

GW - ____001__

LANDFILLS

(2)



BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us



RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

December 16, 2009

Mr. Randy Schmaltz
Environmental Manager
Western Refining, Bloomfield Refinery
P.O. Box 159
Bloomfield, New Mexico 87413

**RE: NOTICE OF DISAPPROVAL
INVESTIGATION REPORT GROUP 2
WESTERN REFINING SOUTHWEST INC., BLOOMFIELD REFINERY
EPA ID# NMD089416416
HWB-GRCB-09-004**

Dear Mr. Schmaltz:

The New Mexico Environment Department (NMED) has reviewed Western Refining Southwest Inc., Bloomfield Refinery's (Western) *Investigation Report Group 2 (SWMU No. 2 Drum Storage Area North Bone Yard, SWMU No. 8 Inactive landfill, SWMU No. 9 Landfill Pond, SWMU No. 11 Spray Irrigation Area, and SWMU No. 18 Warehouse Yard)* (Report), dated May 2009. NMED hereby issues this Notice of Disapproval (NOD). The Permittee must address the following comments in the revised Report.

Comment 1

In Section 2 (Background), Section 2.4 (SWMU No. 11 Spray Irrigation Area), page 6, paragraph 2, Western states "[m]anganese was detected at low concentrations that are above the standard but it is likely these concentrations are representative of background concentrations. Similar manganese concentrations were detected in MW-8, which is also in an up-gradient location relative to site operations."

Western has not established background concentrations for either soil or groundwater at the Facility. Therefore, it is unknown whether the detected manganese concentrations are

representative of a background value. Western must revise the Report to remove the reference to background.

Comment 2

In Section 2 (Background), Section 2.2 (SWMU No. 8 Landfill), page 4, Western states “[t]here is no record of any other waste materials being placed in the landfill with the possible exception of minor quantities of catalyst fines and sulfur.”

Western must revise the Report to identify the type of catalyst fines placed in the inactive landfill. Additional investigation and sampling may be warranted to ensure that catalyst fines and sulfur are not a concern.

Comment 3

In Section 2 (Background), sub-section 2.5 (SWMU No. 18 Warehouse Yard), page 7, paragraph 1, Western states “[a]n above ground storage tank that contains gasoline is located within the yard and it has secondary containment.”

Western must revise the Report to describe the type of secondary containment used for the above ground storage tank (e.g., concrete, clay, soil berm). In addition, Western must briefly address the product history of the above ground storage tank (i.e., the other types of product stored in this tank, if any and dates of use).

Comment 4

In Section 3.1 (Soil Boring and Monitoring Well Installation), page 8, paragraph 1, Western states “[t]o accomplish this objective, soil borings and monitoring wells were installed at the North Bone yard (SWMU No. 2), the Landfill (SWMU No. 8), the Landfill Pond (SWMU No. 9), and the Warehouse Yard (SWMU No. 18).”

This paragraph does not provide detail as to what occurred during the investigation. Western must revise this Section of the Report to provide the number of soil borings, frequency of sampling, temporary wells, and monitoring wells installed at each SWMU during the investigation.

Comment 5

In Section 3.3 (Collection and Management of Investigation Derived Waste), page 8, Western states “[d]rill cuttings, excess sample material and decontamination fluids, and all other investigation derived waste (IDW) associated with soil borings was contained and characterized using methods based on the boring location, boring depth, drilling method, and type of contaminants suspected or encountered.”

Mr. Schmaltz
December 16, 2009
Page 3 of 11

Western must revise the Report to provide more information about the management of soil IDW. The information must include, but is not limited to, the following: the volume of soil generated, the analytical methods (if any) used for characterization, and the location where the IDW was disposed.

Comment 6

Western discusses surface conditions at the facility in Section 4.1 but does not mention the SWMUs that were investigated. Western must revise the Report to incorporate SWMUs 2, 8, 9, 11, and 18 in the surface conditions description.

Comment 7

In Section 4.3 (Subsurface Conditions), page 13, paragraph 2, Western states "[o]ne underground pipeline is present in the area included in the SWMU Group No. 2 investigation. This wastewater line runs beneath SWMU No. 8 (Inactive Landfill) as shown on Figure 6 and does not appear to have had any impacted on contaminant migration."

Western must describe the type of wastewater that flows within the pipeline (e.g., process wastewater, sanitary wastewater) and specify where the pipeline begins and ends. In addition, Western must demonstrate the pipeline does not serve as a conduit for contaminant migration since contaminants were detected in some of the borings (MW-52, SWMU8-5, SWMU8-6, SWMU8-7, and SWMU8-8) located close to the pipeline. Western must revise the Report accordingly.

Comment 8

In Section 4.4 (Monitoring Well Construction, Boring, or Excavation Abandonment), page 14, paragraph 3 states "[s]ince saturation was encountered at 14 feet bgl a soil sample was collected from the interval 13 to 14 feet bgl. As seen on the well construction log the Nacimiento Formation was encountered at 18 feet below ground surface."

The well construction log does not use the term Nacimiento formation, but at 18 feet, states "Sand/Sandstone (SP/SS) Fine grain, compact, damp, light brown to tan." NMED recommends revising the text of the Report to reference the sandstone as the Nacimiento formation.

Comment 9

In Section 4.4 (Monitoring Well Construction, Boring, or Excavation Abandonment), pages 15-17, Western discusses the drilling activities that occurred at the SWMU No. 8 Landfill and the installation of monitoring wells MW-52 and MW-53. In the text, Western includes the saturation depth for MW-52 (34 feet below ground surface (bgs)), but does not address the saturation depth for MW-53. In addition, the well construction sheet for MW-53 does not show a saturation/water depth but states "not encountered."

Western must revise the Report to include the measured depth to water for MW-53 and revise the wells construction sheets to include initial measured depth to water for each well.

Comment 10

In Section 4.4 (Monitoring Well Construction, Boring, or Excavation Abandonment), SWMU No. 9 (landfill pond), page 17, Western briefly discusses the installation of one soil boring and the conversion to a temporary well. Western must revise the Report to further describe the investigation of this SWMU (e.g., field screening evidence of contamination and associated depths, sample depths, depth of saturation, screen interval of the temporary well). The information provided for each SWMU must be consistent (e.g., the level of detail provided for SWMU No. 9 must be comparable to the detail provide for SWMU No. 2 and SWMU No. 8).

Comment 11

In Section 4.4 (Monitoring Well Construction, Boring, or Excavation Abandonment), SWMU No. 18 (Warehouse Yard), page 18, Western discusses the drilling of MW-54. During the installation of MW-54, the initial borehole was abandoned because the lead auger became unattached and was lost during removal. Western then drilled a second borehole and labeled it as MW-54 which is within five feet of the original MW-54 boring. In the revised Report, Western must clearly describe all activities related to the drilling, abandonment and installation of MW-54 in the second boring.

Comment 12

In Section 4.5 (Ground Water Conditions), page 19, paragraph 2, Western states “[n]o separate phase hydrocarbon (SPH) was measured in any of the new wells installed during this investigation and based on historical data only SWMU No. 18 (Warehouse yard) is located in an area that had SPH present in the past.”

RW-1 is located in the vicinity of the SWMU No. 18 and, based on the *2008 Groundwater Remediation and Monitoring Annual Report* dated April 2009, RW-1 is an active recovery well that collects and pumps SPH and hydrocarbon contaminated water to the API separator for SPH recovery. Western must revise the Report to clarify that SWMU No. 18 is in a location where SPH is currently present.

Comment 13

Western addresses the Regulatory Criteria in Section 5, page 21 and states “[t]he Order specifies a hierarchy of screening levels, with the screening levels based on NMED guidance taking precedence over EPA’s Region VI Human Health Medium Specific Screening Levels. NMED guidance used to establish cleanup levels includes the *Technical Background Document for Development of Soil Screening Levels* and *Total Petroleum Hydrocarbon (TPH) Screening Guidelines* [TPH Screening Guidelines]. For non-residential properties (e.g., the Bloomfield Refinery), the soil screening levels must be protective of commercial/industrial workers

throughout the upper two feet of surface soils and construction workers throughout the upper ten feet.”

Western only mentions the TPH Screening Guidelines document to be used to establish cleanup levels and discusses non-residential properties and commercial and industrial worker levels but never mentions the document from which these soil screening levels are derived. Western must revise the Report to specify the name of the document and the version from where non-residential, commercial, and industrial screening levels were derived from (e.g., New Mexico Environment Department Technical Background Documents for Development of Soil Screening Levels, August 2009, Revision 5.0 (NM SSLs)). In addition, since the refinery is no longer in operation, residential cleanup levels are appropriate for those portions of the refinery where operations have ceased.

Comment 14

In Section 5.0 (Regulatory Criteria), page 21, Western states “[i]n addition, soils must be protective of the underlying ground water. Table 6 provides a list of the available NMED and EPA soil screening levels for commercial/industrial properties. The lowest applicable screening level is bolded. For some constituents, such as benzo(b)fluoranthene, there is more than one “lowest” applicable screening level. In this example, the screening level for industrial workers is the lowest NMED screening level but since it only applies to the upper two feet, the soil screening level for protection of ground water is also applicable and it applies to all soils below two feet.”

Western must compare the analytical results to the NM SSLs residential scenario and, if contamination is present at depths greater than two feet below ground surface, to the DAF of 1 at this stage of investigation.

Comment 15

In Section 5 (Regulatory Criteria), page 21, Western states “[f]or non-residential properties (e.g., the Bloomfield Refinery), the soil screening levels must be protective of the commercial/industrial workers throughout the upper two feet of surface soils and construction workers throughout the upper ten feet.”

The above paragraph uses the term commercial/industrial worker. NMED assumes that Western compared soil samples collected from the upper two feet to the NMED’s Industrial/Occupational soil screening standard. Western must revise the Report to correct this discrepancy.

Comment 16

In Section 5 (Regulatory Criteria), page 21, Western states “[t]able 6 provides a list of the available NMED and EPA soil screening levels for commercial/industrial properties. The lowest screening level is bolded.”

The following comments apply to Table 6; Western must revise the Report as indicated below:

- a. Western must revise Table 6 to include a footnote that identifies what the bold text represents. Although this was stated in the text of Section 5.0, it must also be explained in the table.
- b. The column headings in the Table states “NMED” and “EPA” and, the rows below show the applied soil screening standards (e.g. Industrial/occupational, residential). In the revised Report, Western must revise the footnotes to reference the guidance document(s) that are the source of these standards (e.g., NMED = NMED Technical Background Document for Development of Soil Screening Levels August 2009, EPA Human Health Medium Specific Screening Levels August 2008 or Regional Screening Levels).
- c. Table 6 shows the DAF 20 value for mercury as 2.09 mg/kg; however, the NMSSL DAF 20 for mercury is .0029mg/kg (2.09E-03 mg/kg). Western must revise Table 6 and all other applicable Tables to correct the listed DAF20 value for mercury.
- d. Western must revise the Report to indicate in the footnotes the source of the Diesel Range Organics (DRO), Gasoline Range Organics (GRO), and Motor Oil Range Organics (MRO) standards (i.e., *Total Petroleum Hydrocarbon (TPH) Screening guidelines*.) In addition, Western must apply the “unknown oil” value or demonstrate in the text why a different value may be applicable.
- e. For purposes of clean up, Western must revise Table 6 to include the residential and DAF 1 standards.

Comment 17

In Section 5 (Regulatory Criteria), page 21, Western states “[t]able 7 presents the ground water cleanup levels, with the applicable cleanup level highlighted. The following comments apply to Table 7; Western must revise the Report as indicated below:

- a. Define the acronym names in the Table in a footnote (e.g., WQCC = New Mexico Water Quality Control Commission, MCL = Maximum Contaminant Level, etc.).

- b. Define the letters in the EPA TapW_Key column in the footnotes (e.g., c = carcinogen).
- c. Revise Table 7 to include a footnote that defines the meaning of the bold text. Although the bold text is defined in Section 5.0, it must also be explained in the table.
- d. The cleanup levels for DRO, MRO, and GRO are shown as WQCC standards but these cleanup levels are listed in the NMED TPH Screening Guidelines. Western must revise Table 7 to state that the DRO, MRO, and GRO standards are derived from the NMED TPH Screening Guidelines. In addition, Western must apply the unknown oil standard for DRO. (Note, the table incorrectly lists the standards for MRO and DRO as (#3 and #6 Fuel Oil) 134,000 and (Diesel #2/crankcase oil) 172,000 µg/L; however these levels are listed as 1,340 and 1,720 µg/L, respectively).

Comment 18

In Section 6.1.2 (SWMU No.8 Landfill), page 26, Western states "On September 23, 2008 discrete soil samples were collected from all soil boring locations at SWMU No. 8 except SWMU 8-6A for laboratory analyses from 0 to 0.5 feet bgl and 1.5 to 2 feet bgl. It is unclear why samples were not collected from SWMU 8-6A. Western must revise the Report to explain why discrete soil samples were not collected from SWMU 8-6A.

Comment 19

In Section 7 (Conclusions and Recommendations), under the (Drum Storage Area North Bone Yard (SWMU No. 2)), page 35, paragraph 3, Western discusses the detection of low concentrations of metals that exceed the groundwater standards and states "Ground water samples were collected from 7 temporary wells and 2 permanent wells located at SWMU No. 2...[l]ow concentrations of metals were detected, including three locations with arsenic with a maximum value of 0.012 mg/l vs. a screening level of 0.01 mg/l. Similarly, lead was detected at five locations at concentrations slightly over the screening levels (i.e., max concentrations of 0.034 vs. 0.015 mg/l). Because the wells were purged and sampled using a bailer it is most likely that the presence of arsenic and lead above their respective screening levels is due to suspended sediment in the samples collected for "totals" analyses. There are also single occurrences of barium, beryllium, and chromium at concentrations above their respective screening levels that are attributable to entrained sediment. All of the detections of low concentrations of arsenic, barium, beryllium, chromium, and lead are believed to be an artifact of sample collection and not related to site contamination. The absence of any petroleum constituents at these same locations is a strong indicator that the low concentrations of metals are not the result of on-site refinery operations."

Given that metals are detected in groundwater above the screening levels, and without the establishment of background levels, it is unknown if the contaminants are the result of operations at the refinery. Western must revise the report to remove all statements indicating that elevated detections of metals are exclusively from suspended sediment during sample collection. See also Comment 20

Comment 20

In Section 7 (Conclusions and Recommendations), under the (Landfill Pond (SWMU No. 9)), page 38, Western states “[a] groundwater sample was collected from a temporary well installed in soil boring SWMU 9-1...[s]everal of the total metals analyses contained concentrations exceeding the screening levels (i.e., cadmium, cobalt, manganese, and nickel); however, the ground water sample collected from the temporary well was turbid and the entrained sediment caused artificially high concentrations to be reported for metals. The clearest example of this effect is reported concentrations of 6 mg/l for nickel, which in its elemental form is insoluble in water. The ground water sample contained concentrations of chloride, sulfate, and nitrogen (nitrate and nitrite) above screening levels but these constituents are all naturally occurring and based on all available information appear to be unrelated to site waste management activities (i.e., background concentrations).”

The statement that metals detections in groundwater are attributed to the sample collection methods does not necessarily demonstrate that the metals concentrations are not from refinery operations. In addition, Western states that the detection of metals, chlorides, sulfates, and nitrogen are naturally occurring and result from background concentrations. It is unknown if the detections of metals, chlorides, sulfates, and nitrogen are naturally occurring because background concentrations at the facility have not been established in groundwater or soil and these constituents also are associated with refinery operations. Western must revise the Report to qualify all references related to background and naturally occurring constituents. All statements claiming that contaminants are exclusive of refinery operations and waste management practices must be substantiated. See also Comment 19.

Comment 21

The following Comments apply to Tables 8 through 10; Western must revise the Report accordingly:

- a. The tables are difficult to read and the text is small. Western must revise these tables to increase the font size. The SWMU locations and data must be clearly legible.
- b. The first three columns of each table are titled “Screening Level 0-2’, Screening Level 2-10’, Screening Level >10.” Western must revise these columns to identify what NMED soil screening level is being applied.

- c. Western must revise the tables to include footnotes that define any abbreviations, denote what bold indicates, and include the source of all standards (e.g., NMED Residential Soil Screening Level = NMED Technical Background Document For Development of Soil Screening Levels Revision 5.0, August 2009).
- d. Identify the source of the DRO, GRO, and MRO cleanup levels.
- e. The tables show "NR" in some columns which are defined as "not reported" in the footnotes. Western must explain why the value was not reported.

Comment 22

In Table 14 (Groundwater Analytical Results), Western includes a footnote that states "bolded value exceeds screening level." Lead was detected at 0.02 mg/L in monitoring well MW-50, MW-52, and MW-53 which exceeds the standard of 0.015 mg/L and was not bolded. Western must revise the Report to bold this value and review all tables to ensure that all exceedances have been bolded or otherwise highlighted.

Comment 23

In Table 10, the constituent 1-Methylnaphthalene and 2-Methylnaphthalene under the column "NMED Residential Soil Screening Level," the value is denoted as 22¹ and 310¹, respectively. Western must provide the explanation for the superscript 1 in the footnotes. In addition, some of the values for the 1 and 2-Methylnaphthalene are bolded. Western must also identify what the bold values denote in the footnotes. Western must revise the tables throughout the Report accordingly.

Comment 24

In Tables 8, 9, and 10, the results for 1-Methylnaphthalene and 2-Methylnaphthalene are mostly designated with NR (not reported). Western must revise the Report to explain why results for 1-Methylnaphthalene and 2-Methylnaphthalene are not reported instead of providing data from the laboratory reports (e.g., Table 9 sample location SWMU 8-2 (1.5'-2.0') indicates NR for 2-methylnaphthalene and the laboratory report states ND<0.26 mg/kg). Western must revise the tables accordingly or provide an explanation in the text why the values were not included or include the correct date from the laboratory report(s).

Comment 25

Table 14 provides the groundwater analytical results from the temporary and monitoring wells. The Table includes a column titled "Screening Levels." Western must revise Table 14 to identify the screening level being applied (WQCC, MCL, NMED TPH screening Guidelines) and include a footnote that identifies the sources of the standards.

Comment 26

Figure 9 must be revised to include the location of RW-1. In addition, the symbol x-x within the figure must also be defined in the legend. Western must revise Figure 9 and all applicable figures throughout the Report as necessary.

Comment 27

In Figure 13 (Manganese Map), Western states in the legend that "manganese concentration (mg/l) (August – October 2008 where available, otherwise historic data)." It is not clear how to differentiate between the data collected during August through October 2008 and the historic data and dates of the historical data are not provided. Western must revise the legend to clarify this discrepancy. This comment also applies to Figure 15, and 16 (pertaining to chlorides and sulfate, respectively).

Comment 28

In Table 14, some of the practical quantification limits (PQL)/method detection limits are higher than the cleanup standards (e.g., MW-50 for benzene states <1.0 and the MCL is .005). It is not possible to determine if benzene is present because the listed detection limit is above the MCL. Western must address this issue in the revised Report.

Comment 29

The well construction sheets provided in Appendix B depict the screened intervals for the monitoring wells on a diagram but do not notate the depths of the screened interval. Although these depths are included in the text, Western must revise the well construction sheets to notate the screened interval depths.

Comment 30

In Appendix D (Photographs), Western includes photographs for all SWMU's except SWMU No. 9 (Landfill Pond). Western must revise Appendix D to include photographs of SWMU 9.

Comment 31

A requirement for this investigation, established in Comment 2 of NMED's Approval with Modifications Investigation Work Plan Group 2 dated August 11, 2008, states "Western states in Section 5.1 (Drilling Activities) that "[s]oil borings will be drilled three feet beneath the deepest evidence of waste materials or other signs of contamination. In addition to the above, specifically at SWMU No. 8 (Inactive Landfill), Western must drill to a minimum of three feet below the landfill material at each location."

It is not clear from the Report if Western drilled to a minimum of three feet below the landfill material at each location. Western must revise the Report to state whether or not the borings were drilled to depths three or more feet below the landfill and also discuss the depth and dimensions of the landfill.

Mr. Schmaltz
December 16, 2009
Page 11 of 11

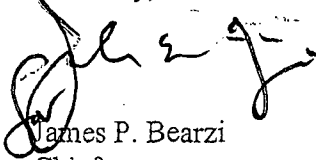
Comment 32

The revised Report must address monitoring well development, provide consistency when discussing sampling activities that occurred during the investigation at each SWMU (e.g., compare the level of detail found in Section 4.4 and Section 6 for SWMU No. 2 verses the lower level of detail provided for SWMU No. 9), and elaborate on the sampling methods and procedures that were applied while sampling.

Western must address all comments contained in this NOD and submit a revised Report to NMED on or before March 29, 2010. The revised Report must be submitted with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. In addition, an electronic version of the revised Report must be submitted that shows all changes made to the Report in red-line strikeout format.

If you have any questions regarding this letter, please contact Hope Monzeglio of my staff at (505) 476-6045.

Sincerely,



James P. Bearzi
Chief

Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
D. Cobrain, NMED HWB
H. Monzeglio, NMED HWB
C. Chavez, OCD
A. Hains, Western
File: GRCB 2009 and Reading
HWB-GRCB-09-004

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, November 03, 2009 7:47 AM
To: 'Hurtado, Cindy'; Monzeglio, Hope, NMENV; Schmaltz, Randy
Cc: Krakow, Bob; Robinson, Kelly; Cobrain, Dave, NMENV; VonGonten, Glenn, EMNRD
Subject: RE: Sulfur Disposal - Bloomfield Refinery

Cindy, et al.:

Re: Clarification as to whether the sulfur waste can still be classified as oil-field exempt

Sulfur is not considered "Oilfield Exempt" waste by the OCD.

OIL AND GAS WASTES EXEMPT FROM RCRA HAZARDOUS WASTE REGULATION*

- Produced water
- Drilling fluids and drill cuttings
- Drilling fluids and cuttings from offshore operations disposed on-shore
- Rigwash
- Well completion, treatment, and stimulation fluids
- Workover wastes
- Basic sediment and water and other tank bottom sludge from storage facilities that hold product and exempt waste
- Accumulated materials such as hydrocarbons, solids, sand, and emulsion from production separators, fluid treating vessels, and production impoundments
- Pit sludges and contaminated bottoms from storage or disposal exempt wastes
- Gas plant dehydration wastes, including glycol-based compounds, glycol filters, filter media, backwash, and molecular sieves
- Gas plant sweetening wastes for sulfur removal, including amine, amine filters, amine filter media, backwash, precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber liquid and sludge
- Cooling tower blowdown
- Spent filters, filter media, and backwash (assuming the filter itself is not hazardous and the residue in it is from an exempt waste stream)
- Packing fluids
- Produced sand
- Pipe scale, hydrocarbon solids, hydrates, and other deposits removed from piping and equipment prior to transportation
- Hydrocarbon-bearing soil
- Pigging wastes from gathering lines
- Wastes from subsurface gas storage and retrieval, except for the listed nonexempt wastes
- Constituents removed from produced water before it is injected or otherwise disposed of
- Liquid hydrocarbons removed from the production stream but not from oil refining
- Gases removed from the production stream, such as hydrogen sulfide and carbon dioxide, and volatilized hydrocarbons
- Materials ejected from a producing well during blowdown
- Waste crude oil from primary field operations and production

Light organics volatilized from exempt wastes in reserve pits or impoundments or production equipment

*Note: All exempt waste *must* be generated in primary field operations.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")

From: Hurtado, Cindy [mailto:Cindy.Hurtado@wnr.com]
Sent: Monday, November 02, 2009 7:50 AM
To: Monzeglio, Hope, NMENV; Chavez, Carl J, EMNRD; Schmaltz, Randy
Cc: Krakow, Bob; Robinson, Kelly; Cobrain, Dave, NMENV
Subject: RE: Sulfur Disposal - Bloomfield Refinery

Good Morning Hope,

Both sulfur samples were taken from the landfill after the bin was emptied but before the waste was covered with soil. Both are characteristic of the sulfur waste.

Yes, I meant to send only the sulfur analysis. I would like clarification as to whether the sulfur waste can still be classified as oil-field exempt or whether regulation 19.15.35.8 C(3)(h) applies. We already know from our meeting on October 20, 2009 that neither agency considers the FCC fines or precipitator fines are oil-field exempt. We are currently waiting on lab results to determine disposal options for that waste.

Thanks,
Cindy

Cindy Hurtado
Environmental Coordinator
Western Refining Southwest, Inc. - Bloomfield Refinery
cindy.hurtado@wnr.com
505-632-4161

From: Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]
Sent: Friday, October 30, 2009 1:32 PM
To: Hurtado, Cindy; Chavez, Carl J, EMNRD; Schmaltz, Randy
Cc: Krakow, Bob; Robinson, Kelly; Cobrain, Dave, NMENV
Subject: RE: Sulfur Disposal - Bloomfield Refinery

Cindy

I have a few questions about the attachments.

Attachment Sulfur Analyses - 2009 Hall: The chain of custody has three soil samples listed "precipitator fines, Spent FCC catalyst, and sulfur." The laboratory report only shows the analytical results for sulfur; did you only mean to send the analytical results for the sulfur? The sample that was analyzed at the laboratory, the chain of custody states soil matrix; was the sulfur sample collected from the landfill or was it from the waste stream before it entered the landfill (explain where the sample was collected)?

Attachment Sulfur Analyses - 2007 Envirotech - The sample that was analyzed at the laboratory, the chain of custody states solid matrix; was the sulfur sample collected from the landfill or was it the waste stream before it entered the landfill (explain where the sample was collected)?

Thanks

Hope

From: Hurtado, Cindy [mailto:Cindy.Hurtado@wnr.com]
Sent: Friday, October 30, 2009 10:20 AM
To: Chavez, Carl J, EMNRD; Monzeglio, Hope, NMENV; Schmaltz, Randy
Cc: Krakow, Bob; Robinson, Kelly
Subject: Sulfur Disposal - Bloomfield Refinery

Good Morning,

Please find attached the profile sheet, 2007 analytical, and 2009 analytical for Bloomfield Refinery's sulfur waste stream which was provided to Waste Management for the purpose of using San Juan County Landfill for sulfur disposal. Both OCD and NMED have stated the sulfur is oil-field exempt due to regulation 19.15.35.8 C(1)(i). However, the analytical may indicate that Bloomfield Refinery's sulfur waste may be more applicable to regulation 19.15.35 C(3)(h). Therefore, Bloomfield Refinery and Waste Management will need the agencies approval to dispose of the sulfur waste at San Juan County Landfill. Please review the attached documents. Contact me if more information is needed.

Thanks,
Cindy

Cindy Hurtado
Environmental Coordinator
Western Refining Southwest, Inc. - Bloomfield Refinery
cindy.hurtado@wnr.com
505-632-4161

This inbound email has been scanned for malicious software and transmitted safely to you using Webroot Email Security.

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is

prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message.
This email has been scanned using Webroot Email Security.

Chavez, Carl J, EMNRD

From: Schmaltz, Randy [Randy.Schmaltz@wnr.com]
Sent: Wednesday, October 21, 2009 11:37 AM
To: Monzeglio, Hope, NMENV
Cc: Cobrain, Dave, NMENV; VonGonten, Glenn, EMNRD; Chavez, Carl J, EMNRD; Jones, Brad A., EMNRD; Hains, Allen
Subject: RE: landfill waste stream sampling

Hope,

Will do, Thanks!

From: Monzeglio, Hope, NMENV [mailto:hope.monzeglio@state.nm.us]
Sent: Wednesday, October 21, 2009 11:23 AM
To: Schmaltz, Randy
Cc: Cobrain, Dave, NMENV; VonGonten, Glenn, EMNRD; Chavez, Carl J, EMNRD; Jones, Brad A., EMNRD; Hains, Allen
Subject: landfill waste stream sampling

Randy

From discussion in the meeting yesterday, the following waste streams that enter the active landfill must be sampled: the waste streams FCC fines and the precipitator fines must be sampled and analyzed for semi-volatile organic compounds (SVOCs) totals, Target Analyte List (TAL) Metals as totals, toxicity characteristic leaching procedure (TCLP) RCRA 8 metals, ignitability, corrosivity, and reactivity. The sulfur waste stream can be characterized based on process knowledge.

Please sample these waste streams by October 31, 2009. Send the analytical laboratory reports to OCD and NMED within five business days of receipt.

Let me know if you have questions. Please confirm receipt of this email, thanks.

Hope

Hope Monzeglio
Environmental Specialist
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, BLDG 1
Santa Fe NM 87505
Phone: (505) 476-6045; Main No.: (505)-476-6000
Fax: (505)-476-6060
hope.monzeglio@state.nm.us

Websites:
New Mexico Environment Department
Hazardous Waste Bureau

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message. -- This email has been scanned by the Sybari - Antigen Email System.

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message.
This email has been scanned using Webroot Email Security.

This inbound email has been scanned for malicious software and transmitted safely to you using Webroot Email Security.

Western Refining Southwest-
Bloomfield Refinery (GW-001)
Discharge Permit, EPA Compliance, &
Correspondence Associated with
**Disposal or Landfills and/or
Land Applications at Facility**

Chronology of Events (10-14-2009)

Compiled by: Carl Chavez (OCD)



BLOOMFIELD REFINERY

WNR
LISTED
NYSE

FedEx Overnight Priority #: 8577 6554 5029

September 21, 2009

Carl Chavez
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Draft Discharge Permit (GW-001)
Western Refining Southwest, Inc.-Bloomfield Refinery

Dear Mr. Chavez:

Western Refining Southwest, Inc.- Bloomfield Refinery (Western) appreciates the opportunity to comment on the "Draft" Discharge Permit (GW-001) and has prepared the following comments.

Condition 17. F.

F. Landfills: *A closure plan addressing all facility landfill(s) (active or inactive) at the facility shall be submitted to the OCD within 9 months of permit issuance. The active and inactive landfills at the facility are currently being investigated under RCRA SWMUs 8 and 16. This investigation information will help the operator with the final closure within 12 months of permit issuance or a date approved by the agencies. Landfill disposal at these facilities is prohibited on the date of permit issuance may require treatment and/or disposal at an OCD permitted or approved facility.*

Comment: Western believes that the conditions in the draft Discharge Permit addressing the active landfill are not allowed by the New Mexico Water Quality Act ("WQA"), Sections 74-6-1 through 74-6-17 NMSA 1978. These conditions concerning the active landfill in Sections 17.F and 21.B.1 of the draft Discharge Permit (1) prohibit waste disposal beginning on the date of permit issuance; (2) require a closure plan to be submitted to OCD within 9 months of permit issuance; and (3) require closure within one year of permit issuance.

Western understands that OCD justifies these conditions by relying on OCD's Surface Waste Management Facilities ("SWMF") regulations at 19.15.16 NMAC, adopted under the authority of the New Mexico Oil and Gas Act ("OGA"), Sections 70-2-1 through 70-2-38 NMSA 1978. Further, Western understands that OCD relies on the specific provision of the SWMF regulations, 19.15.36.13.B(1) NMAC, prohibiting a SWMF from locating within 200 feet of a watercourse as justification for the conditions in the draft

Discharge Permit addressing the active landfill. Western believes there are at least three reasons why these conditions are unlawful, as summarized below.

First, the conditions violate Section 74-6-12.G of the WQA, which states as follows: "The Water Quality Act does not apply to any activity or condition subject to the authority of the oil conservation commission pursuant to provisions of the Oil and Gas Act..." Because the siting requirement is part of the SWMF regulations, adopted under the OGA, OCD is not allowed to apply that requirement in a discharge permit issued under the authority of the WQA.

Second, 2009 amendments to the WQA have clarified that OCD, as a "constituent agency", must demonstrate that a permit condition is necessary. "The constituent agency has the burden of showing that each condition is reasonable and necessary to ensure compliance with the Water Quality Act and applicable regulations, considering site-specific conditions." Section 74-6-5.D of the WQA. Western's Discharge Permit (GW-001) has allowed the active landfill to operate for many years. If OCD now wishes to prohibit operation of the landfill, OCD has the burden of showing that the prohibition is reasonable and necessary under the WQA. It does not appear that such a showing has been made.

Third, even if OCD applied the SWMF regulations under the OGA, instead of the discharge permit regulations under the WQA, the siting requirements in 19.15.36.13 NMAC still would not apply to the active landfill. The transitional provisions of the SWMF regulations, 19.15.36.20 NMAC, state that SWMFs operating pursuant to an OCD permit prior to the effective date of the SWMF regulations (February 14, 2007) may continue to operate in accordance with such permit (in this case, GW-001). Some operational, waste acceptance and closure requirements provided in 19.15.36 NMAC may apply. 19.15.36.20 NMAC. However, the transitional provisions of the SWMF regulations do not include siting requirements as applicable. The inapplicability of the siting requirements in the SWMF regulations to Western's active landfill is understandable, since the site of the landfill was selected long before OCD adopted the SWMF regulations.

Condition 21. B. 1.

1. *Upon permit issuance, no wastes shall be disposed within any landfills at the facility, since they may likely need to be removed anyway. A closure plan for landfills at the facility shall be submitted within 9 months of permit issuance for agency approval. Any on-site landfill shall be properly closed with the agencies within one year of permit issuance or by a date approved by the agencies. The active landfill has been used to dispose of K172 fluid catalytic cracking unit (FCCU) catalyst and sulfur byproducts, while the inactive landfill was used to dispose K052 (API separator sludge) waste, and as a stockpiling location for excavated contaminated soils. In April 1991, the operator petitioned EPA for a delisting determination on the inactive landfill, which was granted by EPA. The operator later obtained permission from OCD to use soils from the inactive*

landfill for fill in a low-lying area near the naphtha loading rack. The actual date of the inactive landfill closure is unclear.

Comment: This condition mistakenly states that K172 and K052 wastes are being mismanaged by the refinery, and implies that the refinery is willingly disposing of listed wastes in disregard of Federal (RCRA) Regulations. The listed waste designation K172 is for Spent Hydrorefining catalysts (metal based) and does not apply to Fluid catalytic cracking catalysts (alumina silica based). Fluid catalytic cracking catalyst is not a listed waste.

The listed waste designation K052 is for Tank bottoms (leaded) from petroleum refining industry. The Bloomfield Refinery petitioned the EPA for a delisting of the above mentioned soils that were accumulated during the 1982 retrofit of the aeration ponds done by Plateau. The EPA granted this petition, delisting this soil. The Bloomfield refinery went through the proper channels and secured the delisting of this soil prior to disposal. With the delisting of this soil, the implication that Bloomfield disposed of a listed waste is inaccurate.

Western requests that Condition 21. B. 1. be removed entirely, or the implication that the refinery mismanaged listed wastes be corrected.

If you have questions or would like to discuss these comments further, please contact Randy Schmaltz at (505) 632-4171.

Sincerely,



Todd R. Doyle
Refinery Manager
Bloomfield Refinery

cc: Randy Schmaltz – Western Refining-Bloomfield Refinery



BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

Review of Draft + ~~recommendations~~ comments By OCO

February 24, 1982

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

American Ground Water Consultants, Inc.
2300 Candelaria Road NE
Albuquerque, NM 87107

ATTENTION: William M. Turner

RE: Updated Discharge Plan
for Plateau, Inc.

Dear Sir:

Pursuant to the review of a draft of the updated discharge plan for Plateau Inc., the following information is requested:

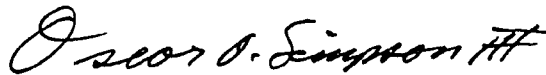
- 1) Submit Page 19 of the text
- 2) Submit detailed drawings of each of the existing monitor wells and explain how they were installed.
- 3) Show on Plate 1 where the pits or sumps were dug to remove the diesel fuel. What mechanisms are and will be used to remove the diesel? What progress has been made toward removal of the diesel fuel and make predictions as to when and how this situation will be resolved.
- 4) Submit an elevation profile of the flow line of the Hammond ditch from 100 yards west of the western edge of Plate 1 to the intersection of the siphon and paved road on the east edge of Plateau's property.
- 5) Submit a representative analysis of the waste water effluent from the refinery. The effluent shall be analyzed for all the constituents as listed in A, B, and C of 3-1 of Part III - Water Quality Control of the W.W.C.C. regulations and sampled and tested as per Section 3-107 (B). Also, the organic chemicals; benzene, 1,1,1, trichloroethane, all chlorinated phenals, chlorinate phenals, chloroform, ethylbenzene, phenal, ploychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAH), onthrocene, and toluene, must be tested for as agreed upon in the meeting held on September 3, 1981.

- 6) Submit preferably on an aerial photo the extent of Plateau's property around the refinery.
- 7) Show the area that will be irrigated at present and the future expansions. Show the position of the earthen dams on the east side of the irrigated land, the position of the water retaining dikes, and the access road to the irrigated land. Show the layout of the irrigation system and the position of the water meter for the irrigated area. Please illustrate if possible on aerial photos.
- 8) Submit diagrams illustrating the construction of the concrete dams and pumping systems to be installed on the north side of the plant and show the location on aerial photos. Submit a written explanation of how this system will function.
- 9) Submit a USGS quad sheet of the area surrounding the plant and relate it to the flooding potential section of the text.
- 10) Submit a monitoring and sampling program for the irrigated site that will insure underground drainage will not reach the major N.-S. trending arroyo just to the east of the irrigated land.
- 11) Submit a contingency plan.
- 12) Submit a process flow description and diagram of the plant. In other words, describe what the plant refines and the process involved. Include what chemicals are used in the refining process. Describe the treating processes used to treat the cooling tower and the chemicals used; include the brand names and generic names and composition of the chemicals. Also show by schematic and text the closed cooling system used and the chemical make-up of the coolant and concentration thereof.
- 13) Explain in more detail how the 30 gallons per minute will be recycled to reduce the 80 gallon per minute outflow.
- 14) Submit an update Plate I

- 15) Submit an analysis of a composite sample of the water seeping from the 3 major seeps north of the refinery. (The seeps in which the concrete dams will be installed). The composite sample shall be analyzed for BOD, COD, settleable solids, fecal coliform bacteria, PH and for all the constituents listed in A,B, and C of Section 3-103 of the W.Q.C.C. regulations W.Q.C.C. 81-2.
- 16) Submit on Plate 1 the bottom and overflow elevations of the evaporation ponds and the oily water ponds.
- 17) Submit a system for recording water level elevations in the Hammond Ditch.
- 18) Submit a system for inspection and reporting failures of the discharge plan to the OCD.
- 19) The updated discharge plan for Plateau, Inc. is subject to the conditions and stipulations of the newly revised Water Quality Control Commission Regulations (W.Q.C.C. 81-2).

If you have any questions regarding this matter, please do not hesitate to contact me at (505) 827-2533.

Sincerely,



Oscar A. Simpson, III
Water Resource Specialist

OAS/dp

File Copy March 1982

**UPDATED DISCHARGE PLAN
FOR A REFINERY
OPERATED BY PLATEAU INC.,
NEAR BLOOMFIELD, NEW MEXICO**

**SUBMITTED TO
PLATEAU INC.,
ALBUQUERQUE, NEW MEXICO**

**SUBMITTED BY
AMERICAN GROUND WATER CONSULTANTS, INC.
CONSULTING GROUND WATER GEOLOGISTS & HYDROLOGISTS
ALBUQUERQUE, NEW MEXICO**

**AMERICAN
GROUND WATER
CONSULTANTS, INC.**

2300 CANDELARIA ROAD, N.E.
ALBUQUERQUE, NEW MEXICO 87107
TELE: (505) 345-9505 CABLE: HYDROCONSULT
TELEX: 66-0422 TELECOPIER: (505) 247-0155

March 9, 1982

Mr. Robert Perry, Vice President
Plateau, Inc.
4775 Indian School Road, NE
Albuquerque, New Mexico 87110

Dear Mr. Perry:

American Ground Water Consultants is pleased to present herewith our report entitled: Updated Discharge Plan for a Refinery Operated by Plateau, Inc. near Bloomfield, New Mexico.

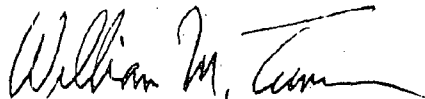
It is our opinion that based upon:

1. regulations of the New Mexico Water Quality Control Commission,
 2. existing and planned waste-water handling plans which will capture any waste water before leaving the refinery property, and
 3. the absence of natural ground water in the vicinity of the refinery
- that no discharge plan is required under existing regulations.

The present report is submitted to update the previous discharge plan dated September 30, 1977.

Respectfully submitted,

AMERICAN GROUND WATER CONSULTANTS, INC.



Dr. William M. Turner
President

SUMMARY

Since the approval of Plateau's original discharge plan some changes have taken place which may require submittal of additional information if in fact required. These changes include:

1. Slight increase in the amount of waste-water discharge by the plant.

2. Construction of surface water retention facilities in an arroyo north of the refinery.

3. Application of excess waste-water from the evaporation ponds to a land disposal site and the eventual use of this water for irrigated agriculture. *Over 4000 gpm*

4. Development of a small diesel fuel seep into the Hammond Ditch immediately downstream from the El Paso Natural Gas right-of-way.

5. Detection of a small amount of seepage from the solar evaporation ponds *Explor*

To reduce waste-discharge, a program of recycling water, has been implemented such that total average waste-water discharge is about 50 gallons per minute. This water is sent to the solar evaporation ponds and excess will be used for irrigation of alfalfa on company property.

Any excess irrigation water applied to the irrigated area will be retained by low berms which will be constructed at necessary locations around the irrigated area. These berms will also serve to retain rainfall from precipitation events.

Any seepage of water from the evaporation ponds or from irrigation will drain to the north on the subcrop surface of the Nacimiento Formation and will surface as seeps in southward trending arroyos north of the Hammond Ditch. This water will be captured behind small concrete dikes embedded in the Nacimiento Formation and pumped back to waste-water facilities of the refinery.

Seepage of diesel fuel into the Hammond Ditch is presently being recovered by sumps constructed in the bed of the Hammond Ditch.

There is no ground water in the vicinity of the refinery which could be potentially contaminated by waste-water seepage from refinery waste-water handling facilities and any seepage from these facilities will not escape the refinery property upon full implementation of the plan.

Monitoring methods required by the original discharge plan have served their usefulness and are not now providing any new information inasmuch as a new steady-state hydrologic situation has developed since the original discharge plan was approved. It is recommended that the former monitoring plan be discontinued.

TABLE OF CONTENTS

INTRODUCTION.....	1
REFINERY SETTING.....	4
HYDROLOGIC FEATURES.....	5
San Juan River.....	5
Hammond Ditch.....	6
Ground Water Occurrence.....	7
FLOODING POTENTIAL.....	10
SEEPAGE.....	12
WATER CHEMISTRY.....	13
MONITORING.....	18
WATER SUPPLY AND DISCHARGE.....	20
WATER BUDGET.....	23
ARROYO CATCHMENT PLAN.....	30
HYDROCARBON DISCHARGE INTO HAMMOND DITCH.....	35
CONTINGENCY PLANS.....	36
REFERENCES.....	38

LIST OF FIGURES

Figure		Page
1	Map of New Mexico showing the location of the project area.....	2
2	Diagram showing the location of the Plateau refinery near Bloomfield, N.M.....	3
3	Map of Plateau refinery and vicinity showing elevation of the contact between the Nacimiento Formation and the cobble bed	9
4	Schoeller diagram of water analyses for boron, fluoride, chloride, and sulfate.....	16
5	Water and waste water processs flow diagram.....	21
6	Detail of sump construction	33

LIST OF TABLES

Table		Page
1	Chemical analyses of water samples from Bloomfield refinery	14
2	Chemical analyses of water samples from Bloomfield refinery	15
3	Dates and types of monitoring activity at the Plateau refinery	19
4	Monthly evaporation rates for Farmington .	24
5	Water storage area at Plateau refinery ...	25
6	Consumptive use information for Bloomfield, New Mexico	26
7	Computation of seasonal consumptive use for crops near Bloomfield, New Mexico	27
8	Computation of irrigation-water requirement for crops near Bloomfield	28
9	Water budget for the Plateau refinery	29
10	Fluid velocities in pipes at grade with the San Juan River	34

LIST OF ATTACHMENTS

Attachment

- 1 Summary and recommendations from first and second milestone reports
- 2 Description of refinery process
- 3 Monitoring results and lithologic logs
- 4 Calculations for irrigation water suitability

INTRODUCTION

Plateau, Inc. operates a refinery near Bloomfield, New Mexico. The location of the refinery is shown in figures 1 and 2. A waste-water discharge plan for the refinery was approved by the New Mexico Oil Conservation Commission (NMOCC) on June 5, 1977. Two subsequent reports on the monitoring activities at the refinery have been submitted by Plateau, Inc., to the NMOCC and the New Mexico Environmental Improvement Division (NMEID). The discharge plan and the addendum to the discharge plan as well as the milestone reports on monitoring activities were prepared by American Ground Water Consultants. The summaries from these reports are given in the references section and summaries and conclusions from the first two reports are included in Attachment 1 of this report.

When the original discharge plan was prepared, significant refinery expansion construction was underway and items such as the expected amount and quality of waste water discharge were estimated. Since approval of the original discharge plan, the volume of effluent from the refinery has increased from a projected 20.5 gallons per minute to an average of 50 gallons per minute. In addition, several changes have occurred in the handling of waste water from the refinery and it has become necessary to update the discharge plan to adequately set forth the proposed and actual methods of handling waste-water discharge from the refinery.

PLATEAU, INC.

P.O. BOX 26251
ALBUQUERQUE, N.M. 87125-6251
PHONE 505/262-2221

June 2, 1982

Mr. Joe Ramey, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico

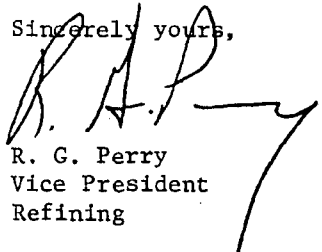
Dear Mr. Ramey:

Plateau, Inc. has completed all the information requested in the Oil Conservation Division's letter of February 24, 1982 to William M. Turner. Plateau, Inc. also has authorization for expenditure (A.F.E.) for the project which was mandated by your office. (attached)

Plateau has been advised by counsel that the discharge plan that is being submitted is not required by the Water Quality Control Commission Regulations. We are submitting this discharge plan in good faith and as a good neighbor to the State of New Mexico. However, we do intend to follow up our protest of having to submit this discharge plan.

Plateau will not allow the disagreement over this matter to interfere with our commitment to observing the environmental rules and regulations applicable to our facility. We look forward to a continued good relationship with you and your staff.

Sincerely yours,



R. G. Perry
Vice President
Refining

RGP/shm

Enclosure

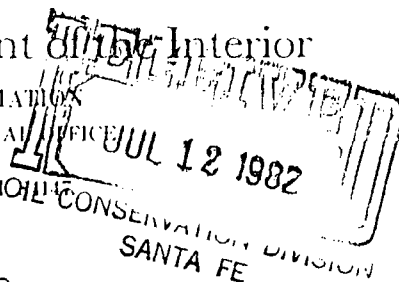


PETROLEUM REFINERS • MARKETERS



United States Department of the Interior

BUREAU OF RECLAMATION
UPPER COLORADO REGIONAL OFFICE
P.O. BOX 11568
SALT LAKE CITY, UTAH 84111



IN REPLY
REFER TO: UC-440
832.

Mailed JUL 8 1982

Mr. Dwight J. Stockham
Associate Environmental Engineer
Plateau Inc.
P.O. Box 26251
Albuquerque, New Mexico 87125

Dear Mr. Stockham:

This letter responds to your requests dated April 13, 1982, and May 11, 1982, for water service from Navajo Reservoir, Colorado River Storage Project, New Mexico.

We have reviewed your immediate 2 year contract request for consistency with the National Environmental Policy Act of 1969. These reviews are required of Federal agencies prior to decision making on resource allocation. Essentially, we assess the environmental impacts likely to occur or which presently occur from using water resources. A "categorical exclusion checklist form" is enclosed which illustrates our methods of evaluating environmental impacts for this type of water service.

While assessing environmental impacts associated with Plateau's operation, we discovered that significant water quality problems may be occurring. We understand that the State of New Mexico, Oil Conservation Division, has required you to submit a "Discharge Plan" to satisfy these apparent environmental problems. Under articles 7 and 9 of your existing contract and article 8, parts F and G, of the enclosed contract, we are concerned about these water quality issues and believe they must be resolved.

Given these circumstances, we prefer to renew your contract for 3 months and schedule an on-site inspection with your company, the State of New Mexico, and ourselves to identify the problem. We will consider a 1 year contract if we can resolve the existing environmental problems to conform with the State of New Mexico's and the Secretary's regulations and requirements.

Please have an authorized official of your company execute both copies of the contract and return them to us along with full payment for the water. We will then execute the contracts on behalf of the United States and return one fully executed copy to you.

Your 8 year contract term request presents a problem since your actual water service needs appear to be of a longer term. Long term contracts for water

service from Navajo Reservoir must be approved in Congress. In your response please inform us of the longest term you would request water service. We prefer to fill your long term needs with a long term contract rather than with interim measures. In addition, long term water use will require a more detailed NEPA compliance.

We will contact you for a date to meet with you and the State of New Mexico on these issues. We recommend a date between now and July 21, 1982. Please contact Ms. Deborah Linke, Chief, Repayments Staff, at (801) 524-5435 if you have any questions.

Sincerely yours,

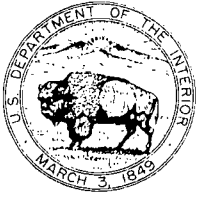
For F. Phillip Sharpe
Clifford I. Barrett
Regional Director

Enclosure

cc: Mr. Steve Reynolds
State Engineer
Water Resources Division
Bataan Memorial Building, Room 101
Santa Fe, New Mexico 87503

✓ Mr. Oscar Simpson
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Hammond Conservancy District
P.O. Box 517
Bloomfield, New Mexico 87413

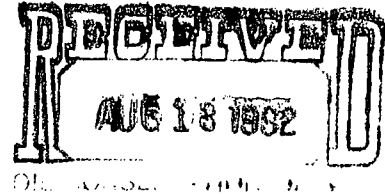


United States Department of the Interior

BUREAU OF RECLAMATION
UPPER COLORADO REGIONAL OFFICE
P.O. BOX 11568
SALT LAKE CITY, UTAH 84147

IN REPLY
REFER TO: UC-440
840.

AUG 11 1982



Mr. Joe Ramey
Director
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

This letter is in reference to a July 20, 1982, telephone conversation with Mr. Oscar Simpson of your staff and Tom Scoville of this office regarding the sale of Navajo Reservoir water to Plateau, Inc. at Bloomfield, New Mexico.

It is our understanding that there may be serious environmental problems surrounding Plateau, Inc.'s current operating practices. The State has therefore initiated an investigation to assess the impacts of oil seeps from Plateau's refinery on the San Juan River and the Hammond Ditch. We also understand that Plateau, Inc. is aware of the problems and the State's concern, and is planning to perform work that will control the above problem. This work was discussed in the company's proposed discharge plan. We share concern over Plateau's apparent refinery waste discharges into the Hammond Canal and San Juan River. In addition, we concur that Plateau should be required to correct the problem within a specific time period.

We have a responsibility under the National Environmental Policy Act of 1969 (NEPA) to assess the impacts of the proposed sale of water to Plateau, Inc. We would appreciate your informing us of the State's specific requirements that Plateau, Inc. must comply with. We would also appreciate receiving your time schedule for defining and implementing these requirements. We need this information to document all conditions that will be included in any proposed water sales contract between Plateau, Inc. and the Department of the Interior.

We have given Plateau, Inc. a 90-day extension on their request for renewing their present water sales contract. This was done to allow the State as well as the Bureau, time to develop the necessary documentation and plan for correcting the apparent pollution problem. The 90-day extension expires on October 12, 1982, at which time we must either enter into a longer term contract with Plateau, Inc. or cancel their water contract for the oil refinery.

Sincerely yours,

F. Phillip Sharpe
For Clifford I. Barrett
Regional Director

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

COLORADO RIVER STORAGE PROJECT

NAVAJO UNIT

INTERIM CONTRACT BETWEEN THE UNITED STATES AND
PLATEAU, INCORPORATED
FOR FURNISHING WATER

1 THIS CONTRACT, made this 12th day of July 1982,
2 pursuant to the Act of Congress approved June 17, 1902 (32 Stat. 388),
3 and acts amendatory thereof or supplementary thereto, and particularly
4 pursuant to the Colorado River Storage Project Act approved April 11, 1956
5 (70 Stat. 105), between THE UNITED STATES OF AMERICA, hereinafter referred to
6 as the United States, represented by the officer executing this contract, his
7 duly appointed successor or his duly authorized representative, hereinafter
8 referred to as the Contracting Officer, and Plateau, Incorporated, a corpora-
9 tion organized under the laws of the State of New Mexico, with its executive
10 offices at Farmington, New Mexico, hereinafter referred to as the Contractor,

11 WITNESSETH:

12 WHEREAS, the following statements are made in explanation:

13 (a) The United States has constructed Navajo Dam and Reservoir
14 as a unit of the Colorado River Storage Project, for the furnishing of water
15 for irrigation, municipal, industrial and other beneficial uses.

16 (b) The Contractor is in need of a water supply for industrial
17 use in the area for use at their petroleum refinery facilities located near
18 Bloomfield, New Mexico, and water is available on a temporary basis to supply
19 the Contractor from Navajo Reservoir.

1 NOW, THEREFORE, in consideration of the mutual and dependent
2 covenants herein contained, the parties hereto agree as follows:

3 TERM OF CONTRACT

4 1. This contract shall be effective for 3 months.

5 WATER DELIVERY

6 2. The United States grants the Contractor the right, during the
7 term of this contract, to have delivered from Navajo Reservoir, as hereinafter
8 provided not to exceed 70 acre-feet of water at such times as best suits its
9 needs and the Contractor shall pay for the water as provided in Article 4.

10 FOR INDUSTRIAL USE ONLY

11 3. The water sold hereunder shall be used by the Contractor
12 only for industrial use. The Contractor shall prepare and furnish such
13 reports on water use and related data as required by the Contracting Officer.

14 RATE AND METHOD OF PAYMENT FOR WATER

15 4. The Contractor shall annually pay in advance for the quantity
16 of water which it has contracted to take and pay for, whether or not it
17 actually takes and uses such water. The rate of \$40 per acre-foot, plus
18 \$1 per acre-foot for operation and maintenance charges as follows is payable
19 by the Contractor for water service.

20		First Annual Payment
21	Water Contracted	(Based on \$41.00)
22	(acre-feet)	per acre-foot
23	<u>70</u>	<u>\$2,870</u>

24 MEASUREMENT AND RESPONSIBILITY FOR DISTRIBUTION

25 5. (a) The water to be furnished to the Contractor will be
26 measured by facilities of the United States at the outlet works of Navajo
27 Reservoir. The Contractor shall suffer all distribution and administration
28 losses from the point of such delivery to the place of use. The Contractor
29 agrees to provide a measuring device, which is acceptable to the Contracting

1 Officer, at or near the Contractor's point of diversion, to measure the
2 quantity of water delivered and diverted under this contract. The Contractor
3 is responsible for making arrangements with the State of New Mexico and
4 others needed for the transportation and diversion of such water. The
5 Contractor shall pay any charges from the New Mexico State Engineer's Office
6 for the distribution, handling, or administration of this water.

7 (b) The United States shall not be responsible for the
8 control, carriage, handling, use, disposal, or distribution of water taken
9 by the Contractor hereunder, and the Contractor shall hold the United States
10 harmless on account of damage or claim of damage of any nature whatsoever,
11 including property damage, personal injury or death arising out of or
12 connected with the control, carriage, handling, use, disposal, or distribu-
13 tion of such water by the Contractor.

14 (c) This contract and all water taken pursuant thereto shall
15 be subject to and controlled by the Colorado River Compact dated November 24,
16 1922, and proclaimed by the President of the United States, June 25, 1929,
17 the Boulder Canyon Project Act approved December 21, 1928, the Boulder
18 Canyon Project Adjustment Act of July 19, 1940, the Upper Colorado River
19 Basin Compact dated October 11, 1948, the Mexican Water Treaty of February 3,
20 1944, and the Colorado River Basin Project Act of September 30, 1968, Public
21 Law 90-537. In the event water available to the Contractor is required to
22 be curtailed under and by reason of the provisions of the foregoing acts,
23 including the reaching of maximum use of water allotted to the State of
24 New Mexico, no liability shall attach to the United States for such curtail-
25 ment, and the Contractor agrees to reduction of the amount of water taken
26 hereunder as the Secretary determines necessary to comply with the provisions
27 of said acts.

1 UNITED STATES NOT LIABLE FOR WATER SHORTAGE - ADJUSTMENTS

2 6. On account of drought, errors in operation, or other causes,
3 there may occur at times, a shortage during any year in the quantity of
4 water available to the Contractor by the United States pursuant to this
5 contract through and by means of the project, and in no event shall any
6 liability accrue against the United States or any of its officers, agents,
7 or employees for any damage direct or indirect, arising therefrom. In
8 any year in which there may occur such a shortage, the United States reserves
9 the right to apportion the available water supply among the Contractor and
10 others entitled, under existing and future contracts, to receive water from
11 the same project water supply all in a manner to be prescribed by the
12 Contracting Officer.

13 NOTICES

14 7. Any notice, demand, or request authorized or required by this
15 contract shall be deemed to have been given, on behalf of the Contractor
16 when mailed, postage prepaid, or delivered to the Regional Director, Upper
17 Colorado Region, Bureau of Reclamation, P.O. Box 11568, 125 South State
18 State, Salt Lake City, Utah 84147, and on behalf of the United States, when
19 mailed, postage prepaid, or delivered, to the Plateau, Incorporated, P.O.
20 Box 108, Farmington, New Mexico 87401. The designation of the addressee or
21 the address may be changed by notice given in the same manner as provided in
22 this article for other notices.

23 STANDARD CONTRACT ARTICLES

24 8. The standard contract articles applicable to this contract
25 are listed below. The full text of these standard articles is attached as
26 Exhibit A and is hereby made a part of this contract.

- 27 A. Contingent Upon Appropriation or Allotment of Funds
28 B. Officials Not To Benefit
29 C. Assignment Limited - Successor's and Assigns Obligated
30 D. Books, Records, and Reports
31 E. Rules, Regulations, and Determinations

- 1 F. Quality of Water
2 G. Water and Air Pollution Control
3 H. Equal Opportunity
4 I. Title XI, Civil Rights Act of 1964

5 IN WITNESS WHEREOF, the parties hereto have signed their names
6 the day and year first above written.

THE UNITED STATES OF AMERICA

(seal)

[Faint circular seal impression]
[Signature]

By:

F. Phillips Sharpe
Regional Director
Bureau of Reclamation

ATTEST:

PLATEAU, INCORPORATED

By:

[Signature]

EXHIBIT A

A. CONTINGENT ON APPROPRIATION OR ALLOTMENT OF FUNDS

The expenditure or advance of any money or the performance of any work by the United States hereunder which may require appropriation of money by the Congress or the allotment of funds shall be contingent upon such appropriation or allotment being made. The failure of the Congress to appropriate funds or the absence of any allotment of funds shall not relieve the Contractor from any obligations under this contract. No liability shall accrue to the United States in case such funds are not appropriated or allotted.

B. OFFICIALS NOT TO BENEFIT

1. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise herefrom. This restriction shall not be construed to extend to this contract if made with a corporation or company for its general benefit.

2. No official of the Contractor shall receive any benefit that may arise by reason of this contract other than as a water user within the project and in the same manner as other water users within the project.

C. ASSIGNMENT LIMITED - SUCCESSORS AND ASSIGNS OBLIGATED

The provisions of this contract shall apply to and bind the successors and assigns of the parties hereto, but no assignment or transfer of this contract or any part or interest therein shall be valid until approved by the Contracting Officer.

D. BOOKS, RECORDS, AND REPORTS

The Contractor shall establish and maintain accounts and other books and records pertaining to its financial transactions, water use, and to other matters as the Contracting Officer may require. Reports thereon shall be furnished to the Contracting Officer in such form and on such date or dates as he may require. Subject to applicable Federal laws and regulations, each party shall have the right during office hours to examine and make copies of each other's books and records relating to matters covered by this contract.

E. RULES, REGULATIONS, AND DETERMINATIONS

(a) The Contracting Officer shall have the right to make, after an opportunity has been offered to the Contractor for consultation, rules, and regulations consistent with the provisions of this contract, the laws of the United States and the State of New Mexico, to add or to modify them as may be deemed proper and necessary to carry out this contract, and to supply necessary details of its administration which are not covered by express provisions of this contract. The Contractor shall observe such rules and regulations.

(b) Where the terms of this contract provide for action to be based upon the opinion or determination of either party to this contract, whether or not stated to be conclusive, said terms shall not be construed as permitting

1 such action to be predicated upon arbitrary, capricious, or unreasonable
2 opinions or determinations. In the event that the Contractor questions any
3 factual determination made by the Contracting Officer, the findings as to
4 the facts shall be made by the Secretary only after consultation with the
5 Contractor and shall be conclusive upon the parties.

6 F. QUALITY OF WATER

7 The operation and maintenance of project facilities shall be performed in such
8 manner as is practicable to maintain the quality of raw water made available
9 through such facilities at the highest level reasonably attainable as deter-
10 mined by the Contracting Officer. The United States does not warrant the
11 quality of water and is under no obligation to construct or furnish water
12 treatment facilities to maintain or better the quality of water.

13 G. WATER AND AIR POLLUTION CONTROL

14 The Contractor, in carrying out this contract, shall comply with all applicable
15 water and air pollution laws and regulations of the United States and the
16 State of New Mexico and shall obtain all required permits or licenses from the
17 appropriate Federal, State, or local authorities.

18 H. EQUAL OPPORTUNITY

19 During the performance of this contract, the Contractor agrees as follows:

20 1. The Contractor will not discriminate against any employee or
21 applicant for employment because of race, color, religion, sex, or national
22 origin. The Contractor will take affirmative action to ensure that applicants
23 are employed, and that employees are treated during employment, without
24 regard to their race, color, religion, sex, or national origin. Such
25 action shall include, but not be limited to, the following: Employment,
26 upgrading, demotion, or transfer; recruitment or recruitment advertising;
27 layoff or termination; rates of pay or other forms of compensation; and
28 selection for training, including apprenticeship. The Contractor agrees to
29 post in conspicuous places, available to employees and applicants for
30 employment, notices to be provided by the Contracting Officer setting
31 forth the provisions of this nondiscrimination clause.

32 2. The Contractor will, in all solicitations or advertisements for
33 employees placed by or on behalf of the Contractor, state that all qualified
34 applicants will receive consideration for employment without discrimination
35 because of race, color, religion, sex, or national origin.

36 3. The Contractor will send to each labor union or representative of
37 workers, with which it has a collective bargaining agreement or other
38 contract or understanding, a notice, to be provided by the Contracting
39 Officer, advising the said labor union or workers' representative of the
40 Contractor's commitments under Section 202 of Executive Order 11246 of
41 September 24, 1965, and shall post copies of the notice in conspicuous
42 places available to employees and applicants for employment.

43 4. The Contractor will comply with all provisions of Executive
44 Order No. 11246 of September 24, 1965, as amended, and of the rules,
45 regulations, and relevant orders of the Secretary of Labor.

1 5. The Contractor will furnish all information and reports required
2 by said amended Executive Order and by the rules, regulations, and orders of
3 the Secretary of Labor, or pursuant thereto, and will permit access to its
4 books, records, and accounts by the Contracting Officer and the Secretary of
5 Labor for purposes of investigation to ascertain compliance with such rules,
6 regulations, and orders.

7 6. In the event of the Contractor's noncompliance with the nondiscrim-
8 ination clauses of this contract or with any of the said rules, regulations,
9 or orders, this contract may be canceled, terminated, or suspended, in whole
10 or in part and the Contractor may be declared ineligible for future Government
11 contracts in accordance with procedures authorized in said amended Executive
12 Order, and such other sanctions may be imposed and remedies invoked as
13 provided in said Executive Order, or by rule, regulation, or order of the
14 Secretary of Labor, or as otherwise provided by law.

