zones, location, and corresponding alarm.

Zone No.	Locations	Alarm Signal
Zone 1	Process Unit	1 long-1 short
Zone 2	Tank Farm	1 long-2 short
Zone 3	Term./Trans.	1 long-3 short
For Toxic Leaks, Releases, or Gas Leaks Without Fire		2 longs & above coding
<i>FACILITY EVACUATION.....10-15 short blasts in succession</i>		

C. IMMEDIATE CORRECTIVE ACTION

Most fires are relatively small when first ignited, but can spread very rapidly. Many serious fires and explosions have been prevented by taking immediate action to extinguish the fire or prevent the escape of flammable liquid, vapor, or gas, yet not endangering personal

safety. While the fire is being reported, operations and maintenance personnel at the scene should immediately proceed to block off the feed to the fire and put to use available emergency equipment as needed. Do not wait for the fire crews to arrive; in most instances, the fire can be extinguished or contained before fire crews arrive.

D. DIRECTION OF FIRE FIGHTING EFFORTS

The ultimate responsibility as Fire Chief rests with the Safety Manager. However, until he arrives, direction of the fire fighting effort must be assumed by others at the scene of the emergency. When the alarm is sounded the first Operating Shift Supervisor at the scene should assume responsibility for directing the fire fighting effort and isolating process equipment. Command should be transferred to a member of the safety department upon arrival and briefing, releasing the Shift Supervisor for fire crew leader duties.

E. FIRE WATER SUPPLY

Water for fire fighting purposes is provided by automatic start stand-by pumps, and a system of underground piping. If long duration fire fighting is probable all possible water resources from in-plant storage and city water supplies shall be made available and periodic checks of the fire pumps should be made. The fire chief shall determine when the above items become necessary and designate an available operator to assume the duties.

F. EMERGENCY CALL OUT PROCEDURE

An emergency occurring after standard daylight working hours can pose serious manpower problems. To minimize these problems the following call out procedure should be followed.

Alert lists are provided to notify appropriate refinery personnel of an emergency in an orderly manner. Each list has a specific purpose and designates who makes the call, who is called, and at what times these lists are used.

ALERT LIST # 1

The following people should be contacted by the Shift Supervisor in the event of a bomb threat, suspected radiation accident or a fire or emergency that has been controlled by personnel on duty:

1. Safety Manager or Safety Supervisor
2. Operation Manager or Operations Supervisor

ALERT LIST # 2

This call out list is designed to notify personnel of a major emergency situation that requires additional manpower. The Chief Operator, upon request of the Fire Chief, will call Contact of New Mexico at 325-1873 who will in turn make the actual contact with our employees.

When Contact of New Mexico receives a call from the Chief Operator they have no way of knowing who is on shift or off. Because of this families of employees who are on shift may receive an emergency assistance call. Employees should tell their families beforehand that this may occur but it is not necessarily reason for concern.

G. EMERGENCY COMMAND POST

During a major emergency, it will be necessary to establish communication between members of management at the scene and the Emergency Control Center outside the immediate area of the fire.

This Emergency Command Post will be a base for the direction of all fire fighting activities as well as a communication post to all involved. All information from this post will be transmitted by way of radio or communicated directly by a member of the Technical Support Group to the Emergency Control Center.

Outside aid organizations should report to this command post after arrival and clearance at the front gate.

All off duty employees should contact this post upon arrival for fire crew assignments.

H. EMERGENCY CONTROL CENTER

During a major emergency, it will be necessary to establish an Emergency Control Center where senior management have means of communication with the Emergency Command Post, with personnel outside the plant, with necessary corporate offices, and with press and news media personnel.

The maintenance office area has been designated as the Emergency Control Center. In anticipation of its use, a radio receiver-transmitter will remain in this center at times of emergency.

When a situation arises that requires establishing an Emergency Control Center, the Administration Manager or another member of this team will be responsible for contacting clerical, purchasing, and warehousing personnel to aid in the emergency effort through actions within their departmental control.

I. REQUESTS FOR OUTSIDE ASSISTANCE

In the event that outside assistance is needed, we can request this aid from the local fire departments-primarily the Bloomfield Department. It shall be the responsibility of the Chief Operator to request this aid, by telephone, upon the direction of the Fire Chief.

Mutual aid personnel and equipment from all outside responding agencies will assemble outside the main refinery gate in the roadway

southwest of the gate. The person in charge of each group should report to the main gate and stand by. Personnel and equipment will be admitted to the refinery only after specific authorization and instruction is given by the Emergency Command Post. Each responding Fire Chief or Officer is responsible for the safety of their specific personnel. Each responding fire chief will work with, and under the direction of, the Bloomfield Refinery Fire Chief at the scene.

J. CLEAN UP

As soon as the emergency is under control and in a safe condition all fire equipment will then be cleaned and returned to its designated locations for future use. When all equipment is returned to operable condition, fire crew members will return to their regular jobs, or may return home when released by the Fire Chief.

K. PUBLIC RELATIONS

A spectacular fire is a very newsworthy event, and we can expect visitations by members of the news media. It is quite important that factual information be made available as soon as possible. Only the Refinery Manager or designee will release information to the news media, and these releases should be limited to actual confirmed facts - no speculations should be made.

This general policy is based on recognition that the press and general public has a legitimate interest in any disaster that strikes a company facility. It is to the company's benefit to cooperate with news media when emergencies occur. This is the company's best guarantee that the resulting news reports are factual and accurately present the company's position.

A press waiting center will be set up in the office conference room until such time as the Emergency Control Center is prepared to make a statement. A person designated by the Emergency Control Center team will remain with press personnel and assure them they will be furnished information and updates as soon as possible. Under no circumstances will news media personnel be allowed at the fire scene without explicit consent from the Fire Chief, and never unaccompanied.

L. PLANT SECURITY

During a major emergency, the main entrance gate becomes an important center of activity. Entry of personnel and vehicles into the plant must be curtailed or stopped completely. Congestion of vehicles must be prevented to make it possible to bring in emergency equipment without delay.

The activities at the main gate will be supervised by the Pumper as soon as he is relieved of his fire crew duties by the Fire Chief. These activities should include closing the east entrance gates in the boneyard and at the roadway by the burnerfuel rack then taking station at the front gate to restrict or eliminate all unnecessary traffic.

If additional security is needed along the frontage road, contact will be made to the county sheriff's office at 334-6107 or 911. The gate guard will request this assistance through the Chief Operator or through the Emergency Control Center if one has been established.

M. INJURIES AND FIRST AID

Injuries will be handled in accordance with Safety Order S-13. If a major explosion or fire results in multiple serious injuries, the Office Staff is to coordinate first aid and medical treatment of these injured individuals. The Shift Supervisor or Fire Chief should consider the injuries when requesting outside assistance. If ambulances and/or medical assistance is needed, it can be obtained from the Bloomfield Fire Department and the San Juan Emergency Center by dialing 911.

If needed a medical staging area will be set up in the fire station to the south of the Crude Unit and manned by office or other available personal trained in rendering first aid and medical care.

After medical treatment for the injured individuals has been administered, the first aid coordination group should make a record of those treated, and the status of each. This information should be relayed to the Emergency Control Center to make contact with the injured parties families. A member of the Emergency Control Center will make this contact in person or by phone depending on the seriousness of the injuries.

N. EMERGENCY SHUT DOWN PROCEDURE

A quick efficient shutdown of equipment is a necessity in emergency action situations. Each situation will be different but the main objective is to eliminate flow to the involved area. This may involve simply closing a suction valve to a pump for seal fires or may require complete unit shutdown for more involved emergencies. Each operator should know the safe emergency shutdown procedure for his unit.

Emergency shut down procedures are found in the unit operating manuals.

O. FACILITY EVACUATION

Should it become evident that the emergency has become uncontrollable or circumstances arise that endanger personnel attempting to rectify an emergency situation the Fire Chief will request a "Facility Evacuation" Signal be sounded on the fire alarm. He will also broadcast an ordered evacuation on each of the channels of the radio system and notify any outside assistance personnel of the need to evacuate. This order should not be questioned but efforts taken immediately to secure fire fighting equipment to a safe manner and leave the emergency scene.

III. RELEASE OF FLAMMABLE VAPOR OR GAS

In general, releases of flammable vapors or gas are handled in much the same way as fires. The reporting of these emergencies, sounding of the alarm, and reporting of fire crews should be identical to the procedure outlined in the other sections of this emergency plan.

All sources of ignition near the release should be extinguished immediately. Large quantities of water should be directed upon the area of discharge to disperse the flammable material and isolate it from sources of ignition. Every effort should be made to quickly isolate and depressure the leaking equipment.

The formation of a flammable vapor cloud can be extremely hazardous. Every effort should be made to prevent personnel from entering the cloud whether on or off Refinery property, because they can be engulfed in flame if ignition occurs.

IV. RELEASE OF TOXIC VAPOR OR GAS

In the event of a major release of a toxic vapor or gas, it may be desirable to absorb or disperse the toxic material with large volumes of water. In this event, the regular alarm should be sounded, as outlined in other sections of this plan, and fire crews will respond.

When responding to a release of, or fire involving, toxic material, all personnel should respond to the upwind side of the emergency. All personnel should be prepared to use the protective equipment required for such a case as directed by the supervisor in charge. It should be remembered that water solutions of some chemical vapors are extremely corrosive (chlorine, HCl). For this reason, if water sprays are directed on the leak, the resulting corrosion could intensify the leak. However, a curtain of water spray may be played on the vapor cloud downwind of the leak, until such time as the equipment can be isolated and the leak stopped.

Every effort should be made to prevent personnel both on and off the property from entering a toxic vapor cloud. Sullivan Road may have to be closed for protection of the public.

V. RELEASE OF CRUDE OIL, INTERMEDIATES, OR PRODUCTS

It is possible, especially in the tank farm area, that a fire or explosion could also result in a release, or cause the potential for a release, of crude oil, intermediates, or products. It is also possible that a release of crude oil, intermediates, or products could lead to a fire and/or explosion. If the release is contained on site, but considered significant, the Emergency Plan should be initiated.

Bloomfield Refinery is located adjacent to the Hammond Irrigation Ditch and the San Juan River. The river is an environmentally sensitive area for several reasons. Any release or potential release to the ditch or river of crude oil, intermediates, or products must be considered serious and the Emergency Plan initiated.

VI. REGULATORY NOTIFICATION/REPORTING REQUIREMENTS

Almost any emergency 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). Reporting requirements vary according to the specific regulations affected and are often difficult to determine during an emergency, but "failure to report" penalties can be substantial, so when in doubt -- MAKE A REPORT.

A. RESPONSIBILITY

The Environmental Engineer will be responsible for making the required notifications. In the event that he is not promptly available at the Emergency Control Center, the person in charge of the Emergency Control Center will be responsible for making the notifications as required.

B. NOTIFICATION REQUIREMENTS

1. Air Emissions (General)

An emergency resulting in an abnormal air emission will require notification to the New Mexico Air Quality Bureau within 24 hours. Call (505) 827-0065 and state that an AQCR report needs to be made.

827-0060

2. Toxic Chemical Releases

Reporting under this category is somewhat complex and involves a determination of the specific chemical involved, whether it exceeds the reportable quantity, and whether it enters the environment. The reportable chemicals DO NOT INCLUDE petroleum, crude oil or any intermediate fraction, natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of these).

Chemicals at Bloomfield Refining Company that ARE reportable include:

Name	Reportable Quantity (lbs)
Chlorine	10
MMT	1
Sulfuric Acid	1000
Tetraethyl Lead	10

In the event of a spill of one of these chemicals that exceeds the reportable quantity (when not sure, assume that it does) report immediately to:

National Response Center	(800) 424-8802
State Emergency Coordinators	
State Police (24 hour)	(505) 827-9126
Max Johnson	(505) 827-9223

Local Emergency Committee
Local Fire Departments 911
Neil Tribbett (LEPC- at PNM San Juan Generating Station
or at home)

3. Crude Oil, Intermediates, or Products Release to San Juan River

In the event an emergency results in an oil discharge to the San Juan River or to Hammond Ditch (an oil discharge means one which creates a sheen or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines) an immediate notification is required to:

National Response Center (800) 424-8802

NM Environmental Department (505) 827-0187

4. Other Releases

Releases of crude, intermediates, products, salt water, wastewater, acids, caustics, solvents, or other chemicals in excess of 25 barrels onsite or offsite in a manner not approved by the New Mexico Oil Conservation Division will require immediate notification to:

District NM OCD Supervisor (505) 334-6178

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

Hammond Conservancy District (505) 632-3043

C. POSSIBLE REQUIRED INFORMATION

Although response agencies such as the local fire departments and police will likely already be involved in the emergency, it remains important that notification be on record at the proper agency offices as soon as possible. The notifier should be prepared to provide as much information as is available. Be as factual as possible and clearly state what information is available. Some of the information you may need to provide is:

- 1) Description of the incident
- 2) Date, hour, and duration of occurrence
- 3) Name of any chemicals or substances involved
- 4) Estimate of quantities involved
- 5) If a release, into what medium (air, water or soil)
- 6) Status of local emergency response
- 7) Evacuation requirements
- 8) Name and telephone number of the person to be contacted for further information.

VII. INCIDENTS INVOLVING RADIATION SOURCES

Radiation is a form of energy and as such can be put to use for a variety of purposes. As with other forms of energy it can be dangerous when uncontrolled. To control radiation intelligently it is necessary to understand its seriousness and proceed with respect.

The radioactive elements in use at the refinery (i.e. precipitator hopper level indicators and "Princeton Gamma-Tech Chemical Analyzer in the lab) are sealed sources with controlled directional energy output which present no personnel physical danger under normal operating conditions. However, as with any other hazardous material, when one of these sources enters an uncontrolled state through physical damage to the sealed housing, proper precautions and definite action steps must be taken to rectify the situation.

No employee is to attempt operation or repairs on any equipment containing a radioactive source without specific authorization, instruction and training in the operation and handling of the equipment.

The following procedure is to be used in the case of suspected damage or leakage of a radiation device. (Cause for concern could be physical evidence of damage, fire involving the area of the source housing or general surveys conducted using the portable radiation detection meter).

1. Clear the area of all personnel as quickly as possible, to distance of 15 feet from the source.
2. Contact the Shift Supervisor and the Safety Department.
3. Establish a 2 mRem/hr boundary line using radiation detection instruments.
4. Avoid confusion and assist in maintaining control of established boundaries.
5. Make a report or log listing:
 - a. Time of suspected incident.
 - b. Names of personnel in the area and their exact location at time of incident.
 - c. Incidental meter readings and their location taken while establishing boundaries.
 - d. Cause of disturbance of radioactive material (if known).
6. Contact Kay-Ray if additional assistance or information is needed.

NOTE* - All reports to governmental and other agencies will be made by the Safety Department.

VIII. BOMB THREATS

It is the purpose of this section to establish a policy and procedure that will provide for personal safety of employees, protection of company property and products, and assure continuance of safe operations in the event that a threat of destruction is directed against a Bloomfield Refinery facility.

Action to be taken in response to these threats is the responsibility of the Operations Manager or Safety Manager. The Operations Manager also has the responsibility of:

- a. Communications with senior management.
- b. Requesting law enforcement assistance.
- c. Notifying other industry of a possible threat to their location.

Information concerning a threat of destruction should not be released to non-Bloomfield Refining persons or news media by anyone except the Operations Manager or Plant Manager.

A. PROCEDURES

Threats would probably be received by the receptionist in the office during office hours or a Shift Supervisor or operator in the control room after hours. However, a threat could be directed to any person working at the plant. Any person receiving a bomb threat should respond as follows:

1. Remain calm. DO NOT PANIC!!!
2. STALL. Keep the party talking and get as much information as possible.
3. Listen closely to the individual and for any background noises. If possible, have another person listen to the conversation from another phone.
4. Have available, and fill out the accompanying phone call form with as much detail as possible. (Attachment II)
5. Immediately, upon completion of the telephone call, relay the information to the Operation Manager and Safety Department.

When a call is received, the Safety Department or available supervision will set up emergency headquarters to coordinate and direct the search, and/or address the following:

1. Evaluate the threat for validity
2. Request visitors, contractors, non-essential employees to leave the facility since only authorized personnel will be allowed to remain in or be admitted to the refinery.

3. Designate someone to watch for suspicious persons or cars outside the plant and record any descriptions or license numbers.
4. If more help is needed, the Operation Manager is the only person authorized to call off duty employees to assist.
5. Turn off two-way radios and leave them in the control room or offices. DO NOT use them while the refinery is under alert.
6. Decide if a search for possible bomb location should be instituted. If so, each operator should perform a search of his unit paying special attention to column skirts, debris and cluttered areas, and areas around major pieces of equipment. Only a general visual inspection will be conducted by in-house personnel. Contact will be made with the State Police for assistance and more extensive search efforts, if warranted.
7. If a time of explosion was indicated by the caller, any search will continue to within ten minutes of the set time. At that time all personnel will be evacuated, except those required in the control room. The units will not be shut down or left unattended. If a specific time was not given, contact the Operations Manager for direction.
8. If a bomb or anything out of the ordinary is discovered:
 - a. Notify the emergency headquarters.
 - b. Do not touch, attempt to remove, or disarm.
 - c. "Bomb Removal" personnel (from the State Police Office) will be brought to the site.

IX. RADIO SYSTEM

Two-way radios provide a valuable means of communication in an emergency situation. With the aid of a two channel system we are able to use the number two channel only for direction of fire fighting efforts. When an alarm is sounded, channel two will be cleared except for emergency purposes. Channel one will be used for the activities involved in isolating the involved equipment by the operating department. All other use of the radios will be discontinued until such a time as the situation is in hand and the recall is given.

X. CONTRACTORS AND VISITORS

When an emergency alarm is sounded, all contractors and visitors are to be directed to leave the process area and assemble at the main shop area. Contract Supervisors are to account for each of their employees and report any missing to the Emergency Command Post. Contractors and visitors are not to return into the plant without authorization from the Emergency Command Post.

XI. PIPELINE EMERGENCIES

Pipeline emergencies are to be handled in the same manner as any other fire or hydrocarbon release encountered at the refinery. Of prime concern to Bloomfield Refining Company is protection of exposures from a fire until such time as the feed can be isolated from the involved line(s) and final extinguishment is made. The responsibility for isolating the feed will be with the pipeline company whose facilities are involved.

More detailed information is given in the following summaries stating responsibilities, block valve location, emergency phone numbers, product identification and any special procedures.

SAN JUAN PIPELINE

Product Involved:	Crude Oil
Origin:	Bisti Station near El Paso Chaco Plant
Arrives Refinery:	Through the southwest gates by tank # 23 (CBI-2) Bloomfield Refining receiving surfaces at LACT unit
On Site Destination:	Tank # 31 (GATX-1). North 8" valve on west side of tank, or tank # 28 (CBI-3) 8" valve on north side of tank.
Securing Responsibility:	On Site-Pumper Off Site- BRC Terminals/ Pipeline Department.
Block Valve Location:	6" plug valve immediately preceding the west meter (or) block valve located where line surfaces in right-of-way.
Telephone Numbers:	mobile 325-1873 Bill Kollasch #2614 334-8140 (home) Kevin Daniels #2615 632-9886 (home) Ron Weaver 632-5971

BLOOMFIELD REFINING CO.

SAFETY ORDER S-1

EL PASO - ANGEL PEAK FIELD LINES

Product Involved:

20" on west in right-of-way; High Pressure Natural Gas.

8" center of right-of-way; Liquid Gas Product. (Drip)

34" east in right-of-way; High Pressure Natural Gas.

Origin:

Right-of-way travels northeast to southwest between tank farm and process units.

On Site Destination:

None.

Securing Responsibilities:

El Paso Natural Gas Company.

Emergency Telephone Numbers:

El Paso Natural Gas Dispatching: 325-1162.

SOUTHERN UNION

Product Involved:

Natural Gas.

Origin:

Gas Company of New Mexico mainline.

Arrives:

Southwest property corner by Warehouse

On Site Destination:

Fuel Gas Drum.

Securing Responsibility:

On Site-Pumper
Off Site-Gas Company of New Mexico.

Block Valve Location:

2" quarter turn plug valve at southwest property corner (or) 2" gate valves at control valve run behind shop.

Emergency Phone Numbers:

Gas Company of New Mexico-325-2889.

XII. EVACUATION OF BUILDINGS

If the decision is made or an emergency requires evacuation of a building structure, each individual should follow the closest path of travel to an exit. Time should not be spent in trying to take any articles with you. Of prime importance is the safety of personnel, and article rescue should be left to trained personnel. Every individual should become familiar with both primary and secondary exits in the buildings they use.

XIII. COMMUNICATION CONTINGENCY

Should an emergency arise that would damage or render inoperative the public telephone system at a location, alternative methods of communication should be used. This communication can be accomplished by the use of the Terminals phones if the Refinery was affected or the use of the Refinery phones if Terminals phones are affected. The operating crews in each area are responsible for aiding in this manner should the need arise.

In the event of a power failure associated with an emergency situation the switchboard will not work. Outgoing calls can still be made from any phone in the refinery, but the phone lights will not work and incoming calls will ring only at specially designated phones as indicated on the BRC phone extension list.

EMERGENCY PHONE NUMBERS

Bloomfield Fire Department.	911
Bloomfield Police Department.	911
San Juan County Sheriff	911
State Police.	911
Ambulance	911
County Fire Departments	911
Poison Control.	1-800-432-6866
Bomb Personnel (State Police Office).	325-7547
ETHYL CORP. (T.E.L. Emergencies).	504-344-7147
CHEMTREC (Chemical Emergencies)	1-800-424-9300
City of Farmington (Electric Utility)	327-7701
Kay-Ray (Radiation accident at Precititator).	708-803-5100
E.I.D.Radiation Protection Bureau	505-827-2948
Mobile Inspection (Radiography Assistance).	327-9473
Contact of New Mexico (Call out Assistance)	325-1873
HED Environmental Improvement Division.	505-827-9329
(See page 12 for special reporting)	

OUTSIDE EQUIPMENT RESOURCES

Water Tankers & Vacuum Trucks

Chief Transport.	325-2396
C & J Trucking	325-7770
Dawn	327-6314
Sunco Trucking	327-0416 or 326-2266
Shiprock Transport	327-5096
Triple S Trucking Co.	334-6193

Earth Moving Equipment

Adobe Construction (Ernie Motto)	632-1846 or 334-6696
W & C Construction	632-3663
Atchison Construction.	327-6276
Four Way Inc.	327-0401

Welding & Cutting

Keith Rockwell	632-0251
Henry Vigil.	632-3045

Wrecker or Rig Up Trucks

Robinson Towing.	325-3521
Mr. G's	325-0669
Drake Well Service	327-7301
ODECO Inc.	632-3392

Aerial Ladder or Basket

City of Farmington Utility	327-7701
Farmington Fire.	325-3501
Bloomfield Fire.	632-8011
Aztec Fire	334-6101

Foam Supplies

Pennzoil Roosevelt Refinery.	801-722-5128
Thunderbird Sales.	505-881-6222
Boots & Coats.	713-999-0276

Oil Spill Cleanup

Environtech Inc.	632-0615
Tierra Environmental Company	325-0924

COMPANY RESOURCES

1. Two - 2000 gpm automatic start diesel fire engines
One - 1000 gpm manual start diesel fire engine
One - 750 gpm manual start electric fire engine
One - 750 gpm manual start gas fire engine
2. 11,000 feet of 6", 8", 10", and 12" fire line
3. 16 - fixed fire monitors
4. 4 - portable fire monitors
5. 38 - fire hydrants
6. 98 - hand portable fire extinguishers
7. 14 - 150# wheeled extinguishers
8. 1 - twin agent fire truck
9. Water deluge system in T.E.L. building
10. Automatic foam deluge system - Loading Rack
11. 2 - foam cannons w/110 gallon foam - Unloading Rack
12. Automatic Halon extinguishers in Lab
13. 1000 gallons AFFF/ATC foam concentrate
14. Foam systems on Tanks No. 11, 12, and 13
15. 23 sets of fire fighting bunker equipment
16. One fire entry suit
17. 10 - self-contained breathing apparatus
18. 2 - air line breathing apparatus
19. 2 - first aid kits (large standard)
20. 2 - first aid kits (trauma)
21. 2 - medical oxygen units
22. One chlorine cylinder patch kit
23. 3 - stretchers and rescue baskets
24. 400 feet of rescue rope & equipment
25. 7 - safety showers: Lab, (2) Treater and spent caustic, #1 cooling tower, one portable, and one kerosene shower
26. 7 - fire hose boxes with 400 feet hose, 3 nozzles, and 1 gated wye

COMPANY RESOURCES

27. 600 ft. of 2-1/2" fire hose
800 ft. of 1" fire hose
8 nozzles
Miscellaneous other fire appliances
28. Assorted respiratory equipment for specific use
29. 600 lbs. stock Purple-K extinguisher chemical
30. 8 - acid resistant slicker suits
31. 120 feet of oil skimmer boom
32. 3 - rolls of oil sorbent blanket (3/8"X36"X150' each)

COMPANY ROLLING STOCK

1. 8 - pickup trucks
2. Utility trailer
3. Massey Ferguson 383 tractor
4. Chevy C30 fire truck, 258 BTP
5. Foam Proportioning trailer, Spec BPT2000FR, FR 43387
6. John Deere 480C forklift
7. GMC C65 fuel truck, 260 BTP
8. Chevy C30 truck, 895 CHG
9. Linkbelt 17-ton crane
10. Allis Chalmers tractor, Model 5020
11. GMC C35 truck, 261 BTP
12. International vacuum truck
13. GMC 2-ton winch truck, 259 BTP
14. John Deere 410B backhoe
15. Drott carrydeck crane
16. Chevy 1-ton 4x4 dually, 663 ATG

ATTACHMENT II

THREATENING PHONE CALL FORM

Time call received _____ Time caller hung up _____

Exact words of person placing call: _____

Questions to ask:

1. When is bomb going to explode? _____

2. Where is bomb right now? _____

3. What kind of bomb is it? _____

4. What does it look like? _____

5. Why did you place the bomb? _____

Person (receiving) (monitoring) call _____

Department _____ Telephone _____

Home Address _____

Home Telephone No. _____ Date _____

DESCRIPTION OF CALLER'S VOICE

Male _____ Female _____ Tone of Voice _____

Young _____ Middle Aged _____ Old _____

Accent _____ Background Noise _____

Voice Familiar? _____ If so, who did it sound like? _____

Remarks: _____

Immediately notify following persons when call is complete:
Operations Manager and Safety Department.

SAN JUAN PIPE LINE
SPILL RESPONSE GUIDE

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.

INFORMATION SUMMARY
LINE SEGMENT IDENTIFICATION

Name of Response Zone: San Juan County, New Mexico

Name of Pipeline or Pipeline System: San Juan Pipe Line

Line Section (include m.p. or gathering district)	Counties & States	Does line section pose significant & substantial harm? If yes, note code(s) below.
San Juan County, New Mexico	From San Juan County Township 26N Sec.17 to township 29N Sec.27 SJPL 6 5/8" M/L	Yes (3)

Codes:

- (1)--spill greater than 1,000 bbls within past five years.
- (2)--has experienced two or more DOT reportable releases within previous five years.
- (3)--contains pre-1970 ERW pipe and operates above 50% SMYS
- (4)--located within a five mile radius of public drinking water and can potentially be able to reach.
- (5)--located within a one-mile radius of potentially affected environmentally sensitive areas, and could reasonably be expected to reach these areas.

WORST CASE DISCHARGE

Name of Response Zone: San Juan County, New Mexico

Volume of Worst Case Discharge (bbls): 671.32

Location of Worst Case Discharge: Sec.20 TWP.28N Rg.11W

Type of Oil: Sweet Crude Oil

Method Used To Determine Worst Case Discharge:

Method: Line Volume

RESPONSE RESOURCES
TRAINED COMPANY PERSONNEL

As of January 1, 1993, the San Juan Pipe Line - New Mexico Area Response Zone has a total of:

3 Personnel

In Addition, this response zone can access additional trained company personnel, as needed, from Bloomfield Refining personnel.

BLOOMFIELD REFINING COMPANY
EQUIPMENT LIST

1. 18 TON CHERRY-PICKER
2. JOHN DEERE 410 BACKHOE
3. 80 BBL. VACUUM TRUCK
4. 7 1/2 TON CARRY DECK CRANE
5. 2 TON WINCH TRUCK
6. PORTABLE GASOLINE AIR COMPRESSOR
7. 3M OIL ABSORBENT BLANKETS
8. MISCELLANEOUS HAND TOOLS

OIL RESPONSE ORGANIZATIONS

Name of Response Zone: San Juan Pipe Line, San Juan County, New Mexico

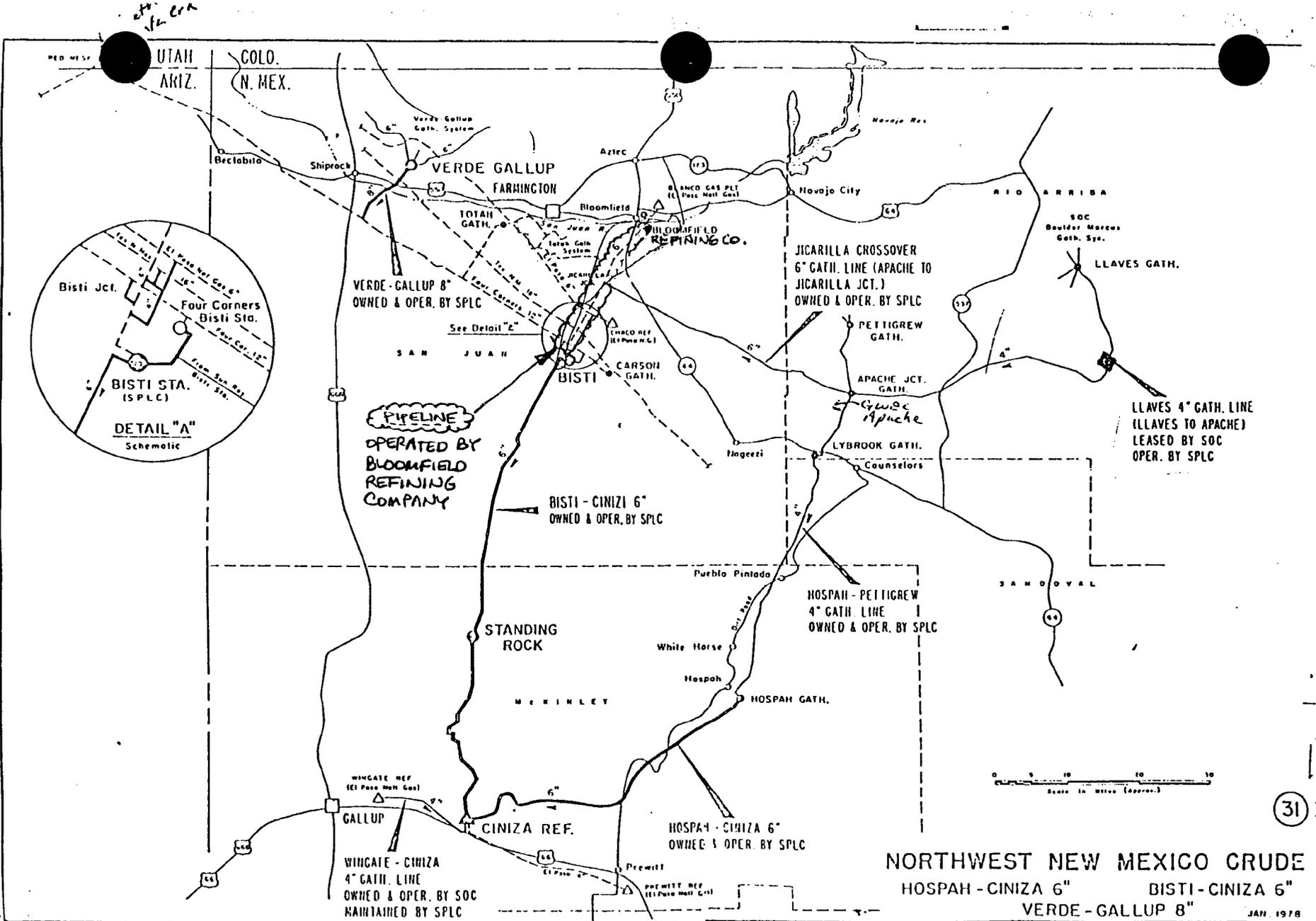
PIPELINE CONTRACTORS	PHONE NUMBER
Flint Engineering & Construction Co. Farmington, New Mexico	505-325-5081
Four Way Company, Inc. Farmington, New Mexico	505-327-0401
W & C Contracting, Inc. Farmington, New Mexico	505-325-3712
Ray L. Atchison Construction Co., Inc. Aztec, New Mexico	505-327-6276
Ralph W. Miller, Inc. Farmington, New Mexico	505-325-3609
Mo-Te, Inc. Farmington, New Mexico	505-325-1666
Trio Construction Company Farmington, New Mexico	505-325-8801
Foutz & Bursum Construction Company Inc. Farmington, New Mexico	505-325-2413

OIL RESPONSE ORGANIZATIONS

VACUUM TRUCKS

Chief Transport Company	Office	505-325-2396
Farmington, New Mexico	Shop	505-325-1845
Triple S Trucking Company		
Aztec, New Mexico		505-334-6193

NOTE: The Vacuum Trucks Range from 80 BBL. to 120 BBL. Tanks.



PIPELINE
OPERATED BY
BLOOMFIELD
REFINING
COMPANY

NORTHWEST NEW MEXICO CRUDE
HOSPAH - CINIZA 6" BISTI - CINIZA 6"
VERDE - GALLUP 8" JAN. 1978

(31)

49

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

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

BLOOMFIELD REFINING COMPANY
STORM WATER POLLUTION PREVENTION PLAN

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Deadlines and Implementation Since October, 1993.....	10

U.S. Environmental Protection Agency
National Pollutant Discharge Elimination System (NPDES)
STORM WATER GENERAL PERMIT COVERAGE NOTICE

December 31, 1992

Dear Operator:

Your Notice of Intent (NOI) for the facility noted below has been processed by the U.S. Environmental Protection Agency. This facility is authorized to discharge storm water associated with industrial or construction activity under the terms and conditions imposed by EPA's NPDES storm water general permit issued for use in the state of New Mexico. Your facility's NPDES storm water permit number is NMR00A013.

EPA's storm water general permit requires certain storm water pollution prevention and control measures, possible monitoring and reporting, and annual inspections. Among the conditions and requirements of this permit, you must prepare and implement a pollution prevention plan (PPP) that is tailored to your industrial or construction site. Enclosed is a summary guidance document designed to assist you in the development and implementation of your PPP. The summary is organized according to the phases of the pollution prevention planning process. A set of worksheets and an example of a pollution prevention plan are provided for your assistance. As a facility authorized to discharge under this storm water general permit, all terms and conditions must be complied with to maintain coverage and avoid possible penalties.

FACILITY:

Bloomfield Refining Company
No 50 County Rd 4990
Bloomfield, NM 87413-
364150, 1075820
, , ,

OPERATOR:

Bloomfield Refining Company
Po Box 159
Bloomfield, NM 87413-

If you have general questions concerning the storm water program, or need to obtain a copy of the permit, please call the Storm Water Hotline at (703) 821-4823.

BLOOMFIELD REFINING COMPANY

STORM WATER POLLUTION PREVENTION PLAN

1.0 General Information

- 1.1 Name of facility: Bloomfield Refining Company
- 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"
longititude: 107°58'20"
- 1.4 Name and address of owner and operator:
- Name : Bloomfield Refining Company
Address: P.O. Box 159
Bloomfield, New Mexico 87413
- 1.5 Operating schedule: 24 hours per day, 365 days per year
- 1.6 Number of employees: 130
- 1.7 Average waste water discharge: Zero (0)
- 1.8 Emergency contact: Jim Stiffler
Safety Manager
- Randy Schmaltz
Safety Supervisor
- 1.9 Emergency phone: (505) 632-8013
- 1.10 NPDES storm water permit number: NMR00A013

MANAGEMENT APPROVAL

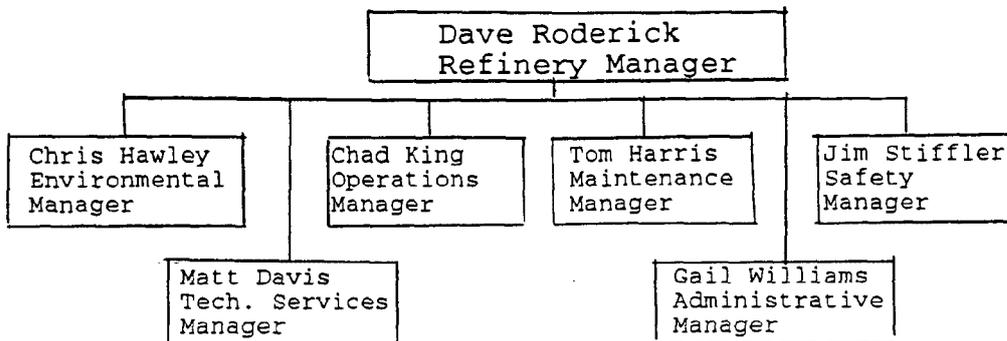
This storm water pollution prevention plan will be implemented as herein described.

Signature: David Roderick

Name: David Roderick

Title: Refinery Manager

POLLUTION PREVENTION TEAM
ORGANIZATIONAL CHART



Pollution Prevention Team Responsibilities

- Dave Roderick: As refinery manager, has signatory authority; establishes pollution prevention policy; and approves budgets. Leader of the pollution prevention team.
- Chris Hawley: Environmental manager; has record keeping responsibility; maintains agency correspondence; audits the activities of others on the team.
- Chad King: Operations Manager; responsible for good housekeeping in the operational areas; responsible for spill prevention and control; responsible for identifying potential releases that may contribute to storm water pollution.
- Tom Harris: Maintenance Manager; responsible for providing manpower for cleanup and prevention activities; oversees preventative maintenance.
- Jim Stiffler: Safety Manager; responsible for overall training activities; emergency coordinator.
- Matt Davis: Technical Services Manager; responsible for new projects requiring engineering; responsible for laboratory operations; responsible for troubleshooting potential release sources that could contribute to storm water pollution; responsible for improving the overall operation of the refinery.
- Gail Williams: Administrative Manager; responsible for good housekeeping in the office and parking areas.

2.0 Other Environmental Management Plans

2.1 Ground Water Discharge Plan (GW-1)

Bloomfield Refining Company (BRC) has an approved plan administered by the New Mexico Oil Conservation Division (OCD) to control discharges, inadvertent as well as intentional, that have the potential to move directly or indirectly into the ground water. Under the plan, BRC has implemented procedures to guard against leaks or spills, to contain and to remove any spilled or leaked substances, or to mitigate the damage caused by the discharge such that ground water is protected, or movement into surface waters is prevented.

The plan, which was last renewed on June 7, 1989 for a five year period, is a strong pollution prevention plan. A storm water pollution prevention plan will overlap substantially with the ground water discharge plan.

2.2 Spill Prevention Control and Countermeasure Plan

BRC has a comprehensive program to minimize the possibility of a spill occurring with the potential to reach the San Juan River. A rigorous tank and piping inspection and repair program has been implemented to meet the requirements of the SPCC plan and other environmental and health protection plans. Facility drainage, which relates to a significant degree with storm water run-off, is addressed in the plan. An Emergency Response Plan is included with the SPCC plan.

2.3 RCRA Interim Status (Part B Pending)

BRC operates a portion of its waste water treatment system in accordance with strict RCRA regulations. These requirements essentially eliminate the possibility of hazardous waste or hazardous waste constituents contributing to the pollution of storm water run-off.

2.4 Zero Discharge Policy

BRC has no direct discharges of waste water to any receiving streams and minimal, if any, indirect discharges. Waste water is currently disposed by evaporation. BRC does not discharge to any POTWs.

3.0 Storm Water Run-off Pollution Assessment

3.1 Site Map

A site map has been developed and is included behind the drawings section of this report.

3.2 Materials Inventory

A materials inventory is included behind the materials section of this report.

3.2.1 Materials Exposed to Storm Water

Materials with the potential to be exposed to storm water at the site include products, intermediates, and some processing chemicals. This would primarily be rainwater falling upon contained and minor spills and/or leaked materials.

3.2.2 Spill (Storm Water Pollution) Control Measures

Drummed Chemicals

Drummed chemicals in the warehouse area are stored in a specially designed storage shed equipped with a cover to keep storm water off and concrete paving with curbs and containment to control any leaks.

Products and Intermediates

All products and intermediates produced at BRC are stored in tanks that are protected from contributing to storm water pollution by the use of dikes (see the SPCC plan included herewith).

Product Sales and Trucked Crude Receiving

The product sales and crude receiving terminals are equipped with curbed, concrete paving and collection sumps to collect any spills that may occur. Sumps are equipped with secondary berms to contain any spill that may exceed sump capacity.

Processing Areas

All refinery processing areas are equipped with curbed, concrete paving to direct any storm water that lands in the process areas to the refinery waste water system.

Areas Peripheral to Process Areas

Storm water drains are located adjacent to the process areas to direct any storm water that falls in these high activity areas to the refinery waste water system.

On-site Disposal Areas

Non-hazardous FCC fines are disposed on-site in a landfill. Runoff from storm water is controlled by dikes and landfill location on property with no run-off.

Hazardous Waste Storage

Hazardous waste awaiting off-site disposal is stored inside a building that is equipped with a concrete floor and sump.

Wastewater Treatment

The refinery operates a wastewater treatment system that combines storm water and process waste water. All process sewers and storm water sewers are routed to an oil/water separator. Oil is recovered to two crude tanks that are protected with a concrete pad and retaining wall. Water is treated in a series of three small, lined aeration ponds and then sent to downstream ponds for evaporation. Waste water is kept from entering storm water run-off by freeboard control and dikes. No waste water or captured storm water is discharged from the refinery.

Boiler and Cooling Tower Treatment Chemicals

Chemicals used for treatment of water and used in bulk are purchased in returnable, stainless steel totes that have very little potential for leakage. Secondly, these chemicals are enclosed in sheds or buildings on concrete pads at their place of use.

Other Chemicals in Process Areas

1,1,1-Trichloroethane and methanol, stored in drums in the reformer area, are located on a non-draining curbed concrete pad.

JP-4 additives are kept on a concrete pad between tanks 3 and 4 as well as being inside the tank dikes.

Spent caustic is stored in a tank that is located on a concrete pad with a concrete retaining wall. Transfer pumps are located inside the concrete retaining wall.

Diesel day tanks are stored on a curbed, concrete pad with a drain to the refinery waste water system.

Product additives at the terminals are located on concrete pads inside a bermed area that has no run-off potential.

3.3 Past Spills and Leaks

BRC has had no reportable quantity discharges as relates to CERCLA or the Clean Water Act. Spills, contained on site but reportable to the New Mexico Oil Conservation Division, for the last three years are listed as follows:

February 4, 1993 Spilled approximately 45 barrels of reformato inside the tank dike at tank 5.

March 18, 1991 Spilled approximately 180 barrels of Jet A (kerosene) inside the tank dike at tank 26.

3.4 Non-Storm Water Discharges

BRC does not have the potential for non-storm water discharges except for a release as a result of a dike failure or other such catastrophic failure (see SPCC plan included herewith). The arid climate in the area and the sandy soils make it nearly impossible for any small waste water streams, if there were any, to reach the river without storm water transport.

3.5 Existing Monitoring Data

BRC is located in a relatively arid area with average annual rainfall of about 9" per year. Storm water samples are difficult to obtain. BRC also only has one area with any significant potential for storm water runoff. This area is located on the south side of the facility adjacent to Sullivan Road (see Site Map). The area includes parking, access to the burner fuel sales rack, and maintenance activities. Runoff from the area will enter the ditch along Sullivan Road, run west in the ditch, and eventually drain to the San Juan River somewhere west of the refinery property. In general, the runoff from this area is sheet flow.

On August 14, 1992 a composite sample was obtained from runoff from this area during a 24 hour storm event that totaled 0.73 inches. The composite was obtained from several small drainage points that developed along the property. The results were as follows:

Lab pH (s.u.).....	7.36
Total Suspended Solids, mg/L.....	592
Total Phosphorus, mg/L.....	0.60
Sulfide as H ₂ S, mg/L.....	5.71
Nitrate, mg/L.....	0.24
Nitrite, mg/L.....	<0.02
Total Kjeldahl Nitrogen, mg/L.....	1.06
Ammonia, mg/L.....	0.16
Phenols, mg/L.....	0.97

Oil and Grease (IR), mg/L.....	6.0
Biological Oxygen Demand, mg/L.....	8.6
Chemical Oxygen Demand, mg/L.....	200
Total Chromium (Cr), mg/L.....	0.03
Total Hexavalent Chromium (Cr7), mg/L..	0.02

3.5 Section 313 chemicals

BRC utilizes drainage control to prevent storm water run-off from coming into contact with significant sources of Section 313 priority pollutants.

3.6 Site Evaluation Summary

BRC has the potential to cause contamination of storm water but very little potential to cause any significant contamination of storm water runoff. The majority of storm water that falls on the site is collected into the zero discharge waste water treatment system or contained on site. No areas are identified with a high potential to contaminate storm water that may leave the site in runoff.

In general, the storm water run-off pollution assessment has revealed that Bloomfield Refining Company already has implemented a comprehensive storm water pollution prevention policy. The results of this policy are detailed in the following section 4.0.

4.0 Best Management Practices (Selection and Implementation)

4.1 Good Housekeeping

4.1.1 Requirement

BRC shall implement good housekeeping practices for the facility.

4.1.2 Status of Implementation

Material storage practices have been improved with:

- a. Complete cleanup of north and south boneyards including removal of all insulation. This was completed in July, 1987. Boneyards have been kept clean since then.
- b. All old and unused chemicals in drums were identified and properly disposed in October 1990 in conjunction with the refinery's conversion to a bulk chemical system. The bulk chemical system conversion was completed in December, 1990. The bulk chemical system, in which various treatment chemicals would be purchased in returnable stainless steel totes, substantially reduced the number of empty drums generated. A comprehensive drum tracking system, in which drums are tracked from receipt to disposal, has been in use since 1984. A drum storage shed was constructed in April 1988 for the warehouse yard that totally protects the drums and any potential leaks or spilled materials from storm water runoff contact. Material storage in the process areas has also been upgraded with concrete pads and curbs to control leaks and spills.
- c. A chemical labeling system is in effect according to OSHA requirements. An up-to-date material inventory is routine in refinery operations. A complete year-end inventory is included herewith.
- d. Operations are divided into areas with assigned housekeeping responsibilities.
- e. The operation and maintenance of industrial machinery and processes is constantly being improved through the efforts of assigned personnel.
- f. Well-organized work areas are maintained.
- g. Employees are trained in good housekeeping practices. A waste minimization policy was implemented in February, 1988.

4.1.3 Future Implementation

BRC shall continue with current practices and improve on them.

4.2 Preventive Maintenance and Visual Inspections

4.2.1 Requirement

BRC shall implement a preventive maintenance program.

4.2.2 Status of Implementation

The preventative maintenance program at the refinery is very extensive. Best management practices implemented include:

- a. The refinery tankage was equipped with a cathodic protection system in October, 1988.
- b. A systematic inspection/repair program for facility tank storage was implemented in December, 1987.
- c. The entire refinery is inspected in accordance with normal refinery practices that are more than adequate to meet the requirements of storm water pollution prevention.

4.2.3 Future Implementation

The programs in place at BRC meet the requirements of BMP for preventative maintenance and visual inspections.

4.3 Spill Prevention and Response

BRC has implemented BMP for spill prevention and responses. A copy of the SPCC plan is included herewith.

4.4 Sediment and Erosion Control

BRC has implemented BMP for sediment and erosion control. This includes paving, diking, and drainage direction control or elimination.

4.5 Management of Runoff

BRC controls storm water by preventing runoff from areas with the potential to cause significant pollution of storm water. These controls are marked on the attached drawings. Some minor grading, and/or diking improvements in a couple of areas of the refinery will eliminate all storm water runoff.

5.0 Stormwater Pollution Prevention Deadlines

5.1 Drainage to North

During the initial inspection of the facility, it was determined that some stormwater runoff could exit the facility to the north along the EPNG pipeline right-of-way and drain into two small ponds used to contain this runoff. Dikes were installed to keep this runoff out of these ponds. The runoff is evaporated in the diked area. This project was completed in August, 1993.

5.2 Elimination of Unlined Evaporation Ponds & Spray Irrigation

The facility is eliminating all unlined evaporation ponds and the use of spray irrigation for the disposal of refinery wastewater. This will eliminate the possibility of any refinery wastewater entering stormwater runoff from the eliminated facilities. A Class 1 underground injection well will replace these facilities by June 7, 1994.

5.3 Drainage to South

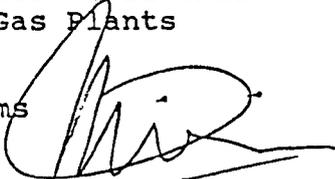
An area located on the south side of the facility adjacent to Sullivan Road (see Site Map) has potential to contribute to stormwater runoff. This area will be leveled and diked by December 31, 1995.



Chris
Hawley

DATE: February 21, 1993

TO: All Employees of Bloomfield Refining Company and
Roosevelt Gas Plants

FROM: Ron Williams 

SUBJECT: OSHA Process Safety Management

On February 24, 1992, OSHA published 29 CFR 1910.119 which is the final rule on "Process Safety Management of Highly Hazardous Chemicals". This rule had been under consideration by OSHA for some time and sets out requirements for the management of hazards in processes using hazardous chemicals. Parts of this rule became effective on August 26, 1992, with other sections to be phased in over the next four years. This "PSM" standard applies to our company and outlines the requirements for preventing or minimizing consequences of catastrophic releases of toxic, flammable or explosive materials.

It is this company's intention to apply management principles, methods, and practices to prevent and control accidental releases of hazardous chemicals or energy. We plan to accomplish this goal by designing, building, operating, and maintaining our facilities to safe standards. Our philosophy is that we will conduct business in a manner to provide a safe facility for both our workers and the general public.

We are currently in the process of evaluating our present systems, policies, programs, and procedures to identify areas that might require attention, then establish plans to address each item.

As with all of our safety programs, each of our employees is an integral part of this program. During the course of developing our program to comply with our goals and the standards outlined by OSHA, employees will be contacted to assist in this endeavor. Employee participation in the Safety Committee will continue to be very important. Some of you will also be asked to serve on the "Process Hazard Analysis" team when we address implementing that area of the program.

Attached you will find an overview of the "PSM" elements and a brief description of each. In the near future, safety meetings will be conducted to further explain the details of this "PSM" program, your part in the program, and our plans of implementation. If these training sessions do not answer your questions contact your supervisor or the safety department for further information.

PROCESS SAFETY MANAGEMENT AN OVERVIEW OF 29 CFR 1910.119

The law governing process safety management of highly hazardous chemicals can be divided into 12 major areas:

Process Safety Information.

- ... develop and maintain written safety information for all processes involving highly hazardous chemicals.

Process Hazard Analysis.

- ... perform a hazard analysis for identifying, evaluating and controlling any hazards involved in each process.

Operating Procedures.

- ... develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each process.

Training.

- ... provide initial training for each employee presently involved in a process or any new employee prior to working in the process.

Contractors.

- ... inform contractors of process hazards, explain the provisions of the emergency action plan and obtain assurances from the contractor that each of their employees will follow all applicable work practices and safety rules of the facility.

Pre-Startup Safety Review.

- ... perform a pre-startup safety review for new and modified facilities, prior to the introduction of highly hazardous chemicals.

Mechanical Integrity.

- ... establish and implement written procedures to maintain integrity of equipment.
- ... inspect and test equipment according to recognized industry standards.
- ... correct equipment deficiencies
- ... assure new or modified equipment meets design specs.

Safe Work Practices.

- ... assure all work activities are conducted in a safe manner and that appropriate safety precautions are taken while potentially hazardous work is in progress.

Management of Change.

- ... establish and implement written procedures to manage change in process chemicals, technology and equipment, as well as changes to the facility.

Incident Investigation.

- ... establish an incident investigation procedure which outlines actions to be taken to initiate an investigation of a major or potentially major accident.

Emergency Planning and Response

- ... establish and implement an emergency action plan in accordance with OSHA guidelines on emergency planning and response.

Audits.

- ... certify compliance with the above items at least every three years.



March 23, 1994

Mr. Roger C. Anderson
Environmental Bureau Chief
State of New Mexico
Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RE: Discharge Plan GW-1 Renewal Application

Dear Mr. Anderson:

Please find herewith, an application for renewal of Bloomfield Refining Company's Discharge Plan along with a \$50 filing fee.

For any additional information, please contact me.

Sincerely,



Chris Hawley
Environmental Manager

CH/jm

Enclosures

cc: Dave Roderick
Joe Warr

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87501

**DISCHARGE PLAN APPLICATION FOR NATURAL GAS PROCESSING PLANTS,
OIL REFINERIES AND GAS COMPRESSOR STATIONS**

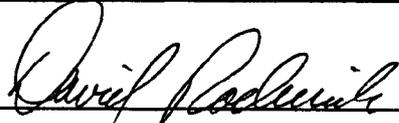
(Refer to OCD Guidelines for assistance in completing the application.)

- I. TYPE: Petroleum Refinery
- II. OPERATOR: Bloomfield Refining Company
ADDRESS: P. O. Box 159/#50 County Rd. 4990, Bloomfield, N.M. 87413
CONTACT PERSON: Chris Hawley PHONE: 632-8013
- III. LOCATION: XX /4 XX /4 Section 26,27 Township 29N Range 11W
Submit large scale topographic map showing exact location.
(See Attached)
- IV. Attach the name and address of the landowner(s) of the disposal facility site. ✓
- V. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.
- VI. Attach a description of sources, quantities and quality of effluent and waste solids.
- VII. Attach a description of current liquid and solid waste transfer and storage procedures.
- VIII. Attach a description of current liquid and solid waste disposal procedures.
- IX. Attach a routine inspection and maintenance plan to ensure permit compliance.
- X. Attach a contingency plan for reporting and clean-up of spills or releases.
- XI. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact fresh water. Depth to and quality of ground water must be included.
- XII. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
- XIII. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: David Roderick

Title: Vice President, Refining

Signature: 

Date: March 23, 1994

DISTRIBUTION: Original and one copy to Santa Fe with one copy to appropriate Division District Office.