15 7. The Contractor will include the provisions of paragraphs (1)
16 through (7) in every subcontract or purchase order unless exempted by the
17 rules regulations, or orders of the Secretary of Labor issued pursuant to
18 Section 204 of said amended Executive Order, so that such provisions will be
19 binding upon each subcontractor or vendor. The Contractor will take such
20 action with respect to any subcontract or purchase order as may be directed
21 by the Secretary of Labor as a means of enforcing such provisions, including
22 sanctions for noncompliance: Provided, however, That in the event a
23 Contractor becomes involved in, or is threatened with, litigation with a
24 subcontractor or vendor as a result of such direction, the Contractor may
25 request the United States to enter into such litigation to protect the
26 interests of the United States.

27 I. TITLE VI, CIVIL RIGHTS ACT OF 1964

28 1. The Contractor agrees that it will comply with Title VI of the Civil
29 Rights Act of July 2, 1964 (78 Stat. 241) and all requirements imposed by or
30 pursuant to the Department of the Interior Regulation (43 CFR 17) issued pur-
31 suant to that title, to the end that, in accordance with Title VI of that Act
32 and the Regulation, no person in the United States shall, on the ground of
33 race, color, or national origin be excluded from participation in, be denied
34 the benefits of, or be otherwise subjected to discrimination under any program
35 or activity for which the Contractor receives financial assistance from the
36 United States and hereby gives assurance that it will immediately take any
37 measures to effectuate this agreement.

38 2. If any real property or structure thereon is provided or improved
39 with the aid of Federal financial assistance extended to the Contractor by
40 the United States, this assurance obligates the Contractor, or in the
41 case of any transfer of such property, any transferee for the period during
42 which the real property or structure is used for a purpose involving the
43 provision of similar services or benefits. If any personal property is so
44 provided, this assurance obligates the Contractor for the period during
45 which it retains ownership or possession of the property. In all other
46 cases, this assurance obligates the Contractor for the period during which
47 the Federal financial assistance is extended to it by the United States.

48 3. This assurance is given in consideration of and for the purpose of
49 obtaining any and all Federal grants, loans, contracts, property, discounts,

1 or other Federal financial assistance extended after the date hereof to the
2 Contractor by the United States, including installment payments after such
3 date on account of arrangements for Federal financial assistance which were
4 approved before such date. The Contractor recognizes and agrees that such
5 Federal financial assistance will be extended in reliance on the representa-
6 tions and agreements made in this assurance, and that the United States shall
7 reserve the right to seek judicial enforcement of this assurance. This
8 assurance is binding on the Contractor, its successors, transferees, and
9 assignees.

Refinery Seepage Stirs Dispute

By NOLAN HESTER
Journal Staff Writer

7/25/82

The state and a Bloomfield refinery are locked in a dispute over whether the firm is letting an estimated 50,000 gallons a week of oil-contaminated water escape into the San Juan River.

Oil Conservation Division chief Joe Ramey has threatened to press for fines against Plateau Inc. for refusing to cooperate with his staff.

While Plateau officials admit that the plant does have some seepage, vice president Bob Perry insisted that none of it is reaching the river.

Perry added that the firm has tried to work with the state on the matter, but said, "We feel like we're being picked on."

Both sides agree that the clash started earlier this year when Plateau asked the state to amend its existing water discharge permit for the Bloomfield refinery, which stands on a bluff on the San Juan River's south side. Ramey's office is charged with policing oil operations that might affect

underground water supplies.

Perry said Plateau wanted to change its plan to allow the refinery to use some wastewater to irrigate open fields nearby. At the same time, the firm outlined a plan for recapturing waste water which escapes the plant and seeps out along the bluff.

"We do have seeps but the plan states how they will be recovered," Perry said. "Nothing is reaching the river nor will it ever." He estimated the seepage rate is about five to six gallons a minute, or the equivalent of 50,000 gallons a week.

Ramey said his staff discovered a series of unexplained seeps when it began to review the refinery's plans. That prompted still more questions about the adequacy of the plant's original discharge plan.

Ramey said he was especially concerned about oil-based wastes from the refinery which are seeping into a nearby irrigation ditch from which some residents fill their cisterns.

While Ramey has not yet received the results of tests on samples taken

from the area, he said at least one area reeked of oil. Ramey added that Plateau has not consented to submitting its own samples of the refinery wastes.

Perry complained that the state has continually changed its demands and placed few of them in writing. "They're being very picky. They want everything (in the plan) to be just perfect," he said.

Ramey offered a rebuttal, explaining, "Maybe we've been more thorough than we need to be, but we can't say that until we find where the seeps are coming from. The indications are they're coming from the refinery."

Though Plateau is going along with Ramey's requests for now, Perry said the firm ultimately will challenge the agency's jurisdiction over the plant. Perry argued that since only surface water seems to be involved, Ramey's division has no jurisdiction.

Ramey said he will ask the state Water Quality Control Commission to back him up on the matter by levying a fine against Plateau.

Refinery Accused of Seepage

SANTA FE (AP) — A state official contends that a Bloomfield refinery, Plateau Inc., is allowing oil-contaminated water to escape into the San Juan River, but a refinery officer says that's not so.

Plateau has said the plant does have some seepage, but Vice President Bob Perry insists that none of it is reaching the river.

Perry said Plateau has

tried to work with the state on the matter, but "We feel like we're being picked on."

The controversy arose when Plateau asked the state to amend its existing water discharge plan for the Bloomfield refinery, located on the south side of the San Juan River.

Perry said Plateau wanted to change its plan to allow the refinery to use some waste water to irrigate open fields nearby. At the same time, the firm outlined a plan for recapturing waste water which escapes the plant and seeps out along the bluff where the refinery is located.

"We do have seeps, but the plan states how they will be recovered," Perry said. "Nothing is reaching the river nor will it ever."

He estimated the seepage at about 50,000 gallons a week.

State Oil Conservation Division chief Joe Ramey said a series of unexplained seeps were discovered by his staff when a review began of the refinery's plans.

Ramey said he has not yet received the results of tests

on samples taken from the area, but that at least one area reeked of oil. He also said that Plateau has not consented to submitting its own samples of the refinery wastes.

Perry said the state has changed its demands and placed very few of them in writing. "They're being very picky. They want everything (in the plan) to be just perfect," he said.

Ramey said, "Maybe we've been more thorough than we need to be, but we can't say that until we find where the seeps are coming from. The indications are they're coming from the refinery."

Perry said Plateau will challenge the agency's jurisdiction over the plant. He said that since surface water is involved, Ramey's division has no jurisdiction. Ramey's office is charged with policing oil operations that might affect underground water supplies.

Ramey has said he will ask the state Water Quality Control Commission to levy a fine against Plateau.

HYDRO SCIENCE ENGINEERS, INC.

~~225 IDAHO~~

~~LA MISSION PLAZA, SUITE 7~~

LAS CRUCES, NM 88005

(505) 526-3147

2856 Glass Road

October 29, 1982

Mr. Oscar A. Simpson III
Water Resource Specialist
Oil Conservation Division
Energy and Minerals Department
P.O. Box 2088
Santa Fe, NM 87501

Dear Mr. Simpson:

Enclosed is response to your inquiries and review of "Updated Discharge Plan for a Refinery Operated by Plateau, Inc., near Bloomfield, New Mexico" by American Ground Water Consultants, Inc.

We are returning the reports and supplemental material to you as you requested.

If you have need for additional assistance please contact either myself or a member of our staff.

Sincerely yours,



George V. Sabol
President and Chief Engineer

GVS/js

1. Can OCD Request A Discharge Plan?

Yes, Part 3-101A, Water Quality Control Regulations, states "The purpose of these regulations controlling discharges onto or below the surface of the ground is to protect those segments of surface waters which are gaining because of ground water inflow, for uses designated in the New Mexico Water Quality Standards."

The groundwater flow (seeps) into the alluvium of the San Juan River appears to meet this regulation. In addition, a discharge plan is required under 3-104 "unless otherwise provided by these regulations, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into groundwater" The alluvium of the San Juan River does indeed contain groundwater which is receiving an effluent indirectly from the seeps.

This should be confirmed by the New Mexico Oil Conservation Divisions Legal Department.

2. Page 16 of the report uses a Schoeller diagram.

The diagram can be used to prove common sources of water but it can not be used to disprove that they are from the same source. Chemical changes and blending occurs that tend to modify the character of the water that would cause the diagram to be inappropriate.

3. The ditch water will blend with the seep effluent causing a reduction in constituent concentration of the effluent water. However, the volume of the seep would have to be substantial to cause significant degradation of the ditch water. For example, what would the concentration be in the ditch water if the seep water contains 4000 mg/l Total Dissolved Solids (TDS)?

$$C_{\text{Final Ditch TDS Conc.}} = \frac{\left(C_{\text{TDS Conc of Seep}} \right) \left(Q_{\text{Flow or Seep}} \right) + \left(C_{\text{Initial TDS conc. of Ditch}} \right) \left(Q_{\text{Initial Flow of Ditch}} \right)}{Q_{\text{Seep}} + Q_{\text{Ditch}}}$$

$$C_{\text{Final Ditch TDS Conc.}} = \frac{(4000 \text{ mg/l}) (5 \text{ gpm}) + (200 \text{ mg/l}) (250 \text{ gpm})}{5 \text{ gpm} + 250 \text{ gpm}}$$

$$= 275 \text{ mg/l or a 38\% increase in solids}$$

However, the regulations may allow degradation of the water to 500 mg/l as TDS. The above values are assumed for explanation purposes. More data on flow rates in the ditch is required.

4. The suggested constituents to be monitored are:

COD, TOC, Total Suspended Solids,
oil and grease, phenolic compounds,
ammonia, sulfide and total chromium.

These constituents are recommended for routine analysis by the U.S. Environmental Protection Agency in their report entitled Petroleum Refining, Point Source Category, EPA - 440/1-74-014-a, April 1974. Each major source of discharge should be characterized using these parameters such as the Fluid Catalytic Cracking (FCC), Desalter, Fractionation, and API separator. The efficiency of the Separator should be determined using the test "Susceptability to separation". If the test indicates little or no separation the unit could be followed using air flotation, clarifiers or filters before discharge to a pond. After such treatment the quality of water may be improved to the point where some wastewater could be discharged to the ground without significant environmental impact.

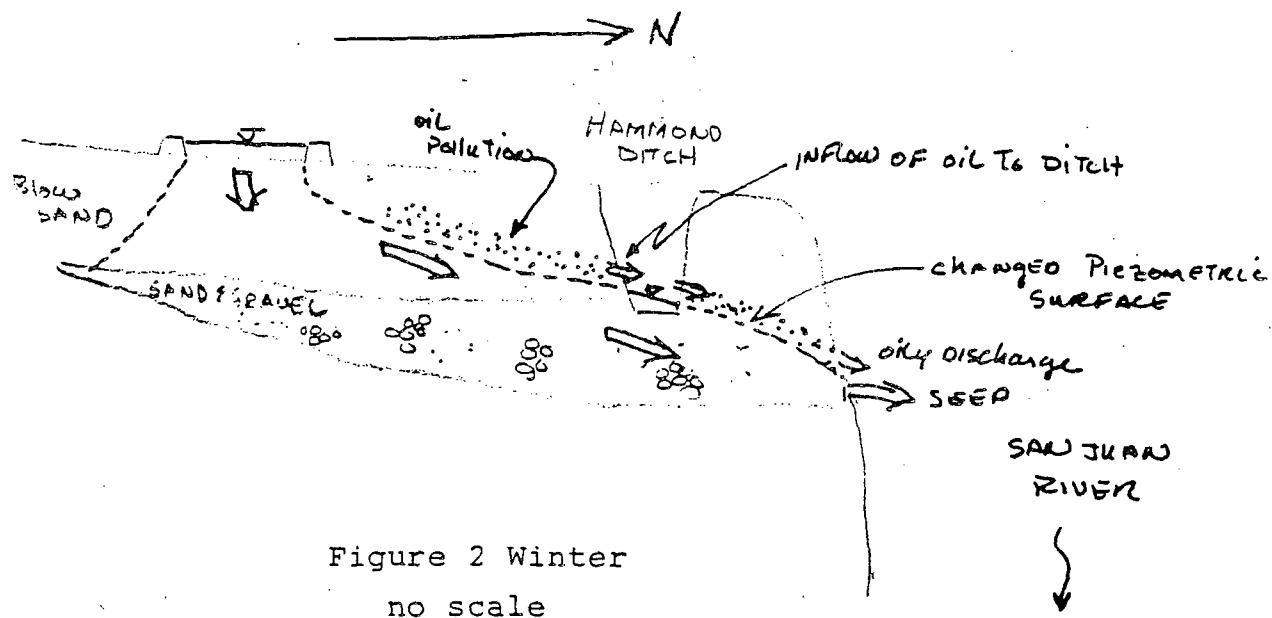
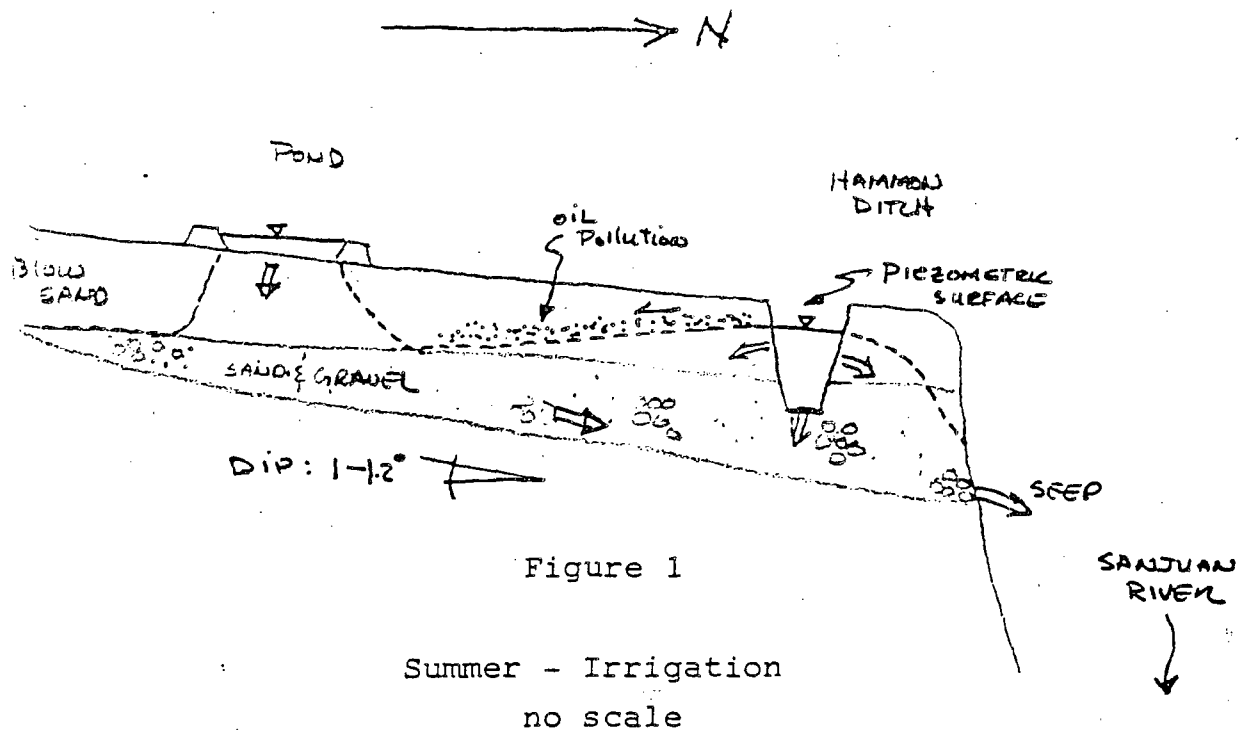
5. Data on area wells should be obtained from the New Mexico State Engineer's Office. The State Engineer maintains records on the location and beneficial use of ground water for each section of land in New Mexico's declared basins.

6. Although the oil and gas processing industry has an exemption under the Resource Conservation and Recovery Act (RCRA) there is a separate regulation (super fund) on old pits, such as API and tank bottom sludges, that should be addressed for hazardous wastes. In addition, polychlorinated biphenyl (PCB) is regulated separately. Information on these items should also be obtained. Particular emphasis should be placed on heavy metals and toxic organics in sludges.

7. Under the Clean Water Act Section 311, discharges of oil and hazardous substances requires owners and operators to establish a Spill Prevention Control and Countermeasures Plan to prevent accidental discharges of such substances into navigable water, such as the San Juan River. Plateau should have the plan available for review which may answer most of the questions related to surface runoff problem. However, such a plan was not provided to NMOCD for review. Surface drainage should be delineated on the aerial photo indicating the ultimate discharge point of stormwater runoff.

8. The area of heavily polluted soils containing oil (inspised oil) will continually recharge the Hammond Ditch. This area should be treated to intercept the oils for disposal. The oil is lighter than water hence will be present on the piezometric surface. This does aid in capture of the oil if it is moving toward the ditch. Figure 1 indicates that during the summer irrigation season the oil on the surface should flow to the south because the piezometric surface should dip in that direction due to heavy recharge to the aquifer by the ditch. Then as the irrigation season ends the ditch no longer recharges the aquifer and the piezometric surface reverses allowing the oil to flow northward into the ditch and likely beyond to seeps in the cliff.

The oil can be captured using the method shown in Figure 3. The existing monitor wells may be useful in design of such a clean up operation. The problem with removal wells is the requirement for constant pumping and a place to dispose of the wastestream. Using the ditch method it is possible to hold the oil until the plant manager is ready to remove the oil scum.



The reason for changing water quality is due to the seasonal change in the piezometric surface in the Plateau refinery area. A flow net for seepage could be constructed for each season showing the rate of movement of oils to the ditch.

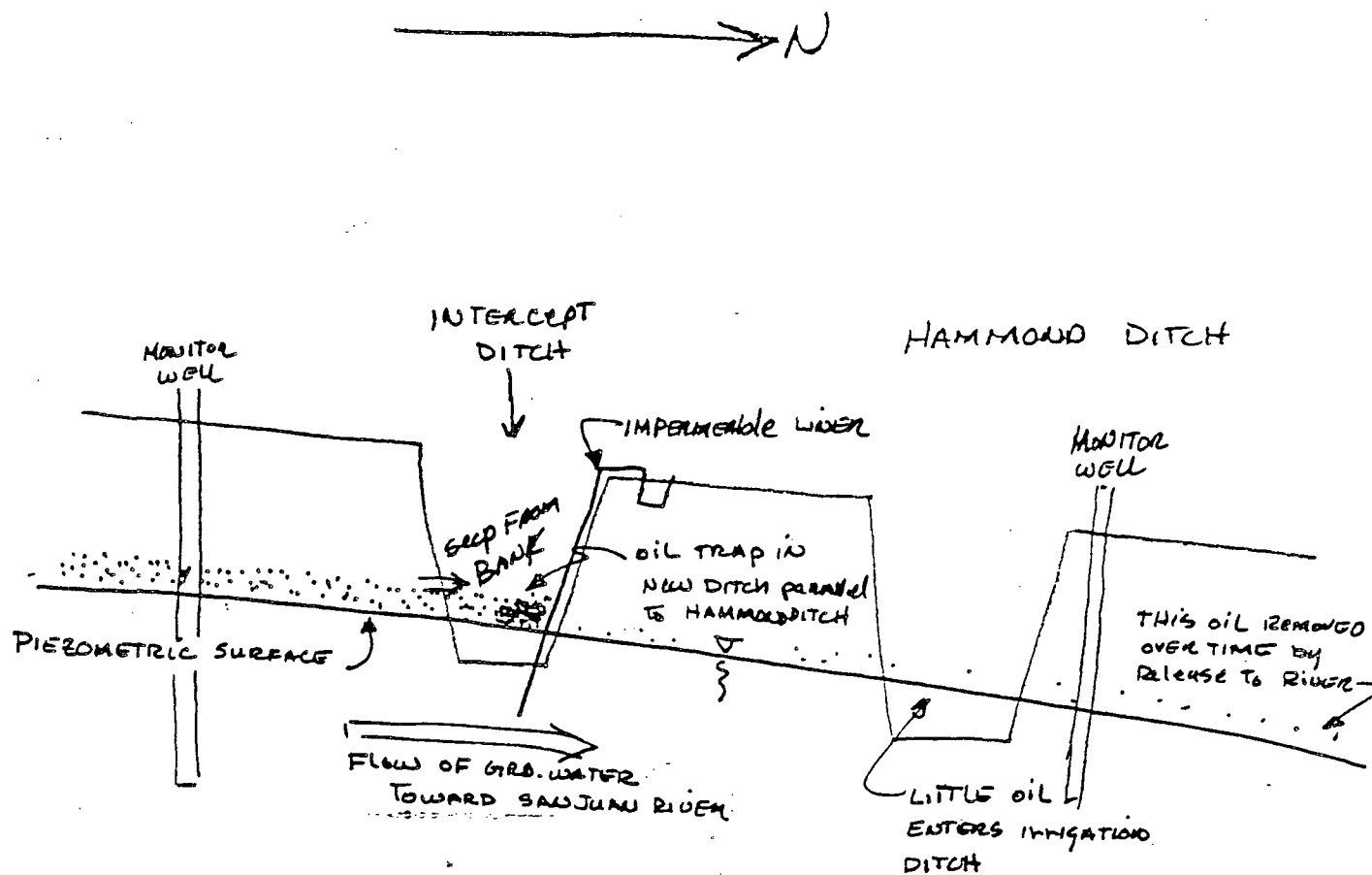


Figure 3

The oil on top of the water would be trapped behind the impermeable liner for later collection and disposal. Depth of oil and water must be determined before design and construction of intercept ditch.

9. In the Farmington area the amount of evapotranspiration that can be expected is about 2.5 gallons per minute per acre, i.e. if the waste stream is 80 gpm, about $\left(\frac{80}{2.5}\right)$ 32 acres of ponds will be required for disposal. Also, water with high total dissolved solids has a reduced rate of evaporation causing the factor to be further reduced by 5 percent. At present there are 8 acres of ponds and about 15 acres (?) of irrigation for a total of 23 acres. The difference in surface area indicates that 22.5 gpm must be infiltrating the subsurface. Looking at the aerial photos some of this surface area is not available to allow evaporation due to the presence of oil on the ponds. The rate of infiltration is very likely higher than 22.5 gpm and could be as high as 40 gpm. Flow measurements and percolation test may indicate a more exact value.

10. Land disposal of wastewater is a reasonable method for disposal if the water quality is satisfactory for the soils and vegetation. In Plateau's report the total dissolved solids were measured at 2400 mg/l (assume conductivity of 2.4 mmhos/cm) and "high" sodium adsorption ratio. Water in the range of .7 to 2.2 mmhos/cm are widely used for irrigation, and satisfactory crop growth is obtained under good management and favorable drainage conditions, but saline conditions will develop if leaching and drainage are inadequate. Waters in excess of 2.2 mmhos/cm can be used only when the water is used copiously and the subsoil drainage is good. Therefore, a leaching requirement is necessary to maintain the disposal field in satisfactory condition. That is, an excess amount of water must be used to cause the salts, and in this case other pollutants, to migrate downward which in effect maintains the existing polluted condition of the aquifer.

11. The flow data appears to be approximated in the plateau report. The methods used to determine flow data should be submitted in accordance with 3-107.A.5. Flow data is essential to evaluate the sampling conducted within the plant. Each process has a unique character that will determine its best treatment methods and in some cases not treatment. The characterization should include a flow proportional-time weighted composite sampling as required under 2-101.A. The method of preparing an adequate waste survey is detailed in the U.S. Environmental Protection Agency's Handbook for Monitoring Industrial Wastewater, August 1973.

The problems associated with grab samples from ponds are numerous. The sample may be the "best" or "worst" case due to rainfall, inflow of unknown contaminants, and oxidation - reduction reactions of wastes with time. The wastewater recharging the subsurface should be determined at the end-of-the-pipe prior to flowing into a pond. The presence of cobalt, lead, chromium and benzene should be a serious concern to the health and welfare of New Mexico's residents. Proper sampling should identify the source of these contaminants and provide the basis for treatment.

12. The contamination in the ground water cannot be economically removed at this time. The only action that seems appropriate is to reduce or eliminate further loading of the aquifer with polluted wastewater. The recharge of the aquifer by the Hammond Ditch will eventually flush the pollutants into the San Juan River, which may take several decades to accomplish. The introduction of waste oils to the ditch can be reduced using the method described in item 8 above which appears to be a major concern with downstream users of the ditch water.

13. The potential pollutants noted in the analyses are likely from the following processes:

Fluid Catalytic Cracking (FCC)

Largest source of sour and phenolic wastes are steam strippers and accumulations on fractionators. The regeneration of spent catalyst may produce CO, an air pollutant. The suggested parameters to monitor include: oil, sulfides, phenols, cyanids, ammonia, alkalinity, COD, TOC.

Desalter

The suggested parameters to monitor include: emulsified and free oil, ammonia, phenol, sulfides, suspended solids, COD, TOD, chlorides, and temperature (200°F).

Crude Oil Fractionation

Wastewater generally comes from three sources:

- (1) water drawn off from overhead accumulators prior to recirculation or transfer of hydrocarbons to other fractionators.
- (2) discharge from oil sampling lines.
- (3) very stable oil emulsions formed in the barometric condensers used to create the reduced pressures in the vacuum distillation units.

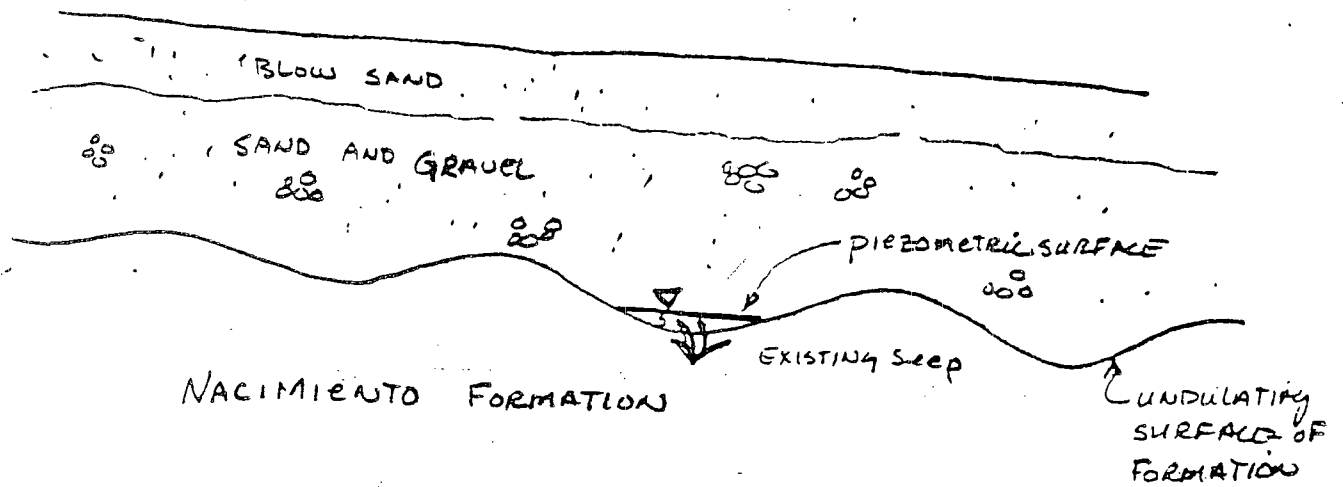
The parameters to monitor are the same as above.

14. Important facts to remember when evaluating API separators:

- (1) the separator will not separate substances in solution,
- (2) removal is temperature dependent (high temperature reduces removal efficiency),
- (3) removal is dependent upon the density and size of oil globules, and
- (4) removal is also dependent upon the character of suspended solids.

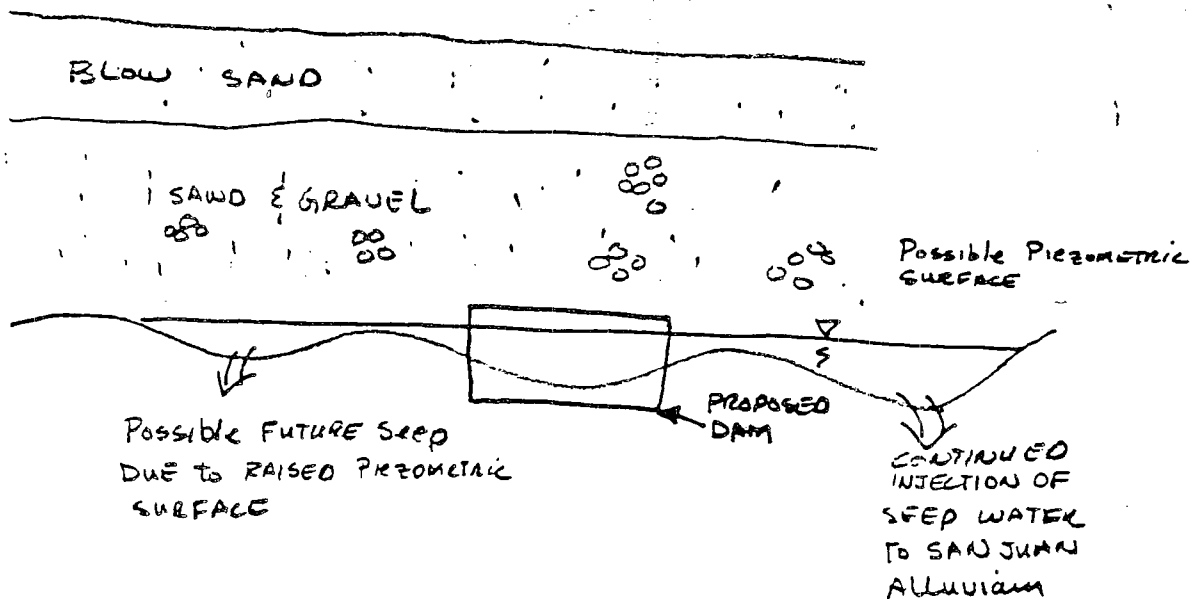
A test is available to determine efficiency of API separators called "susceptibility to separation." This test will also determine the amount of sludge produced for disposal. Normally an API separator is followed with a clarifier, filter, or air flotation process to remove those constituents that passed through the separator.

15. The proposal to recycle the wastewater from the seeps does not eliminate the chance for further pollution of the San Juan River alluvium. According to the Plateau report the Nacimientto formation is undulating as seen in the exposed section of the Cliff. Therefore, once a dam is placed at a seep the water level will rise and may seek an outlet requiring less hydraulic head. Figure 4 shows the potential for continued injection into the river aquifer which essentially will continue the existing situation. According to the Plateau plan these new seeps would also have a dam built. It does not seem to be a reasonable scheme for protection of the groundwater. In addition, according to the literature the Nacimientto formation does have layers of sand that can transmit water at high flow rates. The information provided does not exclude the possibility that wastewater is recharging such layers in the formation.



Existing Condition of Seep at
the Interface of the Nacimientto
Formation and Sand and Gravel

Figure 4a



Possible Condition of Seep at
the Interface of the Nacimientto
Formation and Sand and Gravel
Due to Raising the Piezometric
Surface

Figure 4b



TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

March
~~APRIL~~ 8, 1983

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Plateau, Inc.
7575 Indian School Rd. NE
Albuquerque, NM 87110

Attention: Mr. Bob Perry
Executive Vice President

Re: Discharge Plan Review
Plateau Inc. Refinery,
Bloomfield, New Mexico

Dear Mr. Perry:

Following receipt of Mr. Gregory Smith's letter dated September 8, 1982, Mr. Oscar Simpson of this office proceeded with review of the subject discharge plan.

There are five major problem areas with the plan. These have been briefly summarized and are attached hereto. Additionally, we are very concerned with the operation of the current spray irrigation process and may withdraw our approval thereof.

After you and other concerned parties have had an opportunity to review this letter, we believe that a meeting to discuss these issues will be beneficial. Please contact me so that this meeting can be set up as early as possible, preferably within the next two weeks.

Sincerely,

JOE D. RAMEY
Division Director

JDR/dp

Enc.

SUMMARY OF THE MAJOR PROBLEMS
WITH THE PLATEAU, INC. REFINERY DISCHARGE PLAN

(1) The plan does not address the catchment of all fluids which may be discharged within the refinery area.

The plan should provide impermeable catchment of fluids which may be drained onto or which may leak or spill onto the surface within the refinery area and the drainage of these fluids to impermeable storage. This part of the plan should cover the refinery proper, and all appurtenances such as the loading areas, wash down areas, and crude and product storage areas.

Provision should be made for capturing runoff from the area resulting from rainfall and the movement of such fluids to the impermeable storage. In the alternative, Plateau may demonstrate that such runoff will not contain contaminants above the levels provided in the regulations including toxic pollutants.

If there should be any facilities or areas not covered by the catchment and drain system, the quality, quantity, and flow characteristics of any discharge therefrom must be defined. Any areas where refinery wastes or pit solids may have been buried should be described and their potential for leaching evaluated.

(2) The quantity, quality and flow characteristics of discharges from the refinery have not been adequately defined.

The effluent from the API separator must be characterized utilizing a technique which accounts for differing outputs over a sufficient period of time to yield results representative of a typical month of operation. Sampling must also be done in conformance with Section 3-107 B., 1 through 3 of the WQCC regulations.

The sampling technique to be used should be briefly described and receive prior approval from Mr. Simpson. This will assure that the data will be acceptable.

Any other discharge should be characterized in the same manner.

(3) The plan does not provide for impermeable storage of discharged fluids which contain contaminants in excess of

the standards set out in WQCC regulations or which contain toxic pollutants as described therein.

At this time, we believe that all plant discharges should go to such impermeable storage. However, fluids which do not exceed the standards or which do not contain toxic pollutants may be disposed of in some other manner. We would require that any such other disposal not aggravate the current situation which is causing seeps around the refinery site.

The plan must also discuss the proper disposal of any solids or semi-solids which may accumulate in the impermeable storage facilities or elsewhere in the refinery area.

(4) The plan does not properly address the existence of ground water in the area or set up any system of water quality monitoring.

Our investigations have shown there to be ground water in the area of the refinery site. Plateau must determine the location of water wells and springs on or immediately offsetting the refinery area and supply data as to the source of such water and its quality. Again, the sampling technique should be cleared with Mr. Simpson to avoid future conflict over the process or the data. Further, Mr. Simpson will be happy to share the results of his investigation of water wells and sources in this area.

The discharge plan must propose a monitoring plan that will assure that contaminants and toxic pollutants are not moving off the refinery site undetected. Such a plan must address ground water monitoring and monitoring of the Hammond ditch and the San Juan River.

(5) The plan does not adequately or completely address Section 3-107 A, items 1 through 10 of the regulations. Further, the contingency plan covered under Section 3-107 A-10, must address storm runoff and its effect on the catchment and drain system, the impermeable storage, etc.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

FEB 25, 1983

65

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

M E M O R A N D U M

TO: JOE D. RAMEY, DIRECTOR

FROM: OSCAR SIMPSON

SUBJECT: FEBRUARY 24, 1983 MEETING BETWEEN PAUL BIDERMAN, SECRETARY OF
ENERGY & MINERALS & OSCAR SIMPSON

On February 24, 1983 at 9:30 A.M. an informal meeting was held between Paul Biderman and myself to discuss Plateau Refinery's amended discharge plan. A summary of the items discussed were as follows:

1. Plateaus' updated discharge plan
2. My report and recommendations on Plateaus' updated Discharge Plan
3. The memo of February 18, 1983, from Dick Stamets to Joe D. Ramey
4. Based on the above 3 items is the Oil Conservation Division Taking appropriate action or should other courses be taken and to what extent.
5. The need of the Oil Conservation Division to take a stronger position on ground water protection.
 - a) expanding R-3221 state wide
 - b) updating pit standards
 - c) disposal problems with tank bottoms
 - d) discharge plans
 - e) need to investigate the potential problem for ground water contamination unregulated injection well pressure.
 - f) hydrostatic test discharges from oil & gas transmission lines



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

April 13, 1983

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Plateau, Inc.
P.O. Box 26251
Albuquerque, NM 87125

Attention: Lee S. Woodside
Vice President

Re: Clarification of Discharge
Plan

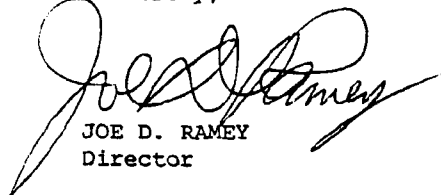
Dear Sir:

On June 5, 1983, your discharge plan as permitted under the Water Quality Control Commission Regulations (WQCC), expires.

The Oil Conservation Division (OCD) would like you to clarify whether the information contained in the report, "Updated Discharge Plan for a Refinery Operated by Plateau Inc., Near Bloomfield, New Mexico" is considered to be a submittal of a new discharge plan or was it intended to update the present plan - GWR-1.

If you have any questions on this matter, please contact me at (505) 827-5802.

Sincerely,

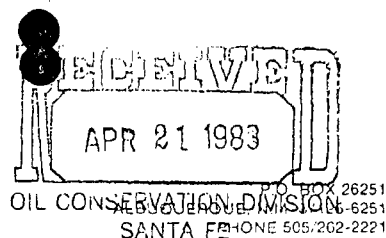


JOE D. RAMEY
Director

JDR/OS/dp

PLATEAU, INC.

April 18, 1983



Mr. Joe Ramey
State of New Mexico
Energy & Minerals Department
P. O. Box 2088
Santa Fe, NM 87501

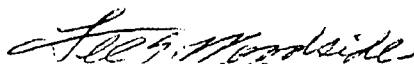
Dear Mr. Ramey:

Plateau, Inc.'s "Updated Discharge Plan for a Refinery Operated by Plateau, Inc., near Bloomfield, New Mexico" was submitted to update the Present Plan - GWR-1.

This Plan will also become our "New Discharge Plan" with additions and/or revisions formulated by your Environmental Work Group and our Environmental Work Group, as agreed upon in our meeting of April 4, 1983. These additions and/or revisions will be incorporated into the "Updated Discharge Plan for a Refinery Operated By Plateau, Inc., near Bloomfield, New Mexico" as quickly as they are mutually agreed upon.

Please direct any questions you may have to Dwight J. Stockham on the above.

Sincerely,


Lee S. Woodside
Vice President/Refining

LSW:lh

cc: P. W. Liscom
G. A. Masson
R. G. Perry
D. J. Stockham
File



PETROLEUM REFINERS • MARKETERS



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

April 25, 1983

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

M E M O R A N D U M

TO: JOE D. RAMEY, DIRECTOR

FROM: OSCAR SIMPSON, WATER RESOURCE SPECIALIST *OAS*

SUBJECT: PERMISSION REQUEST FOR JEFF EDMINSTER, DISTRICT III GEOLOGIST,
TO ATTEND ON MAY 3, 1983, A JOINT MEETING IN SANTA FE BETWEEN
THE EPA, EID AND THE OCD TO DISCUSS ILLEGAL HAZARDOUS WASTE
DISPOSAL BY PLATEAU REFINERY

On May 3, 1983, at the Environmental Improvement Division office in Santa Fe, a joint meeting will be held between the Environmental Protection Agency (EPA), Criminal Investigation Branch, the Environmental Improvement Division (EID), Hazardous Waste Division, and the Oil Conservation Division (OCD).

The reason for the meeting is to discuss Plateau Inc.'s illegal removal, transport and disposal of hazardous waste, (API Separator sludge), from its Bloomfield Refinery in New Mexico.

API Separator sludge is automatically considered a hazardous waste substance. Any removal, transport and disposal of this sludge without EPA's approval is a serious violation. Plateau removed API Separator sludge from its API sludge ponds, buried part of the waste east of the refinery and transported a large portion across the state line to an unauthorized disposal site in Vernal, Utah. Every aspect of the sludge removal was illegally done in direct violation of EPA's Hazardous Waste Regulations.

I will not be able to attend this upcoming meeting. I will be in southeast New Mexico making discharge plan related inspections of El Paso Natural Gas Company's plant facilities (Jal No. 4, Eunice and Monument).

Since I will not be able to attend the meeting and Jeff has first-hand experience on the subject, I would like permission for Jeff to attend this meeting.

This meeting may also have some direct effects on Plateau's discharge plan. This will also give Mr. Edminster some valuable experience in hazardous waste regulation and disposal of such wastes which could aide him in future inspections of plant facilities and generators of such wastes in District III.

cc: Paul Biderman - Secretary
Frank Chavez - District III Supervisor
Jeff Edminster- District III Geologist

OIL CONSERVATION DIVISION

(OCD)

TECHNICAL REVIEW OF
UPDATED DISCHARGE PLAN FOR

A

REFINERY OPERATED BY PLATEAU, INC.

June 30, 1983

Prepared by

Oscar A. Simpson

Water Resource Specialist

TABLE OF CONTENTS
OF TECHNICAL REVIEW

	Page
ITEM NO. 1	Comments on Correspondence Related to the Plateau Discharge Plan 1
ITEM NO. 2	OCD Comments on the Section Entitled "Introduction", page 1 . 2
ITEM NO. 3	OCD Comments on the Section Entitled "Refinery Setting" . . . 4
ITEM NO. 4	OCD Comments on the Section Entitled "Groundwater Occurrence", page 7 6
ITEM NO. 5	OCD Comments on the Section Entitled "Flooding Potential" pages 10 through 12 22
ITEM NO. 6	OCD Comments on the Section Entitled "Seepage", page 12 . . . 23
ITEM NO. 7	OCD Comments on the Section Entitled "Water Chemistry", pages 13 through 17 24
ITEM NO. 8	OCD Comments on the Section Entitled "Monitoring", pages 18 through 20 24
ITEM NO. 9	OCD Comments on the Section Entitled "Water Supply and Discharge", pages 20 to 23 25
ITEM NO. 10	OCD Comments on the Section Entitled "Arroyo Catchment Plan", pages 30 through 34 29
ITEM NO. 11	OCD Comments on the Section Entitled "Hydrocarbon Discharge in the Hammond Ditch", pages 35 and 36 29

ITEM NO. 12	OCD Comments on the Section Entitled "Contingency Plans", page 36	31
ITEM NO. 13	OCD Request for Additional Information	31

LIST OF EXHIBITS

- EXHIBIT NO. 1 Letters of correspondence by Plateau and American Groundwater Consultants
- EXHIBIT NO. 2 Water Quality Control Commission Regulations, WQCC 82-1
- EXHIBIT NO. 3 Updated Discharge Plan prepared by Plateau, Inc.
- EXHIBIT NO. 3A Milestone Report on Monitoring Activities at the Bloomfield Refinery Operated by Plateau, Inc., San Juan County, New Mexico
- EXHIBIT NO. 3B Second Milestone Report on Monitoring Activities at the Bloomfield Refinery Operated by Plateau, Inc., San Juan County, New Mexico
- EXHIBIT NO. 3C Discharge and Monitoring Plan for a Refinery Operated by Plateau, Inc. Near Bloomfield, New Mexico
- EXHIBIT NO. 4 Violations of Plateau's Discharge Plan, GWR-1
- EXHIBIT NO. 5 American Groundwater Consultants Cover Letter of March 9, 1982, attached to Plateau's Updated Discharge Plan
- EXHIBIT NO. 6 Groundwater in the San Juan Basin New Mexico and Colorado
- EXHIBIT NO. 7 State Engineer's Records of Domestic Wells in Bloomfield Area
- EXHIBIT NO. 8 Summary from the First Milestone Report on Monitoring Activities at the Plateau Refinery
- EXHIBIT NO. 9 Summary from the Second Milestone Report on Monitoring Activities at the Plateau Refinery

- EXHIBIT NO. 10 Photocopy of Plate 23 of Open File Report 89 of the New Mexico Bureau of Mines and Mineral Resources
- EXHIBIT NO. 11 Photocopies of Tables 1 and 6 of Technical Report No. 6 by the New Mexico Bureau of Mines and Mineral Resources
- EXHIBIT NO. 12 Photocopy of Attachment No. 3 of Exhibit No. 3A
- EXHIBIT NO. 13 Photocopy of Figure 7, Page 11, of Exhibit No. 3B
- EXHIBIT NO. 14 Photocopy of Article 6, Water Quality Act
- EXHIBIT NO. 15 OCD Test Results of Sampling in and around Plateau Refinery
- EXHIBIT NO. 16 EID comments on Monitoring Program at Plateau Refinery
- EXHIBIT NO. 17 EID, OCD and Plateau Correspondence
- EXHIBIT NO. 18 OCD Test Results of Fluids in the Hammond Ditch, March 1983
- EXHIBIT NO. 19 Plateau's Sampling Results of the Hammond Ditch, July 1982

OIL CONSERVATION DIVISION REVIEW OF
PLATEAU'S "UPDATED DISCHARGE PLAN
FOR A REFINERY OPERATED BY PLATEAU
INC. NEAR BLOOMFIELD, NEW MEXICO"

Item No. 1) OCD comments on correspondence related to the
Discharge Plan

In response to the previous correspondence relating to the Updated Discharge Plan (refer to Exhibit No. 1) which particularly includes the Plateau letters of April 18, 1983 from Mr. Lee S. Woodside, September 8, 1982, from Mr. Gregory S. Smith, June 2, 1982, from Mr. R. G. Perry, American Groundwater Consultants, Inc., March 9, 1982, from Mr. William M. Turner and the Updated Discharge Plan itself; the Oil Conservation Division contends that:

Under the authority granted to the OCD by the Water Quality Control Commission to administer the WQCC Regulations, Plateau is subject to Parts 3-101A and 3-104 of the WQCC Regulations 82-1 (Exhibit #2) which ~~each~~ *respectively* states:

3-101 (A) - The purpose of these regulations controlling discharges onto or below the surface of the ground is to protect all ground water of the State of New Mexico which has an existing concentration of 10,000 mg/L or less TDS, for present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water inflow, for uses designated in the the New Mexico Water Quality Standards. (Exhibit #2 - Page 20).

3-104. DISCHARGE PLAN REQUIRED - Unless otherwise provided by these regulations, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless he is discharging pursuant to a discharge plan approved by the Director. When a plan has been approved, discharges must be consistent with the terms and conditions of the plan. (Exhibit #2 Page 22).

The OCD will show through the use of Exhibit #3, Updated Discharge Plan for a refinery operated by Plateau, Inc., near Bloomfield, New Mexico, June 2, 1982, the two monitoring reports by AGWC, Exhibits 3 A and B, respectively, the Original Discharge Plan, Exhibit No. 3 C, and OCD's investigation of the area that:

- 1) Plateau is and has not operated in accordance to 3-104 or 3-107 (C) of WQCC regulations 82-1 as prescribed by Plateau's Discharge Plan - GWR-1 of June 5, 1978.
- 2) There is ground water as defined in 1-101 (Y) WQCC Regulations 82-1 (page 4) and 3-101 (A) of Exhibit No. 2 and surface waters to protect.
- 3) The proposed Updated Discharge Plan of June 2, 1982 has not provided sufficient evidence to substantiate the methods of effluent disposal. The Discharge Plan is not functional and will not prevent or eliminate pollution of ground or surface waters of the area.

Item No. 2) OCD comments on the section entitled "Introduction", page 1.

OCD comments on Page 1, 2nd paragraph, beginning sentence of Page 4. (Updating the Plateau Discharge Plan and for What Reasons)

In the Water Quality Control Commission Regulations (WQCC) 82-1 under Section 3-107 (C) - Monitoring Reports and Other Requirements - Page 26 as quoted here:

"The discharger shall notify the director of any facility expansion, production increase or process modifications that would result in any significant modification in the discharge of water contaminants."

Plateau has flagrantly and continuously violated the requirements of Section 3-107 (C). Refer to Exhibit No. 4 for a summary of those violations.

The Oil Conservation Division (OCD) verbally requested Plateau to update its discharge plan in a joint Plateau-OCD meeting in September, 1981. Plateau has not notified the OCD of any expansion as described in Section 3-107 (C).

OCD Comments on Page 4, first paragraph, 2nd sentence. (Comments Concerning Plate 1)

Plate 1 does not provide adequate aerial coverage that includes all of the refinery and its appurtenances. Plateau has not provided an adequate map of suitable scale to illustrate the information as required under Section 3-106 (C) (1-7). The OCD requests that current aerial photo coverage be provided that covers an area of at least 1/2 mile from the outside

Are these subjects related?

perimeter of the Plateau property. The scale of the photo coverage shall be not less than 1"= 250'.

Information on the aerial photo coverage shall include:

- 1) Label of all major parts of the refinery and appurtenances. (3-106 C-7)
- 2) Show location of all Plateau property boundaries (3-106 C-7)
- 3) Show the locations of property boundaries for all immediate (adjacent) land owners and the respective property owner's names. (C-106 C-7)
- 4) Under Section 3-106 (C-2) show and label all applicable information that lies within 1/2 mile of the outside perimeter of the discharge site. This includes all seeps and springs in the area. 2
- 5) On a duplicate set of aerial photos, show the topographic relief of the area that delineates topographic relief using two feet or less contour intervals. Delineate all drainage areas that occur on or effect any Plateau property. Label and differentiate these drainage areas. (3-106 C-4 and 7)
- 6) Show all locations of right-of-ways and easements particularly for the Hammond Ditch and pipelines that occur on Plateau Property. (3-106 C-7)

OCD comments on Page 4, first paragraph, 2nd sentence
(Comments on Plate 2)

Plate 2 is vague and cannot be correlated to any visible property corners, fence lines, or property boundaries on the ground surface. Therefore, as requested in Item No. 2, place the information from Plate 2 on current aerial photo coverage. (3-106 C-7).

OCD Comments on Page 4, first paragraph, 3rd sentence.
(Comments on Plates 3 to 5 - Topographic Maps)

Plates 3 to 5 cannot be correlated to Plate No. 1 or the refinery setting. Transfer data from Plates 3 through 5 to aerial photo coverage as previously requested in Item No. 2 (3-106 C-7)

OCD comments on Page 4, first paragraph, last sentence
(Comments on Refinery Process Description enclosed in
Attachment No. 2)

The process description is missing in Attachment No. 2.
Submit a detailed description of the refinery process.
Correlate figure No. 5 - Water and Wastewater Process Flow
Diagram in the description. Describe the refinery process in
total from raw products used to finished products produced.
Show an aerial photo coverage where raw and refined products
are stored and storage volumes thereof. Submit detailed
engineering drawings of the entire plant. Color code the
piping system to facilitate ease of review and description of
usage. Describe and illustrate where waste water, whatever the
source, raw water, boiler water, cooling tower, etc., come in
contact with any sources of hydrocarbons. Describe where water
ends up or is found whether in the form of effluent or as part
of the product. Describe what measures are used to remove
water from product storage.

List and describe all additives used in the refinery
process. Give the concentrations used for each additive and
the mechanisms for adding or mixing the additives. Where are
the additives stored and what methods are implemented for
preventions of spills and leaks of these additives. ? *review*

List and describe all treatment chemicals and where used
in the refinery. Give the concentrations used for each
chemical. What methods or measures are used to store and
prevent spills and leaks of these chemicals.

List and describe all other applicable substances used in
the refinery such as solvents and pesticides.

Submit suppliers names and addresses for all the above
substances and submit material safety data sheets on each item.
Also submit the generic composition of each substance.

Describe what each particular refinery process is
producing in the way of effluent. What is the particular
chemical composition or characterization of each refinery
process and describe the flow characteristics of each process.
(Section 3-106 C-7)

Item No. 3) OCD comments on the section entitled "Refinery
Setting", page 4.

The Geologic information contained in this section is too
vague and generalized. The OCD requests that detailed and
site specific geologic information be submitted on the alluvium

and terrace deposits of the area and the Nacimientto formation. The following is required under Section 3-106 (C-7).

The OCD requests the following:

- A) Determine the extent and thickness of the terrace and alluvium deposits on the Plateau property and adjacent land within 1/2 mile of the Plateau property boundaries. Illustrate the information on aerial photo coverage.
- B) Submit isopach thickness maps of the terrace and alluvium deposits of the Plateau property and the area within 1/2 mile of the Plateau boundaries.
- C) Describe the physical properties and distribution of the soils and types thereof that compose the alluvium and terrace deposits that lie within 1/2 mile of the Plateau property.

Show sample or test hole locations.

Submit representative sieve analysis of the soil types.

- D) Determine infiltration rates for the ground surface at the refinery and area that lies within 1/2 mile of Plateau property boundaries. Submit original test data and show test locations.
- E) Provide North-South and East-West cross sections of the terrace and alluvium deposits that pass through the refinery and that extend 1/2 mile beyond the refinery boundaries in all directions.
- F) Measure or predict the alluvium and terrace deposits ability for adsorption and cation exchange capacity, specifically for refinery effluent, sludges, and products (raw or refined).
- G) The geologic description of the Nacimientto Formation is vague, incomplete and inaccurate. There is not sufficient evidence to support American Groundwater Consultants' statements. Therefore, the OCD requests the following:
 - 1) Submit detailed North-South and East-West geologic cross sections of the Nacimientto formation which pass through the refinery property and extend 1/2 mile beyond the plant boundaries.

OCD field investigations indicate the presence of sandstone beds in the Nacimientos. The outcrop north of the refinery and adjacent to the San Juan River has exposed sandstone beds in the Nacimientos. Base cross-sections on test hole data and on outcrops of the Nacimientos in the area of the refinery.

- 2) Perform site - specific drilling on the Nacimientos formation to obtain information on the characteristics of the Nacimientos. Information such as:
 - a) Drill cutting samples for every 5 feet of depth
 - b) Core samples to determine porosity, hydraulic conductivity, cementation, grain size, clay and organic content, tortuosity, potential for dilution, and dispersion, chemical and physical attenuation, locations of recharge and discharge beds or zones, vertical and horizontal hydraulic conductivity, faults, bedding plans, fractures, lithologic descriptions
 - c) Perform pump and slug tests on the Nacimientos and sandstone layers thereof
 - e) Submit detailed lithologic descriptions of the Nacimientos
 - f) Determine hydraulic connection to the terrace and alluvium deposits
 - g) Determine groundwater flow vectors, average and maximum ground water flow velocity.

Item No. 4) OCD Comments on the Section entitled: Ground Water Occurrence, pages 7 through 10 of the Discharge Plan.

The major point of disagreement between the OCD and Plateau and its consultants, AGWC, is if there is ground and surface water to protect as stipulated in the WQCC regulations. Plateau and their consultants AGWC state that there is no "natural" or ground water to protect and through full implementation of the plan, pollution will not escape the refinery property. Refer to the last paragraph of the Summary in Exhibit No. 3, page 8, first paragraph Exhibit No. 3, and Item No. 3 of Exhibit No. 5.

The OCD will show evidence that will contradict these statements as follows:

A) The report, "Ground Water in the San Juan Basin-New Mexico and Colorado", (U.S.) Geological Survey, Albuquerque, New Mexico, Water Resources Division, PB80-108020 (Exhibit No. 6) on page 19, Figure 11, illustrates where valley fill deposits contain ground water of between 1 and 4 thousand mg/L TDS. On pages 16 through 18 of the report under the subtitle, "Valley Fill" is a generalized description of the thickness of fill, ground water quality, and transmissivity of the Valley Fill. On page 12, under the subtitle "Tertiary Rocks" is a description of ground water found in tertiary rocks of the Nacimiento formation and Ojo Alamo Sandstone. Refer to Figure 10, page 17 of the report (Exhibit No. 6) for an illustration of the recharge area, direction of ground water flow, and dissolved solids concentration in the tertiary rocks.

B) On a smaller scale to show the exact and explicit locations and sources of ground and surface water, refer to Plate A, which is aerial photo coverage of the Plateau Refinery and a portion of the San Juan River and valley. Surface water is present in the San Juan River and Hammond Ditch. Ground water can be found in the valley fill as described in the previously mentioned U. S. Geological report in all the land area shown on Plate A north of the San Juan River. Proof of ground water existence is from a list of commercial, domestic, and stock wells located in this area as recorded by the State Engineers Office - Exhibit No. 7.

Plate B shows the approximate locations of the wells from Exhibit No. 7. On the south side of the San Juan River in the area covered by Plate A there are no known wells in the valley fill. OCD field investigations of the south side of the San Juan River found ground water in the valley fill as located in the areas circled by the dashed blue lines (Areas 1, 2, and 3). OCD field investigations of the south side of the San Juan River were only spot checks to validate the occurrence and do not define the aerial extent, the quality, and is not necessarily limited to the circled areas. For example, the three valley fill areas just described are the largest in aerial extent and most obvious portions of fill on the south side of the river in Plate A. On a much smaller scale, on the south side, for almost the entire length of the river, there is a thin ribbon of valley fill that contains ground water. This portion of valley fill lies between the river and the Nacimiento formation. AGWC describes this area as an alluvium-filled channel on page 5, last paragraph, Exhibit No. 3 and from the original discharge plan, Exhibit 3 C, page 8, 2nd paragraph, "the present-day channel of the San Juan River is

incised into the Nacimientto formation and younger alluvial material occupies the present river channel."

In Area No. 1 upper right hand corner of Plate A, a test hole was dug and a water sample (Sample K) was taken.

Sample K, approximately 8 feet wide, 12 feet long and 8 feet deep. Ground water was encountered at a depth of 4 feet from the ground surface. The majority of material removed from the test hole was coarse sand, gravel, and a few boulders. Further investigation of the area revealed the existence of 3 abandoned borrow pits labeled as Pits Nos. 1, 2 and 3 on Plate A that are now flooded by water. An elevation check of the ground water table in the test hole (Sample K) to that of the water level in Pit No. 1 was the same. Therefore, the 3 pits probably represent the ground water table conditions in Area No. 1.

In Area No. 2 two test holes dug by hand (to determine the occurrence of ground water in valley fill material) Sample E (7-14-82) brown label, is the location of the first test hole with a depth to ground water at 0.75' from the ground surface. The second test labeled as Test Hole No. 2 (7-14-82) green label, located ground water at a depth of 3 feet from the ground surface.

Area No. 3 was tested for ground water at points A and B, Plate A with depths of 3.1 feet and 5.6 feet respectively from the ground surface.

On page 5 of the Updated Discharge Plan (Exhibit No. 3) under the heading Hydrologic Features (San Juan River) AGWC describes the material in the San Juan River Valley as an "alluvium-filled channel"; the OCD equates the description to be synonymous with that of VALLEY FILL as used in the U. S. Geological Report (Exhibit No. 6). Also on pages 4 and 5 under the heading "Refinery Setting" of Exhibit No. 3, AGWC describes the thickness of "terrace deposits" beneath the refinery, (also refer to Plate No. 1 of Exhibit No. 3); the same analogy is made here, terrace deposits is synonymous in meaning to that of valley fill.

Pages 16 and 18 of Exhibit No. 6, states in part that:

"Recharge to valley fill along irrigated portions of of the San Juan, Animas, and La Plata Valley results largely from the percolation of irrigation water and from leaking ditches..."

"Recharge to valley fill along ephemeral streams results largely from infiltration of storm flows and snow melt runoff."

AGWC on pages 6 and 7 (Exhibit No. 3) under the heading "Hammond Ditch", last paragraph of page 6, first paragraph of page 7, states that:

"The valleys of nearly all intermittent stream channels which descend from the Jackson Lake Terrace" (Valley Fill) "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."

"The Hammond Ditch is a man-made constant-head, line-source or recharge to the cobble bed (Valley Fill) during the irrigation season." Observation wells which have been constructed in the vicinity of the solar evaporation ponds indicate that the cobble bed is saturated."

AGWC states from the original discharge plan (Exhibit No. 3-C) submitted in 1978, pages 10 and 14, last and first paragraph respectively:

"As may be expected, the Hammond Ditch acts as a constant-head line source and infiltrating water flows to the south in the cobble bed also. Observation wells which have been constructed in the vicinity of the solar evaporation ponds indicate that the cobble bed contains some water."

The OCD has observed all the intermittent stream channels as previously described by AGWC that lie between the refinery and the San Juan River. A better description of these channels are dendritic erosional draws emanating from a 100 foot high bluff just south of the San Juan River. There are approximately 12 major draws that lie northwest to northeast of the refinery and run down to the south edge of the San Juan River or are truncated by a large north-south trending arroyo drainage system just east of the refinery. Refer to Plate A for their locations. It is estimated that there are approximately 25 to 40 visible seeps of varying sizes and magnitude that constantly supply water to most of these draws.

On 10 separate field inspections of the draws, starting in June 1981 to the present, water has constantly flowed down the bluff through the draws and into the San Juan River from the major draws numbered as 1, 3, 6, 7, 8, and 9 on Plate A. The highest visible estimated flow from all the draws is between 30 and 50 gallons per minute between June and October of 1981. The visible flow rate when the Hammond Ditch was not running, mid-October to May, in January 1982 was estimated to be 10 to 15 gallons per minute. An example of the amount of water

coming from this area with an estimated minimal flow of 10 GPM and a maximum flow of 50 GPM for a year are 5.2 and 25.9 million gallons or 123.4 and 617.1 thousand barrels of water respectively. It appears that the majority of the seepage is coming from the contact between the terrace deposits and the Naciminto formation, but because of the vegetation growth, poor exposure, and uncertain location of the contact this cannot be confirmed.

In review of AGWC's geologic and hydrologic setting of the area, (pages 1 thru 10 of Exhibit No. 3), the terrace deposits or valley fill are: approximately 35 feet thick, 100 feet above and south of the river, directly underneath the whole area of the refinery, resting on an undulating erosional surface of the Naciminto formation, the lower portion of the terrace deposits (cobble bed) underneath the refinery contains ground water, and the Hammond irrigation ditch recharges the cobble bed with ground water.

AGWC reports entitled, "Milestone Report on Monitoring Activities at the Bloomfield Refinery Operated by Plateau, Inc., San Juan County, New Mexico", February 7, 1979, and the report, "Second Milestone Report on Monitoring Activities at the Bloomfield Refinery operated by Plateau, Inc., San Juan County, New Mexico" January 28, 1981, were submitted to the OCD to provide further information on the monitoring activities and the results thereof. (Refer to Exhibits 3A and 3B, respectively.)

Exhibit Nos. 8 and 9 are photocopies of the summaries of the first and second milestone monitoring reports respectively.

Summarizing the summary of the first milestone report (Exhibit No. 8):

"water from the Hammond Ditch is the principal source of recharge to the area below the solar evaporation ponds, ground water flows to the south while the ditch is running, the saturated zone, (the cobble bed) may extend as far south as 600 feet south of the ditch. The saturated cobble bed may be as much as 10 feet thick, the solar evaporation ponds are leaking, and leakage from the solar ponds is estimated to be 20 GPM to the Hammond Ditch and San Juan River."

AGWC has not submitted any evidence to support the claim that the principal source of recharge to the area is from the Hammond Ditch. There is a large recharge area to the south that could supply ground water to this area.

Pit No. 4 as shown on Plate A (just east of the two large square solar evaporation ponds) and described by AGWC on page 15 of the Original Discharge Plan (Exhibit No. 3 C) "as a gravel pit excavated in the cobble to a depth where the Nacimientto formation has been exposed to the bottom." OCD observation of this pit from June of 1981 to June of 1982 was: The pit has always maintained a constant pool of water, the water level fluctuated slightly, seepage from the pond drained to the southeast toward Sullivan Road and then drained eastward to the large N-S trending arroyo (identified as the East Arroyo on Plate A), seepage recharges the valley fill of Area No. 1, Plate A, depth of water in the pit was approximately 2 feet to 3 feet deep.

On July 6, 1982, Pit No. 4 was being constantly drained by a pump operated by Plateau. Numerous seeps were noted at the bottom of the pit at the contact of the cobble bed and the shale of the Nacimientto; the greatest seepage was coming from the west and north.

Ground water or seeps were also found to occur at the following locations:

- 1) Sample No. 17 - (7-6-82) Orange Label on Plate A - location: Just southeast of the junction of Highway 44 and Sullivan Road in a east to west trending drainage area. Depth to ground water was 1.5 feet from the ground level. Surface seepage was observed to be very prominent from June to October in 1981.
- 2) Sample A (7-12-82) Brown Label on Plate A - 100 yards west of the intersection of the Hammond Ditch and Sullivan Road and then 100 feet north of Sullivan Road. Depth to ground water was 1.7 feet. Surface seepage was observed to be very prominent from June to October in 1981.
- 3) Sample B (7-12-82) Brown Label on Plate A - 100 feet south of the intersection of the Hammond Ditch bridge and Sullivan Road and then 100 feet east of the Hammond Ditch. A test hole was dug by backhoe to a size of approximately 15 feet long and 12 feet wide and 10 feet deep. Depth to ground water was 5 feet from the ground surface. The soil profile of the test hole was light gray, coarse sand, with large quantities of cobble stone and gravel.