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

November 12, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-176-012-048

Mr. Chris Hawley
Environmental Manager
Bloomfield Refining Company
P. O. Box 159
Bloomfield, NM 87413

**RE: Discharge Plan GW-1 Renewal
Bloomfield Refinery
San Juan County, New Mexico**

Dear Mr. Hawley,

On June 7, 1984, the original groundwater discharge plan, GW-1 for the Bloomfield Refinery located in the NW/4 SE/4 and the S/2 NE4 and the N/2 NE/4 SE/4 of Section 27, and the S/2 NW/4 and 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, was approved by the Director of the Oil Conservation Division (OCD), and was last renewed on February 4, 1992. This discharge plan was required and submitted pursuant to Water Quality Control Commission (WQCC) regulations and was approved for a period of five years. The current approval will expire on June 6, 1994.

If your facility continues to have potential or actual effluent or leachate discharges and you wish to continue operation, you must renew your discharge plan. The OCD is reviewing discharge plan submittals and renewals carefully and the review time can extend for several months. Please indicate whether you have made, or intend to make, any changes in you system, and if so, please include these modifications in your application for renewal.

Note that the completed and signed application form must be submitted with your discharge plant renewal request. To assist you in completing the application, I have enclosed an application form,

Mr. Chris Hawley
November 11, 1993
Page 2

a set of the WQCC regulations, and a copy of Guidelines for the Preparation of Ground Water Discharge Plans at Natural Gas Processing Plants, Oil Refineries, and Gas Compressor Stations.

If you no longer have any actual or potential discharges please identify this office. If you have any questions, please do not hesitate to contact Bobby Myers at (505)827-4080.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief

RCA/rlm
xc: OCD Aztec Office

State of New Mexico
 Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
 P.O. Box 2088
 Santa Fe, NM 87501

**DISCHARGE PLAN APPLICATION FOR NATURAL GAS PROCESSING PLANTS,
 OIL REFINERIES AND GAS COMPRESSOR STATIONS**

(Refer to OCD Guidelines for assistance in completing the application.)

- I. TYPE: _____
- II. OPERATOR: _____
 ADDRESS: _____
 CONTACT PERSON: _____ PHONE: _____
- III. LOCATION: ___/4 ___/4 Section ___ Township _____ Range _____
 Submit large scale topographic map showing exact location.
- IV. Attach the name and address of the landowner(s) of the disposal facility site. ✓
- V. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.
- VI. Attach a description of sources, quantities and quality of effluent and waste solids.
- VII. Attach a description of current liquid and solid waste transfer and storage procedures.
- VIII. Attach a description of current liquid and solid waste disposal procedures.
- IX. Attach a routine inspection and maintenance plan to ensure permit compliance.
- X. Attach a contingency plan for reporting and clean-up of spills or releases.
- XI. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact fresh water. Depth to and quality of ground water must be included.
- XII. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
- XIII. **CERTIFICATION**

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: _____ Title: _____

Signature: _____ Date: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to appropriate Division District Office.

**GUIDELINES FOR THE PREPARATION OF GROUND WATER
DISCHARGE PLANS AT NATURAL GAS PROCESSING PLANTS,
OIL REFINERIES, AND GAS COMPRESSOR STATIONS**

(Revised 05-92)

Introduction

The New Mexico Oil Conservation Division (OCD) regulates disposal of non-domestic wastes resulting from activities at oil refineries, natural gas processing plants, geothermal installations, carbon dioxide facilities, and natural gas transmission lines and compressor stations pursuant to authority granted in the New Mexico Oil and Gas Act and the Water Quality Act. The OCD administers, through delegation by the New Mexico Water Quality Control Commission (WQCC), all Water Quality Act regulations pertaining to surface and ground water except sewage. However, if the sewage is in a combined waste stream, the OCD will have jurisdiction.

Sections 3-104 and 3-106 of the WQCC Regulations stipulate that, unless otherwise provided for by the regulations, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into the ground water unless such discharge is pursuant to a discharge plan approved by the director. The Oil and Gas Act (Section 70-2-12.B(22)) authorizes the OCD to regulate the disposition of non-domestic, non-hazardous wastes at oil field facilities to protect public health and the environment. The OCD has combined these requirements into one document, (a "discharge plan") that will provide protection to ground water, surface water and the environment through proper regulation of the transfer and storage of fluids at the facility, and disposal of waste liquids and solids.

A proposed discharge plan shall set forth in detail the methods or techniques the discharger proposes to use which will ensure compliance with WQCC regulations and the Oil and Gas Act. The proposed discharge plan must provide the technical staff and the director of the regulating agency (in this case, the OCD) with sufficient information about the operation to demonstrate that the discharger's activities will not cause state regulations or ground water standards (WQCC Section 3-1-3) to be violated.

A facility having no intentional liquid discharges still is required to have a discharge plan. Inadvertent discharges of liquids (ie. leaks and spills, or any type of accidental discharge of contaminants) or improper disposal of waste solids still have a potential to cause ground water contamination or threaten public health and the environment. The discharge plan must address surface facility operations including storage pits, tankage and loading areas.

For new or proposed facilities, WQCC Regulation 3-106.B requires the submittal and approval of a discharge plan prior to the start of discharges. The regulation further specifies that "for good cause shown, the director may allow such a person to discharge without an approved discharge plan for a period not to exceed 120 days."

For existing facilities, WQCC Regulation 3-106.A. provides for submittal of a ground water discharge plan within "120 days of receipt of written notice that a discharge plan is required, or such longer time as the director shall for good cause allow." Dischargers not having an approved discharge plan may continue discharging "without an approved discharge plan until 240 days after written notification by the director that a discharge plan is required or such longer time as the director shall for good cause allow".

After a discharge application plan has been received, the OCD must publish a public notice pursuant to Section 3-108 of the regulations, and allow 30 days for public comment before a discharge plan may be approved or otherwise resolved. If significant public interest is indicated, a public hearing will be held which will delay a decision on plan approval.

Once a plan has been approved, discharges must be consistent with the terms and conditions of the plan. Similarly, if there is any facility expansion, production increase, or process change that would result in any significant modification of the approved discharge of water contaminants, the discharger is required to notify this agency, and have the modification approved prior to its implementation. Approval of a discharge plan application by OCD will not relieve the operator of the necessity to become familiar with other applicable state and federal regulations.

The review of a proposed discharge plan often requires several months depending on complexity. This includes time for requests to the discharger for additional information and clarification, in-house information gathering and analysis, and field investigations of the discharge site, and a public notice and comment period. Review time will, to a large extent, be dependent on the extent to which a facility has generally self-contained processes to prevent movement of fluids and leaching of solids from the work area into the environment.

For example, the review process will be expedited when effluent, process, or other fluids are routed to tanks, Class II injection wells, or lined ponds with underdrains for leak detection; when accurate monitoring of fluid volumes and pressure and/or integrity testing is performed for leak detection in below grade or underground tanks and plant pipelines; and when the possibility of accidental spills and leaks is addressed by adequate contingency plans (e.g. containment by curbing and drainage to properly constructed sumps). Other examples allowing faster review include recycling of waste oils, proper disposal of dried sludges to minimize potential ground water contamination, and closure of previously used ponds. The more rapid review of discharge plans for such facilities is possible because much less geologic and hydrologic study of the site is required in order to delineate impact.

Similarly, longer review times will be required for operators seeking to continue to use unlined ponds or to utilize other plants procedures that have a high probability of allowing infiltration and movement of effluent and leachate to the subsurface. For these instances large amounts of technical data generally will be required including: 1) detailed information on site hydrogeology, natural and current water quality, and movement of contaminants; 2) processes expected to occur in the vadose and saturated zones to attenuate constituents to meet WQCC standards at a place of present or reasonable foreseeable future use of ground water; and 3) monitoring of ground water (including post operational monitoring as necessary).

The following discharge plan application guidelines have been prepared for use by the discharger to aid in fulfilling the requirements of Sections 3-106 and 3-107 of the WQCC regulations and to expedite the review process by minimizing OCD requests for additional information. It sets up a logical sequence in which to present the information required in a discharge plan for this type of facility. It is suggested that you read the entire document before preparing your application. Not all information discussed may be applicable to your facility. However, all sections of the application must be completed.

If there are any questions on the preparation of a discharge plan, please contact the OCD's Environmental Bureau. (P.O. Box 2088, Santa Fe, New Mexico 87504-2088 or by telephone at (505) 827-5812).

Pursuant to the New Mexico WQCC Regulation 3-114 "every billable facility submitting a discharge plan for approval, modification or renewal shall pay the fees specified in this section to the Water Quality Management Fund". The fee consists of a fifty (50) dollar filing fee which must be submitted with the discharge plan application and is nonrefundable; and a flat fee which is based on the type of facility and application (e.g. approval, modification, renewal) and is due at the time of approval.

DISCHARGE PLAN GUIDELINES

I. TYPE OF OPERATION

Indicate the major purpose(s) of the facility (e.g. gas processing, oil refining, gas compression) and briefly describe the processes occurring at the facility.

II. OPERATOR/LEGALLY RESPONSIBLE PARTY & LOCAL REPRESENTATIVE

Include the name, address and telephone number for both.

III. LOCATION OF DISCHARGE/FACILITY

Give a legal description of the location (i.e. 1/4 1/4, Section, Township, Range, and County). Use state coordinates or latitude/longitude on unsurveyed land. Submit a large scale topographic map, facility site plan, or detailed aerial photograph for use in conjunction with the written material. It should depict highways and roads giving access to the facility site.

IV. LANDOWNERS

Attach the name and address of the landowner(s) of record of the facility site.

V. FACILITY DESCRIPTION

Attach a description of the facility with a diagram indicating location of fences, pits, berms, and tanks on the facility. The diagrams of the facility should depict the locations of discharges, storage facilities, disposal facilities, processing facilities and other relevant areas including drum storage. Show the facility/property boundaries on the diagram.

VI. SOURCES, QUANTITIES & QUALITY OF EFFLUENT & WASTE SOLIDS

A. For each source include types of major effluent (e.g. salt water, hydrocarbons, sewage, etc.), estimated quantities in barrels or gallons per month, and types and volumes of major additives (e.g. acids, biocides, detergents, degreasers, etc.):

1. Separators (produced water);
2. Boilers;

3. Engine Cooling Waters;
4. Cooling Tower;
5. Sewage (Indicate if completely separate from other effluents with no commingling. If no commingling, domestic sewage is under the jurisdiction of NM Environment Department);
6. Waste lubrication and motor oils;
7. Waste and slop oil;
8. Used filters;
9. Solids and sludges from tanks (provide description of materials; e.g. crude oil tank bottoms, sump sludge);
10. Cleaning operations using solvents/degreasers;
11. Truck, tank and drum washing; and
12. Other liquid and solid wastes (e.g. plant floor drains) described in detail.

B. Quality Characteristics

Provide the following information for each source listed above:

1. Provide concentration analyses for Total Dissolved Solids (TDS) and Major Cations/Anions (eg. Na, K, Ca, Mg, Cl, So₄, HCO₃, CO₃) in milligrams per liter (mg/l), and pH.
2. Provide hydrocarbon analyses for benzene, ethylbenzene, toluene, and meta-, ortho-, and para-xylenes (BTEX).
3. Provide analyses for WQCC Section 3-103 standards not included within above analyses. Exceptions can be approved upon request for certain constituents if not used in processing or not expected to be present in the waste water effluent (e.g. uranium, combined Radium 226+228, PCB's, silver, chlorinated hydrocarbons).
4. Discuss the presence or absence of toxic pollutants (WQCC 1-101.UU definition and listing) in each process. If present, provide volumes and concentrations. Estimates may be used pending Director evaluation of discharge plan submittal and proposed discharge methods. Contaminants listed in 1-101.UU may be constituents of hydrocarbon liquids, solvents, pesticides, etc.

5. Discuss sampling locations, methods, and procedures used to obtain values for #1, 2 and 3 above. Include information as to whether sample was "grab" or time-composite, filtering and preservation techniques, laboratory used for analysis, etc. Sources for sampling and analytical techniques to be used are listed in WQCC 3-107.B.
6. Discuss variability in flow rates that could produce values higher or lower than values shown above. If major variations in concentrations are inherent or expected in the process, provide ranges and expected average.

C. **Commingled Waste Streams**

1. If produced and process fluids are commingled within the facility, and if individual rates, volumes and concentrations do not vary beyond a set range, and if process units are entirely self-contained to prevent intentional discharges and spills or inadvertent discharges (see B.3,4 below), then chemical characterization of commingled effluent or process streams may be sufficient to satisfy discharge plan requirements.
2. If the discharger wishes to submit information on commingled streams in lieu of submittal of individual stream characteristics, adequate information should be provided to justify the request.

VII. **TRANSFER & STORAGE OF PROCESS FLUIDS & EFFLUENTS**

- A. Provide summary information about on site collection and storage systems for each source listed in Part VI. Indicate whether collection and storage location is tank or drums, floor drain or sump, lined or unlined pit, etc.
- B. Provide water and wastewater flow schematics with sufficient detail to show individual treatment and process units. If necessary, provide larger scale diagrams for complex processes.
- C. To determine what water contaminants may be discharged to the surface and subsurface within the facility, indicate on diagrams the status of transfer and storage collection units with regard to present or potential discharges to ground water. Provide the following information:
 1. Specify which tanks, separators and pipelines are pressurized, and above ground or buried.
 2. Indicate if fluids (e.g. machinery fluids) are drained to surface impoundments, oil skimmer pits, emergency pits, floor drains, sumps, flare pits, etc. for further transfer and processing.

3. For item b) provide size and indicate if these collection units are lined or unlined. If lined describe lining material (e.g. concrete, steel tank, etc.). Provide effluent disposal description in Section VIII.

D. To prevent both unintentional and inadvertent discharges from reaching the ground surface and polluting surface or ground waters or the environment, the OCD requires that the following designs be incorporated at the facility:

1. Storage tanks for fluids other than fresh water must be bermed to contain a volume one-third more than the largest tank. If tanks are interconnected, the berm must be designed to contain a volume one-third more than the total volume of the interconnected tanks.
2. Chemical and drum storage areas must be paved, curbed and drained such that spills or leaks from drums are contained on the pads or in lined sumps. Process areas are also required to be paved and curbed unless the discharger can demonstrate that leaks and spills will not reach the ground surface.
3. All new sumps and below-grade tanks must be approved by the OCD prior to installation and must incorporate secondary containment and leak detection in their designs. A below-grade tank is any tank in which a portion of the tank is below the ground surface. All pre-existing sumps and below-grade tanks must be cleaned out and visually inspected on an annual basis.
4. All above ground tanks must be placed on a gravel pad so that leaks can be identified. Leak detection is not required for above ground tanks. If the tank is not located on a gravel pad it must be cleaned out and visually inspected every 5 years.

E. Underground Pipelines

If the plant contains underground process or wastewater pipelines, the age and specification (e.g. wall thickness, fabrication material, etc.) of said pipelines should be submitted. All underground wastewater pipelines over 25 years of age must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter. If said pipelines are at least 25 years of age submit a plan and timetable for testing their mechanical integrity. If such testing (e.g. hydrostatic tests) is already conducted, details of the program should be submitted.

F. Proposed Modifications

If transfer and storage systems do not meet the criteria of Section B.4. above, or if protection of ground water cannot be demonstrated, describe

what modification of that particular method (including closure), or what new facility, is proposed to meet the requirements of the Regulations. Describe in detail the proposed changes and submit a proposed time schedule for construction and completion. (Note: OCD has developed specific guidelines for construction of lined surface impoundments and below-grade tanks, and for closure of surface impoundments available on request.)

VIII. EFFLUENT DISPOSAL

A. On-site Operations

1. Describe existing on-site facilities used for effluent disposal of process/produced water, sludges, waste oils, solvents, etc., including surface impoundments, disposal pits, leach fields, floor drains, injection wells, land application, etc. (if effluents are shipped off-site, see B. below; see C.2 if unit is to be closed as part of this discharge plan). Locate the various disposal areas on the facility site plan or topographic map. Provide the following technical data on the design elements of each disposal method:
 - a. Surface impoundments (pits & ponds) - Dates of use; type and volume of effluents stored; area, volume, depth, slope of pond sides; sub-grade description; liner type and thickness; compatibility of liner and effluents; installation methods; leak detection methods; freeboard; runoff/runon protection.
 - b. Leach fields - Type and volume of effluents, leach field area, and design layout. If non-sewage or mixed flow from any process units or internal drains is, or has been, sent to the leach fields, include dates of use and disposition of septic tank sludges.
 - c. Injection wells - Describe effluent injected, volume, depth, formation, OCD order number and approval date. Provide information as to whether the effluent is classified as a hazardous waste at the time of injection. Class II injection wells are required to have an approved OCD permit to operate. Except for Class II wells, any hole deeper than wide used for subsurface emplacement of fluids is an injection well and subject to the notification requirement of Section 5-300 of the WQCC Regulations. Part 5 WQCC discharge plan approval will be required if the injection well is used to dispose of effluents classified as a hazardous waste (Class I well permitted by the NMED) or non-exempt, non-hazardous waste (Class I well permitted by the OCD).

- d. Drying beds or other pits - Types and volumes of waste, area, capacity, liner, clean-out schedule and method, and ultimate disposal location.
 - e. Other on-site disposal (e.g. land application etc.) - Describe.
2. For each of the disposal methods listed above (except OCD permitted Class II wells):
- a. describe the existing and proposed measures to prevent or retard seepage such that ground water at any place of present or future use will meet the WQCC Standards of Section 3-103, and not contain any toxic pollutant as defined in Section 1-101.UU. If a facility is located at a site where ground water contamination has occurred (from whatever source) and discharges to the subsurface by any of the methods listed above (except Class II wells) are proposed to continue, then the operator must demonstrate that the continued discharge will cause neither increased movement of contaminants to an area of present or future use of ground water, nor elevated levels of contaminants beyond what would occur through natural processes if the discharge had ceased.
 - b. Provide the location and design of sites(s) and the method(s) used for sampling, and for measurement or calculation of flow.
 - c. Describe the monitoring system existing or proposed in the plan to detect leakage or failure of the discharge system. If ground water monitoring exists or is proposed, provide information on the number, location, design, and installation of monitoring wells; the frequency of sampling; and the constituents to be analyzed.
 - d. Describe the proposed periodic reporting of the results of the monitoring and sampling.
 - e. Describe the proposed actions and procedures (including OCD notification) to be undertaken by the discharger in the event of detecting leaks or failure of the discharge system.
 - f. If operations at this facility are expected to be discontinued during the period that this discharge plan is in effect, describe the measures proposed to prevent ground water contamination after the cessation of operation, including possible post-operational monitoring.

B. Off-site Disposal

If process/produced waters, sludges, etc. are pumped or shipped off-site, indicate general composition (e.g. cooling tower blowdown, waste oils, etc.), method of shipment (e.g. pipeline, trucked), shipping agent (name, address), and final disposition (e.g. recycling plant, Class II disposal well). Include name, address, and location of receiving facility. If receiving facility is a sanitary or modified landfill show operator approval for disposal of the shipped wastes.

C. Proposed Modifications

1. If protection of ground water cannot be demonstrated pursuant to 2.a. above, describe what modification of that particular method of disposal (including closure), or new treatment facility, is proposed to meet the requirements of the Regulations. Describe in detail the proposed changes. Provide the information requested in A.1. and A.2. above for the modified and proposed discharge methods.
2. For ponds, pits, leach fields, etc. where protection of ground water cannot be demonstrated, describe the proposed closure of such units so that existing fluids are removed, and emplacement of additional fluids and runoff/runon of precipitation are prevented. Provide a proposed time schedule for closure.

IX. INSPECTION, MAINTENANCE AND REPORTING

- A. Describe proposed routine inspection procedures collection, storage, and disposal units having leak detection systems. Include frequency of inspection, how records are to be maintained and OCD notification in the event of leak detection.
- B. Discuss general procedures for containment of precipitation and runoff such that water in contact with process areas does not leave the facility, or is released only after testing for hazardous constituents. Include information on curbing, drainage, disposition, notification, etc.

X. SPILL/LEAK PREVENTION & REPORTING (CONTINGENCY PLANS) ✓

- A. The discharge plan submittal must contain a contingency plan that anticipates where any leaks/spills might occur. It must describe how the discharger proposes to guard against such accidents and detect them when they have occurred.
- B. The contingency plan also must describe the steps proposed to contain and remove the spilled substance or mitigate the damage caused by the discharge such that ground water is protected, or movement into surface waters is prevented.

- C. The discharger is required to notify the OCD Director of significant leaks and spills, and this commitment and proposed notification threshold levels must be included in the contingency plan.

XI. SITE CHARACTERISTICS

(See also Section V)

A. Hydrologic Features

1. Provide the name, description, and location of any bodies of water, streams (indicate perennial or intermittent), or other watercourses (arroyos, canals, drains, etc.); and ground water discharge sites (water wells, seeps, springs, marshes, swamps) within one mile of the outside perimeter of the facility. For water wells, specify use of water (eg. public supply, domestic stock, etc.).
2. Provide the depth to and total dissolved solids (TDS) concentration (mg/l) of the ground water most likely to be affected by the discharge. Include the source of the information and how it was determined. Provide a recent water quality analysis of the ground water, if available, including name of analyzing laboratory and sample date.
3. If known, provide the flow direction of the ground water most likely to be affected by the discharge. Include the source of the information and how it was determined.

B. Geologic Description of Discharge Site

Provide the following information and attach or reference source of the information as available:

1. Soil type(s) (sand, clay, loam, caliche);
2. Name of aquifer(s);
3. Composition of aquifer material (eg. alluvium, sandstone, basalt, etc.); and
4. Depth to rock at base of alluvium if available.

C. Flood Protection

Provide information on:

1. The flooding potential at the discharge site with respect to major precipitation and/or run-off events; and
2. Flood protection measures (berms, channels, etc.), if applicable.

XII. ADDITIONAL INFORMATION

Provide any additional information necessary to demonstrate that approval of the discharge plan will not result in concentrations in excess of the standards of Section 3-103 or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use. Depending on the method and location of discharge, detailed technical information on site hydrologic and geologic conditions may be required to be submitted for discharge plan evaluation. This could include but not be limited to:

1. Stratigraphic information including formation and member names, thickness, lithologies, lateral extent, etc.
2. Generalized maps and cross-sections;
3. Potentiometric maps for aquifers potentially affected;
4. Porosity, hydraulic conductivity, storativity and other hydrologic parameters of the aquifer;
5. Specific information on the water quality of the receiving aquifer; and
6. Information on expected alteration of contaminants due to sorption, precipitation or chemical reaction in the unsaturated zone, and expected reactions and/or dilution in the aquifer.



**Bloomfield Refining
Company**

A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

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June 1, 1994

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

**RE: Monthly Progress Report
EPA I.D. No. NMD089416416**

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue. An additional dual phase pumping system was obtained for installation in RW-23; however, upon recent gauging, RW-23 did not contain separate phase hydrocarbons (SPH) and therefore the system was not installed. Instead, the system will be maintained until SPH is detected in RW-23 or another well.

RCRA Facility Investigation (RFI) Progress

1. Drilling for Phase III and Phase IV of the RFI was conducted from May 11 through May 18, 1994. Seven groundwater monitoring wells (MW-25 through MW-31), a nested vapor extraction well (VEW-1), an air sparge well (AS-1), two monitoring points (MP-1 and MP-2) for the pilot test, and three piezometers (MP-3 through MP-5) for the aquifer test were installed by Layne Environmental Services, Inc. The wells were developed to remove sediment and improve hydraulic communication with the surrounding formation.
2. All new and existing wells were gaged for water levels and SPH on May 24, 1994. Wells that did not contain SPH were sampled on May 24 and 25, 1994. Groundwater from the newly-installed wells will be analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (BNAs), total petroleum hydrocarbons (TPH), and metals. Groundwater from existing wells will be analyzed for VOCs and BNAs only. In addition, two groundwater samples were collected for water quality parameters. Analyses are being performed by Inter-mountain Laboratories.

Mr. Greg Lyssy
June 1, 1994
Page 2

3. A report of Phase III activities will be prepared and submitted upon receipt of the analytical results of groundwater samples.
4. The aquifer testing for Phase IV of the RFI is scheduled to begin on June 7, 1994, and will consist of the following work tasks:
 - Pre-Test Static Water Level Monitoring
 - Step-Drawdown Test (Variable Discharge Rate)
 - Pumping Test (Constant Discharge Rate)
 - Water Level Recovery Test
 - Data Interpretation and Reporting.

Please contact me for any additional information.

Sincerely,



Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

Mr. Greg Lyssy
June 1, 1994
Page 2

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 - Pre-Test Static Water Level Monitoring
 - Step-Drawdown Test (Variable Discharge Rate)
 - Pumping Test (Constant Discharge Rate)
 - Water Level Recovery Test
 - Data Interpretation and Reporting.

Please contact me for any additional information.

Sincerely,



Chris Hawley
Environmental Manager

cc: ~~Roger Anderson~~, NM OCD
Coby Muckelroy, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

May 24, 1994

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P 111 334 309

Mr. Chris Hawley
Environmental Manager
Bloomfield Refining Company
P.O. Box 159
Bloomfield, NM 87413

**Re: Discharge Plan GW-001
Bloomfield Refinery
San Juan County, New Mexico**

Dear Mr. Hawley,

The groundwater discharge plan renewal, GW-001, for the Bloomfield Refining Company's Bloomfield Refinery, 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, is hereby approved under the conditions contained in the enclosed attachment. The discharge plan consists of the application received by the OCD on dated March 23, 1994 and the response to OCD comments dated April 28, 1994 and the OCD facility inspection of March 23, 1994.

The discharge plan was submitted pursuant to section 3-106 of the Water Quality Control Commission Regulations. It is approved pursuant to section 3-109.A.. Please note Section 3-109.F., which provides for possible future amendment of the plan. Please be advised that approval of this plan does not relieve you of your liability should your operation result in actual pollution of surface or ground waters or the environment which may be actionable under other laws and/or regulations.

Please be advised that all exposed pits, including lined pits and open top tanks (exceeding 16 feet in diameter) shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that Section 3-104 of the regulations requires that

Mr. Chris Hawley
May 24, 1994
Page 2

"when a plan has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3-107.C. you are required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

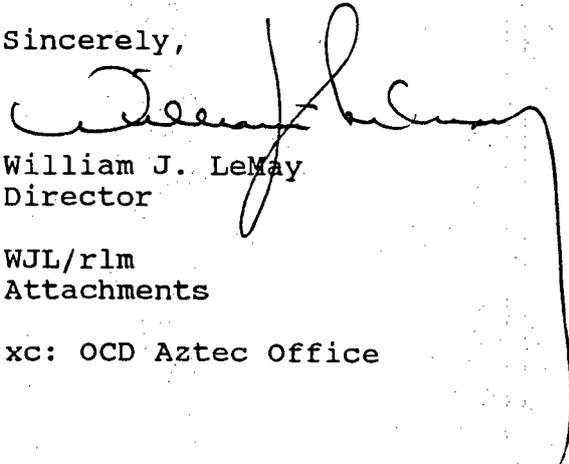
Pursuant to Section 3-109.G.4., this approval is for a period of five years. This approval will expire June 7, 1999, and an application for renewal should be submitted in ample time before that date.

The discharge plan application for the Bloomfield Refining Company's Bloomfield Refinery is subject to the WQCC Regulation 3-114 discharge plan fee. Every billable facility submitting a discharge plan will be assessed a fee equal to the filing fee of fifty (50) dollars plus the flat rate of three thousand nine hundred ten dollars (\$3910.00) for oil refinery discharge plan renewal. The fifty (50) dollar filing fee was received by the OCD on March 23, 1994. The three thousand nine hundred ten dollars (\$3910.00) flat fee has not been received by the Oil Conservation Division, and should be submitted on receipt of this approval.

Please make all checks payable to: **NMED-Water Quality Management** and addressed to the OCD Santa Fe Office.

On behalf of the staff of the Oil Conservation Division, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,



William J. Lemay
Director

WJL/rlm
Attachments

xc: OCD Aztec Office

ATTACHMENT TO THE DISCHARGE PLAN GW-016 APPROVAL
BLOOMFIELD REFINING COMPANY
BLOOMFIELD REFINERY
DISCHARGE PLAN REQUIREMENTS
(May 24, 1994)

1. Fee Payment: The three thousand nine hundred ten dollar flat fee for the discharge plan renewal shall be paid upon receipt of this approval letter.
2. Oil/Water Separator: The oil/water separator shall be drained, cleaned and visually inspected at least annually for cracks. Any cracks shall be vacuum tested to determine the mechanical integrity of the separator, and repaired if necessary.

Any new sumps or below-grade tanks will incorporate leak detection in their designs.
3. Underground Oily Water Pressure Testing: Prior to the next refinery turnaround (and not after June, 1999), a proposal outlining procedures and schedule for testing all underground oily water drain system pipelines shall be submitted for approval to the OCD. Positive pressure testing of the plant drain system shall be performed in accordance with the procedures once approved by the OCD.
4. Oily Water Ponds: As-built specifications of the oily water ponds shall be submitted to the OCD upon completion of the construction of these ponds.
5. Evaporation Pond Closure: The unlined evaporation ponds and spray irrigation area will be taken out-of-service upon startup of the Class I injection well. Closure plans for the evaporation ponds shall be submitted and approved by the OCD prior to commencement of closure.
6. Spills: All spills and/or leaks shall be reported to the OCD district office pursuant to WQCC Rule 1-203 and OCD Rule 116.
7. In-house Diesel Sales Facility: A proposal and schedule for the containment of leaks and spills at the in-house diesel sales facility shall be submitted to the OCD by January 1, 1995.
8. Drum Storage: All chemical and lubrication drums shall be stored on pad and curb type containment.



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

May ²³~~10~~, 1994
llm

CERTIFIED MAIL
RETURN RECEIPT NO. P 667 242 009

Ms. Jennifer Fowler-Propst
State Supervisor
U.S. Fish and Wildlife Service
New Mexico Ecological Services State Office
3530 Pan American Highway, Suite D
Albuquerque, NM 87107

**RE: Response to Public Notice
Bloomfield Refinery, GW-001
San Juan County, New Mexico**

Dear Ms. Fowler-Propst

The New Mexico Oil Conservation Division (OCD) has received your May 3, 1994 response to OCD's public notice of application to renew the discharge plan GW-001 for Bloomfield Refining Company's Bloomfield Refinery. This response will be included as a permanent part of the public file.

Two comments were noted in this response. The first was a request to ensure that this discharge plan contain the maximum protections (i.e., spill prevention and mitigation plans, adequate operation and maintenance controls, etc.) technologically available to industry to protect critical habitats in the San Juan River. As the goal of the Environmental Bureau of the OCD, by statute, is to protect ground water, surface water, human health and the environment, the OCD ensures that these are maintained within the limits of our jurisdiction.

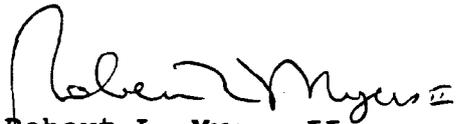
The second request was that this and all future discharge plans for facilities near the San Juan River in San Juan County contain a stipulation that in the event of a spill that could lead to the release of pollutants into the San Juan River, that the Service and/or the New Mexico Department of Game and Fish be notified

Ms. Fowler-Propst
May 23, 1994
Page 2

immediately, in addition to any other appropriate response authorities. This request is outside the jurisdiction of both the Water Quality Control Commission regulations and the Oil Conservation Commission regulations. By regulation, the OCD can only require a discharge plan facility to notify us. However, each facility is required by federal law to respond to the National Response Center, who in turn notify the appropriate agencies. It may be possible for you to be included on this list.

If you have any further questions, please call me at (505)827-4080.

Sincerely,



Robert L. Myers II
Petroleum Engineer Specialist

RLM/rlm

xc: OCD Aztec Office

Bobby Myers

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RCRA Corrective Action

Interim Measures/RFI/CMS

This may be of interest

CLIENT/FACILITY	Bloomfield Refining Company
REGULATORY INVOLVEMENT	United States Environmental Protection Agency - Region VI New Mexico Environment Department, Hazardous Waste Bureau New Mexico Oil Conservation Division
COMPOUNDS OF CONCERN	Volatile and semi-volatile organic compounds, total petroleum hydrocarbons and priority pollutant metals
NATURE AND EXTENT OF PROBLEM	Separate phase and dissolved phase hydrocarbons have been found in groundwater wells across the site as a result of product spills from above ground tanks and associated piping during the 40 years of operation as a refinery. Hydrocarbons seep from the bluff overlooking the San Juan River, a major recreational surface water body and home to the endangered squaw fish. The facility is regulated under a Consent Order with USEPA Region VI requiring characterization, delineation, and remediation of hazardous waste management units (HWMUs) including on-site surface impoundments and other areas of concern.
SITE CHARACTERIZATION	The site covers 287 acres and is underlain by unconsolidated sandy silts to between 9 and 20 feet below grade. A cobble layer underlies the sandy silts and is directly overlying the Nacimiento Formation, consisting of carbonaceous mudstone/claystone. Groundwater is found in the unconsolidated sediments at the site, although its occurrence is believed to be related to recharge from on-site surface impoundments. The forthcoming conversion from surface impoundments for discharge of the facility's wastewater to an underground injection well may significantly affect groundwater conditions at the site. Groundwater flows northwest toward the San Juan River. An irrigation ditch which surrounds the facility operates seasonally and impacts local groundwater flow.
SOLUTION	Groundwater Technology was contracted to assist in the negotiation of the Consent Order with USEPA and worked with the customer and USEPA attorneys in negotiating the terms and conditions of the order. GTI subsequently prepared and implemented an Interim Measures Work Plan, consisting of the installation of additional recovery wells near the seep, deployment of dual phase pumping systems, and installation of an air sparge trench to act as a barrier to hydrocarbon migration. An Interim Measures Plan Report was submitted to the USEPA following completion of this work.

GTI prepared a Task I/Task II Report (Description of Current Conditions and Pre-Investigation Evaluation of Corrective Measure Technologies) summarizing the site history and compiling data from almost 10 years of prior environmental investigations. GTI prepared the RCRA Facility Investigation (RFI) Work Plan, entailing a phased approach to the investigation:

Phase I - Soil Gas Survey (across the site)

Phase II - Soil Borings (in spill areas and suspected source areas from the RFA)

Phase III - Monitoring Wells (to complete dissolved phase hydrocarbon delineation)

Phase IV - Sediment and Surface Water Sampling

Phase V - Pilot testing (Aquifer Testing and Soil Vapor Extraction and Air Sparging Pilot Tests)

By conducting pilot tests as part of the RFI process, GTI expects to provide a final RFI/Corrective Measures Study (CMS) report eliminating the cost and delays associated with a separate CMS work plan and regulatory approvals. Phases I and II of the RFI have been completed to date.

PERSONNEL

S. Brothers, Project Director
C. Liakos, Project Manager
C. Schick, Site Manager/Project Geologist
J. May, Environmental Scientist
C. Briscoe and K. Cook, Technician



OIL CONSERVATION DIVISION
RECEIVED
'94 MAY 9 AM 8 50

May 5, 1994

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue. An additional dual phase pumping system has been obtained. It will be installed in MW-23 if the hydrocarbon layer persists with water flow in Hammond ditch.
2. The retrofit of the wastewater treatment impoundments with double liners has been completed.

RCRA Facility Investigation (RFI) Progress

1. The Phase III RFI consists of well installations, three of which are located on land managed by the Bureau of Land Management (BLM). The BLM right-of-way permit has been approved. A contract with a driller (Layne) has been completed. Installation of the monitoring wells is scheduled to begin on-or-about May 9, 1994.
2. The well installations required for Phase IV will also be completed during the above period by Layne.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager



CONFIRMATION

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Ecological Services

Suite D, 3530 Pan American Highway, NE
Albuquerque, New Mexico 87107

May 3, 1994

OIL CONSERVATION DIVISION
RECEIVED
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William J. Lemay, Director
New Mexico Water Quality Control Commission
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Dear Mr. Lemay:

This responds to your agency's public notice dated April 5, 1994, regarding the State of New Mexico's proposal to approve discharge plan applications for the applicants listed below. The U.S. Fish and Wildlife Service (Service) has reviewed the public notice and provided comments pertaining to the protection of fish and wildlife resources in New Mexico.

(BW-01) - Conoco, Inc., Jerry W. Hoover, 10 Desta Drive, Suite IOOW, Midland, Texas, 79705, has submitted a renewal application for the previously approved discharge plan for their ensitu extraction brine well facility located in the SW/4 NW/4 Section 2, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico. Fresh water produced from two water supply wells is injected down two brine wells to an approximate depth of 1650 feet and brine is extracted and piped to injection facilities for use in Conoco waterfloods. The brine has an approximate total dissolved solids (TDO) concentration of approximately 300,000 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 70 to 145 feet with a TDS of 1150 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-164) Electric Submersible Pumps, Inc., Steve Denson, Manager, 8426 N. Dal Paso, P.O. Box 596 Hobbs New Mexico, 88241, has submitted a discharge plan application for their Hobbs Service Facility located in the NW/4 NW/4, Section 35, Township 17 South, Range 38 East, NMPM, Lea County, New Mexico. Approximately 150 gallons per day of waste water is collected in a sump, pumped to an above ground closed top tank and disposed of offsite at an OCD approved disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 50 feet with a total dissolved solids concentration of approximately 420 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-158) - Pioneer Contracting Company, Inc., Frank Santoro, 5970 U.S. Highway 64, Farmington, New Mexico, 87401, has submitted a discharge plan application for their Farmington Service Facility located in the NE/4 NE/4# Section 26, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. Approximately 100 gallons per day of waste water is collected in

a closed top fiberglass tank and recycled as drilling fluid. Groundwater most likely to be affected by an accidental discharge is at a depth of less than 20 feet with a total dissolved solids concentration of approximately 600 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

The Service has no comment on discharge applications BW-01, GW-164, and GW-158.

(GW-001) - Bloomfield Refining Company, Chris Hawley, Environmental Manager, P.O. BOX 159, Bloomfield, New Mexico 87413, has submitted an application for the renewal of a discharge plan for the Bloomfield Refinery located in the NW/4 NE/4 and the S/2 NE/4 and the N1/2 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. Approximately 115,200 gallons per day of process waste water with a total dissolved solids concentration of approximately 13,600 mg/l is disposed of in a UIC-permitted non-hazardous Class I disposal well. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from 10 to 50 feet with a total dissolved solids concentration of approximately 4400 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed, as well as disposal of waste oil and solid wastes.

On April 20, 1994, portions of the San Juan River in San Juan County, New Mexico, were designated as critical habitat for the federally-listed endangered Colorado squawfish and the razorback sucker. The critical habitat for the Colorado squawfish is the reach of the San Juan River from the Highway 371 Bridge (in Farmington) to Neskahai Canyon on the San Juan Arm of Lake Powell in Utah. Critical habitat for the razorback sucker includes the reach of the San Juan River from the Hogback Diversion (west of Waterflow, New Mexico) to Neskahai Canyon.

Although both areas of critical habitat are located well downstream of the Bloomfield Refinery, the possibility exists that a large spill of process waste water could adversely effect endangered fish as far downstream as Farmington, or beyond. In addition, Colorado squawfish may range upstream from the reach of the San Juan River that is designated as critical habitat and could be adversely affected in the event of a large spill from the refinery.

The Bloomfield Refinery is also the subject of a U.S. Environmental Protection Agency RCRA enforcement action pertaining to cleaning up groundwater polluted by petroleum hydrocarbon compounds released from the facility. We are uncertain whether or not a large spill of process waste water could result in creating additional hydrostatic pressure that could more readily move polluted groundwater into either the Hammond irrigation supply canal or the San Juan River in the vicinity of the State Highway 44 bridge. However, the Service is concerned about past pollution-related adverse impacts to the reach of the San Juan River in the vicinity of Bloomfield, New Mexico, and is currently conducting investigations to compare the viability of the aquatic ecosystem in this portion of the river with similar reaches of the river in other locations.

Due to considerations pertaining to protection of critical habitat for the Colorado squawfish and the razorback sucker, as well as to individual or populations of

squawfish that may be located upstream from the critical habitat boundary, we urge you to ensure that this discharge plan and any subsequent ones from other applicants operating facilities near the San Juan River in San Juan County, New Mexico, contain the maximum protections (i.e., spill prevention and mitigation plans, adequate operation and maintenance controls, etc.) technologically available to industry. We also request that this and all future discharge plans for facilities near the San Juan River in San Juan County, New Mexico, contain a stipulation that in the event of a spill that could lead to the release of pollutants into the San Juan River, that the Service and/or the New Mexico Department of Game and Fish be notified immediately, in addition to any other appropriate response authorities. The appropriate contacts are:

U.S. Fish and Wildlife Service
New Mexico Ecological Services State Office
3530 Pan American Highway, Suite D
Albuquerque, NM 87107
Telephone (505) 883-7877
Fax (505) 883-7876

New Mexico Department of Game & Fish
Villagra Building
P.O. Box 25112
Santa Fe, NM 87504
Telephone (505) 827-7882
Fax (505) 827-7801

Thank you for the opportunity to review and comment on these discharge plan applications. If you have any questions concerning these comments, please contact Mark Wilson at (505) 883-7877.

Sincerely,



For / Jennifer Fowler-Propst
State Supervisor

cc:

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico

OIL CONSERVATION DIVISION
RECEIVED

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AFFIDAVIT OF PUBLICATION

No. 33124

STATE OF NEW MEXICO,
County of San Juan:

ROBERT LOVETT being duly sworn, says: "That he is the CLASSIFIED ADVERTISING MANAGER of The Farmington Daily Times, a daily newspaper of general circulation published in English in Farmington, said county and state, and that the hereto attached LEGAL NOTICE

was published in a regular and entire issue of the said Farmington Daily Times, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for ONE consecutive (DAYS) (////) on the same day as follows:

First Publication SUNDAY, APRIL 10, 1994

Second Publication _____

Third Publication _____

Fourth Publication _____

and the cost of publication was \$ 85.81

On April 14, 1994 Robert Lovett ROBERT LOVETT

appeared before me, whom I know personally to be the person who signed the above document.

Mary H. Smith
Notary Public, San Juan County,
New Mexico

My Comm expires: MARCH 21, 1998

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan applications have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(BW-01) - Conoco, Inc., Jerry W. Hoover, 10 Desta Drive, Suite 100W, Midland, Texas, 79705, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility located in the SW/4 NW/4, Section 2, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico. Fresh water produced from two water supply wells is injected down two brine wells to an approximate depth of 1650 feet and brine is extracted and piped to injection facilities for use in Conoco Waterfloods. The brine has an approximate total dissolved solids (TDS) concentration of approximately 300,000 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 70 to 145 feet with a TDS of 1150 mg/l. The discharge plan addresses how spills, leaks and other accidental discharges to the surface will be managed.

(GW-164) Electric Submersible Pumps, Inc., Steve Denson, Manager, 8426 N. Dal Paso, P.O. Box 596, Hobbs, New Mexico, 88241, has submitted a discharge plan application for their Hobbs Service Facility located in the NW/4, NW/4, Section 35, Township 17 South, Range 38 East, NMPM, Lea County, New Mexico. Approximately 150 gallons per day of waste water is collected in a sump, pumped to an above ground closed top tank and disposed of offsite at an OCD approved disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 50 feet with a total dissolved solids concentration of approximately 420 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-158) - Pioneer Contracting Company, Inc., Frank Santoro, 5970 U.S. Highway 84, Farmington, New Mexico, 87401, has submitted a discharge plan application for their Farmington Service Facility located in the NE/4 NE/4, Section 26, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. Approximately 100 gallons per day of waste water is collected in a closed top fiberglass tank and recycled as drilling fluid. Groundwater most likely to be affected by an accidental discharge is at a depth of less than 20 feet with a total dissolved solids concentration of approximately 600 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-001) - Bloomfield Refining Company, Chris Hawley, Environmental Manager, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted an application for the renewal of a discharge plan for the Bloomfield Refinery 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. Approximately 115,200 gallons per day of process waste water with a total dissolved solids concentration of approximately 13,600 mg/l is disposed of in a UIC-permitted non-hazardous Class 1 disposal well. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth from 10 to 50 feet with a total dissolved solids concentration of approximately 4400 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed, as well as disposal of waste oil and solid wastes.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 5th day of April, 1994.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY, Director

SEAL

Legal No. 33124 published in The Daily Times, Farmington, New Mexico on Sunday, April 10, 1994.



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

April 12, 1994

CERTIFIED MAIL
RETURN RECEIPT NO. P-176-012-072

Mr. Chris Hawley
Environmental Manager
Bloomfield Refining Company
P.O. Box 159
Bloomfield, NM 87413

RE: Discharge Plan GW-001 Bloomfield Refinery

Dear Mr. Hawley,

On November 12, 1993 the New Mexico Oil Conservation Division (OCD) notified you that the approved discharge plan, GW-001, for the Bloomfield Refinery, 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, would expire on June 6, 1994. A discharge plan application was received by the OCD on March 23, 1994. The following comments and requests for additional information are based on the review of this application and the March 23, 1994 OCD inspection of the facility.

1. The OCD requires that all underground oily water drain lines be positive pressure tested at least once every five years. Submit a proposed method and schedule for the testing of the oily water sewers as identified in Section 5.3.3 of the March 1994 application.
2. The OCD requires that all single-lined sumps and/or oil/water separators be inspected at least annually if they continuously hold liquids. Submit a proposed method and schedule for the inspection of the oil/water separator identified in Section 5.8 of the March 1994 application.
3. During the March 1994 facility inspection, several areas were noted to have hydrocarbon staining, in particular, around the

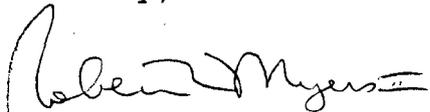
Mr. Chris Hawley
April 12, 1994
Page 2

diesel fuel tank filler area. Submit housekeeping procedures for the cleanup and/or remediation of such sites.

Submittal of the requested information and commitments in a timely fashion will expedite the final review of the application and approval of the discharge plan renewal.

If you have any questions, please contact me at (505) 827-4080.

Sincerely,



Robert L. Myers II
Petroleum Engineer Specialist

RLM/rlm

xc: OCD Aztec Office



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

'94 APR 11 AM 8 49

April 5, 1994

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim measures, including product recovery from onsite recovery wells, continue. An additional dual phase pumping system is on order for a late April installation. Hammond Ditch flow will resume in mid-April. The ditch continues to show improvement from the measures.

RCRA Facility Investigation (RFI) Progress

1. The results of the Phase II RFI (Soil Boring Installations) were submitted to the US EPA under cover dated March 22, 1994. No further action will be proposed for the areas investigated based on the results of the soil sample analyses.
2. The Phase III RFI consists of well installations, three of which are located on land managed by the Bureau of Land Management (BLM). A BLM right-of-way permit application was prepared and submitted. An archaeological survey of the area where drilling is proposed was conducted. The BLM has scheduled a site inspection for April 6, 1994. Approval of right-of-way permit should follow in a couple of weeks. It is anticipated that drilling will be scheduled as promptly as possible after approval. Phase IV (pilot studies) may be scheduled with the Phase III drilling.

Please contact me for any additional information.

Sincerely,



Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Ed Horst, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich



March 23, 1994

Mr. Roger C. Anderson
Environmental Bureau Chief
State of New Mexico
Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RE: Discharge Plan GW-1 Renewal Application

Dear Mr. Anderson:

Please find herewith, an application for renewal of Bloomfield Refining Company's Discharge Plan along with a \$50 filing fee.

For any additional information, please contact me.

Sincerely,

Chris Hawley
Environmental Manager

CH/jm

BLOOMFIELD REFINING COMPANY
PETTY CASH ACCOUNT
P. O. BOX 159 632-8013
BLOOMFIELD, NM 87413

95-207/1022

March 21, 19 94

Pay to the order of New Mexico Water Quality Management Fund \$ 50.00

Fifty and ^{NO}/100 ----- Dollars



First Interstate Bank
of Farmington
Bloomfield Branch - 220 W. Broadway
Bloomfield, New Mexico 87413

AMOUNTS OVER \$500.00 REQUIRE COUNTERSIGNATURE

For Filing fee for Discharge Plan Renewal

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 3/21/94
or cash received on 4/13/94 in the amount of \$ 50.00
from Bloomfield Refining Company
for Bloomfield Refinery 64-1

Submitted by: _____ Date: _____
(Facility Name) (DP No.)

Submitted to ASD by: Kathy Brown Date: 4/13/94

Received in ASD by: CTrujillo Date: 4.13.94

Filing Fee New Facility _____ Renewal _____
Modification _____ Other _____
(optional)

Organization Code 521.07 Applicable FY 94

To be deposited in the Water Quality Management Fund.
Full Payment _____ or Annual Increment _____

BLOOMFIELD REFINING COMPANY
PETTY CASH ACCOUNT
P. O. BOX 159 832-8013
BLOOMFIELD, NM 87413

[redacted]
95-207/1022

March 21, 19 94

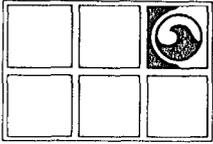
Pay to the order of New Mexico Water Quality Management Fund \$ 50.00
Fifty and NO/100 _____ Dollars

 **First Interstate Bank**
First Interstate Bank of Farmington
Bloomfield Branch - 220 W. Broadway
Bloomfield, New Mexico 87413

AMOUNTS OVER \$500.00 REQUIRE COUNTERSIGNATURE

For Filing fee for Discharge Plan Renewal _____
[Signature]

OIL CONSERVATION DIVISION
RECEIVED



GROUNDWATER
TECHNOLOGY

Groundwater Technology, Inc.

2501 Yale Blvd. SE, Suite 204, Albuquerque, NM 87106
Tel: (505) 242-3113 Fax: (505) 242-1103

3 March 1994

Mr. Greg J. Lyssy
Project Coordinator
RCRA Technical Section - Enforcement Branch
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: **Bloomfield Refining Company**
#50 County Road 4990
Bloomfield, New Mexico
EPA ID# NM089416416
Administrative Order on Consent - Docket No. VI-303-H

Dear Mr. Lyssy:

Enclosed please find three (3) copies of the "Interim Measures Report" submitted for the above-referenced facility. Work was conducted in accordance with the revised "Interim Measure Workplan" dated 20 April 1993 and approved by the United States Environmental Protection Agency (USEPA) in correspondence dated 28 May 1993.

Should you have any questions concerning the report, please do not hesitate to contact me at (505) 242-3113.

Sincerely,
Groundwater Technology, Inc.

Cymantha Liakos
Project Manager

ENCLOSURE

cc: Ed Horst - NMED Hazardous Waste Bureau
Roger Anderson - NM Oil Conservation Division
Joe Warr - BRC
Chris Hawley - BRC
Dave Roderick - BRC



SOIL CONSERVATION DIVISION
RECEIVED
94 MAR 7 AM 8 39

March 3, 1994

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. The "Interim Measures Report" dated March 3, 1994 is complete and has been forwarded to the US EPA. Interim measures, including product recovery from onsite monitoring wells, will continue. As indicated in the report, an additional dual phase pumping system will be procured for installation in RW-23 as a result of the phase separate hydrocarbons (PSH) detected during the February 1994 gauging event. In addition, the air sparge system will be evaluated when the flow in Hammond Ditch resumes (April).

RCRA Facility Investigation (RFI) Progress

1. The results of the Phase I RFI (Soil Vapor Survey) were submitted to the US EPA under cover dated February 11, 1994. The Phase II RFI (Soil Borings) was conducted on February 22 and 23, 1994. Ten soil borings were obtained in the following areas: transportation terminal sump; crude and product loading areas; clay-lined evaporation ponds; and fire training area. Groundwater was not encountered in any of the borings. One sample (at the depth corresponding to the highest field screening reading or at the depth corresponding to the potential source of contamination) from each boring was submitted for laboratory analysis. A second sample was submitted from boring BH-4 which was the only borehole exhibiting elevated field screening readings. Results of the Phase II RFI will be provided to the US EPA upon receipt from the laboratory.
2. The Phase III RFI consists of well installations. At least two of the proposed wells are located on land managed by the Bureau of Land Management (BLM). BLM right-of-way permit

Mr. Greg Lyssy
March 3, 1994
Page 2

applications are currently being prepared. The schedule for the installation of the monitoring wells will depend on the receipt of BLM approval of the right-of-way applications. It is anticipated that drilling will be scheduled in early April.

Please contact me for any additional information.

Sincerely,



Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Ed Horst, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
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'94 FEB 4 AM 8 35

February 1, 1994

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. The water thickness at the seep sparge well was too small to get any air contact with the groundwater. We are considering re-installing the air line deeper but it will require that we dig a few feet into the Nacimiento in order to get enough water above the pipe holes. Once the irrigation flow begins again in Hammond ditch, the water level may increase enough to get results from air sparging.

RCRA Facility Investigation (RFI) Progress

1. Burlington Environmental has promised their report on the soil vapor survey by February 7, 1994. The results will be utilized to determine locations for the next phase of work (soil borings).
2. A re-survey of our groundwater well locations and elevations was completed during the month. Their locations have been noted on our topographic map.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: ~~Roger Anderson~~, NM OCD
Ed Horst, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich



OIL CONSERVATION DIVISION
RECEIVED
'94 JAN 6 AM 8 39

January 5, 1994

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: **Monthly Progress Report**
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. The installation of a new dual pump system into RW-18 was completed. The pumps were put in operation on December 17, 1993.

RCRA Facility Investigation (RFI) Progress

1. The field work associated with the soil vapor survey was completed on December 12, 1993.
2. The results of the soil vapor survey will be utilized to determine locations for the next phase of work (soil borings).

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: ~~Roger Anderson~~ NM OCD
Ed Horst, NM Environment Department
Cyantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich

DISCHARGE PLAN INSPECTION REPORT FOR
REFINERIES, GAS PLANTS AND COMPRESSOR STATIONS

rev. 12/93

OPERATOR: Bloomfield Refining Company

FACILITY NAME: Bloomfield Refinery

GW-#: 001

TYPE: refinery

LOCATION: Sections 26 & 27, T 29 N, R 11 W

COUNTY: San Juan

INSPECTION DATE: March 23, 1994

INSPECTOR(S): R. Anderson, D. Foust, B. Myers

BELOW GRADE

Tanks: all below grade tanks have been removed as of 1988

Sumps: oil/water separator is single-lined, has no secondary containment; this will need annual integrity inspection

Piping: all underground oily water drain lines feed to O/W separator; will need 5-year test plan

CONTAINMENT

Pad & Curb: drum storage behind warehouse needs containment or moved to drum storage in front of warehouse. Drum storage area on process pad needs curb-type containment. Drums and saddle tanks scattered throughout facility need containment. Diesel fuel tank filler at truck loading facility needs containment. Containment needed for drums in maintenance area.

WASTE STREAM

Liquid: Water in leak detection sumps for evaporation ponds should be compared to pond water to see if same (liner leak).

Solid: Pile of oily dirt from cleanup around Tank #28 needs action.

GENERAL

Stains: Stains found throughout facility, but most appeared to be shallow surface stains. These occurred around the process pad behind the sample building, around the product pumps and/or

loading valves at tanks 13, 14, 18, 19, 20, 22, ,29, 41, 42 and 43, around heater H-101, the loading rack pad, and especially bad around the diesel fuel tank filler area.

MISCELLANEOUS

Minimal oil seepage coming from the cobble bed layer on the side of the bluff north of the plant. This is expected to increase once irrigation flow begins through Hammond Ditch.

signature Robert Myers II
date 4/7/94



OIL CONSERVATION DIVISION
RECEIVED

'93 DE: R AM 9 30

December 3, 1993

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. The recovery well (RW-18) has been out of service because of the installation of a diesel hydrodesulfurization unit and a sulfur recovery unit in the location of this well. Since this work is now complete, a work order has been submitted for installing one of the new dual pump systems into this well as soon as possible.
2. Baseline samples were obtained from the seep sparge well and air started into the well on November 17, 1993.

RCRA Facility Investigation (RFI) Progress

1. Approval of the RFI work plan (Task II) was received from the USEPA on November 8, 1993.
2. Phase 1 activities (Soil Vapor Survey) is scheduled to begin on Monday, December 6, 1993.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Ed Horst, NM Environment Department
Cymantha Liakos, GTI
Dave Roderick, Joe Warr, John Goodrich



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

November 12, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL

RETURN RECEIPT NO. P-176-012-048

Mr. Chris Hawley
Environmental Manager
Bloomfield Refining Company
P. O. Box 159
Bloomfield, NM 87413

**RE: Discharge Plan GW-1 Renewal
Bloomfield Refinery
San Juan County, New Mexico**

Dear Mr. Hawley,

On June 7, 1984, the original groundwater discharge plan, GW-1 for the Bloomfield Refinery located in the NW/4 SE/4 and the S/2 NE4 and the N/2 NE/4 SE/4 of Section 27, and the S/2 NW/4 and 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, was approved by the Director of the Oil Conservation Division (OCD), and was last renewed on February 4, 1992. This discharge plan was required and submitted pursuant to Water Quality Control Commission (WQCC) regulations and was approved for a period of five years. The current approval will expire on June 6, 1994.

If your facility continues to have potential or actual effluent or leachate discharges and you wish to continue operation, you must renew your discharge plan. The OCD is reviewing discharge plan submittals and renewals carefully and the review time can extend for several months. Please indicate whether you have made, or intend to make, any changes in your system, and if so, please include these modifications in your application for renewal.

Note that the completed and signed application form must be submitted with your discharge plant renewal request. To assist you in completing the application, I have enclosed an application form,

Mr. Chris Hawley
November 11, 1993
Page 2

a set of the WQCC regulations, and a copy of Guidelines for the Preparation of Ground Water Discharge Plans at Natural Gas Processing Plants, Oil Refineries, and Gas Compressor Stations.

If you no longer have any actual or potential discharges please identify this office. If you have any questions, please do not hesitate to contact Bobby Myers at (505)827-4080.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief

RCA/rlm
xc: OCD Aztec Office



OIL CONSERVATION DIVISION
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NOV 11 1993 9 42

November 5, 1993

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: **Monthly Progress Report**
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. The recovery well (RW-18) has been out of service because of the installation of a diesel hydrodesulfurization unit and a sulfur recovery unit in the location of this well. In late August, the process area slabs were poured (around this well) and a new wellhead protector was installed. As soon as the new sewers are opened up (into which this well discharges) one of the new dual pump systems will be installed in this well. Start-up has commenced so this work will be done as soon as possible. The area of this well is now covered with concrete so this well may be excellent for vacuum extraction.
2. A trench was dug in the widened Hammond ditch roadway just North of the flare on September 15, 1993. The trench was about 50 feet long, 12 feet deep, and probably intercepted a portion of the water feeding the bluff seep. The overlying soil was clean until the water table was approached (estimated at about 10 feet below grade). The soil from 10 feet to the bottom of the hole at 12 feet was contaminated. The water entering the trench had a distinct sheen. While the trench was open, a perforated pipe was placed in the hole for the purpose of installing an air sparging system using plant air. Work has commenced in getting air to the well and should be completed by the end of November, 1993. Samples will be obtained from the seep and the sparge well both before and after the start-up of air sparging.
3. The Hammond ditch dikes are scheduled for installation on November 9, 1993 because the irrigation season has ended.

Mr. Greg Lyssy
October 5, 1993
Page 2

RCRA Facility Investigation (RFI) Progress

1. Modifications to the RFI work plan (Task II) were submitted to the USEPA on October 1, 1993.

Please contact me for any additional information.

Sincerely,



Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Ed Horst, NM Environment Department
Cymantha Diaz, GTI
Dave Roderick, Joe Warr, John Goodrich



OIL CONSERVATION DIVISION
RECEIVED

'93 OCT 12 AM 9 38

October 5, 1993

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. The surface pads and well-head protector casings for the two new monitoring/recovery wells were installed during August. Piping stub-outs were installed at each well for possible future installation of recovery pumps.
2. The recovery well (RW-18) has been out of service because of the installation of a diesel hydrodesulfurization unit and a sulfur recovery unit in the location of this well. In late August, the process area slabs were poured (around this well) and a new wellhead protector was installed. As soon as the new sewers are opened up (into which this well discharges) one of the new dual pump systems will be installed in this well. Start-up has been delayed until about October 15.
3. A trench was dug in the widened Hammond ditch roadway just North of the flare on September 15, 1993. The trench was about 50 feet long, 12 feet deep, and probably intercepted a portion of the water feeding the bluff seep. The overlying soil was clean until the water table was approached (estimated at about 10 feet below grade). The soil from 10 feet to the bottom of the hole at 12 feet was contaminated. The water entering the trench had a distinct sheen. While the trench was open, a perforated pipe was placed in the hole (see the attached drawing) for the purpose of installing an air sparging system using plant air. We estimate that this work can be completed by the end of November, 1993. Samples will be obtained from the seep and the sparge well both before and after the start-up of air sparging.

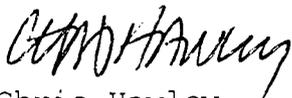
Mr. Gregg Lyssy
October 5, 1993
Page 2

RCRA Facility Investigation (RFI) Progress

1. Modifications to the RFI work plan (Task II) were submitted to the USEPA on October 1, 1993.

Please contact me for any additional information.

Sincerely,



Chris Hawley
Environmental Manager

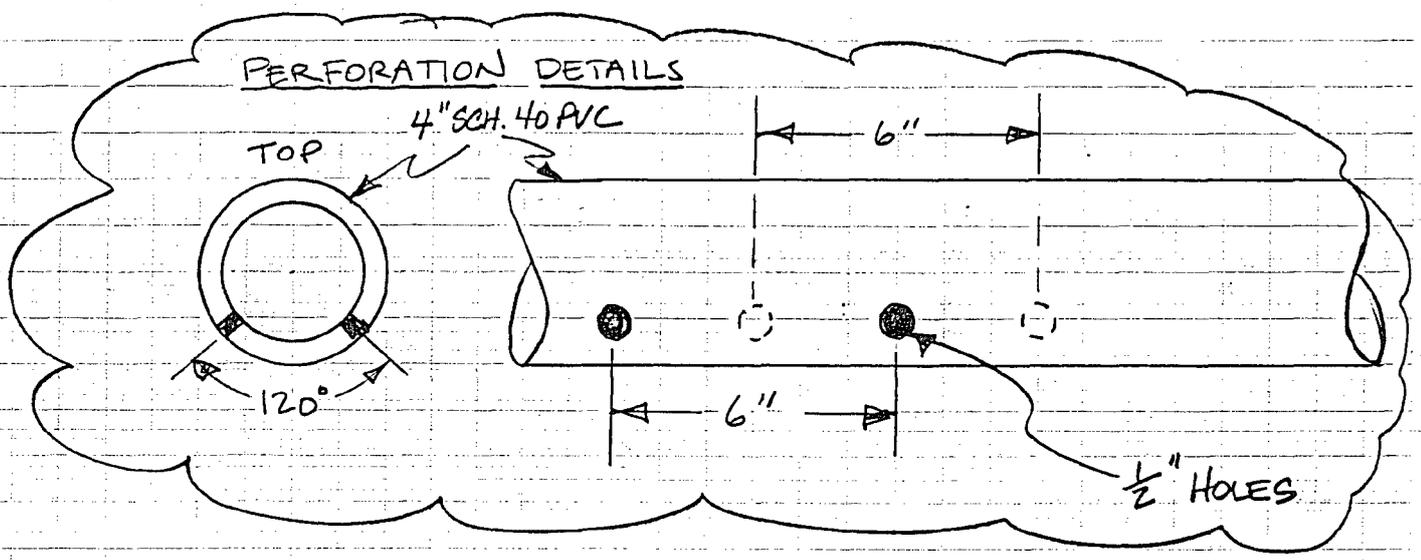
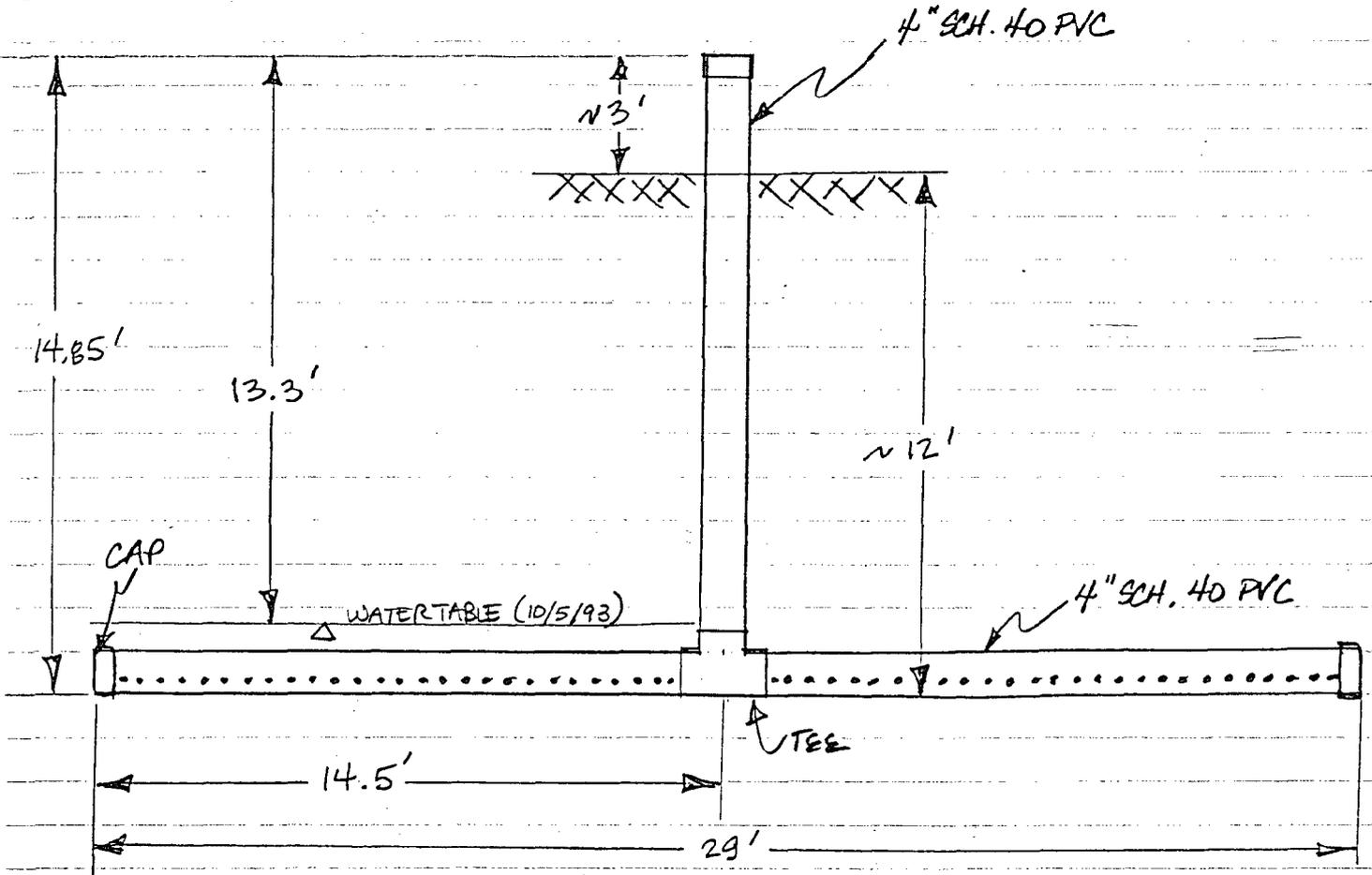
cc: Roger Anderson, NM OCD
Ed Horst, NM Environment Department
Cymantha Diaz, GTI
Dave Roderick, Joe Warr, John Goodrich

SUBJECT: BLOOMFIELD REFINING COMPANY - INTERIM MEASURES

DATE 10-5-93

PERFORATED PIPE INSTALLED PERPENDICULAR TO SEEP

SHEET 1 OF 1





OIL CONSERVATION DIVISION
RECEIVED
'93 SEP 7 AM 3 29

September 2, 1993

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. The surface pads and well-head protector casings for the two new monitoring/recovery wells were installed during August. Piping stub-outs were installed at each well for possible future installation of recovery pumps.
2. The recovery well (RW-18) has been out of service because of the installation of a diesel hydrodesulfurization unit and a sulfur recovery unit in the location of this well. In late August, the process area slabs were poured (around this well) and a new wellhead protector was installed. As soon as the new sewers are opened up (into which this well discharges) one of the new dual pump systems will be installed in this well, anticipated sometime in September.
3. The Hammond ditch roadway was widened just north of the flare to allow us to dig a small trench to examine the groundwater feeding the seep immediately to the north. The trench will be dug in September. The information obtained will be used to evaluate other possible interim measures in this area.
4. A proposal to complete a new, orthophoto/topographic site plan that will meet the requirements of both the interim measures and the facility investigation is being prepared by a contractor. This work is scheduled to be done in early October so that the new process units will be depicted at completion.

Mr. Gregg Lyssy
August 3, 1993
Page 2

RCRA Facility Investigation (RFI) Progress

1. Comments concerning the Description of Current Conditions (Task I) and the RFI work plan (Task II) were received from the USEPA on September 1, 1993.

Please contact me for any additional information.

Sincerely,



Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Ed Horst, NM Environment Department
Cymantha Diaz, GTI
Dave Roderick, Joe Warr, John Goodrich



MEMORANDUM OF MEETING OR CONVERSATION

<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Personal	Time 0930	Date 8/9/93
---	-----------------------------------	--------------	----------------

<u>Originating Party</u> Eloy ED. HW	<u>Other Parties</u> R ANDERSON - OCD
--	--

Subject
Emergency transportation of crude oil spill

Discussion
ED. HW has authorized the transportation of contaminated soils at a crude oil tanker spill to Emmatech landfill. The spill is approx 2mi So of the CO border on Hwy 84. The soils will be stored at Emmatech on plastic & covered pending TCLP analysis

Conclusions or Agreements

Distribution Bloomfield Ref file
Emmatech file

Signed
R Anderson

STATE OF
NEW MEXICO

OIL
CONSERVATION
DIVISION



MEMORANDUM OF MEETING OR CONVERSATION

Telephone Personal

Time

Date

Originating Party

Other Parties

R. Anderson - OCD

M. Young - Enmuatex

Subject Emergency transportation of crude oil spill

Discussion
Enmuatex is authorized to transport and store contaminated soils from a Gary Refining crude oil tanker spill on Hwy 84, 2mi So of the Colorado state line. The soils will be stored on plastic, covered and isolated pending TCRP analysis

Conclusions or Agreements

Distribution Bloomfield ref file
Enmuatex file

Signed



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 0845

Date 8/9/93

Originating Party

Other Parties

Vert Farnsworth - Envirotech

Bill Olson - Enviro. Bureau

Subject

Crude Spill

Discussion

Cory Mining Co. truck overturned, lost 40-50 bbls
 crude, off side of hwy.

Spill located in sensitive area (ie wash) want emergency authority
 to pick up spills and temporarily store at Envirotech
 long term while awaiting TCLP

Told him must have request from EPA Haz-waste that it
 is immediate danger to public health & welfare, environment

Conclusions or Agreements

He will contact Ed Harst

Distribution

file

Bloomfield Ref
 Envirotech

Signed

Bill Olson



OIL CONSERVATION DIVISION
RECEIVED
AUG 11 1993

August 3, 1993

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. The two groundwater recovery/monitoring wells as proposed in the Interim Measures Plan were installed on July 19, 1993. The surface pad and well-head protector casing will be installed the week of August 2, 1993. A survey to determine top-of-pipe elevations will follow.
2. The new wells were developed on July 20, 1993. They produced water very well as would be expected because of their proximity to Hammond ditch. However, the hydrocarbon thickness was small, estimated at less than 0.01 feet. The new recovery pumps purchased for installation in these wells may not be appropriate. This is being evaluated.
3. A complete survey of the recovery/monitoring wells was done on July 20, 1993 (see attached). Hydrocarbon thicknesses have decreased since start-up of the recovery wells.
4. Recovery well RW-18 has been out of service since early June, 1993 because of installation of the new process units at its location, but hydrocarbon thicknesses have not recovered to previous levels. When the recovery pump was first installed on April 23, 1992, the hydrocarbon level measured about 0.94 feet as compared to the current level of about 0.01 feet.
5. In June, 1993 the piping from the other recovery wells RW-14, RW-15, RW-16, and RW-17 plugged from mineral deposits that formed in the line to the recovery tank. We believe this was caused partially as a result of the excess air being used to push the water through the line. A bladder pump will be tested in one of the wells to see if it will result in less precipitation of minerals from the groundwater. The line

Mr. Gregg Lyssy
August 3, 1993
Page 2

will be acidized to clear it as soon as possible. The groundwater elevation survey shows that progress is being made in reducing hydrocarbon thicknesses at the wells.

RCRA Facility Investigation (RFI) Progress

1. The Description of Current Conditions (Task I) and the RFI work plan (Task II) are under review by the USEPA.

Please contact me for any additional information.

Sincerely,



Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Ed Horst, NM Environment Department
Cymantha Diaz, GTI
Dave Roderick, Joe Warr, John Goodrich

BLOOMFIELD REFINING COMPANY
 GROUNDWATER ELEVATIONS: 7/20/93

WELL NUMBER	ELEVATION T.O.P. (FT)	FR T.O.P. TO H2O (FT)	ELEVATION GW (FT)	THKNESS HC (FT)	ELEVATION TOP OF LIQ (FT)	ADJ GW ELEVATION (FT)
MW-1	5515.77	14.83	5500.94	0.00	5500.94	5500.94
MW-3	5535.85	33.87	5501.98	0.00	5501.98	5501.98
MW-4	5524.30	25.27	5499.03	0.13	5499.16	5499.13
MW-5	5545.10	42.20	5502.90	0.00	5502.90	5502.90
MW-6	5551.23	Dry				
MW-7	5524.09					
MW-8	5531.12	29.68	5501.44	0.00	5501.44	5501.44
MW-9	5519.70	20.07	5499.63	0.01	5499.64	5499.64
MW-11	5506.83	10.11	5496.72	0.00	5496.72	5496.72
MW-12	5498.36	9.43	5488.93	0.00	5488.93	5488.93
MW-13	5538.42	38.68	5499.74	0.00	5499.74	5499.74
MW-20	5516.44	16.71	5499.73	0.00	5499.73	5499.73
MW-21	5518.64	18.65	5499.99	0.00	5499.99	5499.99
RW-1.	5525.92	27.13	5498.79	0.00	5498.79	5498.79
P-1	5524.62	25.88	5498.74	0.00	5498.74	5498.74
RW-2	5523.48	24.61	5498.87	0.03	5498.90	5498.89
P-2	5523.73	24.69	5499.04	0.01	5499.05	5499.05
RW-3	5516.86	18.92	5497.94	0.00	5497.94	5497.94
P-3	5507.20	9.18	5498.02	0.00	5498.02	5498.02
RW-14	5533.97	33.17	5500.80	0.01	5500.81	5500.81
RW-15	5533.32	32.81	5500.51	0.01	5500.52	5500.52
RW-16	5531.99	32.06	5499.93	0.23	5500.16	5500.11
RW-17	5530.43	31.34	5499.09	0.72	5499.81	5499.65
RW-18	5527.05	CONSTRUCTION		0.01		
RW-19	5527.08	27.64	5499.44	0.01	5499.45	5499.45
RW-22	* { 5519.70	20.07	5499.63	0.01	5499.64	5499.64
RW-23	* { 5519.70	20.07	5499.63	0.01	5499.64	5499.64

* ASSUMES SAME AS MW-9

BLOOMFIELD REFINING COMPANY

GROUNDWATER ELEVATIONS: 10/21/91

WELL NUMBER	ELEVATION T.O.P. (FT)	FR T.O.P. TO H2O (FT)	ELEVATION GW (FT)	THKNESS HC (FT)	ELEVATION TOP OF LIQ (FT)	ADJ GW ELEVATION (FT)
MW-1	5515.77	16.69	5499.08	0.00	5499.08	5499.08
MW-3	5535.85	34.84	5501.01	0.00	5501.01	5501.01
MW-4	5524.30	25.65	5498.65	0.58	5499.23	5499.10
MW-5	5545.10	43.48	5501.62	0.00	5501.62	5501.62
MW-6	5551.23					
MW-7	5524.09	24.15	5499.94	0.00	5499.94	5499.94
MW-8	5531.12	30.50	5500.62	0.00	5500.62	5500.62
MW-9	5519.70	21.65	5498.05	0.05	5498.10	5498.09
MW-11	5506.83	10.46	5496.37	0.00	5496.37	5496.37
MW-12	5498.36	9.91	5488.45	0.00	5488.45	5488.45
MW-13	5538.42	38.95	5499.47	0.00	5499.47	5499.47
MW-20	5516.44	17.93	5498.51	0.00	5498.51	5498.51
MW-21	5518.64	19.39	5499.25	0.00	5499.25	5499.25
RW-1	5525.92	27.65	5498.27	0.00	5498.27	5498.27
P-1	5524.62	26.43	5498.19	0.00	5498.19	5498.19
RW-2	5523.48	24.73	5498.75	0.31	5499.06	5498.99
P-2	5523.73	25.00	5498.73	0.38	5499.11	5499.03
RW-3	5516.86	19.37	5497.49	0.00	5497.49	5497.49
P-3	5507.20	9.33	5497.87	0.00	5497.87	5497.87
RW-14	5533.97	33.93	5500.04	0.38	5500.42	5500.34
RW-15	5533.32	33.66	5499.66	0.52	5500.18	5500.07
RW-16	5531.99	32.99	5499.00	1.13	5500.13	5499.88
RW-17	5530.43	31.65	5498.78	1.13	5499.91	5499.66
RW-18	5527.05	28.61	5498.44	0.94	5499.38	5499.17
RW-19	5527.08	28.20	5498.88	0.68	5499.56	5499.41

NOTE: ADJUSTED GROUNDWATER ELEVATION IS DETERMINED BY ADDING 78% OF THE HYDROCARBON THICKNESS TO THE ACTUAL GROUNDWATER ELEVATION.

AFFIDAVIT OF PUBLICATION

No. 28498

STATE OF NEW MEXICO,
County of San Juan:

CHRISTINE HILL being duly sworn, says: "That she is the NATIONAL AD MANAGER of The Farmington Daily Times, a daily newspaper of general circulation published in English in Farmington, said county and state, and that the hereto attached LEGAL NOTICE

was published in a regular and entire issue of the said Farmington Daily Times, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for ONE consecutive (days) (//////) on the same day as follows:

First Publication WEDNESDAY, OCTOBER 30, 1991

Second Publication _____

Third Publication _____

Fourth Publication _____

and that payment therefore in the amount of \$ 76.56 has been made.

Christine Hill

Subscribed and sworn to before me this 4th day of OCTOBER Nov, 1991.

Connie Andrae

Notary Public, San Juan County, New Mexico

My Comm expires: JULY 3, 1993

COPY OF PUBLICATI

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan application and renewal application have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P. O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:
(GW-68) - Williams Field Services Company, Sandy Fisher, Environmental Specialist, P. O. Box 58900, Salt Lake City, Utah 84158-0900, has submitted a discharge plan application for their Simms Mesa Compressor Station located in the NW/4 NE/4, Section 22, Township 30 North, Range 7 West, NMPM, Rio Arriba County, New Mexico. Approximately 75 gallons per day of wastewater will be stored in an above ground steel tank prior to transport to an OCD approved off-site disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 160 feet with a total dissolved solids concentration estimated to range from 600 to 900 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.
(GW-1) - Bloomfield Refining Company, David Roderick, Refinery Manager, P. O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Refinery located in the NW/4 SE/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 renewal application consists of an evaluation proposal of the refinery waste water system with the objective of eliminating all unlined storage facilities. Groundwater most likely to be affected by any accidental spills is at a depth ranging from 10 to 30 feet and is a water zone directly caused by seepage from Hammond Ditch. The ditch water has a total dissolved solids concentration of approximately 200 mg/l. The previously approved discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.
(GW-74) - Halliburton Company, Matt D. Ratliff, Environmental Engineer, P. O. Drawer 1431, Duncan, Oklahoma 73536-0100, has submitted a discharge plan application for its Hobbs Service Facility located in Section 7, Township 18 South, Range 39 East, NMPM, Lea County, New Mexico. Approximately 135 gallons per day of waste water is stored in below grade fiberglass tanks prior to disposal in an OCD approved offsite disposal facility. Groundwater most likely to be affected by any accidental spills is at a depth of approximately 30 feet with a total dissolved solids concentration ranging from 300 to 600 mg/l. The application addresses how spills, leaks, and other accidental discharges to the surface will be managed.
(BW-15) - Marathon Road Water Station, C. W. Trainer, 8090 E. Kalil Dr., Scottsdale, Arizona, 85260, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility. The Marathon Road Water Station is located in the SW/4 SE/4, Section 25, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 1930 to 2400 feet and brine is extracted with an average total dissolved solids concentrations of about 321,080 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 20 to 50 feet with a total dissolved solids concentration ranging from 500 to of 3500 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.
(BW-22) - Quality Brine, Inc., Stan Watson, P. O. Box 75, Tatum, New Mexico, 88267, has submitted

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

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(GW-1) - Bloomfield Refining Company, David Roderick, Refinery Manager, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Refinery located in the NW/4 SE/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 renewal application consists of an evaluation proposal of the refinery waste water system with the objective of eliminating all unlined storage facilities. Groundwater most likely to be affected by any accidental spills is at a depth ranging from 10 to 30 feet and is a water zone directly caused by seepage from Hammond Ditch. The ditch water has a total dissolved solids concentration of approximately 200 mg/l. The previously approved discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-74) - Halliburton Company, Matt D. Ratliff, Environmental Engineer, P.O. Drawer 1431, Duncan, Oklahoma 73536-0100, has submitted a discharge plan application for its Hobbs Service Facility located in Section 7, Township 18 South, Range 39 East, NMPM, Lea

County, New Mexico. Approximately 135 gallons per day of waste water is stored in below grade fiberglass tanks prior to disposal in an OCD approved offsite disposal facility. Groundwater most likely to be affected by any accidental spills is at a depth of approximately 30 feet with a total dissolved solids concentration ranging from 300 to 600 mg/l. The application addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-15) - Marathon Road Water Station, C. W. Trainer, 8090 E. Kalil Dr., Scottsdale, Arizona, 85260, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility. The Marathon Road Water Station is located in the SW/4 SE/4, Section 25, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 1930 to 2400 feet and brine is extracted with an average total dissolved solids concentrations of about 321,080 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 20 to 50 feet with a total dissolved solids concentration ranging from 500 to of 3500 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-22) - Quality Brine, Inc., Stan Watson, P. O. Box 75, Tatum, New Mexico, 88267, has submitted a renewal application for the previously approved discharge plan for their insitu extraction brine well facility. The Quality Brine Water Station is located in the SW/4 SW/4, Section 20, Township 12 South, Range 36 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 2300 to 2900 feet and brine is extracted with an average total dissolved solids concentration of about 350,000 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 30 to 40 feet with a total dissolved solids concentration ranging from 700 to 800 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 5:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public

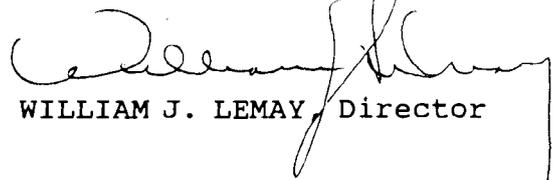
hearing shall set forth the reasons why a hearing should be held.,
A hearing will be held if the Director determines there is
significant public interest.

If no public hearing is held, the Director will approve or
disapprove the proposed plan based on information available. If a
public hearing is held, the director will approve or disapprove the
proposed plan based on information in the plan and information
submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at
Santa Fe, New Mexico, on this 21st day of October, 1991.

S E A L

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY, Director



OIL CONSERVATION DIVISION
RECEIVED

'93 JUL 7 AM 8 52

July 1, 1993

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. An "Addendum to Hazardous Waste Delisting Petition, Petroleum Contamination Soil" was submitted to the USEPA on June 25, 1993 for the landfill.
2. Casing and pumps were ordered in June for the two, approved interim measures groundwater recovery wells.
3. Beeman Brothers Drilling has been selected as the preferred drilling contractor based on experience and cost, but is unable to give a firm date at this time because of previous commitments. He has tentatively promised getting the job done in July, but on short notice.

RCRA Facility Investigation (RFI) Progress

1. The Description of Current Conditions (Task I) and the RFI work plan (Task II) are under review by the USEPA.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Ed Horst, NM Environment Department
Cymantha Diaz, GTI
Dave Roderick, Joe Warr, John Goodrich



U.S. CONSERVATION DIVISION
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'93 JUN 7 AM 9 30

June 3, 1993

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. The landfill material was re-sampled on April 26 and 27, 1993 as requested by the USEPA in order to complete evaluation of the delisting petition. Analytical results were obtained in May, 1993. Results continue to support delisting. An amendment to the petition will be submitted in June, 1993.

RCRA Facility Investigation (RFI) Progress

1. The Description of Current Conditions (Task I) and the RFI work plan (Task II) were completed and submitted to the USEPA on March 29, 1993 for review.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: ~~Roger Anderson~~ NM OCD
Ed Horst, NM Environment Department
Cymantha Diaz, GTI
Dave Roderick
Joe Warr
John Goodrich



OIL CONSERVATION DIVISION
REC'D
MAY 8 1993

May 4, 1993

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. The IM Work Plan was revised to address the USEPA comments included in the USEPA letter dated March 26, 1993. Revised pages to the IM Work Plan were submitted on April 20, 1993.
2. The landfill material was re-sampled on April 26 and 27, 1993 as requested by the USEPA in order to complete evaluation of the delisting petition.

RCRA Facility Investigation (RFI) Progress

1. The Description of Current Conditions (Task I) and the RFI work plan (Task II) were completed and submitted to the USEPA on March 29, 1993 for review.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Ed Horst, NM Environment Department
Cymantha Diaz, GTI
Dave Roderick
Joe Warr
John Goodrich



OIL CONSERVATION DIVISION
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March 1, 1993

'93 MAR 3 AM 8 54

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. BRC submitted an Interim Measures Workplan to the US EPA on February 12, 1993.
2. The delisting petition for the "landfill" was discussed during the month with the EPA. We will be required to submit additional sampling results. A sampling plan will be submitted in early March, 1993, for EPA approval.

RCRA Facility Investigation (RFI) Progress

1. BRC and its consultant, GTI, are in the process of preparing the Description of Current Conditions (Task I) and the RFI work plan (Task II). The two tasks will be submitted to the USEPA by March 31, 1993.

Please contact me for any additional information.

Sincerely,

Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Ed Horst, NM Environment Department
Cymantha Diaz, GTI
Dave Roderick
Joe Warr
John Goodrich



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
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1993 APR 1 AM 8 57

April 1, 1993

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Monthly Progress Report
EPA I.D. No. NMD089416416

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. No visual evidence of hydrocarbon seepage into Hammond Ditch was noted during an inspection by BRC on March 23, 1993. This is strong evidence that the source controls, recovery system, and interim measures implemented by BRC are effective.
2. Preliminary Response to Letter dated March 26, 1993.
 - a. The existing ground water recovery system is recovering SPH as a LNAPL only. BRC is a light crude refinery with crude supplies in excess of 42° API gravity. No bottom upgrading is done. BRC has no reason to believe that refinery operations could have caused a DNAPL component in the ground water.

The seep observed along the San Juan River bluff containing hydrocarbons consists of water, dissolved soil minerals, dissolved hydrocarbons (BTEX), and floating hydrocarbons (recently only a sheen at most). The water thickness in the gravel zone above the Nacimiento thins as the velocity increases at the seep point, therefore we referred to the seep as occurring at the contact between the Nacimiento and Jackson Lake Terrace. There are no DNAPL components in the seeping ground water.

- b. BRC is very confident that the gravel zone will be continuous over the area in which the recovery wells will be installed. This is believed because of experience with other well installations and observation of the gravel along the south side of Hammond Ditch in the area.

Mr. Greg Lyssy
April 1, 1993
Page 2

BRC's practice has been to determine screen length in the field based on the depth to the Nacimiento. The screen will be set so that it extends from the top of the Nacimiento to five feet above the high water mark (probably the elevation of the Hammond Ditch when full). Any SPH will be in the screened section.

- c. Some work has been done concerning the radius of influence concerning RW-1, RW-2, and RW-3. Please refer to "Site Investigation and Remedial Action Conceptual Design for the Bloomfield Refining Company", a report provided to the U.S. EPA (Guy Tidmore) in March, 1988.
- d. The impact of the Hammond Ditch on the proposed recovery wells has not been modeled. As mentioned above, results from BRC's source elimination program and ground water remedial action program are showing up. Keeping water in Hammond Ditch during the non-irrigation season keeps the ditch banks loaded with fresh water longer which inhibits migration of SPH to the ditch from the refinery and stops further migration of SPH across the ditch. The amount of SPH in the seep at the river bluff has decreased substantially over recent years. In addition, the recovery well RW-18 may be very responsible for the fact that no SPH was noted in Hammond Ditch during the previous non-irrigation period.

The locations of the proposed new recovery wells are considered the best possible for the purposes of interim measures. Process areas limit access to more southern locations. The locations were selected to intercept the plume known to be migrating northward in this area. It is entirely possible that these wells will not be useful for long as recovery wells as fresh water is pulled from Hammond Ditch, but they will always be useful for monitoring purposes to evaluate the effectiveness of upgradient remediation efforts. If pumping the new wells causes the ground water quality to improve in the wells, then the interim measure is working.

- e. Since SPH is present in both up-gradient and down-gradient wells around the SOWP and NOWP, it seems likely that a portion of the SPH plume has migrated under the SOWP and NOWP. The SPH plume has been identified as consisting of refinery products. Refinery products contain much higher concentrations of BTEX than the SOWP and NOWP and would contribute much more BTEX to the dissolved phase, masking any release from the SOWP or NOWP.

Mr. Greg Lyssy
April 1, 1993
Page 3

The ground water underlying BRC is primarily caused by refinery operations and Hammond Ditch seepage. BRC is eliminating refinery sources to the extent practical. Going upgradient to an area not affected by refinery operations or Hammond Ditch would probably not have much, if any, ground water as evidenced by MW-6.

Analytical results are included in the RFI report.

- f. We will delete the word "minor".
- g. BRC will add the ground water sampling as per your request, but would prefer that it be included in the RFI.

RCRA Facility Investigation (RFI) Progress

1. The Description of Current Conditions (Task I) and the RFI work plan (Task II) were completed and submitted to the USEPA by March 31, 1993.

Please contact me for any additional information.

Sincerely,



Chris Hawley
Environmental Manager

cc: ~~Roger Anderson, NM OGD~~
Ed Horst, NM Environment Department
Cymantha Diaz, GTI
Dave Roderick
Joe Warr
John Goodrich



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

CERTIFIED MAIL #P 176 163 648

March 26, 1993

Mr. Chris Hawley
Environmental Manager
Bloomfield Refining Company
P.O. Box 159
Bloomfield, NM 87413

RE: EPA RESPONSE TO INTERIM MEASURES WORKPLAN
Bloomfield Refining Company
EPA ID # NM089416416

Gentlemen:

The U.S. Environmental Protection Agency (EPA) has performed a technical review of Bloomfield's Interim Measures (IM) Workplan for the Bloomfield Refining Company facility (BRC), located in Bloomfield, New Mexico. BRC submitted the IM Workplan to EPA as one of the requirements of the Administrative Order on Consent (Order), EPA Docket No. VI-303-H, dated December 31, 1992.

EPA reviewed BRC's IM workplan to determine if it fulfills the requirements of the Order. The IM Workplan satisfies the majority of the requirements of the Order; however, several comments must be addressed prior to approval. As per the Order, BRC has 30 days in which to fully address EPA comments. If BRC does not adequately address EPA concerns, EPA will modify the revised submittal and it shall become the approved workplan.

GENERAL COMMENTS

- 1) The IM workplan should clarify if the existing ground water recovery system is recovering SPH as a DNAPL, LNAPL or both. The SPH contour map in the workplan indicates that SPH is absent from the proposed recovery well locations. However, hydrocarbon seeps have been observed along the San Juan River bluff at the contact between the Nacimiento and Jackson Lake Terrace. It therefore appears that there may be a DNAPL component in the ground water. The IM workplan should address the presence of both DNAPL and LNAPL phases.
- 2) Has it been determined if the gravel zone is continuous over the area in which the recovery wells will be installed? Since the objective of the two additional recovery wells is to prevent further migration off-site to the San Juan River, it is suggested that a cross section illustrating the position of the proposed recovery wells in relation to the lithology of the Jackson Lake Terrace be included in the workplan. The rationale for choosing a twenty-five foot screen for the recovery wells should be presented. How does the screen length relate to the SPH/water table interface?

- 3) Have approximate radius of influence determinations been made for the existing recovery wells? If so, please provide the information.
- 4) Has the impact of the Hammond Ditch on the proposed recovery wells been determined or modeled. If so, please provide the information.

SPECIFIC COMMENTS

1.4, Groundwater Monitoring, third paragraph, page 6

The workplan states "*due to the significant presence of SPH in both the upgradient and down-gradient wells, a meaningful groundwater monitoring program for RCRA compliance is unlikely.*" This sentence must be explained, including any rationale which was used to arrive at this conclusion. If upgradient wells are impacted by the presence of SPH, then additional upgradient wells are required. The IM workplan should contain the necessary analytical results.

2.3, Closure of Solid Waste Management Units, first paragraph, page 13

In the last sentence, the term "*minor*" must be deleted or explained further.

3.0, Proposed Additional Interim Measures, third paragraph, page 16

BRC must add language in this section which states that groundwater samples will be collected from the recovery wells and analyzed for Appendix IX constituents for volatile organics, semi-volatile organics, priority pollutant metals, and TPH.

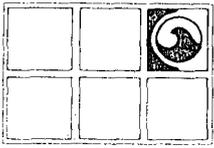
All of these comments must be adequately addressed. Should you have any questions or comments, please do not hesitate to contact the undersigned at (214) 655-8317.

Sincerely,



Greg J. Lyssy
Project Coordinator (6H-CX)
RCRA Technical Section
RCRA Enforcement Branch

cc: Ed Horst, New Mexico Environment Department



GROUNDWATER TECHNOLOGY

Groundwater Technology, Inc.

2501 Yale Blvd. SE, Suite 204, Albuquerque, NM 87106
Tel: (505) 242-3113 Fax: (505) 242-1103

March 29, 1993

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APR 12 1993

OIL CONSERVATION DIV.
SANTA FE

Mr. Greg J. Lyssy
United States Environmental Protection Agency
Region VI
RCRA Technical Enforcement
1445 Ross Avenue
Suite 1200
Dallas, Texas 75202-2733

RE: Task 1: Description of Current Conditions and Task 2: Draft Work Plan
Bloomfield Refining Company
#50 County Road 4990
Bloomfield, New Mexico

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

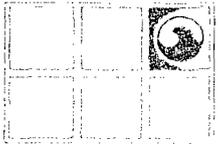
Dear Mr. Lyssy:

Enclosed please find three (3) copies of the "Task 1: Description of Current Conditions" report and "Task 2: Draft Work Plan" for the above-referenced facility submitted on behalf of Bloomfield Refining Company (BRC) in accordance with item VI.2.a of the Administrative Order On Consent for your review and approval. Should you have any questions or comments, please do not hesitate to contact me at (505) 242-3113 or Chris Hawley of BRC at (505) 632-8013.

Sincerely,
Groundwater Technology, Inc.


Cymantha Diaz
Project Manager

cc: Chris Hawley - BRC
Joe Warr - BRC
Dave Roderick - BRC
Roger Anderson - NM-OCDA
Ed Horst - NMED



GROUNDWATER TECHNOLOGY

Groundwater Technology, Inc.

2501 Yale Blvd. SE, Suite 204, Albuquerque, NM 87106
Tel: (505) 242-3113 Fax: (505) 242-1103

February 12, 1993

Mr. Greg J. Lyssy
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: Interim Measures Work Plan
Bloomfield Refining Company
#50 County Road 4990
Bloomfield, New Mexico

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

Dear Mr. Lyssy:

Enclosed please find three (3) copies of the Interim Measures Work Plan for the above-referenced facility submitted on behalf of Bloomfield Refining Company (BRC) in accordance with item VI.1.a of the Administrative Order On Consent for your review and approval. Should you have any questions or comments, please do not hesitate to contact me at (505) 242-3113 or Chris Hawley of BRC at (505) 632-8013.

Sincerely,
Groundwater Technology, Inc.


Cymantha Diaz
Project Manager

cc: Chris Hawley - BRC
Joe Warr - BRC
Dave Roderick - BRC
Roger Anderson - NM-OCD
Ed Horst - NMED

RECEIVED

FEB 17 1993

OIL CONSERVATION DIV.
SANTA FE



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

THE CONSENT DIVISION
RECEIVED

FEB 5 AM 9 18

February 5, 1993

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

**RE: Monthly Progress Report
EPA I.D. No. NMD089416416**

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. BRC is continuing to implement interim measures. Seven on-site hydrocarbon recovery well are actively pumping. The systematic tank inspection and maintenance program, a permanent part of the refinery operations, continues also as a very effective interim measure.
2. BRC is continuing progress toward closure of solid waste management units (SWMUs) that are no longer in use, in accordance with item C.2.b of the Corrective Action Plan (CAP) of the Order on Consent. The "landfill" delisting petition is still in active consideration. BRC has six months from about December, 1992 to correct some deficiencies in the petition, primarily with a requirement to obtain additional sampling results.
3. BRC and its consultant, GTI, are in the process of preparing the IM work plan. This plan will be submitted to the USEPA by February 14, 1993.
4. Well search information provided by Tierra Environmental Co., Inc. (Tierra, 1992) identified the water wells in the vicinity of the BRC site. Based on coordinates provided, these well locations were plotted to show their locations relative to the BRC site. Well owner and construction information is shown on Table 1.

As shown on the figure, eight wells are within a one-mile radius of the BRC site: #1, 3, 5, 6, 7, 13, 15, and 22.

Mr. Greg Lyssy
February 4, 1993
Page 2

Well #1 is shown to be located south of the site and owned by C. W. Wooten. This well is double-cased and is screened between 266 and 306 feet. It is also up-gradient. Well #6 is located to the west of the site on the opposite side of the Hammond Ditch. Well #5 is located southwest of the site. Wells #3, 7, 13, 15, and 22 are located across (north of) the San Juan River from the site. The locations of well #5 and well #6 are also unlikely as marked.

Based on the well locations with respect to the facility, the geology in the area, and surface water bodies, no wells are considered to be at risk, therefore no owner notification is required.

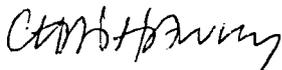
5. Some public officials have been notified by letter about the administrative consent order. A copy of the letter is attached.

RCRA Facility Investigation (RFI) Progress

1. BRC and its consultant, GTI, are in the process of preparing the Description of Current Conditions (Task I) and the RFI work plan (Task II). The two tasks will be submitted to the USEPA by March 31, 1993.

Please contact me for any additional information.

Sincerely,



Chris Hawley
Environmental Manager

cc: ~~Roger Anderson, NM OED~~
Ed Horst, NM Environment Department
Cymantha Diaz, GTI
Dave Roderick
Joe Warr
John Goodrich

Ed Horst
NM Environment Department
Hazardous Waste Bureau
P.O. Box 26110
Santa Fe, NM 87502



January 14, 1993

Senators: Christine Donisthorpe
Raymond Kysar

Representatives: Jerry Sandel
Darla Whitney-Welles
David Christensen

Blmfld. City Council: Sam Mohler
Julie Hunter
Bob Cassady
Ed Wood

Blmfld. City Manager: Al Keller
Blmfld. Mayor: Art Kittell

We want to take this opportunity to let you know that Bloomfield Refining Company of Bloomfield, New Mexico, has entered into an administrative consent order with the United States Environmental Protection Agency ("EPA"), Region 6, dated December 31, 1992. This agreement comes after many years of discussion with EPA (beginning with our predecessors, Plateau, Inc.) about groundwater quality at the refinery. The agreement formalizes a procedure for continuing positive steps to determine the extent of any refinery-related effects on groundwater quality and further desirable measures to address those effects.

Since its purchase of the Refinery in 1984, and long before the recent EPA consent order, Bloomfield Refining Company has been involved in efforts to monitor and improve groundwater. Most, if not all, of the current groundwater conditions in the refinery area are believed to be a cumulative result of product leakage over many years. In conjunction with the New Mexico Oil Conservation Division ("NMOCD") oversight, we have developed and implemented plans to prevent further product releases with such measures as systematic tank inspection and repair programs, double-lining of surface impoundments, and up-grading of refinery sewers and paving. We have also installed a groundwater recovery well system within the plant site which, with other measures, will continue in operation under the EPA consent order.

For some time, the EPA has been concerned that the refinery management of process materials and waste, beginning with our predecessor, Plateau, Inc., has had an impact on groundwater quality. Although the NMOCD has been effectively working with us on groundwater issues for a number of years, EPA elected to exercise its jurisdiction under the federal Resource Conservation and Recovery Act to oversee our assessment of, and response to, groundwater conditions.

The agreement with the EPA, among other things, spells out a systematic approach for further assessing groundwater conditions and actual or potential sources affecting groundwater quality. As an interim source control measure, Bloomfield Refining Company will further enhance its existing groundwater recovery system. The agreement also requires us to identify and evaluate whether additional long-term remedial measures are appropriate and to determine what those measures should be. This process is expected to take approximately one to two years with periodic progress reports being submitted to the EPA.

Actual implementation of additional remedial measures, if any are found appropriate, could then follow under a separate future agreement.

For your information, Bloomfield Refining Company processes 16,500 barrels per day of Four Corners crude oil into primarily gasoline, diesel, and military jet fuel products. The company employs 130 people in the plant and in associated support positions with an annual payroll of approximately \$5 million. In addition to this economic contribution, we are committed to protecting the environmental quality of our community. We will continue to work diligently with the EPA and other governmental agencies to have an environmentally sound facility for ourselves and our community.

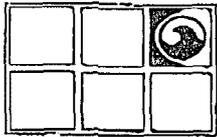
If you have questions or would like additional information, please do not hesitate to contact me directly.

Sincerely yours,



David Roderick
Refinery Manager

cc: Ron Williams
Joe Warr
Sally Allen
~~Chris Hawley~~



**GROUNDWATER
TECHNOLOGY, INC.**

2501 Yale Blvd. SE, Suite 204, Albuquerque, NM 87106 (505) 242-3113

Fax: (505) 242-1103

FACSIMILE MESSAGE

DATE: 01/29/93 TIME: _____
 TO: Chris Hawley AT: _____
 FROM: Cynthia Diaz AT: _____

NUMBER OF PAGES INCLUDING THIS COVER SHEET: 2

FAX NUMBER CALLED: 1-632-3911

MESSAGE: RE: Progress Report Info

I will send you the map and table on
 Feb 4th for receipt by you on Feb 8th
 (if OK) since graphics aren't due back
 until then. If you'd like to rush it
 please call.

This facsimile transmission contains CONFIDENTIAL INFORMATION which also may be LEGALLY PRIVILEGED and which is intended only for the use of the Addressee(s) named above. If you are not the intended recipient of this facsimile, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination or copying of this facsimile is strictly prohibited. If you received this facsimile in error, please notify us immediately by telephone and return the original facsimile to us at the above address by return mail. Thank you.

IF THIS MESSAGE IS RECEIVED INCOMPLETE, PLEASE CALL (505) 242-3113.

TIME: _____

SENT BY: _____

Interim Measures (IM) Progress

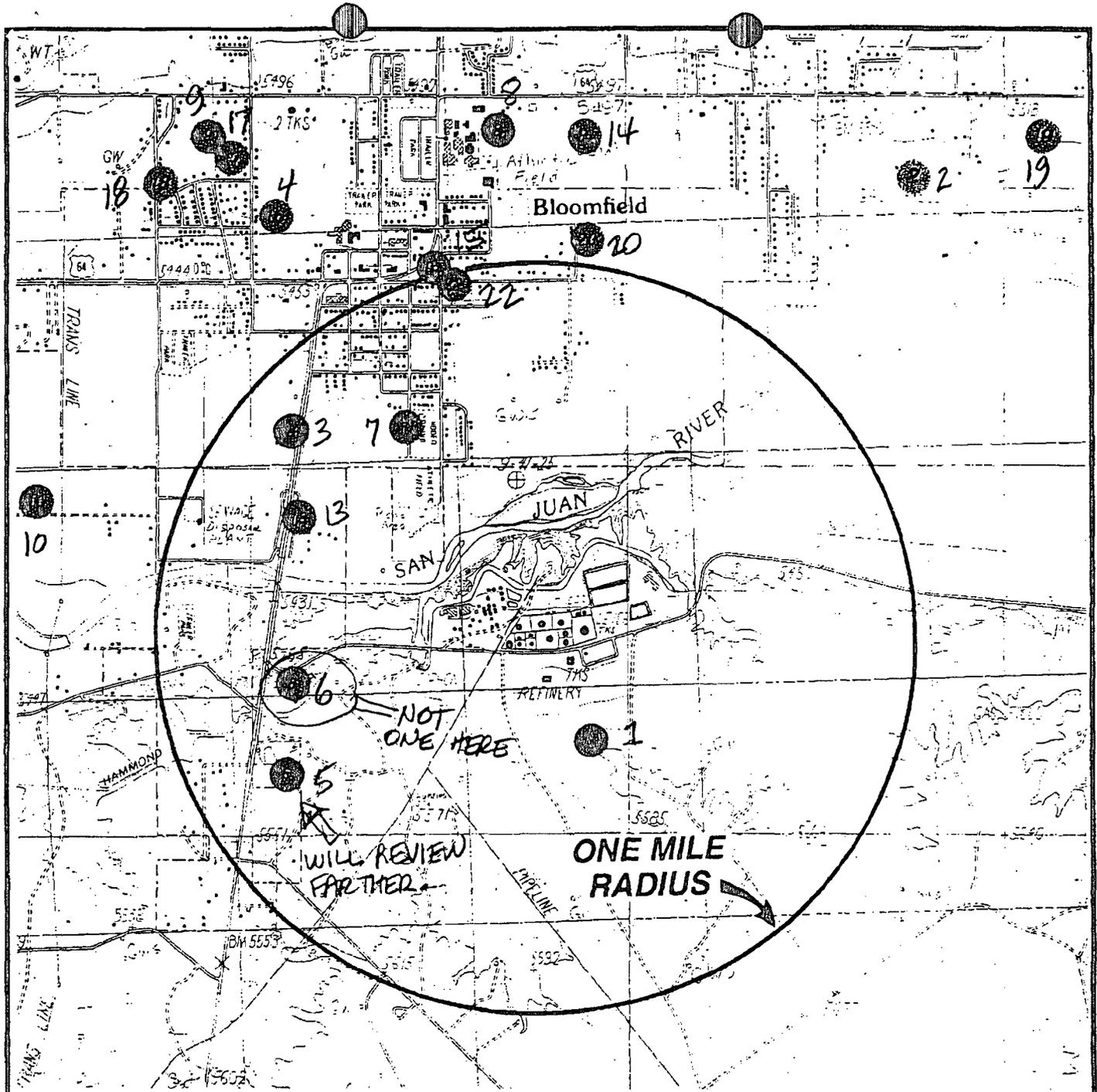
1. BRC is continuing to implement Interim measures including the systematic tank inspection and maintenance program and the hydrocarbon recovery system actively pumping from seven on-site recovery wells. Additionally BRC continues its efforts toward closure of solid waste management units (SWMUs) that are no longer in-use, in accordance with item C.2.b of the Corrective Action Plan (CAP) of the Order on Consent.
2. BRC and its consultant, Groundwater Technology, Inc. (GTI), are in the process of preparing the IM work plan. This plan will be submitted to the USEPA within 45 days from the date of the Order on Consent (postmarked by February 14, 1993).
3. Well search information provided by Tierra Environmental Co., Inc. (Tierra, 1992) identified 22 water wells in the vicinity of the BRC site. Based on coordinates provided, these well locations were plotted to show their locations relative to the BRC site, although locations for three wells (#4, 11 and 12) were not reported and the locations of two wells (#15 and 22) are only approximate. Additionally, the location of well #21 is not shown as it was reported to be located in Section 25 which is off the map. Well owner and construction information is shown on Table 1.

As shown on the figure, eight wells are within a one-mile radius of the BRC site: #1, 3, 5, 6, 7, 13, 15 and 22. Well #1 is shown to be located south of the site, apparently on BLM property, but is reportedly owned by C.W. Wooten. This well is double-cased and is screened between 266 and 306 feet. Well #6 is located west of the site on the opposite side of the Hammond Ditch. This well is owned by D.C. Looney and is reported to be screened between 22 and 32 feet. Well #5 is located southwest of the site, is owned by E.H. Brown (Aztec, NM) and is reportedly cased to 20 feet. Wells #3, 7, 13, 15, and 22 are located across (north of) the San Juan River from the site.