- 4) Seep "A" Green label on Plate A located 800 feet southeast of Sample No. 17 and 200 feet south of the Hammond Ditch. Estimated flow on 9-15-82 at 3:00 p.m. was estimated to be \pm 1 GPM. The seep supports a small pond about 50 feet in diameter and 2 feet deep.

OCD's research on the Nacimiento formation and the Ojo Alamo formation shows that they are suitable aquifers for commercial, domestic and stock use. The sandstones in the Nacimiento and Ojo Alamo are grouped together under the heading of Tertiary Rocks in the U. S. Geological Report, Exhibit No. 6; the sandstones in these formations are considered principal aquifers in the San Juan Basin.

Quoted here is the abstract of the report (page 1 of Exhibit No. 6):

Ground Water in the San Juan Basin,
New Mexico and Colorado
by Forest P. Lyford

ABSTRACT

Principal aquifers in the San Juan Basin of New Mexico and Colorado are the Entrada Sandstone, Westwater Canyon Member of the Morrison Formation, Gallup Sandstone of the Mesaverde Group, several sandstones in the Mesaverde Group above the Gallup (Dalton Sandstone Member of the Crevasse Canyon Formation, Point lookout Sandstone, Menefee Formation, Cliff House Sandstone), and sandstones of Tertiary age.

Most ground water flows from topographically high outcrop areas toward the San Juan River and the Rio Grande Valley. Much of the water may move through confining layers to other aquifers or to the land surface rather than discharging directly to the streams.

Transmissivities of the sandstones range from 50 to 300 feet squared per day. Lowest dissolved-solids concentrations occur in or near outcrops of the sandstones and increase in the direction of ground water flow. Concentrations range from less than 500 milligrams per liter to more than 30,000 milligrams per liter.

From pages 12 and 16 of the U. S. Geological Report (Exhibit No. 6), as quoted here is a generalized description of the mechanisms of ground water recharge, directional flow, water quality and well capacities.

TERTIARY ROCKS

Tertiary rocks include the Ojo Alamo Sandstone, Nacimiento Formation, and San Jose Formation in the northeast part of the basin (San Juan) and the Chuska Sandstone capping in the Chuska Mountains on the west side of the basin.

Recharge of the Tertiary sandstones near the center of the basin occurs mostly in outcrop areas. The general direction of flow is toward the San Juan River and lower reaches of major tributaries (Figure 10).

Water recharged to the Chuska Sandstone moves toward springs on the east and west sides of the Chuska Mountains (Harshbarger and Repenning, 1954, p.6). Water in the Chuska Sandstone also recharges the underlying Jurassic and Cretaceous sandstones.

The transmissivity of some of the thicker sandstones such as the Ojo Alamo Sandstone may exceed 150 feet 2/d in some places (Brimhall, 1973, p. 20) but generally does not exceed 100 feet 2/d. Raltz and West (1967, p. 65) indicated that yields of 1,000 gal/min or more may be expected in wells penetrating the full thickness of Tertiary sandstones near the thickest part of the section. The available data is too limited for construction of a transmissivity map.

In general, dissolved-solids concentrations in Tertiary sandstones in the northeast part of the study area exceed 1,000 mg/L and increase in the direction of ground-water flow (Figure 10). Near the San Juan River, concentrations exceeding 4,000 mg/L may be partly attributed to saline water leaking upward from underlying Cretaceous rocks. Generally, concentrations are higher in the finer-grained sediments than in the coarser-grained sediments. Dissolved solids concentrations in the Chuska Sandstone are less than 500 mg/L (Harshbarger and Repenning, 1954, p. 15).

For a visual explanation and understanding of the previous description, refer to Figure #10 of the U. S. Geological Report, (Exhibit #5, page 17).

Exhibit #10, a photocopy of Plate #23 from the Open File Report 89, of the New Mexico Bureau of Mines and Mineral Resources shows more precisely the extent of the outcrop and area of burial of the Nacimiento formation.

Refer to Exhibit #11, a photocopy of pages 102-107 of Table 1 and pages 35-37 of Table 6, of Technical Report #6, by the New Mexico Bureau of Mines and Mineral Resources for a list of water wells found in the area. Many of the wells listed in Table #1 produce principally from the Nacimient Formation. Nacimient wells are coded with the symbol "Tn" and are listed under the heading, Principal Water Bearing Unit(s) "at the top of each page. The wells which produce from the Ojo Alamo are coded with the symbol "Tkoa". Specific wells from this exhibit are plotted on Plate B in red ink. There are 67 wells of interest that are relatively close to the refinery area. They are coded with a number on the left-hand margin of each page in red ink. Each well was assigned a specific number ranging from number 1 to 67 and each well's location was plotted on Plate B with that corresponding number.

From the State Engineers Office, records were obtained that list commercial water rights designated to the Nacimient and Ojo Alamo Formations. These are as follows:

<u>FORMATION</u>	<u>FILE NUMBER</u>	<u>DATE</u>	<u>AMOUNT</u>	<u>LOCATION</u>
Nacimient	SJ-403	11-10-77	40 acre ft	15, 23N, 3W
Nacimient & Ojo Alamo	SJ-1325	1- 5-81	24,00 acre feet	T-24,25,26N R-6,7,8W
Nacimient & Ojo Alamo	SJ-1351	2-10-81	60 acre ft	33, 28N, 9W
Nacimient & Ojo Alamo	SJ-1352	2-10-81	60 acre ft	17, 27N, 8W
Nacimient & Ojo Alamo	SJ-1131	EN lg 6-4-81	20 acre ft	19, 24N, 7W

AGWC describes the Nacimient Formation in the following reports as follows:

"Field investigation indicates that the shale of the Nacimient formation is for all intents and purposes impermeable to the downward percolation of water."
(Page I, 2nd paragraph - Original Discharge Plan)

"Beneath the Pleistocene terrace deposits occurs the massively bedded olive green, unctuous clay of the Nacimient formation. At least 100 feet of this unit is exposed in the cliff face north of the refinery and adjacent to the San Juan River. The clay at the outcrop is a tight unfactured rock unit. The best exposures of

the Nacimientto formation are in the badlands of nearby Kutz Canyon. Pages 7 and 8, last paragraph and first paragraph, respectively, Original Discharge Plan Exhibit No. 3 C.

"The San Juan River is the only perennial river in the vicinity of the refinery. Along the reach of the San Juan in the vicinity of the refinery, the river is neither a gaining or losing stream. Its alluvium-filled channel is incised into relatively impermeable clay of the Nacimientto Formation". Page 8, fourth paragraph, Original Discharge Plan Exhibit No. 3C.

"The Nacimientto Formation as mentioned above, is an impermeable, unctuous green clay. It is about 495 feet deep and throughout its thickness is not known to contain any ground water. There are no known sandstone beds within the Nacimientto Formation. The upper 100 feet of the formation which is exposed in the cliff north of the refinery shows no seeps of water from within the Nacimientto formation. (Exhibit No. 3A, Page 8, 2nd paragraph.)

"It is concluded that there is no ground water within the Nacimientto Formation which could be recovered for domestic purposes. Seeps at the contact of the cobble bed with the Nacimientto Formation support the conclusion that the Nacimientto Formation does not contribute ground water to the San Juan River." See pages 8 and 9, third paragraph to first respectively, of the first monitoring report. (Exhibit No. 3A)

OCD field investigations of the Nacimientto formation particularly that exposed on the bluff just north of the refinery, revealed the existence of several sandstone beds. As located and noted on Plate A by the Pink labeled markers, there were 6 well-exposed outcrops of sandstone beds that were measured and examined. Hand lense examination of samples taken from the 6 outcrops indicate that the physical characteristics of the beds could quite easily transmit water. In general, the sandstone beds were: light green to gray in color, coarse to medium grained silty sandstone, and with poor to moderate cementation (most samples were very friable). Measurements of the outcrops were: #1 = 6 feet thick (bottom not found), #2 = 6 feet thick, #4 = 6 feet thick, #5A = 10 feet thick, (top of Nacimientto) #5B = 6 feet thick, (base of river) #6 = 30 feet thick, (bottom not found). Refer to Plate "A" for locations of the measured outcrops.

OCD review of AGWC's "Attachment 3 - Lithologic Logs for Several of the Neutron-Probe Access Holes" of the Original

Discharge Plan presented here as Exhibit #12, seems to indicate that a layer of sandstone is exposed at the contact of the terrace deposits and Nacimientos. The possible sandstone layer lies between neutron access holes 6, 7, and 9. Log descriptions of samples from the depth of 30 to 50 feet indicate that a buff to gray colored sand is present. On page 9 of the First Milestone Report, Exhibit No. 3A, on monitoring, is a description of the method of drilling the holes, and is as follows:

"Neutron-probe access tubes were installed in 6-inch diameter holes which were drilled to a depth of 50 feet by mud-rotary methods."

Other information to substantiate whether this layer is consolidated or not is not provided, but according to AGWC's Figure 7 - "Cross-section through neutron-probe holes at solar evaporation pond 1.", Second Milestone Monitoring Report, p. 11, refer to Exhibit No. 13. The sandy areas in question, according to AGWC, belong to the Nacimientos formation.

Summarizing the evidence obtained concerning the Nacimientos formation is as follows:

- 1) The Nacimientos Formation is a principal aquifer in the San Juan Basin
- 2) Ground water principally is obtained from the sandstone beds within the Nacimientos Formation
- 3) Recharge to the sandstones occurs principally in outcrop areas. (Refer to Exhibits Nos. 6, Figs. 10 and 11, and 10)
- 4) The area in question (Plateau Refinery area) is an outcrop area and recharge zone for the Nacimientos Formation.
- 5) In the Plateau refinery area, there are sandstone beds in the Nacimientos which could be possible recharge zones to the aquifer.
- 6) Information given in Exhibit #6 and particularly from Table #6 of Exhibit #11 which contains water analysis of wells producing from the Nacimientos shows water quality is less than 10,000 mg/L TDS and thus should be protected.
- 7) Regionally ground water flow is toward the San Juan River.

- 8) There is no direct evidence presented such as percolation tests, well slug tests, core analysis or monitoring wells, to substantiate AGWC's claim that the Nacimientos is impermeable.
- 9) The San Juan River and the saturated alluvium (Valley Fill) channel is in direct contact with the Nacimientos Formation

From the evidence presented above and before, the OCD has reason to believe with probable cause that in the area of the refinery, the Nacimientos may be in direct hydraulic connection with itself, the San Juan River and ground water in the valley fill next to the river. Therefore, the Nacimientos should not be allowed to come in contact with pollutants or polluted ground water.

AGWC makes the argument and tries to dismiss or disqualify the presence of ground water in the refinery area from jurisdiction of the Water Quality Control Commission Regulations by the following points of contention:

- A) That ground water in the refinery area is not "natural" or is "man-made" as a result of the construction of the Hammond Ditch; which through its leakage recharges the area creating a cause and effect circumstance that they are not responsible for or cannot control.

OCD's rebuttal to this point is:

- A) AGWC has classified or attempts to place certain of the waters in the area into a "class of waters" that AGWC considers should be exempt or that regulations should not be applicable to the cause and effect of the above. The Water Quality Act, particularly Article 74-6-4 (D) states that for any "class of waters" within the state, regulations (WQCC 82-1) shall prevent or abate water pollution. Also under Item 4 of "D" "successive use" of water for others is guaranteed through the standards and enforcement of the WQCC regulations. (An exception to certain classes of waters would break any reuse cycle that is intended here.) Refer to Exhibit #14, Article 6, Water Quality (Water Quality Act), 74-6-4 (D), page 49.

- B) AGWC contends that under the definition of ground water as previously defined by Section 1-101 (M) and now under the present WQCC regulations by Section 1-101 (Y), Exhibit #2, there is insufficient amounts of ground water in the area that are capable of entering a well to be utilized as a water supply and therefore there is no ground water.

OCD's rebuttal is as follows:

- A) The OCD has previously presented in this report numerous points of evidence which refute this point of view. Refer to Exhibits Nos. 6, 7, and 11 and Plate A, Areas 1, 2, and 3
- B) If AGWC is referring particularly to the terrace deposits in the refinery area explicitly, then refer to Exhibit No. 13 of this report which illustrates that this area has at least a 10 foot or greater saturated thickness that OCD estimates has a transmissivity approaching 40,000 GPD or more.
- C) AGWC has not provided any test data to justify the statement that no ground water exists based on the definition of ground water in the WQCC regulations. (Definition "Y", page 4, Exhibit No. 4)

As an example of just how small an amount or well capacity is required by using the statistical average of water consumption per person (150 gallons per day per person-GPD) for a metropolitan area and a household of 4 people, equates to 600 gallons per day. The well capacity in gallons per minute would only have to be 0.42 gallons per minute (GPM) to produce this amount. A well of 1 gpm would only have to operate 10 hours per day to supply the needs of a family of four. There are many wells in New Mexico that have one gallon per minute wells.

In summary, evidence presented by the OCD and AGWC reports of the area, State Engineer records, and Governmental publications substantiate that ground water as defined in Section 1-101(Y), WQCC Regulations 82-1, does exist in the valley fill, terrace deposits and tertiary sandstones of the Plateau Refinery setting. Records show ground water in the

area has present and potential future use as a domestic and agricultural water supply as defined in Section 3-101 (A) WQCC Regulations 82-1. (Exhibit No. 3.)

The San Juan alluvial valley floor and San Juan River act as regional sinks in the Bloomfield area. Therefore, the gradient for all surface and ground waters in the area is toward the San Juan River. In the area of the refinery itself, it appears that a perched water zone exists at the gravel terrace - Nacimientos erosional contact. This perched zone is recharged by the northward flow of ground water emanating from the south and the Hammond Ditch.

The sedimentology and hydrologic parameters of the Nacimientos formation are discussed in the open file report 89 and Water Resource Investigation 79-73 (Exhibit 6). The term "Sandstones of Tertiary age" are used in the later report to describe the Nacimientos formation. Therefore, the stratigraphy within the refinery setting may be described as terrace deposits (highly permeable) overlying less permeable, fluvial sandstones and silty clays of the Nacimientos formation.

The exact hydrologic flow gradient of each aquifer within the "refinery setting" while still unclear is generally northward appears to be toward the San Juan River as this is a lower potentiometric surface. The dip of the underlying Nacimientos formation may act as an aquitard and alter the flow direction in which case ground water would tend to flow downdip (eastward), until contact is made with saturated valley fill. In this zone, ground water mixing between the Nacimientos formation and valley fill material would occur. Therefore:

- 1) There is ground water in the terrace deposits adjacent to and under the refinery acting as a perched water zone.
- 2) Ground water occurs in large areas of the valley fill on the north and south sides of the San Juan River.
- 3) Ground water emanating from the terrace deposits is discharging directly to the San Juan River and valley fill next to the river.
- 4) The Nacimientos Formation contains ground water of less than 10,000 mg/L.
- 5) Section 3-101(A) and 104 of the WQCC Regulations applies to Plateau's refinery near Bloomfield, New Mexico.

- 6) The OCD rejects all references to AGWC's contention that there is no "natural" ground water or ground water in the terrace deposits or other areas.

AGWC did not define the depth to or the total dissolved solids concentration of the ground water in the area of the first or the updated discharge plan. Section 3-106 (C) and (C-3) of the WQCC regulations 82-1 Exhibit No. 3 states:

3-106. APPLICATION FOR DISCHARGE PLAN APPROVAL

C. A proposed discharge plan shall set forth in detail the methods or techniques the discharger proposes to use or processes expected to naturally occur which will ensure compliance with these regulations. At least the following information shall be included in the plan:

3-106 C-3. Depth to and TDS concentration of the ground water most likely to be affected by the discharge:

Since Plateau failed to recognize the existence of ground water either under or adjacent to the refinery and correspondingly provide background information on the quality and depth to ground water, the OCD presently considers the standards as set forth in the WQCC Regulations 82-1 as the standards for the area.

In June of 1982, the OCD became aware of the toxic nature of the refinery wastewater effluent and its potential for polluting ground and surface waters of the area. In response, the OCD began a thorough investigation and testing program. Refer to Exhibit No. 15 for test results.

Based on OCD sampling results, literary research, and field inspections, Plateau will need to provide the following information to meet the requirements of 3-106 C-3 and C-7.

- 1) Define the depth and quality (TDS) of ground waters within a radius of at least 1 mile from the Plateau property. Ground water shall be defined for the terrace, valley fill and the Nacimiento formation.
- 2) Within a radius of 1/2 mile of the Plateau property, define depth and quality of ground water in the terrace deposits, the valley fill, and the Nacimiento formation as per the elements listed

in the Water Quality Control Commission Regulations (WQCC) 82-1 listed as Toxic Pollutant, Definition "UU" of Section 1-101, and Section 3-103 (A,B, & C).

- 3) Provide maps and cross-sections (N-S & E-W) depicting the information requested in Items 1 and 2. If water quality stratification occurs within the aquifers, the stratified zones will be delineated and shown on the cross-sections and maps. If wells or information on depth and water quality are not available, then test holes and or monitor wells shall be drilled to provide such information.
- 4) The San Juan River and Hammond Ditch will be characterized as per the elements listed in Definition "UU" Section 1-101 and Section 3-103 (A,B & C) and monitored for certain parameters (to be agreed upon later) up and down gradient of the refinery.
- 5) All springs and/or seeps on the south side of the San Juan River for a radius of 1/2 mile from the Plateau property will be characterized as to quality as the parameters of (Sections 1-101 (UU) and 3-103 (A, B, & C) along with quantity.
A monitoring system will be required for certain selected springs or seeps in this area. The monitoring system will be set-up and governed by the characterization results on the springs and/or seeps. Locations of the springs and/or seeps will be located on the previously described aerial photo coverage.
- 6) Define the extent both laterally and vertically in which spills and leaks of petroleum products, leakage of effluent, discharge of effluent, and any leachate thereof have effected ground waters in the terrace, valley fill and Nacimiento. Illustrate results on aerial photo coverage of the the area and on cross-sections (N-S and E-W).
- 7) Provide a detailed site geologic and hydrologic evaluation of the area to determine what if any environmental impact the degraded ground water described in Item No. 6 will have on the environment and surface waters.

Using the information obtained from the detailed site specific geologic and hydrologic evaluations, estimate the magnitude and extent of migration of the degraded water through time.

Item No. 5) OCD comments on the Section entitled: "Flood Potential", pages 10 through 12.

The OCD does not consider the area occupied by the refinery or the adjacent terrain to be level. There is significant topographic relief in the area with over 100 feet of vertical relief. There are large drainage areas and arroyos in the area that could cause flooding and/or produce significant amounts of storm runoff.

There are drainage areas within the refinery site that have the potential for carrying or flushing toxic or contaminant substances off site when storm runoff occurs. Storm runoff carrying toxic or contaminant substances has the potential to effect surface and ground water in the area. For example, one drainage area on the north side of the refinery drains a large portion of the refinery towards the El Paso Natural Gas right-of-way and Hammond Ditch bridge. This area in particular, has a high probability to carry or flush contaminants from the refinery area into the Hammond Ditch and the San Juan River. At this time, there are no provisions at the right-of-way and bridge to keep spills or storm runoff from entering the Hammond Ditch. Therefore, Plateau is requested to calculate and describe the effects of storm runoff for 5, 10, 25, 50 and 100 year events for any areas effecting Plateau property. Describe, delineate and illustrate using current aerial photo coverage as per the OCD suggestions on Plate No. 1, the distinct drainage areas that occur on and or effect any Plateau property. Determine the holding capacity of each embankment or beam on the site and where applicable, compare this capacity to each respective hydrocarbon storage tank capacity.

The OCD believes that provisions should be made for capturing all storm runoff that emanates from the refinery property and the movement of such fluids to impermeable storage. In the alternative, if Plateau can demonstrate that such runoff will not contain contaminants or toxic substances above the standards of the WQCC regulations, then alternate disposal may be considered provided such disposal does not aggravate the current situation or cause increased seepage or spread of polluted ground water.

The construction of the two small ponds north of the oily water ponds is an acceptable spill prevention method. Construction of the ponds without notification or prior approval from the OCD is not acceptable and such practice in the future will be strongly reprimanded.

Past inspections of the upper storage pond closest to the ditch revealed accumulations of hydrocarbon residue on the banks of the ponds and sludge in the bottom of the pond. To eliminate possible pollution, Plateau is requested to remove and dispose of the hydrocarbon residues and sludge in both ponds if applicable and in a manner suitable to the OCD.

There are several storm drains on Plateau property that divert storm runoff across the Hammond Ditch. These drains do not have storage ponds down gradient to contain storm runoff or hydrocarbon spills.

Describe the methodology that will be used on a consistent basis to remove fluids and/or spills emanating from the drains and storage ponds and how and where such fluids will be disposed of.

Item No. 6) OCD Comments on the Section Entitled: "Seepage", page 12.

The OCD feels that AGWC estimation of the amount of seepage occurring at the refinery site was inaccurate and probably greatly under estimated. OCD and EID's review of the two monitoring reports and discharge plan indicated that:

The methods of ground water monitoring were not sufficiently documented, background data was not established prior to monitoring, the number and location of monitoring points was not sufficient for the whole site and the design and construction of the monitoring wells was such that valid information could not be attained. Refer to Exhibit No. 16 for the Environmental Improvement Division's (EID) comments on their review.

AGWC's statement that: "Any seepage will therefore appear as seeps along the contact between the Nacimiento formation and the cobble bed where it is exposed in the southward trending arroyos", has been greatly oversimplified and AGWC has not made a thorough investigation to determine the possible subsurface migration paths of waste water seepage and of hydrocarbon fluids.

Based on the literature, information provided by AGWC, field inspections and water sampling test data, and Exhibit No. 15, the OCD contends that once wastewater and hydrocarbon fluids are in the soil that subsurface migration of these fluids will not be primarily to the north but also to the east and west. Also, information strongly suggests that downward percolation of fluids into the sandstone beds of the Nacimiento may be occurring.

The statement that all leakage or spillage from the refinery will appear as seeps along the contact of the cobble bed and Nacimiento formation in the southward trending arroyos is unsubstantiated and highly improbable.

Item No. 7) OCD comments on the Section: "Water Chemistry", pages 13 through 17

The Schoeller diagram can be used to prove common sources of water but it cannot be used to disprove that waters are from the same source. Chemical changes and blending occurs that tend to modify the character of the water that would cause the diagram to be inappropriate.

Item No. 8) OCD comments on the section entitled, "Monitoring" pages 18 through 20

As stated in Item No. 6 of this report, the monitoring systems and the data generated are considered invalid and incomplete. AGWC's request to eliminate monitoring of the evaporation ponds is denied. Based on a detailed geologic and hydrologic evaluation of the area and determination of the plume of pollution, Plateau is requested to submit a comprehensive state of the art monthly monitoring plan for their entire facility that will fulfill all the requirements of Section 3-107(A) Items 1 through 11 of the WQCC regulations. Specifically but not limited to the following:

To meet the requirements of Section 3-107 (A-1) and 3-106 (C-7)

- A) The two solar evaporation ponds are an improper disposal system or method because they are leaking contaminants and or toxic substances. If the two ponds are intended to be used in the future, they must be lined with an impermeable double liner with a leak detection system between the liners. Engineering plans and specifications must be approved by the OCD prior to construction. The use of benonite as a liner will not be accepted.
- B) The lining of the 2 oily API storage ponds without OCD knowledge and approval of the plans and specifications is a serious matter. Plateau is requested to submit as-built plans and specifications of the newly lined pond. If the lined pond does not have a leak detection system, or a proposed system suitable to the OCD, then a leak detection system similar to the one described for the solar ponds will be required.

- C) Submit as built plans and specifications for the API Separator. Submit an effluent monitoring device or system that will detect leakage of effluent from the API Separator.
- D) Plateau is required to install a metering system on the outfall of the API Separator that will continuously record volume and time. An example of such a system would be a Thompson Flume and a Stephens Recorder.

Under Section 3-107 (A-2) Plateau is required to install state of the art ground water monitor wells that can be used for detection of all substances listed in Sections 3-103 (A,B, and C) and 1-101 Definition "UU". Monitoring will be required for ground water in the terrace and valley fill deposits and the Nacimientto formation.

The plume of degraded ground water and the hydrocarbon plume will be required to be monitored whether on or off Plateau property.

Under Sections 3-107 (A-3) Plateau will be required to install vadose monitoring devices to detect leakage of old pits, storage tanks, sludge disposal pits, and land forms for sludge disposal. If spray irrigation is to be continued, vadose monitoring will be required. Future spray irrigation will not be allowed unless the quality of the fluid being sprayed can meet the WQCC regulations and the area to be irrigated will not be hydraulically connected to any contaminated areas.

Under Sections 3-106 (C-7) and 3-107 (A-6) Plateau will be required to set up a detailed monitoring program for detection of effluent in all surface waters of the area which primarily includes the San Juan River, the Hammond Irrigation Ditch water, and all seeps or springs within 1/2 mile of Plateau property. Plateau is also requested to monitor the two large arroyos (SW and E) of the refinery for soil contamination, soil transport, and surface water contamination.

In reference to the statement on page 20, first sentence of the page, the OCD has shown ground water to occur and requires that a ground water quality assessment plan be implemented and meet all the requirements of Section 3-107.

Item No. 9) OCD comments on the Section entitled "Water Supply and Discharge" pages 20 to 23

In reference to the two fresh water retention ponds as described on page 20, second paragraph, second sentence, the

OCD requests Plateau to determine the leakage rate of the two fresh water ponds and in turn determine if the leakage is aggravating or contributing to help move any polluted fluids off site.

In reference to the determination of the amount of wastewater effluent being produced at the refinery, third paragraph, page 20, AGWC has not substantiated how or by what methods the total volume of effluent or any part thereof was determined. In addition, the volumes of wastewater that are being recycled have not been substantiated.

Under Section 3-106 (C-1) of the WQCC Regulations 82-1, the quantity, quality, and flow characteristics of the discharge are required to be defined. The information in the discharge plans has no supporting data to verify the statements made in the report. Methods and locations of flow measurement were not defined or described. Flow characteristics of the sources of waste water were not addressed. Flow characteristics reflect or represent plant fluctuations, seasonal variations, and maintenance and repair of a plant. These fluctuations reflect quality and quantity in a plant effluent.

Under Sections 3-104 and 3-106 (C-1) WQCC regulations 82-1, Plateau is required to define the quantity, quality, and flow characteristics of any discharge (s) whether in the form of a effluent or leachate. Therefore, each source point of the discharge whether separatic or constant in nature will be characterized as to its quantity, quality, and flow characteristics. The quality of each discharge shall be characterized for those constituents as listed in Section 3-103 (A, B, and C) and 1-101 definition "uu". The quantity shall be measured by standard engineering practices such as those described in the "Handbook for Monitoring Industrial Wastewater", August 1973, PB-259 146 or latest edition thereof. Refer to chapters 3, 6, and 7 for guidance.

The flow characteristics reflect daily to yearly plant fluctuations which in turn reflect changes in quality and quantity. The flow characteristics should be used to statistically define the quantity and quality of the effluent and or leachate. Plateau is requested to statistically characterize their effluent and or leachate by the flow proportional-time weighted composite sampling technique as described in the "Handbook for Monitoring Industrial Wastewater". This the only method that represents the intent and requirements of Section 3-106 (C-1) of the WQCC regulations.

Submit all documents, records, and data necessary to achieve the flow proportional-time weighted sampling.

- 1) Submit graphs and/or illustrations which illustrate your results
- 2) Show calculations
- 3) Show measuring and sampling points on figure 5A and on the flow schematic

On page 22, second paragraph, AGWC states that spray irrigating was first applied in December 1981. Enclosed in Exhibit No. 17 is memorandum from the Environmental Improvement Division (EID) and the OCD which contradicts this statement. The EID observed evidence of spray irrigating in May 1981 by the letter of June 16, 1981, to Maxine Goad. (Exhibit No. 17) On September 3, 1981, at a meeting with Plateau officials, a verbal warning from the OCD to Plateau was given not to spray irrigate waste water. Refer to the OCD Memo of December 28, 1981, (Exhibit No. 17). The OCD's letter of December 4, 1981 testifies that Plateau was spray irrigating on November 20, 1981 and runoff was escaping Plateau property. (Exhibit No. 17)

The Plateau letter of December 23, 1981, from Dwight D. Stockham implies that only recently has Plateau started spray irrigating and no runoff reached the San Juan River. (Exhibit No. 17) The outcome of the meeting held on January 27, 1982 at the OCD Santa Fe Office between Plateau and the OCD granted Plateau a variance to continue spray irrigation until a review of an updated discharge plan was completed. Refer to the OCD's letters of January 20, 1982 and February 11, 1982 and Plateau's letter of January 27, 1982. (Exhibit 17) To insure that spray irrigation water would not escape Plateau's property, a meeting on February 2, 1982 between the OCD and Plateau was held to agree on the methodology to contain or prevent runoff of spray irrigation water. Refer to Plateau's letter of February 2, 1982 for the methodology to be implemented. (Exhibit No. 17)

The OCD reviewed a draft of the Updated Discharge Plan and requested additional data that would define the quality of the refinery effluent to be used for spray irrigation. Refer to the OCD letter of February 24, 1982, Item No. 5, Exhibit No. 17. The information requested of Plateau was submitted in the final draft of the Updated Discharge Plan on June 2, 1982.

Based on the data contained in the final draft, the OCD made its own investigation of the Plateau refinery and surrounding area. The information obtained by the OCD coupled with that submitted by Plateau, indicates that spray irrigation

of refinery waste water as is, should not be allowed to continue because of the potential to pollute ground and surface waters in the area. Review of Exhibits 3 and 15, and Plate A, shows that pollution has and is occurring throughout the area. The high concentrations of lead in the ground water in the refinery area are believed to be the result of spray irrigation and seepage or leakage of refinery effluent. Spray irrigating refinery waste water at its present quality is not an acceptable method of disposal. The volume of water being dumped into the irrigation area will increase ground water pollution by a factor many times greater than the loss of wastewater through seepage in the four ponds.

In reference to Plate 5 as described on page 20, second paragraph, it appears that the area to be irrigated is partially or totally off Plateau property. Please clarify.

In reference to Plate 5 as described on page 22, second paragraph and on page 23, first paragraph, it appears that the dedicated acreage 10 to 30 acres is partially or totally off Plateau property. As stated before, the present water quality of effluent being spray irrigated will pollute ground and surface waters of the area. Therefore, this method of effluent disposal will not be allowed. The area that is presently being irrigated is hydraulically connected to an apparent plume of pollution under the refinery proper. Therefore, a discharge of fluid no matter what quantity will flush or spread contaminants from the irrigated area and from the refinery area.

The only way spray irrigation will be allowed in the future is to improve the water quality to acceptable limits and use an area that is not hydraulically connected to the apparent plume of pollution.

In reference to the sixth sentence, second paragraph, page 22, dealing with removal of solutes, AGWC has not demonstrated what solutes will be removed from the effluent through the production and harvest of alfalfa.

In reference to the first sentence, first paragraph, page 23, pertaining to the mixing of fresh water with plant effluent, the OCD will not accept the method of diluting effluent to achieve water quality standards.

In reference to the last sentence, first paragraph, page 23 dealing with drainage, AGWC needs to address subsurface drainage from a spray irrigation area and set up a monitoring system for such an area. As the OCD has stated before, all subsurface drainage especially from this spray irrigation area cannot be recaptured. The contaminants in the effluent will

pollute ground and surface waters in the area which are located on and off the Plateau property.

OCD field observations of the practices employed by Plateau on the application of effluent indicates there would be significant amounts of subsurface drainage.

OCD's observation of the present spray irrigation system indicates that the system is operating as dumping method to dispose of waste water. This is based on: (1) the lack of effort by Plateau to plant alfalfa, (2) Plateau irrigating only natural vegetation (a few weeds that have managed to survive the effects of the refinery waste water) and (3) constant spraying from 10-10-82 to 10-15-82 in the same spot with resumption of spraying 10-18-82 with refinery waste water, (4) not installing a totalizing waste meter on the spray irrigation line as per the Plateau letter of 2-2-82 (Exhibit No. 16).

Item No. 10) OCD comments on the section entitled: "Arroyo Catchment Plan", pages 30 through 34

AGWC has not addressed all of the seeps that occur north of the refinery. OCD inspections of the area indicate there are approximately 25 or more different seeps north of the refinery that vary in size and magnitude. From test data it appears that the majority are hydrologically connected to contaminated water in the area. Plateau is requested to readdress their arroyo catchment plan and show how and where such seepage will be captured, stored and disposed of. Submit time frames in which such work will be scheduled and accomplished.

The OCD requires collection of the contaminated seepage to prevent further degradation of ground and surface waters.

Item No. 11) OCD comments on the section entitled: "Hydrocarbon Discharge in the Hammond Ditch", pages 35 through 36.

In reference to the statement made in the last sentence of the first paragraph, page 33, the OCD has observed several recent instances of improper tank filling and related practices. The problem is not totally related to past practices that occurred many years ago.

In reference to the second paragraph of page 35 which states in part that the hydrocarbon poses no threat to the Hammond Ditch to public health or agriculture has not been substantiated by AGWC. The OCD collected a composite sample in March, 1983, of seepage (effluent and hydrocarbon), that was

dammed off in the Hammond Ditch in the area adjacent to the refinery. The analytical lab results of that sampling indicates that there may be a threat to agricultural products and livestock and through consumption thereof, a threat to public health.

Lead and Benzene were found at concentrations of 2.48 ppm and 1.21 ppm, respectively. Refer to Exhibit No. 18.

In reference to the correction or cleaning up of the hydrocarbon fluids, the use of sumps in the Hammond Ditch during the winter months when the ditch is not being used to carry irrigation water is acceptable. Sumps must be removed and/or backfilled during the irrigation season. This will prevent any fluids from freely escaping and possibly contaminating the irrigation water.

During the irrigation season, AGWC proposes no methods for continued clean up of hydrocarbon fluids. Plateau is requested to make a concerted effort to contain and remove as much hydrocarbon as possible. Therefore, Plateau must stipulate corrective action that will be implemented during the irrigation season in addition to the sump method in winter.

In reference to the last sentence of the first paragraph of page 36 which makes the assumption that during the summer the hydrocarbon is not likely to pose a problem, Plateau has not substantiated what effects hydrocarbon fluids or effluent will or will not have on the irrigation water in the Hammond Ditch. Sampling results by Plateau on the Hammond Ditch water in July of 1982, indicates the presence of hydrocarbons and other refinery related substances in the irrigation water which exceeds the WQCC standards. Refer to Exhibit No. 19.

OCD's observance of the south bank of the Hammond Ditch during the 1982 irrigation season indicated the upper portion of the bank soil was saturated with hydrocarbon. The hydrocarbon saturated south bank starts at the EPNG's right-of-way and runs approximately some 300 yards west. Close observation revealed that a hydrocarbon sheen was present on the surface of the irrigation water next to the south bank of the ditch.

As previously stated before, Plateau is requested to monitor the Hammond Ditch, determine what effects the refinery effluent or contaminated ground water and hydrocarbon plume is having on the Hammond irrigation water. Based on that evaluation, Plateau is requested to establish corrective measures if needed. All information data and corrective action must be included on the discharge plan. These requirements are requested to satisfy Section 3-106 (C-7).

In relation to hydrocarbons, Plateau is requested to locate on current aerial photo coverage all present and/or abandoned pits or surface impoundments used to dispose of wastes. Describe the use thereof. Wastes include but are not limited to hydrocarbons, sludge, treating and cleaning chemicals, waste water effluent, and washdown water.

Item No. 12) OCD comments on the Section entitled: "Contingency Plans", page 36.

To supplement Plateau's contingency plans, Plateau is requested to provide their Spill Prevention Control and Counter Measures Plan (SPCCP) that is required under the Safe Drinking Water Act.

Item No. 13) Request for additional information to meet the requirements of Section 3-106 C-7 of the WQCC Regulations.

1) Plateau is requested to stipulate in their discharge plan what environmental requirements the Environmental Protection Agency (EPA) is requesting and how EPA's requirements will or will not be incorporated in the discharge plan.

2) Conduct an efficiency test (susceptibility to separation) on the API Separator and lined API Separator storage pond. This test defines how well each separator handles or separates refinery waste water from associated hydrocarbons and sludge.

3) Identify all sources in the refinery that generate and contain sludge. Determine the present volumes generated at each source and total volumes since June 5, 1978. Describe and show disposal methods thereof. Supply the chemical composition of each source of sludge generated presently and in the past.

4) Submit a disposal procedure for sludge generation at the facility.

5) Submit a disposal procedure for solid waste that is contaminated or contains contaminants.

SUMMARY

Plateau's submittal of their "Updated Discharge Plan" for a Refinery operated by Plateau, Inc. near Bloomfield, New Mexico", is not acceptable as a modification for their present discharge plan GWR-1 or as a future plan. The Oil Conservation

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

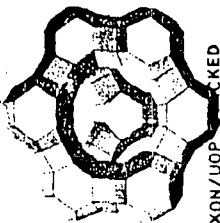


EQUILIBRIUM CATALYST ANALYSES

Katalistiks International
Catalyst Square
4501 Sulgrave Avenue
Baltimore, MD 21209
(301) 367-1000

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

DATE 10/31/88



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

CURRENT CATALYST: OD-11505 0488

Identification			ANALYST		Physical Properties				Chemical Analysis										Remarks	
Customer ID	Date Taken 1987	Date Recd. 1987	ACT	Chk Factor	Chk Factor	PD Alreza	SA	P.V.	A.B.D.	Ni	Cu	V	Fe	Na ₂ O	AL ₂ O ₃	C	RE WT %	UDP DA		
EQUIL FINES	6-18	6-23	89	9	2.8	0	65	89	114	25	87	105	1.05	.89	40.2	.07	.37		MAT CONF BETA-500 PRIME	
	7-07	7-10	68	1.0	2.2	0	8	68	68	124	.84	381	1.00	.65	40.5	.02	.26			
	7-16	7-24	67	1.0	2.6	0	5	66	68	118	.84	391	.96	.60	38.2	.03	.21			
	7-23	7-28	67	1.0	2.3	0	7	61	71	115	.82	383	.89	.60	38.9	.05	.20		MAT CORRECTION	
	7-30	8-04	67	9	2.9	2	7	61	71	123	.83	395	.92	.58	40.5	.04	.16		MAT CONF	
FINES	8-06	8-11	64	1.0	2.3	0	6	59	72	118	.83	381	.82	.58	39.0	.06	.16			
	8-17	8-17	64	1.1	2.3	0	80	92	100	16	.00	383	.91	.53	38.0	.04	.12		MAT CONF CHEM C	
	8-24	8-24	65	9	2.6	0	5	51	79	112	.81	366	.88	.52	39.0	.07	.12			
	8-28	9-01	67	9	2.6	0	5	56	75	111	.83	387	.83	.51	39.2	.06	.12			
	9-01	9-03	65	1.0	2.6	0	61	93	100	15	.00	307	.88	.50	39.0	.04	.15		START MOB	
PSD C	9-10	9-14	63	1.0	2.5	1	9	60	72	107	.82	443	.84	.51	38.7	.11	.13			
	9-17	9-21	63	1.0	2.2	0	7	60	73	108	.84	491	.84	.57	37.5	.03	.15			
	10-08	10-14	65	1.0	2.6	0	6	54	76	108	.82	554	.88	.58	37.5	.03	.10			
	10-27	10-30	63	2.2	2.9	0	8	57	74	109	.82	576	.81	.56	37.2	.05	.08			
	11-25	11-30	65	9	2.9	0	8	58	73	112	.83	659	.81	.56	37.2	.05	.08			
PSD C	12-17	12-21	66	1.0	3.1	0	9	63	70	113	.83	666	.83	.60	35.4	.13	.08			
	1-07	1-11	68	9	2.8	0	8	64	70	116	.82	747	.82	.62	35.4	.02	.08			
	2-02	2-04	67	1.0	3.1	0	8	62	70	116	.84	704	.86	.67	35.4	.02	.12			
	3-07	3-14	69	1.0	2.9	1	7	57	74	117	.84	549	.90	.74	32.3	.05	.20		PSD C	
	4-07	4-15	67	1.0	2.6	0	8	63	69	125	.84	568	1.00	.86	32.2	.03	.16		PSD, Ni, V C	
ABD C	4-27	5-05	66	9	2.5	0	7	65	68	138	.86	599	1.02	1.00	32.4	.02	.13		SA, PVCh C	
	5-18	5-25	68	1.0	2.4	0	9	68	67	141	.87	577	.97	1.01	32.3	.10	.08			
	6-08	6-13	67	1.0	2.6	0	8	70	67	137	.89	591	.99	.99	32.4	.05	.09			
	7-01	7-05	69	9	2.2	0	7	66	68	143	.85	569	.94	.99	33.2	.04	.08		ABD C	
	8-04	8-11	70	9	2.4	0	8	70	66	139	.89	566	.92	.86	33.3	.04	.06		ABD Ni, V, Al C	
MAT, PSD C	8-31	9-12	67	9	2.6	0	6	67	69	138	.89	528	.83	.75	33.3	.05	.05		PSD, V, Na C	
	9-27	9-30	65	1.0	2.6	0	7	68	67	131	.93	533	.81	.80	33.1	.04	.05		MAT, SA, ABD C	
	10-19	10-26	88	1.0	2.1	0	7	63	71	129	.95	532	.84	.86	32.9	.05	.05		MAT, PSD C	
	UNLESS SPECIFICALLY REQUESTED																			
	ENTRIES WILL NOT BE REPRINTED																			
SAVE THIS PAGE																				

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

EQUILIBRIUM CATALYST ANALYSES



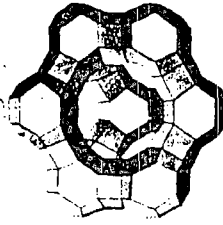
Katalistiks International Inc.
Catalyst Square
4501 Sulgrave Avenue
Baltimore, MD 21209
(301) 367-1000

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

UNIT TYPE:
UNIT CAPACITY:
CATALYST INVENTORY:
REFINERY NO.

EXXON/UOP STACKED
6,500
25
024

DATE 6/10/87



CURRENT CATALYST: OCTIDYNE-1150_013087

Identification			MAT Results		Physical Properties					Chemical Analysis										RE		UOP	Remarks
Customer ID	Date Taken 1986	Date Recd. 1986	ACT	W. Factor	0-20 Wt. %	PSD Means 0-40 0-60 Wt. %	APS Wt. %	S.A. m ² /gm	P.V. cc/gm	A.B.D. gm/cc	Ni ppm	Cu ppm	V ppm	Fe Wt. %	Mo Wt. %	Al ₂ O ₃ Wt. %	C Wt. %	WT %	DA				
24-33	4-17	4-22	68	0	5	48	82	132	27	.81	708	103	376	01	84	85	03	.79	.99	SA CONF			
	4-24	4-30	67	0	5	48	83	139	27	.80	679	198	347	93	00	00	02	.88	.82	PSD ABD CONF			
	5-01	5-06	67	0	5	48	85	141	27	.81	733	122	386	94	00	00	06	.57	.80	AL CONF			
	5-01	5-13	67	0	5	48	80	133	30	.84	611	194	297	86	84	86	03	.50	.89	MAT CONF			
	5-16	5-21	66	0	5	48	79	136	27	.85	655	102	580	89	81	80	04	.45	.89				
	5-29	6-03	68	0	5	48	81	136	27	.86	709	103	480	00	00	00	08	.40	.81				
	6-05	6-10	62	0	5	48	83	135	24	.87	680	101	440	92	97	89	04	.34	.89				
	6-12	6-17	65	0	5	48	84	135	24	.89	671	98	450	92	97	89	04	.30	.81				
	6-23	6-27	63	0	5	48	83	136	25	.90	594	88	388	81	87	89	04	.30	.75				
	7-02	7-11	63	0	5	48	83	136	25	.87	593	87	370	85	86	89	04	.30	.88				
	7-10	7-15	65	0	5	48	83	144	24	.88	589	97	340	94	89	80	04	.27	.98				
	7-17	7-23	66	0	5	48	83	139	23	.85	554	92	317	97	90	81	03	.21	.88				
	7-25	7-30	64	0	5	48	83	137	25	.85	537	91	263	83	78	81	03	.14	.99	MAT CONF			
	8-28	9-05	67	0	5	48	83	140	25	.86	503	76	213	83	72	81	03	.14	.81	UD-1540 PHY C			
	9-18	9-23	62	0	5	48	82	141	25	.89	546	76	207	98	80	80	05	.64	1.09	PHY CONF			
	12-05	12-10	66	0	5	48	83	142	26	.87	470	81	235	82	78	81	05	.81	1.09				
	12-17	12-22	65	0	5	48	83	142	27	.87	462	81	250	80	75	80	04						
	1-06	1-06	61	0	5	48	83	142	27	.87	511	79	280	78	76	80	03	1.00	.97	PHY CONF			
	1-13	1-20	61	0	5	48	83	142	25	.87	506	76	320	83	79	82	02	1.05	.97	PHY CONF			
	1-21	1-30	61	0	5	48	83	142	25	.86	507	77	320	83	76	82	00	1.07	.98	OD-1150 MAT C			
	2-06	2-06	61	0	5	48	83	142	25	.86	524	83	250	85	70	80	05	1.11	.98	PHY CONF			
	2-13	2-20	62	0	5	48	83	142	25	.86	427	79	300	73	67	80	03	1.06	1.10	PHY CONF			
	2-27	3-03	66	0	5	48	83	142	25	.88	434	101	257	96	71	89	02	.91	.89	MAT CONF			
	3-13	3-18	64	0	5	48	83	142	25	.89	459	111	258	100	68	89	04	.77	.89	PHY CONF			
3-27	4-02	62	0	5	48	83	142	24	.87	459	107	278	96	66	89	04	.75	1.10	MAT CHEM CONF				
4-10	4-15	62	0	5	48	83	142	23	.87	435	108	232	86	67	89	02	.58	.81	PHY CONF				
4-24	4-28	63	0	5	48	83	142	24	.86	425	108	238	86	63	89	02	.49	.69	CHEM CONF				
5-08	5-13	63	0	5	48	83	142	24	.86	425	108	238	86	63	89	02							
5-21	5-27	60	0	5	48	83	142	24	.86	425	108	238	86	63	89	02							
6-04	6-09	61	0	5	48	83	142	26	.87	434	108	350	100	72	81	02							
ENTRIES WILL NOT BE REPRINTED UNLESS SPECIFICALLY REQUESTED																SAVE THIS PAGE							

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



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

August 5, 1983

TONEY ANAYA
GOVERNOR

COPY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

CERTIFIED - RETURN
RECEIPT REQUESTED

Plateau, Inc.
P. O. Box 26251
Albuquerque, New Mexico 87125-6251

Attention: Mr. Lee S. Woodside
Vice President

Dear Mr. Woodside:

We have received your letter of July 29, 1983, requesting extension of time to get approval of a discharge plan for your Plateau Refinery.

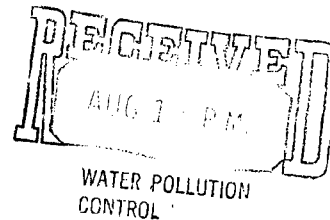
Responsibility for the processing and approval of these discharge plans has been assumed by the Environmental Improvement Division of the New Mexico Health and Environment Department. In order to facilitate the continued processing of the proposed discharge plan, you are hereby granted an extension until September 9, 1983.

Any additional communication relating to this discharge plan, or any requests for further extension, should be addressed to the Water Pollution Control Bureau of the EID.

Sincerely,

JOE D. RAMEY,
Director

JDR/dr



BRUCE S. GARBER

ATTORNEY AT LAW

200 WEST MARCY, SUITE 129
SANTA FE, NEW MEXICO 87504

P.O. BOX 8933
(505) 983-3233

26 August 1983

Mr. Joe Ramey
Director
Oil Conservation Division
Energy and Minerals Department
State Land Office Building
P. O. Box 2088
Santa Fe, New Mexico 87503

RECEIVED

AUG 29 1983

EID: WATER
POLLUTION CONTROL

Dear Mr. Ramey:

I am writing on behalf of Plateau, Inc., concerning Plateau's Updated Discharge Plan which was submitted to the OCD for review under the Water Quality Control Commission's ground water regulations. At the present time, Plateau is under a September 9, 1983 deadline for the approval of its Updated Discharge Plan.

Plateau received technical comments from your office on July 22, 1983. As you know, the review process for those comments and for the renewed discharge plan involves complex technical and legal issues which we expect will require significant further attention of both the State and Company experts. This situation is complicated by the uncertainty over whether OCD or EID will be responsible for the remainder of the Discharge Plan Review Process for Plateau's Plan.

Therefore, we believe that good cause exists for granting Plateau an extension of time within which to discharge under its current Discharge Plan. Plateau accordingly hereby requests that it be granted such an extension until March 9, 1984.

Sincerely,

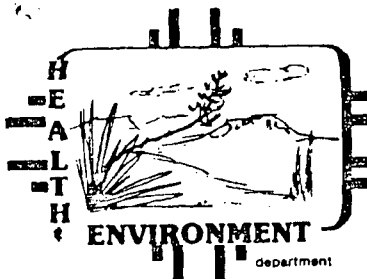
Bruce S. Garber

Bruce S. Garber

BSG:ea

cc: Steven Asher
Charles Nylander
Lee S. Woodside
Bob D. Dixon
Gary A. Masson
Gregory S. Smith
Dwight J. Stockham

RECEIVED
AUG 26 P.M.
WATER POLLUTION
CONTROL



STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

Steven Asher, Director

TONEY ANAYA
GOVERNOR

ROBERT McNEILL
SECRETARY

ROBERT L. LOVATO, M.A.P.A.
DEPUTY SECRETARY

JOSEPH F. JOHNSON
DEPUTY SECRETARY

M E M O R A N D U M

TO: Charles Nylander, Chief, Water Pollution Control Bureau

THROUGH: Maxine S. Goad, Program Manager, Ground Water Section, WPCB *MSR*

FROM: David G. Boyer, Water Resource Specialist, Ground Water Section *DTK*

SUBJ: Plateau Refinery - Current Issues

DATE: August 29, 1983

As requested by you, I have reviewed the readily available information on Plateau Refinery and offer the following regulatory and technical comments.

Regulatory and Procedural Issues

1. On April 29, 1977 Plateau notified OCD (letter from Dr. William Turner, American Ground Water Consultants (AGWC) representing Plateau to Joe D. Ramey OCD) that Plateau planned "to make a new contaminant discharge and to alter the character or location of an existing discharge from their refinery." See attached letter.
2. In a letter dated May 13, 1977, from Ramey to Mr. William Hagler, vice President Plateau, Plateau was notified a discharge plan was "required of the Plateau Refinery".
3. Plateau Refinery discharge plan submitted by Turner of AGWC on September 30, 1977.
4. Public notice of Plateau discharge plan issued by OCD on April 20, 1978.
5. Plateau discharge plan approval June 5, 1978 expired June 5, 1983.
6. Versions of the "Updated Discharge Plan" for Plateau were received beginning in February, 1982. Public notice of Plateau renewal issued May 10, 1983.

August 29, 1983

7. Letter to Plateau from Ramey dated July 6, 1983, transmitting 32 pages of Oscar Simpson's technical comments of June 30, 1983 on Plateau's "Updated Discharge Plan." Ramey's letter also refers to additional correspondence to Plateau dated March 8, 1983 from Ramey, and from Mr. Lee S. Woodside, Vice-President, Plateau, dated April 18, 1983.
8. July 29, 1983 letter to Ramey of OCD from Lee S. Woodside of Plateau requesting "maximum extension on our present Discharge Plan so that Plateau can properly complete its review" of Simpson's comments.
9. Letter from Ramey dated August 5, 1983 to Plateau granting an extension until September 9, 1983, and referring further comments on discharge plan or requests for further extension of time to EID for action.
10. August 26, 1983, letter from Bruce S. Garber, Attorney at Law now representing Plateau, to Ramey requesting an extension of time for good cause" to continue to discharge under its current discharge plan. Plateau requests an extension until March 9, 1984, citing "complex technical and legal issues which we expect will require significant further attention of both State and Company experts."

Technical Issues

1. Initial review of Oscar Simpson's comments of June 30, 1983 to Plateau indicates that immediate legal attention should be directed to the assertion by Plateau and their AGWC consultants that there is no "natural" or ground water to protect. This is listed by Simpson as a major point of disagreement by AGWC. This assertion is made by AGWC even though the refinery sits on a bluff above the San Juan River and at least 25 oil seeps (p. 29) from past or present Plateau practices have been identified by OCD and leak into Hammond (Irrigation) Ditch, valley fill and/or the San Juan River. Simpson's review (pages 6-21) includes convincing documentary evidence that ground water exists in the area of the plant and that discharges from Plateau have moved, and continue to have the potential to move, directly or indirectly into ground water.
2. In addition to the dispute over ground water occurrence, Simpson in his review identified the following subjects for comment, or as needing further information: Flooding potential, seepage, water chemistry, monitoring, water supply and discharge (including to land application of hydrocarbon effluents), arroyo catchment plan, hydrocarbon discharge to Hammond Ditch, contingency plans, and OCD's request for additional information (other than in those categories listed above). It appears to me that much, if not all, of the technical material listed here in item #2 is necessary to complete technical review as required under WQCC Regulations.

3. Mr. Simpson, on page 4 of his comments (attached) requests detailed information on the refinery process, additives and concentrations, and all other applicable substances used in the refinery. I expect some of these would be considered "Trade Secrets" by Plateau. Although we certainly may request the information if necessary, I would question the need for all this very specific data, since we know the type of effluents generated by oil refineries and their general characteristics. We must, however, have specific information on the location, quantity and water quality characteristics of each effluent discharge at the plant (eg. ponds, land application, sludge pits, etc.)

Summary & Recommendations

1. Although Mr. Simpson's 6/30/83 comments and request for additional information may be sometimes overly long and occasionally repetitious, and in one instance (#3 above) possibly unnecessary, he has on the whole identified many serious and complex technical deficiencies with the current discharge plan. He is to be commended for his detailed review.
2. Mr. Garber is correct in his statement of August 26, 1983, that the discharge plan involves complex technical and legal issues. I concur with Mr. Garber's conclusion that time is needed to address these issues. There are several options that can be taken by the OCD (as the currently delegated constituent agency) and/or the WQCC.
 - A. Since Plateau was an existing discharger, at least in part, prior to 1977, the Director (OCD's in this case) can grant an extension of time pursuant to WQCC Section 3-106.A. for "good cause" for those discharges existing before June, 1977. Given the complex issues listed above I think Plateau can make a case for "good cause" to have an extension until March, 1984. Such an extension should have conditions such as recognition by Plateau of the need for a discharge plan, timely submittal of requested information, etc. I personally do not like the approach of time extension under 3-106 since it has proved difficult in the past to enforce conditions. Also, any discharges starting after June 1977 would come under Section 3-106.B. and would only be eligible for 120 days time extension (through October 3, 1983). Most of this extension has already been used up.
 - B. An "Assurance of Discontinuance" would to me be preferable to a long extension of time since, as part of the assurance, certain conditions are negotiated, and deadlines stipulated as was done with

Page 4

MEMORANDUM - Charles Nylander
August 29, 1983

Climax. Having the WQCC review and approve an assurance brings the whole process into the public spotlight, and produces a more enforceable document which is better than just a long extension given by OCD or EID. If the assurance can be negotiated by September 13, 1983, only a short 8 day extension is needed. If, as likely, the issue will not be completed in a week, an extension until the October 11, 1983, WQCC meeting will be needed. However, this would be slightly past the October 3, 1983, deadline in 2.A. above.

3. If EID is to be involved with this discharge plan, an attorney for our EID staff should work with OCD's lawyer and EID technical staff to quickly resolve Plateau's and AGWC's contention that no discharge plan is necessary.

MSG:DGB:jba

BRUCE S. GARBER

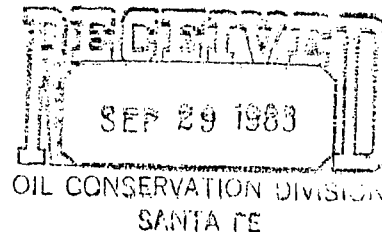
ATTORNEY AT LAW

200 WEST MARCY, SUITE 129
SANTA FE, NEW MEXICO 87504

P.O. BOX 8933
(505) 983-3233

28 September 1983

Joe Ramey, Director
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501



Re: Plateau, Inc. Discharge Plan

Dear Mr. Ramey:

As I indicated in my September 12, 1983 letter to you and in conversations with both you and Mr. Nylander of the EID, a revision of the OCD's June 30, 1983 comments on Plateau's discharge plan by the technical staff in charge of reviewing and making recommendations on that application is of utmost importance and a prerequisite to negotiation of a schedule for Plateau's submission of additional information necessary for an approved discharge plan. While both Mr. Nylander and you have recognized the serious difficulties with the June 30, 1983 comments, the State has yet to provide a document which clarifies the confusion generated by those comments and specifies the additional information considered necessary by the State for discharge approval.

Mr. Nylander scheduled a meeting with me for the morning of September 21, 1983. The stated purpose of that meeting was to provide the Company with sufficient detailed technical comments to enable the Company to prepare a proposed schedule for completing the discharge plan approval process. At that meeting I was presented with a memorandum from David Boyer to Mr. Nylander dated August 29, 1983. This memorandum reflects only a preliminary review of the June 30, 1983 comments. It does not contain any detailed technical analysis of the discharge plan nor does it give any clear guidance to the Company on what further submittals are necessary.

Mr. Nylander did not attend the meeting he scheduled with me. Rather, Maxine Goad, David Boyer and Oscar Simpson, attended the meeting. Ms. Goad was familiar with neither Plateau's discharge plan nor the June 30, 1983 comments and was unable to respond to questions on any technical issues. Mr. Boyer was at the meeting but indicated prior to the meeting that he would not be involved with this project in the

Joe Ramey, Director
Page 2
28 September 1983

future due to the press of other responsibilities. Mr. Simpson, a primary author of the June 30, 1983 comments, insisted that his prior comments were still fully valid, despite clear indications otherwise from both Mr. Nylander and you. Bruce Gallaher and Pat Longmeyer were not present at the meeting, however, Ms. Goad stated that they were the individuals responsible for the EID technical review of the discharge plan at this time. Neither Mr. Gallaher nor Mr. Longmeyer had prepared any written comments on the discharge plan for the Company.

Both Ms. Goad and Mr. Boyer said that they did not have sufficient time to properly handle this discharge plan review prior to the October 17, deadline under which Plateau is now faced. My recollection of the discussion at the September 13, 1983 Water Quality Control Commission meeting is that neither OCD nor the EID has sufficient staff at this time to conduct the discharge plan review for Plateau or other refineries.

Plateau submitted its application for a renewed discharge plan on June 2, 1982, over one year before the discharge plan expired. The Company has responded to all technical comments in a timely manner until the June 30, 1983 comments. Those comments were not responded to because State officials agreed that there were numerous misstatements and incorrect assumptions contained in those comments. Under the circumstances Plateau cannot be faulted for the delays in the processing of the discharge plan it has submitted. Plateau should not be penalized for the State Agencies' staffing difficulties.

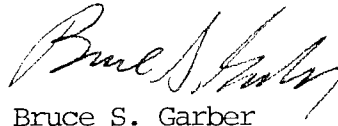
Therefore, I hereby request that Plateau be granted an extension to discharge under its previously approved discharge plan until April 1, 1984. This extension will allow sufficient time for the OCD or the EID, to approach the State Legislature for additional funding for staffing and for the Water Quality Control Commission to determine at its March 13, 1984 meeting which agency it feels should administer the Commission's ground water regulations for oil refineries. As you know the Commission has postponed that discussion until its March, 1984 meeting.

I can assure you that Plateau will not stand idly by during the time of this extension. Rather, the Company will continue to pursue a vigorous program of environmental monitoring and pollution control at its

Joe Ramey, Director
Page 3
28 September 1983

Bloomfield, New Mexico facility. Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "Bruce S. Garber".

Bruce S. Garber

BSG/ea

cc: Lee S. Woodside
Dwight J. Stockham
Gregory S. Smith
Charles Nylander
Louis W. Rose



STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

Steven Asher, Director

TONEY ANAYA
GOVERNOR

ROBERT McNEILL
SECRETARY

ROBERT L. LOVATO, M.A.P.A.
DEPUTY SECRETARY

JOSEPH F. JOHNSON
DEPUTY SECRETARY

MEMORANDUM

TO: ANTHONY DRYPOLCHER, ACTING CHIEF, GROUND WATER AND HAZARDOUS
WASTE BUREAU

THROUGH: MAXINE GOAD, PROGRAM MANAGER, GROUND WATER SECTION *MSL*

FROM: BRUCE GALLAHER, GEOHYDROLOGIST, SURVEILLANCE SECTION *BG by mse*

SUBJECT: DISCHARGE PLAN FOR PLATEAU INC.'s BLOOMFIELD REFINERY

DATE: OCTOBER 7, 1983

On September 19, 1983 I was requested by Charles Nylander to assist the Oil Conservation Division in their review of the Plateau plan by performing the following tasks:

- A. Reconiter the hydrogeochemical conditions in and about the refinery area; and
- B. Overview Plateau's ground water discharge plan and OCD's initial review of the plan, and comment on the conceptual attributes and deficiencies of both documents.

This memorandum summarizes my impressions. Given the time limitations, it is recognized that this evaluation must be preliminary in nature and general in scope.

CONCLUSIONS AND RECOMMENDATIONS:

1. Based on a field review of on-site conditions and available data, there remains little doubt that the refinery operations have significantly degraded ground water quality within the plant confines. However, the extent of contamination can not be determined with available information.
2. While it is likely that most of the contamination occurred before the effective date of the NMWQCC regulations for discharge onto or below the surface of the ground (mid-1977) any attempt to quantify that proportion would be speculative. Present-day discharges of contaminants to ground water exist throughout the plant site in many forms including drainage of tank bottom water within un-lined berms, seepage from the solar evaporation ponds, and leakage from the newly-lined oily water separation ponds. Owing to the apparent inability to distinguish

ANTHONY DRYPOLCHER

Page -2-

October 7, 1983

between such "old" and "new" discharges, Plateau should be obligated to consider them all the same within the discharge plan.

3. A major deficiency in the discharge plan is the lack of any substantive site-specific information regarding the occurrence and quality of ground water near the refinery.
4. Overall, I concur with the hydrogeochemical aspects of OCD's review of the discharge plan (March 8, 1983 letter from Joe D. Ramey, OCD to Bob Perry, Plateau; July 6, 1983 letter from Joe D. Ramey, OCD to Dwight J. Stockham, Plateau). The March 8 transmittal, in particular, succinctly identifies the major problem areas. To the negative, OCD's stated remedies to those problems seem somewhat inappropriate. Although it is true that most of the suggested data should be collected (e.g. hydraulic properties of the earth materials), it should not be mandated that they be collected, as the tone of the OCD review comments imply. Plateau's consultants should have the leeway to determine which specific information is needed to address general deficiencies identified through review.
5. Given the toxic nature and quantities of waste generated at the refinery, Plateau must take a much broader look at its operations. Rather than focusing on the two solar evaporation ponds, equal importance has to be placed on the other sources within the refinery. Additionally, Plateau should abandon its contention that ground water in the area is not protected under the New Mexico Water Quality Control Commission Regulations because it is attributed to leakage from the Hammond Ditch, a man-made structure. Irregardless of the source of ground water at the site, ground water must be protected at any place of present or foreseeable future use. Plateau must also consider the effects of its discharge off-site where "natural" ground water unquestionably is present.

In summary, Plateau has provided insufficient information which could be used for assessing the water quality impacts of its overall operations. Much needed basic information is missing which describes the occurrence and quality of ground water in the area. I could not recommend approval of the plan until the concerns presented in the March 8, 1983 OCD letter are addressed in some detail.

Fundamental questions have yet to be addressed: "Which direction(s) is the ground water moving?" "How fast is the ground water moving?" "Which contaminants have entered the ground water system and at what concentrations?" A significant amount of basic hydrogeologic data collection remains. In my opinion, without on-site drilling and standard quantitative characterization of the saturated earth materials, Plateau cannot demonstrate that its discharge will not cause ground-water quality standards to be exceeded at a place of present or foreseeable future use.

BG/ps



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

October 14, 1983

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

RECEIVED

JAN 10 1984

Mr. Lee S. Woodside,
Vice President
Plateau Inc.
P. O. Box 26251
Albuquerque, New Mexico 87125

GROUND WATER/HAZARDOUS WASTE
BUREAU

Dear Mr. Woodside:

We have received a request from Mr. Bruce Garber, as attorney for Plateau, Inc., requesting an extension of time within which to receive approval of a discharge plan for the refinery operated by your company in Bloomfield, New Mexico. Subsequent to this request, we have met with Mr. Garber and discussed the discharge plan situation.

Since our last discharge plan was approved, some operational changes have occurred but the only major "new" discharge is the surface application of waste water which has been accomplished through spray irrigation. The Water Quality Control Commission Regulations, under which we are reviewing your discharge plan, limits our authority to grant extension of time for discharge plan approval for such new discharges. Therefore it will not be possible to allow the extension you request for this discharge.

In order to allow your staff and the staff of the Division time to review and modify your discharge plan and good cause appearing to exist, an extension of time will be necessary.

Therefore, you are hereby granted an extension of time until April 1, 1984, in which to receive approval of your discharge plan and to continue to discharge pursuant to your existing discharge plan. This extension is granted contingent upon the following conditions:

- 1) Plateau, Inc. will cease all surface application disposal operations in connection with its refinery operations at Bloomfield, New Mexico.

October 14, 1983

- 2) Before November 14, 1983, representatives of Plateau, Inc. shall meet with representatives of the Division to discuss the discharge plan submitted by Plateau and define the parts of that plan which need expansion or modification.
- 3) On or before December 12, 1983, representatives of Plateau Inc. shall, in cooperation with Division personnel, establish a schedule for resolution of outstanding discharge plan issues.
- 4) At least every thirty (30) days between the date of this extension and April 1, 1984, Plateau, Inc. shall give a written report to the Division of its activities during the preceding thirty (30) days related to the discharge plan.

I would appreciate receiving your acceptance of these conditions at your earliest convenience.

Thank you for your help with this matter. The Division staff looks forward to working with you to resolve all outstanding issues in an appropriate manner.

Sincerely,

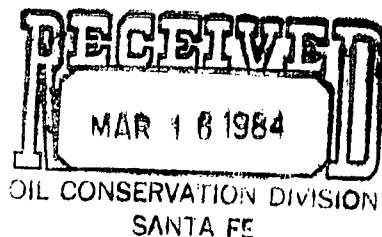
JOE D. RAMEY,
Director

JDR/WPP/dr

200 WEST MARCY, SUITE 129
SANTA FE, NEW MEXICO 87504

BRUCE S. GARBER
ATTORNEY AT LAW

P.O. BOX 8933
(505) 983-3233



March 14, 1984

Mr. Joe Ramey, Director
Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501

Re: Plateau, Inc. Discharge Plan

Dear Mr. Ramey,

This letter is Plateau's status report in compliance with condition No. 4 of your October 14, 1983, letter.

Since the February 14, 1983 status report, Plateau and its consultants have completed field measurements of the elevation of the contact of the Nacimiento Formation with the above-lying formations and of the levels of the water perched above the Nacimiento in the vicinity of the refinery. This information is currently being compiled to be included in the discharge plan.

Plateau has also obtained laboratory analysis results for water samples which will be included in the discharge plan to establish background water quality for the twenty-seven constituents listed in my January 19, 1984, letter to you.

We intend to submit the updated discharge plan to you no later than March 23, 1984. Thank you for your continuing cooperation.

Sincerely,

Bruce S. Garber
Bruce S. Garber

BSG/dm

cc: L.S. Woodside
D.J. Stockham
G.S. Smith

I have been informed that EPA has determined that Bloomfield is a TSD facility and that violations discovered during the recent inspection will be addressed through a 3008H to be issued by EPA. The violations will be discussed with Guy Tidmore and will include the fact that Bloomfield did not submit a new Part A following the purchase of the facility from Plateau.

**AMERICAN
GROUND WATER
CONSULTANTS, INC.**

2300 CANDELARIA ROAD, N.E.
ALBUQUERQUE, NEW MEXICO 87107
TELE: (505) 345-9505 CABLE: HYDROCONSULT
TELEX: 66-0422 TELECOPIER: (505) 247-0155

March 24, 1984

Mr. Robert Dixon, Vice President
Plateau, Inc.
4775 Indian School Road, NE
Albuquerque, New Mexico 87110


Dear Mr. Dixon:

American Ground Water Consultants is pleased to present
herewith our report entitled: Discharge Plan for a
Refinery Operated by Plateau, Inc. near Bloomfield, New
Mexico.

The present report is submitted to update the previous
discharge plan dated September 30, 1977 as is required
at five-year intervals.

Respectfully submitted,

AMERICAN GROUND WATER CONSULTANTS, INC.


Dr. William M. Turner
President

- File Copy Do Not Remove -

DISCHARGE PLAN FOR PLATEAU REFINERY AT BLOOMFIELD, NEW MEXICO

SUBMITTED TO
PLATEAU INC.
ALBUQUERQUE, NEW MEXICO

SUBMITTED BY
**AMERICAN GROUND WATER
CONSULTANTS, INC.**
ALBUQUERQUE, NEW MEXICO

MARCH 1984

TABLE OF CONTENTS

SUMMARY	i
APPROVABILITY	iii
INTRODUCTION.....	1
REFINERY SETTING.....	6
HYDROLOGIC FEATURES.....	8
San Juan River.....	9
Intermittant stream channels.....	9
Hammond Ditch.....	10
Ground-water occurrence	11
STORAGE FACILITIES.....	17
DISCHARGE.....	17
Surface runoff and flooding potential.....	17
Raw-water ponds.....	22
API separator.....	23
Lined ponds.....	23
Evaporation ponds.....	24
Land application.....	25
BACKGROUND WATER QUALITY.....	27
MONITORING.....	27
WATER SUPPLY AND DISCHARGE.....	28
PLACE AND PLACES OF FORESEEABLE GROUND-WATER USE.....	30
CONTINGENCY PLANS.....	31
REFERENCES.....	33

of the solar evaporation ponds and the planned land disposal site may have been uncontaminated.

STORAGE FACILITIES

Plate 1 shows all existing storage facilities and hydrocarbon handling facilities. Each item is numbered. The numbers on Plate 1 are keyed to Table 1 in which the contents or function of each item is identified.

DISCHARGE

There are at present six potential sources of waste-water discharge. These are:

1. Surface runoff and flooding potential
2. Raw Water Ponds
3. API Separator
4. Lined ponds
5. Evaporation ponds
6. Land application area

Each of these potential sources of contamination is dealt with below.

Surface Runoff and Flooding Potential

The refinery is located on the Jackson Lake Terrace. From the point of view of surface drainage and flooding potential, the following areas are of importance:

1. The area north of the refinery.
2. The area south of the refinery.
3. The on-site area.

Table 1. Key to facilities located on Plate 1.

Number	Description
1	Filtered water
2	Filtered water
3	U.L. Gasoline
4	U.L. Gasoline
5	Reformate
6	
7	
8	API separator slop
9	API separator slop
10	Spent caustic
11	Base gasoline
12	FCCU gasoline
17	FCCU feed
18	Regular #2 diesel
19	Finished diesel
20	FCCU slop
21	FCCU slop
22	Slop terminals
23	Reformate
24	Reformer feed
25	Finished kerosene
26	Finished kerosene
27	Finished HSF
28	Crude
29	Regular gasoline
30	Regular gasoline
31	Crude
41	Crude treating
42	Crude treating
43	Slop water

and the Nacimiento Formation. 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.

It must also be pointed out that any 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.

Land Application

Beginning in December 1981, waste water was applied for the first time through an irrigation system to about 10 acres of company property east of the truck-maintenance facility. This area is shown on Plate 1. Plate 2 also shows the topography of the irrigated land and environs in considerable detail. The irrigated area is bordered by a berm where necessary to prevent surface drainage of irrigated water into nearby arroyos.

Land application will take place primarily from March through October to take advantage of warm temperatures and enhanced evaporation potential from the large area of application and plant evaporation. Plateau has already installed the sprinkle system in the area.

Any 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. Following mixing and dilution, the water will remain largely beneath the land application area until the non-irrigation season when it will flow to the north and probably be captured by the high transmissivity zone associated with the Nacimienta subcrop channel. The water would then tend to flow towards the west. Some seepage may occur in the immediate vicinity of the land application area also.

In the land application area, there is no natural ground water present. Any water in the deep-lying Ojo Alamo Sandstone beneath the impermeable Nacimienta Formation will be protected from any potential contamination for several reasons. First, the Nacimienta Formation is for all practical purposes impermeable. And, second, the vertical hydraulic gradient is vertically upward and it is not possible for percolation to take place vertically downward.

Consequently, the discharge plan as far as land application is concerned should be approved because the amount of seepage is likely to have no significant impact on ground-water quality. Plateau has constructed a water quality monitoring well in the land application area which will be monitored semi-annually.

**AMERICAN
GROUND WATER
CONSULTANTS, INC.**

2300 CANDELARIA ROAD, N.E.
ALBUQUERQUE, NEW MEXICO 87107
TELE: (505) 345-9505 CABLE: HYDROCONSULT
TELEX: 66-0422 TELECOPIER: (505) 247-0155

April 11, 1984

RECEIVED

118

Mr. R.G. Dixon
Plateau, Inc.
P.O. Box 26251
Albuquerque, NM 87115

P.W. LISCOM

Dear Mr. Dixon:

It is our understanding that in your meeting with the New Mexico Oil Conservation Division on March 27, 1984, several matters regarding the Plateau discharge plan require further elucidation. These are dealt with hereunder.

1. Discharge of Hammond Ditch Leakage

All leakage from the Hammond Ditch which takes place through the bed of the Hammond Ditch as the Hammond Ditch traverses Plateau property discharges along the contact between the cobble bed of Quaternary age and the underlying Nacimiento Formation of Tertiary age, where this contact is exposed at the surface east, north, and west of the refinery property. This is demonstrated in several ways.

The first method relies on inspection of water flow directions shown on Plate 1 in the discharge plan. Ground water flows downhill under the influence of gravity. Ground water levels were measured in monitoring wells and observation holes on the same day and water-level elevations were determined and the data contoured. The water flows perpendicular to the water-level contours. Two major flow lines: one east of the refinery and one west of the refinery are shown. These flow lines converge on the depression in the Nacimiento subcrop surface and then trend to the northwest towards the cliff northwest of the refinery where the water discharges. Water north of the ditch also flows southward to the depression. Indeed some of the water north of the Hammond Ditch emerges as small seeps in the numerous intermittent valleys which exist in the area.

The second method relies upon a water budget of the area in which the rate of water outflow is calculated and compared with observed outflow.

The Plateau refinery is located between the Hammond Ditch on the north, the 5502-foot water-level contour on the south and between the flow lines on the east and west sides of the property all of which are shown on Plate 1. This is an area of

The San Juan River is underlain by a thin zone of alluvium. This alluvium north of the San Juan River contains ground water which is derived from the San Juan River. The San Juan River is a line source of recharge to the alluvium north of the river. As such, ground-water flow theory dictates that water must move from the river into the alluvium. This flow is a barrier to any ground-water flow from alluvium on the south side of the river to alluvium on the north side of the river. Only if there were a stronger source of ground-water recharge to the alluvium south of the river than the San Juan River could ground water move in the subsurface to the alluvium north of the river. This is not the case, the San Juan River is the master source of recharge in the area.

Finally, in the event water is pumped from wells in alluvium north of the river, this pumpage will only induce inflow from the river as it is the master source of recharge. Pumpage south of the river could not induce ground water to flow from the alluvium south of the river to the well north of the river for the same reason given previously.

7. Rework Last Paragraph of Page 16 of Discharge Plan.

There is no ground water south of the refinery in the cobble bed as indicated by the absence of shallow water in monitoring well p-6. Hence no ground-water flow enters the refinery property from this direction.

8. Describe Solid Waste Handling and Disposal Procedures.

The only solid wastes handled at the refinery are spent FCC catalyst and spent caustic. The spent FCC catalyst is land-filled on refinery property and the spent caustic is transported off site.

9. Describe Hazardous Waste Handling and Disposal Procedures.

The API separator is cleaned out approximately every five (5) years. When the API separator is cleaned out, the sludge is transported via a certified transporter to an EPA certified hazardous-waste disposal facility. When leaded tanks are eventually cleaned out, the leaded tank bottoms will also be transported to an EPA certified disposal facility. All hazardous waste that is shipped off-site will be properly manifested and handled according to EPA regulations.

10. Provide EPA Sampling Results Upstream and Downstream of the Refinery for the San Juan River and Hammond Ditch.

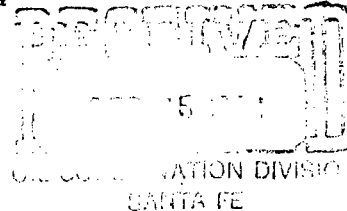


STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

June 7, 1984

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800



Mr. Bruce Garber
Box 8933
Santa Fe, New Mexico 87504

Re: Plateau Bloomfield Refinery
Discharge Plan
Approval - GRW-1-A

Dear Mr. Garber:

The updated discharge plan submitted pursuant to Water Quality Control Commission Regulations for the controlled discharge of waste water and associated fluids from the above referenced refinery located in Section 27, Township 29 North, Range 11 West, San Juan County, New Mexico, is hereby approved with the following restrictions:

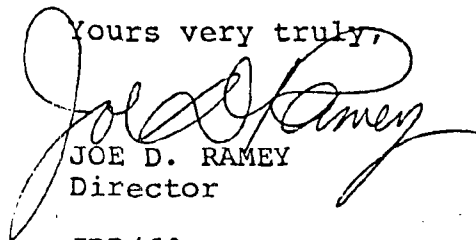
1. Monitor wells P1 and P4 shall be sampled during August, November, February, and May during the first year under the updated plan and thereafter in November and May. Samples shall be analyzed for those constituents listed in Section 3-103 A, B, and C of the Water Quality Control Commission Regulations.
2. Any leaks or spills of five barrels or more will be reported indicating the cause, repair and cleanup details.
3. Any movement of hazardous waste will be reported to the appropriate office of the Environmental Improvement Division.
4. Plateau shall immediately contact the Dallas office of the United States Environmental Protection Agency to determine if an NPDES permit is required.

Page 2
Letter to Bruce Garber
June 7, 1984

5. Plateau shall immediately install a meter and sampling loop on the discharge line and report monthly to the Oil Conservation Division the amount of effluent discharged to the solar evaporation pits.

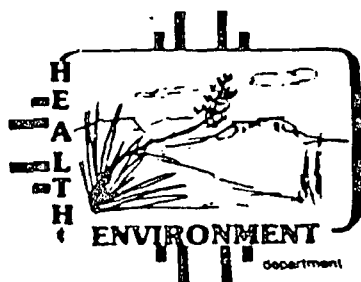
The updated discharge plan was submitted as required under Section 3-109 G-4 and is approved on June 7, 1984, and is in effect for five years.

Yours very truly,



JOE D. RAMEY
Director

JDR/fd



STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

P.O. Box 968, Santa Fe, New Mexico 87504-0968
(505) 984-0020

TONEY ANAYA
GOVERNOR

DENISE D. FORT
DIRECTOR

MEMORANDUM

TO: STEVEREYNOLDS, STATE ENGINEER

FROM: RICHARD HOLLAND, DEPUTY DIRECTOR
ENVIRONMENTAL IMPROVEMENT DIVISION *RH*

DATE: 15 MAY 1985

RE: WATER-RELATED ISSUES AT BLOOMFIELD REFINERY

Overview

The Bloomfield Refinery (formerly Plateau) sits atop a bluff over the San Juan River. Beneath the site is the relatively impermeable Nacimiento formation. This is overlain by a cobble bed, which is in turn overlain by loess. Ground water exists within the cobble bed. Probably none of this water is natural, but is instead due to infiltration from the Hammond Ditch and from the refinery's raw water and effluent ponds. Past practices have clearly contributed contaminants to the ground water. This is evidenced by the presence of hydrocarbons in seeps along the bluff beneath the refinery and in water that seeps into the Hammond Ditch after the irrigation season.

Water Supply; Bureau of Reclamation

Bloomfield Refining obtains its process water from the San Juan River. The water is purchased from the Bureau of Reclamation Navajo Project. Since October 1982, USBR has conditioned their water sales contracts with the refinery to require cooperation with EPA and the State (OCD and EID). The latest contract, for 340 acre-ft, was made on February 14, 1985. It is a one-year contract with quarterly review and gives USBR the right to terminate upon two-week notice. USBR has participated in recent meetings between EPA and the refinery regarding compliance with RCRA. They feel it is their responsibility under NEPA to be sure that

Memo to Steve Reynolds
15 May 1985
Page -2-

the refinery is in compliance with EPA and State environmental requirements, and they are concerned about the pollution which has occurred.

CONTACT: Thomas Scoville, Bureau of Reclamation, Salt Lake City, 801-524-6097

Discharge Plan; Oil Conservation Division

Since 1978, the refinery has had a Discharge Plan in conformance with Part III of the WQCC Regulations. An application for renewal and an updated Discharge Plan were submitted to OCD on June 2, 1982; these were approved, with conditions, on June 7, 1984. The Plan is for a discharge of 50 gpm from the API separator. The effluent goes into two lined "oily water" ponds, then into two lined "surface evaporation" ponds, and is then sprayed onto a plot of land. There is evidence of seepage from the evaporation ponds.

The Discharge Plan includes monitoring of three wells placed around the property. One of these wells clearly has free-floating hydrocarbon product in it.

Currently, the refinery is in compliance with their Discharge Plan. OCD is working with the refinery to upgrade the Plan (new wells, additional sample parameters). OCD is awaiting the outcome of hydrologic investigations done in response to EPA enforcement (see below) before defining and implementing these modifications to the Discharge Plan.

CONTACT: Dave Boyer, Oil Conservation Division, 827-5812

Hammond Ditch; Hammond Conservancy District

Hammond Ditch runs along the northern edge of the refinery. After the irrigation season, hydrocarbon-contaminated water seeps back into the ditch. About three years ago, this oily water seeped into the irrigation system of the downstream Sanchez Subdivision. In response to complaints by the subdivision residents, the Hammond Conservancy District requested remedial action. In response, the refinery has, for the past two seasons, put dikes across the ditch (after the irrigation season) to contain the oily seepage. They then pump out the oil.

CONTACT: Harry Hotter, Hammond Conservancy District, 632-3043

Hazardous Waste Management; EPA and EID

In 1980, Plateau notified EPA that they were a treatment/storage/disposal (TSD) facility for the management of hazardous waste. This meant that they were subject to regulation under RCRA, including ground-water monitoring. Later, Plateau informed EPA that they were in fact a generator only (i.e. not a TSD), in which case they are not subject to ground-water monitoring. Also, in case they were a TSD,

Memo to Steve Reynolds
15 May 1985
Page -3-

Plateau submitted documentation to support their contention that they should have a waiver of ground-water monitoring requirements.

In October 1983, New Mexico received Interim Authorization to administer the RCRA program via the Hazardous Waste Management Regulations (HWMR-2). In January 1985, we received Final Authorization from EPA.

In March 1984, EID denied Plateau's right to a waiver and required that they install ground-water monitoring. Plateau responded that they were not a TSD and so not subject to the ground-water monitoring requirements. As EPA was planning to take enforcement action, EID decided to defer further action until EPA's issues were resolved.

Later in March of 1984, EPA and EID conducted a joint inspection (EPA lead) at the refinery. A large number of samples were taken by EPA. The purpose of the sampling was to determine whether any treatment, storage, or disposal units at the refinery contained hazardous waste. Units that might be hazardous waste management units (and thus subject to ground-water monitoring requirements) included the oily water ponds, the surface evaporation ponds, the spray irrigation area, and the landfill.

On 29 March 1985, EPA issued a 3008 Order against Plateau and Bloomfield Refining (Gary Energy). 3008 is that section of RCRA which gives EPA authority to order compliance with RCRA regulations and to fine facilities for violations. The 3008 assumed the refinery to be a TSD and cited both Plateau and Bloomfield Refining for a number of violations of regulations applying to TSD facilities, including failure to implement ground-water monitoring. The 3008 also cites Plateau for illegally shipping a load of hazardous waste off-site to an unpermitted facility. A fine of nearly \$200,000 is proposed. Plateau has responded with a request for a hearing to contest the 3008. They contend that the refinery is not, and never was, a TSD.

Also on 29 March 1985, a 3013 Order was issued to Bloomfield Refining. 3013 is a section of RCRA under which EPA may require a facility to conduct investigations of the nature and extent of hazardous wastes which have been released from a TSD. The 3013 cited sampling evidence of hazardous constituents in the ground water, in the oily water ponds, and in Hammond Ditch, and the potential for these contaminants to affect downstream users of Hammond Ditch and of the San Juan River. The 3013 orders Bloomfield Refining to characterize the geohydrology at their site, to determine the extent and rate of migration of hazardous constituents, and to determine the impact of those constituents on Hammond Ditch and San Juan water.

Bloomfield Refining protested EPA's right to issue them the 3013. However, they chose, in a spirit of cooperation, to submit a plan that would substantially meet the requirements of the 3013. This plan is under EPA and EID review.

These two enforcement actions (3008 and 3013) were initiated by EPA even though New Mexico now has the program, because EPA had initiated action prior to us receiving authorization. The State does, however, have the authority to issue our own enforcement action if we so choose.

Memo to Steve Reynolds
15 May 1985
Page 4-

To summarize: the compliance status of the refinery rests on the determination of whether or not they are a TSD. If yes, then the facility is in violation of major requirements of RCRA and HWMR-2. Ground-water monitoring must be installed, and the results of such monitoring will probably lead to a extensive remedial action program for ground water at the site. If no, then EPA and EID have little leverage under these regulations to require clean-up of the ground water or surface water at the site. Future action by OCD and USBR will be correlated with the outcome of enforcement under RCRA/HWMR-2.

EID CONTACTS: Ann Claassen, Jack Ellvinger, 984-0020 ext. 340

EPA CONTACTS: Jim Turner, Attorney, 214-767-6552
Steve Schwartz, Hazardous Waste Enforcement, 214-767-9729

NPDES Permit; EPA

At the recommendation of the Surface Water Bureau of EID, EPA notified Plateau that they should file an application for an NPDES permit. The discharge to be permitted is hydrocarbon-contaminated water which seeps out along the bluff beneath the refinery. According to EPA, no response was received from the refinery, so that EPA plans to soon send another letter requiring a response.

CONTACT: Rob Franke, EPA Region VI, 214-767-9817

*The above information is provided in response to your phone request.
If you have further questions, please call.*
RH

RH:AC:ac

xc: Dave Boyer, Oil Conservation Division
Jim Turner, EPA Region VI



TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

50 YEARS



1935 - 1985

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

MEMORANDUM

TO: STEVE REYNOLDS, STATE ENGINEER,
STATE ENGINEER OFFICE

FROM: DAVID G. BOYER, ENVIRONMENTAL BUREAU *QJB*
OIL CONSERVATION DIVISION

SUBJECT: STATUS OF BLOOMFIELD (PLATEAU) REFINERY

DATE: MAY 17, 1985

At the request of Dick Stamets, I have copied some recent correspondence related to my evaluation of the situation at the Bloomfield Refinery. Briefly, this is the status of the discharge plan and chronology of recent events:

1. Discharge plan approval on June 5, 1978 for five years.
2. Updated and renewal application submitted June 2, 1982.
3. Thirty-day assurance of discontinuance approved by WQCC May 8, 1984.
4. Updated discharge plan approved with conditions on June 7, 1984 (approval letter attached).
5. At the request of EMD Secretary, Paul Biderman, I reviewed the plan on February 7, 1985, and expressed some concerns to him about possible off-property contamination to the west of the plant in the cobble bed and San Juan River alluvium. Under WQCC regulations, seepage on company property to the river is authorized as long as stream standards are not violated. The question of whether seepage to the river or Hammond Ditch requires an NPDES permit is an EPA determination.

6. At about the same time I wrote the company and informed them that changes in the monitoring program needed to be made to adequately determine current ground water quality at the plant and to provide a base line for future comparison. I also proposed waiting a short period until EPA issued two compliance orders and then coordinate OCD information needs with EID and EPA needs.
7. EPA issued its orders on March 29 and April 1. The §3008 order addressed alleged hazardous waste violations (including off-site waste shipment), and the §3013 directed that a work plan for additional hydrologic investigations be submitted within 30 days.
8. On-site monitoring was conducted by OCD and the company on March 21. Refined product (gasoline) was discovered during sampling of Monitor Well #4 at the western edge of the property. I dug into the side of the dry Hammond ditch off property several hundred yards from Well No. 4 down the topographic gradient to the west and also found product. Laboratory analyses showed benzene levels of 21.5 mg/l and 10.2 mg/l, respectively, for the two sites (WQCC standard 0.01 mg/l).
9. EID received the company's work plan on April 25. OCD has also requested a copy.

Situation Summary

Bloomfield Refinery is in compliance with the approved discharge plan although additional monitoring will be required. Confirmation of refined petroleum product off-site to the west means that contingency plan commitments made by Bloomfield will need to be initiated. If the EPA required study is initiated shortly, action taken by the company concurrently with the EPA required investigation would be the most efficient way to proceed.

In my opinion, the situation does not pose an imminent threat to any drinking water wells and is not an emergency. However, the company will be directed by OCD to move expeditiously to define the extent of contamination and undertake remedial action including product recovery. To date, Bloomfield Refining Company, the parent company, Gary Refining, and their staff, have

PUBLIC NOTICE

Proposal to Grant a PSD Permit Extension to
Bloomfield Refinery Company
(Formerly Plateau, Inc.)

Bloomfield Refinery Company, P. O. Box 159 Bloomfield, New Mexico 87413, has submitted a request for an additional extension of the expiration date of the Prevention of Significant Deterioration (PSD) permit, PSD-NM-422. This permit was issued to Plateau, Incorporated by the Environmental Protection Agency (EPA) on June 11, 1983. This refinery is now owned by the Bloomfield Refinery Company. The permit authorizes the expansion of the capacity of the existing refinery located on Sullivan Road, approximately one mile southeast of Bloomfield, San Juan County, New Mexico. Construction has not begun on this project due to the prevailing economic climate in the oil refining industry. Therefore, the company requested an extension which EPA granted on December 7, 1983, to a new expiration date of June 11, 1985. Since the conditions that resulted in the first extension have not been resolved, Bloomfield Refinery Company has requested an additional extension to a new expiration date of December 11, 1986.

The New Mexico Environmental Improvement Division (NMEID) reviewed this extension request of Bloomfield Refinery Company, since they have been delegated the technical review authority for PSD in the State of New Mexico.

The NMEID recommends approval of the additional extension and EPA accepts that recommendation. Therefore, EPA proposes to grant the requested extension of the expiration date of Permit PSD-NM-422 to December 11, 1986. Because of the potential public interest in this permit extension request, EPA is accepting comments on the merits of the company's request for a period of thirty days following publication of this notice. Since this permit expired on June 11, 1985, EPA is granting an interim extension until March 11, 1986, to preserve the status quo during the comment period.

Comments should be addressed to Mrs. Donna Ascenzi, Air Enforcement Branch, Air, Pesticides and Toxics Division, U.S. Environmental Protection Agency, Region 6, 1201 Elm Street, Dallas, Texas 75270. Documents relevant to the company's request are available during normal duty hours at the Air, Pesticides and Toxics Division, address above, and at the offices of the New Mexico Environmental Improvement Division, 725 St. Michaels Drive, Santa Fe, New Mexico 87504-0968.

Rcvd. EMD office:
2/21/86

ES

ENGINEERING-SCIENCE
2901 NORTH INTERREGIONAL
AUSTIN, TEXAS 78722 • 512/477-9901

LETTER OF TRANSMITTAL

DATE <u>9/21/86</u>	JOB NO. <u>46424.00</u>
ATTENTION	
RE <u>Bloomfield Refining Co.</u>	

Mr. Harry Mason

Mr. Joe Guida

Mr. Chris Hawley

GENTLEMEN:

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings

☐ Prints

☐ Plans

☐ Samples

☐ Specifications

☐ Copy of letter

☐ Change order

☒

The Appendix for final closure report for Bloomfield Ref.

Dated _____

COPIES	DATE	NO.	DESCRIPTION

THESE ARE TRANSMITTED as checked below:

☐ For approval

☐ For checking

☐ Resubmit _____ copies for approval

☒ For your use

☐ Approved as submitted

☐ Design only, not for construction

☐ As requested

☐ Approved as noted

☐ Return _____ corrected prints

☐ For review and comment

☐ Returned for corrections

☐

☐ For Your Action

REMARKS:

Evidently, the Appendix was deleted in the building of the final report. Therefore, the attached copies have been enclosed to supplement the original report.

COPY TO _____

SIGNED: _____

John L. Smith

If enclosures are not as noted, please notify us in time.



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

August 20, 1986

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Denise Fort, Director
Environmental Improvement Division
New Mexico Health and Environment Department
P. O. Box 968
Santa Fe, NM 87504-0968

RE: Bloomfield Refining Company

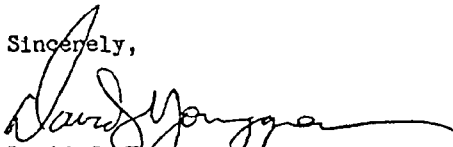
Dear Ms. Fort:

Enclosed is the final closure plan for certain waste management units at our petroleum refinery in Bloomfield, New Mexico. This plan provides information that was unavailable in our November 22, 1985, closure plan submittal. Also enclosed is a recent letter from our accounting firm which establishes that the company's working capital is far in excess of the anticipated closure cost, thus proving our financial responsibility for closure.

This plan is being submitted in accordance with the November 26, 1985, USEPA Consent Agreement and Final Order, Docket No. RCRA VI-501-R and nothing herein should be construed as an admission of liability in connection with that action or any other proceeding.

We are prepared to begin the specified activities within thirty (30) days of final NMEID approval. We look forward to receipt of this approval in the near future.

Sincerely,


David J. Younggren
Vice President Finance
and Administration

enclosure

cc: William Rhea
U.S. Environmental Protection Agency
Hazardous Waste Management Division
Interfirst II Building, 28th Floor
1201 Elm Street
Dallas, TX 75270

DJY:dam

bcc: Joe Warr
Richard Traylor
Chris Hawley
Joe Guida
Harry Mason

FINAL CLOSURE PLAN FOR THE
API WASTEWATER PONDS, LANDFILL, AND
LANDFILL POND AT THE BLOOMFIELD REFINERY

Prepared for

-BLOOMFIELD REFINERY
Bloomfield, New Mexico

by

Engineering-Science, Inc.
2901 North Interregional
Austin, Texas 78722

July 1986

TABLE OF CONTENTS

	<u>Page</u>
Introduction	1
General Facility Information	1
Closure Activities	4
Storage of Hazardous Waste	4
Discharge of Hazardous Waste	4
API Separator Operation	4
Slop Oil Tank Operation	5
Spent Caustic Tank	5
North and South Evaporation Ponds	5
API Wastewater Ponds	6
Landfill	9
Landfill Pond	11
Chain of Custody Procedures	11
Closure Cost Estimates	13
Closure Schedule	13
Documentation and Recordkeeping	13

FINAL CLOSURE PLAN FOR THE
API WASTEWATER PONDS, LANDFILL, AND
LANDFILL POND AT THE BLOOMFIELD REFINERY

INTRODUCTION

This final closure plan has been prepared to ensure that the API wastewater ponds, landfill, and landfill pond are closed in a manner consistent with the interest of human health and the environment. This plan provides information that was promised but that was unavailable in the November 22, 1985 closure plan submittal. Consequently, this closure plan supercedes the closure plan submitted to EPA and NMEID on November 22, 1985.

The subjects addressed in the plan include:

- (a) general facility information;
- (b) sampling and analytical techniques preceding closure activities;
- (c) documentation and recordkeeping of sampling and closure activities; and
- (d) an estimate of the quantity of waste material to be removed and the closure costs.

GENERAL FACILITY INFORMATION

The Bloomfield refinery, currently owned and operated by Bloomfield Refining Company (BRC), is located in the northwest corner of the State of New Mexico. The Bloomfield refinery was reportedly constructed in the late 1950s and operated approximately 5 years before being sold to Suburban Propane Corporation in the early 1960s. Plateau, Inc., a subsidiary of Suburban Propane, operated the refinery prior to its sale to the current owner in the fall of 1984. The refinery processes a combination of low sulfur crudes and petroleum which are transported to the refinery by pipeline and truck. Major refinery products include gasoline and diesel fuel, although fuel gas, heavy burner fuel, propane, butane, and other petroleum products are produced in smaller quantities.

The refinery is situated on a bluff adjacent to the San Juan River, south and slightly east of the town of Bloomfield. Although the refinery owns land on both sides of the San Juan River, all process units and storage areas are located south of the river. Approximate refinery property boundaries are shown on the plot plan presented as Figure 1. The plot plan indicates the locations of the process and tank storage areas, surface waters, and elements of the wastewater treatment system. The areas addressed by the closure plan (API wastewater ponds (designated the NOWP and SOWP by EPA), landfill, and landfill pond) are also indicated. These areas are discussed in the following paragraphs.

Refinery process wastewater is treated for primary oil removal in an API separator located east of the major refinery process units. Following the API separator, wastewater flows to two API wastewater ponds located north of the API separator and south of the Hammond Ditch. The north API wastewater pond is divided by a concrete wall into two sections. In 1983, these ponds were lined with a 100-mil high-density polyethylene liner by Permanent Lining Systems of Odessa, Texas. A french drain collection system consisting of 4-inch PVC perforated pipe also was installed at this time to detect any leakage through the pond liner at a common observation well.

Prior to the installation of the pond liners, residual solids from the API wastewater ponds were removed and tested for the EP-toxicity characteristic based on leachable lead and chromium concentrations. The samples also were tested for total lead and chromium concentrations. The solids were found to be nonhazardous and were disposed of on-site in a depression (designated the "landfill by EPA) located southeast of the solar evaporation ponds and north of the spray irrigation area and Sullivan Road.

The area designated by EPA as the "landfill pond" is a natural depression resulting from blockage of an existing arroyo during construction of the Hammond Ditch. The landfill pond is located approximately 200 feet due east of the solar evaporation ponds and northeast of the landfill. Water in the landfill pond is believed to originate primarily in the Hammond Ditch, which is located just north and east of the area. The solar evaporation pond may also contribute to the water in the pond.

—EB PROCEEDINGS—



CLOSURE ACTIVITIES

In accordance with the consent agreement with EPA and NMEID Bloomfield Refining Company will close the API wastewater ponds, landfill, and land-fill pond. This closure plan outlines the steps which will be undertaken to adequately close these facilities. Following approval of this plan by the New Mexico Environmental Improvement Division (NMEID), Bloomfield Refining Company will initiate closure activities within 30 days and complete closure within a 6-month time frame. Upon completion of closure, Bloomfield Refining Company will submit to the NMEID Director certification that the facilities have been closed out in accordance with this plan.

Pursuant to the Consent Agreement and Final Order dated November 26, 1985, the following provisions are incorporated into this closure plan:

Storage of Hazardous Waste

BRC shall not store any hazardous waste on site, including its transportation terminal, except to the extent that such storage is authorized for up to ninety (90) days pursuant to 40 CFR Part 262 and corresponding New Mexico regulations at HWMR-2. BRC shall not treat or dispose of any hazardous waste on site, including its transportation terminal.

Discharge of Hazardous Waste

BRC shall not introduce any 1,1,1-trichloroethane, or any other hazardous waste listed at 40 CFR Part 261, Subpart D, into its Bloomfield Refinery sewer system.

API Separator Operation

BRC shall insure that API Separator Sludge (Waste Code K051) is not "re-suspended and carried over" from the Bloomfield Refinery API Separator, as described in the Memorandum of the Director, Office of Solid Waste, U.S. EPA, dated December 7, 1984. In order to effect this requirement, BRC shall clean out the facility's API Separator not less frequently than every two years, or whenever the API Separator Sludge level reaches a height of 2.5 feet above the base of the API Separator, whichever occurs first. Any sludge removed from the API Separator will be properly manifested and handled as a hazardous waste. This procedure will be documented in the facility's operating record.

Slop Oil Tank Operation

BRC shall discharge only wastewater from the Slop Oil tank to the API Separator without oily emulsion solids, and shall document its efforts as performed, to insure the same in the facility operating record. Any slop oils in the tank shall be returned to the refinery process and commingled with normal process streams; and any slop oil emulsion solids removed from the tank will be properly handled as hazardous waste, including manifesting if taken off-site.

Spent Caustic Tank

BRC shall promptly repair any leaks that should occur in the caustic tank or caustic tank piping and shall install a containment dike around the base of the caustic tank. When removed from the spent caustic tank, material shall be properly handled as a hazardous waste. This may include transportation off-site for legitimate recycling, provided that the material is properly manifested as a hazardous waste, if required, and all other applicable regulatory requirements are met, including documentation in the facility operating record.

North and South Evaporation Ponds

In the event that materials are removed from the north evaporation pond (NEP), or the south evaporation pond (SEP), at any time, BRC shall analyze such material prior to any removal to determine whether said material is a hazardous waste in accordance with Subpart C of 40 CFR Part 261 and its New Mexico equivalent regulations at HWMR-2, including specifically, with respect to the characteristic of "reactivity", whether such removal, or subsequent handling, may result in the generation of toxic gases in sufficient quantities, to present a danger to human health or the environment. Said reactivity analysis shall be conducted in accordance with the method set forth in the July 12, 1985, memorandum addressed from Eileen Claussen, Director of the Characterization and Assessment Division, U.S. EPA, to Solid Waste Branch Chiefs, Regions I to X, U.S. EPA, entitled: "Interim Thresholds for Toxic Gas Generation Reactivity (261.23(1)(5))". In the event such material would be characterized as hazardous waste following the guidelines of said memo after such analysis, or meet the definition of any other hazardous waste characteristic, BRC shall properly

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

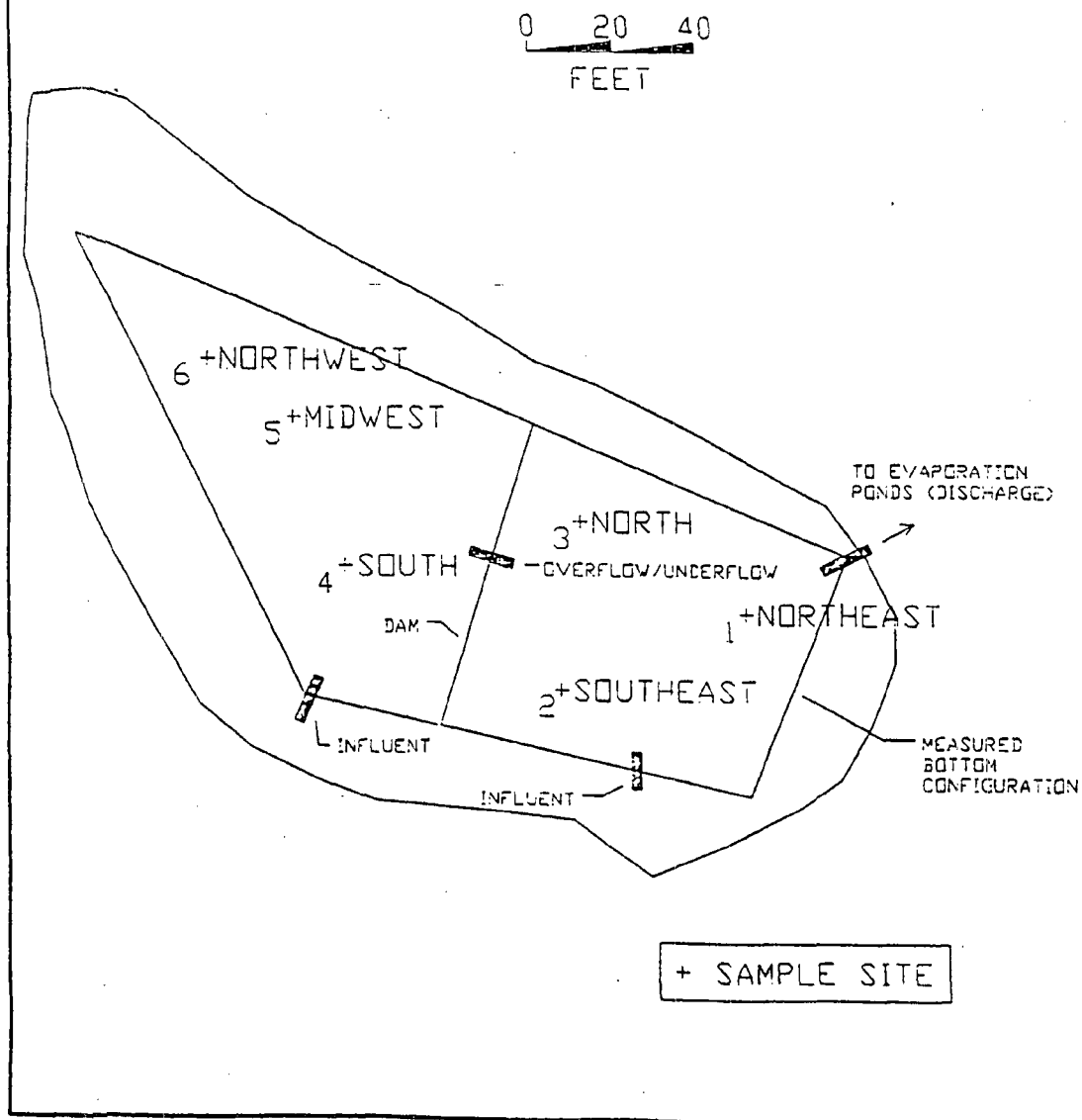
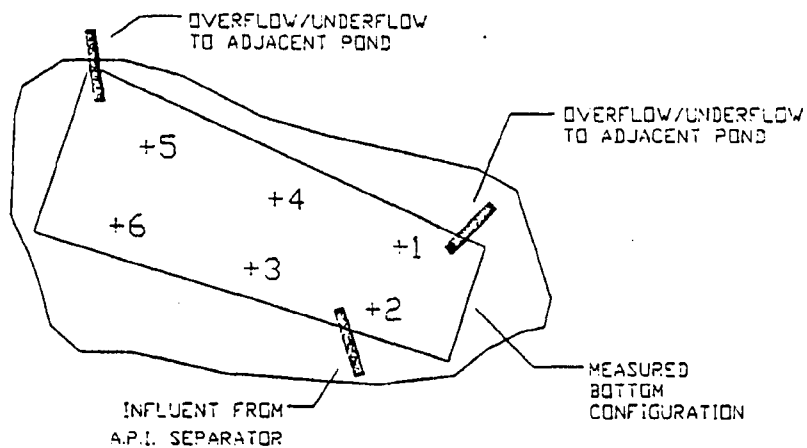


FIGURE 3
SOUTH API POND

0 20 40
FEET



+ 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.

Landfill

The landfill area alleged to have been utilized for disposal of residual solids from the API wastewater ponds was divided into four quadrants for subsequent soil testing. Small excavations were made at two locations in a backhoe trench in each quadrant, that penetrated all visible waste material. Grab samples were collected during the week of October 14 with clean split-spoon samplers at depths of 0-6 and 6-12 inches below this zone and were composited into two composite samples in each quadrant (one at each depth). Prior to sampling, each split-spoon sampler was cleaned with a detergent wash, followed by a distilled water rinse, acetone wash, and final distilled water rinse. All eight composite samples were analyzed for the following indicator parameters: phenols, benzene, toluene, xylene, total lead, and total chromium. Data on soil benzene, toluene, xylene, and phenolic concentrations included in Attachment B indicate none of these parameters were detectable in any of the soil samples collected immediately below visible waste material. Therefore, closure activities for this area will consist of removal and disposal of all visible contaminated material.

Sampling and laboratory analyses will be required to determine classification of the material to be disposed. Appropriate guidelines for health and safety precaution will be developed pending receipt of laboratory results. If the material is determined to be hazardous, a site-specific health and safety plan will be produced to address requisite worker attire and necessary decontamination procedures for both workers and equipment. Disposal of the material will be at an approved landfill

TABLE 1

PROPOSED CONSTITUENTS AND ANALYTICAL METHODS
FOR SELECTED SOIL SAMPLESSkinner List Volatile Organics
Method 8240

Acrolein
Acrylonitrile
Benzene
Carbon Disulfide
Carbon tetrachloride
Chlorobenzene
Chloromethane
1,2 Dibromoethane
Chloroform
Dichloromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
Dichloropropane
Methyl ethyl ketone
Styrene
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Toluene
1,2-trans-Dichloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene

Skinner List Acid Organics
Method 8270

2-Chlorophenol
o-Cresol
m/p-Cresol
2,4-Dimethylphenol
4,6-Dinitro-o-phenol
2,4-Dinitrophenol
2-Nitrophenol
4-Nitrophenol
p-Chloro-m-cresol
Pentachlorophenol
Phenol
2,4,6-Trichlorophenol

Indicator Parameters

Benzene - Method 8240
Toluene - Method 8240
Xylene - Method 8240
Phenolics - Method 9065
Lead - Method 3050 followed by ICP
Chromium - Method 3050 followed by ICP

Skinner List Base/Neutral Organics
Method 8270

Anthracene
Benzidine
Benz(c)acridine
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Bis(2-chloroethyl)ether
Bis(2-chloroisopropyl)ether
Bis(2-ethylhexyl)phthalate
Butyl Benzyl phthalate
2-Chloronaphthalene
Chrysene
Dibenz(a,h,)acridine
Dibenz(a,j)acridine
7,12-DimethylBenz(a)anthracene
Dibenz(a,h)anthracene
7H Dibenzo(c,g)carbazole
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Diethyl phthalate
Dimethyl phthalate
Di-n-butyl phthalate
1,2-Diphenylhydrazine
Fluoranthene
Indene
Indeno(1,2,3-cd)pyrene
Methyl Benz(c)phenanthrene
3-Methylcholanthrene
Methyl Chrysene
Naphthalene
Nitrobenzene
n-Nitrosodiethylamine
5-Nitrosodiethylamine
Quinoline
Phenanthrene
Pyrene
1,2,4-Trichlorobenzene
Trimethyl Benz(a)anthracene

via standard chain-of-custody manifesting procedures. Likewise, if the material is found to be nonhazardous, no health and safety work plan will be generated and manifesting of the disposal of contaminated material will not be required.

Landfill Pond

The landfill pond was sampled using a flat-bottom boat. Sample locations are summarized on Figure 4. Sediment samples of the landfill pond were collected at two sediment depths (0-6 and 6-12 inches) with clean split-spoon samplers at six approximately equally spaced locations in the pond. 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. Soil samples at each depth were composited into three composite samples of the closest pairs, resulting in six total composite samples. These samples were analyzed for the indicator parameters benzene, toluene, xylene, phenols, total lead, and total chromium. In addition, a single grab sample was collected along the bank at a depth of 0-6 inches in the area of the pond nearest the south evaporation pond and the landfill. This sample was analyzed for the list of compounds shown in Table 1, and no compounds were found at detectable levels. As shown in Appendix B, data on benzene, toluene, xylene, and phenolics in the pond sediments do not indicate significant organic contamination. In only one sample, a composite of the top 6 inches at stations 3 and 4, was an indicator compound found at a detectable concentration. In this sample, benzene was detected at a 1.3 ug/kg concentration, barely above the detection limit. BTX compounds and phenolics were not found in any other landfill pond sediment samples.

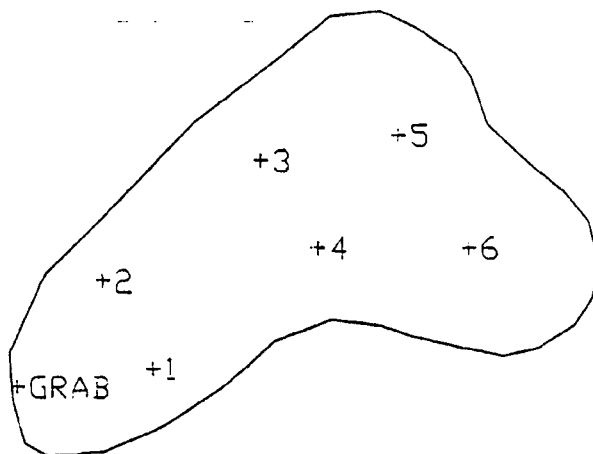
Based on the analytical results of sediment samples collected in the landfill pond, there is no significant residual contamination in the top 12 inches of sediments. Therefore, closure of the landfill pond should be deemed complete.

Chain of Custody Procedures

All samples were preserved on ice and delivered to the laboratory in an insulated cooler. The chain of custody record was maintained to document that no unauthorized handling of the samples occurred enroute to

FIGURE 4 LANDFILL POND

0 20 40
FEET



+ SAMPLE SITE

the laboratory. It also contains a record of parameters requested for analysis. The form was signed and dated by the individual who actually collected the sample.

CLOSURE COST ESTIMATES

Based on the size of the areas addressed, assumed depth of contamination, and the mobility of the compounds believed to be present, a total closure cost of \$290,950, including contingencies, was estimated. A detailed breakdown of these estimated costs is presented in Table 2. The major costs are associated with the disposal of waste material from the landfill. Removal and disposal of an estimated 2,500 cubic yards of material from the landfill area was assumed. Actual amounts could be higher or lower, depending on the areal extent of the visually contaminated material.

CLOSURE SCHEDULE

Implementation of this closure plan will be initiated within 30 days of final approval by NMEID. Specific closure activities have been identified below with respect to estimated time for completion:

Item	Time
(1) Contractor bidding/contract negotiation, excavation	4 weeks
(2) Landfill sampling and laboratory analyses	2 weeks
(3) Contractor mobilization	1 week
(4) Material disposal	2 weeks
(5) Contractor demobilization	1 week
(6) Contingencies	<u>2 weeks</u>
Total time	12 weeks

The 12-week period should be sufficient to complete all closure activities. However, this timeframe is exclusive of any time that may be required for regulatory input.

DOCUMENTATION AND RECORDKEEPING

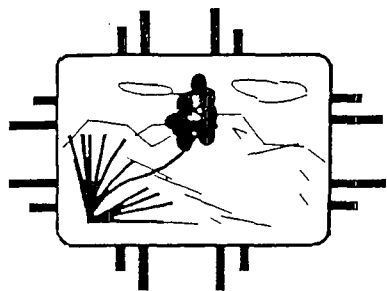
The Facility Coordinator will maintain records of all closure activities, including the dates and nature of all work conducted during the

TABLE 2
ITEMIZED ESTIMATED CLOSURE COSTS

Activity	Estimated Cost
API Wastewater Pond Closure	
Soil sampling and analysis	\$ 3,500
Landfill Closure	
Soil sampling and analysis	2,000
Contaminated soil removal and disposal (as necessary)	250,000
Backfilling and grading (as necessary)	5,000
Landfill Pond Closure	
Soil sampling and analysis	2,000
Miscellaneous Costs	
Closure Certification	2,000
Contingencies (10 percent)	<u>26,450</u>
Total Estimated Closure Costs	\$290,950

closure process. All manifests or other documentation of off-site shipment of waste material or contaminated soil will be maintained.

Following the successful completion of on-site closure activities, both Bloomfield Refining Company and an independent registered professional engineer will certify that the facilities have been closed in accordance with the approved closure plan. This documentation will be maintained by the Facility Coordinator, and a copy of the closure certification will be provided to NMEID.



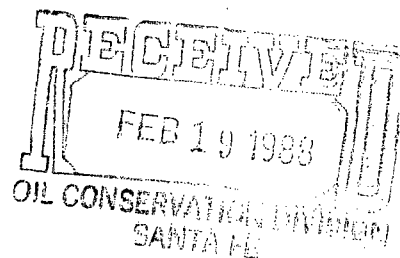
NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

Post Office Box 968
Santa Fe, New Mexico 87504-0968

GARREY CARUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary



January 12, 1988

**INSPECTION REPORT
BLOOMFIELD REFINING COMPANY
NOVEMBER 3, 1987**

BY: Mike Sanders and John Gould

The inspectors arrived at 8:26 A.M., on November 3rd, met Chris Hawley (Environmental Engineer) and Richard Traylor, (Refinery Manager) and conducted a pre-inspection interview. The following information is derived from file reviews, the on-site inspection and information provided by the facility representatives.

On August 13, 1986, a CEI was conducted at BRC by James Henderson of NMEID. This inspection resulted in a NOV (11/21/86) listing 28 violations of the NMHWMR. Of these 28 violations:

- 2 concerned training of personnel,
- 2 concerned caustic (NaOH) storage tank,
- 23 concerned issues relating to TSD status of facility, and
- 1 concerned submittal of new Part A when ownership changed from Plateau to Bloomfield Refining Company.

BRC responded to this NOV in a lengthy response through their legal counsel Gardere & Wynne dated 12/23/86. In this response, BRC again categorically denied TSD status and the allegations in the NOV. However, during this most recent inspection it was determined that the non-TSD related issues had been addressed at the facility. General refinery training procedures as described to the inspectors were determined to be adequate in regard to hazardous waste handling procedures at the facility. The two violations covering the caustic tank were:

- 1) Failure to have formal closure plan, and
- 2) Failure to submit such plan to EID

The tank has been cleaned and the waste properly manifested and shipped to a disposal facility. Although such closure without an approved closure plan is a violation of the regulations, the fact remains that closure has been completed, and was verified as satisfactory by the inspectors. Although technically a violation, the issue is considered moot at this point.

No revised Part "A" notifying change in ownership from Plateau to BRC (1984) was located in the file. Since this is a TSD requirement, BRC probably never renotified, as this would in a sense be admitting TSD status.

As stated above, BRC had to-date not corrected any of the TSD related violations cited in the 11/21/86 NOV. The inspectors therefore felt that it would be pointless to complete another TSD checklist when nothing had changed since the Henderson inspection. A meeting of NMEID and EPA personnel has been scheduled for the week of January 25-29, 1988, and will include an on-site inspection at BRC and completion of the TSD checklist. It is anticipated that during this meeting the process of resolving the TSD/Generator controversy can begin.

The TSD status of BRC is based on what has been considered to be a HW landfill on the facility property. The material in the landfill was derived from the process of installing polyethylene liners in the North Oily Water Pond and the South Oily Water Pond at the direction of the New Mexico Oil Conservation Division (OCD). When liners were installed, the sludge in the bottom of the ponds was believed to have contained at least some API separator sludge which is a listed HW, and was handled and disposed of as such. According to BRC, only visibly contaminated soil underlying the sludge (not sludge itself) was removed to a landfill on BRC property after testing showed that the material was not E.P. Toxic for lead or chromium. This information has not been substantiated by EID inspectors. Because the soil contamination resulted from contact with sludge derived from an API separator regulatory agencies have contended that BRC is a TSD because a listed hazardous waste has been disposed of on company property. However, BRC contends that because the disposed material is not actual API separator sludge, and since it displayed no hazardous waste characteristics at the time of disposal, it is not a hazardous waste and may be legally disposed of on-site, and does not result in TSD status.

In order to settle this issue Bloomfield Refinery Company has offered to remove landfilled-material, and dispose of it as a hazardous waste.

Another environmental concern is the contamination the shallow perched alluvial aquifer beneath the complex, as a result of Refinery operations, which contains hazardous constituents. The NMOCD is requiring remedial action to clean up this aquifer. In addition to complying with WQCC regulations in regard to this cleanup, RCRA regulations must also be satisfied. In case of regulatory overlap, those regulations considered most stringent would take precedence. BRC management has expressed willingness to begin cleanup activities when it becomes clear that such a program will fulfill all applicable and pertinent regulations.

On January 26, 1988, a follow-up visit to Bloomfield was conducted by John Gould and Mike Sanders, of EID, and Guy Tidmore of EPA. Also present at the meeting were Frank Chavez, Jami Bailey and Dave Boyer of OCD, as well as Chris Hawley, Mike Macy and Richard Traylor of Bloomfield Refining.

During the meeting a TSD checklist was completed and discussed. In addition, a plant tour was conducted, including a visit to Hammond Ditch where numerous seeps of what appeared to be hydrocarbons were noted.



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) 827-5800

February 24, 1988

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

RE: Discharge Plan Renewal

Dear Mr. Hawley:

The renewal of Bloomfield Refining Company's ground water discharge plan, GW-1, was approved for a five year term on June 7, 1984. This discharge plan was required and submitted pursuant to Water Quality Control Commission (WQCC) regulations and it will expire on June 7, 1989.

As part of the discharge plan renewal process, the following areas will need to be addressed in addition to updating those issues covered in the approved plan.

1. Land application area. Discontinuance of this method of effluent disposal will be required unless ponding, seepage, and nitrate and high total dissolved solids (TDS) leaching will be eliminated.
2. You have issued a press release that the refinery will be expanded in 1988. If you intend to make any changes in disposal method or volume of effluents, these changes must be approved by the OCD.
3. A Spill Prevention Control and Countermeasures (SPCC) plan must be submitted and approved. A contingency plan for the reporting of spills or accidental releases must be enforced.

Enclosed for your use is a copy of the API Bulletin and federal guidelines for preparation of an SPCC Plan. If you have already submitted an SPCC plan to the appropriate federal agency, a copy of the plan with spill/leak reporting to the OCD added will be sufficient. If you have not developed and submitted an SPCC plan previously, you must develop a plan that includes the information in the guidelines and that designates the NMOCD as the regulating and reporting authority.

4. All underground piping older than 25 years in age must be scheduled for pressure testing and repair or replacement where necessary.

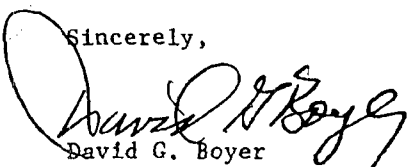
Mr. Chris Hawley
February 24, 1988
Page 2

5. All underground storage tanks must be scheduled for pressure testing, repair or replacement. Where replacement is necessary, a leak detection system will be installed.

Due to the length of time involved in the review and renewal of a discharge plan, you are urged to begin submittals of the required information by June, 1988. You are cautioned that pursuant to WQCC regulations, you have used your sole 120-day extension authorized in WQCC Regulation 3-106.B for discharging without an approved plan. An extension of time to complete the renewal process can only be granted by the Water Quality Control Commission via an "Assurance of Discontinuance."

If you have any questions, please contact Jami Bailey at 827-5884.

Sincerely,



David G. Boyer
Environmental Bureau Chief

DGB:JB:sl

cc: OCD - Aztec

Encl.

ATTACHMENT #4

AFFIRMATION BY MR. BOB MCCLENAHAN

AFFIRMATION

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.

Robert L. McClenahan, Jr.
Robert L. McClenahan, Jr.
Environmental Coordinator
Giant Refining Company

7/21/86
Date

ATTACHMENT #5

RESULTS OF STORAGE TANK WATER ANALYSES

ATTACHMENT #6

ALL WELLS WITHIN A 1 MILE RADIUS OF THE
GIANT BLOOMFIELD REFINERY
(FEBRUARY, 1988)

TABLE 2-1
ALL WELLS WITHIN A 1 MILE RADIUS OF THE
GIANT BLOOMFIELD REFINERY
(FEBRUARY 1988)

<u>WELL LOCATION</u>	<u>DEPTH (ft)</u>	<u>DATA SOURCE</u>
29.12.14.11	180	State Engineers Office
29.12.15.143	155	State Engineers Office
29.12.20.333	28	State Engineers Office
29.12.21.4222A	55	U.S. Geological Survey
29.12.21.4222B	46.5	U.S. Geological Survey
29.12.21.4244A	42.5	U.S. Geological Survey
29.12.21.4422	43.5	U.S. Geological Survey
29.12.21.4444	57	U.S. Geological Survey
29.12.22.1321	61.5	U.S. Geological Survey
29.12.22.1331	52.5	U.S. Geological Survey
29.12.26.21	47	State Engineers Office
29.12.26.211	100	State Engineers Office
29.12.26.24	38	State Engineers Office
29.12.26.34	47	State Engineers Office
29.12.26.42	70	State Engineers Office
29.12.26.42	50	State Engineers Office
29.12.26.422	45	State Engineers Office
29.12.26.422	45	State Engineers Office
29.12.27.13	63	State Engineers Office
29.12.27.131	50	State Engineers Office
29.12.27.133	55	State Engineers Office
29.12.27.133	51	State Engineers Office
29.12.27.134	35	State Engineers Office
29.12.27.234	36	State Engineers Office
29.12.27.234	65	State Engineers Office
29.12.27.442	NA	State Engineers Office
29.12.27.41	40	State Engineers Office
29.12.27.31	45	State Engineers Office
29.12.27.31	35	State Engineers Office
29.12.27.31	87	State Engineers Office
29.12.27.31	25	State Engineers Office
29.12.27.311	25	State Engineers Office
29.12.27.311	32	State Engineers Office
29.12.27.313	32	State Engineers Office
29.12.27.414	24	State Engineers Office
29.12.28.224	NA	State Engineers Office
29.12.28.420	39	State Engineers Office
29.12.28.420	40	State Engineers Office
29.12.28.421	NA	N.M.E.I.D.
29.12.29.114	20	State Engineers Office
29.12.29.114	21	State Engineers Office
29.12.29.114	19	State Engineers Office

TABLE 2-1
CONTINUED

<u>WELL LOCATION</u>	<u>DEPTH (ft)</u>	<u>DATA SOURCE</u>
29.12.29.124	20	State Engineers Office
29.12.29.132	16	State Engineers Office
29.12.29.133	18	State Engineers Office
29.12.33.2411	850	N.M. Bureau of Mines
29.12.33.2	51	State Engineers Office
29.12.34.11	15	State Engineers Office
29.12.34.113	15	State Engineers Office
29.12.34.421	43	N.M. Bureau of Mines
29.12.34.4341	100	N.M. Bureau of Mines
29.12.35.342	20	N.M. Bureau of Mines

Attachment 8

Final Closure Plan for RCRA

**FINAL CLOSURE PLAN FOR THE
API WASTEWATER PONDS, LANDFILL,
AND LANDFILL POND AT THE
BLOOMFIELD REFINERY**

PREPARED FOR
BLOOMFIELD REFINING COMPANY
Bloomfield, New Mexico

PREPARED BY

ENGINEERING-SCIENCE
AUSTIN, TEXAS 78722 - 512/477-9901

ES



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2000
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

January 30, 1989

CERTIFIED MAIL

RETURN RECEIPT NO. P-106 675-553

Mr. Chris Hawley
Environmental Engineer
BLOOMFIELD REFINING COMPANY
P. O. Box 159
Bloomfield, New Mexico 87413

RE: Discharge Plan GW-1
Bloomfield Refinery

Dear Mr. Hawley:

On June 7, 1984, the ground water discharge plan, GW-1, for the Bloomfield Refinery located in San Juan County, New Mexico, was approved by the Director of the Oil Conservation Division. 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 approval will expire on June 7, 1989.

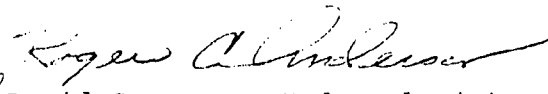
If your facility continues to have effluent or leachate discharges and wish to continue discharging, please submit your application for renewal of plan approval as quickly as possible. The OCD is reviewing discharge plans, submittals, and renewals carefully and the review time can extend for several months. Please be advised the regulations do not allow for an extension of the present discharge plan expiration date and all discharges must cease on the expiration date if approval of plan renewal has not been obtained. Please indicate whether you have made, or intend to make, any changes in your discharge system, and if so, include an application for plan amendment with your application for renewal. To assist you in preparation of your renewal application. I have enclosed a copy of the OCD's guidelines for preparation of ground water discharge plans. The guidelines will be used in review of your renewal application.

Mr. Chris Hawley
January 30, 1989
Page -2-

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

If you have any questions, please do not hesitate to contact me or Roger Anderson at (505) 827-5994.