In part C.2.d of the Corrective Action Plan (CAP), BRC is required to notify well owners which have the possibility of groundwater contamination attributable to the BRC site. Based on the well locations with respect to the facility and surface water bodies, these wells are not considered to be at risk, and therefore the owners have not been notified.

RCRA Facility Investigation (RFI) Progress

1. BRC and its consultant, GTI, are in the process of preparing the Description of Current Conditions (Task I) and the RFI work plan (Task II). The two tasks will be submitted to the USEPA within 90 days from the date of the Order on Consent (postmarked by March 31, 1993).



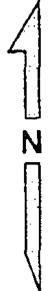
LEGEND

□ SITE

● WATER WELL LOCATION
(SEE TABLE 1 FOR
OWNER INFORMATION)



NEW MEXICO
QUADRANGLE
LOCATION



NOTES:
1) WELL NOS. 4, 11, & 12 NOT SHOWN SINCE
LOCATIONS WERE NOT REPORTED ON WELL
RECORDS. WELL NO. 21 IS NOT SHOWN, AS IT
IS NOT IN THE VICINITY OF THE SITE.
2) WELLS NO. 15 AND 22 ARE APPROXIMATELY
LOCATED.

BLOOMFIELD, N. MEX. QUADRANGLE
PROVISIONAL EDITION
1985
36107-F8-TF-024



 **Bloomfield Refining
Company**
A Gary Energy Corporation Subsidiary
#50 COUNTY ROAD 4990
BLOOMFIELD, NEW MEXICO

 **GROUNDWATER
TECHNOLOGY**
2501 YALE BLVD. SE, SUITE 204
ALBUQUERQUE, N.M. 87106 (505) 242-3113

**WATER WELLS
WITHIN ONE MILE
OF THE FACILITY**

DESIGNED BY CD	DETAILED BY EF	CHECKED BY:
DATE 2/2/93	FILE BL-WELL LOC	
PROJECT NO 023353014	CONTRACT	
DRAWING	FIGURE 2	REVISION:

TABLE 1
 WATER WELLS WITHIN ONE MILE RADIUS
 BLOOMFIELD REFINING COMPANY SITE
 BLOOMFIELD, NEW MEXICO

IN THE VICINITY OF THE

	PERMIT NUMBER	WELL OWNER	ADDRESS	LOCATION	DATE	TOTAL DEPTH	CASING	SCREEN
1.	SJ-2148	C.W. Wooten	P.O. Box 1841 Bloomfield, NM 87413	S 1/2, NE 1/4, SE 1/2 Section 27 Twp 29 N Range 11-W	Nov. 1987	305'	7" steel to 39.5' 4" PVC to 266'	266'-306'
2.	SJ-1870	D.E. Walters	P.O. Box 2131 Bloomfield, NM 87413 Tract 2	NE 1/4 Section 23 Twp 29 N Range 11-W	Aug. 1984	58'	6" steel to 58'	None
3.	SJ-2026	S. Hinsen	P.O. Box 2562 Bloomfield, NM 87413	SW 1/2, SW 1/4, Section 22 Twp 29 N Range 11-W	Jan. 1986	27'	6 5/8" steel to 21'	21' to 26'
4.	SJ-2121	H. Chatto	Lot 10, Huntington Circle, Bloomfield, NM 87413	Not Reported	July 1987	30'	7" steel to 21'	21' to 26'
5.	SJ-700	E.H. Brown	Rt #1, Box 248, Aztec, NM 87410	SW 1/4, SW 1/4, NW 1/4 Section 27 Twp 29 N Range 11-W	July 1978	20'	7" steel to 20'	None
6.	SJ-2210	D.C. Looney	P.O. Box 2462 Bloomfield, NM 87413	S 1/2, NW 1/4, NW 1/4 Section 27 Twp 29 N Range 11-W	Dec. 1988	32'	6" PVC to 22'	22'-32'

TABLE 1
~~WATER WELLS WITHIN ONE MILE RADIUS~~
 BLOOMFIELD REFINING COMPANY
 BLOOMFIELD, NEW MEXICO
 (Continued)

	PERMIT NUMBER	WELL OWNER	ADDRESS	LOCATION	DATE	TOTAL DEPTH	CASING	SCREEN
7.	SJ-695	W.N. Wampler	P.O. Box 2386 Bloomfield, NM 87413, Lot 14, Block 2 of the Bloomfield Southside Add	SW 1/4, SE 1/4 Section 22 Twp 29 N Range 11-W	July 1978	34'	6" to 24'	24' to 34'
8.	SJ-796	T.P. Johnson	Tract A, Loma Addition, Bloomfield, NM 87413	NE 1/4, NW 1/4 Section 22 Twp 29 N Range 11-W	Mar. 1979	50'	5.5" to 40'	40' to 48'
9.	SJ-701	G.T. Rodriguez	P.O. Box 1071 Bloomfield, NM 87413, Lot 16, Green Valley Estates	NE 1/4, NE 1/4 Section 21 Twp 29 N Range 11-E	July 1978	70'	6 5/8" to 70'	None
10.	SJ-2330	R.H. Phelps	P.O. Box 2548 CR 5005 #65 A, Bloomfield, NM 87413	NW 1/4, NE 1/4 Section 28 Twp 29 N Range 11-W	Sept. 1991	128'	5" PVC to 107'	107' to 127'
11.	SJ-2195	M. Aronson	Bloomfield, NM 87413	Not Reported	Nov. 1988	70'	6" to 65'	65' to 70'
12.	SJ-2182	M. Faverino	116 Road 5010 Bloomfield, NM 87413	Not Reported	July 1988	27'	7" to 22'	22' to 26'

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CTI NEW MEXICO

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TABLE 1
 WATER WELLS WITHIN ONE MILE RADIUS
 BLOOMFIELD REFINING COMPANY
 BLOOMFIELD, NEW MEXICO
 (Continued)

	PERMIT NUMBER	WELL OWNER	ADDRESS	LOCATION	DATE	TOTAL DEPTH	CASING	SCREEN
13.	SJ-2227	Y. Chavez	P.O. Box 1412 Bloomfield, NM 87413 Huntington Circle	NW 1/4, NW 1/4 Section 27 Twp 29 Range 11-W	July 1989	27'	7" to 20'	20' to 24'
14.	SJ-704	C.W. Jaramillo	P.O. Box 594 Bloomfield, NM 87413 Lot 2&3, Blk 4 - Loma Vista	NE 1/4, NE 1/4 Section 22 Twp 29 N Range 11-W	July 1978	55'	6" Plastic to 35'	35' to 55'
15.	SJ-484	G.A. Chacon	P.O. Box 634 Bloomfield, NM 87413	Section 22 Twp 29 Range 11	Oct. 1977	37'	6 3/8" to 28'	28' to 34'
16.	SJ-320	M. Wileman	P.O. Box 503 Bloomfield, NM 87413	NW 1/4, SW 1/4, NW 1/4 Section 22 Twp 29 Range 11	Sept. 1977	38'	6 3/8" steel to 25'	25' to 36'
17.	SJ-1888	G.P. McKeown	P.O. Box 641 Bloomfield, NM 87106 Hwy 64, West- Broadway	NE 1/4, NE 1/4, SE 1/4 Section 21 Twp 29 Range 11	Sept. 1984	47'	7" steel to 38'	38' to 40'

TABLE 1
 WATER WELLS WITHIN ONE MILE RADIUS
 BLOOMFIELD REFINING COMPANY
 BLOOMFIELD, NEW MEXICO
 (Continued)

	PERMIT NUMBER	WELL OWNER	ADDRESS	LOCATION	DATE	TOTAL DEPTH	CASING	SCREEN
18.	HC-124885	S.C. Byland	303 Chestnut, P.O. Box 11 Bloomfield, NM 87413, Lot 9, Blk 4, Wade Grand View Subdivision	NE 1/2 Section 21 Twp 29 Range 11-W	May 1985	65'	7" steel to 50'	50' to 55'
19.	SJ-1962	J.Cadvaln	P.O. Box 649 Bloomfield, NM 87413	NW 1/4, NW 1/4 Section 24 Twp 24 Range 11-W	Aprl. 1985	45'	7" steel to 36'	36' to 39'
20.	SJ-2138	M. Gilbert	309 S.Johnson Bloomfield, NM 87413, Lot 6, Blk 5, Turner No.2	NE 1/4, SE 1/4 Section 22 Twp 29 N Range 11-W	June 1987	40'	7" steel to 35'	35' to 39'
21.	SJ-804	C.J. Dunson	Star Route 3 Box 142-B Bloomfield, NM 87413	W 1/4 Section 25 Twp 29 N Range 11-W	Oct. 1978	37'	6" to 37'	<i>None</i>
22.	SJ-1974	A.R. Carpenter	700 South Turner Box 16 Bloomfield, NM 87413, Lot 2, Blk 4, Southside Add	Section 22 Twp 29 N Range 11-W	June 1985	47'	6" steel to 27' 5" PVC	27' to 31' 30' to 47'

01/21/93 12:20

5052421103

GTI NEW MEXICO

007



NEW MEXICO OIL CONSERVATION
DIVISION
RECEIVED

JAN 9 1993

January 7, 1993

Mr. Greg J. Lyssy
U. S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

**RE: Monthly Progress Report
EPA I.D. No. NMD089416416**

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

Dear Mr. Lyssy:

In accordance with VI.5.b of the order, Bloomfield Refining Company (BRC) submits this monthly progress report.

General Business

1. BRC designates the following as Project Manager (VII.1):

Chris Hawley
Environmental Manager
Bloomfield Refining Company
P.O. Box 159
Bloomfield, NM 87413
(505) 632-8013

2. BRC has retained Groundwater Technologies, Inc., 2501 Yale Boulevard SE, Suite 204, Albuquerque, NM 87106 to provide consulting and other technical assistance with implementation of the order. Cymantha Diaz will be responsible for the work they perform for BRC and can be reached at (505) 242-3113. GTI has been provided with a copy of the order (II.4).

3. A copy of the order has been sent to:

Roger Anderson
New Mexico Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

4. Financial assurance documents were sent by our Denver corporate office on December 31, 1992 to meet the requirements of Section XII of the order.

Mr. Greg Lyssy
January 7, 1992
Page 2

Interim Measures (IM) Progress

1. BRC has made significant progress in implementing interim measures prior to this order, but has not quantified this progress toward estimating the percentage of the IM completed.
2. Actual work on the IM Workplan will begin on Monday, January 11, 1993 with an on-site meeting with GTI. Most of the early work will be in gathering existing information about the current facility and integrating this information into the IM Workplan as appropriate.

We look forward to successful implementation of the order.
Please contact me for any additional information.

Sincerely,



Chris Hawley
Environmental Manager

cc: Roger Anderson, NM OCD
Ed Horst, NM Environment Department
Cymantha Diaz, GTI
Dave Roderick
Joe Warr
John Goodrich

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

December 17, 1992



POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL

RETURN RECEIPT NO. P-667-241-929

Mr. David Roderick
Refinery Manager
P.O. Box 159
Bloomfield, New Mexico 87413

**RE: Fee for Discharge Plan GW-1 Renewal
Bloomfield Refinery
San Juan County, New Mexico**

Dear Mr. Roderick:

Pursuant to the New Mexico Water Quality Control Commission (WQCC) Regulation 3-114 "every billable facility submitting a discharge plan for approval, modification or renewal shall pay the fees specified in this section to the Water Quality Management Fund."

The discharge plan renewal for the Bloomfield Refining Company Bloomfield Refinery (GW-1) was approved by the Director of the Oil Conservation Division (OCD) on February 4, 1992. Our records show that the \$50 filing fee has been paid, but the flat fee has not been paid. The flat fee for discharge plan renewal for an oil refinery is \$3910; however, because your discharge plan renewal is only for 2-1/2 years, the flat fee is one-half of \$3910 or \$1955. Please submit the appropriate flat fee or records showing that the fee has been paid.

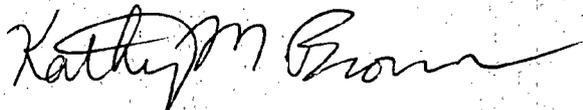
The flat fee for an approved discharge plan may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the discharge plan, with the first payment due at the time of approval.

Please make all checks payable to the NMED - Water Quality Management and addressed to the OCD Santa Fe Office.

Mr. David Roderick
December 17, 1992
Page 2

If you have any questions, please do not hesitate to contact me at (505) 827-5884.

Sincerely,

A handwritten signature in cursive script that reads "Kathy M. Brown". The signature is fluid and connects the letters together.

Kathy M. Brown
Geologist

MEMORANDUM OF MEETING OR CONVERSATION

<input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Personal	Time <u>0850</u>	Date <u>4/30/92</u>
---	------------------	---------------------

<u>Originating Party</u>	<u>Other Parties</u>
<u>Chris Harley - Bloomfield Refining</u>	<u>Bill Olson - OCD Santa Fe</u>

Subject
Bloomfield Refinery

Discussion
Recovery well by flare put in service on 4/23/92
They have received a draft 3008 order from EPA requesting a ground water investigation and remediation under EPA. Since they have an operating ground water recovery system they are confused as to what EPA is requesting.

Conclusions or Agreements
He will send copy of draft EPA order
OCD will discuss with EPD Haz-waste

Distribution Signed Bill Olson



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



February 4, 1992

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-327-278-288

Mr. David Roderick, Refinery Manager
Bloomfield Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

RE: Discharge Plan GW-1
Bloomfield Refinery
San Juan County, New Mexico

Dear Mr. Roderick

The groundwater discharge plan (GW-1) renewal for the Bloomfield Refining Company's Bloomfield Refinery located in the NW/4 SE/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 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 is hereby approved with the following conditions:

1. All closure plans will be submitted to and approved by the OCD prior to initiating closure.
2. All plans for pit and/or tank installation will be submitted to and approved by the OCD prior to initiating construction.
3. The option chosen to eliminate the unlined disposal/evaporation units will be in operation prior to discharge plan expiration.

The previous discharge plan renewal was approved on November 2, 1989 and expired on December 7, 1991. This renewal application consists of the previous renewal as approved November 2, 1989 and the renewal application dated October 4, 1991.

The discharge plan renewal application was submitted pursuant to Section 3-106 of the Water Quality Control Commission Regulations. It is approved pursuant to Section 3-109.F. Please be advised that approval of this plan does not relieve you of liability should your

Mr. David Roderick
February 4, 1992
Page -2-

operation result in actual pollution of surface or ground waters or the environment which may be actionable under other laws and/or regulations.

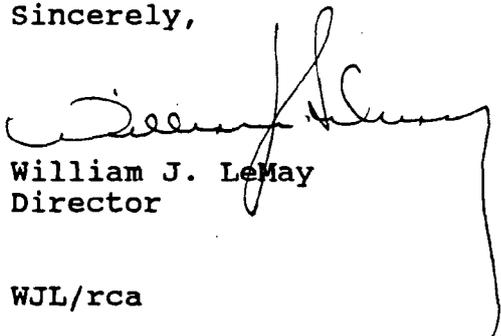
Please be advised that all exposed pits, including lined pits and open top tanks (tanks exceeding 16 feet in diameter) shall be screened, netted or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that Section 3-104 of the regulations requires that "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan". Pursuant to Section 3-107.C you are required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to WQCC Section 3-109.G.4, this plan approval is for a period of two and one-half (2 1/2) years. This approval will expire June 7, 1994 and application for renewal should be submitted in ample time before that date.

On behalf of the staff of the Oil Conservation Division, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,



William J. LeMay
Director

WJL/rca

xc: OCD Aztec Office

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 11/25/91,
or cash received on 12/3/91 in the amount of \$ 50.00
from BLOOMFIELD REFINING CO

for BLOOMFIELD REFINERY GW-1
(Facility Name) (DP No.)

Submitted by: Roger Anderson Date: 12/3/91

Submitted to ASD by: _____ Date: _____

Received in ASD by: _____ Date: _____

Filing Fee New Facility _____ Renewal _____
Modification _____ Other _____
(specify)

Organization Code 521.07 Applicable FY 80

To be deposited in the Water Quality Management Fund.

Full Payment _____ or Annual Increment _____



Republic Plaza
370 17th Street, Suite 5300
Denver, Colorado 80202
(303) 628-3800

FIRST BANK
EAST GRAND FORKS
EAST GRAND FORKS, MINNESOTA 56721
75-1592/912

CHECK NUMBER
[redacted]

DATE ISSUED: 11/25/91 AMOUNT: \$*****50.00..

PAY *****50.00 *****
THIS CHECK VOID UNLESS CASHED WITHIN 120 DAYS OF ISSUE DATE

TO THE ORDER OF

WATER QUALITY MANAGEMENT
NATURAL ENERGY, MINERALS & NATURAL
RESOURCES DEPT.
OIL CONSERVATION DIVISION
P.O. BOX 2028
MINN. STATE

GENERAL ACCOUNT
[Signature] S.R.V.P.

Two Signatures Required if \$25,000 or More
Special Signatures Required if \$100,000 or More

[redacted]

STATE OF NEW MEXICO
County of Bernalillo ss

Thomas J. Smithson being duly sworn declares and says that he is National Advertising manager of the **Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, a copy of which is hereto attached, was published in said paper in the regular daily edition,

for.....1.....times, the first publication being on the.....9.....day
of.....Dec....., 1991, and the subsequent consecutive
publications on....., 1991.

Thomas J. Smithson

Sworn and subscribed to before me, a Notary Public in
and for the County of Bernalillo and State of New
Mexico, this.....9.....day of.....Dec....., 1991.

PRICE.....\$ 50.82

Statement to come at end of month.

ACCOUNT NUMBER.....C 81184

NOTARIAL SEAL
Emadette Ortiz
EMADETTE ORTIZ
PUBLIC-NEW MEXICO
SECRETARY OF STATE
12-18-93

CLA-22-A (R-12/91)

OIL CONSERVATION DIVISION
RECEIVED

'91 DE: 10 AM 9

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND
NATURAL RESOURCES
DEPARTMENT
OIL CONSERVATION DIVISION
Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan application and renewal application have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:
(GW-68) - Williams Field Services Company, Sandy Fisher, Environmental Specialist, P.O. Box 58900, Salt Lake City, Utah 84158-0900, has submitted a discharge plan application for their Simms Mesa Compressor Station located in the NW4 NE4, Section 22, Township 30 North Range 7 West, NMPM, Rio Arriba County, New Mexico. Approximately 75 gallons per day of waste water will be stored in an above ground steel tank prior to transport to an OCD approved off-site disposal facility. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 150 feet with a total dissolved solids concentration estimated to range from 600 to 900 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.
(GW-1) - Bloomfield Refining Company, David Rodentz, Refinery Manager, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for his previously approved discharge plan for the Bloomfield Refinery located in the NW4 SE4 of section 27 and the N2 NE4 SE4 of section 27 and the S2 NW4 and the N2 NW4 SW4 and the SE4 NW4 SW4 and the NE4 SW4 of section 25 Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The renewal application consists of an evaluation proposal of the refinery waste water system with the objective of eliminating all unlined storage tanks. Groundwater most likely to be affected by any accidental spills is at a depth ranging from 10 to 30 feet and is a water zone directly caused by seepage from Hammond Ditch. The ditch water has a total dissolved solids concentration of approximately 200 mg/l. The previously approved discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.
(GW-74) - Halliburton Company, Matt O. Palfitt, Environmental Engineer, P.O. Drawer 1431, Duncan, Oklahoma 73536-0100, has submitted a discharge plan application for the Hobbs Service Facility located in Section 7, Township 18 South, Range 39 East, NMPM, Lea County, New Mexico. Approximately 135 gallons per day of waste water is stored in below grade fiberglass tanks prior to disposal in an OCD approved offsite disposal facility. Groundwater most likely to be affected by any accidental spills is at a depth of approximately 30 feet with a total dissolved solids concentration ranging from 300 to 600 mg/l. The application addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(BW-15) - Marathon Road Water Station, C. W. Trainer, 8000 E. Kell Dr., Scottsdale, Arizona 85260, has submitted a renewal application for the previously approved discharge plan for their in situ extraction brine well facility. The Marathon Road Water Station is located in the SW4 SE4, Section 25, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 1630 to 2400 feet and brine is extracted with an average total dissolved solids concentration of about 321,080 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 20 to 50 feet with a total dissolved solids concentration ranging from 500 to 3500 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.
(BW-22) - Quality Brine, Inc., Stan Watson, P.O. Box 75, Tatum, New Mexico 88267, has submitted a renewal application for the previously approved discharge plan for their in situ extraction brine well facility. The Quality Brine Water Station is located in the SW4 SW4, Section 20, Township 12 South, Range 36 East, NMPM, Lea County, New Mexico. Fresh water is injected into the Salado Formation at an approximate depth of 2300 to 2900 feet and brine is extracted with an average total dissolved solids concentration of about 350,000 mg/l. Groundwater most likely to be affected by an accidental discharge is at a depth of 30 to 40 feet with a total dissolved solids concentration ranging from 700 to 800 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.
Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the the above address between 8:00 a.m. and 5:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.
If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.
GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 21st day of October, 1991.
STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY, Director
Journal, December 9, 1991



BRUCE KING
GOVERNOR

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

November 18, 1991

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-756-903-909

Mr. David Roderick
Refinery Manager
P.O. Box 159
Bloomfield, New Mexico 87413

**RE: Fee for Discharge Plan GW-1 Renewal
Bloomfield Refinery
San Juan County, New Mexico**

Dear Mr. Roderick:

Pursuant to the New Mexico Water Quality Control Commission (WQCC) Regulation 3-114 "every billable facility submitting a discharge plan for approval, modification or renewal shall pay the fees specified in this section to the Water Quality Management Fund." Enclosed is a copy of WQCC Rule 3-114 effective as of August 18, 1991.

The Oil Conservation Division (OCD) received your discharge plan renewal application for the Bloomfield Refining Company Bloomfield Refinery on October 7, 1991, which is after the effective date of the WQCC Regulation 3-114. The discharge plan renewal application for the Bloomfield Refinery is therefore subject to the WQCC Regulation 3-114 discharge plan fee. Every billable facility submitting a discharge plan renewal will be assessed a fee equal to the filing fee plus one-half of either the flat fee or discharge fee.

The filing fee is fifty (50) dollars for each discharge plan renewal application. The \$50 filing fee is due immediately and is nonrefundable.

The remainder of the "total fee" for refineries falls under the "flat fee" category and for 5-year discharge plan renewals it is one-half of the total flat fee (\$3910). Because your discharge plan renewal will only be for 2-1/2 years, if approved, your flat fee is one-half of the one-half or one-thousand, nine-hundred and fifty-five dollars (\$1955). The flat fee for an approved discharge plan may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the discharge plan, with the first payment due at the time of approval.

Mr. David Roderick

November 18, 1991

Page 2

Please make all checks out to the **NMED - Water Quality Management** and send to the OCD Santa Fe Office. If you have any questions, please do not hesitate to contact me at (505) 827-5884.

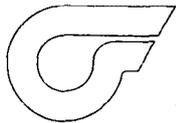
Sincerely,



Roger C. Anderson
Environmental Engineer

Enclosure

xc: OCD Aztec District Office



**Bloomfield Refining
Company**

A Gary Energy Corporation Subsidiary

DISCHARGE PLAN DIVISION
RECEIVED
'91 OCT 10 AM 8 47

October 4, 1991

Mr. David G. Boyer
New Mexico Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504-2088

RE: Discharge Plan (GW-1)
Letter of Renewal

Dear Mr. Boyer:

As required by the conditions of our current discharge plan to renew the plan by December 7, 1991 for an additional two and one-half years and to address in the renewal "...only the evaluation of any wastewater transfer, holding, storage, or disposal that is not double-lined and equipped with leak detection including land application of effluent...", we submit this letter of renewal.

Bloomfield Refining Company (BRC) is committed to a zero discharge policy for wastewater. This includes surface water discharges and groundwater discharges. This policy was made integral to the discharge plan approved for the period June 7, 1989 to December 7, 1991. In implementing the first phase of this policy, BRC installed two each, 25 acre-feet capacity, 5 acre double-lined solar evaporation ponds. The first of these was installed in 1989 and the second in 1990. These have resulted in decreased requirements for land application. BRC initially planned to complete the program by lining the existing ponds, adding additional ponds as required, adding sprayers to the ponds, and taking the land application out of service, however, new regulations and other considerations requiring further evaluation may change some or all of those future plans.

On September 25, 1990 the discharge from the API separator became a hazardous waste (D018) because of benzene concentrations exceeding 0.5 parts per million. On May 2, 1991 the EPA listed the new hazardous wastes, primary and secondary oil/water/solids separation sludges (designated F037 and F038). These new waste designations had a significant impact on how we operate our wastewater discharge system. We made changes to our system that limited the impact to the two small, lined impoundments, known as the SOWP and NOWP in our discharge plan, immediately downstream and adjacent to our API separator. These changes included the installation in the SOWP and NOWP of aggressive biological treatment in the form of high-rate aeration. The aeration system, consisting of two, 5 h.p. aspirating aerators in the SOWP and two, 2 h.p. aspirating aerators in the NOWP have precluded the generation (by definition) of F037 or F038 waste in these or any downstream ponds and have reduced benzene concentrations, as measured in the NOWP discharge, to below detection limits of five parts per billion. However, the impoundments are still considered hazardous waste treatment impoundments for benzene and require operation under the interim status rules of RCRA. BRC submitted a Part A application on September 25, 1990 and a Part B application on September 25, 1991, as required.

In order to minimize the impact of these new regulations and to continue with the implementation of our discharge plan goals, BRC would replace these impoundments with a tank system. We expect the agencies (EPA and NMED) to agree that the tank system would fit the definition of 90-day storage, thus exempting the system to most of the more burdensome requirements of RCRA. If not, we would be required to proceed with a lengthy permitting process for the new tank system or double-line the impoundments. If double-lining is done, it would meet the requirements of both RCRA and our discharge plan goals.

During recent months, BRC has been discussing with City of Bloomfield officials the possibility of utilizing a portion of their municipal wastewater as a raw water source for the refinery. This could develop into a good method of water conservation, however, careful evaluation of the effects on the refinery's complex cooling systems must be done. Without additional water treatment systems, actual wastewater discharge from the refinery would increase. Therefore, BRC has begun evaluating possible wastewater treatment systems that would allow reuse of water. Water reuse may reduce the requirement for additional evaporation ponds. It may be possible to simply remove the clay-lined evaporation ponds and the spray irrigation area from service. This option would be even more likely if spray systems are installed in the two new, lined ponds.

BRC had previously not seriously considered the possibility of permitting and installing an underground injection well, but when considering the substantial costs associated with installing either additional ponds or wastewater treatment systems, this option should be evaluated. We feel that it would be reasonable to delay the installation of other systems until this option is evaluated.

In addition, other regulations, such as diesel desulfurization and fuel reformulation may require substantial expansion of our facility. This would require additional tankage as well. We may find that the acreage currently being utilized for the clay-lined evaporation ponds would be better utilized for expanding the tank farm.

In order to facilitate the completion of our wastewater discharge plan goals, we propose the following schedule of implementation:

1992

- Close the surface impoundments (SOWP and NOWP) and replace with tank system (this assumes EPA and NMED approval of the tanks as 90-day storage units). If not approved, either double-line the impoundments or begin the required permitting process for a tank system. RCRA regulations require that newly regulated surface impoundments be double-lined by March 29, 1994.
- Install a spraying system in the new lined evaporation ponds to optimize the evaporation rates (will reduce use of land application) and to collect data for possible future evaporation pond requirements.
- Complete an engineering assessment of a water reuse system (with or without utilizing the City of Bloomfield's wastewater effluent).
- Complete an engineering assessment of installing a Class I (non-hazardous) underground injection well.

1993 - June 7, 1994

Remove from service or line the existing clay-lined evaporation ponds and the land application area and select and install some combination of the following options:

1. Install additional evaporation pond(s) with sprayers.
2. Install underground injection well.
3. Install wastewater reuse system.
4. Install no additional system because the spray system installed in 1992 has shown that evaporation rates are adequate for current wastewater disposal needs.

Bloomfield Refining Company, excluding some unforeseen impediment, commits to complete the installation of a wastewater disposal system that will eliminate the potential for significant leaching by June 7, 1994. We, therefore, request that our current discharge plan incorporate the above commitments and be extended through June 7, 1994.

We trust this Discharge Plan letter of renewal meets with your approval. Please feel free to contact me or Chris Hawley for any additional information or discussion.

Sincerely yours,



David Roderick
Refinery Manager

DR/jm

cc: Joe Warr
John Goodrich
Chris Hawley



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2086
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

December 11, 1990

Certified Mail
Return Receipt No. P-327-278-015

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

RE: Discharge Plan GW-1
Bloomfield Refinery
San Juan County, New Mexico

Dear Mr. Traylor:

On November 2, 1989, the ground water discharge plan, GW-1 for the Bloomfield Refining Company's Bloomfield Refinery located in NW/4 SE/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 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, was renewed by the Director of the Oil Conservation Division (OCD). This discharge plan renewal was required and submitted pursuant to Water Quality Control Commission (WQCC) regulations and was approved for a period of two and one half years. The approval will expire on December 7, 1991.

If your facility continues to have effluent or leachate discharges and you wish to continue discharging, please submit your application for renewal of plan approval as quickly as possible. The OCD is reviewing discharge plan submittals and renewals carefully and the review time can often extend for several months. The renewal of this plan on December 7, 1991 will address only the evaluation of any wastewater transfer, holding, storage or disposal that is not double-lined and equipped with leak detection including land application of effluent, and any concern that is mandated by Legislative, OCC, or WQCC Rules changes prior to that date.

If you no longer have such discharges and discharge plan renewal is not needed, please notify this office.

Mr. Richard Traylor
December 11, 1990
Page -2-

If you have any questions, please do not hesitate to contact Roger Anderson at (505) 827-5884.

Sincerely,


David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/si

Enclosure

cc: OCD Aztec Office

MEMORANDUM OF MEETING OR CONVERSATION

Telephone Personal

Time 1030

Date 8/28/90

Originating Party

Other Parties

Bill Olson - OCD Santa Fe

Chris Hawley - Bloomfield Refining
632-8013

Subject

Gary Bloomfield Refinery Ground Water Remediation

Discussion

Discussed his 8/16/90 letter to OCD regarding installation of six new monitor/recovery wells.

Informed him that Gary must submit a remediation proposal as well as a discharge plan modification for OCD approval prior to implementation.

Also asked that he provide more detailed info on the new wells such as any lithologic well logs, amount of product in each well and and sample analyses on wells without product.

Conclusions or Agreements

He is working on TCEP measures and cannot submit proposal right now.

He will submit a proposal after finishing TCEP work.

He could give no date. Will be submitted generally in next couple of months.

Distribution

D.P. file

Signed

Bill Olson



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

June 4, 1990

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO: P-918-402-313

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

RE: BLOOMFIELD REFINERY GROUND WATER REMEDIATION

Dear Mr. Hawley:

The New Mexico Oil Conservation Division (OCD) has completed review of the May 8, 1990 Bloomfield Refinery Company (BRC) proposal to install six monitor/recovery wells to investigate potential sources of petroleum contaminated ground water at the refinery.

The OCD approves of BRC's proposal to install four monitor/recovery wells through the center of the tank farm and two monitor/recovery wells in the north process area as shown on BRC drawing D-000-900-002. OCD understands that installation of the monitor/recovery wells will occur within eight weeks of receipt of OCD's approval.

The OCD requests that a report on the monitor/recovery wells containing hydrogeologic data, well completion information, product thickness, results of water quality sampling and any other pertinent information be submitted to OCD within six weeks of completion of the monitor/recovery wells.

If you have any questions or if I can be of any assistance please contact me at (505)827-5885.

Sincerely,

William C. Olson
Hydrogeologist

xc: Frank Chavez, OCD Aztec Office



2111

May 8, 1990

05/08/90 11:08:56

Mr. David G. Boyer
New Mexico OCD
Land Office Building
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

RE: Groundwater Remediation

Dear Dave:

We are planning an expansion of our groundwater monitor and/or recovery program and would appreciate your comments concerning our plan. The major elements of the plan are:

1. Install four monitor/recovery wells through the center of the tank farm (see attached drawing D-000-900-002).
2. Install two monitor/recovery wells in the process area (see attached drawing).
3. Well construction will consist of using flush joint fiberglass epoxy casing. The casing will be 4" diameter with an approximately 20 feet slotted (0.010" slots) screen extending at least five feet above the water table. The hole will be drilled using a casing-driving rig to the top of the Nacimiento formation. A silica sand pack (probably 8/12 silica sand) will be installed with a bentonite plug and a surface concrete cap.
4. After well installation, product and contamination levels will be evaluated to determine pumping requirements and equipment specifications. This is anticipated to be air lift pumps. The recovered water and product will be routed to the API separator for free product recovery. In order to meet new hazardous waste requirements for benzene (must be less than 0.5 ppm), we are considering the installation of an air stripper just downstream of the API separator. Recovery rates will be limited by wastewater disposal capacity.
5. Well installation can be completed within the next couple of months.

We do not plan on using any outside consulting services on this project, therefore, would appreciate any technical advice you may offer.

Sincerely,

Chris Hawley
Environmental Engineer

CH/jm

cc: Richard Traylor
Mike Macy
Joe Warr

MEMORANDUM OF MEETING OR CONVERSATION

<input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Personal	Time 9020	Date 5/8/90
---	-----------	-------------

<u>Originating Party</u>	<u>Other Parties</u>
Bill Olson - OCD Santa Fe	Chris Hawley - Gary Bloomfield 632-8013

Subject
Off site trench + recovery wells at Gary Bloomfield Refinery

Discussion
OCD does bucketfilling of the trench off-site, west of the refinery in the drainage area.
He has a letter together proposing locations of monitor wells. He will send to OCD either today or tomorrow.

Conclusions or Agreements

Distribution Signed

DGB Bill Olson

MEMORANDUM OF MEETING OR CONVERSATION

Telephone Personal

Time 9 AM

Date 3/22/90

Originating Party

Other Parties

Howard Pollicoff - P.O. 26901

DAVE BOYER OOI

PCT Assoc. Houston 77207

Subject Yearly update of Gary Refinery (For Bank Financing)

Discussion

Called to ask for yearly update. After I briefed him on status, he told me that ⁽¹⁾ new pond had a leak (O&B not notified), ⁽²⁾ Tank 29 had bottom replaced ("looked like Swiss cheese") - Tank was product storage (?), and ⁽³⁾ Spray application system still going - pending securing.

Conclusions or Agreements

I Agreed to send recent correspondence

Distribution

Gary Bloomfield file.

Signed

D. H. Boyer



RECEIVED
DIVISION
MAR 12 1990 9 31 AM

March 6, 1990

Mr. David G. Boyer
New Mexico Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504-2088

RE: Discharge Plan

Dear Mr. Boyer:

As per our agreement, we have completed the installation of cement/bentonite seals in the cathodic protection wells located near our tanks 28 and 31.

Please call me if there are any questions.

Sincerely,

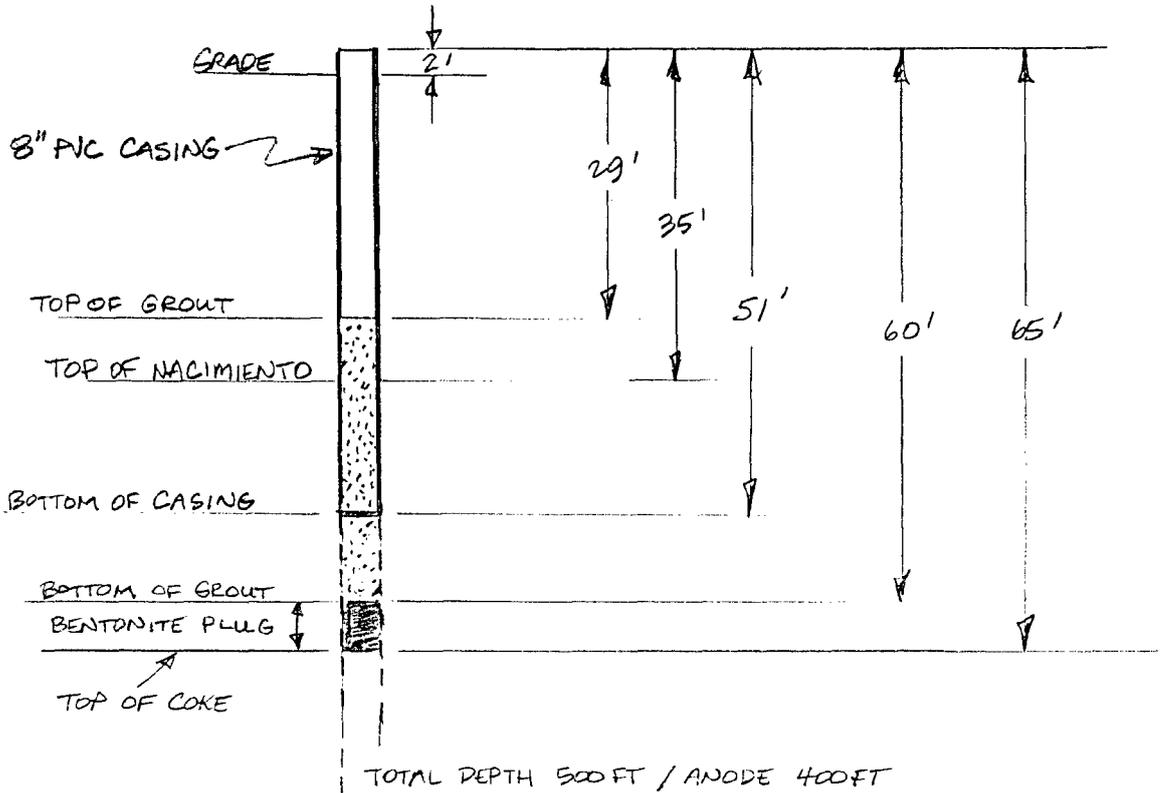
Chris Hawley
Environmental Engineer

CH/jm

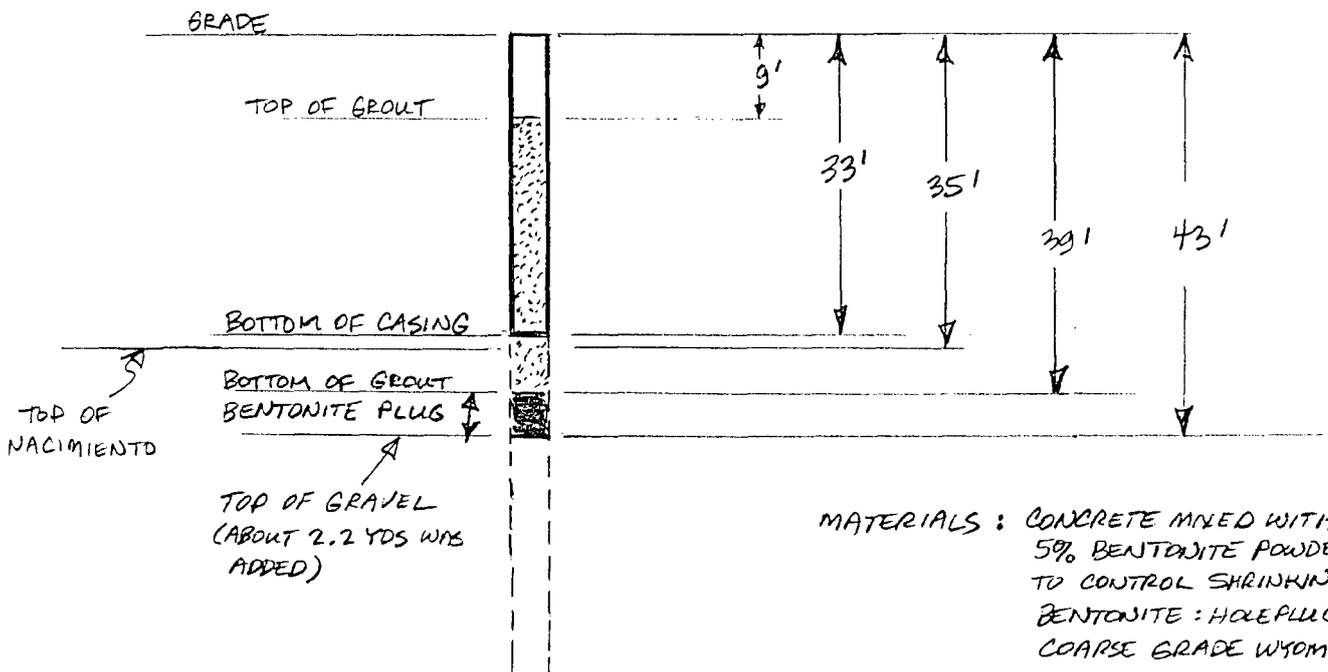
cc: Joe Warr
Mike Macy
Richard Traylor

BLOOMFIELD REFINING COMPANY

CATHODIC PROTECTION WELL AT TANK 28
GROUTING DETAILS

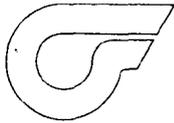


CATHODIC PROTECTION WELL AT TANK 31
GROUTING DETAILS



MATERIALS : CONCRETE MIXED WITH
5% BENTONITE POWDER
TO CONTROL SHRINKING.
BENTONITE : HOLEPLUG
COARSE GRADE WYOMING

DATE GROUTED: 3-5-90
BY WESTERN TECH.



**Bloomfield Refining
Company**

A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

'89 DEC 4 AM 10 20

Mr. David G. Boyer
New Mexico Oil Conservation Division
Hand Office Building
P.O. Box 2088
Santa Fe, NM 87504-2088

RE: Discharge Plan (GW-1)

Dear Mr. Boyer,

Enclosed you will find two copies of an aerial photo of our facility. These photos do not contain all the information you requested, but they could be of use to you during the interim.

Sincerely,

Chris Hawley
Environmental Engineer

CH/mc



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

November 2, 1989

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL

RETURN RECEIPT NO. P-106 675-176

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

**RE: Discharge Plan (GW-1)
Bloomfield Refinery
San Juan County, New Mexico**

Dear Mr. Traylor:

The ground water discharge plan (GW-1) renewal for the Bloomfield Refining Company's Bloomfield Refinery located in the NW/4 SE/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 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, N.M.P.M., San Juan County, New Mexico, is hereby approved.

The previous discharge plan renewal was approved on June 7, 1984 and expired on June 7, 1989. This renewal application consists of the previous discharge plan renewal as approved June 7, 1984, the renewal application dated March 6, 1989 and materials dated May 26, July 12, August 3, and September 5, 1989 and submitted as supplements to the renewal application.

The discharge plan renewal was submitted pursuant to Section 3-106 of the New Mexico Water Quality Control Commission Regulations. It is renewed pursuant to Section 3-109.F., which provides for the possible future amendments of the plan. Please be advised that the approval of this plan does not relieve you of liability should your operation result in actual pollution of the environment which may be actionable under other laws and/or regulations.

There will be no routine monitoring or reporting requirements other than those listed in the plan.

Please note that Section 3-104 of the regulations requires that "when a plan has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3-107.C., you are required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

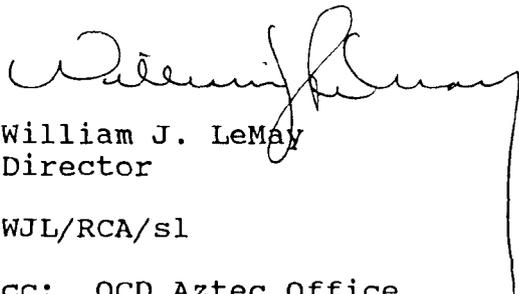
Mr. Richard Traylon
November 2, 1989
Page -2-

Pursuant to Section 3-109.G.4, this plan approval is for a period of two and one half (2 1/2) years. This approval will expire December 7, 1991 and application for renewal should be submitted in ample time before that date. The 2 1/2 year approval should provide ample time for Bloomfield Refining Company to evaluate the effectiveness of the new lined ponds and determine if additional lined capacity is required. The renewal of this plan on December 7, 1991 will address only the evaluation of any wastewater transfer, holding, storage or disposal that is not double-lined and equipped with leak detection including land application of effluent, and any concern that is mandated by Legislative, OCC, or WQCC Rules changes prior to that date.

It should be noted that all gas processing plants and oil refineries in excess of twenty-five years of age will be required to submit plans for, or the results of an underground drainage testing program as a requirement for discharge plan renewal. To the extent this requirement has not yet been implemented or completed by BRC, results must be submitted prior to the next regular discharge plan renewal in 1994.

On behalf of the staff of the Oil Conservation Division, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,



William J. LeMay
Director

WJL/RCA/sl

cc: OCD Aztec Office
Bruce Garber, Garber and Hallmark



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

September 11, 1989

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-106-676-117

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

RE: Lined Evaporation Ponds
GW-1
Bloomfield Refinery

Dear Mr. Hawley:

The Oil Conservation Division (OCD) has received your letter dated August 3, 1989, containing the design and specifications of the proposed lined evaporation ponds for the above referenced facility. Based on the information submitted, the design is sufficient to protect ground water and the environment and is approved for installation.

Please be advised that this approval does not relieve you of liability should your operation result in actual pollution of the environment which may be actionable under other laws and/or regulations.

If you have any questions, please do not hesitate to call me at (505) 827-5884.

Sincerely,

Roger C. Anderson
Environmental Engineer

RCA/sl

cc: OCD Aztec Office



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

September 5, 1989

RECEIVED

SEP 12 1989

OIL CONSERVATION DIV.
SANTA FE

Mr. David G. Boyer
New Mexico Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504-2088

RE: Discharge Plan (GW-1)
Renewal Application

Dear Mr. Boyer:

As per the requests of your letter dated July 20, 1989, we provide the following clarification:

1. (IV.3) Future Below-Grade Sumps

We agree to provide leak detection or some other method of verifying the integrity of below-grade sumps which are replaced in the future. Rather than specify these requirements at this time, we propose to notify you prior to the sump addition or replacement and provide at that time, for your review and approval, our proposed method of integrity testing for that specific sump.

2. (V.3) Cathodic Protection Wells

<u>Number</u>	<u>Location</u>	<u>Elevation of Grade</u>	<u>Elevation of Nacimiento</u>	<u>Difference</u>	<u>Depth of Casing</u>
1	By Tank 28	5525	5493	32	50'8"
2	By Tank 31	5530	5495	35	32'8"
3	By Tank 14	5525	5493	32	38'2"
4	By Tank 5	5520	5492	28	38'3"

Well numbers 1 and 2 will be provided with an additional seal. For well number 1 this will consist of a bentonite plug from 57 to 55 feet and a cement plug from 55 to 45 feet. For well number 2 this will consist of a bentonite plug from 42 to 40 feet and a cement plug from 40 to 27 feet. All four wells will be equipped with cement pads. This work will be completed by the end of the year.

3. (IV.2C) Oily Water Pond Liners

Results of the soil coring under the oily water ponds, as required by the EPA, is attached.

4. (VI.5 and 7) Additional Pond Lining

We agree with your proposal that will allow us to evaluate the effectiveness of our new ponds under a 2½ year discharge plan. We further agree that other refinery operation will not need plan review for approval of an additional 2½ years.

Prior to the end of 1991, we will submit a proposal and schedule to eliminate leaching or demonstrate no leaching of wastewater evaporation facilities. This may include additional pond lining, but other options may be considered.

5. (VI.8) FCC Fines

FCC fines analytical data is attached.

6. (VII.5) Chloride

Chloride analyses will be performed on groundwater samples taken as per the discharge plan.

7. Site Inspections

Although not part of the discharge plan application, we concur with your follow-up comments concerning your site inspection of April 25, 1989. A plan and schedule for the routine integrity testing of the underground line that supplies the fuel pump will be prepared. We will provide this plan to you by the end of 1989.

8. Additional Information

The neutron logging holes are still in place although the integrity of some are questionable. We do not use hydrofluoric acid. An MSD sheet for 1,1,1-Trichloroethane is attached. We have eliminated the use of chlorinated hydrocarbons as solvents. The preparation of a large-scale, update photomap is in progress. It will be available to you within 30 days.

We look forward to receiving approval of our Discharge Plan soon. As we have stated in the past, we are committed to making our facility as environmentally sound as practical. This will include an open exchange of ideas with the New Mexico Oil Conservation Division regardless of whether the specific idea for environmental improvement is addressed in the Discharge Plan. Please feel free to call me or Chris Hawley anytime.

Sincerely yours,



for Richard Traylor
Refinery Manager

RT/jm

Enclosure

cc: Chris Hawley
Mike Macy
Joe Warr

Hauser Laboratories

July 27, 1983
Test Report No. 83-718

CLIENT: Plateau Inc.
P.O. Box 26251
Albuquerque, NM 87125
Attention: Dwight Stockham

MATERIAL: FCCU catalyst fines submitted by client; assigned HL# 83-737.

TESTS: Hazardous waste profile according to EPA Test Methods for Evaluating Solid Wastes and Methods for Chemical Analysis of Water and Wastes.

RESULTS: The sample was mixed 1:1 with deionized water for reactivity and pH. Metals were run as EP Toxicity.