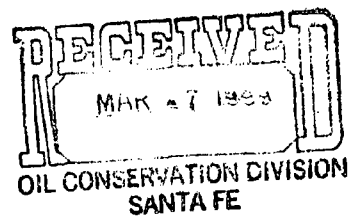
Sincerely,


for David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/RCA/sl

Enclosure

cc: OCD Aztec Office



G W-1
DISCHARGE PLAN
RENEWAL APPLICATION

FOR

BLOOMFIELD REFINING COMPANY

AT BLOOMFIELD,
NEW MEXICO

MARCH , 1989

TABLE OF CONTENTS

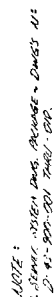
	<u>Page</u>
 I. GENERAL INFORMATION	
A. Name of Discharger	I-1
B. Facility Contacts	I-1
C. Location of Discharge	I-1
D. Certification	I-1
E. Type of Operation	I-2
 II. EFFLUENT SOURCES	
A. Water Softeners	II-1
B. Boilers	II-1
C. Cooling Towers	II-1
D. Process	II-2
E. Area Drains	II-2
F. Water Draws from Tankfarm	II-2
G. Spills	II-3
H. Cleaning Operations	II-3
I. Product Terminal	II-3
J. Groundwater Recovery	II-3
K. Domestic Sewage	II-3
 III. EFFLUENT CHARACTERISTICS	
A. Concentration Analyses	III-1
B. Discussion of Toxic Pollutants	III-2
1. Xylene	III-2
2. Benzene	III-3
3. Toluene	III-3
4. Halogenated Hydrocarbons	III-3
5. Lead	III-3
 IV. TRANSFER & STORAGE OF PROCESS FLUIDS & EFFLUENTS	
A. Water and Wastewater Flow	IV-1
B. Storage Facilities	IV-1
1. Tank Storage	IV-1
2. Underground Tanks	IV-1
C. Underground Piping	IV-1
1. Process Piping	IV-1
2. Process Water System Piping	IV-1
3. Oily Water Sewers	IV-1
D. Groundwater Recovery	IV-3
E. Tank Farm Sumps	IV-3
F. Sales and Crude Terminal	IV-3
G. Heat Exchanger Cleaning	IV-3
H. API Separator	IV-3
1. Physical Description	IV-3
2. Operating Criteria	IV-4

	<u>Page</u>
V. SPILL/LEAK PREVENTION & HOUSEKEEPING PROCEDURES	
A. Contingency Plan	V-1
B. Process Area Drains & Curbs	V-1
C. Spill Containment Outside Process Areas	V-1
1. Tank Berms	V-1
2. Tank Cleaning	V-1
3. Truck Cleaning	V-2
D. Leak Detection/Protection	V-2
1. Process Inspections	V-2
2. Tank Inspections	V-2
3. Corrosion Protection	V-2
E. Hammond Ditch	V-2
VI. EFFLUENT DISPOSAL	
A. Existing Operations	VI-1
1. Lined Ponds	VI-1
2. Evaporation Ponds	VI-1
3. Land Application	VI-2
B. Offsite Disposal	VI-3
C. Proposed Modifications	VI-3
1. Purpose	VI-3
2. Design Basis	VI-4
3. Installation Schedule	VI-4
4. Design Specifications	VI-4
5. Location	VI-4
VII. FACILITY MONITORING/REPORTING PLAN	
A. Notification of Fire, Breaks, Spills, Leaks, & Blowouts	VII-1
B. Pond Liner Leak Detection Systems	VII-1
C. Effluent Disposal Groundwater Monitoring	VII-1
1. Monitoring Wells	VII-1
2. Frequency of Sampling and Reporting	VII-1
3. Parameters to be Analyzed	VII-1
D. Groundwater Remedial Action	VII-2
VIII. SITE CHARACTERISTICS	
A. Hydrologic Features	VIII-1
1. San Juan River	VIII-1
2. Intermittent Stream Channels	VIII-1
3. Hammond Ditch	VIII-1
4. Groundwater Occurrence	VIII-2
B. Groundwater Data	VIII-2
C. Geologic Description	VIII-2
D. Flood Potential	VIII-3
IX. ADDITIONAL INFORMATION	
A. Raw Water Ponds	IX-1

LIST OF ATTACHMENTS

Attachment

- 1 Material Safety Data Sheets
- 2 Facility Drawings
- 3 Groundwater Remediation
- 4 Analytical Data
- 5 Water and Wastewater Flow Schematics
- 6 RCRA Contingency Plan & Spill Prevention
Control and Countermeasure Plan
- 7 Pond Liner Specifications
- 8 Final Closure Plan for RCRA
- 9 Monitoring Well Details



LEGEND

UNIT BATTERY LIMITS	UNIT NAME
CAT CRACKER	

plateau

REFERENCES

BLOOMFIELD	ROOSEVELT
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

PLANT SEWER SYSTEM

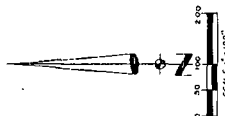
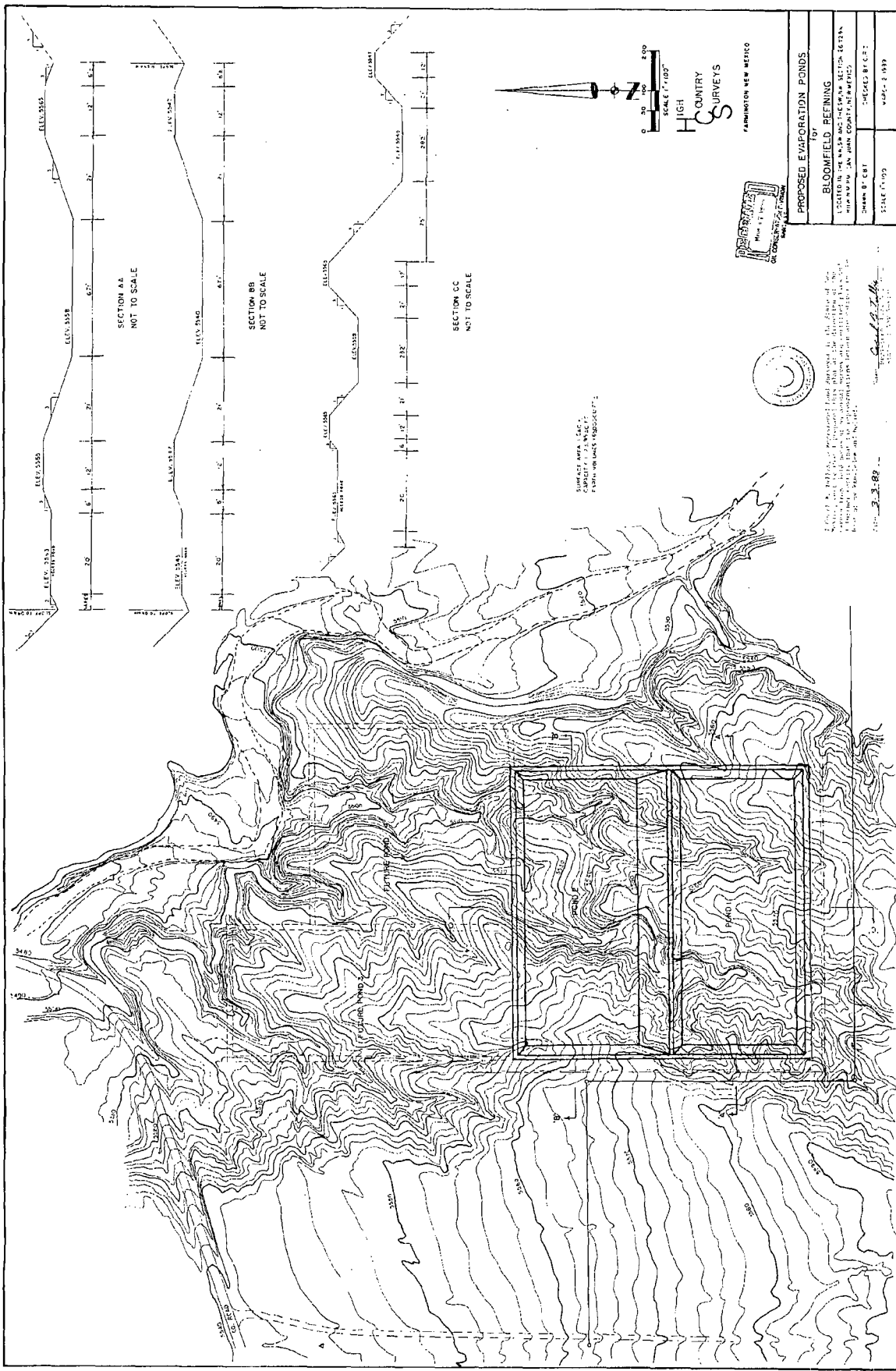
NEW SEWER MAINWAY BOX &

MAIN LINE ROUTING LAYOUT

DATE	DAY	W
11/27		
11/28		
11/29		
11/30		
12/1		
12/2		
12/3		
12/4		
12/5		
12/6		
12/7		
12/8		
12/9		
12/10		
12/11		
12/12		
12/13		
12/14		
12/15		
12/16		
12/17		
12/18		
12/19		
12/20		
12/21		
12/22		
12/23		
12/24		
12/25		
12/26		
12/27		
12/28		
12/29		
12/30		
12/31		

11-23-61	1° 40'
----------	--------

D-43-900-253



H
COUNTRY
S
SURVEYS
FARMINGTON NEW MEXICO

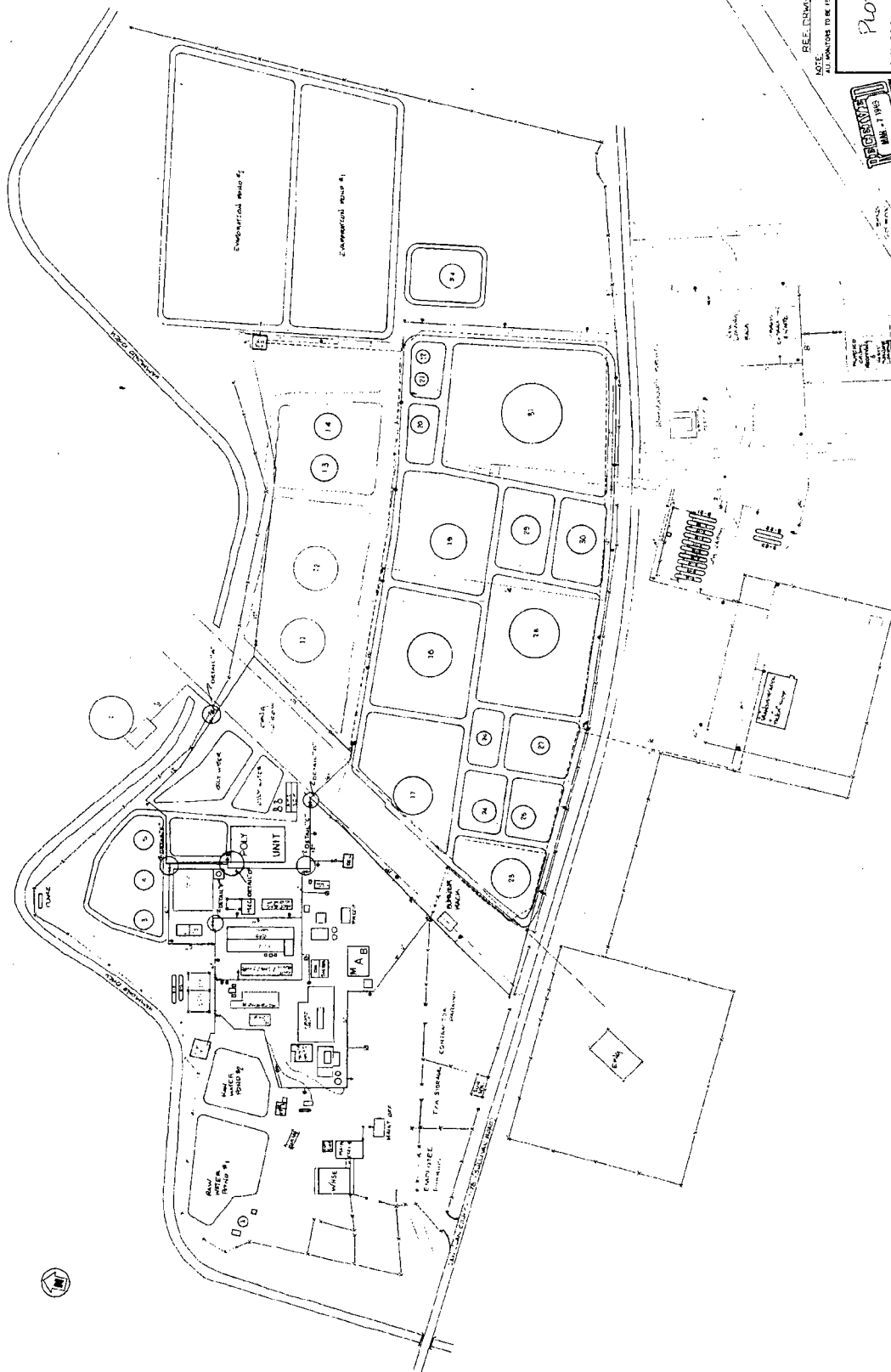


PROPOSED EVAPORATION PONDS

107
BLOOMFIELD, BEENING
DESIGNED BY H. B. BROWN, CIVIL ENGINEER, SECTION 26.25 N.
THIS MAP IS A PART OF THE SURVEY OF THE LANDS OF THE STATE OF NEW MEXICO.
DESIGNED BY C. B. T.
SCALE 1" = 100'
DATE - 3-3-89

I, H. B. BROWN, a duly Licensed Professional Engineer in the State of New Mexico, do hereby certify that the above is a true and correct copy of the original survey as shown on the original survey map and that the same is a true and correct copy of the original survey map as shown on the original survey map and that the same is a true and correct copy of the original survey map as shown on the original survey map.

3-3-89



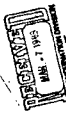
SEE DWG. E-46-500-003 SHEET 2
 ALL MONITORS TO BE 100 IN. & LINES WITH 4 INCHES

PLOT PLAN

EXISTING AND PROPOSED FIREWATER SYSTEM PHASE 1A AND 1B

DATE	BY	DATE	BY
10/27/83	10/27/83	10/27/83	10/27/83
10/27/83	10/27/83	10/27/83	10/27/83
10/27/83	10/27/83	10/27/83	10/27/83

80-46-500-003 18



- HYDRANT
- WATER MAIN
- 100% C.S. GATE VALVE
- ABANDON
- 100% C.S. GATE VALVE
- HOSE BOX



Bloomfield Refining Company
A Conoco Refining Corporation

RECEIVED
DEC 4 1989

DATE BY
9-15-89 1" = 200'

INTERMOUNTAIN TECHNICAL SERVICES, INC.
Box 2216 - Grand Junction, CO 81501

DATE	BY	SCALE	PROJECT
9-15-89	1" = 200'		

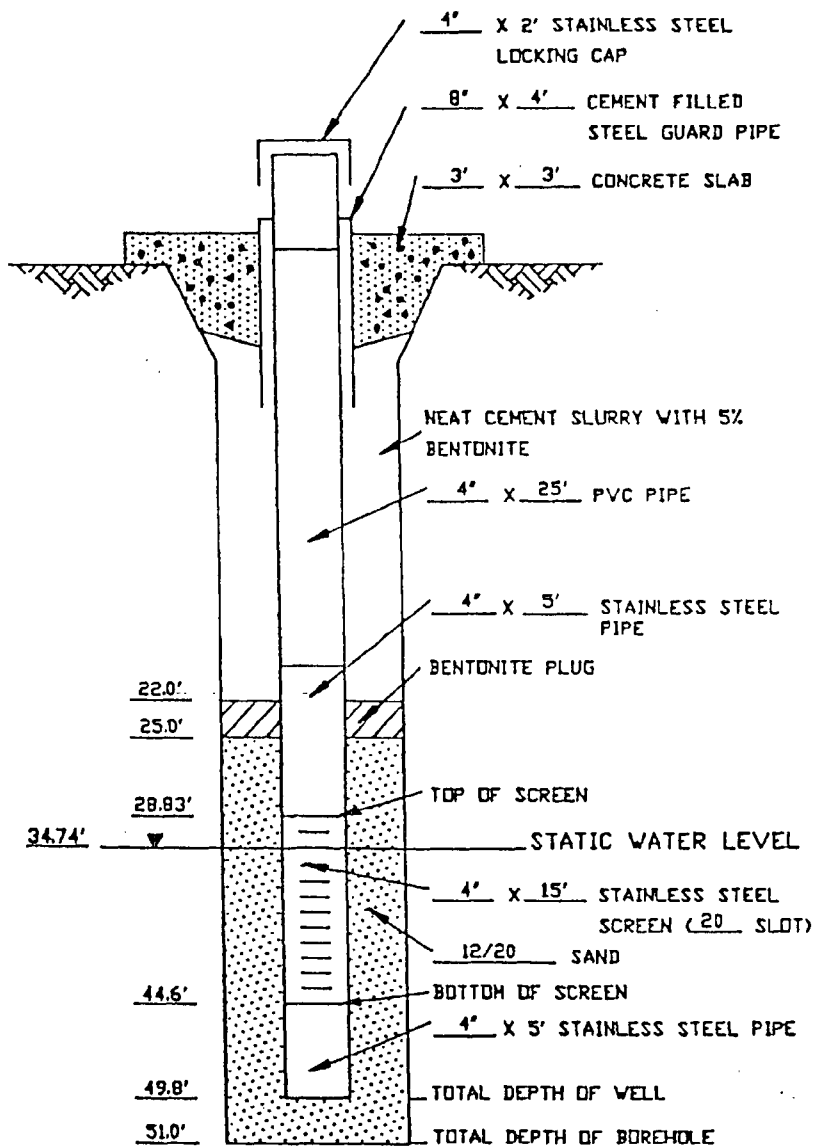
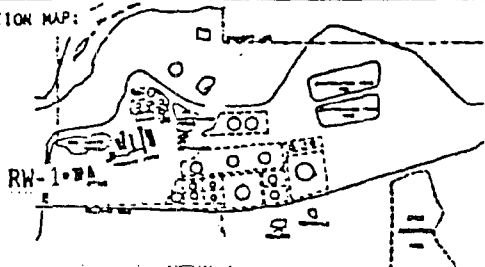


FIGURE B-7
COMPLETION DIAGRAM
PIEZOMETER P-4

FIGURE B-8
LITHOLOGIC LOG (SOIL)
RECOVERY WELL RW-1

Page 1 of 1

LOCATION MAP:



SITE ID: BRC LOCATION ID: RW-1
 SITE COORDINATES (ft.): _____
 N _____ E _____
 GROUND ELEVATION (ft. MSL): 5525.92
 STATE: New Mexico COUNTY: San Juan
 DRILLING METHOD: Casing Driver
 DRILLING CONTR.: Beeman Brothers
 DATE STARTED: 30 August 1988 DATE COMPLETED: 31 August 1988
 FIELD REP.: W.S. Dubyk
 COMMENTS: Static on September 2, 1988; 26.65 from TOC.

LOCATION DESCRIPTION:

Depth	Visual X	Lith	Drilling Time Scale:	Sample Type and Interval	Lithologic Description
5			1642		0'-18' <u>Silt and Sand</u> - Dark yellowish brown (10 YR 4/2) to grayish brown (5 YR 3/2). Minor to strong hydrocarbon odor.
10			1646		
15			1710		
20			1720		
25			1725		18'-34' <u>Sand and Gravel</u> - Medium dark gray (N4). Sand is medium to very coarse grained, subangular to subrounded. Gravel is subrounded to well rounded, to 2" diameter. Strong hydrocarbon odor.
30			1730		
35			1738		
40			1758		34'-41' <u>Shale - Macinlento Formation</u> - Dusky yellow (5 YR 6/4) to light olive gray (5 Y 6/1) shale.
45					
50					
		T.D. 41'			

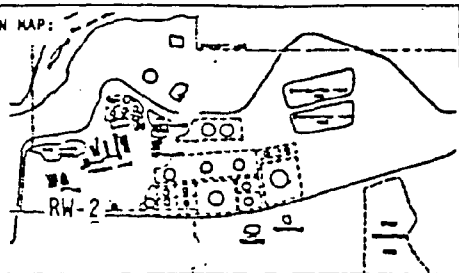
FIGURE B-9

LITHOLOGIC LOG (SOIL)

RECOVERY WELL RW-2

Page 1 of 1

LOCATION MAP:



SITE ID: BRC LOCATION ID: RW-2
 SITE COORDINATES (ft.):
 N E
 GROUND ELEVATION (ft. MSL): 5523.48
 STATE: New Mexico COUNTY: San Juan
 DRILLING METHOD: Casing Driver
 DRILLING CONTR.: Beeman Brothers
 DATE STARTED: 29 August 1988 DATE COMPLETED: 29 August 1988
 FIELD REP.: W.S. Dubyk
 COMMENTS: Static on September 2, 1988: 23.42 from TOC.

1/4 1/4 1/4 1/4 S T R

LOCATION DESCRIPTION:

Depth	Visual %	Lith	Drilling Time Scale:	Sample Type and Interval	Lithologic Description
5			0948		0'-10' <u>Silt and Clay</u> - Medium dark gray (M4) to brownish gray (5 YR 4/1). Slightly effervescent in HCl. Faint hydrocarbon odor.
10			0953		10'-15' <u>Sand and Silt</u> - Moderate brown (5 YR 4/4), very fine grained and well sorted.
15			0958		15'-32' <u>Sand and Gravel</u> - Olive gray (5 Y 4/1) to brownish gray (5 YR 4/1). Sand is medium to very coarse grained, subangular to subrounded. Gravel is subangular to well rounded, to 2" diameter. Noticeable hydrocarbon odor below 25'.
20			1024		
25			1029		
30			1033		
35			1050		
40			1100		
45		T.D. 41.2'			32'-41.2' <u>Shale - Macimiento Formation</u> - Dusky yellow (5 Y 6/4) to olive gray (5 Y 3/2).
50					

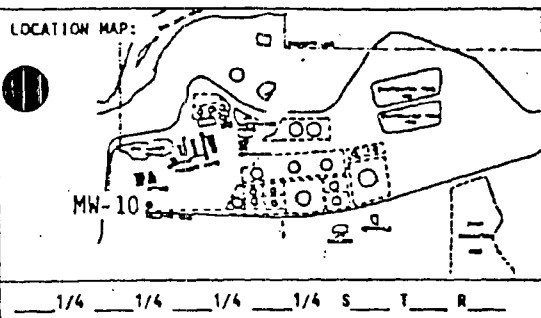
FIGURE B-10

LITHOLOGIC LOG (SOIL)

RECOVERY WELL MW-10 (RW-3)

Page 1 of 1

LOCATION MAP:



SITE ID: BRC LOCATION ID: MW-10 (RW-3)
 SITE COORDINATES (ft.): E
 M E
 GROUND ELEVATION (ft. MSL): -5516
 STATE: New Mexico COUNTY: San Juan
 DRILLING METHOD: Auger
 DRILLING CONTR.: Earl & Sons, Inc.
 DATE STARTED: 4 March 1986 DATE COMPLETED: 4 March 1986
 FIELD REP.: Engineering Science, Inc.
 COMMENTS: _____

LOCATION DESCRIPTION: _____

Depth	Visual X	Lith	Drilling Time Scale:	Sample Type and Interval	Lithologic Description
0					0'-5' <u>Topsoil, Roadbase, Sandy Clay</u>
5					5'-10' <u>Silty, Sandy Clay</u>
10					10'-15' <u>Cobbles and Pebbles</u>
15					15'-20' <u>Gravel, Cobbles, and Pebbles</u>
20					20'-30' <u>Green Clay: Macimiento Formation</u>
25					30'-35' <u>Macimiento Formation - Yellow-green to blue-gray.</u>
30					
35					
40					
45					
50					

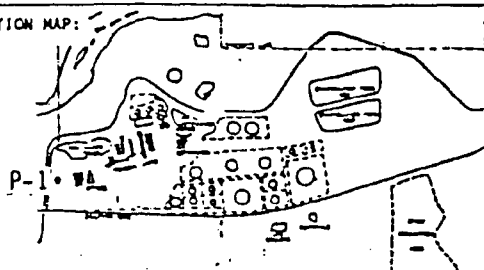
FIGURE B-11

LITHOLOGIC LOG (SOIL)

PIEZOMETER P-1

Page 1 of 1

LOCATION MAP:



SITE ID: BRC LOCATION ID: P-1
 SITE COORDINATES (ft.): N E
 GROUND ELEVATION (ft. MSL): 5524.62
 STATE: New Mexico COUNTY: San Juan
 DRILLING METHOD: Casing Driver
 DRILLING CONTR.: Beeman Brothers
 DATE STARTED: 30 August 1988 DATE COMPLETED: 30 August 1988
 FIELD REP.: W.S. Dobyk
 COMMENTS: This well replaced by P-1a on August 31, 1988.

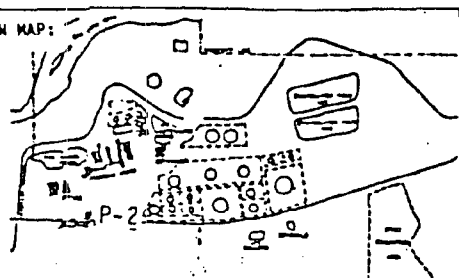
LOCATION DESCRIPTION:

Depth	Visual %	Lith	Drilling Time Scale:	Sample Type and Interval	Lithologic Description
5			1135		0'-20' <u>Silt and Clay</u> - Dark yellowish brown (10 YR 4/2) to grayish brown (5 YR 3/2). Weak hydrocarbon odor.
10			1140		
15			1145		
20			1200		20'-36.5' <u>Sand and Gravel</u> - Dark gray (N3) to grayish black (N2). Sand is fine to very coarse grained, subangular to rounded. Gravel is subangular to well rounded, to 2" diameter. Very strong to intense hydrocarbon odor.
25			1205		
30			1210		
35			1220		36.5'-42.0' <u>Shale - Macimiento Formation</u> - Dusky yellow (5 Y 6/4) to olive gray (5 Y 3/2) shale.
40			1225 1240		
45					
50					

FIGURE B-12
LITHOLOGIC LOG (SOIL)
PIEZOMETER P-2

Page 1 of 1

LOCATION MAP:



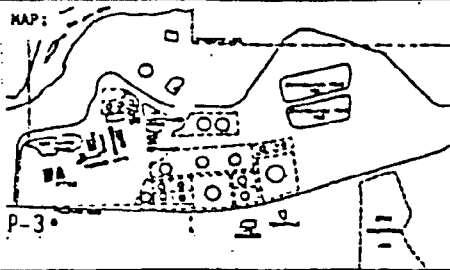
SITE ID: BRC LOCATION ID: P-2
SITE COORDINATES (ft.): E
GROUND ELEVATION (ft. MSL): 5523.75
STATE: New Mexico COUNTY: San Juan
DRILLING METHOD: Casing Driver
DRILLING CONTR.: Beeman Brothers
DATE STARTED: 29 August 1988 DATE COMPLETED: 29 August 1988
FIELD REP.: W.S. Dubyk
COMMENTS: This well replaced by P-2a. Static on September 2, 1988; 23.75 from TOC.

LOCATION DESCRIPTION:

Depth	Visual %	Lith	Drilling Time Scale:	Sample Type and Interval	Lithologic Description
5			1650		0'-13' Silty and Clay - Dark gray (M3) to grayish black (M2) to dark yellowish brown (10 YR 4/2). Intense hydrocarbon odor.
10			1656		
15			1710		13'-31.5' Sand and Gravel - Moderate yellowish brown (10 YR 5/4) to medium gray (M5). Sand is medium to very coarse grained, subangular to subrounded. Gravel is subangular to well rounded, to 2" diameter. Strong hydrocarbon odor below 25'.
20			1720		
25			1730		
30			1734		
35			1752		31.5'-39.5' Shale - Maciniento Formation - Dusky yellow (5 Y 6/4) to olive gray (5 Y 3/2).
40		T.D. 39.5'	1808		
45					
50					

LITHOLOGIC LOG (SOIL)
PIEZOMETER P-3

LOCATION MAP:



SITE ID: BRC LOCATION ID: P-3
SITE COORDINATES (ft.): _____
N _____ E _____
GROUND ELEVATION (ft. MSL): 5507.20
STATE: New Mexico COUNTY: San Juan
DRILLING METHOD: Casing Driller
DRILLING CONTR.: Beeman Brothers
DATE STARTED: 1 September 1988 DATE COMPLETED: 1 September 1988
FIELD REP.: W.S. Dubryk
COMMENTS: static on September 2, 1988; 8.30' from TOC.

___ 1/4 ___ 1/4 ___ 1/4 ___ 1/4 S ___ T ___ R ___

LOCATION DESCRIPTION:

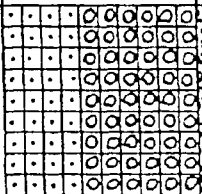

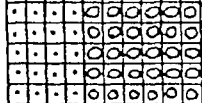

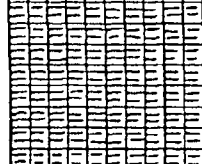















Depth	Visual X	Lith	Drilling Time Scale:	Sample Type and Interval	Lithologic Description
5			0902		0'-14' <u>Sand and Gravel</u> - Medium gray (N5) to dark gray (W3). Sand is medium to coarse grained, subangular to subrounded. Gravel is subrounded to rounded, to 2" diameter. Strong hydrocarbon odor.
10			0913		
15			0920		14'-22.7' <u>Shale; Nacimiento Formation</u> - Dusky yellow (5 YR 6/4) to light olive gray (5 Y 6/1) shale.
20			0925		
25			1000		
30					
35					
40					
45					
50					

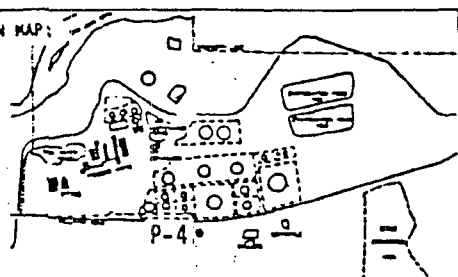
FIGURE B-14

LITHOLOGIC LOG (SOIL)

PIEZOMETER P-4

Page 1 of 1

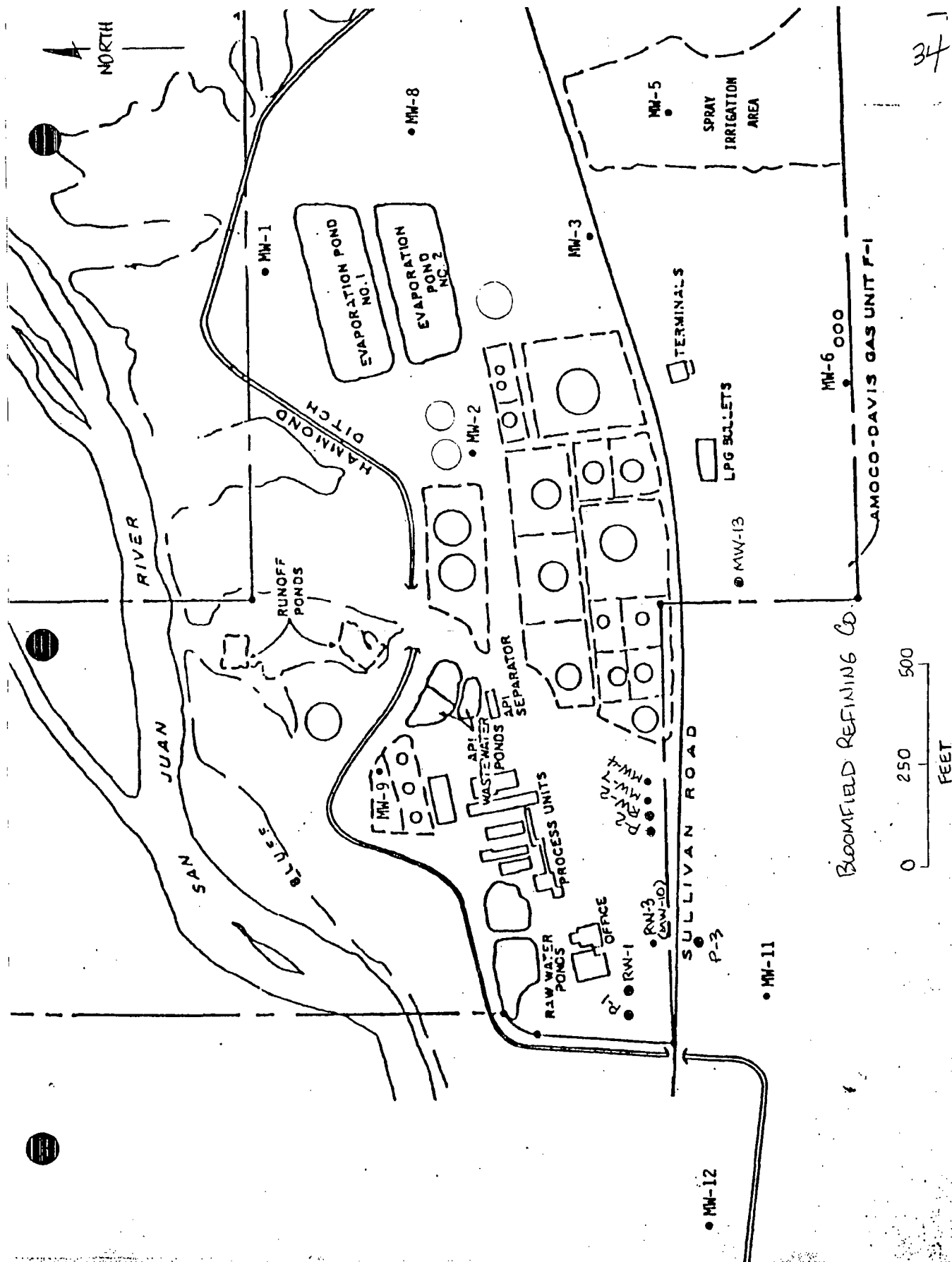
LOCATION MAP:



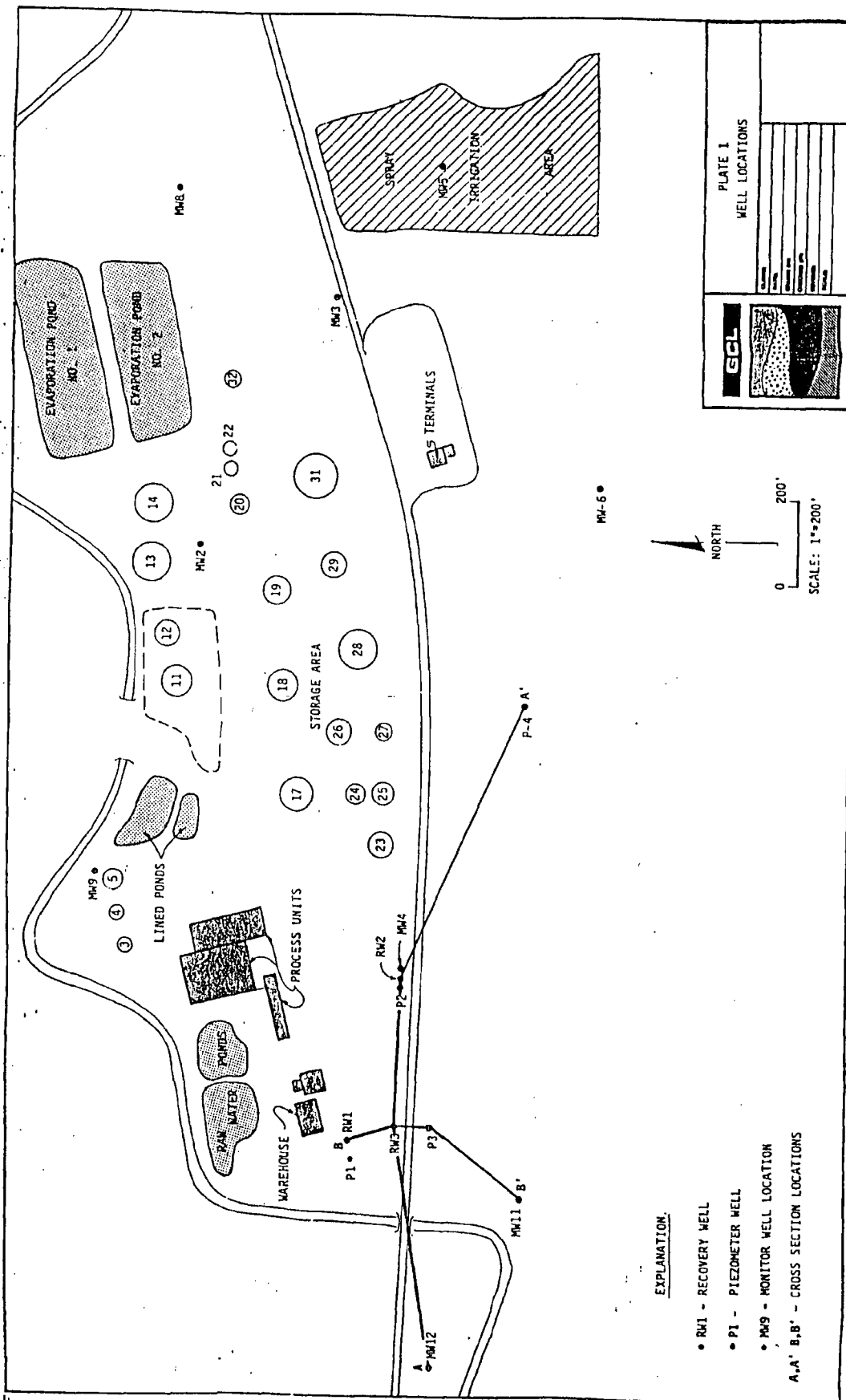
SITE ID: BRC LOCATION ID: P-4 (MW-13)
 SITE COORDINATES (ft.): E
 GROUND ELEVATION (ft. MSL): 5538.42
 STATE: New Mexico COUNTY: San Juan
 DRILLING METHOD: Casing Driver
 DRILLING CONTR.: Beeman Brothers
 DATE STARTED: 2 September 1988 DATE COMPLETED: 3 September 1988
 FIELD REP.: W.S. Dubyk
 COMMENTS: Static on September 9, 1988: 37.91' from TOC.

LOCATION DESCRIPTION:

Depth	Visual %	Lith	Drilling Time Scale:	Sample Type and Interval	Lithologic Description
5					0'-27' <u>Silt and Clay</u> - Moderate brown (5 YR 4/4) to light brown (5 YR 5/6).
10					
15					
20					
25			1233		27'-30' <u>Sand</u> - Very pale or (5 YR 8/2) fine to coarse grained, angular to subangular predominantly quartz.
30					30'-40' <u>Gravel and Sand</u> - light gray (N7). Sand is medium to coarse grained, subrounded to rounded. Gravel is subangular to rounded, up to 3" diameter.
35					
40			1415		41'-43' <u>Clay</u> - Pale olive (10 Y 6/2), plastic.
45			1420		43'-45' <u>Gravel and Sand</u> - As above.
50			1455		45'-51' <u>Sand; Macomber Formation</u> - light bluish grey (5B7/1) Fine grained, silty.
		T.D. 51'			



34



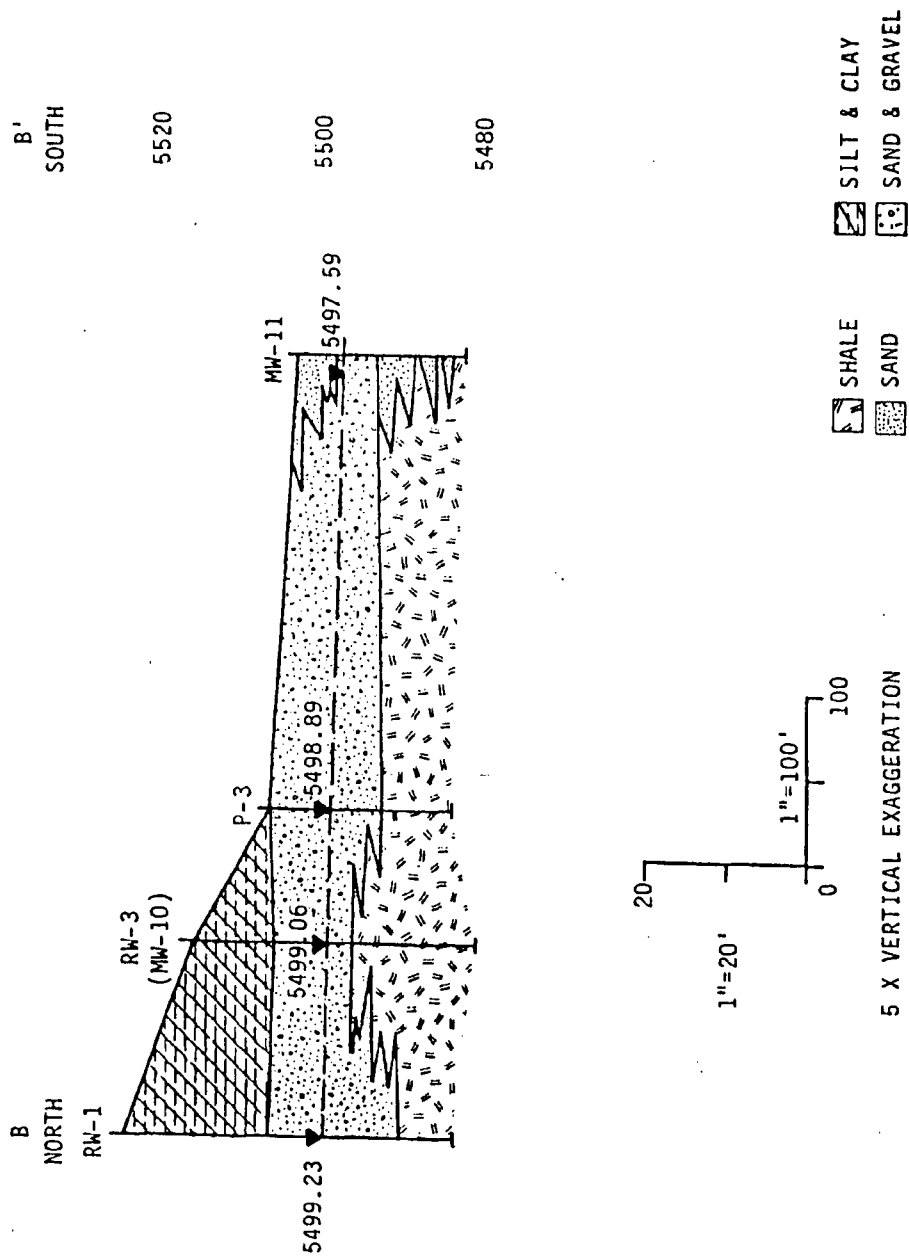


FIGURE B-16
STRATIGRAPHIC SECTION AT BLOOMFIELD REFINING COMPANY (B-B')

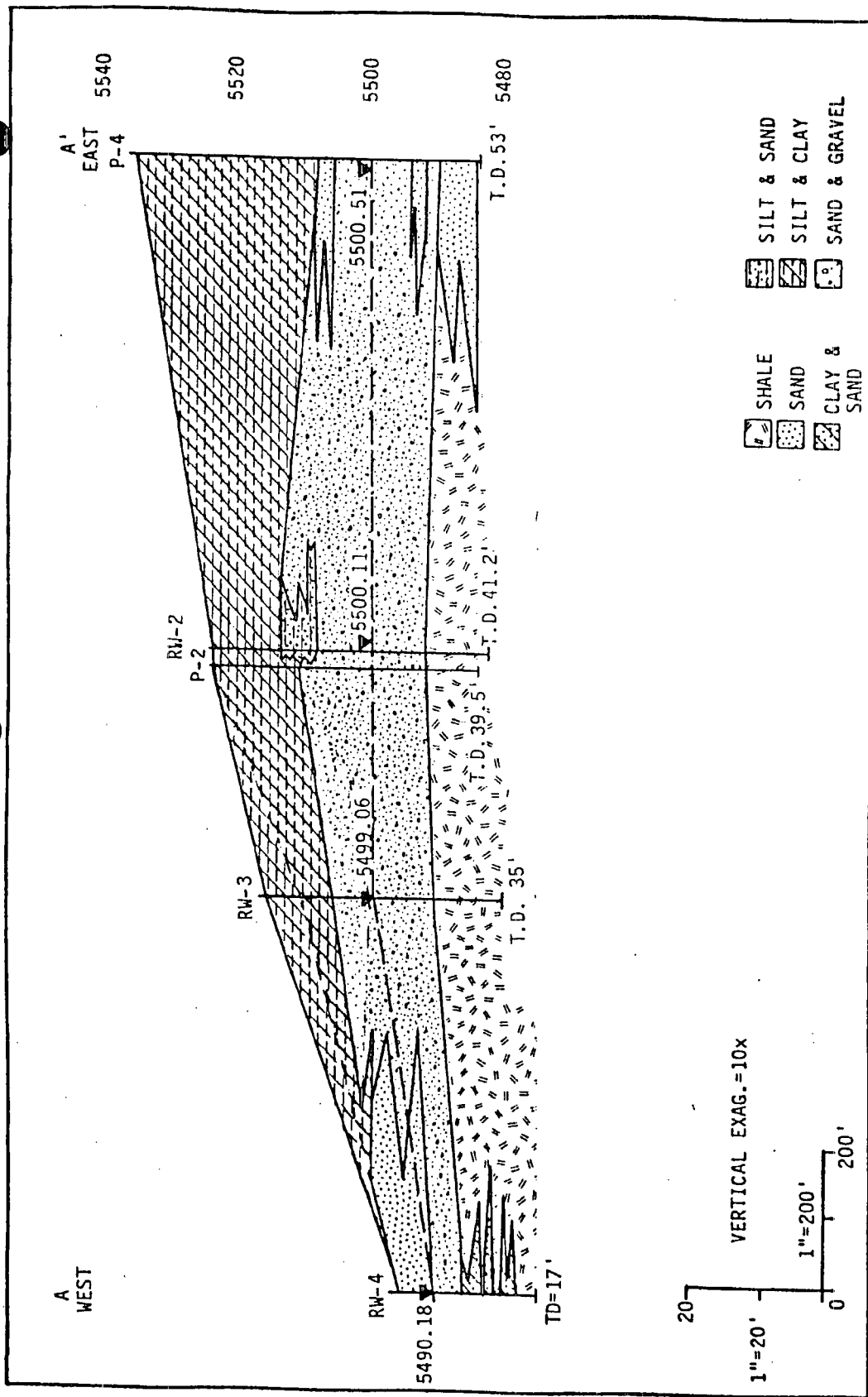


FIGURE B-15
STRATIGRAPHIC SECTION AT BLOOMFIELD REFINING COMPANY (A-A')

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) 827-5800

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.

Mr. R. W. Traylor
May 8, 1989
Page -7-

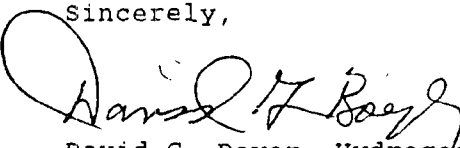
6. Tank 22 had evidence of spills and/or leaks on the ground surrounding the tank. Submit a cleanup schedule and a plan to prevent repetition.
7. The graveled area at the second loading island at the product loading facility had standing product. Submit a plan to prevent this from re-occurring.
8. The 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



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

July 12, 1989

Mr. David G. Boyer
State of New Mexico
Energy, Minerals, and Natural Resources Department
Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RECEIVED
JUL 18 1989
OIL CONSERVATION DIV.
SANTA FE

RE: Site Inspection Responses

Responses to your site inspection comments as detailed in your letter dated May 8, 1989, are as follows:

A. 1. The below grade sump next to the caustic storage area has not been in service for many years. It was removed on May 17, 1989.

2. The transfer pump at poly gasoline tank number 5 is, like all pumps, subject to seal failure. When this occurs, repairs are made as promptly as possible. Since the concrete pedestal needs to float free of any paving, it would not be practical to add any curbed paving around the pump pedestal. As a solution to contain any future leaks from seal failure of this particular pump, a work order has been written to equip the pedestal with a metal rim that will work like a pan to contain leaks. An overflow line from the pan to the nearest sump can be added if it is determined to be required. The work should be completed by August 31, 1989.

3. The drum storage area between tanks 3 and 4 is used for the addition of DuPont Stadis 450 conductivity improver and Nalco 5403 corrosion inhibitor to our product, JP-4. A small, uncurbed concrete slab is currently used for this activity. A work order, with a scheduled completion date of August 31, 1989 has been written to enlarge this work area and to add curbing to fully contain the drums on concrete. Additionally, the work will include cleanup of the area. The cleanup will also include removal of hydrocarbon stained soil around the pump at tank number 5.

4. The cooling tower will be scheduled for a careful inspection of the drift eliminators this winter. They will be cleaned and repaired or modified as is necessary and/or practical. Leaks from the basin cracks did not appear to be that bad when inspected on July 10, 1989, but we will try to find a way to fix them during the winter inspection.

5. The bolted tanks 20 and 21 have very minor seam leaks. Normally the tanks do not contain much material as they are used for FCC slop. BRC believes that the leaks are insignificant and the staining on the sides of the tanks have occurred over a long period of time. The tanks are currently

at the top of our inspection list and will be internally inspected at the earliest opportunity. Our long-term plans are to replace all bolted tanks, but we are not in a position to commit to a schedule at this time.

6. Tank 22 is scheduled for an internal inspection in January, 1990. A work order has been submitted, with a scheduled completion date of August 31, 1989, to remove the stained soils. Operations has been asked to improve their operational procedures at this tank to avoid spills.

7. The product loading rack is set up to shut down any time that a truck has a high level (overflow). Most of the staining in the gravel area results from washdown activities. We feel that our loading operation is very good. If this problem persists, we will consider paving of the graveled area.

8. The diesel fueling area in the old truck maintenance yard was recently equipped with a new aboveground diesel tank to replace the underground tank. Incidentally, the underground tank was in excellent shape and had no leaks. In filling the new tank some diesel is spilled when disconnecting the hoses. Superficial diesel staining has occurred. We are evaluating the problems, but have not yet formulated a plan. We anticipate that training will solve "most of the problem", but may need to install some sort of sump. Paving will also be considered.

9. All tank sumps are checked daily and emptied as required. Tank 28 was cleaned and inspected in late 1988. This included extensive movement of material through the sumps. Also, the work included installation of a new cleanout manway, roof drain, foam nozzle, and mixer. All these activities contributed to some housekeeping problems. A work order has been written for an August 31, 1989 completion to clean the area. Our sump inspection program should be adequate to prevent overflowing in the future.

10. The oil spill at tank 17 was a freak occurrence. It resulted when a check valve failed on an old incoming firefighting foam line and, coupled with an overfilled tank, resulted in some reduced crude backflowing through the line. A work order is pending to remove the line. The area has been cleaned. The pump seal has been repaired and a work order has been written to put containment around the pump pedestal. The work is scheduled to be completed by August 31, 1989.

11. The burner fuel loading area frequently has spills that are just as frequently cleaned up. Burner fuel is a very heavy material that generally will not soak into the ground, therefore, the spill problem is only superficial. We have made plans to improve housekeeping in this area with the installation of paving and curbing to control spills. Quotes are currently being received. If the budget allows, this project will be completed by the fall of this year.

12. Monitor well 2 has been removed and the hole backfilled and compacted.

13. The sump was used as part of a system, the downstream components have been removed, to divert stormwater away from the maintenance building. The sump will be removed or filled by August 31, 1989 as part of a work order to improve drainage around the south side of the building.

B. We need additional time to evaluate the question of integrity testing of flow through sumps. The API pond pump sump can be visually inspected if emptied, but will need some additional planning to set this up. Water draws are emptied daily. Valve sumps are dry.

C. We will follow the proper permitting procedure for any future landfill sites.

We remain committed to making our facility as environmentally sound as practical and welcome your suggestions. Regardless of our permit status, we will remain open to any discussions in these matters. Please feel free to call me or Chris Hawley anytime.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "R W Traylor". The signature is fluid and cursive, with the first name "R W" being more compact and the last name "Traylor" being more extended.

Richard Traylor
Refinery Manager

RT/jm

cc: Chris Hawley
Joe Warr
Tom Harris
Mike Macy



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.

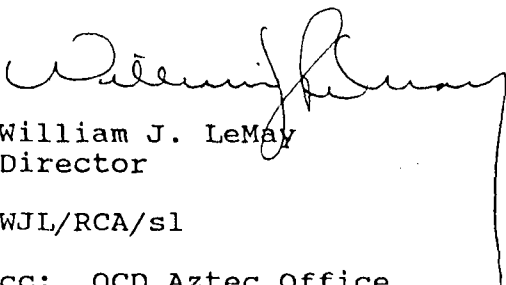
Mr. Richard Traylo
November 2, 1989
Page -2-

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

AFIDAVIT 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

W. J. Lemay

NOTARY PUBLIC, SAN JUAN COUNTY, NEW MEXICO

My Commission expires: June 23, 1990

Copy of Publication

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.

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 of 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.

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND NATU-
RAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
Notice is hereby given that pursuant
to New Mexico Water Quality Control
Commission Regulations, the follow-
ing discharge plan renewal applica-
tion has been submitted to the
Director of the Oil Conservation Divi-
sion, State Land Office Building, P. O.
Box 2088, Santa Fe, New Mexico
87504-2088, Telephone (505) 827-
5800:

(GW-1) Bloomfield Refining Com-
pany, Richard Traylor, Refinery Man-
ager, P. O. Box 159, Bloomfield, New
Mexico, 87413, has submitted an
application for renewal of its previous-
ly 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. Ap-
proximately 100,000 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

STATE OF NEW MEXICO } ss
County of Bernalillo

being duly sworn declares and

says that he is 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 times, the first publication being on the day
of 1989, and the subsequent consecutive
publications on 1989.

Sworn and subscribed to before me, a Notary Public in and
for the County of Bernalillo and State of New Mexico, on
this day of 1989.

PRICE \$27.85

Statement to come at end of month.

ACCOUNT NUMBER C40932

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 evapora-
tion ponds with an estimated seepage
of approximately 14,400 gallons per
day. The total dissolved solids con-
tent of the wastewater is approxi-
mately 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
located by seepage from Hammond
Leach. The Leach water has a total
dissolved solids concentration of ap-
proximately 300 mg/l. The discharge
plan also addresses how salts, leach-
ate and other discharges to the ground
will be handled and remedial action
for contamination due to past prac-
tices.

Any interested person may obtain
further information from the Oil Con-
servation 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 signifi-
cant public interest. If no public
hearing is held, the Director may
approve or disapprove the proposed
plan based on information available.
If a public hearing is held, the Director
will approve or disapprove the propo-
sed 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 the 9th
day of May to be published on or
before May 19, 1989.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY, Director
Journal, May 19, 1989

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 2088
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

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..... times, the first publication being on the..... day
of....., 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 day of....., 1991.

PRICE..... \$ 50.82

Statement to come at end of month.

ACCOUNT NUMBER..... C 81184

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

OIL CONSERVATION DIVISION
RECEIVED

'91 DE: 10 AM 9

(BW-18) Marathon Road Water Station, E.W. Trainor, 6050 E. Mall 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 1930 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 1800 to 3600 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 38 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.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY, Director
Journal, December 9, 1991

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS AND
NATURAL RESOURCES
DEPARTMENT OF
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 2068, Santa Fe, New Mexico 87504-2068. 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 Strms 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 OGD approved off-site disposal facility. Groundwater most likely to be affected by an accidental spill is at a depth of approximately 180 feet with a total dissolved solids concentration estimated to range from 600 to 800 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-1) Bloomfield Refinery Manager, David Redmond, Bloomfield Refinery, P.O. Box 189, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for the Bloomfield Refinery located in the NW4 SE4 and the S2 NE4 and the S2 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 28 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 spill is at a depth ranging from 10 to 30 feet and is a water zone directly caused by seepage from Harwood 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. Rastler, 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 195 gallons per day of waste water is stored in below grade fiberglass tanks prior to disposal in an OGD approved off-site disposal facility. Groundwater most likely to be affected by any accidental spill 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.

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



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.

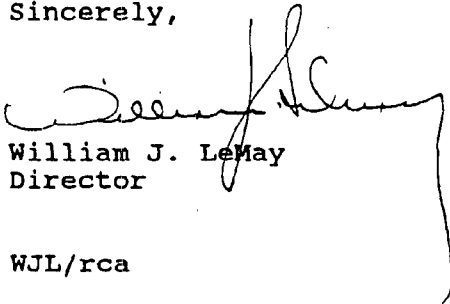
Please be advised that all exposed pits, including lined pits and open top tanks (tanks exceeding 16 feet in diameter) shall be screened, netted or otherwise rendered nonhazardous to wildlife including migratory birds.

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.

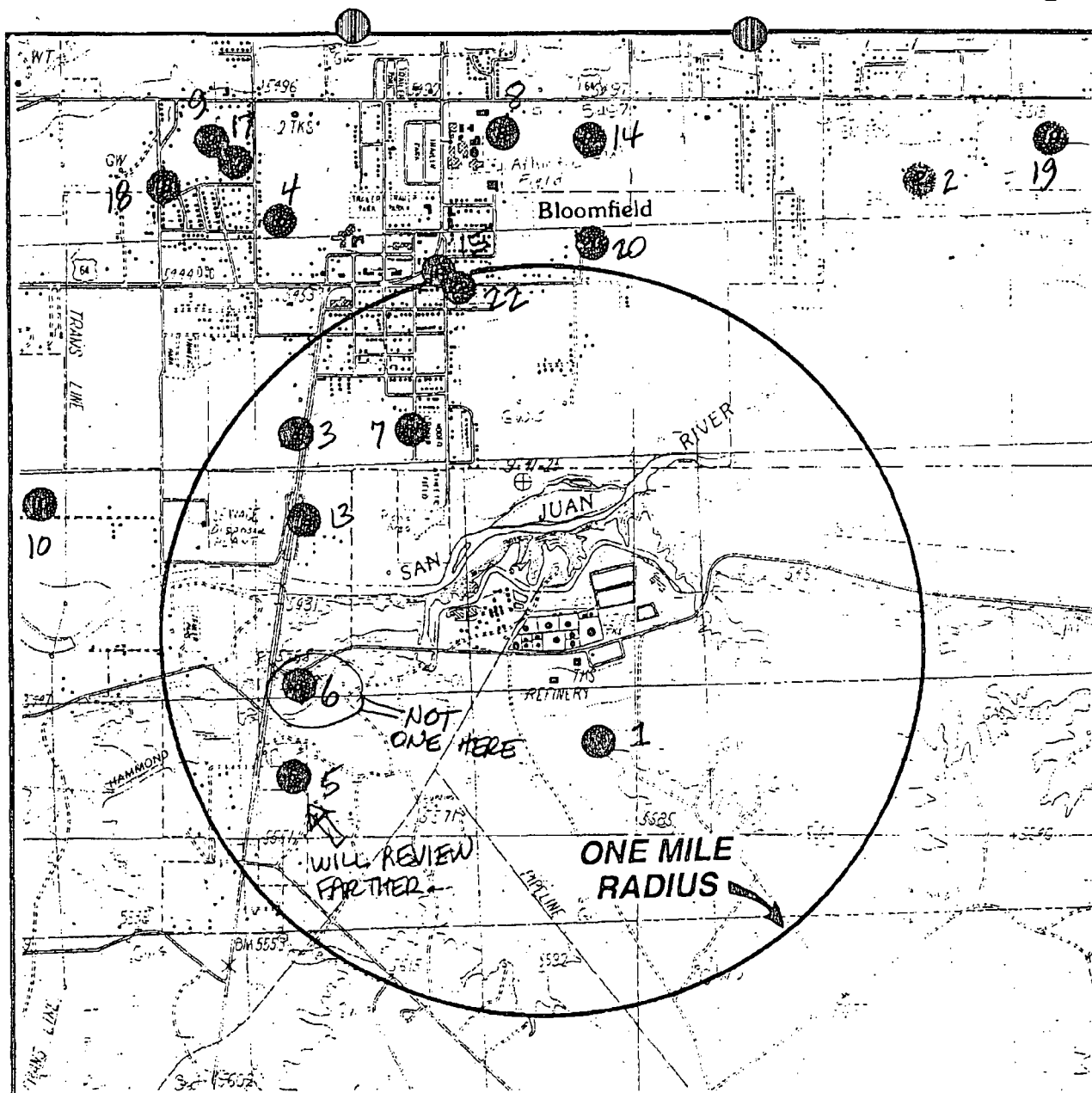
Sincerely,



William J. LeMay
Director

WJL/rca

xc: OCD Aztec Office

**LEGEND**

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

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



NEW MEXICO
QUADRANGLE
LOCATION

1000 0 2000
SCALE IN FEET



**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:

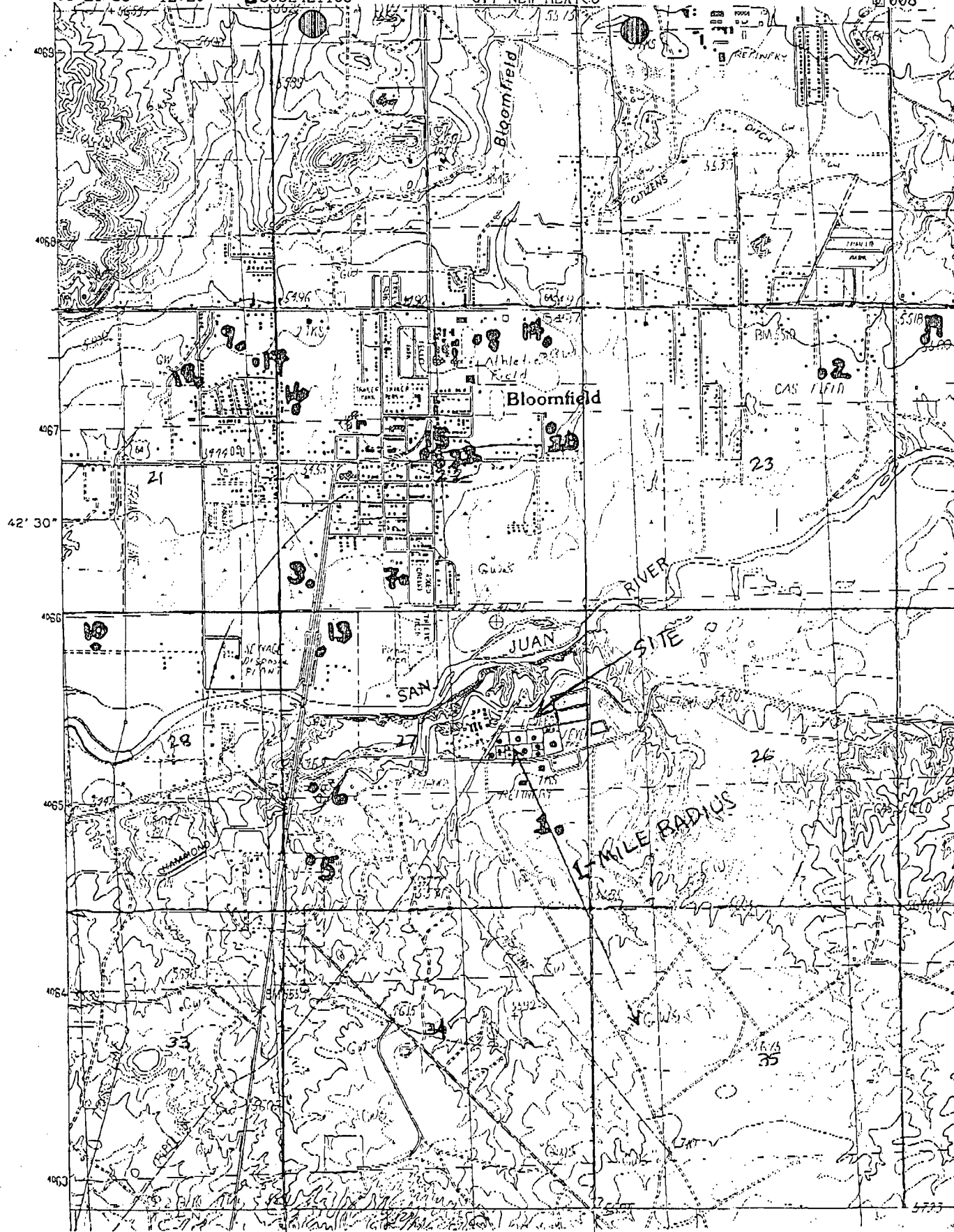


TABLE 1
WATER WELLS WITHIN ONE-MILE RADIUS
BLOOMFIELD REFINING COMPANY SITE
BLOOMFIELD, NEW MEXICO

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-2196	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'

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'

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) 627-5800

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 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 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



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

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: David Roderick

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

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

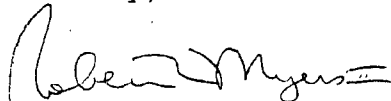
Page 2

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



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

'94 MAY 5 AM 8 50

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 100W, 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 N12 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

William J. Lemay, Director

3

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

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

Affidavit of Publication

STATE OF NEW MEXICO)

) ss.

COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Notice of Publication

and numbered in the

Court of Lea County, New Mexico, was published in a regular and entire issue of THE LOVINGTON DAILY LEADER and not in any supplement thereof, once each week on the same day of the week, for one (1)

consecutive weeks beginning with the issue of

October 30, 1991

and ending with the issue of

October 30, 1991

And that the cost of publishing said notice is the sum of \$ 60.67

which sum has been (Paid) as Court Costs

Subscribed and sworn to before me this 12th

day of November, 1991

Notary Public, Lea County, New Mexico

My Commission Expires Sept. 28, 1994

LEGAL NOTICE
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 off-site disposal facility. Groundwater most likely to be affected by any accidental spills is 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.

STATE OF NEW MEXICO
OIL CONSERVATION
DIVISION
WILLIAM J. LEMAY,
Director

SEAL
Published in the Lovington Daily Leader, October 30, 1991.

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 Fishler, 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

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 quali-
fied 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 ap-
plication 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 the 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. Approx-
imately 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 approx-
imately 160 feet with a total dissolved solids concen-
tration 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, Bloom-
field, 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 ad-
dresses 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, Dun-
can, Oklahoma 73536-0100, has submitted a dis-
charge plan application for its Hobbs Service Fa-
cility 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 fa-
cility. 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 concen-
tration ranging from 500 to of 3500 mg/l. The dis-
charge plan addresses how spills, leaks, and other
accidental discharges to the surface will be man-
aged.

(BW-22) - Quality Brine, Inc., Stan Watson, P. O.
Box 75, Tatum, New Mexico, 88267, has submitted

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**

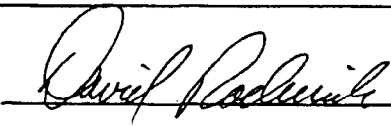
(Refer to OCD Guidelines for assistance in completing the application.)

- 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.

OIL CONSERVATION DIVISION
RECEIVED

94 APR 19 AM 8 50

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO,
County of San Juan:

No. 33124

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 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.

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

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.

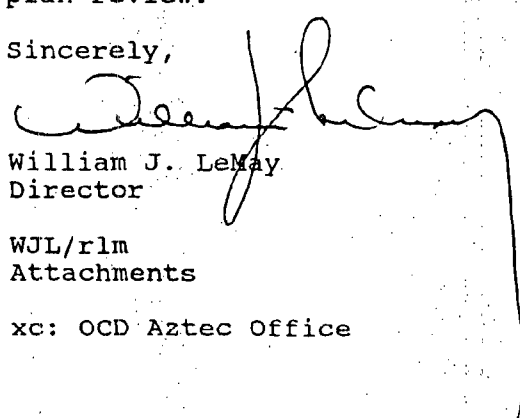
Pursuant to Section 3-109.G.4., this approval is for a period of five years. This approval will expire June 7, 1999, and an application for renewal should be submitted in ample time before that date.

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.

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

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

Revised 12/1/95

Submit Origin
Plus 1 Copy
to Santa Fe
1 Copy to appropriate
District Office

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES,
GAS PLANTS, REFINERIES, COMPRESSOR, AND CRUDE OIL PUMP STATIONS

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

☐ New

☐ Renewal

☒ Modification

DISCHARGE PLAN GW-1

1. Type: REFINERY
2. Operator: GIANT REFINING COMPANY
Address: #50 COUNTY ROAD 4990
Contact Person: LYNN SHELTON Phone: (505) 632 8013
3. Location: NW 14 NE 14 Section 27 Township 29N Range 11W
Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site.
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
6. Attach a description of all materials stored or used at the facility.
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
11. Attach a contingency plan for reporting and clean-up of spills or releases.
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
14. CERTIFICATION

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

NAME: LYNN SHELTON Title: ENVIRONMENTAL MANAGER

Signature: Lynn Shelton Date: 10/25/96

RECEIVED
NOV 01 1996
Environmental Bureau
Oil Conservation Division



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

November 19, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-685

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

RE: Minor Modification
Giant Refining Company-Bloomfield(GRCB)
GW-001, "San Juan Refining Company"
San Juan County, NM

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has received the GRCB application dated October 29, 1996 for the GRCB, San Juan Refining Company GW-001 facility located in the NW/4 NE/4 and the S/2 NE/4 and the N/2 NE/4 SE/4 of Section 27, and the S/2 NW/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The GRCB request is considered a minor modification to the above referenced discharge plan and public notice will not be issued. The minor modification will consist of the construction of a truck maintenance shop and a truck parking area as outlined in the October 29, 1996 "Permit Revision" as submitted by Mr. Lynn Shelton of Giant Refining Company-Bloomfield. The only additional requirement the OCD will place on the minor modification is:

- Under 2.0 Effluent Stream - Giant will certify through process knowledge and the appropriate EPA SW-846 methods that the liquids collected from the double wall 95 bbl tank do not contain any Hazardous Waste as defined in 40 CFR Part 261.

Based on the information outlined above, **the requested minor modification is hereby approved.**

The Application for modification was submitted pursuant to Water Quality Control Commission (WQCC) Regulation 3107.C and is approved pursuant to WQCC Regulation 3109.

Please note that "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan". Pursuant to Section 3107.C GRCB is required to notify the Director

Mr. Lynn Shelton
Giant Refining
GW-001
November 19, 1996
Page No. 2

of any facility expansion, production increase or process modification that would result in a significant modification in the discharge of potential ground water contaminants.

Note, that OCD approval does not relieve GRCB of liability should GRCB operation's result in contamination of surface waters, ground waters or the environment. Also, OCD approval does not relieve GRCB from compliance with other federal, state, and local, rules and regulations.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief

RCA/pws

xc: Mr. Denny Foust - Environmental Geologist

RECEIVED

FEB 26 1996

Mr. Lynn Shelton
January 29, 1996
Page 3

Environmental Bureau
Oil Conservation Division

RECEIVED
OIL CONSERVATION DIVISION

1996 FEB 26 PM 8 52

Attachment to the Discharge Plan GW-001 Approval
San Juan Refining Company
Discharge Requirements
January 29, 1996

1. **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.

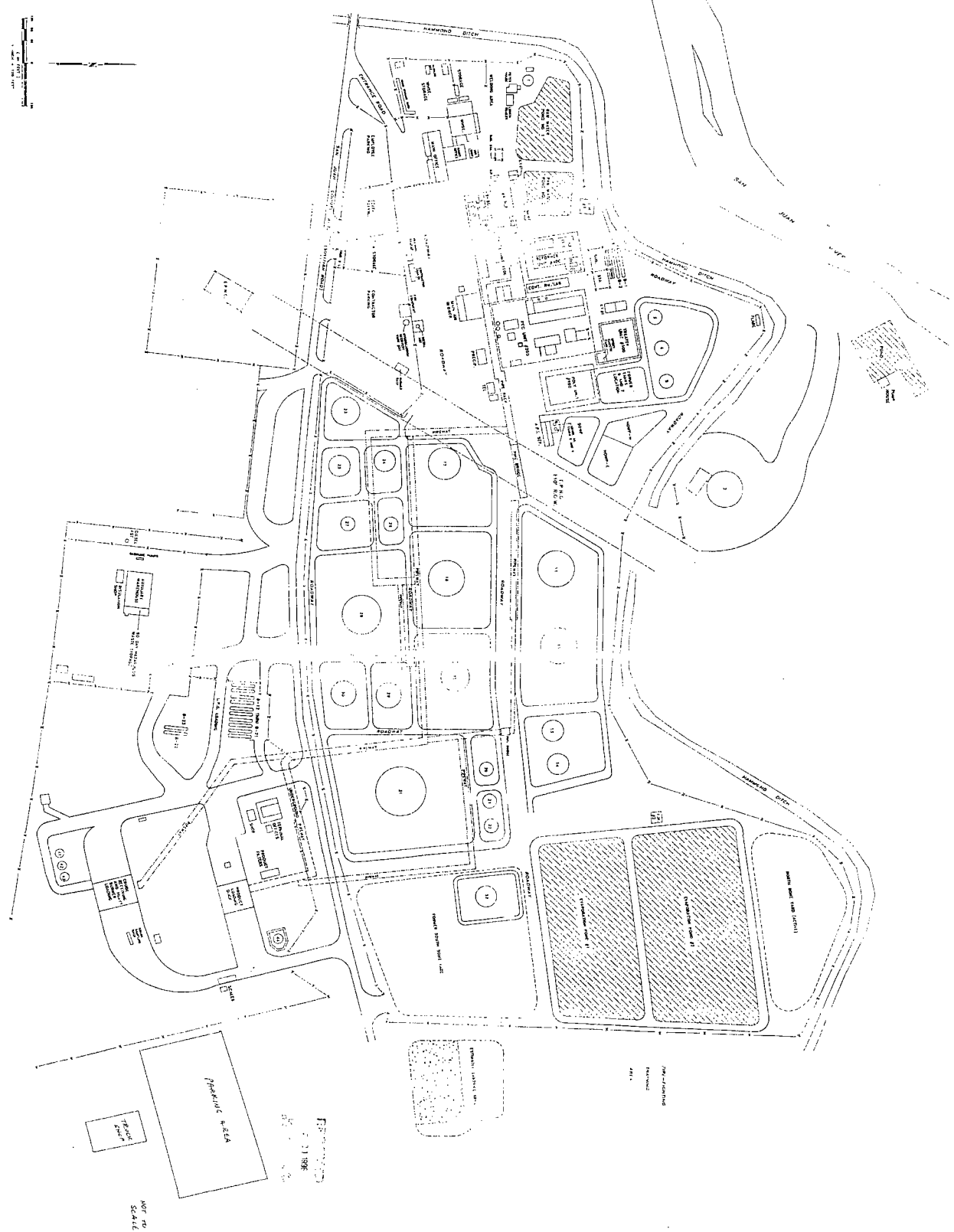
2. **Underground Oily Water Pressure Testing:** Prior to the next refinery turnaround (and not after June, 1999), a proposal outlining procedures and schedule for testing all underground oily water drain system pipelines shall be submitted for approval to the OCD. Positive pressure testing of the plant drain system 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.
3. **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.
4. **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.
5. **Spills:** All spills and /or leaks shall be reported to the OCD district office pursuant to WQCC 1203 and OCD rule 116.
6. **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.
7. **Drum Storage:** All chemical and lubrication drums shall be stored on pad and curb type containment.

8.

Lynn Shelton
Company Representative

2-22-96
Date

ENVIRONMENTAL MANAGER
Title



<p>LEGEND</p> <p>INDUSTRIAL BUILDING</p> <p>RAILROAD</p> <p>ROAD</p>		<p>ATTENTION</p> <p>THIS SITE PLAN IS A PRELIMINARY DESIGN AND IS NOT TO BE USED FOR CONSTRUCTION OR FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT OF THE ENGINEER. THE ENGINEER ASSUMES NO LIABILITY FOR ANY DAMAGE OR INJURY TO PERSONS OR PROPERTY ARISING FROM THE USE OF THIS SITE PLAN.</p>
<p>FIGURE 3</p>		



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

November 19, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-685

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

RE: Minor Modification
Giant Refining Company-Bloomfield(GRCB)
GW-001, "San Juan Refining Company"
San Juan County, NM

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has received the GRCB application dated October 29, 1996 for the GRCB, San Juan Refining Company GW-001 facility located in the NW/4 NE/4 and the S/2 NE/4 and the N/2 NE/4 SE/4 of Section 27, and the S/2 NW/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The GRCB request is considered a minor modification to the above referenced discharge plan and public notice will not be issued. The minor modification will consist of the construction of a truck maintenance shop and a truck parking area as outlined in the October 29, 1996 "Permit Revision" as submitted by Mr. Lynn Shelton of Giant Refining Company-Bloomfield. The only additional requirement the OCD will place on the minor modification is:

- Under 2.0 Effluent Stream - Giant will certify through process knowledge and the appropriate EPA SW-846 methods that the liquids collected from the double wall 95 bbl tank do not contain any Hazardous Waste as defined in 40 CFR Part 261.

Based on the information outlined above, **the requested minor modification is hereby approved.**

The Application for modification was submitted pursuant to Water Quality Control Commission (WQCC) Regulation 3107.C and is approved pursuant to WQCC Regulation 3109.

Please note that "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan". Pursuant to Section 3107.C GRCB is required to notify the Director

Mr. Lynn Shelton
Giant Refining
GW-001
November 19, 1996
Page No. 2

of any facility expansion, production increase or process modification that would result in a significant modification in the discharge of potential ground water contaminants.

Note, that OCD approval does not relieve GRCB of liability should GRCB operation's result in contamination of surface waters, ground waters or the environment. Also, OCD approval does not relieve GRCB from compliance with other federal, state, and local, rules and regulations.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief

RCA/pws

xc: Mr. Denny Foust - Environmental Geologist



GARY E. JOHNSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau

2044 Galisteo
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
Fax (505) 827-1544



RECEIVED

MAY 29 1998

Environmental Bureau
Oil Conservation Division

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

May 22, 1998

Dick Platt, Refinery Manager
Giant Refining Company - Ciniza Refinery (GRC-C)
Route 3, Box 7
Gallup, New Mexico 87301

**RE: Denial of Land Treatment Unit (LTU) RCRA Operating Permit
Closure Plan Modification Request (EPA ID # NMD000333211-2)**

Dear Mr. Platt:

The New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau (HRMB) has completed processing GRC-C's Amended Closure Plan (dated July 1996) proposal. For the reasons stated below, the HRMB hereby denies the proposal.

GRC-C discontinued use of the LTU in 1990 and found the existing operating permit's closure performance standards inadequate. GRC-C submitted to the HRMB a permit modification proposal principally to clarify those closure performance standards to remove wastes to "health-based" concentration limits. New Mexico Hazardous Waste Management Regulations (20 NMAC 4.1 264.280) regarding LTUs require "complete removal or decontamination of all waste constituents to those levels not affected by either facility or waste treatment unit operations". GRC-C's proposal to remove wastes to health based concentrations is considered by the HRMB to fall short of the state's environmental regulations.

The HRMB provided in accordance with state environmental regulations (20 NMAC 4.1.900) an opportunity for the public and GRC-C to comment on HRMB's proposal to deny the Amended Closure Plan. HRMB received no comments.

If you have any questions regarding this or any related matter, please contact either myself or Mr. Stephen Pullen of my staff at (505) 827-1558.

Dick Platt
Page 2

Thank you for your efforts in protecting New Mexico's environment.

Sincerely,



Ed Kelley, Ph.D., Director
Water and Waste Management Division

copy furnished:

Bentio Garcia, HRMB

Stu Dinwiddie, HRMB

Roger Anderson, OCD

David Neleigh, EPA

Dorinda Mancini, GRC-C

file



50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413

505
632-8013

RECEIVED

FEB 09 1998

Environmental Bureau
Oil Conservation Division

February 8, 1999

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

RE: Giant Bloomfield Refinery Discharge Plan GW-1

Dear Roger:

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

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

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

Sincerely,



Lynn Shelton
Environmental Manager
Giant Refining Company

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

BLOOMFIELD REFINING COMPANY

DISCHARGE PLAN GW-1

RENEWAL APPLICATION

FOR THE

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

Submitted By:

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

For the Period:

June 7, 1994 to June 6, 1999

DISCHARGE PLAN RENEWAL APPLICATION FOR
BLOOMFIELD REFINING COMPANY

TABLE OF CONTENTS

	<u>Page</u>
1.0 GENERAL INFORMATION	
1.1 Name of Discharger, Operator, and Owner.....	1-1
1.2 Facility Contacts.....	1-1
1.3 Location of Facility.....	1-1
1.4 Type of Operation.....	1-1
1.5 Certification.....	1-1
2.0 FACILITY HISTORY AND DESCRIPTION.....	2-1
2.1 Background.....	2-1
2.2 Previous Owner's Activities.....	2-1
2.3 BRC Activities.....	2-1
2.4 Future BRC Activities.....	2-3
3.0 EFFLUENT SOURCES.....	3-1
3.1 Water Softeners.....	3-1
3.2 Boilers.....	3-1
3.3 Cooling Towers.....	3-1
3.4 Process.....	3-2
3.5 Area Drains.....	3-2
3.6 Water Draws From Tank Farm.....	3-2
3.7 Spills.....	3-3
3.8 Cleaning Operations.....	3-3
3.9 Product Terminal.....	3-3
3.10 Groundwater Recovery.....	3-3
3.11 Domestic Sewage.....	3-3
3.12 Waste Lubrication and Motor Oils.....	3-3
3.13 Waste and Slop Oil.....	3-3
3.14 Used Filters.....	3-4
3.15 Truck, Tank, and Drum Washing.....	3-4
4.0 EFFLUENT CHARACTERISTICS.....	4-1
4.1 Concentration Analyses.....	4-1
4.1.1 Hazardous Characterization.....	4-1
4.1.2 General Characterization.....	4-3
4.2 Discussion of Toxic Pollutants.....	4-3
4.2.1 BTEX.....	4-3
4.2.2 Halogenated Hydrocarbons.....	4-4
4.2.3 Lead and Other Heavy Metals.....	4-4
5.0 TRANSFER AND STORAGE OF PROCESS FLUIDS AND EFFLUENTS.....	5-1
5.1 Water and Wastewater Flow.....	5-1
5.2 Storage Facilities.....	5-1
5.2.1 Tank Storage.....	5-1
5.3 Underground Piping.....	5-1
5.3.1 Process Piping.....	5-1
5.3.2 Process Water System Piping.....	5-1
5.3.3 Oily Water Sewers.....	5-1
5.4 Groundwater Recovery.....	5-2
5.5 Tank Farm Sumps.....	5-3

	<u>Page</u>
5.6 Sales and Crude Terminal.....	5-3
5.7 Heat Exchanger Cleaning.....	5-3
5.8 API Separator.....	5-3
5.8.1 Physical Description.....	5-3
5.8.2 Operating Criteria.....	5-4
5.9 Drum Storage.....	5-4
5.10 Product Additives.....	5-4
6.0 EFFLUENT DISPOSAL.....	6-1
6.1 Wastewater Disposal.....	6-1
6.1.1 Lined Ponds (RCRA Regulated).....	6-1
6.1.2 Evaporation Ponds.....	6-2
6.1.3 Class 1 Injection Well.....	6-2
6.1.4 Proposed Modification.....	6-2
6.2 Offsite Disposal.....	6-2
6.3 Other Waste Disposal.....	6-3
7.0 INSPECTION, MAINTENANCE AND REPORTING	
7.1 Notification of Fire, Breaks, Spills, Leaks.....	7-1
7.2 Pond Liner Leak Detection System.....	7-1
7.3 Effluent Disposal Groundwater Monitoring.....	7-1
7.4 Groundwater Remedial Action.....	7-1
7.5 Process Area Drains and Curbs.....	7-3
7.6 Spill Containment Outside Process Areas.....	7-3
7.6.1 Tank Berms.....	7-3
7.6.2 Tank Cleaning.....	7-3
7.6.3 Leak Detection/Protection.....	7-3
7.6.3.1 Process Inspections.....	7-3
7.6.3.2 Tank Inspections.....	7-3
7.6.3.3 Corrosion Protection.....	7-3
8.0 SPILL/LEAK PREVENTION & REPORTING.....	8-1
8.1 Contingency Plan.....	8-1
8.1.1 SPCC Plan.....	8-1
8.1.2 Emergency Response Plan.....	8-1
8.1.3 San Juan Pipeline Response Guide.....	8-1
8.1.4 Storm Water Pollution Prevention Plan.....	8-1
8.1.5 OSHA Process Safety Management.....	8-1
9.0 SITE CHARACTERISTICS.....	9-1
9.1 Hydrologic Features.....	9-1
9.1.1 San Juan River.....	9-1
9.1.2 Intermittent Stream Channels.....	9-1
9.1.3 Hammond Ditch.....	9-1
9.1.4 Groundwater Occurrence.....	9-2
9.2 Groundwater Data.....	9-2
9.3 Geologic Description.....	9-2
9.4 Flood Potential.....	9-3

LIST OF FIGURES

- Figure 1 Refinery Site Location
- Figure 2 Refinery Surrounding Properties
- Figure 3 Plant Plot Plan
- Figure 4 Water and Wastewater Line Diagram
- Figure 5 BRC Tankage Summary
- Figure 6 BRC Tankage Information
- Figure 7 Oily Water Ponds Site Plan
- Figure 8 Oily Water Ponds Cross Section
- Figure 9 Oily Water Ponds Details
- Figure 10 Oily Water Pond Liner Leak Detection
- Figure 11 Evaporation Pond Liner Leak Detection
- Figure 12 Sump Liner & Frame
- Figure 13 Topographic Site Plan

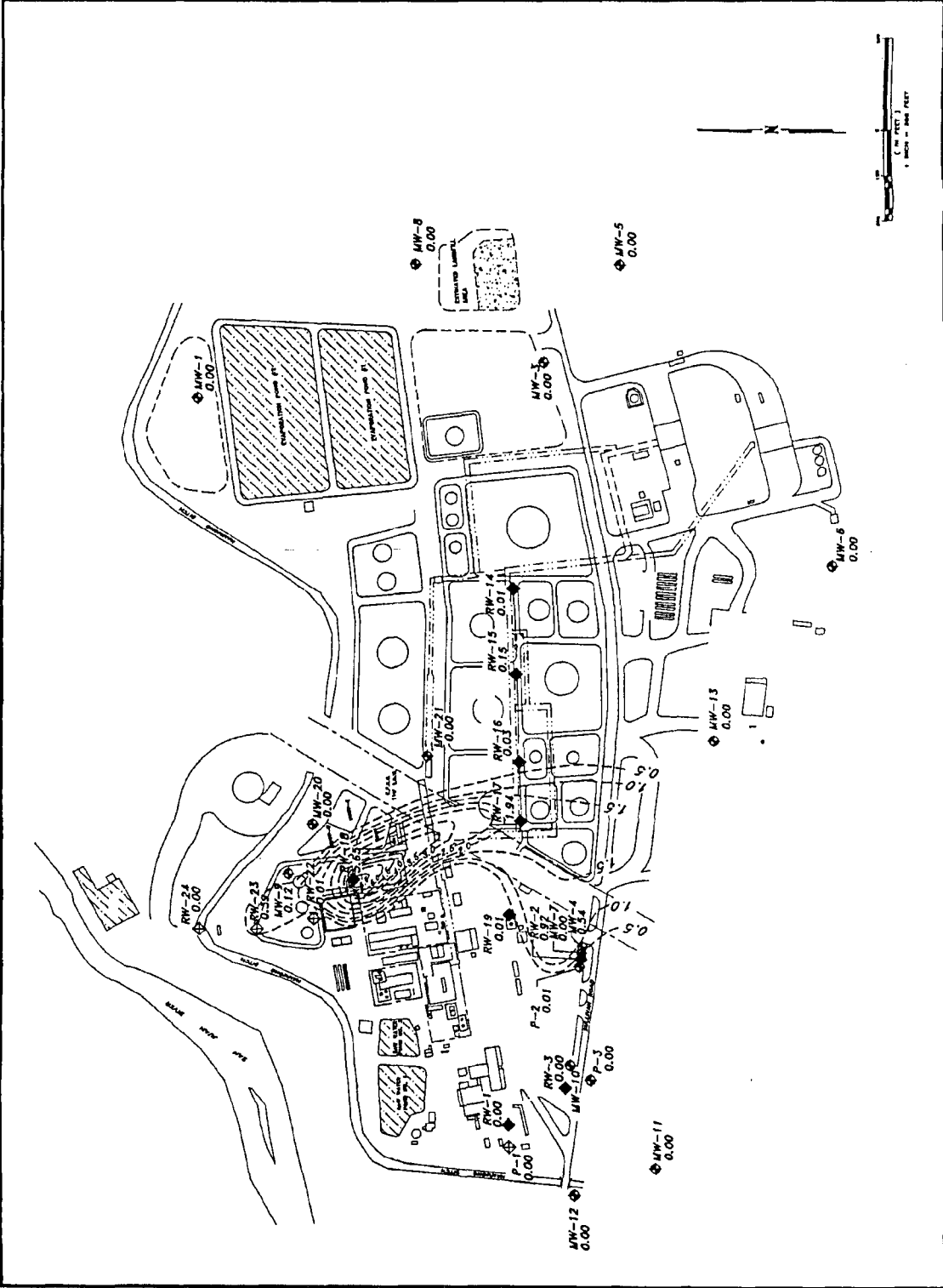
LIST OF ATTACHMENTS

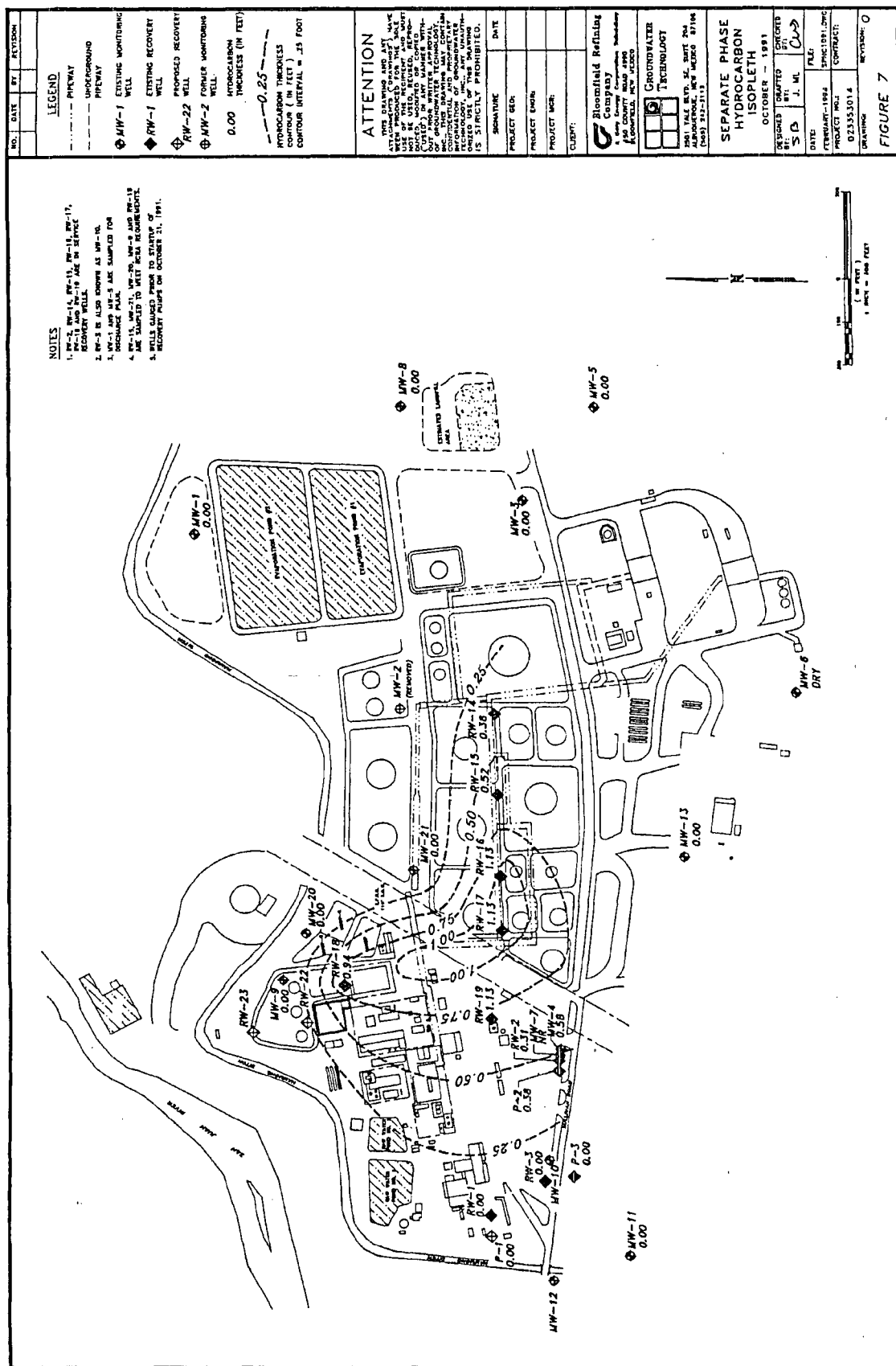
- Attachment 1 Chemical Inventory
- Attachment 2 Groundwater Information
- Attachment 3 Analytical Data
- Attachment 4 Other Plans

6.3 Other Waste Disposal

<u>Waste Types</u>	<u>Volume Per Year</u>	<u>Frequency</u>	<u>Disposal Location</u>
FCC Fines	50 tons	One one-ton hopper/week	Onsite Landfill-east of fire training area
Trash	364 yds	3 dumpsters 7 yds/week	Offsite-Waste Management Company
Parts Cleaning Solvent	120 gals	30 gals every 2 weeks	Offsite for recovery
API Separator Sludge	100 tons	Once a year	Offsite Hazardous Waste Facility
Heat Exchanger Sludge/other Haz. waste	1 ton	Once a year	Offsite Hazardous Waste Facility
Spent Caustic	1000 tons	20 tons/week	Pulp plant for reuse
Sulfur	180 tons	10 tons/week	Onsite stockpile- Sell as fertilizer
Spent Catalyst from Reformer	1 ton	Every 3 years	Offsite to reclaimer
Spent Cat/Poly Catalyst	60 tons	3 times a year	Offsite sales as fertilizer
Filters	2 drums	2 times/year	Offsite disposal service
Used Oil	500 gals	40 gals/month	Offsite reclaimer

NO.	DATE	BY	REVISION
<p>LEGEND</p> <p>--- PREWAY</p> <p>--- UNDERGROUND PREWAY</p> <p>--- EXISTING MOUNTAINING WELL</p> <p>--- NEW RECOVERY WELL</p> <p>--- EXISTING RECOVERY WELL</p> <p>--- HYDROCARBON THICKNESS (IN FEET)</p> <p>0.50</p> <p>HYDROCARBON THICKNESS CONTOUR (IN FEET)</p> <p>CONTOUR INTERVAL = .50 FOOT</p>			
<p>ATTENTION</p> <p>ATTENTION: THE INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. IT IS THE PROPERTY OF THE U.S. GOVERNMENT AND IS LOANED TO YOUR AGENCY. IT AND ITS CONTENTS ARE NOT TO BE DISTRIBUTED OUTSIDE YOUR AGENCY WITHOUT THE WRITTEN APPROVAL OF THE OFFICE OF THE SECRETARY OF DEFENSE. THE INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. IT IS THE PROPERTY OF THE U.S. GOVERNMENT AND IS LOANED TO YOUR AGENCY. IT AND ITS CONTENTS ARE NOT TO BE DISTRIBUTED OUTSIDE YOUR AGENCY WITHOUT THE WRITTEN APPROVAL OF THE OFFICE OF THE SECRETARY OF DEFENSE.</p>			
<p>CLIENT: Bloomfield Refining Company</p> <p>PROJECT NO.: 023353014</p> <p>PROJECT NAME: SEPARATE PHASE HYDROCARBON ISOPLET</p> <p>DATE: FEBRUARY 1994</p> <p>DESIGNED BY: J. M. C.W.S.</p> <p>CHECKED BY: J. M. C.W.S.</p> <p>FILE: 023353014</p> <p>CONTRACT: 023353014</p> <p>REVISION: 0</p>			







Bloomfield Refining
Company
A Gary Energy Corporation Subsidiary

January 10, 1994

Mr. Roger Anderson
State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: Discharge Plan GRW-1

Dear Mr. Anderson:

Analytical results for monitoring wells MW-1 and MW-5, obtained on December 13, 1993 are enclosed.

Please call me if there are any questions.

Sincerely,

Chris Hawley
Environmental Manager

CH/jm

Enclosures

cc: John Goodrich
Dave Roderick
Joe Warr

BLOOMFIELD REFINING COMPANY
MONITORING UNDER DISCHARGE PLAN GRW-1-A

MW-1

PARAMETER	UNIT	NOM DET LIM	NMWQ STANDARD	CURRENT RESULT	PREVIOUS RESULT	BASELINE RESULTS
DATE OF SAMPLE				12/13/93	5/14/93	1984/1985
ARSENIC	mg/l	0.005	0.100	0.000	0.000	0.016
BARIUM	mg/l	0.500	1.000	0.000	0.000	0.250
CADMIUM	mg/l	0.002	0.010	0.000	0.000	0.010
CHROMIUM	mg/l	0.020	0.050	0.000	0.000	0.018
LEAD	mg/l	0.005	0.050	0.000	0.000	0.086
BORON	mg/l	0.010	0.750	0.470	0.350	0.268
IRON	mg/l	0.050	1.000	0.000	0.000	46.268
MANGANESE	mg/l	0.020	0.200	3.700	3.710	0.943
TOTAL DISSOLVED SOLIDS	mg/l	1.000	1000.000	4380.000	4440.000	3516.000
CHLORIDE	mg/l	1.000	250.000	1840.000	1740.000	1070.500
SULFATE	mg/l	1.000	600.000	420.000	563.000	815.500
PHENOLS	mg/l	0.005	0.005	0.000	0.000	0.055
CYANIDE	mg/l	0.010	0.200	0.000	0.000	0.000
NITRATE, NITRITE AS N	mg/l	0.020	10.000	6.440	6.910	5.725
AMMONIA	mg/l	0.010		0.000	2.040	
TOTAL KELDAHL NITROGEN	mg/l	0.100		3.170		
BENZENE	ug/l	0.200	10.000	0.000	0.000	0.000
TOLUENE	ug/l	0.200	750.000	0.000	0.000	0.000
ETHYL BENZENE	ug/l	0.200	750.000	0.000	0.000	0.000
XYLENES (TOTAL)	ug/l	0.400	620.000	0.000	0.000	0.000
pH	s.u.	0.01	6 to 9	7.00	6.80	7.31
ELEVATION AT T.O.P.	ft	0.01		5515.77	5515.77	5515.77
DEPTH TO WATER	ft	0.01		17.26	16.48	16.19
ELEVATION AT T.O.W.	ft	0.01		5498.51	5499.29	5499.58

BLOOMFIELD REFINING COMPANY
MONITORING UNDER DISCHARGE PLAN GRW-1-A

MW-5

PARAMETER	UNIT	NOM DET LIM	NMWQ STANDARD	CURRENT RESULT	PREVIOUS RESULT	BASELINE RESULTS
DATE OF SAMPLE				12/13/93	5/14/93	1984/1985
ARSENIC	mg/l	0.005	0.100	0.000	0.008	0.004
BARIUM	mg/l	0.500	1.000	0.000	0.000	0.000
CADMIUM	mg/l	0.002	0.010	0.000	0.000	0.015
CHROMIUM	mg/l	0.020	0.050	0.020	0.000	0.000
LEAD	mg/l	0.005	0.050	0.000	0.000	0.015
BORON	mg/l	0.010	0.750	0.580	0.480	0.480
IRON	mg/l	0.050	1.000	0.500	0.000	0.061
MANGANESE	mg/l	0.020	0.200	0.460	0.320	0.128
TOTAL DISSOLVED SOLIDS	mg/l	1.000	1000.000	7390.000	7600.000	4746.000
CHLORIDE	mg/l	1.000	250.000	3190.000	3100.000	1402.000
SULFATE	mg/l	1.000	600.000	1050.000	1120.000	1299.000
PHENOLS	mg/l	0.001	0.005	0.000	0.000	0.008
CYANIDE	mg/l	0.010	0.200	0.000	0.000	0.013
NITRATE, NITRITE AS N	mg/l	0.020	10.000	7.470	21.120	24.000
AMMONIA	mg/l	0.020		0.080	4.060	
TOTAL KELDAHL NITROGEN	mg/l	0.020		3.520		
BENZENE	ug/l	0.200	10.000	0.000	0.000	0.000
TOLUENE	ug/l	0.200	750.000	0.000	0.000	0.000
ETHYL BENZENE	ug/l	0.200	750.000	0.000	0.000	0.000
XYLENES (TOTAL)	ug/l	0.400	620.000	0.000	0.000	0.000
pH	s.u.	0.01	6 to 9	6.80	6.70	7.41
ELEVATION AT T.O.P.	ft	0.01		5545.10	5545.10	5545.10
DEPTH TO WATER	ft	0.01		42.05	43.08	41.85
ELEVATION AT T.O.W.	ft	0.01		5503.05	5502.02	5503.25

WATER ANALYSIS*Dissolved Metals*

Client: BLOOMFIELD REFINING COMPANY
Project: BLOOMFIELD, NM
Sample ID: MW-1
Laboratory ID: 4339
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/04/94
Date Sampled: 12/13/93
Date Received: 12/13/93

Parameter	Concentration (mg/L)	Detection	Analysis Date
		Limit (mg/L)	
Arsenic	ND	0.005	12/16/93
Barium	ND	0.5	12/15/93
Boron	0.47	0.01	12/22/93
Cadmium	ND	0.002	12/15/93
Chromium	ND	0.02	12/16/93
Iron	ND	0.05	12/15/93
Lead	ND	0.005	12/15/93
Manganese	3.70	0.02	12/16/93

ND - Not detected at the stated detection limit

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Gloria Baudet
Reported By:

D. P. H.
Reviewed By:

WATER ANALYSIS

Client: BLOOMFIELD REFINING COMPANY
Project: BLOOMFIELD, NM
Sample ID: MW-1
Laboratory ID: 4339
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/04/94
Date Sampled: 12/13/93
Date Received: 12/13/93

Parameter	Analytical Result	Units	Date of Analysis
Chloride	1840	mg/L	12/17/93
Ammonia	ND	mg/L	12/27/93
Nitrate Nitrogen	6.44	mg/L	12/23/93
Nitrite Nitrogen	ND	mg/L	12/16/93
Sulfate	420	mg/L	12/15/93
Total Dissolved Solids	4380	mg/L	12/15/93
Total Kjeldahl Nitrogen	3.17	mg/L	01/03/94
Total Cyanide	ND	mg/L	12/28/93
Phenol	ND	mg/L	12/21/93

ND-Analyte not detected

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Comments:

Aloua Battlett
Reported By:

AD Baker
Reviewed By:

PURGEABLE AROMATICS

Bloomfield Refining Co.

Project ID: Bloomfield, NM
Sample ID: MW - 1
Lab ID: 4339
Sample Matrix: Water
Preservative: Cool, HCl
Condition: Intact

Report Date: 12/20/93
Date Sampled: 12/13/93
Date Received: 12/13/93
Date Analyzed: 12/20/93

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20


ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Toluene-d8	100	88 -110%
	Bromofluorobenzene	95	86 -115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:


Analyst


Review

WATER ANALYSIS*Dissolved Metals*

Client: BLOOMFIELD REFINING COMPANY
Project: BLOOMFIELD, NM
Sample ID: MW-5
Laboratory ID: 4340
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/04/94
Date Sampled: 12/13/93
Date Received: 12/13/93

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Analysis Date
Arsenic	ND	0.005	12/16/93
Barium	ND	0.5	12/15/93
Boron	0.58	0.01	12/22/93
Cadmium	ND	0.002	12/15/93
Chromium	0.02	0.02	12/16/93
Iron	0.50	0.05	12/15/93
Lead	ND	0.005	12/15/93
Manganese	0.46	0.02	12/16/93

ND - Not detected at the stated detection limit

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Reported By:

Mario Badillo

Reviewed By:

D. B. B.

WATER ANALYSIS

Client: BLOOMFIELD REFINING COMPANY
Project: BLOOMFIELD, NM
Sample ID: MW-5
Laboratory ID: 4340
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/05/94
Date Sampled: 12/13/93
Date Received: 12/13/93

Parameter	Analytical Result	Units	Date of Analysis
Chloride	3190	mg/L	12/17/93
Ammonia	0.08	mg/L	12/27/93
Nitrate Nitrogen	7.47	mg/L	12/23/93
Nitrite Nitrogen	ND	mg/L	12/16/93
Sulfate	1050	mg/L	12/15/93
Total Dissolved Solids	7390	mg/L	12/15/93
Total Kjeldahl Nitrogen	3.52	mg/L	01/03/94
Total Cyanide	ND	mg/L	12/28/93
Phenol	ND	mg/L	12/21/93

ND-Analyte not detected

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Comments:

Maria Bantlett
Reported By:

J. B. B.
Reviewed By:

15

Quality Control / Quality Assurance

Dissolved Metals

Client: BLOOMFIELD REFINING COMPANY
Project: BLOOMFIELD, NM
Laboratory ID: 4339-4340
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/04/94
Date Sampled: 12/13/93
Date Received: 12/13/93

Known Analysis

Parameter	Found Concentration (mg/L)	Known Concentration (mg/L)	Percent Recovery (mg/L)
Arsenic	0.009	0.010	90%
Barium	0.9	1.0	90%
Boron	1.01	1.00	101%
Cadmium	0.004	0.004	100%
Chromium	0.89	1.00	89%
Iron	0.94	1.00	94%
Lead	0.037	0.040	93%
Manganese	1.91	2.00	96%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Comments: Quality control run concurrently with the above sample lab numbers.

Alvina Boutlett
Reported By:

Dennis R. H.
Reviewed By:

Quality Control / Quality Assurance

Dissolved Metals

Client: BLOOMFIELD REFINING COMPANY
Project: BLOOMFIELD, NM
Laboratory ID: 4339-4340
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/04/94
Date Sampled: 12/13/93
Date Received: 12/13/93

Spike Analysis

Parameter	Spike Found (mg/L)	Sample Concentration (mg/L)	Spike Added (mg/L)	Percent Recovery
Arsenic	0.021	0.000	0.050	84%
Barium	5.7	1.2	10.0	102%
Boron	0.53	0.09	0.50	106%
Cadmium	0.009	0.004	0.010	103%
Chromium	2.23	0.02	5.00	89%
Iron	2.16	0.02	5.00	86%
Lead	0.008	0.001	0.020	89%
Manganese	4.72	4.10	5.00	107%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Comments: Quality control run concurrently with the above sample lab numbers.

Shoua Bawler
Reported By:

Devin R. R.
Reviewed By:

PURGEABLE AROMATICS

Bloomfield Refining Co.

Project ID: Bloomfield, NM
Sample ID: MW - 5
Lab ID: 4340
Sample Matrix: Water
Preservative: Cool, HCl
Condition: Intact

Report Date: 12/20/93
Date Sampled: 12/13/93
Date Received: 12/13/93
Date Analyzed: 12/20/93

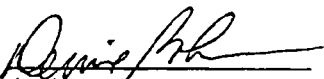
Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20

ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Toluene-d8	100	88 -110%
	Bromofluorobenzene	97	86 -115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:


Analyst


Review

SUMMARY OF ORGANIC GROUNDWATER ANALYTICAL DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	TOC	TOX	B	T	E	X	TOTAL PHEN	EDC	2,4 DCP	2,4 DMP	4,6 DNC	2,4 DNP	2,4 DNP	4-NP	BENZ ANTH	PHEN	CHRY-SENE	FLUO-RENE	NAPH	PVR	2 CHL PHEN	PCMC	BENZ FLR	A NAPH	ANTH	FLUORANTH
MW-1	26-Mar-86	18.0	NT	ND	ND	ND	ND	0.009	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	24.0	ND	ND	ND	ND	ND	0.017	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	18-Sep-86	24.0	NT	ND	ND	ND	ND	0.19	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	16-Dec-86	18.0	0.002	ND	ND	ND	ND	0.012	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	28-May-87	NT	NT	ND	ND	ND	NT	0.123	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	17-Nov-87	NT	NT	ND	ND	ND	NT	0.02	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	3-Jun-88	NT	NT	ND	ND	ND	NT	0.021	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	18-Nov-88	NT	NT	0.00075	0.00268	ND	NT	0.05	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	25-May-89	NT	NT	ND	ND	ND	NT	0.214	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	1-Dec-89	NT	NT	ND	0.00375	ND	ND	0.151	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	19-Jun-90	11.30	NT	ND	ND	ND	ND	0.231	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
MW-2	14-Nov-90	12.8	NT	ND	ND	ND	ND	0.50	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	18-Jun-91	NT	NT	ND	ND	ND	ND	0.022	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	7-Nov-91	NT	NT	ND	ND	ND	ND	0.04	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	9-Jun-92	NT	NT	ND	ND	0.0014	ND	0.04	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	11-Dec-92	NT	NT	ND	ND	ND	ND	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
MW-3	26-Mar-86	18.0	NT	ND	ND	ND	ND	0.063	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	23-Jun-86	27.0	NT	ND	ND	ND	ND	0.023	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	18-Sep-86	23.0	NT	ND	ND	ND	ND	0.17	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	16-Dec-86	15.0	NT	ND	ND	ND	ND	0.110	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
MW-4	26-Mar-86	29.0	NT	ND	ND	ND	ND	0.006	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	23-Jun-86	17.0	NT	ND	ND	ND	0.003	0.006	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	18-Sep-86	16.0	NT	ND	ND	ND	ND	0.062	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	16-Dec-86	12.0	NT	ND	ND	ND	ND	0.012	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
MW-4	26-Mar-86	110.0	NT	11.8	7.5	0.107	NT	0.633	ND	0.200	ND	0.100	0.050	0.050	0.030	ND	0.202	ND	0.150	0.036	0.166	ND	ND	0.044	ND	ND	
	23-Jun-86	130.0	NT	3.1	0.260	0.070	NT	0.430	ND	0.058	ND	ND	0.108	0.302	0.302	0.016	0.023	ND	0.019	0.005	0.005	0.001	0.045	ND	ND	ND	
	18-Sep-86	63.0	NT	6.65	0.407	0.140	NT	0.085	ND	ND	ND	ND	0.26	0.331	0.331	0.010	ND	ND	0.015	0.005	0.005	0.001	0.045	ND	ND	ND	
	16-Dec-86	170.0	NT	1.91	1.78	4.48	NT	0.096	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023	0.036	ND	ND	ND	0.049	ND	ND	
	28-May-87	NT	NT	10.7	0.71	NT	NT	0.278	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	17-Nov-87	NT	NT	8.5	0.023	NT	NT	0.73	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	3-Jun-88	NT	NT	8.9	0.93	NT	NT	0.069	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	18-Nov-88	NT	NT	11.130	8.916	NT	NT	0.101	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	25-May-89	NT	NT	9.200	9.800	1.100	10.700	0.250	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	

SUMMARY OF ORGANIC GROUNDWATER ANALYTICAL DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	TOC	TOX	B	T	E	X	TOTAL PHEN	2,4 DCP	2,4 DMP	4-MP	BENZ ANTIL	PHEN	CHRY- SERIE	FLUO- RENE	NAPH	PYR	2 QHR- PHEN	POAC	BENZ FLR	A- NAPH	ANTH	FLUORANTH
MW-5	26-Mar-86	14.0	NT	ND	ND	ND	ND	0.006	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	21.0	NT	ND	ND	ND	ND	0.007	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Sep-86	20.0	NT	ND	ND	ND	ND	0.034	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	9.0	NT	ND	ND	ND	ND	0.021	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	28-May-87	NT	NT	ND	ND	ND	NT	0.334	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	17-Nov-87	NT	NT	ND	ND	ND	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	3-Jun-88	NT	NT	ND	ND	ND	NT	0.064	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Nov-88	NT	NT	ND	ND	0.00186	NT	0.16	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	25-May-88	NT	NT	ND	ND	ND	ND	0.362	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	1-Dec-89	NT	NT	0.0108	0.092	0.0098	0.0223	0.006	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	19-Jun-90	7.40	NT	ND	ND	ND	ND	0.102	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-7	14-Jun-90	6.60	NT	ND	ND	ND	ND	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	18-Jun-91	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Nov-91	NT	NT	ND	ND	ND	ND	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	9-Jun-92	NT	NT	ND	ND	ND	0.0012	0.02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-7	11-Dec-92	NT	NT	ND	ND	ND	0.04	0.04	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	26-Mar-86	11.0	NT	0.015	0.053	0.007	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	23-Jun-86	4.0	NT	ND	ND	ND	NT	0.006	ND	ND	ND	0.001	ND	0.002	ND	ND	ND	ND	ND	0.001	ND	ND	ND
MW-8	18-Sep-86	4.0	NT	0.058	0.006	0.004	NT	0.036	ND	ND	ND	0.007	ND	0.002	ND	ND	ND	ND	ND	0.001	ND	ND	ND
	16-Dec-86	2.0	NT	0.009	ND	ND	ND	0.025	ND	ND	ND	ND	ND	0.002	ND	ND	ND	ND	ND	0.001	ND	ND	ND
	26-Mar-86	5.0	ND	ND	ND	0.107	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-8	23-Jun-86	13.0	ND	ND	ND	ND	NT	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	18-Sep-86	8.0	ND	ND	ND	ND	NT	0.097	ND	ND	ND	0.008	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	16-Dec-86	8.0	ND	ND	ND	ND	ND	0.042	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	26-Mar-86	14.3	NT	7.4	6.3	3.2	ND	0.304	ND	ND	ND	ND	0.149	ND	0.012	ND	ND	ND	ND	ND	ND	ND	ND
	23-Jun-86	180	NT	4	1.7	0.71	NT	0.372	ND	ND	ND	0.007	0.170	ND	0.012	ND	0.310	ND	ND	ND	ND	ND	ND
	18-Sep-86	240	NT	17.7	10.6	0.015	NT	0.17	ND	ND	ND	1.10	0.013	ND	0.012	ND	0.029	ND	ND	ND	0.028	ND	ND
	16-Dec-86	275	NT	1.49	0.754	0.504	ND	0.160	ND	ND	ND	ND	0.133	ND	ND	0.029	ND	ND	ND	ND	ND	ND	ND
MW-9	8-Nov-91	63.3	0.041	16.200	0.309	8.700	10.820	0.115	NT	NT	NT	NT	0.133	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Feb-92	109	0.054	2.740	1.570	0.610	2.940	0.11	NT	NT	NT	NT	0.133	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10-Jun-92	97.7	0.049	15.600	1.100	4.800	6.800	0.330	NT	NT	NT	NT	0.133	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Oct-92	48.9	0.036	17.500	0.700	2.200	7.300	0.180	NT	NT	NT	NT	0.133	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-10	26-Mar-86	34	NT	0.093	ND	ND	ND	0.147	ND	ND	ND	ND	0.090	ND	0.033	ND	0.030	ND	ND	ND	ND	0.039	0.034
	23-Jun-86	76	NT	ND	ND	ND	NT	0.186	ND	ND	ND	ND	0.090	ND	0.033	ND	0.030	ND	ND	ND	ND	ND	ND
	18-Sep-86	125	NT	0.041	0.054	ND	NT	0.065	ND	ND	ND	0.016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	16-Dec-86	114	NT	14.1	7.4	0.03	ND	0.055	ND	ND	ND	0.002	ND	ND	ND	0.004	ND	ND	ND	ND	ND	ND	ND

SUMMARY OF ORGANIC GROUNDWATER ANALYTICAL DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	TOC	TOX	B	T	E	X	TOTAL PHEN	EDC	2,4 DCP	2,4 DMP	4,6 DMC	2,4 DNP	4-NP	BENZ ANTH	PHEN	CHRY SENE	FLUO RENE	NAPH	PYR	CHL PHEN	PMAC	BENZ FLR	A NAPH	ANTH	FLUORANTH
MW-11	3-Jun-88	NT	NT	3.0	0.46	NT	NT	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	9-Sep-88	NT	NT	44,400	0.840	0.063	3.406	0.06	0.0022	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-12	3-Jun-88	NT	NT	ND	ND	NT	NT	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-13	9-Sep-88	NT	NT	0.00023	0.00024	0.00029	0.00156	0.03	0.0156	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-20	8-Nov-91	19.7	0.037	0.002	ND	ND	0.004	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Feb-92	21.4	0.041	0.201	0.035	0.011	0.051	0.020	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10-Jun-92	19.2	0.038	0.017	0.008	0.003	0.012	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Oct-92	15.2	0.030	0.022	0.005	ND	0.002	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-21	8-Nov-91	12.2	0.055	0.001	0.011	ND	0.003	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Feb-92	12.9	0.051	0.010	0.020	0.005	0.026	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10-Jun-92	14.6	0.042	1.840	0.450	ND	0.030	0.010	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Oct-92	14.9	0.048	3.010	0.420	ND	0.050	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-1	9-Sep-88	NT	NT	6,400	0.070	0.540	14,800	0.34	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
P-1	9-Sep-88	NT	NT	107,200	0.034	0.00143	0.865	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-2	9-Sep-88	NT	NT	11.0	10,200	2.9	78,800	0.13	0.0016	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
P-2	9-Sep-88	NT	NT	4.80	1,430	0.900	7,530	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-3	9-Sep-88	NT	NT	12,000	0.062	0.00296	5,403	0.05	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
P-3	9-Sep-88	NT	NT	19,400	0.00435	ND	35,100	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-15	8-Nov-91	27.2	0.204	16,100	1,780	23,700	18,760	0.059	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Feb-92	40.8	0.045	4,430	3,850	1,540	4,410	0.140	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10-Jun-92	29.9	0.115	21,700	3,800	27,300	20,900	0.140	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Oct-92	26.3	0.180	17,600	2,500	25,200	15,200	0.260	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
RW-16	8-Nov-91	48.9	0.040	3,830	ND	ND	ND	0.044	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	7-Feb-92	63.6	0.045	1,950	0.150	0.361	1,401	0.070	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10-Jun-92	88.0	0.075	4,500	1,800	ND	3,200	0.140	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Oct-92	46.9	0.068	4,410	0.440	ND	0.370	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

TABLE 5 (Page 4 of 4)
SUMMARY OF ORGANIC GROUNDWATER ANALYTICAL DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

NT=Not Tested ND= Not Detected Units=mg/l (approximately equivalent to parts per million (ppm)).	
KEY	TOX=Total Organic Halogens
B=Benzene	BENZANTH=Benzo(a)anthracene
T=Toluene	PHENE=Phenol
E=Ethylbenzene	CHRY=Chrysene
X=Total Xylenes	P-C-M-C=P-chloro-m-cresol
Total Phen=Total Phenols	BENZFLUOR=Benzo(f)fluoranthene
EDC=1, 2-Dichloroethane	FLUOR=Fluorene
2, 4-DCP=2, 4-Dichlorophenol	A-NAPH=Acenaphthene
2, 4-DMP=2, 4-Dimethylphenol	PYR=Pyrene
4, 6-DNC=4, 6-Dinitro-o-cresol	NAPH=1-naphthalene
2, 4-DNP=2, 4-Dinitro-phenol	2-CHLORPHEN=2-Chloro-phenol
2-NP=2-Nitrophenol	FLUORANTH=Fluoranthene
4-NP=4-Nitrophenol	TOC=Total Organic Carbon

TABLE 6 (Page 4)

SUMMARY OF INORGANIC GROUNDWATER AND WATER QUALITY DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	Cn	TDS	Cl	SO4	Sb	As	Be	Cd	Cr	Pb	Hg	Ni	Se	Ag	Zn	Al	Ba	B	Fe	Mo	Mn	Na	N	F	Od	Pa 226	Pa 238
MW-1	26-Mar-86	ND	2936	750	7.5	ND	ND	ND	0.050	ND	0.085	ND	0.08	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT
	23-Jun-86	0.1	2960	994.7	630	ND	0.077	ND	ND	ND	0.065	ND	0.07	0.033	ND	0.04	2.07	ND	ND	ND	ND	0.25	NT	0.540	0.100	NT	NT	
	18-Sep-86	0.07	2866	814	673	ND	0.050	ND	ND	ND	0.15	ND	0.07	0.033	ND	0.04	2.07	ND	ND	ND	ND	0.25	NT	0.540	0.100	NT	NT	
	16-Dec-86	ND	2498	774	579	0.25	ND	0.02	ND	ND	ND	ND	0.06	0.030	ND	0.012	4.54	0.055	0.27	0.14	0.14	0.17	1.11	2.900	0.960	NT	NT	
	28-May-87	0.0056	3272	794	827.6	NT	ND	NT	0.023	ND	0.20	ND	0.12	0.10	ND	0.024	ND	ND	0.70	0.79	0.79	1.51	NT	12.9	0.0353	NT	NT	
	17-Nov-87	ND	3050	910	655	NT	ND	NT	ND	ND	ND	ND	0.03	ND	ND	0.03	ND	ND	0.32	0.32	0.32	0.85	1.45	NT	0.76	0.60	NT	
	3-Jun-88	0.022	3500	1040	851	NT	ND	NT	ND	ND	ND	ND	0.03	ND	ND	0.03	ND	ND	0.25	0.25	0.25	0.85	3.22	0.80	0.92	0.80	NT	
	18-Nov-88	ND	3430	1140	665	NT	ND	NT	ND	ND	ND	ND	0.03	ND	ND	0.03	ND	ND	0.32	0.32	0.32	0.85	2.11	NT	4.03	0.82	NT	
	25-May-89	ND	3308	NT	653.46	NT	ND	NT	ND	0.0073	ND	0.05	NT	NT	NT	0.0011	NT	NT	ND	0.03	0.68	0.68	1.17	2.04	NT	NT	NT	NT
	1-Dec-89	ND	3120	1142.85	515.61	NT	0.0005	NT	0.0073	ND	0.007	0.05	NT	NT	NT	0.0011	NT	NT	ND	0.28	0.68	0.68	1.17	2.04	NT	NT	NT	NT
	19-Jun-90	ND	2952	1268.1	491.3	NT	0.0092	NT	0.0073	ND	0.007	ND	NT	NT	NT	NT	NT	NT	ND	0.31	0.31	0.31	0.59	NT	6.47	NT	NT	NT
	14-Nov-90	ND	3440	1170	539	NT	0.0008	NT	0.0073	ND	ND	ND	NT	NT	NT	NT	NT	NT	ND	0.31	0.31	0.31	0.59	NT	6.47	NT	NT	NT
MW-2	18-Jun-91	ND	3200	1050	1070	NT	ND	NT	ND	ND	ND	NT	NT	NT	NT	NT	NT	ND	0.32	0.32	0.32	2.30	NT	17	NT	NT	NT	
	7-Nov-91	ND	3540	1190	684	NT	ND	NT	ND	0.02	ND	NT	NT	NT	NT	NT	NT	ND	0.35	0.35	0.35	2.78	NT	2.54	NT	NT	NT	
	9-Jul-92	ND	3730	1220	882	NT	ND	NT	ND	ND	ND	NT	NT	NT	NT	NT	NT	ND	0.39	0.39	0.39	0.27	900	11.6	0.80	0.80	NT	
	11-Dec-92	ND	4920	1760	747	NT	ND	NT	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	ND	0.55	0.14	0.14	3.29	NT	20.2	NT	NT	
MW-3	26-Mar-86	ND	2796	200	110	ND	ND	ND	0.060	ND	0.12	0.003	0.07	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	23-Jun-86	0.1	3650	1204.6	1750	ND	0.094	ND	ND	ND	0.12	0.003	0.07	0.070	ND	0.020	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	18-Sep-86	0.18	3598	993	1104	ND	0.080	ND	0.030	ND	0.08	ND	0.12	0.104	ND	0.02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	16-Dec-86	ND	3664	1012	1372	0.480	ND	ND	ND	ND	ND	ND	0.08	0.04	ND	0.009	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
MW-3	26-Mar-86	ND	4636	1500	29.5	ND	ND	ND	0.12	ND	0.14	0.004	0.08	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	23-Jun-86	0.25	5362	1584	1950	ND	0.15	ND	0.015	ND	0.070	ND	0.08	0.010	ND	0.018	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	18-Sep-86	0.17	5514	1290	2056	ND	0.21	ND	0.015	ND	0.18	ND	0.14	0.100	ND	0.020	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	16-Dec-86	0.07	4860	1290	2204	0.67	ND	ND	0.11	ND	0.18	ND	0.10	0.05	ND	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
MW-4	26-Mar-86	ND	1868	500	0.3	ND	ND	ND	0.060	ND	0.074	0.002	0.08	ND	ND	0.012	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	23-Jun-86	0.5	2266	989.7	12.5	ND	0.070	ND	ND	ND	0.066	ND	0.12	0.080	ND	0.019	1.93	3.54	ND	12.0	ND	3.5	NT	0.21	NT	NT	NT	
	18-Sep-86	ND	2208	754	ND	ND	0.08	ND	ND	ND	ND	ND	0.12	0.063	ND	0.008	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	16-Dec-86	ND	2128	675	ND	0.40	ND	ND	ND	ND	ND	ND	0.03	0.03	ND	0.04	3.8	2.3	0.7	18.6	ND	5.7	NT	0.41	NT	NT	NT	
	28-May-87	0.005	2038	635	4.8	NT	ND	NT	0.018	ND	0.14	ND	0.12	0.08	ND	0.022	ND	9.88	0.97	0.17	0.13	5.29	NT	0.035	0.019	NT	NT	
	17-Nov-87	0.005	2050	588	ND	NT	ND	NT	ND	ND	ND	ND	0.12	0.08	ND	0.022	ND	1.8	0.59	4.59	0.03	4.77	NT	0.03	0.019	NT	NT	
	3-Jun-88	ND	1820	401	3	NT	ND	NT	ND	ND	ND	ND	0.02	ND	ND	0.001	ND	1.4	0.47	6.44	ND	3.51	NT	0.14	0.28	NT	NT	
	18-Nov-88	ND	1830	490	ND	NT	ND	NT	ND	ND	ND	ND	0.02	ND	ND	0.001	ND	1.4	0.47	6.44	ND	3.51	NT	0.14	0.28	NT	NT	
25-May-89	ND	1454	NT	7.41	NT	ND	NT	ND	ND	ND	0.03	NT	NT	NT	NT	NT	NT	1.8	0.50	0.95	ND	3.73	NT	0.09	0.30	NT	NT	

TABLE 6 (Page 4)

SUMMARY OF INORGANIC GROUNDWATER AND WATER QUALITY DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	Ch	TDS	Cl	SO4	Sb	As	Be	Cd	Cr	Pb	Hg	Ni	Se	Ag	Zn	Al	Ba	D	Fe	Mo	Mn	Na	N	F	Calc	Rad 226	Rad 228
MW-5	26-Mar-86	ND	3840	1100	14	ND	ND	ND	0.100	ND	0.160	ND	0.10	ND	ND	0.012	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	0.2	3778	1340	1800	ND	0.087	ND	ND	0.055	0.055	ND	0.071	0.071	ND	0.02	2.75	ND	0.050	0.050	ND	0.025	NT	12,500	0.300	NT	NT	
	18-Sep-86	0.24	3184	1151	1237	ND	0.07	ND	ND	ND	ND	ND	0.03	0.030	ND	0.02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	16-Dec-86	ND	3788	1118	1132	0.5	ND	ND	0.010	ND	ND	ND	0.07	0.030	ND	0.016	4.34	0.010	0.24	0.14	0.08	ND	0.08	36,000	0.580	NT	NT	
	26-May-87	ND	3302	1112	772.4	NT*	ND	ND	0.026	ND	0.20	ND	0.25	0.14	ND	0.024	ND	ND	0.24	0.24	0.14	0.08	27.01	36,000	0.580	NT	NT	
	17-Nov-87	0.016	4300	1310	1060	NT	ND	NT	ND	ND	ND	ND	0.04	0.04	ND	0.04	ND	ND	0.54	0.54	0.14	0.08	36.4	36,000	0.580	NT	NT	
	3-Jun-88	0.030	4200	1300	1000	NT	ND	NT	ND	ND	ND	0.07	0.04	0.04	ND	0.04	ND	ND	0.48	0.48	0.14	0.08	32.9	36,000	0.580	NT	NT	
	18-Nov-88	ND	4080	1480	777	NT	ND	NT	ND	ND	0.06	ND	0.07	0.04	ND	0.04	ND	ND	0.45	0.45	0.14	0.08	32.9	36,000	0.580	NT	NT	
	25-May-89	ND	4196	NT	781.03	NT	0.0006	NT	0.0039	ND	0.044	NT	NT	NT	0.0003	NT	NT	NT	0.41	0.41	0.14	0.08	21.04	36,000	0.580	NT	NT	
	1-Dec-89	ND	4594	1715.62	946.45	NT	0.0126	NT	0.005	ND	0.044	NT	NT	NT	0.0003	NT	NT	NT	0.58	0.58	0.14	0.08	24.85	36,000	0.580	NT	NT	
	19-Jun-90	ND	4918	1751.4	1131.6	NT	0.0126	NT	0.005	ND	0.044	NT	NT	NT	0.0003	NT	NT	NT	0.58	0.58	0.14	0.08	24.85	36,000	0.580	NT	NT	
MW-7	14-Nov-90	0.01	4930	1640	1110	NT	NT	NT	ND	ND	0.05	NT	NT	NT	NT	NT	NT	NT	0.06	0.06	0.14	0.08	16.75	36,000	0.580	NT	NT	
	18-Jun-91	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.48	0.48	0.14	0.08	23.1	36,000	0.580	NT	NT	
	7-Nov-91	ND	5390	1770	1370	NT	NT	NT	0.03	ND	0.11	NT	NT	NT	NT	NT	NT	NT	0.48	0.48	0.14	0.08	24.1	36,000	0.580	NT	NT	
	9-Jul-92	ND	7634	3070	1190	NT	ND	NT	ND	0.02	0.11	NT	NT	NT	NT	NT	NT	NT	0.63	0.63	0.14	0.08	9.11	1280	0.25	NT	NT	
	11-Dec-92	ND	6960	2820	754	NT	0.010	NT	ND	0.02	0.11	NT	NT	NT	NT	NT	NT	NT	0.76	0.76	0.14	0.08	6.57	36,000	0.580	NT	NT	
	26-Mar-86	ND	6076	30	5.5	ND	ND	ND	0.050	ND	0.24	ND	0.08	ND	ND	0.018	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	0.25	6406	80	2400	ND	0.36	ND	0.030	0.052	0.24	ND	0.07	0.65	ND	0.016	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
	18-Sep-86	0.10	6348	20	5802	ND	0.22	ND	ND	0.05	0.05	ND	0.08	0.36	ND	0.02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	16-Dec-86	ND	6940	29	3630	0.83	ND	ND	0.02	0.08	0.26	ND	0.07	0.09	ND	0.017	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	26-Mar-86	ND	806	160	4.0	ND	ND	ND	0.010	ND	ND	ND	ND	ND	ND	ND	0.016	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	23-Jun-86	ND	2910	840	1500	ND	0.072	ND	ND	ND	0.055	ND	0.06	0.210	ND	0.020	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
18-Sep-86	ND	2294	576	596	ND	0.030	ND	ND	ND	0.05	ND	0.21	ND	ND	0.02	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
16-Dec-86	0.1	3450	913	1270	0.67	ND	ND	ND	ND	0.06	ND	0.43	0.040	ND	0.016	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
26-Mar-86	ND	2360	149	13.0	ND	ND	ND	0.010	ND	ND	ND	ND	0.30	ND	ND	0.012	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
23-Jun-86	0.4	1718	1010	114	ND	ND	ND	ND	ND	0.059	ND	ND	0.25	0.040	ND	0.015	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
18-Sep-86	ND	1428	89	100	ND	0.02	ND	ND	ND	0.05	ND	ND	0.13	0.03	ND	0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
16-Dec-86	ND	1684	109	20	0.4	ND	ND	ND	ND	0.05	ND	ND	0.16	0.03	ND	0.011	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
1-Nov-91	NT	NT	123	12	NT	0.013	NT	NT	ND	ND	ND	ND	0.16	0.03	ND	0.011	NT	1.600	NT	5.380	NT	3.220	471	ND	0.300	ND	ND	
7-Feb-92	NT	NT	114	117	NT	0.010	NT	NT	0.030	ND	0.030	ND	NT	NT	ND	NT	NT	1.100	NT	0.150	NT	1.970	454	ND	0.300	ND	ND	
1-Jun-92	NT	NT	117	53	NT	0.009	NT	NT	ND	0.030	ND	ND	NT	NT	ND	NT	NT	1.100	NT	6.630	NT	3.050	40	ND	0.340	20	ND	
16-Oct-92	NT	NT	38	12	NT	0.008	NT	NT	ND	0.020	ND	ND	NT	NT	ND	NT	NT	1.100	NT	3.230	NT	2.190	239	ND	0.430	ND	ND	
26-Mar-86	ND	1546	245	5.3	ND	ND	ND	ND	0.02	ND	ND	ND	0.08	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
23-Jun-86	ND	2020	570	165	ND	0.053	ND	ND	ND	0.059	ND	ND	0.04	0.04	ND	0.015	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
18-Sep-86	0.050	2408	587	ND	ND	0.05	ND	ND	ND	0.05	0.05	ND	0.18	0.071	ND	0.016	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
16-Dec-86	ND	3272	457	10	0.56	ND	0.04	ND	ND	ND	ND	ND	0.03	0.03	ND	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
9-Sep-88	NT	1000	NT	30	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.05	NT	NT	NT	NT	

TABLE 6 (Page 4)

SUMMARY OF INORGANIC GROUNDWATER AND WATER QUALITY DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

WELL ID	SAMPLE DATE	Cn	TDS	Cl	SO4	Sb	As	Ba	Cd	Cu	Pb	Hg	Ni	Se	Ag	Zn	Al	Ba	B	Fe	Mn	Na	N	F	Od	Ra	Zn	
MW-13	9-Sep-88	NT	3200	NT	728	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	13.1	NT	NT	NT	
MW-20	1-Nov-91	NT	NT	183	20	NT	0.005	NT	ND	0.020	ND	ND	NT	ND	ND	NT	NT	ND	NT	0.590	NT	388	ND	0.270	ND	ND	ND	
	7-Feb-92	NT	NT	739	37	NT	0.007	NT	0.003	0.060	ND	ND	NT	ND	ND	NT	NT	0.700	NT	2.520	NT	501	ND	0.190	ND	2+/-1		
	1-Jun-92	NT	NT	554	117	NT	NT	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	0.700	NT	1.730	NT	5690	446	2.430	0.250	50	ND	ND
	16-Oct-92	NT	NT	361	215	NT	0.005	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	0.810	NT	5200	445	0.670	0.260	ND	ND	ND
MW-21	1-Nov-91	NT	NT	481	416	NT	ND	NT	ND	ND	ND	ND	NT	ND	0.010	NT	NT	NT	ND	0.810	NT	604	ND	0.480	ND	ND	ND	
	7-Feb-92	NT	NT	420	443	NT	0.011	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	1.000	NT	552	ND	0.430	ND	ND	ND	
	1-Jun-92	NT	NT	626	165	NT	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	1.710	NT	5890	631	0.170	0.460	8	ND	ND
	16-Oct-92	NT	NT	797	210	NT	0.005	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	ND	NT	2.460	NT	6800	607	ND	0.270	ND	ND	ND
RW-1	9-Sep-88	NT	3130	NT	4.5	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
P-1	9-Sep-88	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
RW-2	9-Sep-88	NT	1983	NT	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
P-2	9-Sep-88	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
RW-3	9-Sep-88	NT	3250	NT	9.5	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
P-3	9-Sep-88	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	
RW-15	1-Nov-91	NT	NT	730	2	NT	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	0.800	NT	2.610	NT	4590	750	ND	0.290	ND	ND	
	7-Feb-92	NT	NT	558	4	NT	0.007	NT	ND	0.060	ND	ND	NT	ND	ND	NT	NT	0.600	NT	10.100	NT	3050	676	ND	0.270	ND	9+/-4	ND
	1-Jun-92	NT	NT	818	5	NT	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	0.600	NT	ND	NT	1130	709	ND	0.300	1	ND	ND
	16-Oct-92	NT	NT	758	3	NT	ND	NT	ND	ND	0.001	ND	NT	ND	ND	NT	NT	0.700	NT	1.940	NT	4720	744	ND	0.170	ND	ND	ND
RW-18	1-Nov-91	NT	NT	228	24	NT	ND	NT	ND	ND	ND	ND	NT	ND	ND	NT	NT	1.100	NT	0.060	NT	4090	492	ND	0.330	ND	ND	ND
	7-Feb-92	NT	NT	200	34	NT	0.006	NT	ND	0.030	ND	ND	NT	ND	ND	NT	NT	1.200	NT	10.400	NT	4240	470	ND	0.310	ND	1,1+/-4	2+/-1
	1-Jun-92	NT	NT	238	3	NT	ND	NT	ND	0.020	ND	ND	NT	ND	ND	NT	NT	1.150	NT	4.390	NT	4480	383	ND	0.320	460	ND	ND
	16-Oct-92	NT	NT	240	59100	NT	ND	NT	ND	ND	0.002	ND	NT	ND	ND	NT	NT	1.000	NT	0.450	NT	4370	476	ND	0.260	ND	ND	ND

SUMMARY OF INORGANIC GROUNDWATER AND WATER QUALITY DATA
BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO

NT = Not Tested
ND = Not Detected
Units = mg/l (approximately equivalent to parts per million (ppm))

KEY:

Cn = Cyanide	Zn = Zinc
TDS = Total Dissolved Solids	Al = Aluminum
Cl = Chloride	Ba = Barium
SO ₄ = Sulfate	B = Boron
Sb = Antimony	Fe = Iron
As = Arsenic	Mo = Molybdenum
Ba = Barium	Mn = Manganese
Cd = Cadmium	Na = Sodium
Cr = Chromium	N = Nitrogen
Pb = Lead	F = Fluoride
Hg = Mercury	Co = Cobalt
Ni = Nickel	Ra 226 = Radium 226
Se = Selenium	Ra 228 = Radium 228
Ag = Silver	

July 5, 1999
Revised March 10, 2000

Volume I:
Discharge Plan Application
Waste and Wastewater Management

GIANT BLOOMFIELD REFINERY

Prepared for:
Giant Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

R.T. HICKS CONSULTANTS, LTD.