<u>Item</u>	<u>Method</u>	<u>Results</u>
Reactivity		No reaction at room temperature No reaction at 140°F
pH	150.1	2.51
Arsenic	206.3	0.0018 mg/l
Barium	208.1	< 1.0 mg/l
Cadmium	213.1	< 0.05 mg/l
Chromium	218.1	1.11 mg/l
Lead	239.1	0.81 mg/l
Mercury	245.1	< 0.0005 mg/l
Selenium	270.3	< 0.0005 mg/l
Silver	272.1	< 0.10 mg/l
Nickel	249.1	3.95 mg/l
Vanadium	286.1	15.79 mg/l

RECEIVED

AUG 4 - 1983

P.W. LISCOM

Tests Conducted By:

Marsha Wyant
Marsha C. Wyant, Water Chemist

Tests Supervised By:

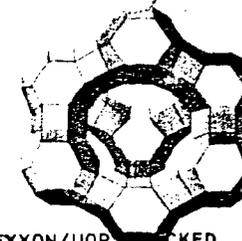
Doyce T. Blair
Doyce T. Blair, Lab Supervisor

dc



EQUILIBRIUM CATALYST ANALYSES

DATE 10/31/88



Katalistiks International
Catalyst Square
1501 Sulgrave Avenue
Baltimore, MD 21209
(301) 367-1000

CHAD KING
BLOOMFIELD REFINING INC.
P.O. BOX 159
BLOOMFIELD NM 87413

UNIT TYPE: EXXON/UOP CHECKED
UNIT CAPACITY: 6,500
CATALYST INVENTORY: 25
REFINERY NO. 024

CURRENT CATALYST: OD-1150S 0488

Identification			MAT Results			Physical Properties							Chemical Analysis									Remarks	
Customer ID.	Date Taken 1987	Date Recd. 1987	ACT	Coke Factor	H ₂ Factor	PSD Microns				S.A. m ² /gm	P.V. cc/gm	A.B.D. gm/cc	Ni ppm	Cu ppm	V ppm	Fe Wt. %	Na ₂ O Wt. %	Al ₂ O ₃ Wt. %	C Wt. %	RE WT %	UOP DA	OD-1150	
						0-20 Wt. %	0-40 Wt. %	0-80 Wt. %	APS Wt. %														
EQUIL FINES	6-18	6-23	89	.9	2.8	0	6	65	69	114	.25	.87	663	105	340	1.05	.69	40.2	.07	.37		MAT CONF BETA-500 PRIME	
	7-07	7-10	68	1.0	2.2	0	8	68	88	124	.26	.84	634	95	381	1.00	.65	40.5	.02	.26			
	7-16	7-24	67	1.0	2.6	0	5	66	68	118	.27	.84	624	94	391	.96	.60	38.2	.03	.21			
	7-23	7-28	67	1.0	2.3	0	7	61	71	115	.25	.82	613	91	383	.89	.60	38.9	.05	.20			
	7-30	8-04	67	.9	2.9	2	7	61	71	123	.27	.83	626	93	395	.92	.58	40.5	.04	.16			
	8-06	8-11	64	1.0	2.3	0	6	59	72	118	.27	.83	654	98	381	.82	.58	39.0	.06	.16			
	8-06	8-11	0	0	0	60	92	100	16	0	.00	.00	0	0	0	.00	.00	33.2	.00				
	8-12	8-17	64	1.1	2.3	0	7	58	73	117	.27	.82	640	95	383	.91	.53	38.0	.04	.12			
	8-19	8-24	65	.9	2.6	0	5	51	79	112	.27	.81	628	97	366	.88	.52	39.0	.07	.12			
	8-28	9-01	67	.9	2.6	0	5	56	75	111	.25	.83	664	99	387	.83	.51	39.2	.06	.12			
FINES	9-01	9-03	0	0	0	61	93	100	15	0	.00	.00	0	0	0	.00	.00	32.0	.00				
	9-03	9-09	65	1.0	2.6	0	6	55	76	107	.26	.84	661	99	307	.88	.50	39.0	.04	.15			
	9-10	9-14	63	1.0	2.5	1	9	60	72	107	.25	.82	674	102	284	.91	.49	38.8	.02	.13			
	9-17	9-21	63	1.0	2.2	0	7	60	73	108	.24	.81	584	99	443	.84	.51	38.7	.11	.13			
	10-08	10-14	65	1.0	2.6	0	6	54	76	108	.26	.83	626	106	491	.84	.57	37.5	.03	.15	1.11		
	10-27	10-30	63	2.2	2.9	0	8	57	74	109	.28	.82	666	123	554	.88	.58	37.5	.03	.10	.50		
	11-25	11-30	65	.9	2.9	0	8	58	73	112	.29	.83	659	119	576	.81	.56	37.2	.05	.08	1.17		
	12-17	12-21	66	1.0	3.1	0	9	63	70	113	.27	.83	666	124	610	.83	.60	35.4	.13	.08	1.14		
	1988																						
	1-07	1-11	68	.9	2.8	0	8	64	70	116	.29	.82	747	117	469	.82	.62	35.4	.02	.08	1.28		
2-02	2-04	67	1.0	3.1	0	8	62	70	116	.28	.84	704	119	465	.86	.67	35.4	.02	.12	1.17			
START NEW XRF CHEMICAL ANALYSES PROGRAM																							
3-07	3-14	69	1.0	2.9	1	7	57	74	117	.30	.84	549	177	435	.90	.74	32.3	.05	.20	1.14			
4-07	4-15	67	1.0	2.6	0	8	63	69	125	.30	.84	568	181	418	1.00	.86	32.2	.03	.16	1.17			
4-27	5-05	68	.9	2.5	0	7	65	68	138	.23	.86	599	168	447	1.02	1.00	32.4	.02	.13	1.26			
5-18	5-25	68	1.0	2.4	0	9	68	67	141	.22	.87	577	181	457	1.01	1.06	32.3	.10	.08	1.16			
6-08	6-13	67	1.0	2.6	2	8	70	67	137	.22	.89	591	169	479	.97	.99	32.4	.05	.09	1.09			
7-01	7-05	69	.9	2.2	0	7	66	68	143	.24	.85	569	183	574	.94	.99	33.2	.04	.08	1.21			
8-04	8-11	70	.9	2.4	0	9	70	66	139	.24	.89	566	148	464	.92	.86	33.3	.04	.06	1.22			
8-31	9-12	67	.9	2.6	0	6	67	69	136	.25	.89	526	137	427	.83	.75	33.3	.05	.05	1.21			
9-27	9-30	65	1.0	2.6	0	7	69	67	131	.25	.93	533	126	441	.81	.80	33.1	.04	.05	1.07			
10-19	10-26	68	1.0	2.1	0	7	63	71	129	.26	.95	532	131	432	.84	.86	32.9	.05	.05	1.13			

SAVE THIS PAGE - THESE ENTRIES WILL NOT BE REPRINTED UNLESS SPECIFICALLY REQUESTED

Send samples to: Katalistiks International, Baltimore Research Center, 4810 Seton Drive, Baltimore, MD 21215



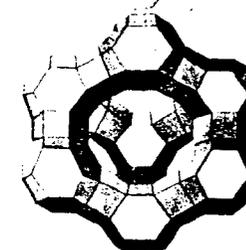
EQUILIBRIUM CATALYST ANALYSES

A SUBSIDIARY OF UNION CARBIDE

Katalistiks International Inc.
Catalyst Square
1501 Sulgrave Avenue
Baltimore, MD 21209
(301) 367-1000

CHAD KING
BLOOMFIELD REFINING INC.
P.O. BOX 159
BLOOMFIELD NM 87413

DATE 6/10/87



UNIT TYPE: EXXON/UOP STACKED
UNIT CAPACITY: 6,500
CATALYST INVENTORY: 25
REFINERY NO. 024

CURRENT CATALYST: OCTIDYNE-1150 013087

Identification			MAT Results			Physical Properties						Chemical Analysis							RE		UOP		Remarks	
Customer I.D.	Date Taken 1986	Date Rcvd. 1986	ACT	Coke Factor	H ₂ Factor	PSD Microns			S.A.	P.V.	A.B.D.	NI	Cu	V	Fe	Na ₂ O	Al ₂ O ₃	C	RE WT %	UOP DA	OD-1150			
						0-20	0-40	0-80	m ² /gm	cc/gm	gm/cc	ppm	ppm	ppm	Wt. %	Wt. %	Wt. %	Wt. %						
24-33	4-17	4-22	68	0	6	0	5	48	82	132	27	81	708	103	376	1.01	84	38	9	03	.79	.99	SA CONF	
	4-24	4-30	67	0	2	0	5	46	83	139	27	80	679	98	347	0.93	80	0	0	02	.69	.82		
	5-01	5-06	67	0	0	0	3	43	85	141	27	81	733	122	386	0.94	80	0	0	01	.68	.99		
	5-08	5-13	70	0	2	0	7	50	80	133	30	84	611	94	297	0.86	84	38	0	06	.57	.90	PSD ABD CONF	
	5-16	5-21	66	0	2	0	4	51	79	136	27	85	655	102	580	0.89	81	40	9	03	.50	.89	AL CONF	
	5-29	6-03	63	0	8	0	7	51	79	139	26	86	709	109	440	0.92	80	40	0	04	.45	.89	MAT CONF	
	6-05	6-10	62	0	7	0	6	47	83	135	24	87	680	101	440	0.92	98	39	6	09	.40	.81		
	6-12	6-17	65	0	7	0	6	54	77	135	25	89	671	96	450	0.92	97	39	7	04	.34	.89		
	6-23	6-27	63	2	6	0	7	53	78	136	25	90	594	86	389	0.81	87	39	0	03	.30	.81		
	7-02	7-11	63	0	7	0	5	53	78	138	25	87	593	87	370	0.85	86	39	4	04	.30	.75		
	7-10	7-15	65	0	9	0	6	52	79	144	24	88	569	97	340	0.94	89	40	4	06	.30	.98		
	7-17	7-23	66	0	8	0	7	57	74	139	23	87	554	92	317	0.97	80	41	7	06	.27	.98		
	7-25	7-30	64	0	2	1	8	56	75	137	25	85	537	91	263	0.93	78	41	2	03	.21	.98		
	8-28	9-05	67	0	7	0	8	59	73	140	25	86	503	76	213	0.83	72	41	5	00	.14	.99	MAT CONF	
	9-18	9-23	62	2	2	3	1	8	82	71	142	25	89	546	76	207	0.98	80	40	8	03	.14	.81	MAT CONF
	12-05	12-10	66	9	3	0	5	58	74	112	26	87	470	81	225	0.82	78	41	8	05	.64	1.09	UD-1540 PHY C	
	12-17	12-22	65	9	1	0	4	61	72	108	27	87	482	81	250	0.80	75	40	4	05	.81	1.09	PHY CONF	
	1987																							
	12-31	1-06	61	0	6	0	8	59	73	101	27	87	511	79	280	0.78	76	39	0	03	1.00	.97	PHY CONF	
	1-13	1-20	61	0	5	0	8	60	72	94	25	87	506	76	320	0.83	79	38	2	02	1.05	.97	PHY CONF	
	1-21	1-30	60	0	0	0	64	62	100	11	0	00	00	0	0	00	00	35	0	00		.00		
	1-30	2-06	64	0	3	0	6	61	71	90	25	86	502	77	280	0.83	76	39	2	03	1.07	1.09	OD-1150 MAT C	
	2-13	2-20	65	0	4	0	4	64	73	91	23	86	524	83	250	0.85	70	39	7	05	1.11	.98		
	2-27	3-03	68	0	6	0	7	62	71	100	25	85	427	79	300	0.73	67	40	3	03	1.06	1.10	PHY CONF	
3-13	3-18	64	0	7	0	6	62	71	97	26	88	434	101	257	0.96	71	39	9	02	.91	.89			
3-27	4-02	64	0	7	0	7	61	72	97	26	89	468	111	255	0.90	68	39	4	09	.77	.89	MAT CONF		
4-10	4-15	67	0	6	0	6	67	68	105	24	87	594	107	278	0.96	66	38	1	03	.75	1.10	PHY CONF		
4-24	4-28	62	2	4	1	8	68	67	99	25	87	635	108	282	0.98	67	38	2	01	.67	.81	MAT CHEM CONF		
5-08	5-13	63	2	5	0	9	66	67	111	23	87	626	109	278	0.99	63	39	0	02	.58	.81	PHY CONF		
5-21	5-27	60	4	2	1	8	68	67	116	24	86	625	108	298	0.96	74	39	9	02	.49	.69	CHEM CONF		
6-04	6-09	61	0	9	1	8	70	66	112	26	87	634	108	350	1.00	72	41	8	02	.38	.75			

SAVE THIS PAGE - THESE ENTRIES WILL NOT BE REPRINTED UNLESS SPECIFICALLY REQUESTED

Send samples to: Katalistiks International Inc., Baltimore Research Center, 4810 Seton Drive, Baltimore, MD 21215

handle such material as hazardous waste. BRC shall also comply with 40 CFR 262.11 and the equivalent New Mexico regulations at HWMR-2, and other requirements when and where applicable.

API Wastewater Ponds

Although all visible contaminated soil was removed from the API wastewater ponds when the pond liners were installed, EPA and NMEID expressed concern that some residual contamination remained. Therefore, the subsurface soils beneath the pond liners were tested for residual contamination during the week of October 14, 1985, after the removal of all hazardous waste from the ponds. Appendix A includes a closure certification by the sampler, a registered professional engineer. These materials were handled as hazardous wastes.

A total of 12 samples were collected by penetrating the liner at six approximately equally spaced locations in each pond and collecting two samples in each location with a clean split-spoon sampler. Sampling site locations are shown on Figures 2 and 3. The pond liner was penetrated for sampling purposes by cutting a clean hole of sufficient size to admit the split-spoon sampler. Following the collection of samples, the liner was repaired with a high-density polyethylene patch, joined to the existing liner with a hot (approximately 460°F) polyethylene resin weld. The sampling and liner repair was not conducted under wet conditions or inclement weather which could affect the integrity of the analytical results or weld. Each split-spoon sampler was cleaned prior to sampling with a detergent wash, followed by a distilled water rinse, acetone wash, and final distilled water rinse. The two samples in each location were collected at depths of 0-6 inches and 6-12 inches, respectively. Three samples were composited at each depth from pairs of the closest adjacent grab samples. The six total composite samples in each pond (three at each depth) were analyzed for the indicator parameters benzene, toluene, xylene, phenols, total lead, and total chromium. The analytical results for these parameters are included in Appendix B. Although small concentrations of xylenes were detected in a single composite sample in the south API pond, none of these data indicate significant residual BTX or phenolic contamination beneath the pond liners.

FIGURE 2 NORTH API POND

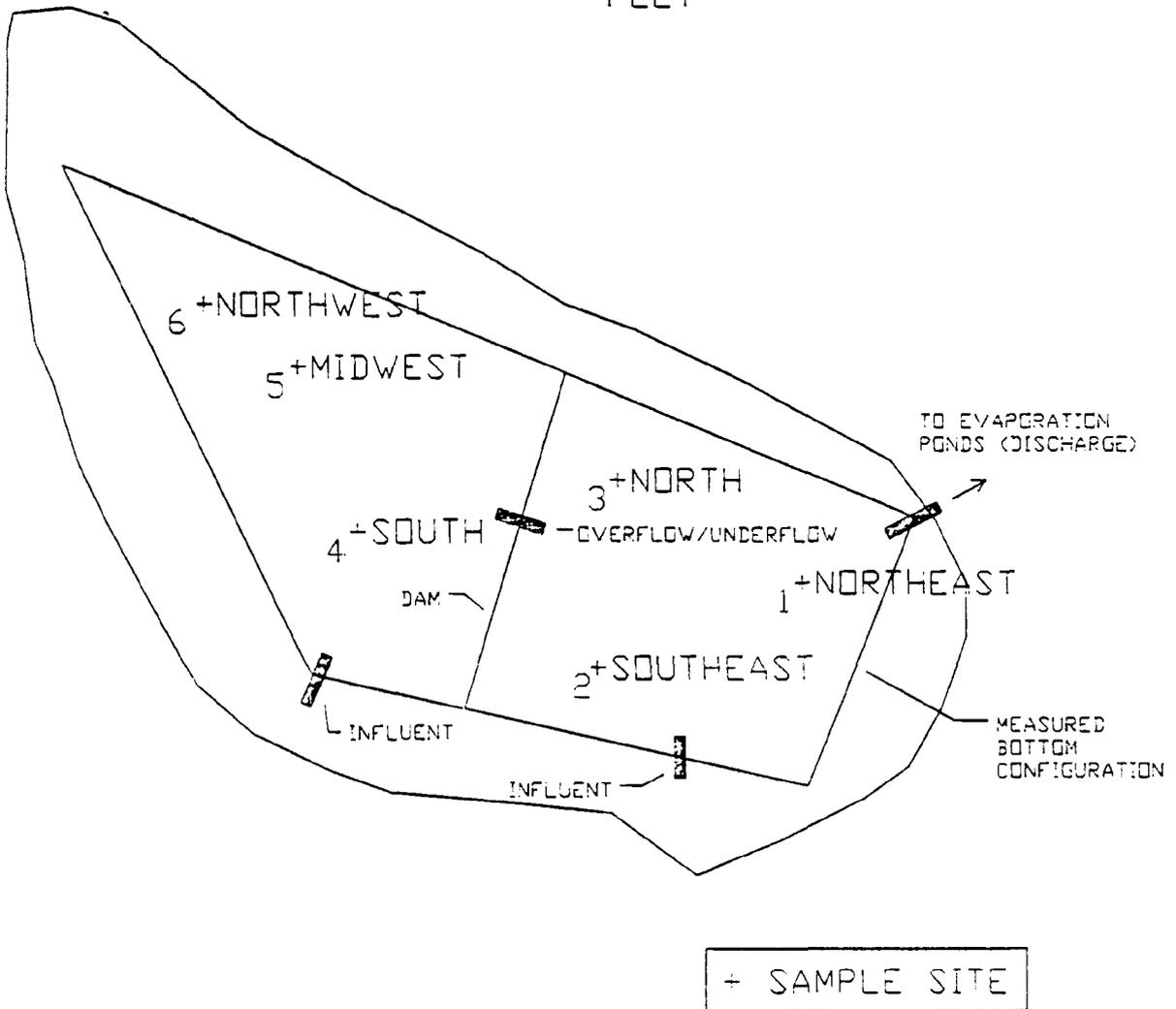
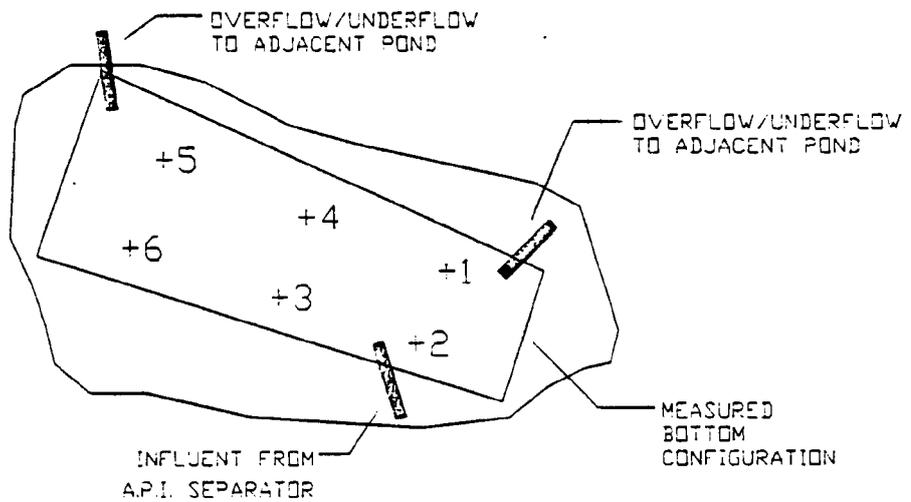


FIGURE 3 SOUTH API POND



+ SAMPLE SITE

In the south API wastewater pond, a single grab sample collected in the top 6 inches near the influent end of the pond was analyzed for the "Skinner List" of compounds expected to be present in petroleum refinery wastes. This list and the analytical methods being used are presented in Table 1. None of the "Skinner List" constituents were present at detectable concentrations in this sample.

The analytical data presented in Appendix B indicates no appreciable residual contamination in the top 12 inches immediately beneath the ponds. Based on this finding, and the removal of material from the ponds as documented in Appendix A, closure of the API wastewater ponds should be deemed complete.

MEMORANDUM OF MEETING OR CONVERSATION

<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Personal	Time 9 AM	Date 8/22/89
<u>Originating Party</u> Chris Hawley - Gary Blossfeld Refinery		<u>Other Parties</u> DAVID ROYER - OCB	
<u>Subject</u> Refinery Ground Water Issues			

Discussion

Chris called to ask if OK to file remedial action response on 8/24 instead of 8/31 because he misread date. I said OK if he sent letter explaining delay.

Chris asked why only 3 1/2 years approval instead of 5 years, was proposed for DP. I told him we had reached an impasse on lining of the north and south evaporation ponds and this was a way out - IT lets them get started and get the operational data they need to make

Conclusions or Agreements

decisions on future use. Chris said eventually they would get rid of line the ponds but not for several years. I told him that if they put that in writing* and addressed land application conditions such that they demonstrate no leaching

Distribution

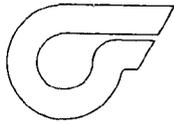
I would approve plan for 5-year.

Signed

David Royer

Gary File

* ponds lined or eliminated w/in 5 years



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

August 3, 1989

Mr. David Boyer
New Mexico OCD
Land Office Building
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

RECEIVED

AUG 8 1989

OIL CONSERVATION DIV.
SANTA FE

RE: LINED EVAPORATION PONDS
SPECIFICATIONS

Dear Mr. Boyer:

Enclosed please find specification data for our lined evaporation pond. The data is summarized as follows:

1) Location

The proposed location of Pond #1 and #2 is to the southeast of the spray irrigation area. A topographic map and a property boundary map are enclosed. Although the ponds straddle a small arroyo, the arroyo ends a small distance to the south of pond #1. Our plans call for drainage ditches around the ponds to divert runoff from the south to the east where a major arroyo is located.

2) Dirtwork

The ponds will be shaped up using all local material. Cut and fill has been carefully balanced. Compaction of at least 90% proctor is being required for the roads, dikes, and pond bottoms. At least four inches of the bottom and dike walls will be free of rocks, clods, stumps, etc. that could penetrate the liner. The bottom of the pond will be sloped 1" per 50 feet for the leak detection system.

3) Lining

Pond #1 will be equipped with a 60 mil HDPE underliner, a 16 oz. Geotextile between the liners, and a 60 mil HDPE primary liner. Gundle materials will be used. Sandtubes will be installed on 50 feet centers and a gas vent will be installed between each pair of sandtubes one foot from the top of the dike.

4) Leak Detection System

Details of the leak detection system are included in the drawing Trenches and Slopes.

In order to complete Pond #1 before cold weather, we are planning to begin earthwork next week. If you have any problems with the plans that will cause delays, I need immediate notification.

Sincerely yours,



Chris Hawley
Environmental Engineer

cc: Richard Traylor
Joe Warr
Mike Macy

CH/cp



MEMORANDUM OF MEETING OR CONVERSATION

Telephone Personal

Time 8:15 AM

Date 7/31/89

Originating Party

Other Parties

CHRIS Hawley, BRC

Dave Boyer OCB

Subject New Evaporation Ponds

Discussion

Hawley wanted to know if needed to follow complete application procedure for ponds. He's ready to contract earth work

Conclusions or Agreements

Told him OK to get earthwork going but needed to submit ~~the~~ Technical Info. (II A.2.a) and plans for sprayert for OCB approval (II A.3.). Also told him needed to follow general construction requirements (Part V)

Distribution

Gary Sile

Signed

(David J Boyer)

II. GENERAL DESCRIPTION

A. Proposed Operations

1. Storage/Disposal Facilities Description:

Describe proposed on-site facilities to be used for effluent storage/disposal of process/produced water, drilling mud, sludges, waste oils, etc., including surface impoundments, disposal pits, below grade tanks, etc. Locate the various storage/disposal areas on the facility site plan or topographic map. If materials or effluents other than produced water are proposed to be discharged at the site, describe in detail and provide expected volumes.

2. Technical Information:

Provide technical data on the design elements of each disposal method:

- a. Surface impoundments - Type and volume of effluents stored, area, volume, depth, slope of pond sides, sub-grade description, liner type and thickness, compatibility of liner and effluents, installation methods, leak detection methods, freeboard, runoff/runon protection.
- b. Drying beds or other pits - Types and volumes of waste, area, capacity, liner, clean-out interval and method, and ultimate disposal location.
- c. Other on-site disposal (e.g., land application, etc.) - Describe.

3. Ancillary equipment

Provide details on aerators, sprayers, or other equipment, including number, capacity, etc.

B. Spill/Leak Prevention and Procedures

1. Describe procedures addressing containment and cleanup in case of leaks from any evaporation pit, skimmer pond, or below grade tank. Include information as to whether areas are bermed and drained to sumps, proposed schedule for OCD notification of leaks, etc.
2. Describe methods used to detect leaks and ensure integrity of above and below grade tanks, pond, and pit liners. Discuss frequency of inspection and procedures to be undertaken if leaks are detected.

GUIDELINES FOR APPLICATION FOR
WASTE STORAGE/DISPOSAL PIT PERMITS

I. GENERAL INFORMATION

Include the following with your application:

- A. Name of Owner or Legally Responsible Party
Include address and telephone number.
- B. Name of Local Representative or Contact Person (if different from above)
Include address and telephone number.
- C. Location of Disposal Pit
Give a legal description of the location (i.e., 1/4 1/4 Section, Township, Range, and County). Use state coordinates or latitude/longitude on unsurveyed land. Submit a large scale topographic map, site plan, or detailed aerial photograph for use in conjunction with the written material. It should depict highways or roads giving access to the facility site, locations of all pits, skimmer ponds, and above and below grade tanks as well as the other site information required in Sections II through V below.
- D. Type of Operation

Indicate the major purpose(s) of the facility (e.g., produced water evaporation pit) and briefly describe the processes occurring at the facility.
- E. Copies

Provide three (3) copies of the application to the Santa Fe office. OCD will make copies available for District offices and public review, as requested.
- F. Affirmation

Include the following affirmation and signature with the application:

"I hereby certify that I am familiar with the information contained in and submitted with this application and that such information is true, accurate, and complete to the best of my knowledge and belief."

(Signature)

(Date)

(Printed Name of Person Signing)

(Title)

1. The flooding potential at the pit site with respect to major precipitation and/or runoff events; and
2. Flood protection measures (berms, drainage channels, etc.), if applicable, for at least a 100-year flood.
3. Notification of OCD in case of flooding or washout.

IV. ADDITIONAL INFORMATION

Provide any additional information necessary to demonstrate that approval of the facility application will not result in contamination of fresh water (as described by OCD Rules) at any place of withdrawal of water for present or reasonably foreseeable future use. Depending on the methods of lining and location of any pit, detailed technical information on site hydrologic and geologic conditions may be required to be submitted for pit application evaluation. This could include but not be limited to:

1. Stratigraphic information including formation and member names, thickness, lithologies, lateral extent, etc.
2. Generalized maps and cross sections;
3. Potentiometric maps for aquifers potentially affected;
4. Porosity, hydraulic conductivity, storativity, and other hydrologic parameters of the aquifer;
5. Specific information on the water quality of the receiving aquifer; and
6. Information on expected alteration of contaminants due to sorption, precipitation or chemical reaction in the unsaturated zone, and expected reactions and/or dilution in the aquifer.

V. GENERAL CONSTRUCTION REQUIREMENTS

A. Location

1. Disposal pits shall not be located in any watercourse, lakebed, sink-hole, or other depression. Pits adjacent to any such watercourse or depression shall be located safely above the high-water level of such watercourse or depression.

B. Design and Construction

1. Evaporation pits shall be designed and constructed to provide the minimum evaporative surface area needed for the maximum yearly volume of liquid to be discharged to the pit. This design parameter shall be based upon local climatological data. Such data and calculations used for the pit design shall be submitted with any proposed plans and specifications. Special care should be taken when calculating the pit volume to account for the decrease in the evaporation rate during the winter months.

C. Closure Plan

Provide a facility closure plan detailing plans as necessary for removal of all fluids and/or wastes, back-filling, grading and mounding of pits, removal of contaminated soil, and, if necessary, aquifer restoration.

III. SITE CHARACTERISTICS
(See also Section IV)

A. Hydrologic Features

1. Provide the name, description, and location of any bodies of water, streams (indicate perennial or intermittent), or other watercourses (arroyos, canals, drains, etc.); and ground water discharge sites (water wells, seeps, springs, marshes, swamps) within one (1) mile of the outside perimeter of the facility. For water wells, specify use of water (e.g., public supply, domestic, stock, etc.)
2. Provide the total dissolved solids (TDS) concentration (in mg/l) of the ground water most likely to be affected by any discharge. Include the source of the information and how it was determined.
3. Provide the flow direction of the ground water most likely to be affected by any leaks. Include the source of the information and how it was determined.
4. It is suggested that you provide a recent water quality analysis of the ground water, if available, including the name of the analyzing laboratory, sample location, and date the sample was taken. This suggestion is made so that background information is available in case of leaks or charges of neighboring groundwater contamination.

B. Geologic Description of Pit Site

Provide the following information and attach or reference source information, as available, (e.g., driller's logs):

1. Soil type(s) (sand, clay, loam, caliche);
2. Name and depth to water of most shallow aquifer(s);
3. Composition of aquifer material (e.g., alluvium, sandstone, basalt, etc.); and
4. Depth to rock at base of alluvium.

C. Flood Protection

Provide information on:

File copy

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5900

July 20, 1989

CERTIFIED MAIL
RETURN RECEIPT NO. P-106 675-148

Mr. Richard Traylor, Refinery Manager
Bloomfield Refining Company
P. O. Box 159
Bloomfield, New Mexico 87413

RE: Discharge Plan (GW-1)
Renewal Application for the Bloomfield Refinery

Dear Mr. Traylor:

We have reviewed your letters of May 26th and July 12, 1989 responding to our letter of May 8, 1989. The May 8th letter provided OCD comments on BRC's March, 1989, Discharge Plan renewal application, and comments on OCD's April 25th and 27, 1989, site inspection. BRC's May 26th letter (received May 31st) answered OCD's comments on the renewal application, while the July 12th letter (received July 18th) responded to our site investigation comments.

Unless otherwise specifically discussed below, BRC's comments are accepted and made part of the discharge plan renewal. Comments needing additional clarification or discussion are listed below and referenced by discharge plan section, or inspection comment number. Finally, additional clarification on several items is requested.

I. Discharge Plan Renewal Application

1. (IV.3) Below grade sumps which are replaced must have leak detection or some other method to verify integrity.
2. (V.3) Please confirm that the steel casing was driven beneath the alluvium into the Nacimiento for cathodic protection wells 2, 3 and 4. What length of casing is opposite the Nacimiento for each of these wells? Well #1 (and possibly others depending on the amount of Nacimiento opposite the steel casing) will need to be cemented for an additional seal to prevent near-surface fluids, and possibly contaminants, from migrating downward to Nacimiento water. Provide information on the proposed method of cementing. Also, cement pads to prevent any surface drainage should be in place.

Mr. Richard Traylor
July 20, 1989
Page -2-

3. (IV.2C) If any oily water pond liner requires replacement, OCD will require that BRC replace it with a double liner with an approved leak detection system. OCD's requirement that BRC replace the liner in the event of significant leakage is related to our concern that the bottom of the liner and leak detection system may be in sandy material or in the cobble bed such that fluids would escape rapidly into this material. To attempt to resolve this, BRC is requested to provide information on the soil texture of the subsurface; results of soil coring required by EPA may be useful here.

4. (VI. 5 and 7) During the June 20, 1989, meeting with BRC, it was stated that BRC needed one year after completion of the second pond to evaluate their effectiveness in evaporating refinery wastewater. We concur with your need to have operating data prior to making commitments for additional lined ponds. However, OCD also restates its position that only synthetically lined ponds with leak detection; or a demonstration of no leaching from the land application area and from the clay-lined ponds satisfies WQCC Regulations. These regulations include the Colorado River Basin Salinity Control Forum's Standards for no discharge of salt which have been adopted as part of the WQCC regulations.

OCD proposes to resolve this matter by allowing BRC to evaluate the effectiveness of the new ponds under a 2-1/2 year discharge plan approval that will expire at the end of 1991. Prior to expiration, BRC will be required to submit a proposal and schedule to line the remaining facilities, or demonstrate no leaching. Approval at the end of 1991 would be for an additional 2-1/2 years, at which time the five-year cycle would resume. OCD does not anticipate discharge plan review of other refinery operations in 1991 unless requested by BRC to receive a five-year approval (1992-97) instead of 2-1/2 years (1992-94).

5. (VI.8) Provide a complete description or characterization of the FCC fines. Include any tests for EP toxicity that may have been performed.

6. (VII.5) Due to an error, OCD left chloride off the list of analyses to be performed on groundwater. please include that constituent in future analyses.

Mr. Richard Traylor
July 20, 1989
Page -3-

II. Site Inspections

1. (A.7) OCD will reinspect the product loading rack during our next regular inspection to ascertain if ponding on the gravel islands between the driveways remains a problem.
2. (A.8) Training may be adequate to prevent spills and leaks at the diesel storage tank since the filling of this tank is not done daily. However, the pump area where trucks are fueled is used more extensively by more personnel. The OCD will require this area be paved to contain any spills during truck fueling operations. In addition, submit a plan and schedule for the routine integrity testing of underground lines that supply the fuel pumps.
3. (A.11) The paving and curbing of the burner fuel loading area shall be completed prior to the end of 1990 or earlier if possible.

II. Additional Information

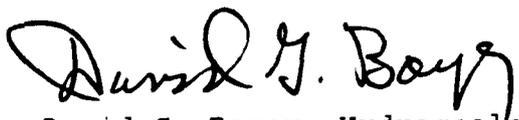
1. Please indicate the status of the neutron logging holes surrounding the clay-lined evaporation ponds.
2. Provide the MSD sheet for 1, 1, 1-Trichloroethane (TCA), and sheets for any other chlorinated solvents used at the refinery that have not already been provided. Is hydrofluoric acid used at the refinery?
3. Provide the large-scale updated photomap, and table of x-y coordinates requested in my November 4, 1988 letter.

After review and discussion, OCD has decided that BRC's Ground Water Remediation Plan does not need to be included as a part of the discharge plan except that discharges from the recovery wells are considered as part of the wastewater effluent stream. Therefore, with your concurrence on this and upon satisfactory response to the remaining discharge plan issues discussed in this letter, OCD will issue discharge plan approval. All OCD requirements and requests for information regarding the ground water remediation plan remain in effect and are not affected by this proposed action.

Mr. Richard Traylor
July 20, 1989
Page -4-

If you have any questions regarding this letter or the discharge plan information requested, please contact me at 827-5812.

Sincerely,

A handwritten signature in cursive script that reads "David G. Boyer". The signature is written in dark ink and is positioned above the typed name and title.

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/sl

cc: OCT Aztec Office
Chris Hawley, BRC
Bruce Garber, Garber & Hallmark, P.C.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

July 7, 1989

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-106 675-165

Mr. R. W. Traylor, Refinery Manager
Bloomfield Refining Company
P. O. Box 159
Bloomfield, New Mexico 87413

RE: Discharge Plan (GW-1)
Renewal Application for the Bloomfield Refinery

Dear Mr. Traylor:

At our meeting in Santa Fe on June 20th, Bloomfield Refining Company (BRC) agreed to submit to the Oil Conservation Division (OCD) information necessary to continue review of the discharge plan renewal application, and a schedule for conducting additional contamination investigation.

This letter will confirm that:

1. By July 20, 1989, BRC is to submit responses to OCD's site inspection comments detailed in Section II of my letter of May 8, 1989.
2. By August 21, 1989, BRC is to submit details and a schedule for investigation and removal of hydrocarbons in the arroyo along Sullivan Road west from Hammond Ditch to at least Highway 44 and further west as necessary to eliminate the oil hydrocarbons. Also, by this date, BRC is to respond to items #1 through 4, in my letter of May 22, 1989. These items relate to delineation of the extent of contamination and recovery of product in the Sullivan Road area (on and off refinery property) east of Hammond Ditch, and in the vicinity of MW-9. These items, including possible schedules, were discussed at the June 20th meeting.

We have received your letter of June 27, 1989, requesting an extension of time to discharge. This request is being considered and a response will be provided in separate correspondence.

Mr. R. W. Traylor
July 7, 1989
Page 2

If you have any questions, please contact me at 827-5812.

Sincerely,

A handwritten signature in cursive script, appearing to read "David G. Boyer". The signature is written in dark ink and is positioned above the typed name.

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/sl

cc: Robert Stovall, OCD General Counsel
Frank Chavez, OCD Aztec Office
Chris Hawley, BRC
Bruce Garber, Garber & Hallmark

Memo



From

DAVID G. BOYER

Hydrogeologist

To Bob -

Love talk 6/30
6/30

The regulations do not allow us to grant this request since 3-106.A. applies in content and intent to only those dischargers who were in operation prior to 1977 (the effective date) and were not required to submit a permit application until notified by the director to do so. The extension provisions apply only while the permit is under review; not

Oil Conservation Division
P.O. Box 2088 Santa Fe, N.M. 87501

Memo



From

DAVID G. BOYER

Hydrogeologist

To

Extensions of expired
permits after approval.

As we stated earlier
~~stating~~ their only options
are an "assurance of
discontinuance" or
an approved discharge
plan.

The other statements
in support are not
all correct and should
not be considered.

Done.

GARBER AND HALLMARK, P.C.

ATTORNEYS AT LAW

200 W. MARCY, SUITE 203

POST OFFICE BOX 850

SANTA FE, NEW MEXICO 87504-0850

RECEIVED

JUN 29 1989

OIL CONSERVATION DIV.
SANTA FE

BRUCE S. GARBER
B. CULLEN HALLMARK

June 27, 1989

TELEPHONE (505) 983-3233
FACSIMILE (505) 983-6344

Mr. David G. Boyer
Environmental Bureau Chief
Oil Conservation Division
Energy, Minerals and Natural
Resources Department
Post Office Box 2088
State Land Office Building
Santa Fe, NM 87504

Re: Request for Permission to Discharge Without
Approved Discharge Plan Pending Action on
Discharge Plan Renewal Application
Discharge Plan GW-1

Dear Mr. Boyer:

On behalf of Bloomfield Refining Company, I hereby request that the Oil Conservation Division grant permission to discharge without an approved discharge plan until director's final decision on Bloomfield's pending discharge plan application. All discharges during this time will be in compliance with the terms of approved discharge plan GW-1. This request is made under Section 3-106. A. of the Water Quality Control Commission Regulations. Under that section, the director may grant such an extension for such time "as the Director shall for good cause allow." The Bloomfield, New Mexico refinery has been in operation since the early 1960's and therefore falls under Section 3-106. A.

As we discussed in our meeting of June 21, it might be appropriate for the Water Quality Control Commission to amend its regulations to provide that a timely application for renewal of a discharge plan results in an automatic extension of the plan pending action on the renewal application. In the meantime, the existing regulations are sufficient for the Director to grant such an extension for "good cause shown."

In this case there is good cause to grant this request because:

1. Bloomfield Refining Company and its predecessor have operated the refinery in compliance with the approved discharge plan GW-1 for the past five years.

2. Bloomfield Refining Company has made significant operational improvements which provide increased protection of ground water during the past five years.

3. Bloomfield Refining Company has made a timely application for renewal of its discharge plan.

Thank you for your consideration in this request.

Sincerely,



Bruce S. Garber

BSG:aa

cc: Richard Traylor
Chris Hawley

MEETING WITH BLOOMFIELD REFINING COMPANY

June 20, 1989

(Notes of D. Boyer, D. Englert summarized here.)

Attending

Richard Traylor - Refinery Manager
Chris Hawley - Refinery Environmental Engineer
Bruce Garber - Legal Counsel
David Boyer - OCD, Environmental Bureau Chief
Roger Anderson - OCD, Environmental Engineer
David Englert - OCD, Geologist
Bob Stovall - OCD, General Counsel

Meeting purpose to discuss contamination study and cleanup requirements as per May 22, 1989 letter, and discharge plan comments in May 8 letter.

Contamination Investigation and Remedial Action

OCD discussed the necessity for BRC to adequately address the following issues:

1. Site cleanup west of the refinery along Sullivan Road (north and south sides) to the vicinity of Highway 44, including:
 - OCD preference for BRC to remove oil-soaked and contaminated soils (vs. pump and treat contaminated fluids).
 - Investigation of whether contamination is migrating or continuing to migrate beneath Hammond Ditch to the east-west arroyo immediately west of monitor well P-1. A trench may be required to determine the extent and magnitude of contamination seepage. This determination should be made sometime after the close of the irrigation season to avoid direct drainage from the ditch.
 - BRC again needs to contact property owners to pursue access to the property west of Hammond Ditch and north of Sullivan Road.

The OCD will request that San Juan County erect signing to prohibit dumping alongside Sullivan road.

2. Investigation and recovery of contamination south of Sullivan Road, east of Hammond Ditch.
 - BRC needs to define the extent of the plume south and west of MW-1. (A timetable to accomplish this should be proposed.)

- Cleanup of contamination at (and north of) MW-11 is necessary but BRC can defer recovery of fluids until summer 1990 because of limited pond capacity.
 - BRC needs to investigate, no later than summer of 1990, possible diesel fuel occurrence in the vicinity of soil vapor survey point #17.
3. Investigation of floating hydrocarbons in MW-9.
- OCD would consider the possibility of seasonal pumping to reduce the amount of water pumped.

Discharge Plan Issues

1. BRC will need to cement or otherwise modify the surface casing at cathodic protection well #1 by Tank 28 to prevent contamination from the surface.
2. OCD disagreed with BRC's response concerning replacement of the oily water ponds with double-lined ponds in the event of a leak requiring significant repair. OCD wants replacement in this case; BRC only wants to consider replacement.
3. BRC disagreed with OCD's date of 12/31/90 for a final decision by BRC on use of the spray irrigation system or replacement with additional ponds. BRC proposed an additional year to evaluate effectiveness.
4. OCD disagreed with BRC's response on the issue of relining the clay evaporation ponds with a synthetic liner (with leak detection). OCD wants the ponds retrofitted or replaced within 5-years; BRC wants only to consider OCD's concerns.

Agreement on Future Submittals

BRC will provide responses to OCD's May 8 comments on the site inspection within 30 days from the meeting date, and respond to OCD's May 22 comments on contamination investigation within 60 days from the meeting.



RECEIVED

MAY 31 1989

**OIL CONSERVATION DIV.
SANTA FE**

May 26, 1989

Mr. David G. Boyer
State of New Mexico
Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RE: Discharge Plan (GW-1)
Amendments To Plan

Dear Mr. Boyer:

As per the comments of your letter dated May 8, 1989 we have prepared the attached answers to be included as an amendment to the Discharge Plan Renewal Application.

We are evaluating the recommendations you made after your site inspection of April 25, 1989 and will be responding as soon as possible. Please call me if there are any questions.

Sincerely yours,

Chris Hawley
Environmental Engineer

CH/jm

Enclosures

cc: Richard Traylor
Joe Warr
Mike Macy

**AMENDMENT TO DISCHARGE PLAN (GW-1)
RENEWAL APPLICATION FOR BLOOMFIELD REFINING COMPANY**

Answers to NM OCD Comments on Discharge Plan Renewal Application

Section III. "Effluent Characteristics"

1. The sampling dates are included in Attachment 4, Analytical Data.

Section IV. "Transfer and Storage of Process Fluids and Effluents"

1. A clearer copy of the tank summary with information about the base/pad is included.

2. Buried process piping:

<u>Description</u>	<u>Date Installed</u>
Sewers:	
FCC, Gas Con, and Treater	6/78
Cat Poly	4/88
Crude	11/88
Reformer	11/88
Road Crossing to Sales Rack:	
Initial Installation	6/78
JP-4	9/87
Cat Poly/Tank 32	4/88
Jet A	2/89
Naphtha Sales	1/75
Miscellaneous:	
Crude Unloading Raod Crossing to Tank 28	1/77
At Sales Terminals	1/78
Crude Line to Piperack (100 feet)	4/89
Groundwater Recovery	9/88
Sour Water Transfer Lines	6/78
Transfer Lines to Spray Evaporation	6/82
Crude Line (LACT Unit to Piperack)	1/78
Poly Gas Transfer (Cat Poly to Rack Road Crossing)	4/88
JP-4 Sales (Cat Poly to Rack Road Crossing)	4/88
API Tank Transfer (Cat Poly to Rack Road Crossing)	4/88
Poly LPG Make (Cat Poly to Rack Road Crossing)	4/88
Poly Gas Slop (Cat Poly to Rack Road Crossing)	4/88
Poly Feed Line (Cat Poly to Rack Road Crossing)	4/88
Slop Transfer Line (Cat Poly to Rack Road Crossing)	4/88
Tank 17 Burner Fuel Sales	1/78
Gas Oil Receiving	1/78

3. All below-grade sumps will be inspected over the next two years. Sumps, which are emptied on a daily basis as required, do not have leak detection.

Section V. "Spill/Leak Prevention and Housekeeping Procedures"

1. Vacuum testing of floor welds seams has been part of the inspection procedure for tanks since December, 1982.
2. An amended BRC Tank Inspection Schedule is included to reflect your inspection schedule request.
3. Cathodic Protection Wells.

<u>Number</u>	<u>Location</u>	<u>Comments</u>
1	By Tank 28	Cased to 50'8" with PVC. Total depth drilled 500 feet. Anode set to 400 feet.
2	By Tank 31	Cased to 32'8" with 7" steel casing. Depth and anode to 385 feet.
3	Bridge by Tank 14	Cased to 38'2" with 7" steel casing. Depth and anode to 390 feet.
4	By Tank 5	Cased to 38'3" with 7" steel casing. Depth and anode to 390 feet.

Surface casing set into Nacimiento was used. Cement can be used if NM OCD thinks it is necessary for an additional seal.

Section VI. "Effluent Disposal"

1. Details of the installation of the French drain system beneath the north and south oily water ponds is attached.
- 2.a. A weekly inspection report (see attached) has been implemented for the oily water pond sump.
 - b. Notification requirements are noted on the inspection report.
 - c. BRC will agree to consider replacement of the liner with a double liner if significant leakage requiring major repair is required in the future.
3. A work order has been written to seal the bottom of the collection sump with concrete. This work will be completed by 6-30-89.
4. The lined ponds are equipped with extra freeboard and are monitored by operational personnel during situations that could cause over-flow. Portable pumps are available for emergency use. The sump pump can handle about 300 gpm.
5. BRC is not prepared to commit to any existing pond retrofitting at this time, but will continue to consider your concerns.

6. Both installation details of the lined ponds and any enhanced evaporation systems will be submitted to the NM OCD for review.

7. BRC will provide the information to answer this comment as required at a later date.

8. Waste Disposal:

<u>Waste Types</u>	<u>Volume Per Year</u>	<u>Frequency</u>	<u>Location</u>
FCC Fines	100 tons	About one 2-ton hopper per week	Onsite landfill - east of fire training area
Trash	364 yds.	3 dumpsters totalling 7 yds. per week	Offsite - Waste Control of Farmington
Safety-Clean Solvent	120 gals.	30 gallons every 2 weeks	Offsite to Safety-Clean for recovery
API Separator Sludge	120,000 lbs.	Generated every 2 yrs.	Offsite to USPCI in Utah
Spent Caustic	960 tons	20 tons per week	Offsite to Merichem in Houston
Heat Exchanger Sludge and Other Hazardous Waste	1 ton	Generated during turnarounds	Offsite to USPCI in Utah
Spent Catalyst from Reformer Naphtha	1,125 lbs.	Generated every 4 yrs.	Offsite to metals reclaimer or catalyst regeneration

Section VII. "Facility Monitoring/Reporting Plan"

1. BRC will follow the requirements of Rule 116 as it also applies to salt water releases. BRC will also include notification of significant breaks, spills, or leaks of effluent wastewater, acids, caustics, solvents, or other chemicals.
2. BRC will continue to take such corrective actions as are necessary or appropriate to contain and remove or mitigate the damage caused by a discharge.
3. The weekly pond liner inspections will include a written record of the inspection date, inspector and inspection results and will be retained for at least two years.

If fluids are found during pond liner inspections, BRC will notify OCD within 48 hours, report the extent of the leak, and what steps are proposed to locate and repair the leak.
4. BRC will continue monthly effluent reporting.

5. BRC will analyze the groundwater for the following constituents:

Arsenic
Barium
Boron
Cadmium
Chromium
Cyanide
Iron
Lead
Manganese
Sulfate
Nitrate and nitrite (as N)
Ammonia
Total Kjeldahl Nitrogen
TDS
pH
Water Level
Benzene
Toluene
Ethyl Benzene
Xylenes (Total)
Phenol
Chlorinated Purgeable Volatile Hydrocarbons

TK#	TYPE OF CONSTRUCTION	ROOF TYPE	DIA	HT	CAP	SERVICE	ROOF COLOR	ROOF FINISH	SHELL COLOR	SHELL FINISH	INSTALLATION DATE	BASE / PAD
1	BOLTED	CONE	21	24	1500	FILTERED WATER	GREY	FLAT	GREY	FLAT	1/01/60	BOLTED STEEL ON SAND
2	WELDED	CONE	100	48	67000	FILTERED WATER	WHITE	ENAMEL	WHITE	ENAMEL	1/01/78	WELDED STEEL ON SAND
3	WELDED	EXTERNAL FLOATING	41	42	10000	GP4	WHITE	ENAMEL	WHITE	ENAMEL	9/01/66	"
4	WELDED	EXTERNAL FLOATING	41	42	10000	GP4	WHITE	ENAMEL	WHITE	ENAMEL	9/01/66	"
5	WELDED	INTERNAL FLOATING	41	40	10000	POLY GASOLINE	WHITE	ENAMEL	WHITE	ENAMEL	9/01/66	"
6	WELDED	CONE	12	25	500	API CRUDE SLOP	SILVER	RUSTY	SILVER	DULL	12/01/87	WELDED STEEL ON CONCRETE SLAB
9	WELDED	CONE	12	25	500	API CRUDE SLOP	SILVER	DULL	SILVER	DULL	12/01/87	"
10	WELDED	CONE	12	20	400	SPENT CAUSTIC	BEIGE	DULL	BEIGE	DULL	7/01/86	"
11	WELDED	EXTERNAL FLOATING	100	40	55000	REFORMATE	WHITE	ENAMEL	WHITE	ENAMEL	12/01/82	WELDED STEEL ON CONCRETE RING & SAND
12	WELDED	EXTERNAL FLOATING	100	40	55000	CAT GAS	WHITE	ENAMEL	WHITE	ENAMEL	12/01/82	WELDED STEEL ON CONCRETE RING & SAND
13	WELDED	EXTERNAL FLOATING	67	48	30300	NO LEAD SALES	WHITE	ENAMEL	WHITE	ENAMEL	9/01/87	WELDED STEEL ON CONCRETE RING & SAND
14	WELDED	EXTERNAL FLOATING	67	48	30300	NO LEAD SALES	WHITE	ENAMEL	WHITE	ENAMEL	9/01/87	WELDED STEEL ON CONCRETE RING & SAND
17	WELDED, INSULATED	CONE, INSULATED	64	40	40000	REDUCED CRUDE	BEIGE	DULL	BEIGE	DULL	1/01/78	WELDED STEEL ON SAND
18	WELDED	INTERNAL FLOATING	100	40	55000	#2 DIESEL	WHITE	ENAMEL	WHITE	ENAMEL	1/01/74	"
19	WELDED	CONE	31	40	35000	#1 DIESEL	BEIGE	DULL	BEIGE	DULL	1/01/75	"
20	BOLTED	CONE	38	24	5000	FCC SLOP	BEIGE	DULL	BEIGE	DULL	1/01/75	BOLTED STEEL ON SAND
21	BOLTED	CONE	30	24	3000	FCC SLOP	BEIGE	DULL	BEIGE	DULL	1/01/76	"
22	WELDED, INSULATED	CONE	30	12	1500	GASOLINE SLOP	SILVER	ALUMINUM	SILVER	ALUMINUM	1/01/80	WELDED STEEL ON SAND
23	WELDED	EXTERNAL FLOATING	85	40	43000	BAGE GAS	WHITE	ENAMEL	WHITE	ENAMEL	1/01/52	"
24	BOLTED	INTERNAL FLOATING	54	24	10000	REFORMER FEED	BEIGE	DULL	BEIGE	DULL	1/01/60	BOLTED STEEL, EPOXY FLOOR LINER ON SAND
25	BOLTED	INTERNAL FLOATING	54	24	10000	REFORMER FEED	BEIGE	DULL	BEIGE	DULL	1/01/60	"
26	WELDED	CONE	34	24	4000	JET A	BEIGE	DULL	BEIGE	DULL	12/01/77	WELDED STEEL ON SAND
27	WELDED	CONE, INSULATED	42	40	10000	HEAVY BURNER FUEL	GRAY	DULL	GREEN	SMOOTH	1/01/67	"
28	WELDED	EXTERNAL FLOATING	120	48	80000	CRUDE	BROWN	RUSTY	WHITE	ENAMEL	4/01/69	"
29	WELDED	INTERNAL FLOATING	64	34	17000	REGULAR GASOLINE	BEIGE	DULL	BEIGE	DULL	1/01/74	"
30	WELDED	INTERNAL FLOATING	64	34	17000	REGULAR GASOLINE	BEIGE	DULL	BEIGE	DULL	1/01/74	"
31	WELDED	EXTERNAL FLOATING	140	40	110000	CRUDE	WHITE	ENAMEL	WHITE	ENAMEL	8/01/77	"
32	WELDED	EXTERNAL FLOATING	60	40	20000	PREMIUM UNLEADED	WHITE	ENAMEL	WHITE	ENAMEL	4/01/88	WELDED STEEL ON CONCRETE RING & SAND
41	WELDED	CONE	20	12	700	CRUDE TREATMENT	WHITE	ENAMEL	WHITE	ENAMEL	1/01/79	WELDED STEEL ON SAND
42	WELDED	CONE	20	12	700	CRUDE TREATMENT	WHITE	ENAMEL	WHITE	ENAMEL	1/01/79	"
43	WELDED	CONE	20	10	600	CRUDE TREATMENT	WHITE	ENAMEL	WHITE	ENAMEL	1/01/79	"
B 1	WELDED, BULLET	PRESSURE VESSEL	7		286	LPG SLOP	NA	NA	WHITE	ENAMEL	1/01/60	CONCRETE SADDLE
B 2	WELDED, BULLET	PRESSURE VESSEL	8		430	LPG SLOP	NA	NA	WHITE	ENAMEL	1/01/60	"
B12	WELDED, BULLET	PRESSURE VESSEL	10		692	LIGHT NATURAL	NA	NA	WHITE	ENAMEL	1/01/60	"
B13	WELDED, BULLET	PRESSURE VESSEL	8		500	BUTANE	NA	NA	WHITE	ENAMEL	1/01/60	"
B14	WELDED, BULLET	PRESSURE VESSEL	8		500	BUTANE	NA	NA	WHITE	ENAMEL	1/01/60	"
B15	WELDED, BULLET	PRESSURE VESSEL	10		714	PROPANE	NA	NA	WHITE	ENAMEL	1/01/78	"
B16	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78	"
B17	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78	"
B18	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78	"
B19	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78	"
B20	WELDED, BULLET	PRESSURE VESSEL	10		714	BUTANE	NA	NA	WHITE	ENAMEL	1/01/78	"
B21	WELDED, BULLET	PRESSURE VESSEL	10		714	BUTANE	NA	NA	WHITE	ENAMEL	10/01/83	"
B22	WELDED, BULLET	PRESSURE VESSEL	10		714	SATURATE LPG	NA	NA	WHITE	ENAMEL	4/01/88	"
B23	WELDED, BULLET	PRESSURE VESSEL	10		714	SATURATE LPG	NA	NA	WHITE	ENAMEL	4/01/88	"

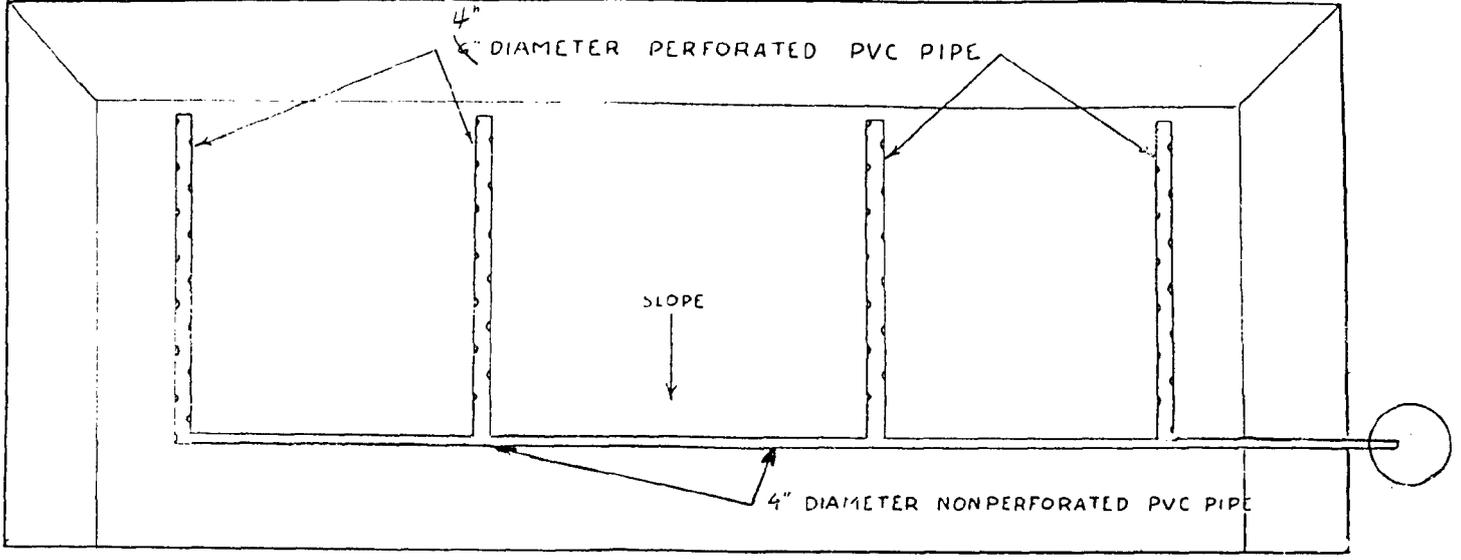
TABLE 2

5/26/89

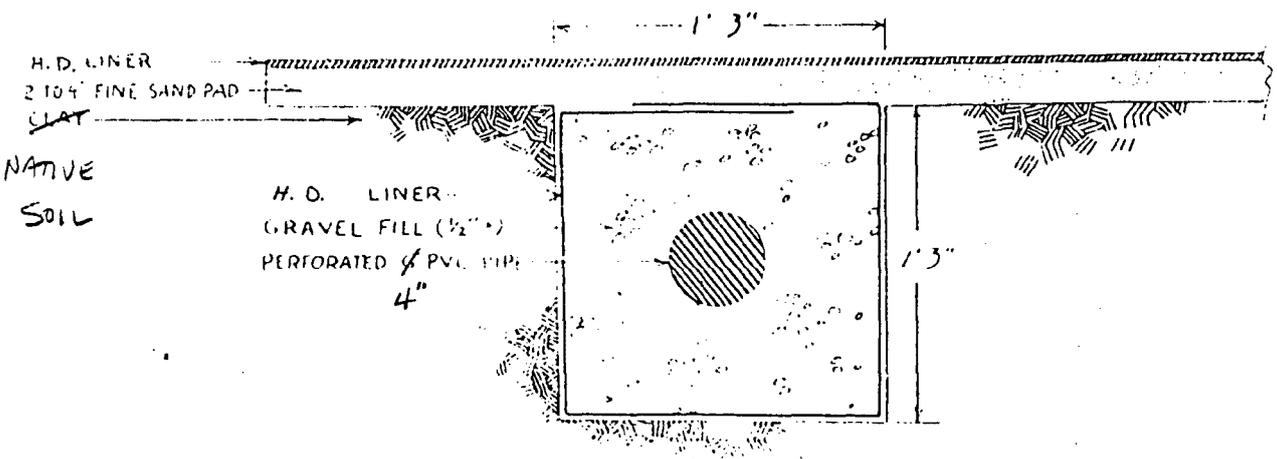
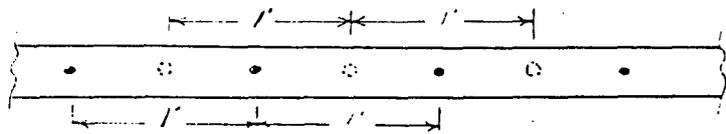
BRC TANK INSPECTION SCHEDULE