4665 INDIAN SCHOOL NE, SUITE 106, ALBUQUERQUE, NM 87110

Revised Discharge Permit Application
Volume I
July 6, 1999
Revised March 10, 2000

San Juan Refining Company
Giant Industries Arizona, Inc.
Bloomfield Refinery – Bloomfield, NM

Contact:
John Stokes, Refinery Manager
Barry Holman, Environmental Manager
Chad King, Operations Manager

Prepared for:
San Juan Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413
Office: (505) 632-8013
Fax: (505) 632-3911

R.T. HICKS CONSULTANTS, LTD.
4665 INDIAN SCHOOL NE, SUITE 106, ALBUQUERQUE, NM 87110

ITEM 1	
Type of Operation.....	1
ITEM 2	
Name of Operation or Legally Responsible Party and Local Representative.....	1
ITEM 3	
Location of the Discharge Plan Facility.....	1
ITEM 4	
Landowners.....	1
ITEM 5	
Facility Description.....	1
ITEM 6	
Materials stored or used at the facility: type of container, estimated volume and location.....	2
ITEM 7	
Sources and Quantities of Effluent and Waste Solids Generated at the Facility	
A. Types of Effluent, Estimated Quantities, Types and Volumes of Additives.....	2
B. Quality Characteristics	
TDS, Major Cations, Hydrocarbon Analysis, Toxics, Types of Samples, and Sources of Variability.....	6
C. Commingled Waste Streams.....	6
ITEM 8	
Collection/Storage/Disposal Procedures.....	6
ITEM 9	
Proposed Modifications.....	8
ITEM 10	
Inspection, Maintenance, and Reporting.....	8
ITEM 11	
Spill/Leak Prevention and Reporting Procedures (Contingency Plans).....	9
ITEM 12	
Site Characteristics.....	10
ITEM 13	
Other Compliance Information.....	10

TABLE 1: Chemical Inventory

TABLE 2: Water Balance of Wastewater

TABLE 3: BTEX analysis of the Influent and Effluent from the Aeration Lagoons

TABLE 4: Hazardous Characterization of Aeration Lagoons Effluent

TABLE 5: Chemistry of North Evaporation Pond Effluent

TABLE 6: Metal Concentrations of North Evaporation Pond Effluent

TABLE 7: Tank Contents and Volumes

TABLE 8: Installation Dates of Underground Pipes

PLATE 1: Location of Bloomfield, New Mexico
PLATE 2: Refinery Site
PLATE 3: Land Ownership around the Refinery
PLATE 4: Site Plan
PLATE 5: Wastewater Flow Diagram

Appendix A: History of Refinery Improvements and Modifications
Appendix B: Laboratory Chemical Inventory
Appendix C: Laboratory Analyses of Waste Streams
Appendix D: Aeration Lagoons Liner Design Plans
San Juan Pipeline Spill Response Guide
Spill Prevention Control and Countermeasures (SPCC) Plan
Response Plan (Oil Pollution Act of 1990 and Clean Water Act)
Storm Water Pollution Prevention Plan (SWPPP)
OSHA Process Safety Management (PSM) plan

collects the sludges and liquids. A vacuum truck removes the liquids and empties them into the API Separator.

The most recent crude tank cleaning, which occurred in 1999, generated approximately 34 tons of sludge that was disposed of by Duratherm, Inc.

10. Paint wastes

Romic Inc. of Chandler, Arizona or other certified disposal firms will be used to dispose of any unused, solvent-based paint wastes that may be generated.

11. Sewage

Domestic sewage is disposed of via septic tanks and leach fields in accordance with New Mexico Environment Department regulations. It is not commingled with other refinery effluent. Three septic tank systems exist on the site; one located under the control room has been operating for 30 years; the other two systems, located under the Refinery offices, are less than three years old.

12. Laboratory wastes

Laboratory wastes not otherwise recycled or shipped for offsite disposal drain to the API Separator. Appendix B contains the laboratory's chemical inventory.

13. Other Liquid Wastes

The Refinery generates no other waste liquids except wastewater.

14. Other Solid Wastes

Sulfur, FCC fines, spent catalyst, and trash are the other solid wastes generated at the Refinery. The Hydrodesulfurization Unit (HDS) produces 180 tons per year of solid sulfur. SJRC sells some of this to local farmers for use as a soil conditioner; the remainder goes to an onsite landfill located in the northeastern corner of the property. The landfill is periodically covered with soil.

The Fluidized Catalytic Cracking (FCC) Unit generates 50 tons per year of fine-grained particles or fines. Approximately one ton per week is deposited in the onsite landfill and covered with soil.

Akzo Chemical Company of Houston, Texas collects the spent FCC catalyst, approximately 100 tons per year, for off-site disposal. American Catalyst Company of Houma, Louisiana or other catalyst disposal/recycling firms collect the spent hydrotreating catalyst, 21,500 lbs. from the HDS reactor, 4175 lbs. from the Reformer. A fertilizer company in Soda Springs, Idaho buys the 158,000 lbs. of spent, phosphoric acid-containing catalyst used each year in the Catalytic Polymerization Unit.

**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, 2040 South Pacheco, Santa Fe, New Mexico, 87505; Telephone (505) 827-7131:

(GW-049) - EL PASO NATURAL GAS Company, Mr. Richard Duarte, P.O. Box 1492, El Paso, Texas, 79978 has submitted a renewal application for the previously approved discharge plan for their BLANCO PLANT facility located in Section 14, Township 29 North, Range 11, West, San Juan County, near Bloomfield, New Mexico. Approximately 120,000 gallons per day of process waste water with a total dissolved solids concentration of less than 600 mg/l is discharged to the city of Bloomfield public owned treatment works (POTW). Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface varies in depth from 14 feet to 39 feet. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-001) Bloomfield Refining Company, Lynn Shelton, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Petroleum Refinery located in the NW/4 NE/4 and the S/2 NE/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29 North, Range 11, West, NMPM, San Juan County, New Mexico. The renewal application consists of methods and procedures for handling products, waste,

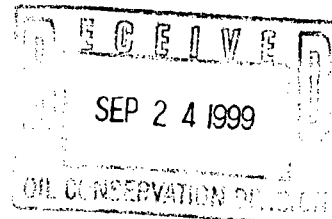
waste water management, and site investigation/abatement plans. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface varies in depth from 10 feet to 30 feet and is a water zone directly caused by seepage from Hammond Ditch. The ditch water has a total dissolved solids concentration of approximately 200 mg/l. The discharge plan 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 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of 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 16th day of September, 1999.

STATE OF NEW MEXICO
OIL CONSERVATION
DIVISION

LORI WROTENBERY,
DIRECTOR
Legal #66104
Pub. September 22, 1999



The Daily Times

P.O. Box 450 • 201 N. Allen Ave.
Farmington, New Mexico 87499
Telephone 505-564-4575 Fax 505-564-4580

CLASSIFIED AD INVOICE

THANK YOU FOR
YOUR BUSINESS!

STATE OF NM ENERGY, MINERALS &
NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO ST.
SANTA FE, NM 87505-5472

DATE OF INVOICE 10/01/99		SALES PERSON Kerla Matheny		CUSTOMER NUMBER d0102625		DUE DATE 10/16/99		
AD#	TEXT	CLASS	START	STOP	RUNS	AMOUNT	PREPAID	DUE
05502588	41810	999	10/01/99	10/01/99	1	86.80	0.00	86.80
<div>RECEIVED OCT - 8 1999 OIL CONSERVATION DIVISION</div> <div>APPROVED BY 2 PRO OCD - 10/18/99 J</div>								

PLEASE PAY FROM THIS INVOICE

TOTAL DUE **86.80**

Return REMITTANCE COPY with payment.

PLEASE MAKE CHECKS PAYABLE TO:

The Daily Times

P.O. Box 450
Farmington, NM 87499

On 10-4-99 ALETHIA ROTH LISBERGER
appeared before me, whom I know
personally to be the person who signed the
above document.

Christine R. Brogan
My Commission Expires May 3, 2003.

Petroleum Refinery located in the NW/4 NE/4 and the S/2 NE/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The renewal application consist of methods and procedures for handling products, waste, waste water management, and site investigation/abatement plans. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface varies in depth from 10 feet to 30 feet 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 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 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 a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

Legal No. 41810, published in The Daily Times, Farmington, New Mexico, Friday, October 1, 1999.

AFFIDAVIT OF PUBLICATION

Ad No. 41810

STATE OF NEW MEXICO
County of San Juan:

ALETHIA ROTH LISBERGER, being duly sworn says: That she is the Classified Manager of THE 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 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 publication on the following day(s):

Friday, October 1, 1999

and the cost of publication is: \$86.80

Alethia Rothlisberger

On 10-4-99 ALETHIA ROTH LISBERGER appeared before me, whom I know personally to be the person who signed the above document.

Christine L. Droy
My Commission Expires May 3, 2003.

COPY OF PUBLICATION

918
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, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

(GW-130) Giant Refining Company, Lynn Shelton, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Petroleum Refinery Class I (non-hazardous) disposal well located in the NW/4 SW/4 of Section 26, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. Up to 2380 barrels (100,000 gallons) per day of non-hazardous refinery waste will be disposed of by injection into the Cliff House formation at a depth from 3400 to 3600 feet. The total dissolved solids concentration of the waste is approximately 15,600 mg/l. The total dissolved solids concentration of the formation fluids is approximately 25,000 mg/l. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface varies in depth from 10 feet to 30 feet 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 addresses the operation and monitoring of the well, associated surface facilities, and provides a contingency plan in the event of an accidental spill, leak and/or any other unauthorized discharge to the surface and/or sub-surface.

(GW-001) Giant Refining Company, Lynn Shelton, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Petroleum Refinery located in the NW/4 NE/4 and the S/2 NE/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The renewal application consists of methods and procedures for handling products, waste, waste water management, and site investigation/abatement plans. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface varies in depth from 10 feet to 30 feet 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 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 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 a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

Legal No. 41810, published in The Daily Times, Farmington, New Mexico, Friday, October 1, 1999.

AFFIDAVIT OF PUBLICATION

Ad No. 41763

STATE OF NEW MEXICO

County of San Juan:

ALETHIA ROTHLSBERGER, being duly sworn says: That she is the Classified Manager of THE 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 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 publication on the following day(s):

Friday, September 24, 1999

and the cost of publication is:\$96.60

Alethia Rothlisberger

On 9/30/99 ALETHIA ROTHLSBERGER

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

Christine X. Dwyer

My Commission Expires May 3, 2003.

COPY OF PUBLICATION

918 Legal

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 applications has been submitted to the Director of the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505, Telephone (505) 827-7131:

(GW-049): EL PASO NATURAL GAS Company, Mr. Richard Duarte, P.O. Box 1492, El Paso, Texas, 79978 has submitted a renewal application for the previously approved discharge plan for their BLANCO PLANT facility located in Section 14, Township 29 North, Range 11 West, San Juan County, near Bloomfield New Mexico. Approximately 120,000 gallons per day of process waste water with a total dissolved solids concentration of less than 600 mg/l is discharged to the City of Bloomfield public owned treatment works (POTW). Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface varies in depth from 14 feet to 39 feet. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-001) Bloomfield Refining Company, Lynn Shelton, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Petroleum Refinery located in the NW/4 NE/4 and the S/2 NE/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The renewal application consist of methods and procedures for handling products, waste, waste water management, and site investigation/abatement plans. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface varies in depth from 10 feet to 30 feet 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 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 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 16th day of September, 1999:

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

/s/ Roger Candelaria
LORI WROTENBERY, Director

SEAL

Legal No. 41763, published in The Daily Times, Farmington, New Mexico, Friday, September 24, 1999.

OCD ENVIRONMENTAL BUREAU

SITE INSPECTION SHEET

DATE: 3-30-00 Time: 8 AM

Type of Facility: Refinery ☒ Gas Plant ☐ Compressor St. ☐ Brine St. ☐ OilField Service Co. ☐
Surface Waste Mgt. Facility ☐ E&P Site ☐ Crude Oil Pump Station ☐
Other ☐

Discharge Plan: No ☐ Yes ☒ DP# GW-1

CONDITIONS DURING INSPECTION:
RAIN + SNOW

FACILITY NAME: GIANT BLOOMFIELD REFINERY
PHYSICAL LOCATION: BLOOMFIELD NM
Legal: QRT QRT Sec 26 TS 29 NR 11 W County SAN JUAN

OWNER/OPERATOR (NAME) SAN JUAN REFINING CO.
Contact Person: BARRY HOLMAN 4890 Tele: # 505-632-7168
MAILING ADDRESS: 111 COUNTRY ROAD A BLOOMFIELD State NM ZIP 87413
Owner/Operator Rep's: DAVE PAULICH, DORRIS MANCINI

OCD INSPECTORS: ANDERSON, PRICE, FOUST

1. **Drum Storage:** All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.

OK-

2. **Process Areas:** All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.

* PIC 10 - AREA WEST OF WEL GAS COMPRESSOR BUILDING OIL SPRAY FROM PUMPS IS BEING DISCHARGED TO GROUND * PIC 15 WASTE CATALYST IS BEING DISCHARGED TO GROUND OUTSIDE OF CONTAINMENT AREA

3. **Above Ground Tanks:** All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.

* PIC 3 + 8 COOLING TOWERS CHEMICAL TANKS DO NOT HAVE PROPER CONTAINMENT.

• PIC 2 - OLD MONITOR WELL NEEDS GROUTED

4. **Above Ground Saddle Tanks:** Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

5. **Labeling:** All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.

• #1 COOLING TOWER ACID TANK NEEDS LABEL.

6. **Below Grade Tanks/Sumps:** All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

• PIC 6 BOILER HOUSE (#4) CONCRETE DRAIN NEEDS REPAIRING.

• PIC 20 FUEL OIL (BUNKER C) LOADING RACK TROUGHS & SUMPS REQUIRE CLEANING.

• GIANT SHALL PROVIDE INTEGRITY TEST FOR ALL BELOW GRADE TANKS/SUMPS.

7. **Underground Process/Wastewater Lines:** All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity at present and then every 5 years thereafter, or prior to discharge plan renewal. The permittee may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.

GIANT SHALL PROVIDE RESULTS OF PIPING PRESSURE TEST.

8. **Onsite/Offsite Waste Disposal and Storage Practices:** Are all wastes properly characterized and disposed of correctly? Does the facility have an EPA hazardous waste number? ☒ Yes ☐ No

ARE ALL WASTE CHARACTERIZED AND DISPOSED OF PROPERLY? YES ☐ NO ☒ IF NO DETAIL BELOW.

SAMPLE

• PIC 27 GIANT SHALL WASTE GOING INTO LANDFILL FOR WQCC CONSTITUENTS.

UNOCD RECOMMENDS GIANT TO INSTALL A BARRIER AROUND THE API-ABT POND.

9. **Class V Wells:** Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. All Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Closure of Class V wells must be in accordance with a plan approved by the Division's Santa Fe Office. The OCD allows industry to submit closure plans which are protective of human health, the environment and groundwater as defined by the WQCC, and are cost effective. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.

ANY CLASS V WELLS NO ☒ YES ☐ IF YES DESCRIBE BELOW!

10. **Housekeeping:** All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.

- GOOD -

11. **Spill Reporting:** All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the proper OCD District Office.

• PIC 12 - NEED CLOSURE REPORT FOR REFORMATE AREA - NEED BOTTOM TPH RESULTS + PID RESULTS, ALSO NEED PLAN FOR REFORMATE CONTAMINATED SOIL SEE PIC 25

12. **Does the facility have any other potential environmental concerns/issues?**

- WASTE WATER POND LEAK DETECTORS HAVE HIGH FLUID LEVELS GIANT TO INVESTIGATE IF POND LINERS ARE LEAKING.
- GIANT TO INVESTIGATE TANK #20 AREA FOR CONTAMINATION.

13. **Does the facility have any other environmental permits - i.e. SPCC, Stormwater Plan, etc.?**

SPCC - YES STORMWATER PLAN - YES
GIANT TO SUBMIT PLANS.

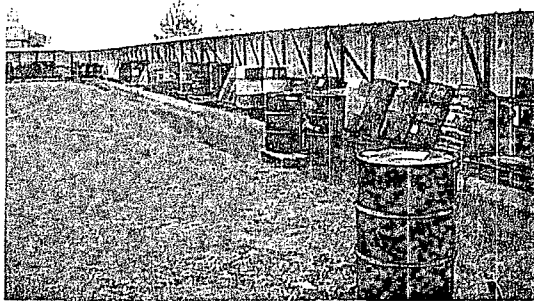
14. **ANY WATER WELLS ON SITE?** NO ☒ YES ☐ IF YES, HOW IS IT BEING USED?

Miscellaneous Comments:

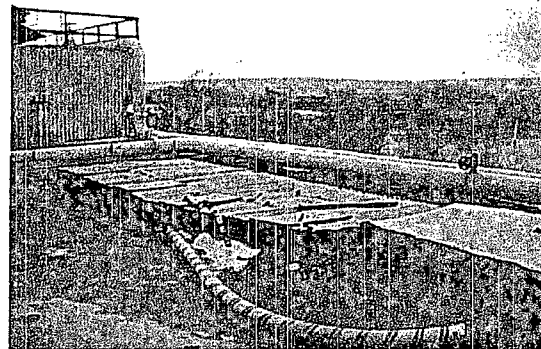
19,000 BBL'S / DAY CRUDE REFINING / BUILT 1950'S

Number of Photos taken at this site: 37

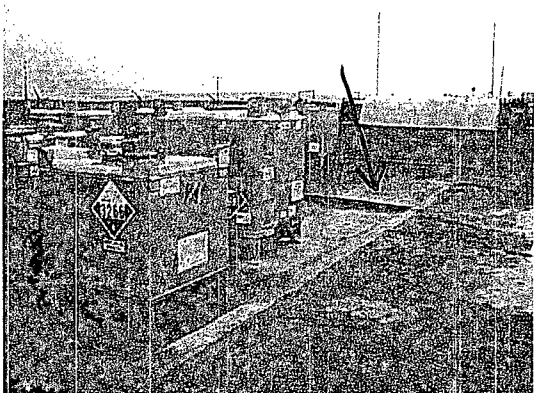
attachments-



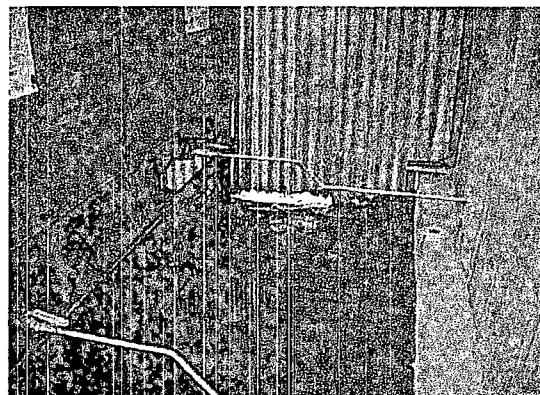
Pic1- Chemical drum storage area.



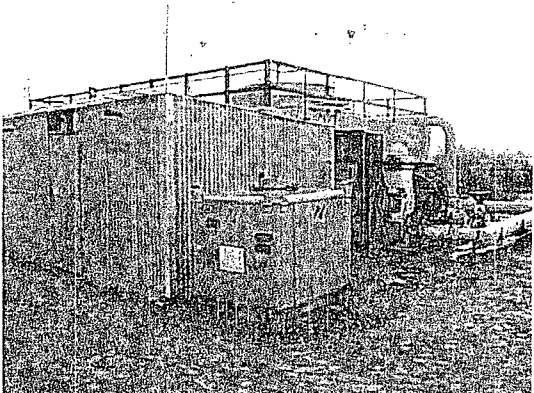
Pic4- Salt Vault used for liquid brine storage to regenerate water softeners. Background shows fresh water duck and geese ponds.



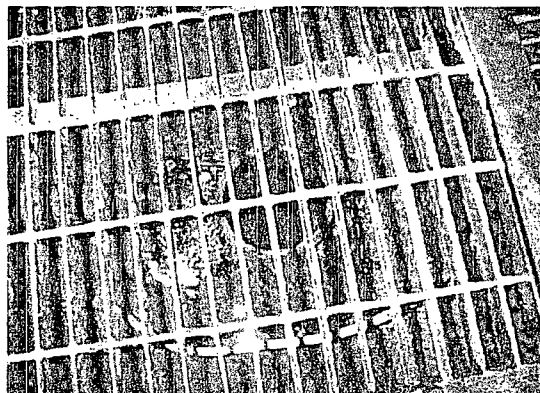
Pic2- Chemical tote tanks- Old plugged monitor well located in second containment needs to be grouted.



Pic5- Boiler house #4



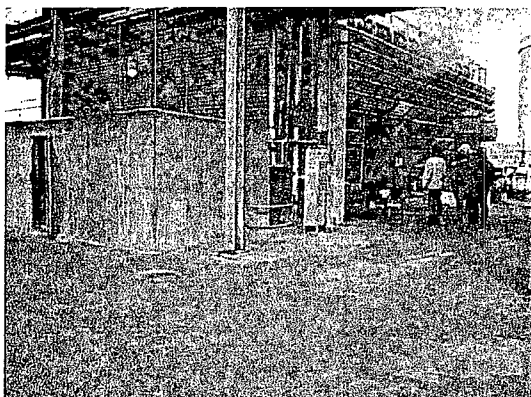
Pic3- #2 cooling tower and chemical house.



Pic6- Boiler house #4 drain system. Concrete is eroded to soil.



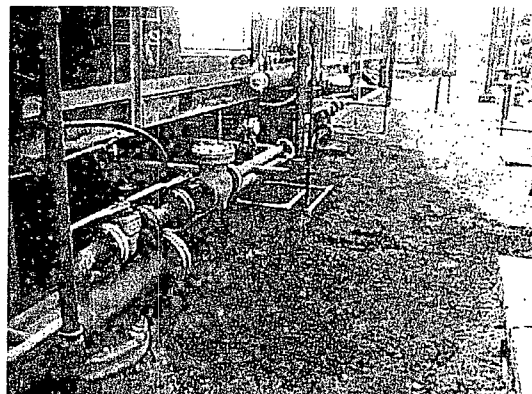
Pic7- Drum of perchloroethylene and two caustic drums near reformer area.



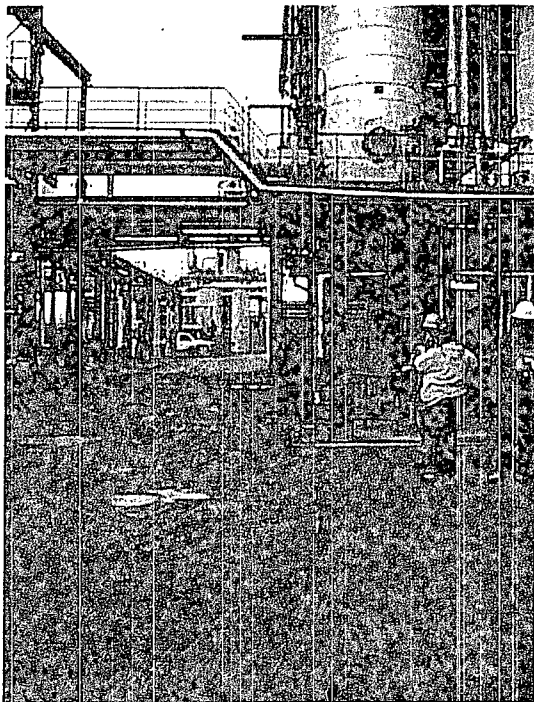
Pic8- #1 cooling tower, chemical house and acid tank.



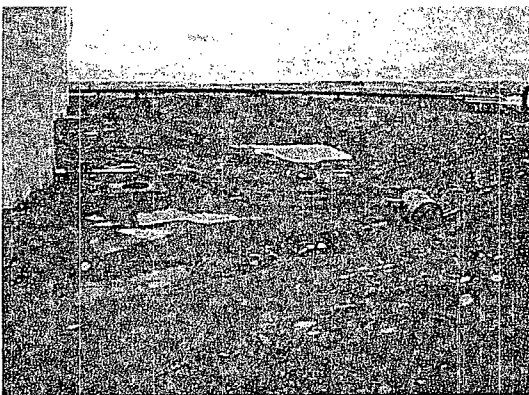
Pic9- Cat cracker area looking south. Picture shows pad and curb typical of all plant process areas.



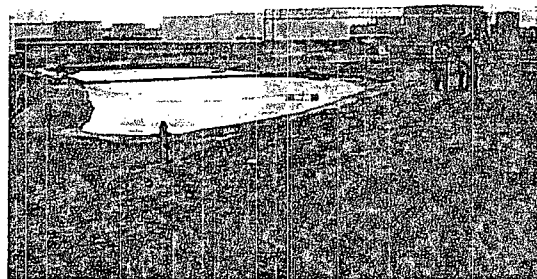
Pic10- West of Wet gas compressor building. Bioremediation area of oil spray from oil pumps.



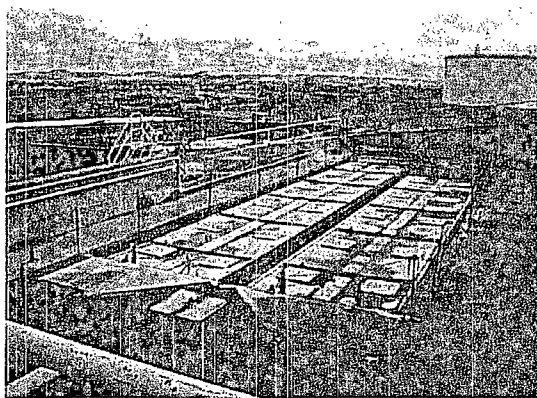
Pic11- Stripping tower area looking west.
Bioremediation area from recent small oil spill.



Pic12- Reformate spill area north of reformate
storage tanks.



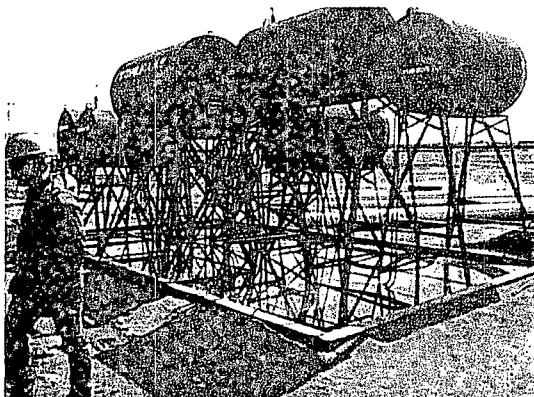
Pic13-API ABT ponds- looking SE



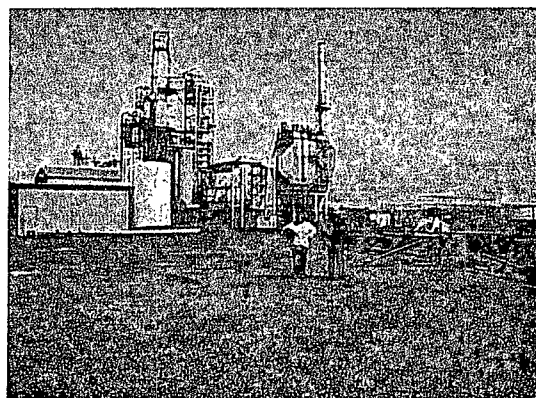
Pic 14- API separator-looking NE



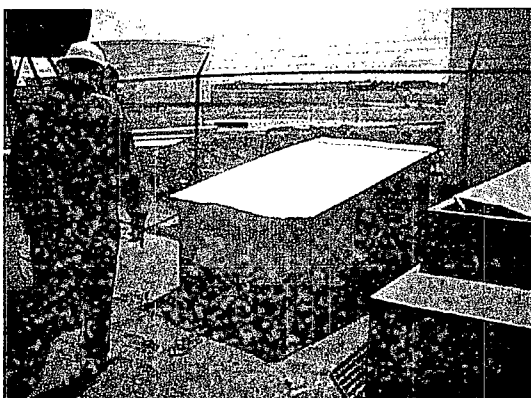
Pic 15- Poly-feed unit catalyst waste storage
area.



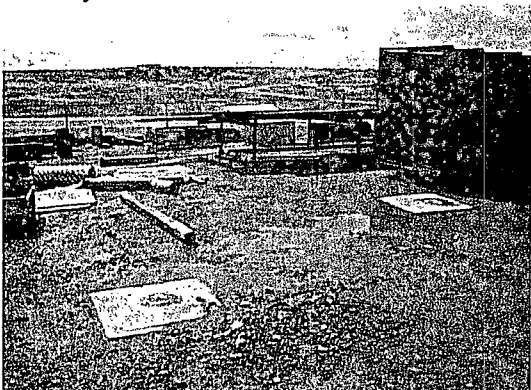
Pic16-Fuel tank area south side of plant.



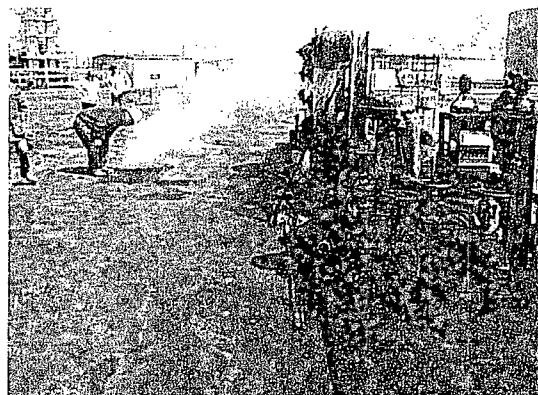
Pic19- standing at RW-2 looking north.



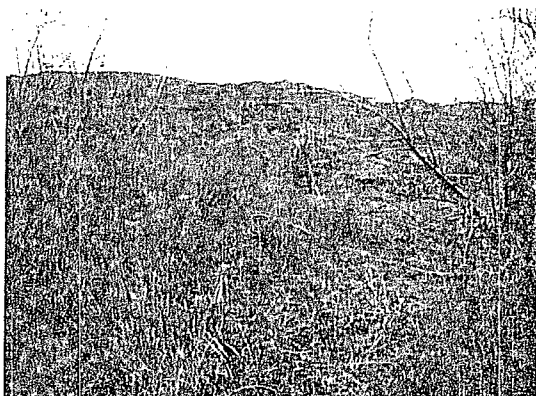
Pic17- RW19 groundwater contamination recovery well.



Pic18- Monitor wells and recovery well RW-2 south side of plant area-looking south.

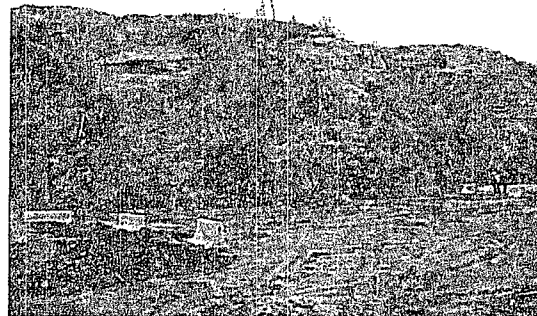


Pic20-Fuel oil loading rack , concrete driveway, troughs and sumps.



Pic21- North of refinery looking south at bluff next to San Juan river. Oil seeping out of bluff is visible

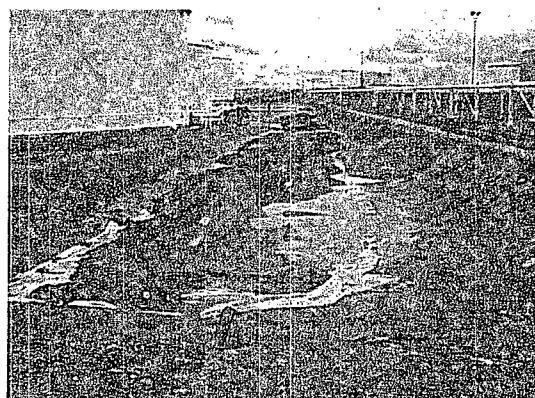
*SEE CORRECTION
LWP*



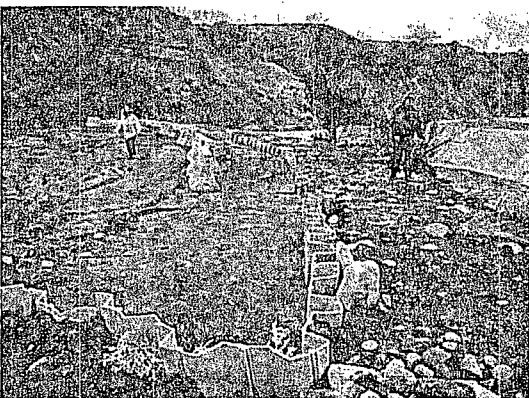
Pic24-Nacimiento bluffs located between refinery and river.



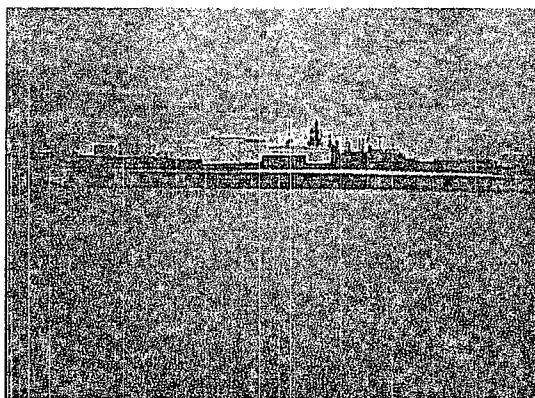
Pic22- Sheet piling and slurry wall installed next to the San Juan River to prevent hydrocarbons from seeping into river. Sheet piling is 11 feet deep, original design was to be 22 feet deep. Looking NE. upstream.



Pic25- Tank 11-14 picture looking east shows where reformat gasoline contaminated soil is being stored on plastic. Pictures shows rain water from recent rains.



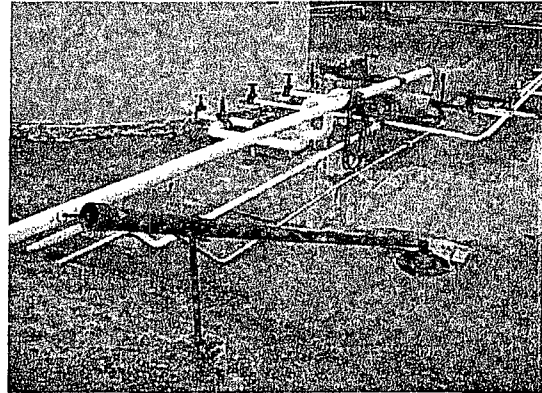
Pic23- SAB except looking downstream.



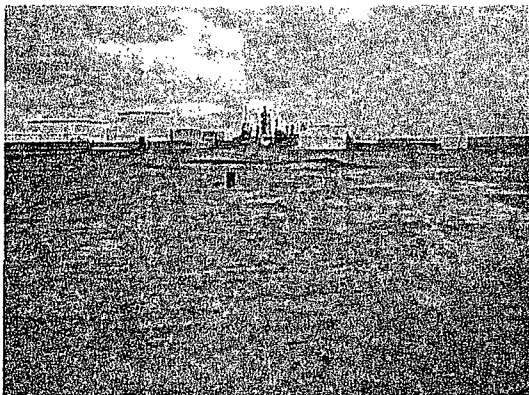
Pic26- New raw water unlined ponds. Looking west refinery in background. This location was noted to be where the old refinery evaporation ponds were located.



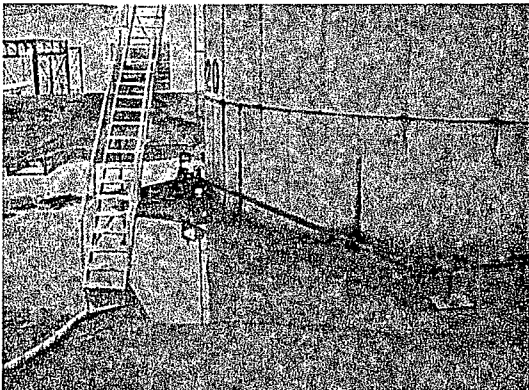
Pic27- New active landfill where cat fines and sulfur is buried. Looking NE.



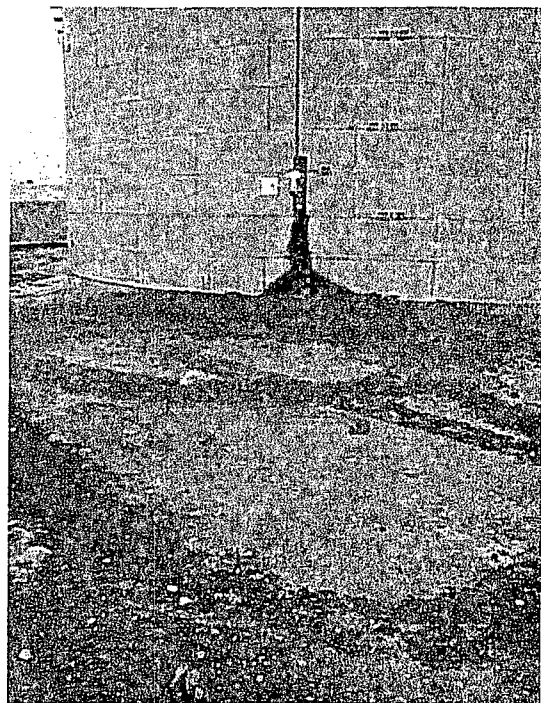
Pic30- Tank #26 (out of service) picture shows typical below-grade tank drain and stormwater collection system in tank farm. These systems do not have secondary containment.



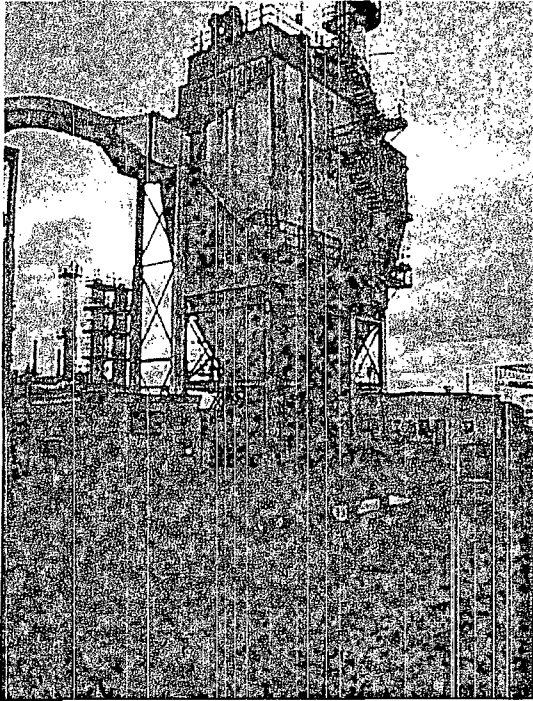
Pic28- Old (in-active landfill) Looking west. Picture shows monitor well #8.



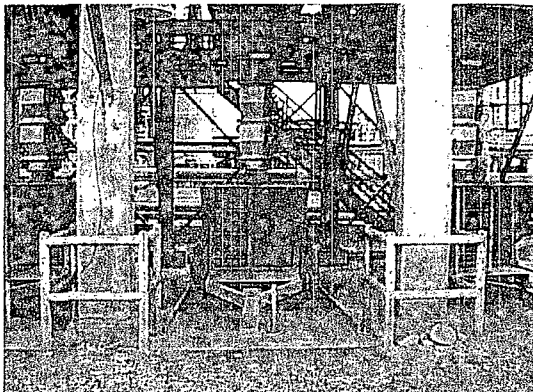
Pic29-Tank #20 (out of service) oily sheen observed on rainwater.



Pic31-Tank#27 fuel oil tank gage leak and bioremediation area. Soils did not have any olfactory smells.



Pic32- Cat cracker electro-static preceptator and bag house.



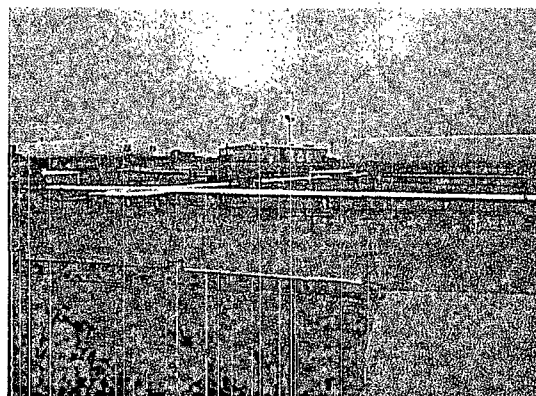
Pic33- Cat fines collection buggies. This waste is buried on site at the active landfill.



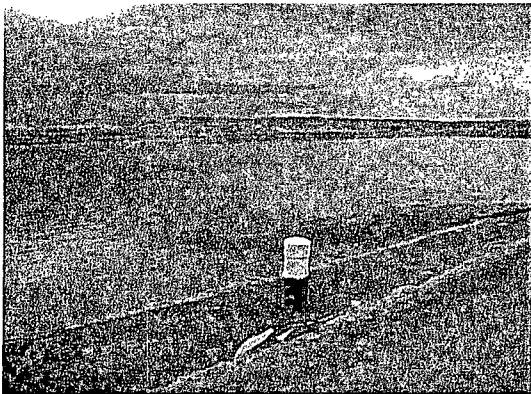
Pic34- Finish product loading racks. Looking east.



Pic35- Bad oil unloading dock and tanks in the background.



Pic36- Gas storage area, background shows green building where tube bundle cleaning pad and where hazardous waste is stored. This area is under the regulatory authority of NM-HRMB.



Pic37- Refinery north waste water holding pond and leak detector. Leak detector was observed to be full of water i.e. same level as pond.



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

April 19, 2000

CERTIFIED MAIL
RETURN RECEIPT NO. 5051 5956

Mr. Barry Holman
Environmental Manager
San Juan Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

Re: Discharge Plan GW-01 Renewal Application
Giant Bloomfield Refinery

Dear Mr. Holman:

The groundwater discharge plan renewal application for the Giant Bloomfield Refinery GW-01 operated by San Juan Refining Company located in the NW/4 NE/4 and the S/2 NW/4 and the N/2 NE/4 SE/4 OF Section 27, and the S/2 NW/4 and the N/2 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. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within ten working days of receipt of this letter.**

The original discharge plan was approved on June 05, 1978 and subsequently renewed on June 07, 1984, November 02, 1989, February 04, 1992, May 24, 1994 with an expiration date of June 07, 1999. OCD approved a change of ownership on January 29, 1996 and approved a modification on November 19, 1996. The discharge plan renewal application, including attachments, dated July 6, 1999 and supplemental information dated April 11, 2000 submitted pursuant to Section 3106 of the New Mexico Water Quality Control Commission (WQCC) Regulations also includes all earlier applications and all conditions later placed on those approvals.

The discharge plan is renewed pursuant to Section 3109.C. Please note Section 3109.G., which provides for possible future amendment of the plan. Please be advised that approval of this plan does not relieve San Juan Refining Company of liability should operations result in pollution of surface or ground waters, or the environment.

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.

Mr. Barry Holman
April 19, 2000
Page 2

Please note that Section 3104. 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 3107.C., San Juan Refining Company is 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 3109.H.4., this approval is for a period of five years. **This approval will expire June 07, 2004** and an application for renewal should be submitted in ample time before that date. Pursuant to Section 3106.F. of the regulations, if a discharger submits a discharge plan renewal application at least 120 days before the discharge plan expires and is in compliance with the approved plan, then the existing discharge plan will not expire until the application for renewal has been approved or disapproved. It should be noted that all discharge plan facilities will be required to submit plans for, or the results of, an underground drainage testing program as a requirement for discharge plan renewal.

The discharge plan application for the Giant Bloomfield Refinery is subject to the WQCC Regulation 3114. Every billable facility submitting a discharge plan will be assessed a fee equal to the filing fee of \$50 plus a renewal flat fee of \$3910.00 for an oil refinery. The OCD has not received the \$3910.00 flat fee. The flat fee of \$3910.00 may be paid in a single payment due on the date of the discharge plan approval or in five equal installments over the expected duration of the discharge plan. Installment payments shall be remitted yearly, with the first installment due on the date of the discharge plan approval and subsequent installments due on this date of each calendar year.

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

If you have any questions, please contact Wayne Price of my staff at (505-827-7155). On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief

RCA/lwp
Attachment-1
xc: OCD Aztec Office

Mr. Barry Holman
April 19, 2000
Page 3

ATTACHMENT TO THE DISCHARGE PLAN GW-01 APPROVAL
Giant Bloomfield Refinery (GW-01)
DISCHARGE PLAN APPROVAL CONDITIONS
April 19, 2000

1. Payment of Discharge Plan Fees: The \$50.00 filing fee has been received by OCD. The \$3910.00 flat fee shall be submitted upon receipt of this approval. The required flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the plan, with the first payment due upon receipt of this approval.
2. Commitments: San Juan Refining Company will abide by all commitments submitted in the discharge plan renewal application dated July 06, 1999 and supplemental information dated April 11, 2000 and these conditions for approval.
3. North and South Double-Lined Waste Water Evaporation Ponds: A minimum freeboard will be maintained in the ponds so that no over topping of waste water occurs. Any repairs or modifications to the pond liners and/or leak detection systems must receive prior OCD approval. Leaks and releases shall be reported pursuant to Item 15. (Spill Reporting) of these conditions.
4. North and South Double-Lined Waste Oily Water Treatment Ponds: A minimum freeboard will be maintained in the ponds so that no over topping of waste water occurs. Any repairs or modifications to the pond liners and/or leak detection systems must receive prior OCD approval. Leaks and releases shall be reported pursuant to Item 15. (Spill Reporting) of these conditions.
5. Leak Detection Monitor Wells: All leak detection monitor wells must be inspected for fluids monthly. Records will be maintained to include quantity of fluid measured, date of inspection, and name of inspector. Any fluids found must be reported to the NMOCD Santa Fe Environmental Bureau and the appropriate District office within 24 hours of discovery.
6. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets must also be stored on an impermeable pad with curbing.
7. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.

8. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad within the berm.
9. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
10. Labeling: All tanks, drums, and other containers should be clearly labeled to identify their contents and other emergency information necessary if the tank were to rupture, spill, or ignite.
11. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must be tested to demonstrate their mechanical integrity no later than **July 14, 2000** and every year from tested date, thereafter. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing. The test results will be submitted to OCD in an annual report due on August 15, of each year.
12. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity no later than **July 14, 2000** and every 5 years, from tested date, thereafter. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing. The test results will be submitted to OCD in the annual report due on August 15, 2000.
13. Class V Wells: No Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be approved for construction and/or operation unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.
14. Housekeeping: All systems designed for spill collection/prevention, and leak detection will be inspected daily to ensure proper operation and to prevent over topping or system failure.

15. Spill Reporting: All spills/releases shall be reported pursuant to OCD Rule 116. and WQCC 1203. to the OCD Aztec District Office.
16. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge plan will be approved by OCD on a case-by-case basis.
17. OCD Inspections: Additional requirements may be placed on the facility based upon results from OCD inspections.
18. Storm Water Plan: San Juan Refining Company will submit a storm water run-off plan for OCD approval by August 15, 2000.
19. Vadose Zone and Water Pollution: The abatement plan application dated July 05, 1999 is considered an investigation and remediation plan application submitted pursuant to the discharge plan and all future discoveries of contamination will be addressed through the discharge plan process.
20. Active Landfill: San Juan Refining Company shall submit for OCD approval a closure plan or operating plan for the active landfill located east of the main refinery complex. Please submit this plan by August 15, 2000.
21. In-Active Landfill: A closure plan for the in-active landfill located near monitor well #8 shall be submitted to OCD for approval by August 15, 2000. The plan shall demonstrate how San Juan Refining Company plans to close the landfill in order that public health or the environment will not be adversely impacted in the foreseeable future.
22. Transfer of Discharge Plan: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.
23. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

Mr. Barry Holman
April 19, 2000
Page 6

24. Certification: San Juan Refining Company by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. San Juan Refining Company further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Conditions accepted by: San Juan Refining Company -Giant Bloomfield Refinery.

BARRY G. HOLMAN
Company Representative- print name
Barry G. Holman Date 5-3-00
Company Representative- Sign

Title Environmental Manager

NOTICE OF PUBLICATION

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

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge permit application(s) has been submitted to the Director of the Oil Conservation Division, 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-001) Giant Refining Company, Randy Schmaltz, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Petroleum Refinery located in the NW/4 NE/4 and the S/2 NE/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The renewal application consist of methods and procedures for handling products, waste, waste water management, and site investigation/ abatement plans. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface varies in depth from 10 feet to 30 feet with a total dissolved solids concentration of approximately 200 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

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

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

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 6th day of June 2004.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

SEAL

Mark Fesmire, Director

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

State of New Mexico
Energy Minerals and Natural Resources

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

Revised June 10, 2003

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

**DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS,
REFINERIES, COMPRESSOR, GEOTHERMAL FACILITIES
AND CRUDE OIL PUMP STATIONS**

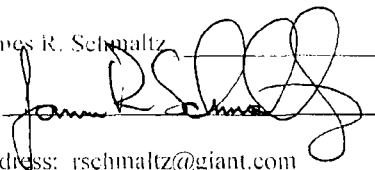
(Refer to the OCD Guidelines for assistance in completing the application)

☐ New ☒ Renewal ☐ Modification **CERTIFICATION**

1. Type: Petroleum Refinery
2. Operator: San Juan Refining Company – Giant Bloomfield Refinery
Address: 50 County Road 4990, Bloomfield NM. 87413 P.O. Box 159 Bloomfield NM. 87413
Contact Person: James R. Schmaltz Phone: (505) 632-4171
3. Location: NE/4 NE/4 and S/2 NW/4 and the N/2 NE/4 SE/4 of Section 27, and the S/2 NW/4 and the N/2 NW4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29 North, Range 11 West.
Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site.
See existing Discharge Plan GW-01. (Nothing has changed).
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
See existing Discharge Plan GW-01. (Nothing has changed).
6. Attach a description of all materials stored or used at the facility.
See existing Discharge Plan GW-01. (Nothing has changed).
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
See existing Discharge Plan GW-01. (Nothing has changed).
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
See existing Discharge Plan GW-01. (Nothing has changed).
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
See existing Discharge Plan GW-01. (Nothing has changed).
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
See existing Discharge Plan GW-01. (Nothing has changed).
11. Attach a contingency plan for reporting and clean-up of spills or releases.
See existing Discharge Plan GW-01. (Nothing has changed).
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
See existing Discharge Plan GW-01. (Additional information has been submitted in the 2002 "Site Investigation and Abatement Plan CMS").
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
See existing Discharge Plan GW-01. (Nothing has changed.)
14. CERTIFICATION: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: James R. Schmaltz

Title: Environmental Supervisor

Signature: 

Date: 5/26/2004

E-mail Address: rschmaltz@giant.com



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

Mark E. Fesmire, P.E.

Director

Oil Conservation Division

August 12, 2005

Randy Schmaltz
Environmental Manager
San Juan Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

REC JOHNSON
BS SERVICES
(281) 363-7521

Re: Discharge Permit GW-01
Giant Bloomfield Refinery

Dear Mr. Schmaltz:

The groundwater discharge permit for the Giant Bloomfield Refinery GW-01 operated by San Juan Refining Company located in the NW/4 NE/4 and the S/2 NW/4 and the N/2 NE/4 SE/4 OF Section 27, and the S/2 NW/4 and the N/2 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. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 working days of receipt of this letter.**

The original discharge permit was approved on June 05, 1978 and subsequently renewed on June 07, 1984, November 02, 1989, February 04, 1992, May 24, 1994, April 19, 2000 with an expiration date of June 07, 2004. OCD approved a change of ownership on January 29, 1996 and approved a modification on November 19, 1996. The discharge permit renewal application dated May 27, 2004 and amended applications dated July 15, 2005 and August 12, 2005 submitted pursuant to Section 3106 of the New Mexico Water Quality Control Commission (WQCC) Regulations also includes all earlier applications and all conditions later placed on those approvals.

The discharge permit is renewed pursuant to Section 3109.C. Please note Section 3109.G., which provides for possible future amendment of the permit. Please be advised that approval of this permit does not relieve San Juan Refining Company of liability should operations result in pollution of surface or ground waters, or the environment.

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 non-hazardous to wildlife including migratory birds.

Mr. Randy Schmaltz

August 12, 2005

Page 2

Please note that Section 3104. of the regulations requires that "when a permit has been approved, discharges must be consistent with the terms and conditions of the permit." Pursuant to Section 3107.C., San Juan Refining Company is 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 3109.H.4., this approval is for a period of five years. **This approval will expire June 07, 2009** and an application for renewal should be submitted in ample time before that date. Pursuant to Section 3106.F. of the regulations, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. It should be noted that all discharge permit facilities will be required to submit permits for, or the results of, an underground drainage testing program as a requirement for discharge permit renewal.

The discharge permit application for the Giant Bloomfield Refinery is subject to the WQCC Regulation 3114. Every billable facility submitting a discharge permit will be assessed a fee equal to the filing fee of \$100 plus a flat fee of \$8400.00 for an oil refinery. The OCD has received the \$100.00 filing fee. The flat fee of \$8400.00 may be paid in a single payment due on the date of the discharge permit approval or in five equal installments over the expected duration of the discharge permit. Installment payments shall be remitted yearly, with the first installment due on the date of the discharge permit approval and subsequent installments due on this date of each calendar year.

**Please make all checks payable to: Water Quality Management Fund
C/o: Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505.**

If you have any questions, please contact Wayne Price of my staff at (505-476-3487) or E-mail WPRICE@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge review.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief
RCA/lwp
Attachments-1
xc: OCD Aztec Office

Mr. Randy Schmaltz
August 12, 2005
Page 3

ATTACHMENT TO THE DISCHARGE PERMIT GW-01 APPROVAL
Giant Bloomfield Refinery (GW-01)
DISCHARGE PERMIT APPROVAL CONDITIONS
August 12, 2005

1. Payment of Discharge Permit Fees: The \$100.00 filing fee has been received by OCD. The \$8400.00 flat fee shall be submitted upon receipt of this approval. The required flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the permit, with the first payment due upon receipt of this approval.
2. Commitments: San Juan Refining Company will abide by all commitments submitted in the discharge permit renewal application dated May 27, 2004 and the amended submittals dated July 15, and August 12, 2005 and these conditions for approval.
3. North and South Double-Lined Waste Water Evaporation Ponds: A minimum freeboard will be maintained in the ponds so that no over topping of wastewater occurs. Any repairs or modifications to the pond liners and/or leak detection systems must receive prior OCD approval. Leaks and releases shall be reported pursuant to Item 15. (Spill Reporting) of these conditions.

Special Note: Giant shall maintain an action plan to control and/or eliminate discharges from these evaporation ponds in order to protect public health and the Environment. Any time this plan is implemented Giant shall Notify OCD within 24 hours.

4. North and South Double-Lined Waste Oily Water Treatment Ponds: A minimum freeboard will be maintained in the ponds so that no over topping of wastewater occurs. Any repairs or modifications to the pond liners and/or leak detection systems must receive prior OCD approval. Leaks and releases shall be reported pursuant to Item 15. (Spill Reporting) of these conditions.
5. Leak Detection Monitor Wells: All leak detection monitor wells must be inspected for fluids monthly. Records will be maintained to include quantity of fluid measured, date of inspection, and name of inspector. Any fluids found must be reported to the NMOCD Santa Fe Environmental Bureau and the appropriate District office within 24 hours of discovery.