TK#	CURRENT SERVICE	INSTALLATION DATE	LAST INSPCT	NEXT INSP
1	FILTERED WATER	1/01/60	1/01/60	1/01/98
2	FILTERED WATER	1/01/78	1/01/78	1/01/98
3	JP4	9/01/66	9/30/87	7/01/90
4	JP4	9/01/66	9/28/87	9/28/92
5	POLY GASOLINE	9/01/66	1/01/85	1/01/90
8	API CRUDE SLOP	12/01/87	12/01/87	12/01/97
9	API CRUDE SLOP	12/01/87	12/01/87	12/01/97
10	SPENT CAUSTIC	7/01/86	7/01/86	7/01/91
11	REFORMATE	12/01/82	3/01/88	12/01/92
12	CAT GAS	12/01/82	3/01/88	12/01/92
13	NO LEAD SALES	9/01/87	9/01/87	9/01/97
14	NO LEAD SALES	9/01/87	9/01/87	9/01/97
17	REDUCED CRUDE	2/01/61	1/01/77	ASAP
18	#2 DIESEL	1/01/74	5/18/88	5/18/93
19	#1 DIESEL	1/01/75	7/01/85	7/01/90
20	FCC SLOP	1/01/76	1/01/76	ASAP
21	FCC SLOP	1/01/76	1/01/76	ASAP
22	GASOLINE SLOP	1/01/80	1/01/80	1/01/90
23	BASE GAS	1/01/62	1/01/77	ASAP
24	REFORMER FEED	1/01/60	5/01/86	5/01/91
25	REFORMER FEED	1/01/60	3/01/86	3/01/91
26	JET A	12/01/67	2/24/89	2/24/94
27	HEAVY BURNER FUEL	1/01/67	4/01/89	4/01/94
28	CRUDE	4/01/69	12/15/88	1/01/98
29	REGULAR GASOLINE	1/01/74	1/01/86	1/01/96
30	REGULAR GASOLINE	1/01/74	12/06/85	12/06/95
31	CRUDE	8/01/77	6/01/82	6/01/92
32	PREMIUM UNLEADED	4/01/88	4/01/88	4/01/98
41	CRUDE TREATMENT	1/01/79	1/01/82	1/01/92
42	CRUDE TREATMENT	1/01/79	1/01/82	1/01/92
43	CRUDE TREATMENT	1/01/79	1/01/82	1/01/92
B 1	LPG SLOP	1/01/60		
B 2	LPG SLOP	1/01/60		
B12	LIGHT NATURAL	1/01/60		
B13	BUTANE	1/01/60		
B14	BUTANE	1/01/60		
B15	PROPANE	1/01/78		
B16	POLY FEED	1/01/78		
B17	POLY FEED	1/01/78		
B18	POLY FEED	1/01/78		
B19	POLY FEED	1/01/78		
B20	BUTANE	1/01/78		
B21	BUTANE	10/01/83		
B22	SATURATE LPG	4/01/88		
B23	SATURATE LPG	4/01/88		

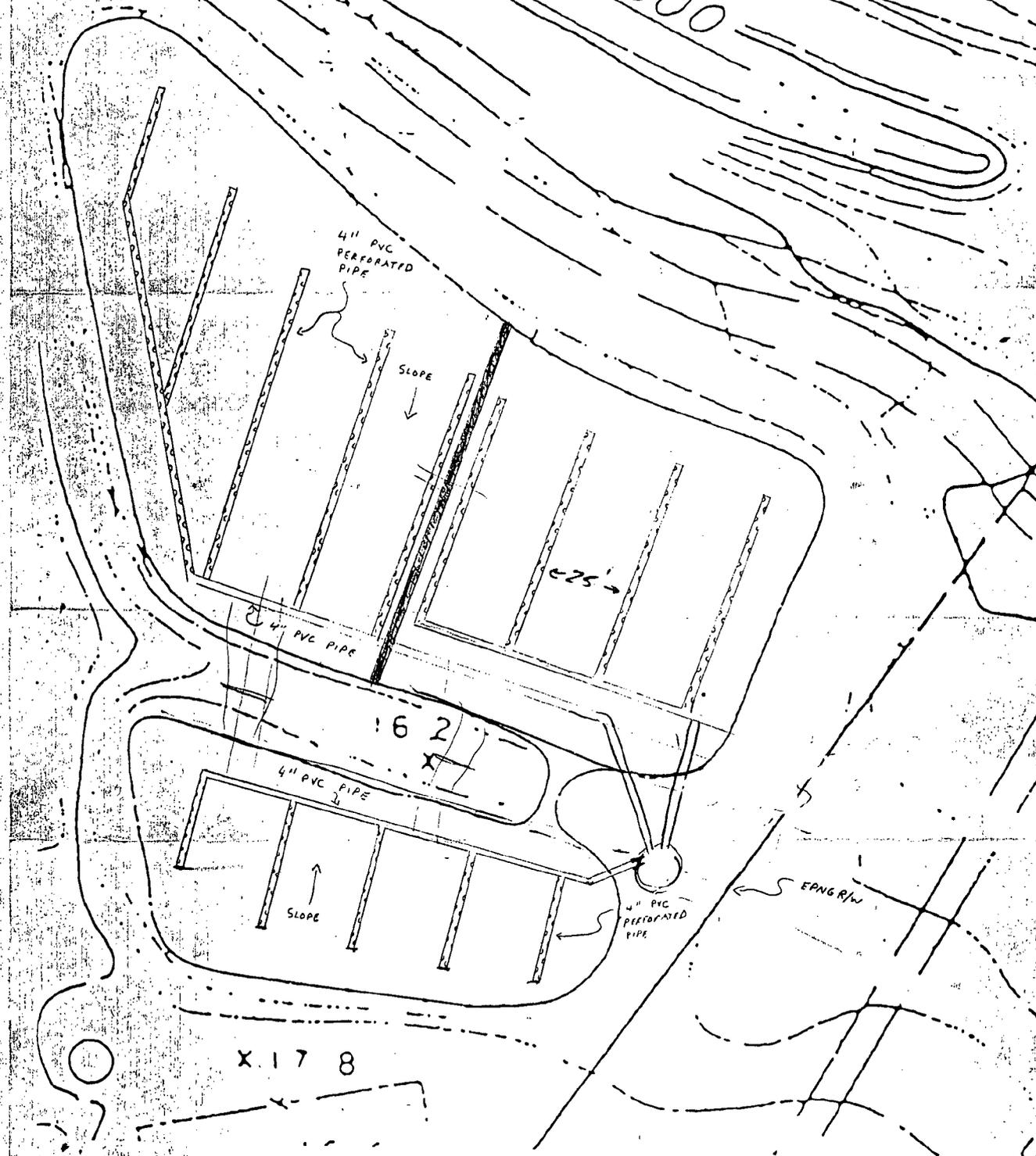
LEAK DETECTION SYSTEM



4
PERFORATED 4" PVC PIPE, 3/8" HOLES
ON ONE FOOT CENTERS, DRILLED IN
ALTERNATING LATERAL SEQUENCE



5500



X.17 8

ENGR/RW

NEW MEXICO INTERSTATE STREAM COMMISSION



COMMISSION MEMBERS

ALBERT E. UTTON, Chairman, Albuquerque
S. E. REYNOLDS, Secretary, Santa Fe
J. PHELPS WHITE III, Roswell
GEORGE BRANTLEY, Carlsbad
TRACY SEIDMAN, Wagon Mound
RICHARD C. JOHNSON, Silver City
SAMMIE SINGH, La Mesa
PETER A. CASADOS, El Guique
JACK D. COOK, Farmington

BATAAN MEMORIAL BUILDING
STATE CAPITOL
SANTA FE, NEW MEXICO 87503

May 25, 1989

RECEIVED

MAY 30 1989

OIL CONSERVATION DIV.
SANTA FE

Mr. William J. LeMay, Director
Oil Conservation Division
State Land Office Building
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Dear Bill:

This letter is in response to your Notice of Publication executed on May 9, pertaining to the application for renewal of the discharge plan for the Bloomfield Refining Company. As New Mexico's representative to the Colorado River Basin Salinity Control Forum (Forum), our specific areas of concern are the activities that result in salt discharges to the San Juan River, a tributary of the Colorado River. The discharge described in the proposed plan may result in the direct or indirect discharge of salts to the San Juan River.

In the fifth sentence of the description of the proposed plan contained in the subject notice, it is stated that "Prior to disposal in the double-lined ponds, the wastewater passes through two clay-lined solar evaporation ponds with an estimated seepage of approximately 14,400 gallons per day." Using the given value of 2200 mg/l total dissolved solids content of the wastewater, we calculate a total load of 48 tons of salt per year that will escape the proposed containment system and likely reach the San Juan River.

The Forum's "1987 Review, Water Quality Standards for Salinity, Colorado River System," (Standards), which has been approved by the Environmental Protection Agency and is adopted as part of the "Water Quality Standards for Interstate and Intra-state Streams in New Mexico" includes the objective of no-salt return whenever practicable. The seepage from the clay lined solar evaporation ponds would constitute a discharge, and, to comply with the Standards, should not be permitted. It is recommended that the clay lined solar evaporation ponds be eliminated or replaced with an OCD approved, double-lined

Mr. William J. LeMay
May 25, 1989
Page 2

evaporation pond prior to renewal of Bloomfield Refining Company's discharge plan, unless the applicant can demonstrate that it is not practicable to do so.

Please contact us if additional discussion would be helpful.

Sincerely,



S. E. Reynolds
State Engineer

SER:JCG:rav

cc w/copy of incoming:
Jack A. Barnett



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Ecological Services
Suite D, 3530 Pan American Highway, NE
Albuquerque, New Mexico 87107

May 24, 1989

RECEIVED

MAY 25 1989

OIL CONSERVATION DIV.
SANTA FE

Mr. William J. Lemay, Director
State of New Mexico Energy, Minerals
and Natural Resources Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

Dear Mr. Lemay:

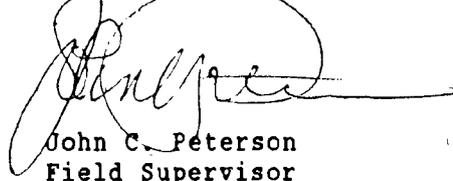
We have reviewed the Public Notice dated May 9, 1989 requesting comments for the Bloomfield Refinery discharge permit renewal. The Refinery is located at NW/4 NE/4 and the S/2 NE4 and the N/2 NE/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29, North Range 11 West, N.M.P.M., San Juan County, New Mexico.

Recently, a member of my staff and a special agent were given a tour of refineries, oil and gas fields and commercial disposal basins in San Juan County. At several locations dead migratory birds (ducks and shorebirds) were found trapped in surface oil present on the ponds. Several of these birds were found at a gas refinery.

With reference to the November 1, 1988 meeting with representatives of your office, U.S. Fish and Wildlife Service, New Mexico Department of Game and Fish and New Mexico Department of Natural Resources, and subsequent meetings with industry representatives at which time effective measures to exclude migratory birds from oil pits and similar structures were discussed, we believe that oil and gas operations in San Juan County should also cooperate. Specifically, the Bloomfield Refinery Company should take special precautions to prevent oil from getting on the surface of their evaporation ponds.

If we can be of any assistance, please call Richard Roy at (505) 883-7877.

Sincerely yours,



John C. Peterson
Field Supervisor

cc:
Regional Director, U.S. Fish and Wildlife Service, Fish and Wildlife
Enhancement, Albuquerque, New Mexico

Copy: Royce
Put in 6.7.89 Ducks
Comment file

NOTICE OF PUBLICATION

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan renewal application has been submitted to the Director of the Oil Conservation Division, State Land Office Building, P. O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-1) Bloomfield Refining Company, Richard Traylor, Refinery Manager, P. O. Box 159, Bloomfield, New Mexico, 87413, has submitted an application for renewal of its previously approved discharge plan for its Bloomfield Refinery 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 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, N.M.P.M., San Juan County, New Mexico. Approximately 100,800 gallons per day of process wastewater is proposed to be disposed of in a series of OCD approved double-lined evaporation pond with leak detection. The ponds are to be phased-in during the five-year permit period with construction of the first 5-acre pond to begin in summer 1989. BRC proposes to discontinue the existing spray application as new pond capacity becomes available but retain the spray system for emergency use. Prior to disposal in the double-lined ponds, the wastewater passes through two clay-lined solar evaporation ponds with an estimated seepage of approximately 14,400 gallons per day. The total dissolved solids content of the wastewater is approximately 2200 mg/l. Ground water most likely to be affected by discharges at the surface is at a depth from 10 to 30 feet and is a water zone directly caused by seepage from Hammond Ditch. The ditch water has a total dissolved solids concentration of approximately 200 mg/l. The discharge plan also addresses how spills, leaks and other discharges to the ground will be handled, and remedial action for contamination due to past practices.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 9th day of May. To be published on or before May 19, 1989.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY, Director

S E A L

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2089
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

May 8, 1989

CERTIFIED MAIL
RETURN RECEIPT NO. P-106 675 015

Mr. R. W. Traylor
Refinery Manager
Bloomfield Refining Company
P. O. Box 159
Bloomfield, New Mexico 87413

RE: Discharge Plan (GW-1)
Renewal Application for the Bloomfield Refinery

Dear Mr. Traylor:

The New Mexico Oil Conservation Division (OCD) has received and is completing review of the above application. The application, dated, March, 1989, was received by this office on March 7, 1989. On April 25 and 27, 1989, the OCD conducted a site inspection and sampling program at the facility to view physical changes made since the last application, the changes proposed to be instituted, and to determine and verify current water quality conditions of ground and surface waters at the facility.

This letter provides comments both on the material in the discharge plan and on deficiencies noted during the site inspection. The ground water remediation plan (Discharge Plan Attachment 3) is still under review and comments will be provided to Bloomfield Refining Company (BRC) by May 22nd.

I. Comments on Discharge Plant Renewal Application

A. Section III. "Effluent Characteristics"

1. Provide the date(s) of sampling of the effluent reported on pages III-1 and 2.

B. Section IV. "Transfer and Storage of Process Fluids and Effluents"

1. Provide a clearer (more legible) copy of the tank summary. Include with the summary information as to type of base/pad of each tank (e.g. welded steel on concrete, steel on sand, etc.)

2. Provide the age of the buried process piping. Buried process and wastewater piping whose age will have exceeded 25 years at the time of the next renewal must be integrity tested with the results provided in the next renewal application.
3. Provide a schedule for integrity inspection of the below-grade sumps at the tank farms, loading/unloading terminals, and heat exchanger cleaning area. Do any sumps have leak detection installed?

C. Section V. "Spill/Leak Prevention and Housekeeping Procedures"

1. When was the vacuum testing of floor weld seams instituted as part of tank inspections?
2. Several older storage tanks at the refinery have been removed from service and dismantled due to previously undetected floor leaks. It is likely that much of the lighter product found at Monitor Well 9 is from such leaks. Because of this, the shallow water table, and increased corrosion potential due to the fine grained silts and clays found at the surface in the vicinity of the tank farm, OCD will require that tanks (except fresh water tanks) older than 25 years be inspected and tested at least every five (5) years and that newer tanks be inspected at least every ten (10) years.
3. Provide the locations and completion diagrams for the cathodic protection wells recently installed for corrosion protection. Was surface casing and/or cement used to prevent downward fluid migration?

D. Section VI. "Effluent Disposal"

1. Provide details on the 1983 installation of the French drain system beneath the north and south oily water ponds including subsurface base material (e.g. compacted clay or native soil), layout and spacing of collection laterals, and filter material used to transmit fluids to the collection system.
2. OCD requests that BRC make the following commitments regarding the oily water ponds:

- a. The collection sump for the oily water ponds will be inspected at least weekly, and that records be kept and retained for at least two years of the inspection date, inspector, and result.
 - b. If fluids are found in this sump, BRC will notify OCD within 48-hours, report the extent of seepage, and what steps are proposed to locate and repair the leak.
 - c. If the liner of any oily water pond requires replacement or has significant leakage requiring major repair, BRC will replace it with a double liner with an approved leak detection system.
3. The inspection sump for the oily water ponds appears to have an unlined (dirt) bottom. If this is so, provide a schedule and details to repair so as to render it leak proof.
 4. What safeguards are in place or proposed to prevent over-flow of the oily water ponds to the irrigation ditch or arroyo?
 5. The discharge plan (P. VI-2) discusses seepage from the north and south evaporation ponds. An estimated one-seventh (10 gpm) of total effluent flow is lost to seepage from these clay lined ponds. The water appears as seeps on the north facing cliffs, and in arroyos serving as collector drains that channelize seepage from the refinery property. Unlike the area north of the flare, the land north of evaporation ponds is not owned by BRC and ground water in the alluvial terrace beneath the cliffs could be utilized as a water supply. Monitor well 1, near the north property boundary, has contaminant levels of total dissolved solids, chloride, sulfate, manganese and occasionally, nitrate exceeding state ground water quality standards. Only manganese is not found in the ponds at excessive levels. Chloride levels nearly five times the standard were measured in the monitor well during BRC's November 1988 sampling. In addition to possible off-site ground water impairment (especially during the six months that flow in the ditch ceases and is not available for dilution), discharge of surface water emanating from pond seepage could subject the refinery to NPDES permitting requirements

under the Clean Water Act.

To rectify the problems described above, provide OCD with a schedule to retrofit the ponds with a synthetic liner/leak detection system to prevent seepage or, in the alternative, to replace the ponds with the new lined ponds at the land application area.

6. A phased-in schedule over the 5-year term of the discharge plan for replacement of the existing land application system with double-lined evaporation ponds is acceptable to OCD. The use of lined ponds will eliminate a number of regulatory problems including discharge to ground water of constituents exceeding standards, leaching of additional, natural, salts as a result of the spray irrigation discharge, and seepage of fluids containing both discharged and leached salts to Hammond Ditch, arroyos, and eventually the San Juan River. BRC also should consider use of spraying at one or more of the lined ponds to enhance evaporation. If this option is to be used, details will need to be provided to OCD for review and approval.
7. Use of any spray irrigation/land application system after completion of the ponds is contingent on submittal for OCD review and approval of a plan of use that demonstrates that the proposed application rates preclude leaching concerns (p. VI-3 and 4). Since commitments in the proposed discharge plan require BRC to install only two 5-acre ponds (with installation of two others as a possibility), OCD will not authorize spray irrigation/land application beyond December 31, 1990, without either:
 - a. An approved amendment to the discharge plan demonstrating no leaching from the proposed land application rates, or
 - b. A commitment by BRC to install additional ponds as necessary in 1991 and 1992 to provide total retention of effluent.
8. Provide a listing of types, volumes, frequency and location(s) of solid wastes (liquid and non-liquid other than water effluent) disposed of by BRC. Include wastes disposed of onsite and offsite.

E. Section VII. "Facility Monitoring/Reporting Plan"

1. Rule 116 also includes salt water releases. OCD requests that BRC notify OCD in a similar manner of breaks, spills or leaks of effluent wastewater, acids, caustics, solvents or other chemicals.
2. In addition to notification of breaks, spills or leaks of crude, intermediates, petroleum products, chemicals or water effluent, OCD requests that BRC commit to the following:

"As soon as possible after learning of such a discharge, BRC shall take such corrective actions as are necessary or appropriate to contain and remove or mitigate the damage caused by the discharge."

3. Regarding pond liner leak detection systems, OCD requests that BRC perform the following in addition to weekly inspection:
 - a. Records be kept of the inspection date, inspector and inspection results and be retained for at least two years, and
 - b. If fluids are found, BRC will notify OCD within 48-hours, report the extent of the leak, and what steps are proposed to locate and repair the leak.
4. Monthly reporting of effluent disposal shall be continued until such time as all discharges are to total retention systems.
5. OCD believes that not all the heavy metals proposed to be analyzed in MW1 and 5 need reporting since we do not believe they are a problem in either the effluent or the ground water. Likewise, we believe that a scan for chlorinated solvents should be added since the soil survey detected TCE and PCE, although they have not been confirmed in ground water. Therefore, we propose that instead of the list shown on p. VII-1 and 2, BRC analyze for the following constituents:

Arsenic	Benzene
Barium	Toluene
Boron	Ethyl Benzene
Cadmium	Xylenes (total)

Chromium	Phenol
Cyanide	Chlorinated purgeable volatile
Iron	hydrocarbons
Lead	
Manganese	
Sulfate	
Nitrate and nitrite (as N)	
Ammonia	
Total Kjeldahl Nitrogen	
TDS	
Ph	
Water Level	

II. Site Inspection

- A. A number of areas where spills and leaks have occurred were observed during the OCD site inspection on April 25, 1989. Submit a plan, with a timetable for completion, for remediation of past spills/leaks and prevention and/or containment of any future spills/leaks in the following areas:
1. The below grade sump next to the caustic storage area is not equipped with leak detection. Evidence of a leak was observed in the southwest corner of the sump. Submit plans and a schedule for testing the integrity of this sump.
 2. The transfer pump at tank No. 5 was leaking. Submit plans and a schedule for correcting the leak and construction of containment at the pump for any future leaks.
 3. The drum storage area between Tanks 3 and 4 had evidence of leaks and/or spills from the drums. Submit plans for the paving and curbing of this storage area. These drums contain a Toluene based fluid.
 4. The base of the cooling tower was cracked and leaking. Excessive drifting of cooling tower fluids was also observed. Submit a plan for repair of the leaks in the cooling tower sump and for reduction of drifting or containment of drifted fluids.
 5. Bolted tanks 20 and 21 were leaking at the seams. Submit a repair schedule and a plan to prevent future leaks.

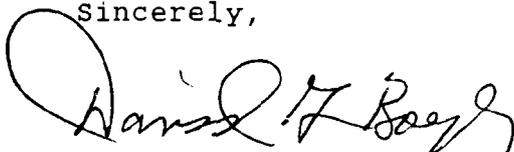
6. Tank 22 had evidence of spills and/or leaks on the ground surrounding the tank. Submit a cleanup schedule and a plan to prevent repetition.
7. The graveled area at the second loading island at the product loading facility had standing product. Submit a plan to prevent this from re-occurring.
8. The diesel fueling area and the associated diesel storage tanks in the old truck maintenance area had evidence of continuous spills and leaks. Submit a plan with a completion timetable for clean-up and construction of containment for both areas. The plan should include paved truck fueling and unloading areas with collection sumps. Include a method and schedule for integrity testing of all underground piping.
9. Tank 28 showed leaks around valves and the sump box. Submit a plan and completion schedule for containment of leaks at the valves and for preventing the sump box from overflowing.
10. Tank 17 had a large amount of oil spilled within the diked area from a ruptured line off the top of the tank, showed evidence the water draw sump had overflowed and had a leaking transfer pump. Submit a plan and completion schedule for the cleanup of these areas, a plan to prevent reoccurrence and containment at the transfer pump.
11. The burner fuel loading facility appears to have had excessive spills and leaks with little or no cleanup action ever taken. Submit a plan and completion schedule for the cleanup of this facility and construction of paved and curbed loading facilities.
12. Monitor well 2 had portions of its screen above the surface of the ground due to excavation. Submit a plan to remove and/or properly plug this well.
13. The sump on the southeast corner of the old maintenance building had oil and water accumulating in it and spilled on the surface around it. It was stated during the inspection that this sump is no longer in use. Submit a plan and schedule for the proper closure of this sump.

Mr. R. W. Traylor
May 8, 1989
Page -8-

- B. Numerous sumps throughout the facility were observed that did not have leak detection. These include the API pond sump, water draw sumps, valve sumps, etc. Submit a plan for the integrity testing of all sumps that are flow thru, or used for any function other than water draw-off where fluids are removed the day of use. All below grade sumps or tanks, when repair or replacement becomes necessary, will be equipped with leak detection.
- C. It was mentioned during the inspection that BRC was considering the use of the area at the landfill pond east of the fire fighting area as a solid waste disposal area. Prior to use of this area for disposal, a plan must be submitted to the OCD for approval. The plan will include the placement of at least ten feet of clean fill above the high water level, the types of wastes to be disposed of, the fencing of the disposal area to preclude unauthorized dumping and the commitment that no liquids will be disposed of in the area.

The current discharge plan expires June 7, 1989 but no decision on renewal will be made until expiration of the public notice in late June. Because of the shortage of time you are requested to provide a timely response to these questions, comments and request for commitments. If you have any questions, please contact Roger Anderson or myself at 827-5884 or 5812.

Sincerely,



David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/sl

cc: OCD Aztec Office
Chris Hawley, BRC

AFFIDAVIT OF PUBLICATION

Copy of Publication

No. 23456

STATE OF NEW MEXICO,
County of San Juan:

Betty Shipp being duly

sworn, says: That he is the National Ad Manager of
THE FARMINGTON DAILY TIMES, a daily newspaper of general circulation
published in English at Farmington, said county and state, and that the
hereto attached Legal Notice

was published in a regular and entire issue of the said FARMINGTON DAILY
TIMES, a daily newspaper duly qualified for the purpose within the
meaning of Chapter 167 of the 1937 Session Laws of the State of New
Mexico for One /consecutive/ (days) (weeks) on the same day as
follows:

First Publication Sunday, May 14, 1989

Second Publication _____

Third Publication _____

Fourth Publication _____

and that payment therefor in the amount of \$ 34.10
has been made.

Betty Shipp

Subscribed and sworn to before me this 14th day
of May, 1989.

[Signature]
NOTARY PUBLIC, SAN JUAN COUNTY, NEW MEXICO

My Commission expires: June 23, 1990

NOTICE OF PUBLICATION STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan renewal application has been submitted to the Director of the Oil Conservation Division, State Land Office Building, P. O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-1) Bloomfield Refining Company, Richard Traylor, Refinery Manager, P. O. Box 159, Bloomfield, New Mexico, 87413, has submitted an application for renewal of its previously approved discharge plan for its Bloomfield Refinery 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 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, N.M.P.M., San Juan County, New Mexico. Approximately 100,800 gallons per day of process wastewater is proposed to be disposed of in a series of OCD approved double-lined evaporation pond with leak detection. The ponds are to be phased-in during the five-year permit period with construction of the first 5-acre pond to begin in summer 1989. BRC proposes to discontinue the existing spray application as a new pond capacity becomes available but retain the spray system for emergency use. Prior to disposal in the doublelined ponds, the wastewater passes through two clay-lined solar evaporation ponds with an estimated seepage of approximately 14,400 gallons per day. The total dissolved solids content of the wastewater is approximately 2200 mg/l. Ground water most likely to be affected by discharges at the surface is at a depth from 10 to 30 feet and is a water zone directly caused by seepage from Hammond Ditch. The ditch water has a total dissolved solids concentration of approximately 200 mg/l. The discharge plan also addresses how spills, leaks and other discharges to the ground will be handled, and remedial action for contamination due to past practices.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 9th day of May. To be published on or before May 19, 1989.
SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY,
Director

Legal No. 23456 published in the Farmington Daily Times, Farmington, New Mexico on Sunday, May 14, 1989.

SPCC ponds
ing at seeps
area above
e salt staining on
grass
Heavy Metals

8904271045 South Evap Pond
Sample taken at S.W. cor, 4' freeboard.
greenish water colorization
General Chem, VOC's, Heavy Metals, TTN
cond 3450 @ 17.5°C pH 8.

d; above

8904271165 North Evap Pond
Sample taken at N bank, 4' freeboard
brownish water colorization
General Chem, VOC's, Heavy Metals, TTN
cond 3750 @ 16.5°C pH 7

pH 6.5

15°C pH 5.5

Northwest of Hwy 44 (Gary's Arroyo)
6" auger hole, faint HC evidence 200' W. of
Hwy 44
12" auger hole 6" to bottom of hole (in rubble)
faint HC odor & black discoloration
all holes in bottom of channel.

§ skip 5 pages →

Notes of David Englert, Oct
4/27/89. (ATBayer)

East NOWP

8904271715

North city water pond from
semp at N.E. cor.

strong odor, scummy surface
sheen on surface

cond 3100 @ 21 °C pH
Gen Chem, VOC's, Heavy Metals, etc

Recovery Well # 3

8904271735

sample taken w/ pump in well

from continued from auger survey
back 5 pages

East side of Hwy 44 20' from
culvert

1st auger hole bottom of channel
12" deep - HC evidence although aged
2nd hole 10' up bank - heavy HC odor &
oily residue 3" from surface to 10"
~~sub soil~~

SNWD

890428 1135

at slum on
fish



MEMORANDUM OF MEETING OR CONVERSATION

Telephone Personal

Time 11:45 AM

Date 4/19/88 BY AFB

Originating Party

Other Parties

Howard Pollicose (713) 644-7357

DAVE BOYER

PCI Consultants, Houston, P.O. Box 26901, 77207

Subject

Update of Gary Bloomfield Refinery for
bank line-of-credit

Discussion

Called to ask progress on environmental matters since 2/23/88 conversation. I briefed him on issues and said I had not yet reviewed all of newly submitted DP renewal. Said I would inspect refinery next week, but knew refinery was making progress on several fronts including recovery of hydrocarbons, sewerage, and lining ponds in land application areas.

Conclusions or Agreements

At his request, sent copies of correspondence since last year. He will call back to ask about our inspection.

Distribution

Gary File
Chris Hawley

Signed

D. L. Boyer



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

March 14, 1989

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-106 675 484

Mr. Robert C. Frank
Southwest Water Disposal
P. O. Box 10734
Farmington, New Mexico 87499

RE: Disposal of Hammond Ditch Water

Dear Mr. Frank:

The Oil Conservation Division has received your request dated February 27, 1989 to accept at your permitted disposal facility the water contained in the section of Hammond Ditch adjacent to Bloomfield Refining Company's Bloomfield Refinery.

Your request to dispose of the water that is temporarily dammed by Bloomfield Refinery in the Hammond Ditch is approved until the ditch is opened for the irrigation season.

If there are any questions, please contact me at (505) 827-5812.

Sincerely,

A handwritten signature in cursive script that reads "David G. Boyer".

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

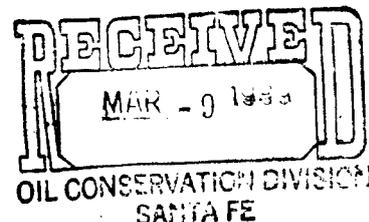
DGB/RCA/sl

cc: OCD Aztec Office
Chris Hawley - Bloomfield Refinery



SOUTHWEST WATER DISPOSAL
P.O. Box 10734
Farmington, NM 87499
505-325-8729

February 27, 1989



Dave Boyer
310 Old Santa Fe Trail Room 206
Santa Fe, NM 87503

Subject: Disposal of Water in Hammond Ditch below Bloomfield Refining Co.

Dear Dave:

Southwest Water Disposal (SWWD) requests permission to accept water currently trapped in the Hammond Ditch. As you are aware the TDS of the water is approximately 4500. This information was furnished to me verbally from the Bloomfield Refining Co.

If the Bloomfield Refining Co. elects to bring this water to SWWD it will cease upon start up of the Hammond Ditch irrigation season.

The volume to be transported will be approximately 24,000 bbls. SWWD believes this water will in no way jeopardize our clay liner as it is very low in TDS. In fact, the water would be advantageous to our operation as the clays will be less permeable to the fresh water and over time as this water is absorbed by the clay it will tend to make the clay even more impermeable.

Your prompt attention to this matter would be greatly appreciated as the irrigation season is quickly approaching.

If I may be of any further assistance, please advise.

Very Truly Yours,

Robert C. Frank
Vice-President

RCE/sl

cc: D. B. Swezey, SWWD
C. Hawley, Bloomfield Refining Co.
Box 159
Bloomfield, NM 87413

RECEIVED
MAR 27 1989
OIL CONSERVATION DIVISION
SANTA FE

G W-1
DISCHARGE PLAN
RENEWAL APPLICATION

FOR

BLOOMFIELD REFINING COMPANY

AT BLOOMFIELD,
NEW MEXICO

MARCH , 1989

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Attachment

- 1 Material Safety Data Sheets
- 2 Facility Drawings
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- 5 Water and Wastewater Flow Schematics
- 6 RCRA Contingency Plan & Spill Prevention
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- 8 Final Closure Plan for RCRA
- 9 Monitoring Well Details

DISCHARGE PLAN RENEWAL APPLICATION

FOR

BLOOMFIELD REFINING COMPANY

I. GENERAL INFORMATION

A. Name of Discharger

Bloomfield Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413
(505) 632-8013

B. Facility Contacts

Richard Traylor, Refinery Manager
Chris Hawley, Environmental Engineer
Chad King, Operations Manager

C. Location of Discharge

256.17 acres, more or less, being that portion of the NW1/4 NE1/4 and the S1/2 NE1/4 and the N1/2 NE1/4 SE1/4 of Section 27, and the S1/2 NW1/4 and the N1/2 NW1/4 SW1/4 and the SE1/4 NW1/4 SW1/4 and the NE1/4 SW1/4 of Section 26, Township 29 North, Range 11 West, N.M.P.M., San Juan County, New Mexico.

D. Certification

I hereby certify that I am familiar with the information contained in and submitted with this application and that such information is true, accurate and complete to the best of my knowledge and belief.

Richard W. Traylor

Richard Traylor

March 6, 1989

Refinery Manager

E. Type of Operation

Bloomfield Refining Company is a petroleum refinery with a crude capacity in barrels per calendar day (BPCD) of 16,500 BPCD. Processing units include crude desalting, crude distillation, catalytic hydrotreating, catalytic reforming, fluidized catalytic cracking, and catalytic polymerization. Purchased crude feedstocks are separated and/or converted to the products: leaded gasoline, unleaded gasoline, kerosene, JP-4, #2 diesel, #6 fuel oil, propane, and butane.

Crude supplies are delivered by tank truck and pipeline. Products are sold, via tank trucks, from a product terminal operated by Bloomfield Refining Company.

II. EFFLUENT SOURCES

Wastewater sources from the process and other areas are commingled at an API separator and two lined, oily water ponds. These sources, with quality, quantity, and additive information, are:

A. Water Softeners

Approximately 135,360 GPD of filtered raw water with a TDS of 240 mg/l are softened. About 600 pounds per day of NaCl salt are added for softening. The softeners require periodic regeneration resulting in a high salt (10,445 mg/l TDS) regeneration brine discharge of 5,760 GPD that is routed to the API separator. Softened water, 129,600 GPD with a TDS of 340 mg/l, is sent to the boilers.

B. Boilers

The boilers generate approximately 122,400 GPD of steam utilizing softened water and 14,400 GPD of recycled condensate. A blowdown of 21,600 GPD, with a TDS of 2,042 mg/l, is sent to the cooling towers for reuse as cooling water.

The Nalco product, Transport-Plus 7200, an aqueous solution of an acrylamide/acrylate polymer, a modified acrylate polymer, and a carboxylate (see Attachment 1, Material Safety Data Sheets), is added to inhibit scale formation. The addition rate is approximately 13 quarts per day (25 ppm).

The Nalco product, Nalco 19 PulvOxygen Scavenger, a blend of sodium metabisulfite, sodium sulfite, and cobalt sulfate (see Attachment 1, Material Safety Data Sheets), is added to minimize acid formation from excess oxygen. The application rate is approximately 2 pounds per day (2 ppm).

The Nalco product, Tri-Act 1802 Inhibitor, an aqueous solution of amines (see Attachment 1, Material Safety Data Sheets), is added to the steam system as a corrosion inhibitor and neutralizer of carbonic acid. The dosage used is approximately 5 quarts per day (10 ppm).

C. Cooling Towers

Approximately 214,560 GPD of filtered water with a TDS of 240 mg/l are sent to the cooling towers. In addition, 21,600 GPD are reused from the boiler blowdown. About 41,760 GPD of water with a TDS of 2,290 mg/l are blown down to the API separator and oily water ponds. An estimated 194,400 GPD are lost through evaporation.

The Nalco product, Nalco 8302 Dispersant, an aqueous solution of a substituted carboxylate, a substituted triazole, and an acrylate polymer (see Attachment 1, Material Safety Data Sheets), is used as a dispersant to keep calcium phosphate scale from forming. The dosage is 10 quarts per day (11 ppm).

The Nalco product, Nalco A-Z-Lite 7356, an aqueous solution of a zinc salt, a substituted carboxylic acid, and a phosphoric acid (see Attachment 1, Material Safety Data Sheets), is used to inhibit scale and corrosion in the cooling system. The dosage is 14 quarts per day (15 ppm).

The Nalco product, Nalco 2817 chlorine stabilizer, an aqueous solution of sulfamate, carboxylate, and a polyglycol (see Attachment 1, Material Safety Data Sheets), is used as a biological dispersant. The application rate is 2½ gallons per day (11 ppm).

The Nalco product, Nalco 71-D5 antifoam, a blend of fatty acids, polyglycols, polyglycol ester, and oxyalkylate in kerosene and mineral oil (see Attachment 1, Material Data Safety Sheets), is used as a defoamer. The dosage is 2 quarter per day (2 ppm).

Gaseous chlorine is applied at 25 pounds per day (13 ppm) as a biocide.

Sulfuric acid is added at 10 gallons per day (42 ppm) to control pH.

D. Process

The process areas generate a wastewater stream to the API separator of 46,680 GPD with an estimated TDS of 873 mg/l. In addition, 2300 GPD are estimated to result from storm water collected through the oily water sewer system. The majority of wastewater (30,240 GPD) is from the crude desalter. It is estimated that 90 pounds per day of salt are removed from crude, and another 250 pounds per day of salt are added via the salt dryer. Losses to the atmosphere from the process units total 61,320 GPD.

Each process area is equipped with concrete slabs to control oily surface water from process areas. This includes 7,200 GPD used for washing. Run-on of storm water into process areas is controlled by concrete curbs at the perimeter of the slabs. The wash water, included in the 46,680 GPD, also goes to the API separator.

The Unichem International product, Unichem 7227, a proprietary demulsifier containing an aromatic solvent and isopropyl alcohol (see Attachment 1, Material Safety Data Sheets), is added at the desalter at 13 quarts per day. Most of the chemical will remain in the oil product.

The Unichem International product, Unichem 7375, a proprietary neutralizing amine, and Unichem 7055, a proprietary filmer, corrosion inhibitor (see Attachment 1, Material Safety Data Sheets), are added to the crude overhead at doseages of 8 and 12 quarts per day, respectively. Some of these chemicals may end up in the desalter discharge, but minimally.

E. Area Drains

Area drains have been provided to control storm water at the immediate boundaries of the process slabs. These drains (see Attachment 2, Facility Drawings, for drainage details) are routed to the API separator. The amount is included with the 2,300 GPD process storm water.

F. Water Draws From Tank Farm

Crude, intermediate, and product tanks are equipped with sumps for water draw. They are emptied periodically by vacuum truck which is emptied into the API separator.

G. Spills

Any oil spills are contained and cleaned up immediately. Liquids are taken to the API separator for recovery or discharge through the effluent discharge system.

H. Cleaning Operations

Solvents used during cleaning operations are minimal, are selected based on non-toxic characteristics or compatibility with products, and are not halogenated. They would be routed to the API separator for hydrocarbon recovery. Effluent from heat exchanger cleaning is sent to the API separator. Heat exchanger cleaning sludges and all other hazardous wastes are disposed offsite at approved hazardous waste disposal facilities.

I. Product Terminal

Some wastewater may result from product terminal operations. Truck loading is controlled with concrete slabs and drains routed to the API separator or to a product recovery tank.

J. Groundwater Recovery

Anticipating increased groundwater recovery activity, 7200 GPD of groundwater with a TDS of 2,800 mg/l are included as a wastewater source. This wastewater, containing some hydrocarbons (see Attachment 3, Groundwater Remediation, for additional details), is routed to the API separator.

K. Domestic Sewage

Domestic sewage is disposed of, via septic tanks and leach beds, under the jurisdiction of the New Mexico Environmental Improvement Division. It is not commingled with other refinery effluent.

III. EFFLUENT CHARACTERISTICS

As explained in Section II, effluent sources are commingled at the API separator and south and north oily water ponds. Process areas are entirely self-contained with curbed, concrete area slabs. All process wastewater is routed through newly installed sewer systems to the API separator/oily water pond system. The oily water ponds are lined with 100 mil HDPE and include a leak detection system. Therefore, the quality characteristic evaluation of the commingled stream is evaluated from the wastewater at the discharge from the oily water ponds.

A. Concentration Analyses

Concentration averages for the effluent are summarized as follows (see Attachment 4, Analytical Data for additional details):

<u>Parameter</u>	<u>Units</u>	<u>Nominal Detection Limits</u>	<u>NMWQ Standard</u>	<u>Analytical Result</u>
N03 as N	mg/l	0.01	10.0	< 0.01
NH3 as N	mg/l	0.1	---	50
COD	mg/l	2	---	234
Cr, Total	mg/l	0.05	0.05	< 0.05
Cr, Hexavalent	mg/l	0.05	---	< 0.05
Phenols	mg/l	0.01	0.005	14
Sulfides	mg/l	0.1	---	< 0.1
Oil & Grease	mg/l	0.01	---	23.7
BOD	mg/l	0.01	---	204
TSS	mg/l	1	---	50
TDS	mg/l	1	1000	2136
pH	mg/l	0.01	6 to 9	8.99
Ca	mg/l	0.1	---	88.5
F	mg/l	0.01	1.6	0.35
Boron	mg/l	0.01	0.75	< 0.01
Cl	mg/l	1.0	250	952
S04	mg/l	1.0	600	545
Al, Dissolved	mg/l	0.05	5	0.46
As	mg/l	0.002	0.1	0.13
Ba	mg/l	0.05	1.0	1.70
Cd	mg/l	0.002	0.01	0.03
Cu	mg/l	0.03	1.0	< 0.03
CN	mg/l	0.01	0.2	< 0.01
Fe, Dissolved	mg/l	0.05	1.0	0.44
Fe, Total	mg/l	0.05	---	0.62
Pb, Total	mg/l	0.05	0.05	0.14
Mn, Dissolved	mg/l	0.005	0.2	0.05
Mn, Total	mg/l	0.005	---	0.07
Hg, Total	mg/l	0.002	0.002	< 0.002
Ni	mg/l	0.01	0.2	0.05
Se	mg/l	0.002	0.05	0.02
Ag	mg/l	0.05	0.05	< 0.05
Zn	mg/l	0.004	10.0	0.17
Uranium	mg/l	0.07	5.0	< 0.07
Ra 226 & 228	pCi/l	0.1	30.0 pCi/l	2.3 ± 3.7 pCi/l
Phosphates	mg/l	0.01	---	< 0.01

	<u>Units</u>	<u>Nominal Detection Limits</u>	<u>NMWQ Standard</u>	<u>Analytical Result</u>
TOC	mg/l	1	---	97
TOX	mg/l	0.001	---	0.163
Benzene	mg/l	0.001	0.01	2.2
Toluene	mg/l	0.001	0.75	2.6
Ethyl Benzene	mg/l	0.001	0.75	0.47
Xylenes	mg/l	0.001	0.62	2.6
*PCB	mg/l	0.001	0.001	ND
*Co	mg/l	0.01	0.05	ND
*Mo	mg/l	0.1	1.0	ND
*Carbon Tetrachloride	mg/l	0.001	0.01	ND
*1,2-Dichloroethane	mg/l	0.001	0.01	ND
*1,1-Dichloroethylene	mg/l	0.001	0.005	ND
*1,1,2,2-Tetrachloroethylene	mg/l	0.001	0.02	ND
*Trichloroethylene	mg/l	0.001	0.01	0.020
*Vinyl Chloride	mg/l	0.001	0.001	ND
*1,1 dichloroethane	mg/l	0.001	0.025	ND
*1,2 dibromoethane	mg/l	0.001	0.0001	ND
*1,1,1 trichloroethane	mg/l	0.001	0.06	ND
*1,1,2 trichloroethane	mg/l	0.001	0.01	ND
*1,1,2,2 tetrachloroethane	mg/l	0.001	0.01	ND
*Methylene Chloride	mg/l	0.001	0.1	ND
*Chloroform	mg/l	0.001	0.1	0.064
*Benzo-a-pyrene	mg/l	0.01	0.0007	ND

*From evaporation pond sample.

B. Discussion of Toxic Pollutants

1. Xylene

Xylenes occur in small concentrations in crude and are generated in the reformer. Higher octane fuels contain higher concentrations of xylenes. Although most xylenes will end up in the product, xylene was detected at 2.6 mg/l in a sample from the north lined oily water pond; it has not been detected in samples from the evaporation ponds. Estimates based on product concentrations indicate that the 2.6 mg/l would be distributed as follows:

ortho-xylene	0.65 mg/l
meta-xylene	1.35 mg/l
para-xylene	0.60 mg/l

2. Benzene

Benzene is a component of crude, intermediates, and products. Like xylene, it is generated in the reformer and will be in higher concentrations in products that use more reformate.

In less volatile fuels such as diesel, benzene has a very low concentration. In premium unleaded gasoline, it may be in a range of 2% to 4% by weight. Although detected at 2.2 mg/l in the discharge from the lined oily water ponds, it has not been detected in the most recent samples from the evaporation ponds.

Ethyl benzene is also associated with the presence of benzene, although at lower levels. It also appears to be eliminated in the evaporation ponds.

3. Toluene

Toluene is also a component of gasoline products that is primarily generated in the reformer. Premium unleaded gasoline may contain 10% to 15% toluene. Toluene was detected in an oily water pond sample at 2.6 mg/l but was not detected in samples from the evaporation ponds.

4. Halogenated Hydrocarbons

The facility has eliminated the use of halogenated solvents for degreasing or other cleaning activities. 1,1,1-Trichloroethane is used to chloride the reformer catalyst but is carefully controlled with isolated concrete paving and curbing to eliminate the possibility of entering the sewer system. The chemical is destroyed in the reactors.

5. Lead

Total lead has been detected in the wastewater stream at about 0.15 mg/l. Monitoring well results generally show dissolved lead to be below detection limits of 0.02 mg/l. Coupled with lead phasedown and continued decreases in leaded gasoline sales, lead should not be a factor in future refinery wastewater.

IV. TRANSFER AND STORAGE OF PROCESS FLUIDS AND EFFLUENTS

A. Water and Wastewater Flow

Water and wastewater flow schematics for the refinery are included in Attachment 5.

B. Storage Facilities

1. Tank Storage

A drawing included in Attachment 2, Facility Drawings, shows all existing storage facilities. The storage facilities are numbered on the drawing with the same numbers used in refinery operations. Tanks 1 through 43 are above-ground, unpressurized steel tanks. Tanks B1 through B23 are pressurized bullet tanks. Table 1 provides additional details about the tanks.

2. Underground Tanks

In April 1988, the two existing underground storage tanks used for in-house diesel and gasoline storage were removed. The diesel tank was replaced with a 300-barrel above-ground tank. The unleaded gasoline tank was replaced with a 2500-gallon skid tank. The diesel tank is protected with a berm and is located just west of the old transportation building. The unleaded gasoline tank is protected on a concrete slab with concrete retaining walls and is located in the warehouse yard. BRC currently has no underground storage tanks.

C. Underground Piping

1. Process Piping

Underground process piping that contains refinery crude, products, and intermediates has been minimized and is generally limited to the incoming crude pipeline, about 50 feet of shallowly buried crude charge piping in the crude unit (leaks would be instantly obvious), tank dike crossings, and road crossings. The major road crossing is from the refinery to the truck loading terminal.

2. Process Water System Piping

Underground piping for process-related water and wastewater do not contain oil contact streams. These underground pipes transport some clean, filtered water, some steam, some cooling tower water, and blowdowns from the boilers and the cooling towers.

3. Oily Water Sewers

During 1988, the refinery oily water sewer system was rebuilt. The new system, including the new cat/poly unit, is further detailed in the drawings with Attachment 2, Facility Drawings.

TABLE 1

2/23/89

BLOOMFIELD REFINING COMPANY TANK SUMMARY

Page 1

TANK	TYPE OF CONSTRUCTION	ROOF TYPE	DIA	HT	CAP	SERVICE	ROOF COLOR	ROOF FINISH	SHELL COLOR	SHELL FINISH	INSTALLATION DATE
1	BOLTED	CONE	21	24	1500	FILTERED WATER	GREY	FLAT	GREY	FLAT	1/01/60
2	WELDED	CONE	100	48	67000	FILTERED WATER	WHITE	ENAMEL	WHITE	ENAMEL	1/01/78
3	WELDED	EXTERNAL FLOATING	41	42	10000	CPA	WHITE	ENAMEL	WHITE	ENAMEL	9/01/66
4	WELDED	EXTERNAL FLOATING	41	42	10000	CPA	WHITE	ENAMEL	WHITE	ENAMEL	9/01/66
5	WELDED	INTERNAL FLOATING	41	40	10000	POLY GASOLINE	WHITE	ENAMEL	WHITE	ENAMEL	9/01/66
6	WELDED	CONE	12	25	500	API CRUDE SLOP	SILVER	RUSTY	SILVER	DULL	1/01/60
7	WELDED	CONE	12	25	500	API CRUDE SLOP	SILVER		SILVER		1/01/60
9	WELDED	CONE	12	20	400	SPENT CAUSTIC	BEIGE	DULL	BEIGE	DULL	1/01/60
10	WELDED	EXTERNAL FLOATING	130	40	55000	AREOPHATE	WHITE	ENAMEL	WHITE	ENAMEL	12/01/82
11	WELDED	EXTERNAL FLOATING	100	40	55000	CRU GAS	WHITE	ENAMEL	WHITE	ENAMEL	12/01/82
12	WELDED	EXTERNAL FLOATING	67	48	33000	NO LEAD SALES	WHITE	ENAMEL	WHITE	ENAMEL	9/01/67
14	WELDED	EXTERNAL FLOATING	67	48	30000	NO LEAD SALES	WHITE	ENAMEL	WHITE	ENAMEL	9/01/67
17	WELDED, INSULATED	CONE, INSULATED	84	40	40000	REDUCED CRUDE	BEIGE	DULL	BEIGE	DULL	1/01/61
18	WELDED	INTERNAL FLOATING	100	40	55000	#2 DIESEL	WHITE	ENAMEL	WHITE	ENAMEL	1/01/74
19	WELDED	CONE	81	40	38000	#1 DIESEL	BEIGE	DULL	BEIGE	DULL	1/01/75
20	BOLTED	CONE	38	24	5000	FCC SLOP	BEIGE	DULL	BEIGE	DULL	1/01/75
21	BOLTED	CONE	30	24	5000	FCC SLOP	BEIGE	DULL	BEIGE	DULL	1/01/76
22	WELDED, INSULATED	CONE	30	12	1500	GASOLINE SLOP	SILVER	ALUMINUM	SILVER	ALUMINUM	1/01/80
23	WELDED	EXTERNAL FLOATING	85	40	43000	BASE GAS	WHITE	ENAMEL	WHITE	ENAMEL	1/01/62
24	BOLTED	INTERNAL FLOATING	54	24	10000	REFORMER FEED	BEIGE	DULL	BEIGE	DULL	1/01/60
25	BOLTED	INTERNAL FLOATING	54	24	10000	REFORMER FEED	BEIGE	DULL	BEIGE	DULL	1/01/60
26	WELDED	CONE	54	24	4000	JET A	BEIGE	DULL	BEIGE	DULL	12/01/67
27	WELDED	CONE, INSULATED	42	40	10000	HEAVY BURNER FUEL	GRAY	DULL	GREEN	SMOOTH	1/01/67
28	WELDED	EXTERNAL FLOATING	120	48	80000	CRUDE	BROWN	RUSTY	WHITE	ENAMEL	4/01/69
29	WELDED	INTERNAL FLOATING	64	34	17000	REGULAR GASOLINE	BEIGE	DULL	BEIGE	DULL	1/01/74
30	WELDED	INTERNAL FLOATING	64	34	17000	REGULAR GASOLINE	BEIGE	DULL	BEIGE	DULL	1/01/74
31	WELDED	EXTERNAL FLOATING	140	40	110000	CRUDE	WHITE	ENAMEL	WHITE	ENAMEL	8/01/77
32	WELDED	EXTERNAL FLOATING	60	40	20000	PREMIUM UNLEADED	WHITE	ENAMEL	WHITE	ENAMEL	4/01/88
41	WELDED	CONE	20	12	700	CRUDE TREATMENT	WHITE	ENAMEL	WHITE	ENAMEL	1/01/79
42	WELDED	CONE	20	12	700	CRUDE TREATMENT	WHITE	ENAMEL	WHITE	ENAMEL	1/01/79
43	WELDED	CONE	20	10	600	CRUDE TREATMENT	WHITE	ENAMEL	WHITE	ENAMEL	1/01/79
B 1	WELDED, BULLET	PRESSURE VESSEL	7		286	LPB SLOP	NA	NA	WHITE	ENAMEL	1/01/60
B 2	WELDED, BULLET	PRESSURE VESSEL	8		430	LPB SLOP	NA	NA	WHITE	ENAMEL	1/01/60
B12	WELDED, BULLET	PRESSURE VESSEL	10		692	LIGHT NATURAL	NA	NA	WHITE	ENAMEL	1/01/60
B13	WELDED, BULLET	PRESSURE VESSEL	8		500	BUTANE	NA	NA	WHITE	ENAMEL	1/01/60
B14	WELDED, BULLET	PRESSURE VESSEL	8		500	BUTANE	NA	NA	WHITE	ENAMEL	1/01/60
B15	WELDED, BULLET	PRESSURE VESSEL	10		714	PROPANE	NA	NA	WHITE	ENAMEL	1/01/78
B16	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78
B17	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78
B18	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78
B19	WELDED, BULLET	PRESSURE VESSEL	10		714	POLY FEED	NA	NA	WHITE	ENAMEL	1/01/78
B20	WELDED, BULLET	PRESSURE VESSEL	10		714	BUTANE	NA	NA	WHITE	ENAMEL	1/01/78
B21	WELDED, BULLET	PRESSURE VESSEL	10		714	BUTANE	NA	NA	WHITE	ENAMEL	10/01/83
B 22	WELDED, BULLET	PRESSURE VESSEL	10		714	SATURATE LPB	NA	NA	WHITE	ENAMEL	4/01/88
B 23	WELDED, BULLET	PRESSURE VESSEL	10		714	SATURATE LPB	NA	NA	WHITE	ENAMEL	4/01/88

The piping system is of welded construction using standard weight A53 grade B carbon steel coated with 50 mil (35 mil is accepted industry standard) protective tape. Collection headers are 14", 12", and 10" diameters. Collection branches are 8", 6", and 4" diameters equipped with "P" traps at drain inlets. The pipe wall thickness varies up to 3/8" for 14" pipe.

The new sewer boxes are reinforced concrete with sealed covers and vents. The entire oily/water sewer collection system empties to the API separator.

D. Groundwater Recovery

Groundwater recovered under the Groundwater Remediation Plan (see Attachment 3 for additional details) is collected from three recovery wells and routed through underground PVC piping to a 300-barrel holding tank that is drained through coated and wrapped carbon steel piping to a new sewer box near the burner fuel loading rack.

E. Tank Farm Sumps

Sumps are used in the tank farm and at the flare primarily for water draws and some storm water that collects inside the tank dikes. The sumps are monitored daily and emptied to the API separator by vacuum truck as required.

F. Sales and Crude Terminal

A very small, intermittent wastewater stream is collected from the product terminals area. The water draw from crude treatment tank 43 is pumped to the API separator. A concrete crude sump is pumped to tank 43. Gasoline that may be spilled onto the concrete loading slabs is routed to a concrete gasoline sump that is pumped to tank 22.

G. Heat Exchanger Cleaning

During turnarounds (average of one per year), exchangers are cleaned in a bay located at the east end of the old transportation building. The sludges and liquids are collected in a concrete sump. The liquids (insignificant quantity relative to overall wastewater stream) are collected by vacuum truck and emptied into the API separator. The hazardous waste sludges are sent to offsite disposal.

H. API Separator

The last process fluid collection point before entering the effluent disposal system is the API separator. As noted throughout this permit renewal application, the API separator is the collection point for all oily water waste streams from the refinery. This would include oils from spills, non-routine discharges, and maintenance activities such as tank cleaning.

1. Physical Description

The API separator is of standard API design. It is constructed of and lined with steel reinforced concrete. It is divided into two parallel bays, each 10 feet wide by 65 feet long. Liquid depth is maintained at

5'6" by an underflow weir. Oil is removed by a slotted collection pipe at the downstream end to a sump that is pumped to slop tanks 8 and 9. Slop tanks 8 and 9 are set on newly constructed (1987) reinforced concrete slabs and retaining walls with overflows and draws routed back to the API separator.

2. Operating Criteria

The average daily flow rate is about 60 gpm with a highest recorded daily rate of 170 gpm. Estimated solids content is 11.84 pounds per 1,000 B/D capacity per API study "Petroleum Industry Raw Waste Load Survey", December 1972.

Sludge is removed before the depth reaches $2\frac{1}{2}$ feet (45% of flow depth) but no later than every two years. The solids are sent to offsite hazardous waste disposal facilities. Oils are recovered.

The BRC overflow rate (assuming only one bay in service, $2\frac{1}{2}$ feet sludge depth, and 150% of maximum observed flow rate) is 565 gal/day/ft.². The API criteria is less than 10,000. The horizontal velocity of the BRC separator is 1.1 feet per minute versus an API criteria of less than 30 feet per minute.

In summary, the BRC API separator is significantly over-designed which minimizes the carryover of free oil into the downstream wastewater disposal system.

V. SPILL/LEAK PREVENTION & HOUSEKEEPING PROCEDURES

A. Contingency Plan

As a refining facility, Bloomfield Refining Company handles large amounts of potentially dangerous crude, product intermediates, gasoline products, and gases. Because of the hazard potential, particularly from fire, the facility has extensive training and procedures to handle routine jobs and emergencies in a safe manner. Written safety procedures include an Emergency Plan, Safe Work Permits, Eye Protection, Electrical Lock-outs, Safety Hats, Opening and Isolating Equipment, Smoking Areas, Fire and Safety Permits, Firewatches, Respiratory Equipment, Entering Vessels and Other Confined Spaces, Inspection and Maintenance of Safety Equipment, Employee Injury or Illness Procedure and Excavation Procedures (trenching and shoring).

Attachment 6 , The Bloomfield Refining Company RCRA Contingency Plan & Spill Prevention Control and Countermeasure Plan, is included in this permit renewal application but represents only a small portion of the overall spill and emergency preparedness.

B. Process Area Drains and Curbs

During 1988, in conjunction with the installation of new sewers, concrete paving with curbs to control runoff/runon was provided for all process areas. The process slabs are designed to collect all process liquids including stormwater via "P" trap drains routed to the API separator. In addition, area drains are located in critical peripheral areas outside the curbed process slabs to ensure the collection of all oily waste water to the API separator. Attachment 2 ,Facility Drawings, contains drawings of the drainage plans in the process area.

In addition, operators are individually responsible for maintaining good housekeeping in their particular area of responsibility.

C. Spill Containment Outside Process Areas

1. Tank Berms

All tanks are protected by tank dikes that will contain the contents of the tank in the event of a spill. Any spilled material will be recovered by vacuum truck or pump to the API separator or directly to a process tank.

2. Tank Cleaning

Temporary sumps are installed whenever a tank is cleaned and all oil is recovered to another tank or to the API separator by direct pumping or vacuum truck.

3. Truck Cleaning

Truck crude or product transport vessels are cleaned by steam or refinery petroleum products (no solvents are used) and the oil or product recovered through Tank 43 or the API separator with water discharged to the effluent disposal system.

D. Leak Detection/Protection

1. Process Inspection

Process piping is inspected daily (almost continuously) for visual evidence of leaks by operations personnel. All components (valves, flanges, pump seals) subject to new source performance standards in the new Cat/Poly unit are inspected monthly by an outside emissions monitoring company for VOC emission compliance with 40 CFR 60 Subpart GGG and Subpart VV. In addition, selected pumps and valves in the crude and reformer units are also monitored. Drains are inspected weekly for proper water seals and condition.

2. Tank Inspections

A tank inspection program is utilized to ensure the integrity of the tanks. Tanks are being systematically emptied, inspected, and repaired. The inspection includes vacuum testing of the floor weld seams. The tank inspections are scheduled as service and operation needs dictate. Table 2 shows the current inspection/repair schedule.

3. Corrosion Protection

An electrical corrosion protection system designed to eliminate corrosion of tank bottoms and underground piping is currently being installed. The system is expected to be on-line by May 1, 1989. The system consists of connecting the metal of the tanks and piping to the negative pole of a d-c generator, the positive pole being connected to 4 anodes buried 400 feet deep. The system is designed to reduce the electrical potential of the metal below that of the contacted soils to cause electric current to flow from the surroundings to the metal. After startup, the system will be monitored to determine more precisely the actual attained corrosion protection.

E. Hammond Ditch

Hammond Irrigation Ditch, which flows past the north side of the facility, does accumulate some oil from seepage of water that underlies the facility. During the normal irrigation season (mid-April to mid-October), this seepage has been shown by analytical evaluation to not be significant relative to applicable water standards. During the non-irrigation season, the ditch is diked to preclude downstream movement of oil and to continue a water barrier between the facility and the San Juan River bluff. Before startup of the irrigation season, the water in the ditch is

TABLE 2

2/24/89

BRC TANK INSPECTION SCHEDULE

TK#	CURRENT SERVICE	INSTALLATION DATE	LAST INSPCT	SCHD INSP
1	FILTERED WATER	1/01/60	1/01/60	1/01/98
2	FILTERED WATER	1/01/78	1/01/78	1/01/98
3	JP4	9/01/66	9/30/87	7/01/90
4	JP4	9/01/66	9/28/87	9/28/92
5	POLY GASOLINE	9/01/66	1/01/85	1/01/90
3	API CRUDE SLOP	1/01/60	12/01/87	12/01/97
9	API CRUDE SLOP	1/01/60	12/01/87	12/01/97
10	SPENT CAUSTIC	1/01/60	7/01/86	7/01/91
11	REFORMATE	12/01/82	3/01/88	12/01/92
12	CAT GAS	12/01/82	3/01/86	12/01/92
13	NO LEAD SALES	9/01/87	9/01/87	9/01/97
14	NO LEAD SALES	9/01/87	9/01/87	9/01/97
17	REDUCED CRUDE	2/01/61	1/01/77	2/01/91
18	#2 DIESEL	1/01/74	5/18/88	5/18/93
19	#1 DIESEL	1/01/75	7/01/85	7/01/90
20	FCC SLOP	1/01/76	1/01/76	4/01/89
21	FCC SLOP	1/01/76	1/01/76	4/01/89
22	GASOLINE SLOP	1/01/80	1/01/80	1/01/90
23	BASE GAS	1/01/62	1/01/77	1/01/90
24	REFORMER FEED	1/01/60	5/01/86	5/01/91
25	REFORMER FEED	1/01/60	3/01/86	3/01/91
26	JET A	12/01/67	2/24/89	2/24/94
27	HEAVY BURNER FUEL	1/01/67	1/01/77	4/01/89
28	CRUDE	4/01/69	12/15/88	1/01/98
29	REGULAR GASOLINE	1/01/74	1/01/86	1/01/96
30	REGULAR GASOLINE	1/01/74	12/06/85	12/06/95
31	CRUDE	8/01/77	6/01/82	6/01/92
32	PREMIUM UNLEADED	4/01/88	4/01/88	4/01/98
41	CRUDE TREATMENT	1/01/79	1/01/82	1/01/92
42	CRUDE TREATMENT	1/01/79	1/01/82	1/01/92
43	CRUDE TREATMENT	1/01/79	1/01/82	1/01/92
B 1	LPG SLOP	1/01/60		
B 2	LPG SLOP	1/01/60		
B12	LIGHT NATURAL	1/01/60		
B13	BUTANE	1/01/60		
B14	BUTANE	1/01/60		
B15	PROPANE	1/01/78		
B16	POLY FEED	1/01/78		
B17	POLY FEED	1/01/78		
B18	POLY FEED	1/01/78		
B19	POLY FEED	1/01/78		
B20	BUTANE	1/01/78		
B21	BUTANE	10/01/83		
B22	SATURATE LPG	4/01/88		
B23	SATURATE LPG	4/01/88		

cleaned and/or removed as is necessary to meet water standards acceptable to the New Mexico OCD. The water is currently pumped to the facility effluent discharge system, but, because of current limitations in capacity of the system, outside water disposal facilities are being considered for future disposal of this intermittent wastewater stream.

VI. EFFLUENT DISPOSAL

For the purposes of this permit renewal application, BRC generates approximately 100,800 GPD (70 gpm) of effluent wastewater that requires disposal. The actual rate during 1988 was 97,700 GPD (68 gpm). The facility has constantly been attempting to minimize the discharge including, most recently, the routing of boiler blowdown to the cooling towers. However, BRC believes that this work may be nearly optimal. Any future increase in required wastewater disposal will be addressed in the planning for the proposed modifications (see Section VI.C. that follows).

A. Existing Operations

1. Lined Ponds

Immediately downstream of the API are two lined ponds identified as the south oily water pond (SOWP) and the north oily water pond (NOWP). The NOWP is further partitioned into two (2) sections by a concrete wall. Wastewater flows from the API separator to the SOWP, to the west portion of the NOWP, to the east portion of the NOWP, and then to a pump sump with a level control that pumps the water to the south evaporation pond. Level in the ponds is maintained by overflow piping.

The ponds are lined (installed, 1983) with a single 100 mil, HDPE (see Attachment 7, Pond Liner Specifications) underlain by a French drain seepage collection system which terminates in an observation well. The liners have performed well with one leak repaired shortly after installation and another repaired after emptying the ponds to examine the underlying soils for hydrocarbon contamination during November 1985. Attachment 8, Final Closure Plan for the API Wastewater Ponds, is included for additional details.

The SOWP has an approximate surface area of 9800 square feet and an average depth of 6 feet. The NOWP has an approximate surface area of 25,000 square feet and an average depth of 6 feet. Both ponds have freeboard that varies from 3 to 5 feet, and sides are sloped one to three.

2. Evaporation Ponds

Wastewater from the NOWP is pumped to the south pond of two evaporation ponds, operated in tandem, and identified as the south evaporation pond (SEP) and the north evaporation pond (NEP). The incoming water to the ponds consists of 100,800 GPD of wastewater from the NOWP and another 3,300 GPD of estimated stormwater that enters the ponds directly.

The SEP and NEP have surface areas of 95,000 square feet and 123,000 square feet, respectively. They average about 8 feet deep with side slopes of about 1 to 3 feet. The ponds, which were installed in late 1977, are lined with bentonite clay that was disked and compacted into the top 8 inches of soil. Freeboard is maintained at two feet minimum. Runoff/Runon is controlled with dikes.

Results of monitoring at the refinery suggest that some seepage is occurring and is estimated at 14,400 GPD. This seepage will move slowly to the north in the down-dip direction of the contact between the cobble bed and the Nacimiento formation (see Section VIII, Site Characteristics). Any seepage will, therefore, appear as seeps along the contact between the Nacimiento Formation and the cobble bed where it is exposed at the cliff face north of the refinery and in the southward trending arroyos. These arroyos behave then as collector drains and will intercept and channelize any seepage from the refinery property. Additionally, seepage from the evaporation ponds will also encounter fresh Hammond Ditch water in the shallow subsurface. The Hammond Ditch water will serve to dilute any water seeping from the solar evaporation ponds thereby improving the overall water quality of any seepage. In addition, seepage that is collected during the non-irrigation season behind the ditch dikes is returned for effluent disposal as required.

Monitoring Well 1, located to the north and downgradient of the NEP, has been monitored semi-annually for selected parameters from WQCC Regulations 3-103. See Section VII, Facility Monitoring Plan, for additional details about the overall facility monitoring to include groundwater monitoring of the discharge system.

3. Land Application

Since December 1981, Bloomfield Refining Company has operated an area of about 10 acres east of the truck loading facility (see Attachment 2, Facility Drawings) for the disposal of wastewater through a spray irrigation system. In late 1986, the higher elevation, south end was terraced and leveled into two approximately 400-feet by 250-feet sections to decrease the runoff to the north, lower elevation section. The three irrigated areas are bermed to prevent surface drainage into adjacent sections or into nearby arroyos. Each section is spray-irrigated with a single sprinkler head. Each head is a 2 1/2-inch fire nozzle with a maximum spray rate of 250 GPM. An auxiliary diesel pump is used to recirculate ponded water to the sprayers.

Climatic conditions limit effective use of the spray irrigation to the period from March to October. The period from November through February is an inventory building period in the evaporation ponds. Critical pond levels have resulted in the need to stress the capacity of the spray irrigation area. Ponding and possibly excessive seepage through the soils underlying the spray irrigation area have occurred.

Seepage from the land application area will percolate downward to meet Hammond Ditch water in the cobble bed. The chemical quality of this water will be substantially improved by mixing with the high quality Hammond Ditch water. The groundwater will then flow to the north and probably be captured by the high transmissivity zone associated with the Nacimiento subcrop channel. The water would then tend to flow towards the west. Some seepage may also

occur in the immediate vicinity of the land application area.

In the land application area, there is no natural groundwater present. Any water in the deep-lying Ojo Alamo Sandstone beneath the impermeable Nacimiento Formation will be protected from any potential contamination for several reasons. First, the Nacimiento Formation is for all practical purposes impermeable. And, second, the hydraulic gradient is vertically upward which eliminates downward percolation to the Ojo Alamo formation.

Monitoring Well 5, located in the land application area, has been done semi-annually for selected parameters from WQCC Regulation 3-103. The proposed continued monitoring plan for this well is detailed in Section VII , Facility Monitoring Plan.

BRC believes there is no naturally occurring groundwater in the vicinity of the refinery which could be potentially contaminated by wastewater seepage from the effluent disposal system. This opinion is thoroughly discussed in the previous discharge plan application and other correspondence to the NM OCD. However, to alleviate the NM OCD concerns about ponding, seepage, and nitrate and high total dissolved solids (TDS) leaching, BRC is proposing a modification to the effluent disposal system.

B. Offsite Disposal

BRC does not currently send to an offsite disposer any effluent applicable under this plan. However, future considerations may be necessary for concentrated brine from evaporation ponds. The requirement for this disposal will be addressed as the need arises, and all applicable waste disposal regulations will be followed. Additionally, emergency requirements, such as for recovered Hammond Ditch water when ponds are at capacity, may necessitate offsite disposal.

C. Proposed Modifications

BRC has carefully evaluated modifications to the effluent disposal system that would ensure long-term compliance with the New Mexico Water Quality Control Commission Regulations. The evaluation concluded that the best long-term solution would be the installation of additional evaporative capacity. Specifically, BRC proposes to install properly designed, double-lined evaporation ponds at 5 acres each to be phased into service over a multi-year period.

1. Purpose

The purpose of the new evaporation ponds is to minimize the requirement for spray irrigation. The spray irrigation area usage will be decreased over the period of pond installation until it is only used for emergencies such as during excessive rainfall years and at application rates that preclude leaching concerns.

2. Design Basis

It is estimated that, in the future, 72,000 GPD (50 gpm) of water evaporation will be required downstream of the NEP. Conservative calculations based on an evaporation rate of 4 feet per acre per year show that this can be accomplished with an additional evaporative area of 20 acres. However, this total area can be reduced with enhanced evaporation via spraying, possibly reducing the number of required ponds. At a minimum, two will be required to allow for liner failure and repair and brine concentration. Sizes of 5 acres each (depth 7 feet including 2 feet of freeboard) are recommended to optimize maintenance and installation requirements.

3. Installation Schedule

The first 5-acre pond will be installed immediately subsequent to plan approval. The second pond will be installed in the summer of 1990. After evaluation of enhanced evaporation possibilities, operating results of existing ponds and the spray irrigation area, and other factors (including NM OCD input), a third pond could be installed in 1991. And likewise, a fourth pond could be installed in 1992.

4. Design Specification

The design will be at a minimum, in accordance with the "Guidelines for the Design and Construction of Lined Evaporation Pits" as published by the New Mexico Oil Conservation Division. Specific construction design details will be submitted and agreed upon before construction commences at which time they can become an addendum to this application if so required.

5. Location

The ponds will be built, as required, on existing BRC property to the east and southeast of the existing spray irrigation area. Preliminary engineering to determine feasibility, locations, and cut-and-fill requirements have been completed. See Attachment 2, Facility Drawings, for a drawing of proposed locations with noted order of construction.

VII. FACILITY MONITORING/REPORTING PLAN

A. Notificaiton of Fire, Breaks, Spills, Leaks, & Blowouts

BRC will follow the procedures of Rule 116 in the New Mexico Oil Conservation Commission Regulations in reporting fires, breaks, spills, leaks, and blowouts within the facility. In summary, major events requiring immediate notification to the District OCD Supervisor of breaks, spills or leaks of 25 or more barrels of crude, intermediates, or petroleum products will be followed up within ten days with a complete written report using prescribed NM OCD reporting forms. Minor events of 5 barrels or more but less than 25 of crude, intermediates, or petroleum products will only be subsequently notified with a written report due within 10 days of the incident.

B. Pond Liner Leak Detection Systems

All existing and future pond leak detection systems will be monitored on a weekly basis.

C. Effluent Disposal Groundwater Monitoring

Groundwater monitoring involves two activities at BRC. The first involves monitoring of the effluent disposal system for potential contamination being generated by the system, and the second involves cleanup of contaminated down gradient groundwater that was contaminated by past process related activities. Therefore, BRC proposes to split the monitoring requirements as described in this section and Section VII.D.

1. Monitoring Wells

Monitoring well 1, located to the north of the NEP, and monitoring well 5, located in the spray irrigation area, are proposed for the effluent disposal groundwater monitoring system. See Attachment 9 for additional monitoring well details.

2. Frequency of Sampling and Reporting

Semi-annual sampling in May and November is proposed. Reports will follow as soon as results are obtained from the laboratory, generally within a month.

3. Parameters to be Analyzed

Based on historical data, see Attachment 4, Analytical Data, BRC proposes to analyze for the following constituents:

Arsenic	Cobalt
Barium	Molybdenum
Cadmium	Nickel
Chromium	Fluoride
Lead	TDS

Selenium
Manganese
Chloride
Sulfate
Phenol
Cyanide
Nitrate as N
Water Level

Benzene
Toluene
1, 1, 1 Trichloroethane
Ethyl Benzene
1,2 Dichloroethane
Xylene
pH

D. Groundwater Remedial Action

The requirements for this part are currently under development. See Attachment 3 , Groundwater Remedial Action, for a summary of the current status and recommendation.

VIII. SITE CHARACTERISTICS

A. Hydrologic Features

1. San Juan River

The San Juan River is the only perennial stream in the vicinity of the refinery. Along the reach of the San Juan River in the vicinity of the refinery, the river is neither a gaining nor a losing stream. 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 Navajo Dam, and there is no danger of flooding of the refinery site by the San Juan River. The flow of the river is regulated to a minimum of 500 cfs.

2. Intermittent Stream Channels

Trending southward from the San Juan River are numerous intermittent stream channels which are incising their channels headward into the Jackson Lake Terrace. The erosion in these channels has laid bare the contact between the deposits of Quaternary age and the underlying Nacimiento Formation. Where the Quaternary material is saturated, small seeps or springs occur. The water feeding the seeps and springs in the vicinity of BRC is supplied almost entirely by seepage from the Hammond Ditch and bank storage created by seepage from Hammond Ditch.

3. Hammond Ditch

In addition to the San Juan River and the intermittent stream channels which traverse the area of interest, the Hammond Irrigation Ditch passes from east to west through the refinery property between the refinery and the San Juan River. The ditch passes through an inverted siphon beneath Sullivan Road on the east side of the property. The ditch is unlined in this section and is excavated into the Quaternary Jackson Lake Terrace deposits. The course of the ditch through the refinery property is shown on drawings included in Attachment 2.

The Hammond Ditch conveys water only during the irrigation season from mid-April to mid-October. Leakage from the ditch and into the cobble bed is significant. The valleys of nearly all intermittent stream channels which descend from the Jackson Lake Terrace south of the San Juan River are choked with trees, bullrushes, marsh grass, and other vegetation. The source of water which supports the vegetation is leakage through the bed of the Hammond Ditch. Photographs of these valleys were presented in the original discharge plan.

The Hammond Ditch is a man-made, constant-head, line-source of recharge to the cobble bed during the irrigation season. BRC believes that saturation of the cobble bed under portions of the refinery property is both created and localized by Hammond Ditch

seepage supplemented by stormwater seepage captured in facility dikes, seepage from the effluent discharge system, and seepage from the raw water ponds.

During the irrigation season, fresh Hammond Ditch water is stored in the ditch banks. When the ditch water is turned off, a return flow of bank storage, carrying some high TDS and hydrocarbon contaminated water, results. This return flow is controlled with dikes in the ditch to capture water that would otherwise move down the ditch channel. Disposition of this returned flow has been discussed previously in this application.

4. Groundwater Occurrence

Ground water is defined by section 1-101 (Y) of the New Mexico Water Quality Control Regulations as: ". . . interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply." Based upon this definition, there is no groundwater in the vicinity of the refinery which could be affected by any discharge from the refinery because water in the cobble bed above the Nacimiento Formation does not fall within the definition. Furthermore, the Nacimiento Formation is impermeable and about 500 feet thick which precludes shallow water from entering the deep Ojo Alamo Sandstone or any other deeper aquifers as defined by the Regulations.

However, BRC does recognize, as a result of exhaustive hydrogeologic studies completed during the period of the current discharge permit, that mobilization of hydrocarbon contamination in the soils of the area has occurred because of the primary impetus of the Hammond Ditch water. This groundwater, although flowing within an area where the background conditions were contaminated prior to the promulgation of the New Mexico Water Quality Control Regulations, is being remediated (see Attachment 3 , Groundwater Remediation).

B. Groundwater Data

Groundwater analytical data is provided in Attachment 4.

C. Geologic Description

The refinery is located on the Jackson Lake Terrace of the San Juan River (Pastuzak, 1968) about 120 feet above the present river level and about 500 feet from the river. 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. At that time the San Juan River was swollen with meltwater and carried great quantities of glaciofluvial outwash. In former times, the valley floor was three to five miles wide.

During the last glacial retreat, wind-blown sand and silt from the floodplains settled over the coarse clastics to form structureless loess deposits.

The terrace deposits on which the refinery is situated are comprised of about 15 feet of cobbles and gravels overlying the Nacimiento Formation of Tertiary Age. The cobble bed is overlain by about 20 feet of fine-grained, wind-blown silt and sand. South of the refinery, the cobble bed wedges out leaving only loess in overlying contact with the Nacimiento Formation. As far as can be determined, the Pleistocene cobble bed occurs everywhere beneath the refinery. Lithologic logs for monitoring wells drilled in and about the facility are given in Attachment 9.

The Nacimiento Formation is a massively bedded, olive green, unctuous clay. The clay at the outcrop is a tight, unfractured rock unit. As measured in nearby oil wells, the Nacimiento Formation is about 500 feet thick. At least 100 feet of this rock unit are exposed in the cliff face north of the refinery and adjacent to the San Juan River.

The morphology of the contact between the Quaternary cobble and silt of the Jackson Lake Terrace in the vicinity of the refinery and the underlying Nacimiento Formation is important in that it will influence control over the direction of groundwater flow. This morphology was evaluated with the last discharge plan renewal.

The evaluation suggested that there existed an almost east-west trending depression in the Nacimiento subcrop surface which trends eastward from the precipice northwest of the refinery property towards the SEP and NEP. At the SEP and NEP, the depression seems to branch to the north in a much narrower depression. Though there is not much control to this surface within the refinery property, the existence of the depression is consistent with the occurrence of seeps along the face of the precipice as though this is the natural discharge zone for most shallow water beneath the refinery and that the depression serves as a master French drain from most of the refinery property. Similarly, the depression which trends northward from the solar evaporation ponds has associated with it several small seeps in one of the southward-trending incised intermittent stream channels.

D. Flood Potential

The control of surface runoff and flooding potential at the facility is thoroughly evaluated in the previous discharge plan renewal application, and the conclusions remain valid. For the evaluation, the facility was divided into three areas consisting of the area north of the refinery, the area south of the refinery, and the on-site area. Some of the major conclusions are:

1. The ditches along Sullivan Road will handle 100-year flood runoff of the area south of the refinery.

2. Refinery berms will self-contain on-site flood water.
3. The 100-year 24-hour rainfall is only 2.6 inches; therefore, the integrity of the berms will not be endangered.
4. Natural precipitation on the peripheral refinery property would essentially pass through undisturbed areas in which no refinery wastes are stored.
5. Natural precipitation in process units will be controlled by stormwater sewers.
6. Flooding of the San Juan River will not affect the 100-foot higher facility.
7. Spills that might contact rainfall and surface runoff are cleaned up promptly so that they will not pose a threat of contamination to any rainfall and attendant runoff.

In addition, future effluent discharge facilities will be carefully evaluated to be protected from potential flooding.

IX. ADDITIONAL INFORMATION

A. Raw Water Ponds

The refinery obtains its water from the San Juan River. The raw water is pumped directly to two raw-water holding ponds located on the northwest part of the property. Although these ponds, 20,000 square feet and 15,000 square feet respectively, are unlined and seep, the seepage is exempt from the requirements of a discharge plan because the seepage is normal, untreated San Juan River water.

Attachment 1

Material Safety Data Sheets



MATERIAL SAFETY DATA SHEET

PRODUCT TRANSPORT-PLUS 7200

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: TRANSPORT-PLUS 7200

DESCRIPTION: An aqueous solution of an acrylamide/acrylate polymer, a modified acrylate polymer and a carboxylate

NFPA 704M RATING 1 HEALTH 1 FLAMMABILITY 0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation of the ingredient(s) under OSHA's Hazard Communication Rule, 29 CFR 1910.1200 has found none of the ingredient(s) hazardous.

SECTION 3 PRECAUTIONARY LABEL INFORMATION

CAUTION: May cause irritation to skin and eyes. Avoid contact with skin, eyes, and clothing. Avoid prolonged or repeated breathing of vapor. Use with adequate ventilation. Do not take internally.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

SECTION 4 FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.
SKIN: Flush with water for 15 minutes.
INGESTION: Do not induce vomiting. Give water. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: May cause irritation with prolonged contact.
SKIN CONTACT: May cause irritation with prolonged contact.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure.



MATERIAL SAFETY DATA SHEET

PRODUCT TRANSPORT-PLUS 7200

Emergency Telephone Number
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SECTION 5 HEALTH EFFECTS INFORMATION (CONTINUED)

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: No toxicity studies have been conducted on this product.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Light yellow	FORM: Liquid	ODOR: Ammoniacal
DENSITY:	9.7 lbs/gal.	
SOLUBILITY IN WATER:	Completely	
pH (NEAT) =	10.2	pH (at 1%) 8.8
VISCOSITY:	55 cps @ 77 Degrees F	ASTM D-2983
FREEZE POINT:	26 Degrees F	ASTM D-1177
BOILING POINT:	207 Degrees F @ 760 mm Hg	ASTM D-86
FLASH POINT:	None (PMCC)	ASTM D-93
VAPOR PRESSURE (torr):	16 @ 32 Degrees F	ASTM D-323
	28 @ 50 Degrees F	ASTM D-323
	103 @ 100 Degrees F	ASTM D-323

NOTE: These physical properties are typical values for this product.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None (PMCC) ASTM D-93

EXTINGUISHING MEDIA: This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use water to cool containers exposed to fire.

UNUSUAL FIRE AND EXPLOSION HAZARD: If the water is driven off, the remaining organics may be ignitable.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: None known

Avoid contact with strong acids (eg. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) which can generate heat, splattering or boiling and the release of toxic fumes.



MATERIAL SAFETY DATA SHEET

PRODUCT TRANSPORT-PLUS 7200

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 9 REACTIVITY INFORMATION

(CONTINUED)

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO₂, NO_x, SO_x may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection is not normally needed since the volatility and toxicity are low. If significant vapors, mists or aerosols are generated, wear a NIOSH approved or equivalent respirator, (ANSI Z 88.2, 1980 for requirements and selection).

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Use impermeable gloves and chemical splash goggles (ANSI Z 87.1 requirements and selection of gloves, goggles, shoes, etc.) when attaching feeding equipment or doing maintenance.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (312-920-1510)

SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

DISPOSAL: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, (i.e. D001 through D017) nor is it listed under Subpart D.



MATERIAL SAFETY DATA SHEET

PRODUCT TRANSPORT-PLUS 7200

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 11 SPILL AND DISPOSAL INFORMATION

(CONTINUED)

As a non-hazardous liquid waste, it should be solidified before disposal to a sanitary landfill. Can be incinerated in accordance with local, state and federal regulations.

SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA:

96 hour static acute LC₅₀ to Bluegill Sunfish = 470 ppm
48 hour static acute LC₅₀ to Bluegill Sunfish = 750 ppm
24 hour static acute LC₅₀ to Bluegill Sunfish = 750 ppm

96 hour no observed effect concentration is 100 ppm based on no mortality or abnormal effects.

96 hour static acute LC₅₀ to Rainbow Trout = 490 ppm
48 hour static acute LC₅₀ to Rainbow Trout = 640 ppm
24 hour static acute LC₅₀ to Rainbow Trout = 700 ppm

96 hour no observed effect concentration is 320 ppm based on no mortality or abnormal effects.

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - PRODUCT IS NOT REGULATED
DURING TRANSPORTATION

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE 29 CFR 1910.1200:
Based on our hazard evaluation, none of the ingredients in this product are hazardous.

CERCLA, 40 CFR 117, 302:
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986
(TITLE III) - SECTIONS 302, 311, 312 AND 313:



MATERIAL SAFETY DATA SHEET

PRODUCT TRANSPORT-PLUS 7200

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

Under Section 311, submittal of MSDS's or a list of product names to the local emergency planning commission, state emergency response commission and local fire department is required after October 17, 1987 if you have:

- 10,000 pounds or more of a hazardous substance, or
- 500 pounds or the threshold planning quantity, whichever is less, of an extremely hazardous substance.

After October 17, 1989, MSDS(s), or a list of product names for all hazardous substances between zero (0) and 10,000 pounds, not previously reported, must be submitted.

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):
This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):
This product contains sodium sulfate, which appear(s) on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):
The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

FOOD AND DRUG ADMINISTRATION (FDA):
Federal Food, Drug and Cosmetic Act:
Cannot be used as a FDA boiler water additive.

U. S. DEPARTMENT OF AGRICULTURE (USDA):
USDA Inspection and Grading Programs - Food Safety and Inspection Service:
Cannot be used in USDA plants.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
If this product becomes a waste, it does not meet the criteria of a hazardous waste.



MATERIAL SAFETY DATA SHEET

PRODUCT **TRANSPORT-PLUS 7200**

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):
None of the ingredients are specifically listed.

CLEAN AIR ACT, 40 CFR 60, Section 111, 40 CFR 61, Section 112:
This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

This product complies with the MSDS and labeling requirements of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

MICHIGAN CRITICAL MATERIALS:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:

This product does not contain ingredients listed by State Right To Know Laws.

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

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MATERIAL SAFETY DATA SHEET

PRODUCT TRANSPORT-PLUS 7200

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

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THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

PREPARED BY: John J. Kasper, MSc., Manager Product Safety

DATE CHANGED: 01/14/88

DATE PRINTED: 02/03/88



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 19 PULV OXYGEN SCAVENGER

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 19 PULV OXYGEN SCAVENGER

DESCRIPTION: A blend of sodium metabisulfite, sodium sulfite and cobalt sulfate

NFPA 704M RATING 1 HEALTH 0 FLAMMABILITY 0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX.%	*
Sodium metabisulfite	7681-57-4	1-10	*

SECTION 3 PRECAUTIONARY LABEL INFORMATION

CAUTION: May cause irritation to skin and eyes. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Avoid breathing dust. Do not take internally.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

SECTION 4 FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.
SKIN: Flush with water for 15 minutes.
INGESTION: Induce vomiting. Give water. Call a physician.
INHALATION: Remove to fresh air. Treat symptoms. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin, Inhalation



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 19 PULV OXYGEN SCAVENGER

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 5 HEALTH EFFECTS INFORMATION (CONTINUED)

EYE CONTACT: Can cause transient irritation.
SKIN CONTACT: May cause irritation with prolonged contact.
INGESTION: Can be harmful.
INHALATION: May cause irritation to the respiratory tract and lungs.

SYMPTOMS OF EXPOSURE: Sodium sulfite. Ingestion is believed to cause an asthmatic, allergic reaction in susceptible individuals.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have not been conducted on this product, but toxicity studies of the ingredient(s) in Section 2 have been reviewed. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS):
Sodium bisulfite LD₅₀ = 2,000 mg/kg

OTHER TOXICITY RESULTS: Sodium bisulfite. Intraperitoneal LD₅₀ (rat) = 650 mg/kg

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Tan/grey FORM: Powder ODOR: Sweet
BULK DENSITY: 90 lbs/ft³
SOLUBILITY IN WATER: Completely
pH (AT 5%) = 7.6 - 8.2 ASTM E-70
FLASH POINT: None

NOTE: These physical properties are typical values for this product.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None

EXTINGUISHING MEDIA: Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve SO_x under fire conditions.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 19 PULV OXYGEN SCAVENGER

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

Avoid contact with strong acids (eg. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) which can generate heat, splattering or boiling and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion SOx may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection not normally needed. If significant dusting occurs, wear a NIOSH approved or equivalent dust respirator, (ANSI Z 88.2, 1980 for requirements and selection).

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.

VENTILATION: If significant dusting occurs, local exhaust ventilation is recommended.

PROTECTIVE EQUIPMENT: No special precautions. Avoid eye and skin contact, and inhalation of dust.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (312-920-1510)

SPILL CONTROL AND RECOVERY:

Solid spills: Sweep or vacuum up and reclaim into recovery or salvage drums for disposal. Wear the protective equipment specified in Section 10. Refer to CERCLA in Section 14.

DISPOSAL: If this product becomes a waste, it does not meet the

MATERIAL SAFETY DATA SHEET



PRODUCT NALCO 19 PULV OXYGEN SCAVENGER

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 11 SPILL AND DISPOSAL INFORMATION (CONTINUED)

criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, (i.e. D001 through D017) nor is it listed under Subpart D. *

As a non-hazardous solid waste, it can be disposed of in a sanitary landfill in accordance with local, state and federal regulations. *

SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA: *

96 hour static acute LC₅₀ to Bluegill Sunfish = Greater than 10 ppm, less than 100 ppm (1% solution) *

96 hour static acute LC₅₀ to Rainbow Trout = Greater than 100 ppm (1% solution) *

If released into the environment, see CERCLA in Section 14. *

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - PRODUCT IS NOT REGULATED DURING TRANSPORTATION *

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product. *

FEDERAL REGULATIONS: *

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200: Based on our hazard evaluation, the following ingredient in this product is hazardous and the reason is shown below. *

Sodium metabisulfite = TWA 5 mg/m³ ACGIH TLV *

CERCLA, 40 CFR 117, 302: Notification of spills of this product is not required. *

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312 AND 313: *

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): *



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 19 PULV OXYGEN SCAVENGE

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION (CONTINUED)

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance. *

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories: *

- XX Immediate (acute) health hazard
-- Delayed (chronic) health hazard
-- Fire hazard
-- Sudden release of pressure hazard
-- Reactive hazard *

Under Section 311, submittal of MSDS's or a list of product names to the local emergency planning commission, state emergency response commission and local fire department is required after October 17, 1987 if you have:
- 10,000 pounds or more of a hazardous substance, or
- 500 pounds or the threshold planning quantity, whichever is less, of an extremely hazardous substance. *

After October 17, 1989, MSDS(s), or a list of product names for all hazardous substances between zero (0) and 10,000 pounds, not previously reported, must be submitted. *

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):
This product does not contain ingredients (at a level of 1% or greater) on the List of Toxic Chemicals. *

TOXIC SUBSTANCES CONTROL ACT (TSCA):
The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710). *

FOOD AND DRUG ADMINISTRATION (FDA):
Federal Food, Drug and Cosmetic Act:
When use situations necessitate compliance with FDA regulations, this product is acceptable under 21 CFR 173.310 Boiler Water Additive. *

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
If this product becomes a waste, it does not meet the criteria of a *



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 19 PULV OXYGEN SCAVENGER

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

hazardous waste. *

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15
(formerly Sec. 307), 40 CFR 116 (formerly Sec. 311): *

None of the ingredients are specifically listed. *

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112: *

This product does not contain ingredients covered by the Clean Air Act. *

STATE REGULATIONS: *

MICHIGAN CRITICAL MATERIALS: *

This product contains the following substance(s) identified on the
Michigan Critical Materials Register: *

Cobalt sulfate *

STATE RIGHT TO KNOW LAWS: *

Regulated in those states using the TLV for sodium metabisulfite as a
criteria for listing. *

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

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MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 19 PULV OXYGEN SCAVENGER

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

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THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

Information on this MSDS has changed. The changes are indicated by asterisks on the right side of only the changed sections. This is an updated MSDS as required by OSHA's Hazard Communication Rule 29 CFR 1910.1200.

PREPARED BY: John J. Kasper, MSc., Manager Product Safety
DATE CHANGED: 01/20/88 DATE PRINTED: 01/23/88



MATERIAL SAFETY DATA SHEET

PRODUCT

TRI-ACT 1802 INHIBITOR

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: TRI-ACT 1802 INHIBITOR

DESCRIPTION: An aqueous solution of amines

NFPA 704M/HMIS RATING: 3/3 HEALTH 2/2 FLAMMABILITY 0/0 REACTIVITY 0 OTHER

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX.%
Ethoxylated amine	61790-85-0	1-10
Methoxypropylamine	5332-73-0	10-20
Ethanolamine	141-43-5	10-20
Cyclohexylamine	108-91-8	10-20

SECTION 3 PRECAUTIONARY LABEL INFORMATION

DANGER: Corrosive to tissue. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield when handling. Avoid breathing of vapor. Use with adequate ventilation. Do not take internally. Keep away from heat and open flame. Keep container closed when not in use.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

SECTION 4 FIRST AID INFORMATION

EYES: Immediately flush for at least 15 minutes while holding eyelids open. Call a physician at once.

SKIN: Immediately flush with water for at least 15 minutes. For a large splash, flood body under a shower. Call a physician at once.

INGESTION: Do not induce vomiting. Give water. Call a physician at once.

INHALATION: Remove to fresh air. Treat symptoms. Call a physician at once.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.



MATERIAL SAFETY DATA SHEET

PRODUCT
TRI-ACT 1802 INHIBITOR

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 4 FIRST AID INFORMATION

(CONTINUED)

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed.

SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin, Inhalation

EYE CONTACT: Corrosive to the eyes with possible permanent damage depending on the length of exposure and on the first aid action given.

SKIN CONTACT: Corrosive to the skin, possibly resulting in third degree burns depending on the length of exposure and on the first aid action given. Can cause allergic contact dermatitis in susceptible individuals.

INGESTION: Can be harmful.

INHALATION: Can be corrosive to the mucous membranes and the lungs. Can cause an allergic reaction in susceptible individuals.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have not been conducted on this product, but toxicity studies of the ingredient(s) in Section 2 have been reviewed. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS):
Cyclohexylamine LD₅₀ = 156 mg/kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS):
Cyclohexylamine LD₅₀ = 320 mg/kg

ACUTE INHALATION TOXICITY (ALBINO RATS):
Cyclohexylamine LC₅₀ = 8,000 ppm (4-hours)



MATERIAL SAFETY DATA SHEET

PRODUCT

TRI-ACT 1802 INHIBITOR

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 6 TOXICOLOGY INFORMATION

(CONTINUED)

SKIN SENSITIZATION: Cyclohexylamine can cause sensitization in susceptible individuals.

OTHER TOXICITY RESULTS: A battery of tests, including Ames tests, sister chromatid, exchange cell transformation, mouse lymphoma and rat hepatocyte/DNA repair provided inconclusive results for cyclohexylamine.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Gold	FORM: Liquid	ODOR: Amine
DENSITY:	8.0 lbs/gal.	
SOLUBILITY IN WATER:	Completely	
SPECIFIC GRAVITY:	0.96 @ 77 Degrees F	ASTM D-1298
pH (NEAT) =	13.3	pH (at 1%) = 10.9
VISCOSITY:	7 cps @ 77 Degrees F	ASTM D-2983
FREEZE POINT:	-16 Degrees F	ASTM D-1177
FLASH POINT:	135 Degrees F (PMCC)	ASTM D-93

NOTE: These physical properties are typical values for this product.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: 135 Degrees F (PMCC) ASTM D-93

EXTINGUISHING MEDIA: Based on the NFPA guide, use dry chemical, alcohol foam, carbon dioxide or ther extinguishing agent suitable for Class B fires. Use water to cool containters exposed to fire. For large fires, use water spray or fog, thoroughly drenching the burning material.

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve NOx under fire conditions.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: N-nitrosamines, many are cancer causing agents to laboratory animals, may be formed when certain amines are mixed with nitrous acid, organic or inorganic nitrites or atmospheres with high nitrous oxide concentrations.

Avoid contact with strong acids (eg. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) which can generate heat, splattering or boiling and the release of toxic fumes.



MATERIAL SAFETY DATA SHEET

PRODUCT
TRI-ACT 1802 INHIBITOR

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 9 REACTIVITY INFORMATION

(CONTINUED)

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO₂, NO_x may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: If it is possible to generate significant levels of vapors or mists, a NIOSH approved or equivalent amine cartridge respirator is recommended.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended. Additionally, local exhaust ventilation is recommended where vapors, mists or aerosols may be released.

PROTECTIVE EQUIPMENT: Wear gloves, boots, apron and a face shield with chemical splash goggles (ANSI Z 87.1 requirements and selection of gloves, goggles, shoes, etc.). A full slicker suit is recommended if gross exposure is possible.

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (312-920-1510)

SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA



MATERIAL SAFETY DATA SHEET

PRODUCT TRI-ACT 1802 INHIBITOR

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 11 SPILL AND DISPOSAL INFORMATION

(CONTINUED)

in Section 14.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 10.

Keep the spill away from heat, sparks, flames and welding operations. Ventilate area and evacuate employees from exposure if the airborne concentration exceeds the TLV. Refer to Section 14.

DISPOSAL: If this product becomes a waste, it meets the criteria of a hazardous waste as defined under the Resources Conservation and Recovery Act (RCRA) 40 CFR 261. Hazardous Waste D001, D002.

As a hazardous liquid waste, it must be solidified before disposal in a landfill (Hazardous Waste Treatment, Storage and Disposal facility). Can be incinerated in accordance with local, state and federal regulations.

SECTION 12 ENVIRONMENTAL INFORMATION

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - CORROSIVE LIQUID, N.O.S. UN 1760
CONTAINS - CYCLOHEXYLAMINE

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:
Based on our hazard evaluation, the following ingredients in this product are hazardous and the reasons are shown below.

Ethoxylated amine - Corrosive, combustible
Cyclohexylamine - Corrosive, combustible
Methoxypropylamine - Corrosive, combustible
Ethanolamine - Corrosive, combustible

Cyclohexylamine = TWA 10 ppm, 40 mg/m³ (skin) ACGIH/TLV



MATERIAL SAFETY DATA SHEET

PRODUCT
TRI-ACT 1802 INHIBITOR

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

Ethanolamine = TWA 3 ppm, STEL 6 ppm ACGIH/TLV
8 mg/m³, 15 mg/m³ ACGIH/TLV

Ethanolamine = PEL 3 ppm, 6 mg/m³ OSHA/TLV

Methoxypropylamine = TWA 10 ppm, 20 ppm (15 min. exposure) TLV
WEEL Guidelines

CERCLA/SUPERFUND, 40 CFR 117, 302:
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986
(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):
This product contains cyclohexylamine, which is listed in
Appendix A and B as an Extremely Hazardous Substance. The
statutory threshold planning quantity for this substance is
,000 pounds.

A release of 10 pounds of product will require a notification
to your State Emergency Response Commission.

You may also be required to notify the NATIONAL RESPONSE CENTER
- See CERCLA/SUPERFUND, above.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS
(40 CFR 370):

Our hazard evaluation has found this product to be hazardous.
The product should be reported under the following EPA hazard
categories:

XX Immediate (acute) health hazard
-- Delayed (chronic) health hazard
XX Fire hazard
-- Sudden release of pressure hazard
-- Reactive hazard

Under Section 311, submittal of MSDS's or a list of product
names to the local emergency planning commission, state
emergency response commission and local fire department is
required after October 17, 1987 if you have:

- 10,000 pounds or more of a hazardous substance, or



MATERIAL SAFETY DATA SHEET

PRODUCT

TRI-ACT 1802 INHIBITOR

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

- 500 pounds or the threshold planning quantity, whichever is less, of an extremely hazardous substance.

After October 17, 1989, MSDS(s), or a list of product names for all hazardous substances between zero (0) and 10,000 pounds, not previously reported, must be submitted.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product does not contain ingredients (at a level of 1% or greater) on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:

If this product becomes a waste, it does meet the criteria of a hazardous waste as defined under RCRA 40 CFR 261 (consult Section 11).

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):

None of the ingredients are specifically listed.

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:

This product contains the following ingredients covered by the Clean Air Act:

Ethanolamine - Section 111

Cyclohexylamine - Section 111

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

This product complies with the MSDS and labeling requirements of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

MICHIGAN CRITICAL MATERIALS:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:

Regulated in those states using the TLV for cyclohexylamine,



MATERIAL SAFETY DATA SHEET

PRODUCT

TRI-ACT 1802 INHIBITOR

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

ethanolamine and methoxypropylamine as a criteria for listing.

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

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MATERIAL SAFETY DATA SHEET



PRODUCT

TRI-ACT 1802 INHIBITOR

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

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THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

PREPARED BY: John J. Kasper, MSc., Manager Product Safety

DATE CHANGED: 01/20/88

DATE PRINTED: 09/10/88



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 8302 DISPERSANT

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 8302 DISPERSANT

DESCRIPTION: An aqueous solution of a substituted carboxylate, a substituted triazole and a acrylate polymer

NFPA 704M RATING 1 HEALTH 0 FLAMMABILITY 0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX.%
Sodium hydroxide	1310-73-2	1-10

SECTION 3 PRECAUTIONARY LABEL INFORMATION

WARNING: Causes irritation to skin and eyes. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield when handling. Avoid prolonged or repeated breathing of vapor. Use with adequate ventilation. Do not take internally. Keep container closed when not in use.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

SECTION 4 FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.
SKIN: Flush with water for 15 minutes.
INGESTION: Do not induce vomiting. Give water. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

MATERIAL SAFETY DATA SHEET



PRODUCT NALCO 8302 DISPERSANT

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 5 HEALTH EFFECTS INFORMATION

(CONTINUED)

EYE CONTACT: Can cause moderate irritation.
SKIN CONTACT: Can cause moderate irritation.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have been conducted on this product. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS): LD₅₀ = Greater than 5,000 mg/kg

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):
SKIN IRRITATION INDEX DRAIZE RATING: 1.28/8.0 Slightly irritating

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):
EYE IRRITATION INDEX DRAIZE RATING: 23.0/110.0 Moderately irritating

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Amber	FORM: Liquid	ODOR: None
DENSITY:	91 lbs/gal.	
SOLUBILITY IN WATER:	Completely	
SPECIFIC GRAVITY:	1.09 @ 62 Degrees F	ASTM D-1298
pH (NEAT) =	13.2	ASTM E-70
VISCOSITY:	10 cps @ 60 Degrees F	ASTM D-2983
FREEZE POINT:	24 Degrees F	ASTM D-1177
FLASH POINT:	Greater than 210 Degrees F (PMCC)	ASTM D-93

NOTE: These physical properties are typical values for this product.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: Greater than 210 Degrees F (PMCC) ASTM D-93

EXTINGUISHING MEDIA: Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve NOx under fire conditions.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 8302 DISPERSANT

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid contact with strong acids (eg. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) which can generate heat, splattering or boiling and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO₂, NOx may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection is not normally needed since the volatility and toxicity are low. If significant aerosols are generated, wear a NIOSH approved or equivalent respirator, (ANSI Z 88.2, 1980 for requirements and selection).

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Wear gloves, boots, apron and a face shield with chemical splash goggles (ANSI Z 87.1 requirements and selection of gloves, goggles, shoes, etc.). A full slicker suit is recommended if gross exposure is possible.

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (312-920-1510)

SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 8302 DISPERSANT

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 11 SPILL AND DISPOSAL INFORMATION

(CONTINUED)

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

DISPOSAL: If this product becomes a waste, it meets the criteria of a hazardous waste as defined under the Resources Conservation and Recovery Act (RCRA) 40 CFR 261. Hazardous Waste D002.

As a hazardous liquid waste, it must be solidified before disposal in a landfill (Hazardous Waste Treatment, Storage and Disposal facility). Can be deep-well injected in accordance with local, state and federal regulations.

SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA:

96 hour static acute LC₅₀ to Bluegill Sunfish = Greater than 1,000 ppm

48 hour static acute LC₅₀ to Bluegill Sunfish = Greater than 1,000 ppm

24 hour static acute LC₅₀ to Bluegill Sunfish = Greater than 1,000 ppm

96 hour no observed effect concentration is estimated at 1,000 ppm based on no mortality or abnormal effects.

96 hour static acute LC₅₀ to Rainbow Trout = 710 ppm

48 hour static acute LC₅₀ to Rainbow Trout = 760 ppm

24 hour static acute LC₅₀ to Rainbow Trout = 800 ppm

95% Confidence Limit of 96 hour LC₅₀ = 500 - 1,000 ppm

96 hour no observed effect concentration is estimated at 125 ppm based on no mortality or abnormal effects.

OTHER STUDIES:

48 hour static acute median lethal concentration to Daphnia Magna = Greater than 1,000 ppm

48 hour no observed effect concentration is 1,000 ppm based on no mortality or abnormal effects.

If released into the environment, see CERCLA in Section 14.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 8302 DISPERSANT

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - ORM-B, N.O.S. NA 1760
CONTAINS - SODIUM HYDROXIDE

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:
Based on our hazard evaluation, the following ingredient in this product is hazardous and the reason is shown below.

Sodium hydroxide - Irritant

Sodium hydroxide = TWA 2 mg/m³ (ceiling) ACGIH/TLV

CERCLA/SUPERFUND, 40 CFR 117, 302:

This product contains sodium hydroxide, a Reportable Quantity (RQ) substance and if 69,000 pounds of product are released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D. C. (1-800-424-8802).

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312 AND 313:

Under Section 311, submittal of MSDS's or a list of product names to the local emergency planning commission, state emergency response commission and local fire department is required after October 17, 1987 if you have:

- 10,000 pounds or more of a hazardous substance, or
- 500 pounds or the threshold planning quantity, whichever is less, of an extremely hazardous substance.

After October 17, 1989, MSDS(s), or a list of product names for all hazardous substances between zero (0) and 10,000 pounds, not previously reported, must be submitted.

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

MATERIAL SAFETY DATA SHEET



PRODUCT NALCO 8302 DISPERSANT

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

- XX Immediate (acute) health hazard
- Delayed (chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product contains sodium hydroxide, which appear(s) on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

U. S. DEPARTMENT OF AGRICULTURE (USDA):

USDA Inspection and Grading Programs - Food Safety and Inspection Service:

This product is authorized by USDA for use in federally inspected meat and poultry plants. Authorized use is under category G7.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:

If this product becomes a waste, it does meet the criteria of a hazardous waste as defined under RCRA 40 CFR 261 (consult Section 11).

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):

This product contains the following ingredient(s) covered by the Clean Water Act:

Sodium hydroxide - Section 311

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:

This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 8302 DISPERSANT

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

This product complies with the MSDS and labeling requirements of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

MICHIGAN CRITICAL MATERIALS:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:

Regulated in those states using the TLV for sodium hydroxide as a criteria for listing.

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

ANNUAL REPORT ON CARCINOGENS, U.S. Department of Health and Human Services, Public Health Service, PB 33-135855, 1983.

CASARETT AND DOULL'S TOXICOLOGY, THE BASIC SCIENCE OF POISONS, Doull, J., Klaassen, C. D., and Admur, M. O., eds., Macmillian Publishing Company, Inc., N. Y., 2nd edition, 1980.

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DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, Sax, N. Irving, ed., Van Nostrand Reinhold Company, N.Y., 6th edition, 1984.