Mr. Randy Schmaltz

August 12, 2005

Page 4

6. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums should be stored on their sides with the bungs in place and lined up on a horizontal plan. Chemicals in other containers such as sacks or buckets must also be stored on an impermeable pad with curbing.
7. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
8. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new facilities or modifications to existing facilities must place the tank on an impermeable type pad within the berm.
9. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
10. Labeling: All tanks, drums, and other containers should be clearly numbered or labeled to identify their contents and other emergency information necessary if the tank were to rupture, spill, or ignite.
11. Below Grade Tanks/Sumps/Pits/Ponds: All below grade tanks, sumps, pits and ponds must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design, unless approved otherwise. All below grade tanks, sumps and pits must be tested annually or as specified below (see additional conditions), except systems that have secondary containment with leak detection. These systems with leak detection shall have a monthly inspection of the leak detection to determine if the primary containment is leaking. Groundwater infiltration or other fluids collected in secondary containment that are not contributed to primary leakage, will be monitor and only reported if significant change occurs. Results of tests and inspections shall be maintained at the facility covered by this discharge plan and available for NMOCD inspection. Any system found to be leaking shall be reported pursuant to Item # 15. Permit holders may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

Additional Conditions: Giant shall maintain a spreadsheet that contains all single lined underground tanks/sumps/pits. Each device or system shall have

an identification number, drawing reference, date installed, test dates, test method, pass/fail/repair information with signature, and investigation results if applicable. Giant shall test at a minimum 20% of the total below grade devices each year. Giant will complete and maintain this spreadsheet on site no later than August 1, 2006.

12. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be approved by the OCD prior to installation and must be tested to demonstrate their mechanical integrity every five (5) years. Results of such tests shall be maintained at the facility covered by this discharge plan and available for NMOCD inspection. Permit holders may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.

Additional Conditions: Giant shall maintain a spreadsheet that contains all underground process and wastewater lines. Each line shall have an identification number, drawing reference, date installed, test dates, test method, pass/fail/repair information with signature, and investigation results if applicable. Giant shall test at a minimum 20% of the underground process/wastewater pipelines each year. . Giant will complete and maintain this spreadsheet on site no later than August 1, 2006.

13. Class V Wells: No Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be approved for construction and/or operation unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD regulated facilities, which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.
14. Housekeeping: All systems designed for spill collection/prevention, and leak detection will be inspected at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices will be emptied of fluids within 48 hours of discovery. A record of inspection will be retained on site for a period of five years.
15. Spill Reporting: All spills/releases shall be reported pursuant to OCD Rule 116. and WQCC 1203. to the OCD Aztec District Office.

16. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge permit will be approved by OCD on a case-by-case basis.

Rule 712 Waste: Pursuant to Rule 712, disposal of certain non-domestic waste is allowed at solid waste facilities permitted by the New Mexico Environment Department as long as the waste stream is identified in the discharge permit, and existing process knowledge of the waste stream does not change without notification to the Oil Conservation Division.

17. OCD Inspections: Additional requirements may be placed on the facility based upon results from OCD inspections.
18. Storm Water: Stormwater runoff plans and controls shall be maintained. As a result of operations if any water contaminant that exceeds the WQCC standards listed in 20 NMAC 6.2.3101 is discharged in any stormwater run-off then immediate corrective actions shall be taken to stop the discharge. OCD shall be notified within 24 hours of discovery and the permit shall be modified within 15 days and submitted for OCD approval.
19. Vadose Zone and Water Pollution: The previously submitted investigation(s) and remediation plans were submitted pursuant to the discharge permit and all future discoveries of contamination will be addressed through the discharge permit.
1. Giant shall submit a comprehensive groundwater remediation and monitoring plan, including a San Juan River protection plan for OCD approval by November 01, 2005.
 2. An annual groundwater report will be submitted to the OCD by April 15, of each year. The annual report will contain the following information for all recovery and monitoring systems such as, but not limited to; all on and off-site recovery and monitoring wells, Hammond ditch French drain system, including all outfalls, the new barrier wall recovery and monitoring wells, the river terrace recovery, remediation and monitoring wells and any other wells deemed to be monitored by OCD.

A. A description of the monitoring and remediation activities,

which occurred during the year including conclusions and recommendations.

- B. Summary tables listing laboratory analytic results, of all water quality sampling for each monitoring point and plots of concentration vs. time for contaminants of concern from each monitoring point. Any WQCC constituent found to exceed the groundwater standard shall be highlighted and noted in the annual report. Copies of the most recent years laboratory analytical data sheets will also be submitted.
 - C. An annual water table potentiometric elevation map using the water table elevation of the ground water in all refinery monitor wells. A corrected water table elevation shall be determined for all wells containing phase-separated hydrocarbons. This map shall show well locations, pertinent site features, and the direction and magnitude of the hydraulic gradient.
 - D. Plots of water table elevation vs. time for each ground water monitoring point.
 - E. An annual product thickness map based on the thickness of free phase product on ground water in all refinery recovery wells. This map shall include isopleth lines for products and contaminants of concern.
 - F. Estimate or measure the volume of product recovered in the recovery wells during each quarter and the total recovered to date.
- 3. Giant shall notify the OCD Santa Fe and local district office at least 2 weeks in advance of all scheduled activities such that the OCD has the opportunity to witness the events and split samples. For large facilities, i.e. refineries, an annual notification will suffice.
 - 4. Giant shall notify the NMOCD within 15 days of the discovery of separated-phase hydrocarbons or the exceedance of a WQCC standard in any monitor well where separate-phase hydrocarbons were not present or where contaminant concentrations did not exceed WQCC standards during the preceding monitoring event.

20. Annual Report: On an annual basis due April 15, Giant will submit a formal report to the OCD on the past year's activities. The report will include the following at a minimum:
1. A summary of all major refinery activities or events.
 2. As required in item 19.2. above.
 3. Summary of all waste and wastewater disposed of, sold, or treated on-site, including an updated refinery wastewater flow sheet.
 4. Summary of the sump and underground wastewater lines tested.
 5. Summary of all leaks, spills and releases and corrective actions taken.
 6. Summary of discovery of new groundwater contamination. This should include recommendations for investigation and remediation.
 7. Summary of all EPA/NMED RCRA activity.
 8. Electronic filing: OCD would like to encourage Giant to file this report in an acceptable electronic format.
21. Active Landfill: San Juan Refining Company shall submit by December 01, 2005 for OCD approval an operating and closure plan for the active landfill located east of the main refinery complex.
22. In-Active Landfill: A closure plan for the in-active landfill located near monitor well #8 shall be submitted by December 01, 2005. The plan shall demonstrate how San Juan Refining Company permits to close the landfill in order that public health or the environment will not be adversely impacted in the foreseeable future.
23. Transfer of Discharge Permit: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge permit. A written commitment to comply with the terms and conditions of the previously approved discharge permit must be submitted by the purchaser and approved by the OCD prior to transfer.
24. Closure: The OCD will be notified when operations of the facility are discontinued for a period in excess of six months. Prior to closure of the facility a closure permit will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

Mr. Randy Schmaltz
August 12, 2005
Page 9

25. Certification: **Giant Refining Company** by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. **Giant Refining Company** further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Conditions accepted by:

Giant Refining Company

Chad King
Company Representative-print name

Chad King Date 8/18/05
Company Representative Sign

Title Refinery Mgr

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

RECEIVED

2009 JUL 20 PM 1 07

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised June 10, 2003

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

**DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS,
REFINERIES, COMPRESSOR, GEOTHERMAL FACILITIES
AND CRUDE OIL PUMP STATIONS**

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

☐ New ☒ Renewal ☐ Modification

1. Type: Refinery
2. Operator: Western Refining Southwest, Inc. - Bloomfield Refinery
Address: #50 Road 4990
Contact Person: Randy Schmalz Phone: 505-632-4171
3. Location: _____ /4 _____ /4 Section 26 Township 29 North Range 11 West
Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site. (same as last application)
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
(same as last application)
6. Attach a description of all materials stored or used at the facility.
(same as last application)
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included. (same as last application)
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
(same as last application)
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
(same as last application)
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
(same as last application)
11. Attach a contingency plan for reporting and clean-up of spills or releases.
(same as last application)
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
(same as last application)
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders. (same as last application)

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

Name: JAMES R. SCHMALZ

Title: ENVIRONMENTAL MGR

Signature: James R. Schmalz

Date: 2/23/09

E-mail Address: randy.schmalz@WNR.com

**OCD DISCHARGE PLAN
APPLICATION FOR MODIFICATION
JULY 2007**

Permit No. GW-01



**San Juan Refining Company
Giant - Bloomfield Refinery
#50 Road 4990
Bloomfield, New Mexico 87413**

Table of Contents

Section	Title
1.0	Type of Operation
2.0	Name of Operator or Legally Responsible Party & Local Representative
3.0	Location of the Discharge Plan Facility
4.0	Landowners
5.0	Facility Description
6.0	Materials Stored or Used at the Facility
7.0	Sources and Quantities of Effluent & Waste Solids Generated at the Facility
8.0	Description of Current Liquid & Solid Waste Collection/Storage/Disposal Procedures
9.0	Proposed Modifications
10.0	Inspection, Maintenance & Reporting (Inspection Schedule Spreadsheet)
11.0	Spill/Leak Prevention & Reporting Procedures (Contingency Plans)
12.0	Site Characteristics
13.0	Compliance Information

Appendix A	Plant Site Drawing
Appendix B	Table of Materials Used or Stored at the Facility
Appendix C	Process Unit Schematic Diagrams
Appendix D	Proposed Long-term Groundwater Monitoring Plan
Appendix E	Assessment, Remediation and Contingency Plan

Discharge Plan Renewal Application

Section 5.0

July 2007

Section 5.0 Facility Description

The Bloomfield Refinery receives and processes up to 18,000 barrels per day of crude oil and produces propane, butane, gasoline, kerosene, fuel oil, and residual fuel.

The refinery is located in northwestern New Mexico, approximately 1 mile south of the City of Bloomfield in San Juan County. It is further located approximately 1/2 mile east of State Route 44 on County Road 4990 (a.k.a. Sullivan Road).

The refinery is situated on an elevated terrace south of the San Juan River and the Hammond Irrigation Ditch. This terrace is approximately 100 feet above the river level and 20 feet above the irrigation ditch. The northern refinery fence line adjoins the irrigation ditch and the distance from the refinery to the river's edge varies from approximately 300 to 1,000 feet.

The main part of the refinery is located on a 45 acre site north of County Road 4990 and includes the following general areas:

- Office Area (buildings, warehouse, storage yard)
- Parking Lots & Heavy Oil Loading Station
- Process Area (refinery operations equipment)
- Wastewater Treatment Unit (WWTU)
- Tank Farm Area
- Used Equipment Laydown Area
- Firefighting Training Area
- Solid Waste Disposal Area

A refinery terminal facility, regional business office, transportation maintenance facility, and the refinery evaporation ponds are located on a 25 acre site south of County Road 4990 and includes the following general areas:

- Terminal Office & parking areas
- Crude Oil Unloading Station & Storage Tank Area
- Product Loading Station & Storage Tank Area
- High Pressure Storage Bullets Area
- Regional Office & parking area
- Transportation Maintenance Facility and truck parking areas
- Refinery Wastewater Evaporation Ponds
- Class I Injection Well (GW 130)

Crude supplies arrive by pipeline or tank trucks. The refinery incorporates various processing units that convert crude into finished products. These units are briefly described as follows:

- The crude unit separates crude oil into various fractions; including gas, naphtha, diesel, kerosene, and reduced crude.
- The reforming unit combines low octane naphtha molecules to form high octane naphtha.

Discharge Plan Renewal Application

Section 5.0

July 2007

- The fluidized catalytic cracking unit breaks up long-chain hydrocarbon molecules into smaller molecules, and essentially converts heavier oils into naphtha and lighter oils.
- The Ammonia Absorption Refrigeration Unit chills down hydrogen in order to recover LPG.
- The sulfur recovery unit cleans up fuel gas by converting hydrogen sulfide gas into elemental sulfur and produces a solid elemental sulfur byproduct.
- The poly unit polymerizes olefinic LPG and produces gasoline blendstock.
- The treater unit removes sulfur from LPG.
- The DHT (diesel hydrotreating) unit removes sulfur from diesel and light oils.
- The tank farm is a system of storage tanks used throughout the refinery to hold and store crude oil, intermediate feedstocks, finished products, chemicals, and water. These tanks are located above ground and range in size from 110,000 barrels to less than 1,000 barrels.

In addition to the above-mentioned processing units, various other equipment and systems support the operation of the refinery and are briefly described as follows.

Pumps, valves, and piping systems are used throughout the refinery to transfer various liquids among tankage and processing units.

Several tank truck loading racks are used at the terminals to load out finished products and receive crude oil, other feedstocks, additives, and chemicals.

A firefighting training facility is used to conduct employee firefighting training.

Process Wastewater Treatment System

The process wastewater system is a network of curbing, paving, catch basins, and underground piping that collects rainwater and other effluent from various processing areas within the refinery and then conveys this wastewater to the API separator. In general, process wastewater is effluent that may reasonably be expected to come in contact with hydrocarbons.

The API separator is a large concrete containment structure that uses gravity and residence time to separate wastewater into three components; a sludge layer that sinks to the bottom, a scum layer that floats to the top, and a clarified effluent in the middle. The clarified effluent then flows on through a series of three lined aeration lagoons.

Each lagoon is equipped with two aerators which effectively strip dissolved gasses and light hydrocarbons from the wastewater. Effluent from the aeration lagoons flows to the evaporation ponds.

Discharge Plan Renewal Application

Section 5.0

July 2007

5. Location of discharges

Treated process and non-process wastewater is evaporated at the evaporation ponds or injected underground at the Class I injection well.

Storm water that is not contained on-site is released off-site at two outfall locations on the boundary of refinery property. Location of the outfalls and retention areas are shown on the plant site drawing in Appendix A. Storm water analysis is kept on site in the Storm Water Pollution Prevention Plan.

Sanitary sewage is treated and released at four septic fields located within the Giant property line.

The locations of the evaporation ponds, storm water outfalls, and septic fields are shown on the plant site drawing in Appendix A.

6. Location of storage facilities

The refinery uses warehouses, outdoor yards, and curbed pads for storage of various materials and equipment within the refinery. The locations of these storage facilities are shown on the plant site drawing in Appendix A.

7. Location of disposal facilities

The refinery uses an onsite landfill to dispose of sulfur, FCC fines, and FCC spent catalyst. The Sulfur Recovery Unit (SRU) generates approximately 300 tons of solid sulfur per year. The Fluidized Catalytic Cracking (FCC) unit produces 200 tons of spent catalyst per year. These materials are deposited in the landfill and covered with soil. The location of the solid waste disposal area is shown on the plant site drawing in Appendix A.

8. Location of processing facilities

The refinery uses various processing units and support systems as described above. The locations of these facilities are shown on the plant site drawing in Appendix A.

Discharge Plan Renewal Application

Section 7.0

July 2007

Giant Refining Company - Bloomfield utilizes 15 active recovery wells and the Hammond Ditch French Drain Recovery System to pump and treat hydrocarbon impacted groundwater. Giant also pumps out 14 collection wells located on the north side of Hammond Ditch. The groundwater recovered with these systems is transferred to the API Separator for treatment.

This discharge typically ranges from 9,000 to 11,000 gallons per day.

Diesel/Kerosene Salt Dryers

Three salt wash vessels are used to remove impurities from diesel and kerosene product streams. Occasionally, the salt must be replaced and, at that time, the vessels are drained. Wastewater containing dissolved solids and trace hydrocarbons are discharged to the process sewer.

This discharge typically ranges from 800 to 1,000 gallons per event when replacing salt. This event occurs 2 – 3 times per year.

Sources of solid waste include the following. Most of these waste are generated intermittently and then removed, collected, containerized, and stored until shipped off-site for recycling or disposal.

Fluid Catalytic Cracking Unit (FCCU) Catalyst

A metallic (alumina) catalyst is used within the FCCU to convert hydrocarbon molecules. The material is a dry, metallic solid and is non hazardous. This catalyst is periodically replaced and the spent catalyst and fines are deposited in the on-site landfill and covered with soil.

Approximately 200 to 300 tons of spent FCCU catalyst is generated every year.

Naphtha Hydrotreating Unit (NHT) and Sulfur Guard Catalyst

There are two reactors that contain metallic catalyst in this unit. One reactor is used to convert hydrocarbon molecules and the other is used to adsorb sulfur molecules. The catalysts are periodically replaced and the spent catalyst is recycled by an off-site metal recovery service. This material is a dry, metallic solid and is shipped as a K-171 hazardous waste and as a self-heating solid.

Dump and screen procedures occur about every two years. Approximately 2 – 3 tons of spent catalyst is generated every two years.

Discharge Plan Renewal Application

Section 7.0

July 2007

Reforming Unit Catalyst

A metallic (platinum) catalyst is used in the reforming unit to convert hydrocarbon molecules. This catalyst is periodically replaced and the spent catalyst is recycled by an off-site metal recovery service. This material is a dry, metallic solid and is shipped with a hazardous waste code of K-171 and as a self-heating solid.

Catalyst is changed out every ten years. However, some dump and screen procedures occur periodically. Reformer catalyst is generated on an average of 0.3 tons per year.

Polymerization Unit

A phosphoric acid catalyst is used to convert LPG olefins into an intermediate gasoline feedstock. This catalyst is periodically replaced and disposed of at an off-site landfill. The spent catalyst is a dry solid and is non hazardous.

Approximately 40 to 60 tons of polymerization catalyst is generated every year.

Diesel Hydrotreating Unit (DHT) Catalyst

Metallic catalyst is used in this unit to convert hydrocarbon molecules. This catalyst is a dry, metallic solid and will be shipped off as a K-171 hazardous waste. It will either be regenerated or recycled for metals.

Approximately 16 tons of DHT spent catalyst will be generated every year.

Sulfur Byproduct

20 An elemental sulfur byproduct is regularly generated at the SRU. This solid non hazardous residue is disposed of in the on-site landfill and covered with soil.

Approximately 300 to 400 tons of sulfur byproduct is generated each year.

Heat Exchanger Bundle Cleaning Sludge

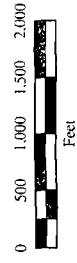
Heat exchanger bundles are occasionally cleaned in order to restore heat transfer performance. This cleaning is conducted on a concrete curbed pad that incorporates a wastewater accumulation sump. Sediment and sludge collects in the bottom of the sump and the wastewater is removed and discharged into the process sewer.

The sludge (K-051) is removed from the sump, contained in 55 gallon drums, and disposed of at an off-site hazardous waste disposal facility. The quantity of this waste ranges from 0 to 3 tons per year



Legend

- Injection Well
- ↗ Discharge Location
- ↘ Site



**MAICOM
PIRNE**

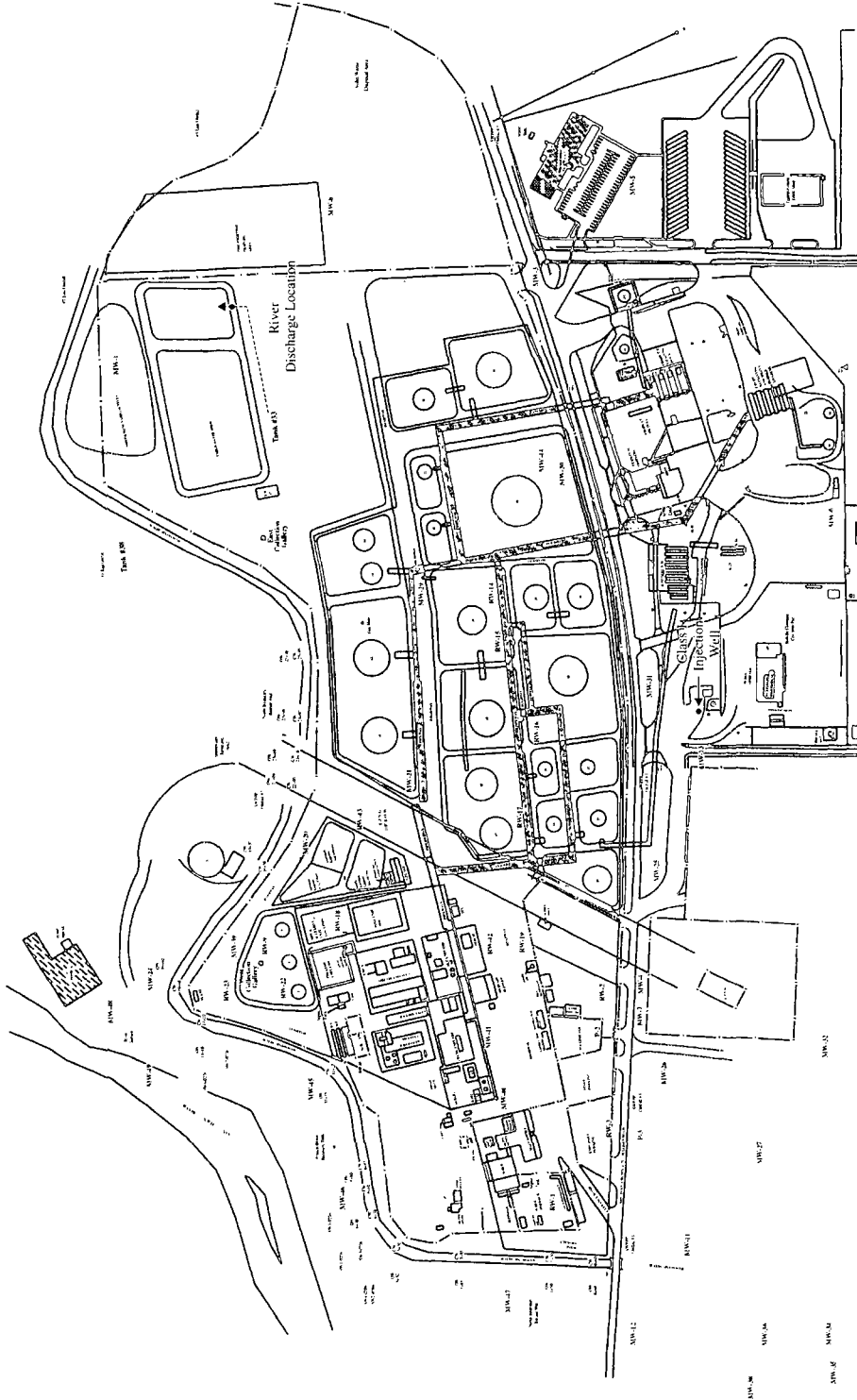
4646 E. Van Buren St.,
Suite 400
Phoenix, AZ 85008

Site Plan

Bloomfield Refinery
Facility-Wide Groundwater
Monitoring Plan

July 2007

Figure 2



Appendix A
Volatile Organic Analytical Result Summary - Refinery Complex
Facility-Wide Groundwater Monitoring Plan
Bloomfield Refinery - Bloomfield, New Mexico

		Parameters				
		Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103 (mg/L):		0.01	0.75	0.75	0.62	NE
Well ID:	Date Sampled:					
MW #1	4/1/2007	<0.001	<0.001	<0.001	<0.002	<0.0025
	8/15/2006	<0.001	<0.001	<0.001	<0.003	<0.0015
	4/5/2006	<0.001	<0.001	<0.001	<0.003	<0.0025
	8/5/2005	0.0011	<0.001	<0.001	<0.001	<0.001
	4/11/2005	0.0013	<0.0005	<0.0005	0.0011	<0.0025
	8/23/2004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0025
	3/3/2004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0025
	8/21/2003	<0.001	<0.001	<0.001	<0.001	<0.001
	3/3/2003	<0.0005	0.00063	0.00065	0.0043	<0.0025
MW #3	4/5/2006	<0.001	<0.001	<0.001	<0.003	<0.0025
	8/5/2005	<0.001	<0.001	<0.001	<0.001	<0.001
	4/11/2005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0025
	8/21/2003	<0.001	<0.001	<0.001	<0.001	<0.001
MW #4	4/1/2007	1.2	<0.010	0.068	0.7	<0.025
MW #7	4/1/2007	0.0015	<0.001	<0.001	<0.002	<0.0025
	4/5/2006	<0.001	<0.001	<0.001	<0.003	<0.0025
	4/11/2005	<0.0005	<0.0005	<0.0005	0.00067	<0.0025
	8/23/2004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0025
MW #8	4/1/2007	<0.001	<0.001	<0.001	<0.002	<0.0025
	8/15/2006	<0.001	<0.001	<0.001	<0.003	<0.0015
	4/5/2006	<0.001	<0.001	<0.001	<0.003	<0.0025
	8/5/2005	<0.001	<0.001	<0.001	<0.001	<0.001
	4/11/2005	0.00053	<0.0005	<0.0005	0.0008	<0.0025
	8/23/2004	<0.0005	<0.0005	<0.0005	<0.0005	<0.0025
	8/21/2003	<0.001	<0.001	<0.001	<0.001	<0.001
MW #11	4/1/2007	3.9	<0.010	0.038	0.16	<0.0025
	8/15/2006	0.24	<0.001	0.012	0.045	0.033
	4/5/2006	3.2	<0.005	<0.005	0.23	<0.120
	8/5/2005	4.2	<0.05	0.11	0.5	<0.05
	4/11/2005	0.4	<0.02	<0.02	0.28	<0.1
	8/23/2004	1.7	<0.02	0.064	0.015	<0.1
	8/21/2003	2.7	<0.010	0.17	0.65	0.079

Appendix A
Dissolved Metals Analytical Result Summary - Refinery Complex
Facility-Wide Groundwater Monitoring Plan
Bloomfield Refinery- Bloomfield, New Mexico

		Parameters															
		Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Potassium (mg/L)	Selenium (mg/L)	Silver (mg/L)	Sodium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103 (mg/L):		0.10	1.0	0.01	NE	0.05	1.0	1.0	0.05	NE	0.20	NE	0.05	0.05	NE	0.03 (i)	10.0
Well ID:	Date Sampled:																
MW #1	8/15/2006	<0.02	0.023	<0.002	74	<0.006	<0.006	<0.02	<0.005	18	0.09	2.4	<0.05	<0.005	120	<0.1	0.047
	8/5/2005	<0.02	0.022	<0.002	68	<0.006	<0.006	0.14	<0.005	18	0.14	2.7	<0.05	<0.005	140	<0.1	<0.005
	8/23/2004	<0.02	0.025	<0.002	67	<0.006	<0.006	0.27	<0.005	18	0.13	2.1	<0.05	<0.005	110	<0.1	0.021
	8/15/2006	<0.02	0.46	<0.002	61	<0.006	<0.006	<0.005	<0.005	16	0.08	2.6	0.043	<0.005	150	<0.1	0.12
MW #3	8/5/2005	<0.02	0.018	<0.002	480	<0.006	<0.006	0.047	<0.005	130	0.43	7.6	<0.05	<0.005	1300	<0.1	0.018
	8/21/2003	<0.02	0.3	<0.002	490	<0.006	<0.006	0.27	<0.005	140	0.58	10	0.024	<0.005	1100	<0.1	0.094
MW #7	8/23/2004	<0.02	0.0097	<0.002	300	<0.006	<0.006	0.081	<0.005	31	0.28	8.1	<0.05	<0.005	1100	<0.1	0.0096
MW #8	8/15/2006	<0.02	0.018	<0.002	230	<0.006	<0.006	0.033	<0.005	35	0.42	3.2	<0.05	<0.005	380	<0.1	0.044
	8/5/2005	<0.02	0.021	<0.002	230	<0.006	<0.006	0.078	<0.005	37	0.65	3.1	<0.05	<0.005	360	<0.1	0.014
	8/23/2004	<0.02	0.021	<0.002	210	<0.006	<0.006	0.059	<0.005	35	0.57	3	<0.05	<0.005	360	<0.1	0.022
	8/21/2003	<0.02	0.36	<0.002	200	<0.006	<0.006	0.044	<0.005	38	0.68	4	0.09	<0.005	350	<0.1	0.13
MW #11	8/15/2006	<0.02	0.69	<0.002	100	<0.006	<0.006	9.3	<0.005	22	1.8	1.4	<0.05	<0.005	390	<0.1	0.051
	8/5/2005	<0.02	0.73	<0.002	96	<0.006	<0.006	7.6	<0.005	22	1.6	1.7	<0.05	<0.005	380	<0.1	0.014
	8/23/2004	<0.02	0.47	<0.002	100	<0.006	0.021	6.9	0.022	23	1.7	1.5	<0.05	<0.005	390	<0.1	63
	8/21/2003	<0.02	1.2	<0.002	120	<0.006	<0.006	7.6	<0.005	25	2	2.3	0.15	<0.005	420	<0.1	0.18
MW #12	8/15/2006	<0.02	0.04	<0.002	73	0.0078	<0.006	0.069	<0.005	14	0.3	1.1	<0.05	<0.005	100	<0.1	0.036
	8/5/2005	<0.02	0.07	<0.002	370	0.022	<0.006	0.55	<0.005	97	0.64	2.8	<0.05	<0.005	560	<0.1	0.022
	8/23/2004	<0.02	0.06	<0.002	130	<0.006	<0.006	0.044	<0.005	NA	0.55	1.5	<0.05	<0.005	320	<0.1	0.035
	8/21/2003	<0.02	0.12	<0.002	420	0.0066	<0.006	0.024	<0.005	130	1.8	4.3	0.084	<0.005	960	<0.1	0.088
MW #13	8/15/2006	<0.02	0.025	<0.002	250	<0.006	0.0063	<0.02	0.0078	82	1.1	3.6	<0.05	<0.005	620	<0.10	0.061
	8/5/2005	<0.02	0.028	<0.002	240	<0.006	<0.006	<0.02	<0.005	85	1.1	3.8	<0.05	<0.005	570	<0.1	0.0088
	8/23/2004	<0.02	0.022	<0.002	210	<0.006	<0.006	0.046	<0.005	80	0.58	3.6	<0.05	<0.005	610	<0.1	0.021
	8/21/2003	<0.02	0.33	<0.002	270	<0.006	0.0096	0.04	<0.005	110	1.1	5.3	0.16	<0.005	680	<0.1	0.09

Appendix A
General Chemistry Analytical Result Summary - Refinery Complex
Facility-Wide Groundwater Monitoring Plan
Bloomfield Refinery - Bloomfield, New Mexico

		Parameters											
		Fluoride (mg/L)	Chloride (mg/L)	Bromide (mg/L)	Nitrite (mg/L)	Nitrogen (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	TDS (mg/L)	E.C. (umhos/cm)	CO ₂ (mg/L)	Alk (mg/L)	
WQCC 20NNMAC 6.2.3103 (mg/L):		1.6	250	NE	NE	10	NE	600	1000	NE	NE	NE	
Well ID:	Date Sampled:												
MW #1	8/15/2006	0.65	17	<0.50	1.2	NA	<0.50	190	640	940	240	270	
	8/5/2005	0.68	31	<0.50	<0.10	2.1	<0.50	190	650	980	300	300	
	8/23/2004	0.63	29	0.14	<0.10	1.9	<0.50	220	650	870	220	240	
	8/15/2006	0.58	33	0.32	<0.10	1.6	<0.50	200	610	820	240	262	
MW #3	8/5/2005	0.33	1200	4.5	<0.50	42	<0.50	2300	6200	8300	680	680	
	8/21/2003	0.17	1400	22	NA	41	<0.50	1900	5700	8500	NA	NA	
MW #7	8/23/2004	0.75	25	0.14	<0.10	<0.10	<0.50	5100	7400	7800	98	110	
MW #8	8/15/2006	0.67	300	1.5	26	NA	<0.50	980	2200	3200	200	210	
	8/5/2005	0.79	260	<2.5	<0.50	27	<0.50	740	2000	2900	260	260	
	8/23/2004	0.64	250	1.2	NA	NA	<0.50	920	2100	2600	210	230	
	8/21/2003	0.66	260	5	<0.10	14	<0.50	950	2100	2900	220	208	
MW #11	8/15/2006	0.1	82	1	<1.0	<0.10	<0.50	19	1400	2200	1100	1100	
	8/5/2005	0.56	85	1.4	<0.10	<0.10	<0.50	20	1500	2200	1100	1100	
	8/23/2004	0.41	97	0.97	NA	NA	<0.50	13	1500	2100	330	390	
	8/21/2003	0.44	150	5.3	<0.10	<0.10	<0.50	4.2	1100	2500	1300	1120	
MW #12	8/15/2006	0.36	19	<0.50	<0.10	<0.10	<0.50	140	560	890	260	290	
	8/5/2005	0.43	100	0.75	<0.10	<0.10	<0.50	2400	4000	4600	310	310	
	8/23/2004	0.52	130	0.78	NA	NA	NA	680	1600	1900	970	1100	
	8/21/2003	0.32	130	3.7	<0.10	<0.10	<0.50	3100	5500	6600	310	319	
MW #13	8/15/2006	0.12	310	3.7	8.3	NA	<0.50	1100	3000	4300	910	960	
	8/5/2005	0.15	320	4.6	0.23	6.1	<0.50	1000	3000	4600	1000	1000	
	8/23/2004	0.2	330	4.3	1.6	6.6	<0.50	950	2800	3400	860	950	
	8/21/2003	0.19	510	13	<0.10	12	<0.50	840	3100	5000	1000	917	
MW #21	8/23/2004	0.18	420	3.4	<0.10	<0.10	<0.50	1400	3400	4000	600	670	
MW #26	8/15/2006	0.36	410	5.2	<0.50	NA	<0.50	0.68	1700	2900	990	960	
	8/5/2005	0.42	290	4.5	<0.50	<0.10	<0.50	<0.50	1600	2700	1000	1000	
	8/23/2004	0.29	230	4.2	<0.10	<0.10	<0.50	<0.50	1600	2200	910	1000	
	8/21/2003	0.39	160	2.9	<0.10	<0.10	<0.50	1.00	1400	1900	1300	1090	

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, February 22, 2008 3:47 PM
To: 'Randy Schmaltz'
Cc: Price, Wayne, EMNRD; Monzeglio, Hope, NMENV; Cobrain, Dave, NMENV; Frischkorn, Cheryl, NMENV
Subject: OCD Discharge Plan Application for Modification (July 2007) (GW-1)

Mr. Schmaltz:

Good afternoon. The New Mexico Oil Conservation Division (OCD) has reviewed Western Refining Southwest, Inc.'s (WRSW) letter (letter) dated January 29, 2008 regarding the above subject associated with EPA ID# NMD089416416 (HWB-GRCB-07-003). WRSW's letter indicates that it is their intent for the Facility-Wide Groundwater Monitoring Plan (FWGWMP) to be accepted by both the New Mexico Environment Department (NMED) and OCD as the prevailing document for comprehensive groundwater monitoring at the Bloomfield Refinery. The OCD regards WRSW's letter with attachments dated January 29, 2008 to the NMED as the updated version of Appendix D from the report in the paragraph below.

Previously, WRSW submitted a letter dated July 30, 2007 with a report (Report) entitled, "OCD Discharge Plan Application For Modification" (July 2007) to the OCD. The report was developed to address OCD Administrative Compliance Order (ACO) and Stipulated Final Order (SFO) No. NM-OCD 2006-100, and an EPA Administrative Order on Consent (Docket No. VI-303-H). Section 9 of the report contained proposed modifications to resolve contamination issues associated with the refinery. A FWGWMP was developed in Appendix D of the report along with Section 10 (Inspection, Maintenance & Reporting) to address state and federal requirements.

OCD comments and/or recommendations on the report and letter aforementioned are as follows:

- 1) The OCD will continue to work with the NMED and WRSW to complete a FWGWMP before the discharge permit renewal date in order to include it as part of the discharge permit renewal with the understanding that the OCD may modify the monitoring requirements as specified under its WQCC discharge plan or permit at any time based on inspections or additional inspection requirements. A finalized version of the FWGWMP in the form of a table (electronic file requested) will assist the OCD with the incorporation of the FWGWMP into the OCD discharge permit. According to OCD records, the existing discharge permit is set to expire on June 7, 2009.
- 2) The OCD notices the on-site landfill disposal provisions for Fluid Catalytic Cracking Unit (FCCU) Catalyst and Sulfur Byproducts. The OCD is aware of Discharge Permit Items #21 (Active Landfill) and 22 (In-Active Landfill), and the closure plans requested under the permit by December 1, 2005. The OCD is concerned about the proximity of the landfills to the San Juan River; the RCRA ramifications (SWMU vs. AOC) of the landfills; and will likely seek to phase out the existing active landfill at the facility during the discharge permit renewal application process. The permit is set to expire on June 7, 2009. Please prepare to discuss and plan accordingly for above.
- 3) The Report references "GW-130" for the facility Underground Injection Control (UIC) Class I Non-Hazardous Injection Well; however, the well is now permitted under OCD records as "UICL-9." Please refer to the UIC Class I Well permit as "UICL-9" from now on.
- 4) Section 10 requirements are to be completed one time within the next 5 years (OCD extended to 3/1/2013) and are as follows:
 - a) An electronic version of the spreadsheet is requested to assist OCD with tracking the inspections, maintenance and reporting (IMR).
 - b) Columns for "Inspection, Maintenance, and Repair" shall be added to the spreadsheet to track one and/or multiple items performed at the same unit at the same time. A field with "date", "ok" or "problem" (also denoted w/ an asterisk to explain at the bottom of the spreadsheet what action was conducted to correct the problem) shall be added to the spreadsheet to report the results of the IMR to the OCD. The OCD recommends that WRSW provides separate spreadsheets for different locations or units (i.e., sumps, tanks, API, etc.) for

2/22/2008

simplified review of compliance with dates, etc. of the SFO. The operator shall provide an annual report in a format that satisfies the above with the Annual Ground Water Monitoring Report.

c) A storage tank numbering system shall be implemented at the facility with tank number references in the spreadsheet to show the exact tank of concern. A numbering system for other units is recommended.

d) Pits/Ponds shall be added to the spreadsheet.

e) The dates need to be revised up through March 1, 2013 for all locations or units to undergo testing.

Only large tanks are exempted (see paragraph below) and WRSW needs to denote tanks that are exempted in the spreadsheet with the new date for the inspection.

The "OCD Tank Inspection" spreadsheet indicates a 10 year inspection frequency; however, the SFO indicates that all locations or units are required on a one time basis to be tested within 5 years of the SFO date (3/1/2006) or by March 1, 2011. Exempted from this one time testing requirement are large tanks that have been tested within the past five years or are due to be tested within the next five years under other regulatory agency rules, regulations or guidelines, or under any other standards accepted by regulatory agencies, such as API Code 653, provided that the tanks shall be identified in the spreadsheet and test dates and results provided to the OCD. WRSW may request a time extension for accomplishing requirement or recommendations, which the OCD, in its sole discretion, may grant for good cause shown by WRSW. The OCD extends the end of the one time five year date to March 1, 2013 for good cause.

In conclusion, the OCD concludes that WRSW has complied with SFO Section I.V. Compromise and Settlement (Section 18(a)(c)). WRSW shall address Item #4 above satisfy Section 18(b) of the SFO. Regarding Section 18 (c), the OCD has opted to address the modification in the discharge permit renewal process for good cause as stated in Item #1 above.

Please contact me if you have questions. Thank you.

Note: Please be advised that NMOCD approval of this plan does not relieve Western Refining Southwest, Inc., Bloomfield Refinery of responsibility should their operations pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve Western Refining Southwest, Inc., Bloomfield Refinery of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/oed/index.htm>
(Pollution Prevention Guidance is under "Publications")

Table of Contents

Section	Title
1.0	Type of Operation
2.0	Name of Operator or Legally Responsible Party & Local Representative
3.0	Location of the Discharge Plan Facility
4.0	Landowners
5.0	Facility Description
6.0	Materials Stored or Used at the Facility
7.0	Sources and Quantities of Effluent & Waste Solids Generated at the Facility
8.0	Description of Current Liquid & Solid Waste Collection/Storage/Disposal Procedures
9.0	Inspection, Maintenance & Reporting (Inspection Schedule Spreadsheet)
10.0	Spill/Leak Prevention & Reporting Procedures (Contingency Plans)
11.0	Site Characteristics
12.0	Compliance Information
Appendix A	Plant Site Drawing
Appendix B	Table of Materials Used or Stored at the Facility
Appendix C	Process Unit Schematic Diagrams
Appendix D	Proposed Long-term Groundwater Monitoring Plan
Appendix E	Assessment, Remediation and Contingency Plan

Discharge Plan Renewal Application

Section 5.0

February 2009

Section 5.0 Facility Description

The Bloomfield Refinery receives and processes up to 18,000 barrels per day of crude oil and produces propane, butane, gasoline, kerosene, fuel oil, and residual fuel.

The refinery is located in northwestern New Mexico, approximately 1 mile south of the City of Bloomfield in San Juan County. It is further located approximately 1/2 mile east of State Route 44 on County Road 4990 (a.k.a. Sullivan Road).

The refinery is situated on an elevated terrace south of the San Juan River and the Hammond Irrigation Ditch. This terrace is approximately 100 feet above the river level and 20 feet above the irrigation ditch. The northern refinery fence line adjoins the irrigation ditch and the distance from the refinery to the river's edge varies from approximately 300 to 1,000 feet.

The main part of the refinery is located on a 45 acre site north of County Road 4990 and includes the following general areas:

- Office Area (buildings, warehouse, storage yard)
- Parking Lots & Heavy Oil Loading Station
- Process Area (refinery operations equipment)
- Wastewater Treatment Unit (WWTU)
- Tank Farm Area
- Used Equipment Laydown Area
- Firefighting Training Area
- Solid Waste Disposal Area

A refinery terminal facility, regional business office, transportation maintenance facility, and the refinery evaporation ponds are located on a 25 acre site south of County Road 4990 and includes the following general areas:

- Terminal Office & parking areas
- Crude Oil Unloading Station & Storage Tank Area
- Product Loading Station & Storage Tank Area
- High Pressure Storage Bullets Area
- Regional Office & parking area
- Transportation Maintenance Facility and truck parking areas
- Refinery Wastewater Evaporation Ponds
- Class I Injection Well (UICL-9)

Crude supplies arrive by pipeline or tank trucks. The refinery incorporates various processing units that convert crude into finished products. These units are briefly described as follows:

- The crude unit separates crude oil into various fractions; including gas, naphtha, diesel, kerosene, and reduced crude.
- The reforming unit combines low octane naphtha molecules to form high octane naphtha.

Discharge Plan Renewal Application

Section 5.0

February 2009

- The fluidized catalytic cracking unit breaks up long-chain hydrocarbon molecules into smaller molecules, and essentially converts heavier oils into naphtha and lighter oils.
- The Ammonia Absorption Refrigeration Unit chills down hydrogen in order to recover LPG.
- The sulfur recovery unit cleans up fuel gas by converting hydrogen sulfide gas into elemental sulfur and produces a solid elemental sulfur byproduct.
- The poly unit polymerizes olefinic LPG and produces gasoline blendstock.
- The treater unit removes sulfur from LPG.
- The DHT (diesel hydrotreating) unit removes sulfur from diesel and light oils.
- The Benzene Stripper unit removes benzene from process wastewater before the wastewater enters the aeration lagoons.
- The tank farm is a system of storage tanks used throughout the refinery to hold and store crude oil, intermediate feedstocks, finished products, chemicals, and water. These tanks are located above ground and range in size from 110,000 barrels to less than 1,000 barrels.

In addition to the above-mentioned processing units, various other equipment and systems support the operation of the refinery and are briefly described as follows.

Pumps, valves, and piping systems are used throughout the refinery to transfer various liquids among tankage and processing units.

Several tank truck loading racks are used at the terminals to load out finished products and receive crude oil, other feedstocks, additives, and chemicals.

A firefighting training facility is used to conduct employee firefighting training.

Process Wastewater Treatment System

The process wastewater system is a network of curbing, paving, catch basins, and underground piping that collects rainwater and other effluent from various processing areas within the refinery and then conveys this wastewater to the API separator. In general, process wastewater is effluent that may reasonably be expected to come in contact with hydrocarbons.

The API separator is a large concrete containment structure that uses gravity and residence time to separate wastewater into three components; a sludge layer that sinks to the bottom, a scum layer that floats to the top, and a clarified effluent in the middle. The clarified effluent then flows through the Benzene Strippers. At the stripper columns, ambient air blows upwards through a falling cascade of clarified wastewater and, as a result, dissolved gases and light hydrocarbons including benzene are disengaged and

Discharge Plan Renewal Application

Section 5.0

February 2009

5. Location of discharges

Treated process and non-process wastewater is evaporated at the evaporation ponds or injected underground at the Class I injection well.

Storm water that is not contained on-site is released off-site at two outfall locations on the boundary of refinery property. Location of the outfalls and retention areas are shown on the plant site drawing in Appendix A. Storm water analysis is kept on site in the Storm Water Pollution Prevention Plan.

Sanitary sewage is treated and released at four septic fields located within the Giant property line.

The locations of the evaporation ponds, storm water outfalls, and septic fields are shown on the plant site drawing in Appendix A.

6. Location of storage facilities

The refinery uses warehouses, outdoor yards, and curbed pads for storage of various materials and equipment within the refinery. The locations of these storage facilities are shown on the plant site drawing in Appendix A.

7. Location of disposal facilities

The refinery uses an onsite landfill to dispose of sulfur, FCC fines, and FCC spent catalyst. The Sulfur Recovery Unit (SRU) generates approximately 300 tons of solid sulfur per year. The Fluidized Catalytic Cracking (FCC) unit produces 200 tons of spent catalyst per year. These materials are deposited in the landfill and covered with soil. The location of the solid waste disposal area is shown on the plant site drawing in Appendix A.

8. Location of processing facilities

The refinery uses various processing units and support systems as described above. The locations of these facilities are shown on the plant site drawing in Appendix A.

Discharge Plan Renewal Application

Section 7.0

February 2009

Bloomfield Refinery utilizes 15 active recovery wells within the process area as well as the Hammond Ditch French Drain Recovery System to pump and treat hydrocarbon impacted groundwater. The groundwater recovered with these systems is transferred to the API Separator for treatment.

This discharge typically ranges from 9,000 to 11,000 gallons per day.

Spent Caustic

20-25 Baume caustic is used in the Merox Treater to remove H₂S (Hydrogen sulfide) from the LPG stream coming into the unit. After the caustic is spent it is stored in Tank #10 until it can be transported and disposed of in an off-site hazardous waste treatment facility.

This discharge typically ranges from 3,800 to 4,000 gallons per month.

Diesel/Kerosene Salt Dryers

Four salt wash vessels are used to remove impurities from diesel and kerosene product streams. Occasionally, the salt must be replaced and, at that time, the vessels are drained. Wastewater containing dissolved solids and trace hydrocarbons are discharged to the process sewer.

This discharge typically ranges from 800 to 1,000 gallons per event when replacing salt. This event occurs 2 – 3 times per year.

Sources of solid waste include the following. Most of the wastes are generated intermittently and then removed, collected, containerized, and stored until shipped off-site for recycling or disposal.

Fluid Catalytic Cracking Unit (FCCU) Catalyst

A metallic (alumina) catalyst is used within the FCCU to convert hydrocarbon molecules. The material is a dry, metallic solid and is non hazardous. This catalyst is periodically replaced and the spent catalyst and fines are deposited in the on-site landfill and covered with soil.

Approximately 200 to 300 tons of spent FCCU catalyst is generated every year.

Naphtha Hydrotreating Unit (NHT) and Sulfur Guard Catalyst

There are two reactors that contain metallic catalyst in this unit. One reactor is used to convert hydrocarbon molecules and the other is used to adsorb sulfur molecules. The

Discharge Plan Renewal Application

Section 7-0

February 2009

catalysts are periodically replaced and the spent catalyst is recycled by an off-site metal recovery service. This material is a dry, metallic solid and is shipped as a K-171 hazardous waste and as a self-heating solid.

Dump and screen procedures occur about every two years. Approximately 2 – 3 tons of spent catalyst is generated every two years.

Reforming Unit Catalyst

A metallic (platinum) catalyst is used in the reforming unit to convert hydrocarbon molecules. This catalyst is periodically replaced and the spent catalyst is recycled by an off-site metal recovery service. This material is a dry, metallic solid and is shipped with a hazardous waste code of K-171 and as a self-heating solid.

Catalyst is changed out every ten years. However, some dump and screen procedures occur periodically. Reformer catalyst is generated on an average of 0.3 tons per year.

Polymerization Unit

A phosphoric acid catalyst is used to convert LPG olefins into an intermediate gasoline feedstock. This catalyst is periodically replaced and disposed of at an off-site landfill. The spent catalyst is a dry solid and is non hazardous.

Approximately 40 to 60 tons of polymerization catalyst is generated every year.

Diesel Hydrotreating Unit (DHT) Catalyst

Metallic catalyst is used in this unit to convert hydrocarbon molecules. This catalyst is a dry, metallic solid and will be shipped off as a K-171 hazardous waste. It will either be regenerated or recycled for metals.

Approximately 16 tons of DHT spent catalyst will be generated every year.

Sulfur Byproduct

An elemental sulfur byproduct is regularly generated at the SRU. This solid non hazardous residue is disposed of in the on-site landfill and covered with soil.

Approximately 300 to 400 tons of sulfur byproduct is generated each year.

Heat Exchanger Bundle Cleaning Sludge

Discharge Plan Renewal Application

Section 8.0

February 2009

Pasadena, Texas 77507
EPA ID: TXD106829963

Recycling Recupere Sol, Inc.
80 Rue Des Melezes
St. Ambroise, Quebec
G7P2N4
ID #:1141254640

Polymerization Unit

This catalyst is periodically replaced. It is a dry solid and stored on concrete containment and covered with a tarp until removal to an off-site landfill via truck.

Clean Harbors Grassy Mountain
3 Miles East, 7 Miles North of Knolls
Clive, Utah 84029
EPA ID: UTD991301748

Spent FCCU Catalyst

This material is a non hazardous dry solid that is disposed of in the on-site landfill and covered with soil.

Sulfur Byproduct

An elemental sulfur byproduct is regularly generated at the SRU. This solid non hazardous residue is disposed of in the on-site landfill and covered with soil.

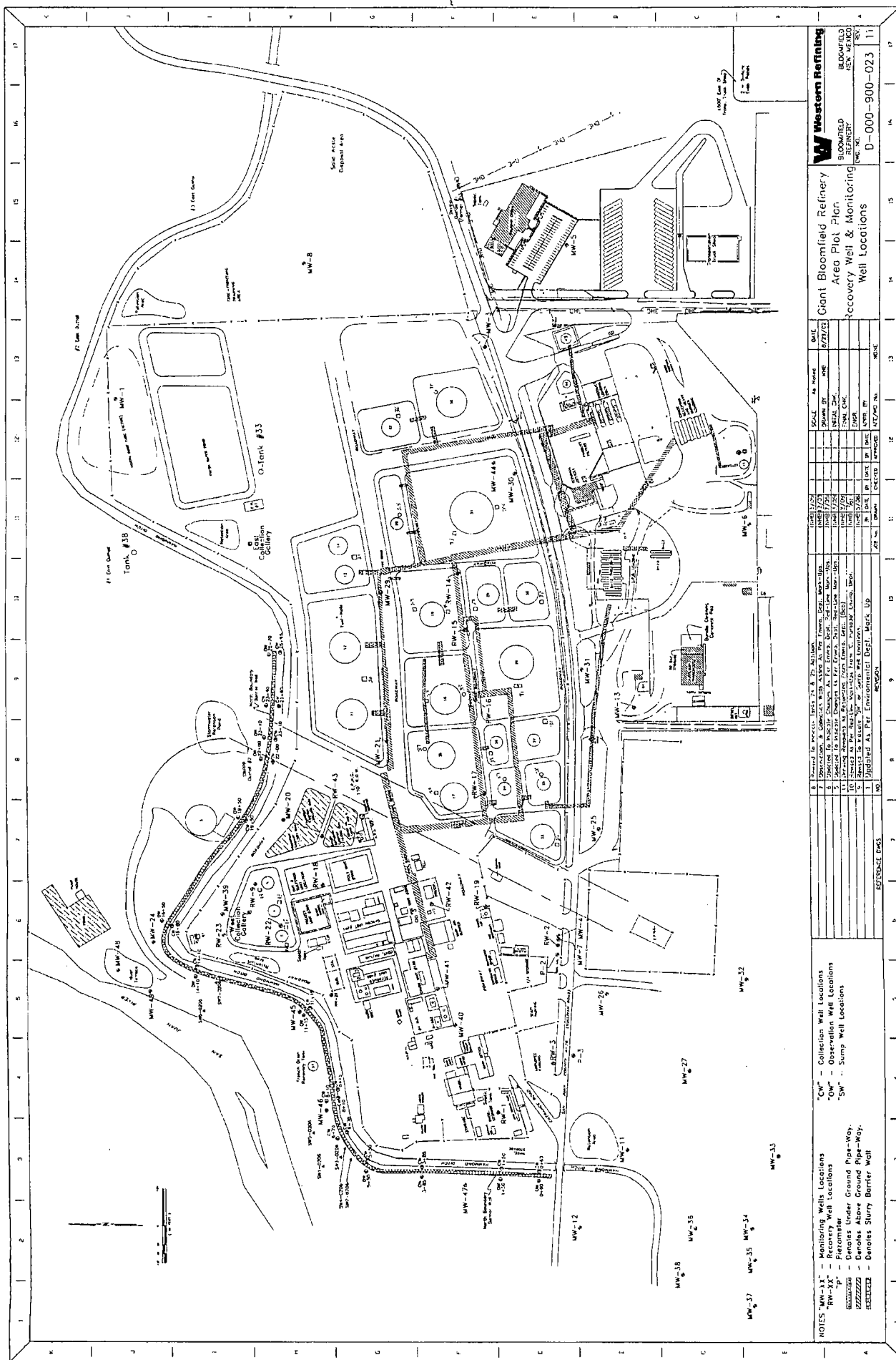
Maintenance Shop

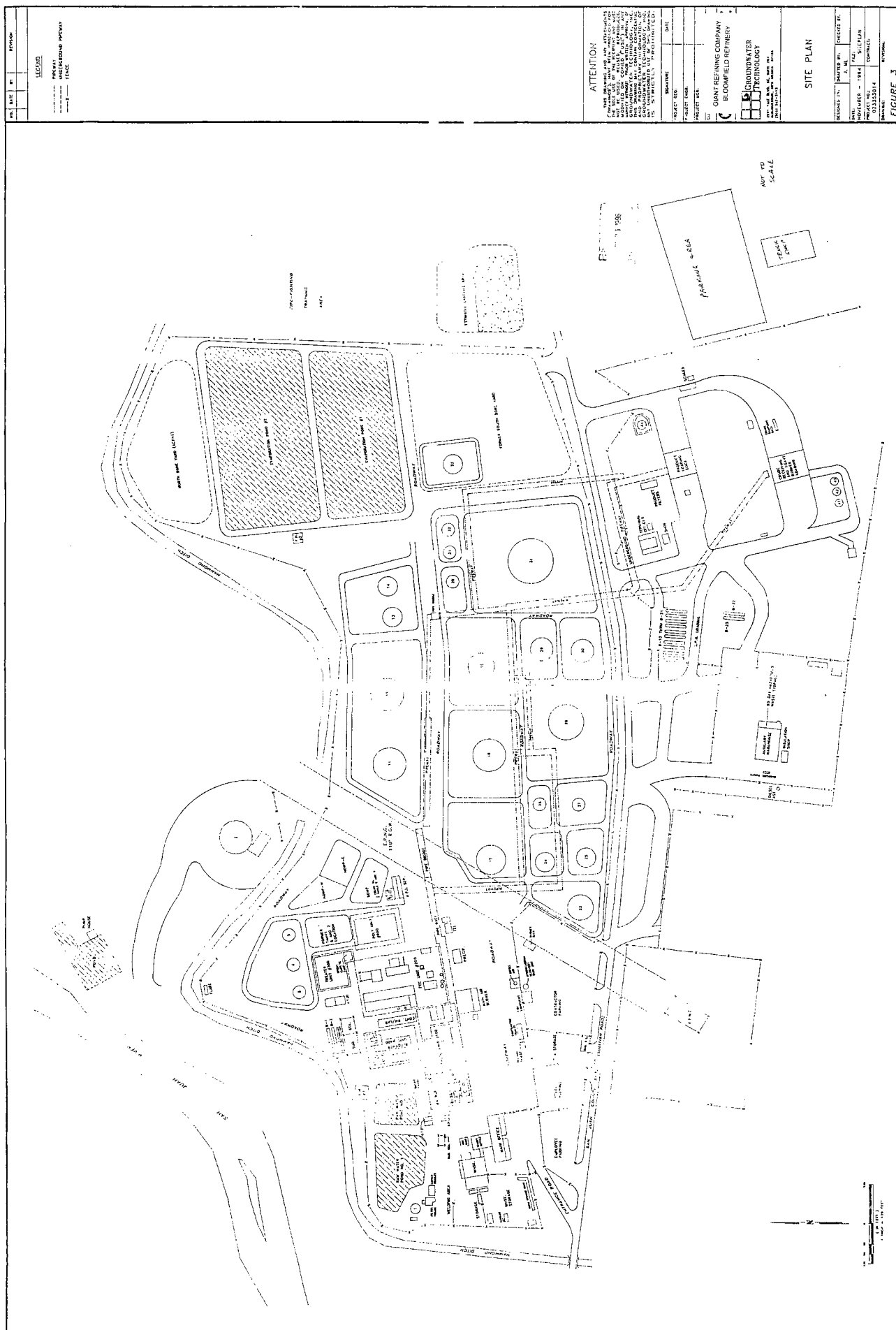
During equipment maintenance, waste oils are collected and stored in a 250 gallon tote located on a concrete pad. Periodically, this material is shipped off-site via vacuum truck for recycling.

Mesa Oil, Inc
7239 Bradburn Blvd.
Denver, Colorado 80030
EPA ID: COD982581993

Process Filters

Process filters are a solid non hazardous waste. When replaced, the used filters are stored on a concrete pad until dry and then are disposed of as special waste at the San Juan County Landfill. The material is transported by dump truck.





Chavez, Carl J, EMNRD

From: Monzeglio, Hope, NMENV
Sent: Tuesday, August 25, 2009 4:10 PM
To: Chavez, Carl J, EMNRD
Subject: landfill information at Bloomfield

Carl

Here is some information about the Inactive and Active landfills at Bloomfield.

Inactive Landfill

Here is a description of the Inactive Landfill from our Order which is a solid waste management unit: The Inactive Landfill (formally called the Landfill) is a low-lying area located east of the Tank Farm and south of the Fire Training Area; its dimensions are unknown. The Inactive Landfill is currently not in use. It is unlined and does not have a waterproof cover, although it has been covered with soil. In October of 1984, visually contaminated soil from the aeration ponds (classified as K051 API separator sludge) was removed and disposed of in the Inactive Landfill; it was assumed, based on testing, that the soil was not hazardous. In November 1989, approximately 2,000 cubic yards of contaminated soil was excavated and stockpiled at the landfill area. In April 1991, the refinery operators petitioned EPA for a delisting determination, which was granted by EPA. The Facility later obtained permission from OCD to use the soil as fill in a low-lying area near the Facility's naphtha loading rack. The actual date of landfill closure is unclear. (GTI 1993, GTI 1994a, NMED 1999, BR 2001, GRCB 2003).

The Inactive Landfill was investigated and the investigation results are found in the Investigation Report Group 2, dated May 2009, which OCD was cc on. I have not reviewed this Report.

Active Landfill

The description of the Active Landfill from our Order, also a solid waste management unit: The Active Landfill is located east of the Fire Training Area. The Active Landfill is unlined and the dimensions and volume are unknown. The Active Landfill operation is regulated by OCD and used to dispose of fluidized catalytic cracking fines and sulfur. (NMED 2005)

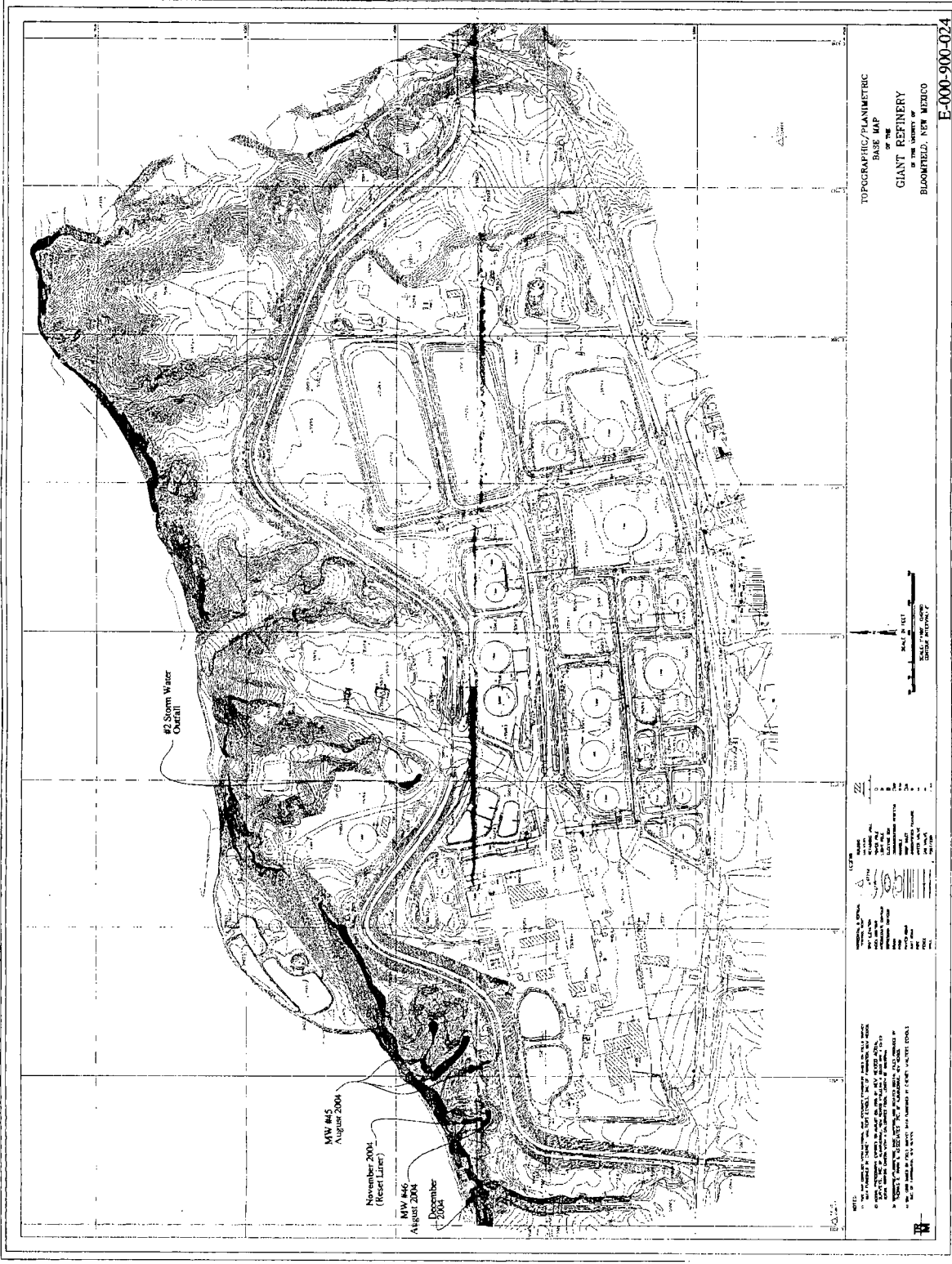
This area will be investigated in accordance with an approved Work Plan by NMED. Once the investigation is complete, Bloomfield will submit an investigation report with the results.

Hope

Hope Monzeglio
Environmental Specialist
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, BLDG 1
Santa Fe NM 87505
Phone: (505) 476-6045; Main No.: (505)-476-6000
Fax: (505)-476-6060
hope.monzeglio@state.nm.us

Websites:

New Mexico Environment Department
Hazardous Waste Bureau



Western Refining Southwest-
Bloomfield Refinery (GW-001)
Discharge Permit, EPA Compliance, &
Correspondence Associated with
**Disposal or Landfills and/or
Land Applications at Facility**

Chronology of Events (10-14-2009)

Compiled by: Carl Chavez (OCD)

END