IARC MONOGRAPHS ON THE EVALUATION OF THE CARCINOGENIC RISK OF CHEMICALS TO MAN, Geneva: World Health Organization, International Agency for Research on Cancer, 1972-1977.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 8302 DISPERSANT

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 17 BIBLIOGRAPHY

(CONTINUED)

PATTY'S INDUSTRIAL HYGIENE AND TOXICOLOGY, Clayton, G. D., Clayton, F. E., eds., John Wiley and Sons, N. Y., 3rd edition, Vol. 2 A-C, 1981.

REGISTRY OF TOXIC EFFECTS ON CHEMICAL SUBSTANCES, U.S. Department of Health and Human Services, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1983 supplement of 1981-1982 edition, Vol. 1-3, OH, 1984.

Title 29 Code of Federal Regulations Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

PREPARED BY: John J. Kasper, MSc., Manager Product Safety
DATE CHANGED: 01/15/88 DATE PRINTED: 02/03/88



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO A-Z-LITE 7356

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO A-Z-LITE 7356

DESCRIPTION: An aqueous solution of a zinc salt, a substituted carboxylic acid and phosphoric acid

NFPA 704M RATING 1 HEALTH 0 FLAMMABILITY 0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX.%
Phosphoric acid	7664-38-2	1-10
Zinc chloride	7646-85-7	1-10

SECTION 3 PRECAUTIONARY LABEL INFORMATION

WARNING: Causes irritation to skin and eyes. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield when handling. Avoid prolonged or repeated breathing of vapor. Use with adequate ventilation. Do not take internally. Keep container closed when not in use.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

SECTION 4 FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.
SKIN: Flush with water for 15 minutes.
INGESTION: Do not induce vomiting. Give water. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO A-2-LITE 7356

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: Can cause transient, minimal irritation.

SKIN CONTACT: Can cause transient, minimal irritation.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have been conducted on this product. The results are shown below.

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):

SKIN IRRITATION INDEX DRAIZE RATING: 1.6/8.0 Minimally irritating

COMMENTS: Redness and swelling we noted immediately upon removal of the occlusive dressing. At 24 hours, three of the six rabbits still exhibited redness. This redness slowly subsided so that by day seven all rabbits had returned to normal.

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):

EYE IRRITATION INDEX DRAIZE RATING: 13/110.0 Minimally irritating

COMMENTS: No corneal opacity was noted at any scoring interval. Slight iritis was observed on days 1, 2 and 3 in two of six animals. This cleared by day seven. Moderate to severe conjunctival irritation was noted among all six rabbits. By day seven all but one rabbit had returned to normal.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Colorless	FORM: Liquid	ODOR: None
DENSITY: 9.2 lbs/gal.		
SOLUBILITY IN WATER: Completely		
SPECIFIC GRAVITY: 1.1 @ 60 Degrees F		ASTM D-1298
pH (NEAT) = 0.7		ASTM E-70
VISCOSITY: 4 cps @ 60 Degrees F		ASTM D-2983
FREEZE POINT: 20 Degrees F		ASTM D-1177
BOILING POINT: 210 Degrees F @ 760 mm Hg		ASTM D-86
FLASH POINT: None (PMCC)		ASTM D-93

MATERIAL SAFETY DATA SHEET



PRODUCT NALCO A-Z-LITE 7356

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

(CONTINUED)

NOTE: These physical properties are typical values for this product.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None (PMCC) ASTM D-93

EXTINGUISHING MEDIA: Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARD: Contact with reactive metals (eg. aluminum) may result in the generation of flammable hydrogen gas.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid alkaline materials (eg. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanides, sulfides, hypochlorites, chlorites) which can generate heat with splattering or boiling and the release of toxic fumes.

Avoid contact with aluminum. Corrosive to aluminum.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO₂ may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: If it is possible to generate significant levels of vapors or mists, a NIOSH approved or equivalent acid gas cartridge respirator is recommended.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Use impermeable gloves and chemical splash goggles (ANSI Z 87.1 requirements and selection of gloves, goggles, shoes, etc.) when attaching feeding equipment or doing maintenance.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO A-E-LITE 735E

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (312-920-1510)

SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 10.

DISPOSAL: If this product becomes a waste, it meets the criteria of a hazardous waste as defined under the Resources Conservation and Recovery Act (RCRA) 40 CFR 261. Hazardous Waste D002.

As a hazardous liquid waste, it must be solidified before disposal in a landfill (Hazardous Waste Treatment, Storage and Disposal facility). Can be deep-well injected in accordance with local, state and federal regulations.

SECTION 12 ENVIRONMENTAL INFORMATION

AQUATIC DATA:

96 hour static acute LC₅₀ to Bluegill Sunfish = 700 ppm
48 hour static acute LC₅₀ to Bluegill Sunfish = 700 ppm
24 hour static acute LC₅₀ to Bluegill Sunfish = 750 ppm

96 hour no observed effect concentration is 180 ppm based on no mortality or abnormal effects.

TOXICITY RATING: Slightly toxic

96 hour static acute LC₅₀ to Rainbow Trout = 8.7 ppm
48 hour static acute LC₅₀ to Rainbow Trout = Greater than 20 ppm
24 hour static acute LC₅₀ to Rainbow Trout = 14 ppm

MATERIAL SAFETY DATA SHEET



PRODUCT NALCO A-Z-LITE 7356

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 12 ENVIRONMENTAL INFORMATION

(CONTINUED)

96 hour no observed effect concentration is 2.5 ppm based on no mortality or abnormal effects.

TOXICITY RATING: Toxic

COMMENTS: For Rainbow Trout, the dose response curve was not linear.

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - ORM-B, N.O.S. NA 1760
CONTAINS - ZINC CHLORIDE,
PHOSPHORIC ACID

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:
Based on our hazard evaluation, the following ingredient in this product is hazardous and the reason is shown below.

Phosphoric acid = TWA 1 mg/m³, 3 mg/m³ ACGIH/TLV

CERCLA/SUPERFUND, 40 CFR 117, 302:
This product contains zinc chloride a Reportable Quantity (RQ) substance and if 24,000 pounds of product are released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D. C. (1-800-424-8802).

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312 AND 313:

Under Section 311, submittal of MSDS's or a list of product names to the local emergency planning commission, state emergency response commission and local fire department is required after October 17, 1987 if you have:

- 10,000 pounds or more of a hazardous substance, or
- 500 pounds or the threshold planning quantity, whichever is less, of an extremely hazardous substance.

MATERIAL SAFETY DATA SHEET



PRODUCT NALCO A-C-LITE 7356

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

After October 17, 1989, MSDS(s), or a list of product names for all hazardous substances between zero (0) and 10,000 pounds, not previously reported, must be submitted.

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

- XX Immediate (acute) health hazard
- Delayed (chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product contains phosphoric acid and zinc chloride, which appear(s) on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

U. S. DEPARTMENT OF AGRICULTURE (USDA):

USDA Inspection and Grading Programs - Food Safety and Inspection Service:

This product is authorized by USDA for use in federally inspected meat and poultry plants. Authorized use is under category G7.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:

If this product becomes a waste, it does meet the criteria of a hazardous waste as defined under RCRA 40 CFR 261 (consult Section 11).

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):

This product contains the following ingredient(s) covered by the Clean Water Act:

MATERIAL SAFETY DATA SHEET



PRODUCT NALCO A-2-LITE 7356

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

Zinc chloride - Section 307, 311
Phosphoric acid - Section 311

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:
This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

This product complies with the MSDS and labeling requirements of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

MICHIGAN CRITICAL MATERIALS:

This product contains the following substance(s) identified on the Michigan Critical Materials Register:

Zinc chloride

STATE RIGHT TO KNOW LAWS:

Regulated in those states using the TLV for zinc chloride, phosphoric acid as a criteria for listing.

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

ANNUAL REPORT ON CARCINOGENS, U.S. Department of Health and Human Services, Public Health Service, PB 33-135855, 1983.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO A-Z-LITE 7356

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 17 BIBLIOGRAPHY

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REGISTRY OF TOXIC EFFECTS ON CHEMICAL SUBSTANCES, U.S. Department of Health and Human Services, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1983 supplement of 1981-1982 edition, Vol. 1-3, OH, 1984.

Title 29 Code of Federal Regulations Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

PREPARED BY: John J. Kasper, MSc., Manager Product Safety
DATE CHANGED: 01/15/88 DATE PRINTED: 02/03/88



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 2817 CHLORINE STABILIZER

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 2817 CHLORINE STABILIZER
DESCRIPTION: An aqueous solution of sulfamate, carboxylate and a polyglycol

NFPA 704M RATING 2 HEALTH 1 FLAMMABILITY 0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX.%
Sodium hydroxide	1310-73-2	0.1-1

SECTION 3 PRECAUTIONARY LABEL INFORMATION

WARNING: Causes irritation to skin and eyes. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield when handling. Avoid prolonged or repeated breathing of vapor. Use with adequate ventilation. Do not take internally. Keep container closed when not in use.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

SECTION 4 FIRST AID INFORMATION

EYES: Immediately flush for at least 15 minutes while holding eyelids open. Call a physician at once.
SKIN: Immediately flush with water for at least 15 minutes. For a large splash, flood body under a shower. Call a physician at once.
INGESTION: Do not induce vomiting. Give water. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.



MATERIAL SAFETY DATA SHEET

PRODUCT

NALCO 2817 CHLORINE STABILIZER

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 4 FIRST AID INFORMATION

(CONTINUED)

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed.

SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: Can cause moderate irritation.
SKIN CONTACT: Can cause moderate irritation.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure not previously mentioned, or identified in Section 6 or 14.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions not previously mentioned, or identified in Section 6 or 14.

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: No toxicity studies have been conducted on this product.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear gold	FORM: Liquid	ODOR: None
DENSITY: 9.8 lbs/gal.		
SPECIFIC GRAVITY: 1.2 @ 73 Degrees F		ASTM D-1298
pH (NEAT) = 13		ASTM E-70
VISCOSITY: 5 cps @ 73 Degrees F		ASTM D-2983
FREEZE POINT: 17 Degrees F		ASTM D-1177
BOILING POINT: 212 Degrees F @ 760 mm Hg		ASTM D-86
FLASH POINT: None (PMCC)		ASTM D-93

NOTE: These physical properties are typical values for this product.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None (PMCC) ASTM D-93

EXTINGUISHING MEDIA: This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use water to cool containers exposed to fire.

MATERIAL SAFETY DATA SHEET



PRODUCT NALCO 2817 CHLORINE STABILIZER

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 8 FIRE AND EXPLOSION INFORMATION

(CONTINUED)

UNUSUAL FIRE AND EXPLOSION HAZARD: None

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO₂ may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection is not normally needed.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Wear gloves, apron and a face shield with chemical splash goggles (ANSI Z 87.1 requirements and selection of gloves, goggles, shoes, etc.). A full slicker suit is recommended if gross exposure is possible.

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (312-920-1510)

SPILL CONTROL AND RECOVERY:

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel

MATERIAL SAFETY DATA SHEET



PRODUCT

NALCO 2817 CHLORINE STABILIZER

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 11 SPILL AND DISPOSAL INFORMATION

(CONTINUED)

reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14.

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14.

DISPOSAL: If this product becomes a waste, it meets the criteria of a hazardous waste as defined under the Resources Conservation and Recovery Act (RCRA) 40 CFR 261. Hazardous Waste D002.

As a hazardous liquid waste, it must be solidified before disposal in a landfill (Hazardous Waste Treatment, Storage and Disposal facility). Can be incinerated in accordance with local, state and federal regulations.

SECTION 12 ENVIRONMENTAL INFORMATION

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - ORM-B, N.O.S. NA 1760
CONTAINS - SODIUM HYDROXIDE

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:
Based on our hazard evaluation, the following ingredient in this product is hazardous and the reason is shown below.

Sodium hydroxide - Irritant

Sodium hydroxide = TWA 2 mg/m³ (ceiling) ACGIH/TLV

CERCLA/SUPERFUND, 40 CFR 117, 302:
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986
(TITLE III) - SECTIONS 302, 311, 312 AND 313:

MATERIAL SAFETY DATA SHEET



PRODUCT NALCO 2817 CHLORINE STABILIZER

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):
This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

- XX Immediate (acute) health hazard
- Delayed (chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

Under Section 311, submittal of MSDS's or a list of product names to the local emergency planning commission, state emergency response commission and local fire department is required after October 17, 1987 if you have:

- 10,000 pounds or more of a hazardous substance, or
- 500 pounds or the threshold planning quantity, whichever is less, of an extremely hazardous substance.

After October 17, 1989, MSDS(s), or a list of product names for all hazardous substances between zero (0) and 10,000 pounds, not previously reported, must be submitted.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):
This product contains sodium hydroxide, which appear(s) on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):
The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:
If this product becomes a waste, it does meet the criteria of a hazardous waste as defined under RCRA 40 CFR 261 (consult Section 11).

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15/

MATERIAL SAFETY DATA SHEET



PRODUCT

NALCO 2817 CHLORINE STABILIZER

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

formerly Sec. 307, 40 CFR 116/formerly Sec. 311:

This product contains the following ingredient(s) covered by the Clean Water Act:

Less than 1% sodium hydroxide - Section 311

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:

This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

This product complies with the MSDS and labeling requirements of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

MICHIGAN CRITICAL MATERIALS:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:

Regulated in those states using the TLV for sodium hydroxide as a criteria for listing.

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

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MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 2817 CHLORINE STABILIZER

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

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REGISTRY OF TOXIC EFFECTS ON CHEMICAL SUBSTANCES, U.S. Department of Health and Human Services, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1983 supplement of 1981-1982 edition, Vol. 1-3, OH, 1984.

Title 29 Code of Federal Regulations Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

PREPARED BY: John J. Kasper, MSc., Manager Product Safety

DATE CHANGED: 01/26/88

DATE PRINTED: 02/13/88



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 71-D5 ANTIFOAM

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: NALCO 71-D5 ANTIFOAM

DESCRIPTION: A blend of fatty acids, polyglycols, polyglycol ester, and oxyalkylate in kerosene and mineral oil

NFPA 704M/HMIS RATING: 1/1 HEALTH 1/1 FLAMMABILITY 0/0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX.%
Kerosene	8008-20-6	10-20
Straight run middle distillates	64741-44-2	40+

SECTION 3 PRECAUTIONARY LABEL INFORMATION

CAUTION: May cause irritation to skin and eyes. Avoid contact with skin, eyes, and clothing. Avoid prolonged or repeated breathing of vapor. Use with adequate ventilation. Do not take internally.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

SECTION 4 FIRST AID INFORMATION

EYES: Flush with water for 15 minutes. Call a physician.
SKIN: Wash thoroughly with soap and rinse with water. Call a physician.
INGESTION: Do not induce vomiting. Give water. Call a physician.
INHALATION: Remove to fresh air. Treat symptoms. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 71-D5 ANTIFOAM

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin, Inhalation

EYE CONTACT: Can cause transient irritation.
SKIN CONTACT: Can cause moderate irritation.
INHALATION: Prolonged inhalation of vapor may be harmful.

SYMPTOMS OF EXPOSURE:

ACUTE: Inhalation of high concentrations of kerosene can cause nausea, dizziness, vomiting, stupor or unconsciousness.

CHRONIC: Prolonged skin contact with kerosene can cause dry skin and defatting resulting in irritation and dermatitis.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: Acute toxicity studies have been conducted on this product. The results are shown below.

ACUTE ORAL TOXICITY (ALBINO RATS): LD₅₀ = Greater than 15,380 mg/kg

ACUTE DERMAL TOXICITY (ALBINO RABBITS): LD₅₀ = Greater than 3,038 mg/kg

PRIMARY SKIN IRRITATION TEST (ALBINO RABBITS):

SKIN IRRITATION INDEX DRAIZE RATING: 3.1/8.0 Moderately irritating

PRIMARY EYE IRRITATION TEST (ALBINO RABBITS):

EYE IRRITATION INDEX DRAIZE RATING: 6.0/110.0 Minimal irritation

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Pale straw	FORM: Liquid	ODOR: Faintly hydrocarbon
DENSITY:	7.2 lbs/gal.	
SOLUBILITY IN WATER:	Insoluble	
VISCOSITY:	13.8 cps @ 80 Degrees F	ASTM D-2983
POUR POINT:	16 Degrees F	ASTM D-97
FLASH POINT:	260 Degrees F (PMCC)	ASTM D-93

NOTE: These physical properties are typical values for this product.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 71-D5 ANTIFOAM

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: 260 Degrees F (PMCC) ASTM D-93

EXTINGUISHING MEDIA: Based on the NFPA guide, use dry chemical, alcohol foam, carbon dioxide or other extinguishing agent suitable for Class B fires. Use water to cool containers exposed to fire. For large fires, use water spray or fog, thoroughly drenching the burning material.

UNUSUAL FIRE AND EXPLOSION HAZARD: Containers exposed in a fire should be cooled with water to prevent vapor pressure buildup leading to a rupture.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, CO₂ may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection is not normally needed since the volatility and toxicity are low. If significant vapors, mists or aerosols are generated, wear a NIOSH approved or equivalent respirator, (ANSI Z 88.2, 1980 for requirements and selection).

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a pressure-demand, self-contained breathing apparatus is recommended.

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Use impermeable gloves and chemical splash goggles (ANSI Z 87.1 requirements and selection of gloves, goggles, shoes, etc.) when attaching feeding equipment or doing maintenance.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 71-D5 ANTIFOAM

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (312-920-1510) *

SPILL CONTROL AND RECOVERY: *

Small liquid spills: Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 14. *

Large liquid spills: Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 14. *

DISPOSAL: If this product becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, (i.e. D001 through D017) nor is it listed under Subpart D. *

As a non-hazardous liquid waste, it should be solidified before disposal to a sanitary landfill. Can be incinerated in accordance with local, state and federal regulations. *

SECTION 12 ENVIRONMENTAL INFORMATION

BIOLOGICAL OXYGEN DEMAND (5-day BOD): 741,000 mg/L

CHEMICAL OXYGEN DEMAND: 1,250,000 mg/L

AQUATIC DATA:

96 hour static acute LC₅₀ to Bluegill Sunfish = 121 ppm
96 hour static acute LC₀₁ to Bluegill Sunfish = 226 ppm
96 hour static acute LC₀₅ to Bluegill Sunfish = 65 ppm

96 hour static acute LC₅₀ to Rainbow Trout = 113 ppm
96 hour static acute LC₀₁ to Rainbow Trout = 153 ppm
96 hour static acute LC₀₅ to Rainbow Trout = 84 ppm

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - PRODUCT IS NOT REGULATED



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 71-D5 ANTIFOAM

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 13 TRANSPORTATION INFORMATION (CONTINUED)

DURING TRANSPORTATION

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product. *

FEDERAL REGULATIONS: *

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:
Based on our hazard evaluation, the following ingredients in this
product are hazardous and the reasons are shown below. *

Kerosene - Skin irritant *
Straight run middle distillates - Skin irritant *

Straight run middle distillates = TWA 5 mg/m3 ACGIH/TLV *
Kerosene (oil mist) = TWA 5 mg/m3 ACGIH/TLV *

Kerosene = TWA 100 ppm TLV *
Manufacturer's recommendation *

CERCLA, 40 CFR 117, 302:
Notification of spills of this product is not required. *

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986
(TITLE III) - SECTIONS 302, 311, 312 AND 313: *

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):
This product does not contain ingredients listed in Appendix A
and B as an Extremely Hazardous Substance. *

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS
(40 CFR 370):
Our hazard evaluation has found this product to be hazardous.
The product should be reported under the following EPA hazard
categories: *

- XX Immediate (acute) health hazard
-- Delayed (chronic) health hazard
-- Fire hazard
-- Sudden release of pressure hazard
-- Reactive hazard

Under Section 311, submittal of MSDS's or a list of product *



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 71-D5 ANTIFOAM

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

names to the local emergency planning commission, state emergency response commission and local fire department is required after October 17, 1987 if you have:

- 10,000 pounds or more of a hazardous substance, or
- 500 pounds or the threshold planning quantity, whichever is less, of an extremely hazardous substance.

After October 17, 1989, MSDS(s), or a list of product names for all hazardous substances between zero (0) and 10,000 pounds, not previously reported, must be submitted.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product does not contain ingredients (at a level of 1% or greater) on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

FOOD AND DRUG ADMINISTRATIONS (FDA):

Federal Food, Drug and Cosmetic Act:

When use situations necessitate compliance with FDA regulations, this product is acceptable under 21 CFR 176.210 defoaming agents used in the manufacture of paper and paperboard.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:

If this product becomes a waste, it does not meet the criteria of a hazardous waste.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):

None of the ingredients are specifically listed.

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:

This product contains the following ingredients covered by the Clean Air Act:

Polypropylene glycol - Section 111

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:



MATERIAL SAFETY DATA SHEET

PRODUCT NALCO 71-D5 ANTIFOAM

Emergency Telephone Number
Medical (312) 920-1510 (24 hours)

SECTION 14 REGULATORY INFORMATION

(CONTINUED)

This product complies with the MSDS and labeling requirements of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). *

MICHIGAN CRITICAL MATERIALS:
This product does not contain ingredients listed on the Michigan Critical Materials Register. *

STATE RIGHT TO KNOW LAWS:
The following state(s) identify the ingredient(s) shown below as hazardous: *

Massachusetts, New Jersey - Kerosene, Straight run middle distillates *

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

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IARC MONOGRAPHS ON THE EVALUATION OF THE CARCINOGENIC RISK OF CHEMICALS

MATERIAL SAFETY DATA SHEET



PRODUCT NALCO 71-D5 ANTIFOAM

Emergency Telephone Number

Medical (312) 920-1510 (24 hours)

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Title 29 Code of Federal Regulations Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

Information on this MSDS has changed. The changes are indicated by asterisks on the right side of only the changed sections. This is an updated MSDS as required by OSHA's Hazard Communication Rule 29 CFR 1910.1200.

PREPARED BY: John J. Kasper, MSc., Manager Product Safety

DATE CHANGED: 05/10/88

DATE PRINTED: 05/28/88



MATERIAL SAFETY DATA SHEET

Date Prepared 10-6-86

Supersedes Previous Sheet Dated Undated

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240
EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name UNICHEM 7227

Chemical Description Proprietary Demulsifier

II. HAZARDOUS INGREDIENTS

Material

Aromatic Solvent
Isopropyl Alcohol

TLV (Units)

100 ppm for 8 Hour Day (Recommended)
400 ppm

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	180°F IPA	Freezing Point	<-30°F
Specific Gravity (H ₂ O=1)	0.965	Solubility in Water	Insoluble

Appearance and Odor Dark Brown Liquid; Aromatic Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) 56°F TCC

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighters should wear self-contained breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards Vapors may flow along surfaces to distant ignition sources and flashback. Dangerous fire hazard when exposed to heat, sparks, flames, and oxidizing agents.

Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated.

V. HEALTH HAZARD DATA

Threshold Limit Value Not Determined

Effects of Overexposure Inhalation of high vapor concentrations may have results ranging from mild depression to convulsions and loss of consciousness. Concentrations over 100 ppm may cause dizziness, nausea, and headache. Prolonged or repeated skin contact is irritating and will cause dermatitis. Eye contact may cause burning and irritation. Aspiration can be hazard if material is ingested.

Emergency and First Aid Procedures Eyes: Flush promptly with copious quantities of water for at least fifteen minutes. Seek medical attention. Skin: Flush area with water. Wash with soap and remove contaminated clothing. Inhalation: Remove to fresh air. Apply artificial respiration if necessary. Ingestion: Call a physician. Do not induce vomiting. Dilute with water or milk.

VI. REACTIVITY DATA

Stability	Stable	X	Conditions to Avoid	None
	Unstable			

Incompatibility (Materials to Avoid) Oxidizers

Hazardous Decomposition of Products Oxides of Carbon and Nitrogen

Hazardous Polymerization	May Occur		Conditions to Avoid	None
	Will Not Occur	X		

VII. SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled Provide adequate ventilation. Remove sources of ignition. Contain and absorb spill.

Waste Disposal Method Dispose via a licensed waste disposal company. Follow local, state, and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type) Use air-supplied or self-contained breathing apparatus if exposure levels exceed TLV for this product or its ingredients.

Ventilation	Local Exhaust	As needed to prevent accumulation of vapors above TLV	Special	None
	Mechanical (General)		Other	None

Protective Gloves Rubber Eye Protection Safety Glasses, Goggles, and/or Face Shield

Other Protective Equipment Overalls, Rubber Boots, Eyewash Stations, Safety Showers

IX. SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing Store in cool, well-ventilated, low fire-risk area away from ignition sources and incompatible materials. Keep containers closed when not in use. Do not transfer or store in improperly marked containers.

Other Precautions Avoid prolonged or repeated breathing of vapors or contact with skin. Do not ingest.



MATERIAL SAFETY DATA SHEET

Date Prepared May 22, 1986

Supersedes Previous Sheet Dated Not Dated

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240
EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name UNICHEM 7055

Chemical Description
Proprietary Corrosion Inhibitor Blend

II. HAZARDOUS INGREDIENTS

Material

Aromatic Solvent
Isopropyl Alcohol

TLV (Units)

100 ppm for 8 hour work day (recommended)
400 ppm

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	180°F (IPA)	Freezing Point	< -20°F
Specific Gravity (H ₂ O=1)	0.936 g/ml	Solubility in Water	Dispersible

Appearance and Odor Brown Liquid, Slight Amine Odor

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) 70°F TCC

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighters should wear self-contained breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards Vapors may flow along surfaces to distant ignition sources and flashback. Dangerous fire hazard when exposed to heat, sparks, flames, or oxidizing agents.

Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated.



V. HEALTH HAZARD DATA

Threshold Limit Value Not Determined

Effects of Overexposure Inhalation of high vapor concentrations may have results ranging from mild depression to convulsions and loss of consciousness. Concentrations over 100 ppm may cause dizziness, nausea, and headache. Prolonged or repeated skin contact is irritating and will cause dermatitis. Eye contact may cause burning and irritation. Aspiration can be hazard if material is ingested.

Emergency and First Aid Procedures **Eyes:** Flush promptly with copious quantities of water for at least fifteen minutes. Seek medical attention. **Skin:** Flush area with water. Wash with soap and remove contaminated clothing. **Inhalation:** Remove to fresh air. Apply artificial respiration if necessary. **Ingestion:** Call a physician. Do not induce vomiting. Dilute with water or milk.

VI. REACTIVITY DATA

Stability	Stable	X	Conditions to Avoid	None
	Unstable			

Incompatibility (Materials to Avoid) Oxidizers

Hazardous Decomposition of Products Oxides of Carbon and Nitrogen

Hazardous Polymerization	May Occur	Conditions to Avoid	None
	Will Not Occur		

VII. SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled Provide adequate ventilation. Remove sources of ignition. Contain and absorb spill.

Waste Disposal Method Dispose via a licensed waste disposal company. Follow local, state, and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type) Use air-supplied or self-contained breathing apparatus if exposure levels exceeds TLV for this product or its ingredients.

Ventilation	Local Exhaust	As needed to prevent accumulation of vapors above TLV	Special	None
	Mechanical (General)		Other	None

Protective Gloves Rubber **Eye Protection** Safety Glasses, Goggles, and/or Face Shield

Other Protective Equipment Overalls, Rubber Boots, Eyewash Stations, Safety Showers

IX. SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing Store in cool, well-ventilated, low fire-risk area away from ignition sources and incompatible materials. Keep containers closed when not in use. Do not transfer to improperly marked containers.

Other Precautions Avoid prolonged or repeated breathing of vapors or contact with skin. Do not ingest.



MATERIAL SAFETY DATA SHEET

Date Prepared 05/22/86

Supersedes Previous Sheet Dated 08/22/83

I. PRODUCT IDENTIFICATION

Unichem International 707 N. Leech/P. O. Box 1499/Hobbs, New Mexico 88240
EMERGENCY TELEPHONE NUMBER (505) 393-7751

Trade Name UNICHEM 7375

Chemical Description Proprietary Neutralizing Amine

II. HAZARDOUS INGREDIENTS

Material
Proprietary Blend

TLV (Units)

Neither this product nor its ingredients are listed in any of OSHA Standard, Section 1910.1200 sources as carcinogenic.

III. PHYSICAL DATA

Boiling Point, 760 mm Hg	212°F	Freezing Point	-20°F
Specific Gravity (H ₂ O=1)	0.963	Solubility in Water	Soluble

Appearance and Odor Water White Clear Liquid

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) 212°F ICC

Extinguishing Media Carbon Dioxide, Dry Chemical, Water Spray or Fog, Foam. Use a water spray to cool fire-exposed containers.

Special Fire Fighting Procedures Firefighters should wear self-contained breathing apparatus and full protective clothing. Firefighters should be made aware of the corrosive nature of this chemical.

Unusual Fire and Explosion Hazards None

Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated.



V. HEALTH HAZARD DATA

Threshold Limit Value Not Determined

Effects of Overexposure Contact will cause burns to the skin and severe damage to the eyes. Inhalation of vapors or mists will irritate the entire respiratory tract. Ingestion will cause irritation and burning of the digestive tract.

Emergency and First Aid Procedures Eyes: Flush promptly with copious quantities of water for at least fifteen minutes. Seek medical attention. Skin: Flush area with water. Wash with soap and remove contaminated clothing. Inhalation: Remove to fresh air. Apply artificial respiration if necessary. Ingestion: Call a physician. Do not induce vomiting. Dilute with water or milk.

VI. REACTIVITY DATA

Stability	Stable	X	Conditions to Avoid	None
	Unstable			

Incompatibility (Materials to Avoid) Strongly acidic materials, oxidizers.

Hazardous Decomposition of Products Oxides of Carbon and Nitrogen

Hazardous Polymerization	May Occur	Conditions to Avoid	None
	Will Not Occur		

VII. SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled Provide adequate ventilation. Remove sources of ignition. Contain and absorb spill.

Waste Disposal Method Dispose via a licensed waste disposal company. Follow local, state, and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type) Use air-supplied or self-contained breathing apparatus if exposure levels exceed TLV for this product or its ingredients.

Ventilation	Local Exhaust	As needed to prevent accumulation of vapors above TLV	Special	None
	Mechanical (General)		Other	None

Protective Gloves Rubber Eye Protection Safety Glasses, Goggles, and/or Face Shield

Other Protective Equipment Overalls, Rubber Boots, Eyewash Stations, Safety Showers

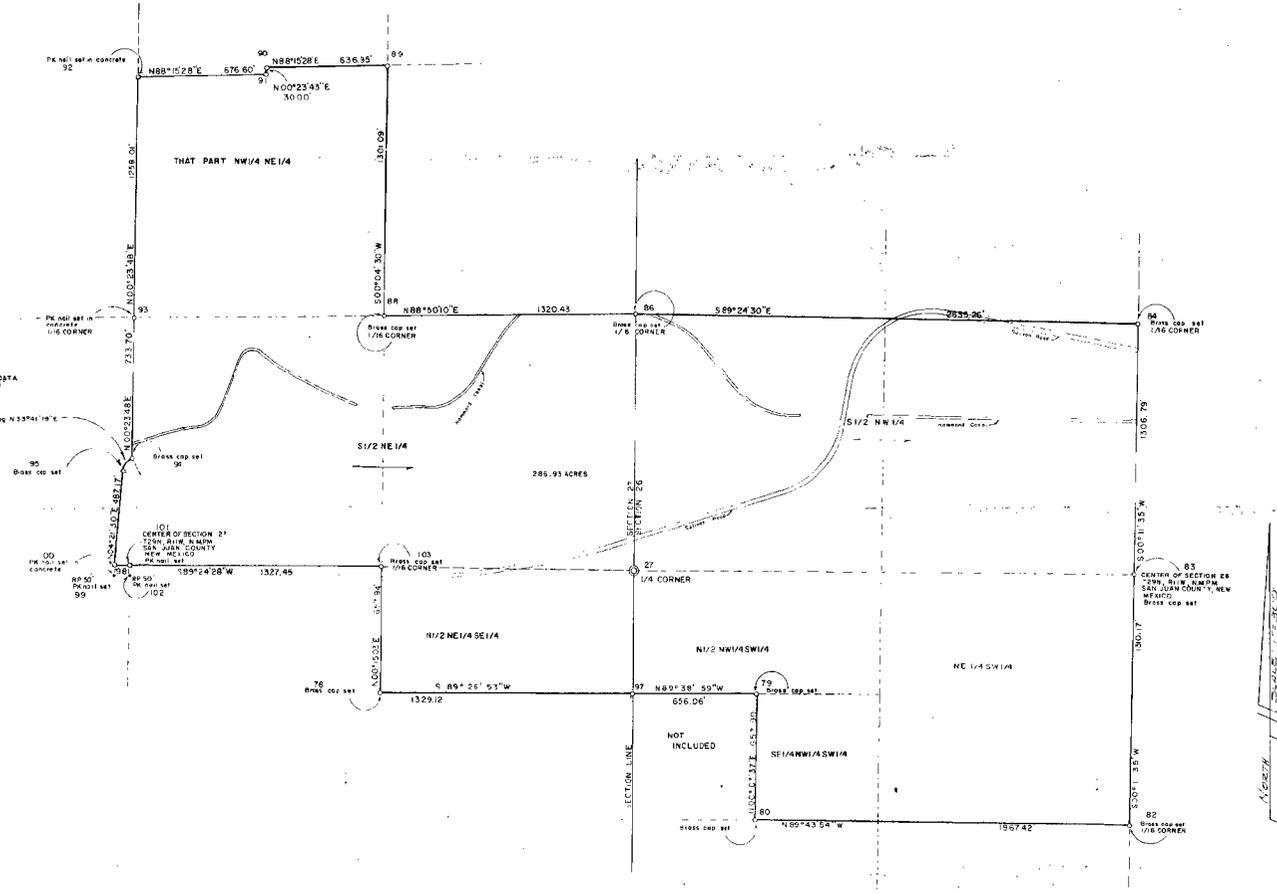
IX. SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing Store in cool, well-ventilated, low fire-risk area away from ignition sources and incompatible materials. Keep containers closed when not in use. Do not transfer or store in improperly marked containers.

Other Precautions Avoid prolonged or repeated breathing of vapors or contact with skin. Do not ingest.

Attachment 2

Facility Drawings



LEGAL DESCRIPTION

286.43 acres, more or less, being that portion of the Northwest One-Quarter of the Southwest One-Quarter (NW1/4) and the South One-Half of the Northeast One-Quarter (SE1/2) and the North One-Half of the Northeast One-Quarter of the Southwest One-Quarter (S1/2NE1/4) of Section 27, and the South One-Half of the Northwest One-Quarter (S1/2NW1/4) and the North One-Half of the Northwest One-Quarter of the Southwest One-Quarter (N1/2NW1/4) and the Southwest One-Quarter of the Northwest One-Quarter of the Southwest One-Quarter (SW1/4) of Section 26, Township 26 North, Range 11 West, N.M.P.M., San Juan County, New Mexico, being more particularly described as follows:

Beginning at a point which is the center of said Section 26;

THENCE: S30°11'35"W, 1310.17 feet;

THENCE: S86°43'14"W, 1267.44 feet;

THENCE: S89°26'5"W, 656.06 feet;

THENCE: S84°26'53"W, 1329.12 feet;

THENCE: N11°24'0"W, 257.34 feet;

THENCE: S89°26'5"W, 1384.43 feet to a point being the center of Section 27;

THENCE: S70°24'24"W, 79.63 feet;

THENCE: N74°51'30"W, 487.17 feet to a point on a curve;

THENCE: Curved along on a curve to the Right whose radius is 84.92 feet and whose chord bears N101°10'W, a distance of 87.96 feet;

THENCE: S88°23'48"W, 723.79 feet to a 1/4 Corner being the Southeast Corner of the Northwest One-Quarter of the Northeast One-Quarter (NW1/4SE1/4) of Section 27;

THENCE: S8°17'34"W, 1298.92 feet;

THENCE: S8°12'24"W, 678.60 feet;

THENCE: S88°23'48"W, 302.00 feet;

THENCE: S85°17'22"W, 656.06 feet;

THENCE: S89°26'5"W, 1301.09 feet;

THENCE: S89°26'5"W, 1370.42 feet to a point on the East line of Section 27;

THENCE: S89°26'5"W, 2635.26 feet to a point being the Northeast Corner of the South One-Half of the Northwest One-Quarter (S1/2NW1/4) of Section 26;

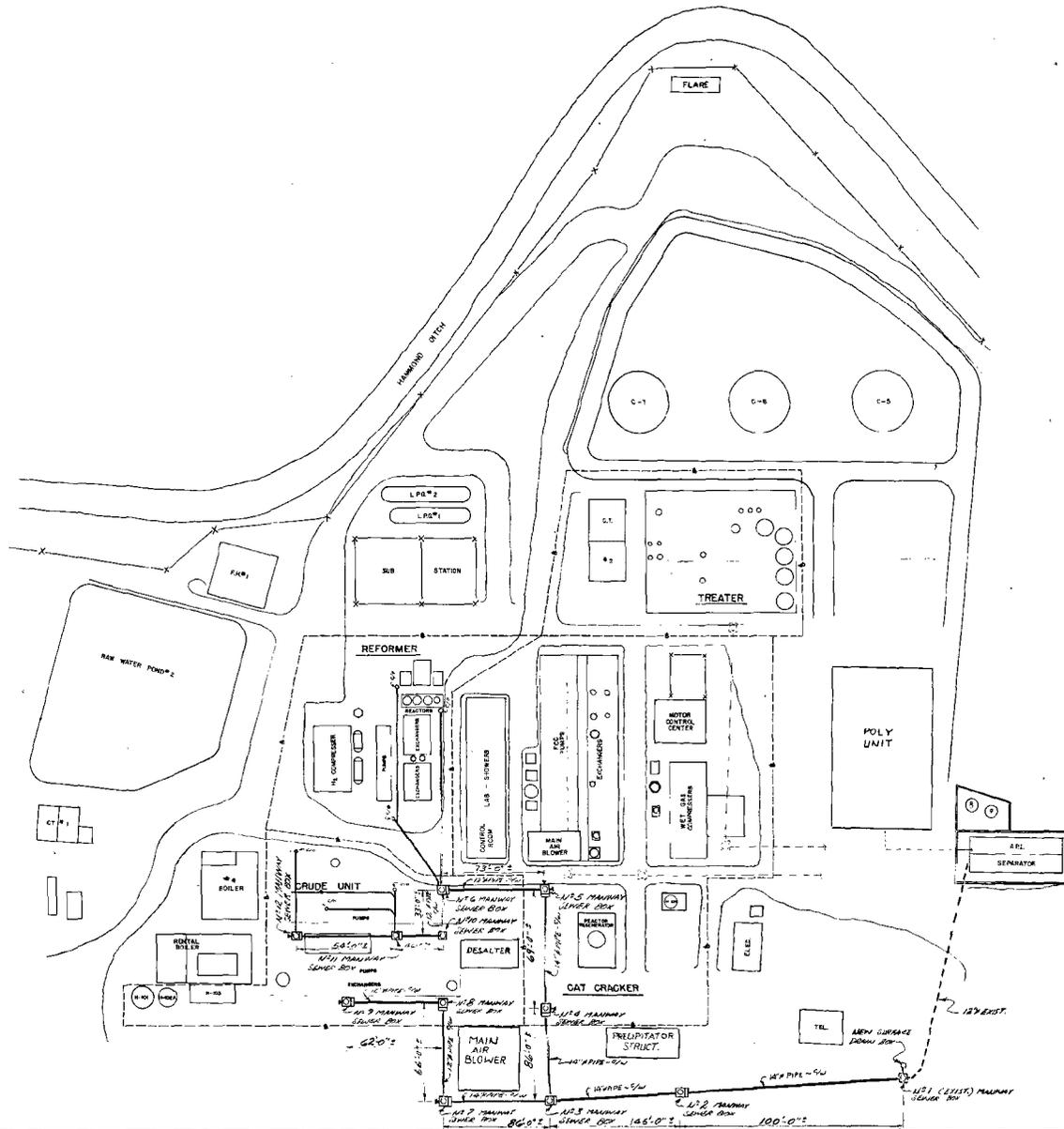
THENCE: N37°11'35"W, 1394.72 feet to the center of Section 26 and the point of beginning.

Subject to an access easement known as Sullivan Road and any other easements or reservations of record or in existence.



COMPOSITE MAP
FOR
PLATEAU REFINERY
 THAT PORTION OF THE NW 1/4 NE 1/4 AND THE S 1/2 NE 1/4 AND THE S 1/2 OF THE NW 1/4 AND THE S 1/2 OF THE NW 1/4 SW 1/4 AND THE SE 1/4 OF THE NW 1/4 SW 1/4 AND THE NE 1/4 SW 1/4 OF SECTION 26, T26N, R11W, N.M.P.M., SAN JUAN COUNTY, NEW MEXICO,
 CONTAINING 286.43 ACRES

SCALE: 1" = 300'
 SAN JUAN ENGINEERING CO., INC.
 FARMINGTON NEW MEXICO
 DATE: APRIL 1981



NOTE:
 1. SEWER SYSTEM DWG. PACKAGE - DWG'S N/E
 D-43-900-001 THRU - 010.

LEGEND
 --- UNIT BATTERY LIMITS
 --- CAT CRACKER UNIT NAME

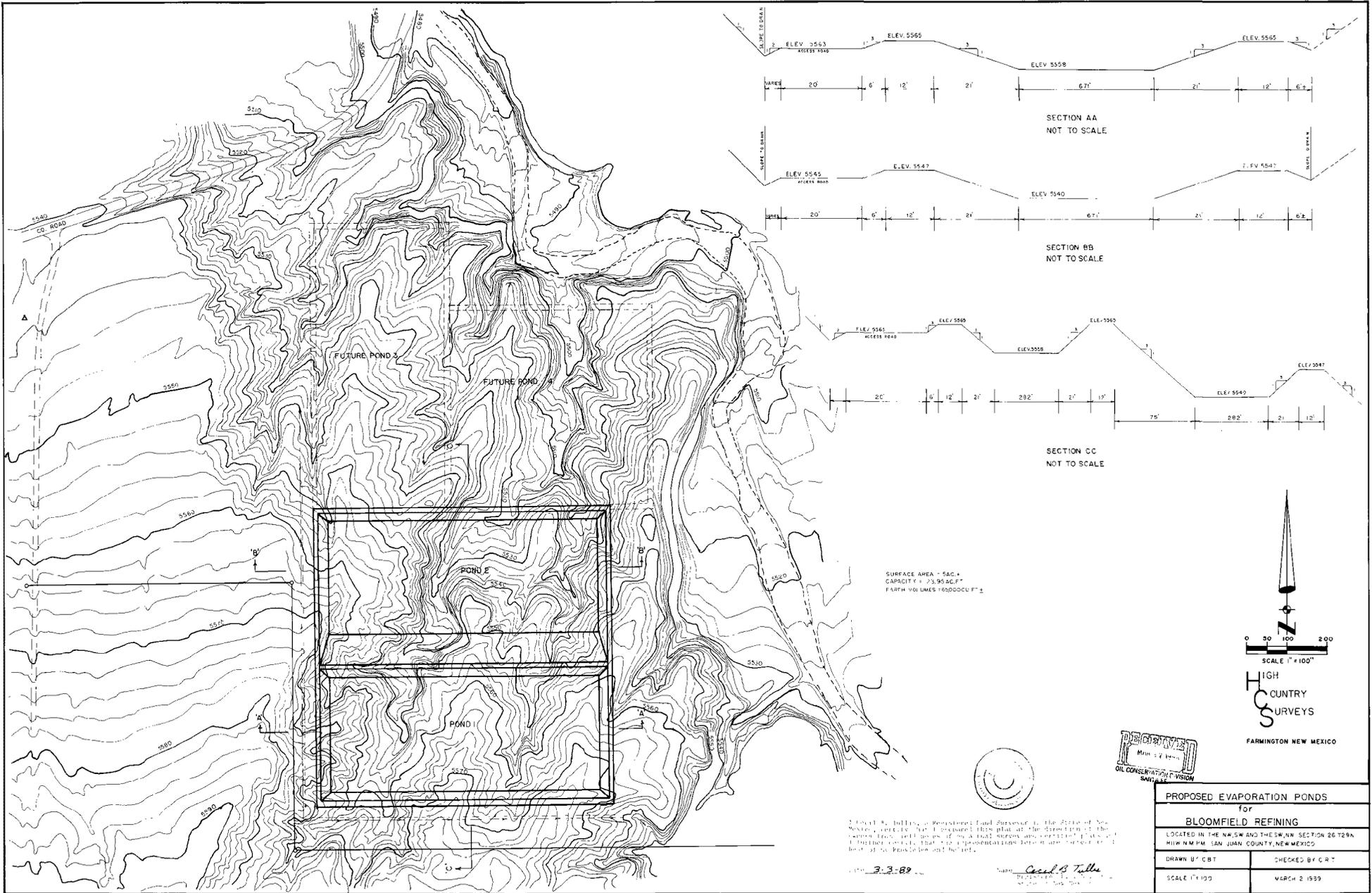


Plateau
 ALBUQUERQUE
 BLOOMFIELD ROOSEVELT

**PLANT SEWER SYSTEM
 NEW SEWER MAINWAY BOX &
 MAIN LINE ROUTING LAYOUT**

DRAWN BY: J.W. DATE: 11-23-81 SCALE: 1"=40' APPROVED:
 CHECKED BY: G.R.
 DRAWING NUMBER: **D-43-900-003** REV: _____

NO.	REVISION RECORD	DATE

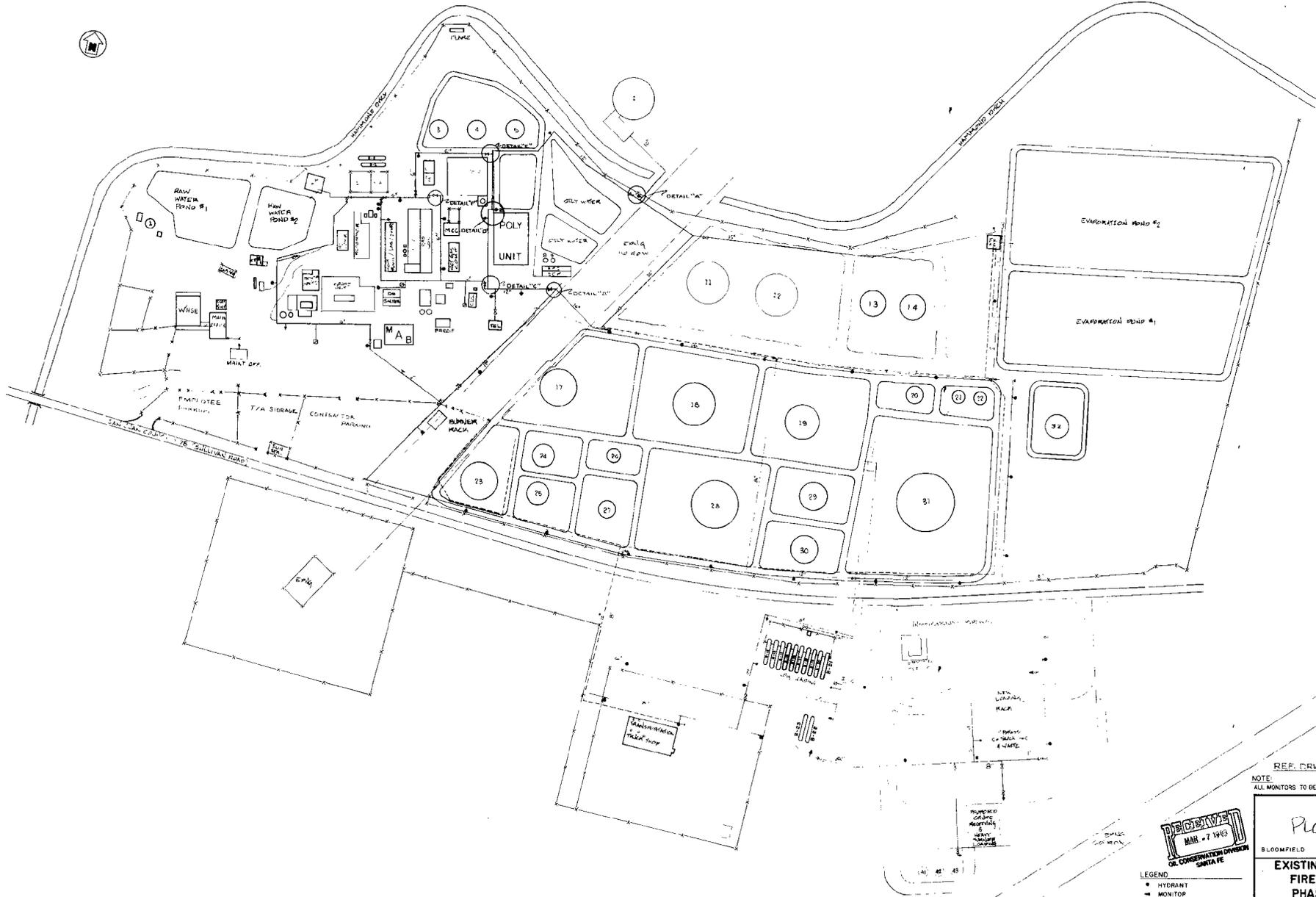


SURFACE AREA = 584
CAPACITY = 23,95 AC.F.
EARTH VOLUMES = 1620000 F³



PROPOSED EVAPORATION PONDS for BLOOMFIELD REFINING	
LOCATED IN THE N1/4 SW AND THE SW 1/4 SECTION 26 T29N R11W N14M SAN JUAN COUNTY, NEW MEXICO	
DRAWN BY C.B.T.	CHECKED BY C.R.T.
SCALE 1" = 100'	MARCH 2 1959

3-3-89
Cecil B. Tuller
Surveyor



REF. DRW: B-46-500-003 SHT. #2

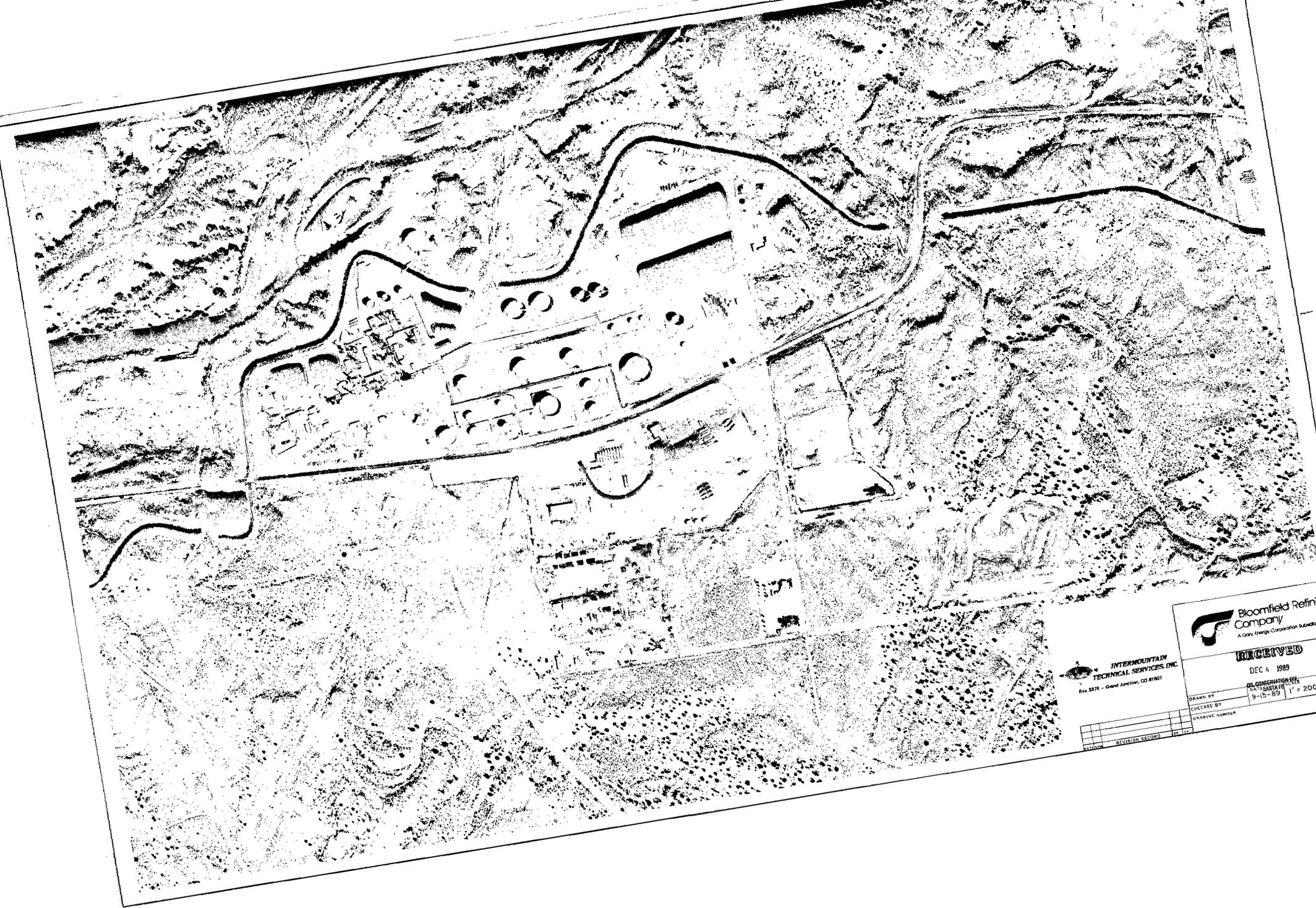
NOTE:
ALL MONITORS TO BE FED BY 6" LINES WITH 4" RISERS.

PLOT PLAN

BLOOMFIELD			
EXISTING AND PROPOSED FIREWATER SYSTEM PHASE 1A AND 1B			
DRAWN BY	JW	DATE	09-29-83
SCALE	1" = 100'	APPROVED	
CHECKED BY		DRAWING NUMBER	BD- 46-500-003



- LEGEND**
- HYDRANT
 - ◻ MONITOR
 - ◻ 150" C.S. GATE VALVE
 - ABANDON
 - EXISTING
 - ◻ HOSE BOX




**INTERMOUNTAIN
TECHNICAL SERVICES, INC.**
 Box 3274 - Grand Junction, CO 81501


**Bloomfield Refining
Company**
 A Gary Energy Corporation Subsidiary

RECEIVED

DEC 4 1989

OL. GUSENBERGER
1711 S. STATE ST.
9-15-89

APPROVED

DRAWN BY

CHECKED BY

DRAWING NUMBER

NO.	REVISION	DATE	BY

REV.