GW – 001

PERMITS, RENEWALS, & MODS APPLICATION

March 1984

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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

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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.

William M. Turner

Dr. William M. Turner
President

SUMMARY

It is now more than five years since the approval of Plateau's original discharge plan and as required by regulations of the New Mexico Water Quality Control Commission (NMWQCC), a new discharge plan is required. Some of the changes which have occured at the refinery since approval of the first discharge plan 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 evertual use of this water for irrigation.

4. Detection of a small amount of seepage from the solar evaporation ponds.

5. Lining of ponds adjacent to the API seoarator with a a 100-mil high density polyethylene liner and installation of a leak deteection system

To reduce waste-discharge, a program of recycling water in the refinery has been implemented such that total average waste-water discharge is about 50 gallons per minute. This water is sent first to the API separator and adjacent ponds and then to the solar evaporation ponds. Excess water from the solar evaporation ponds will be used for irrigation of natural vegetation on company property.

The ponds which receive effluent from the API separator have been lined to preclude the possibility of any seepage of water into the subsurface.

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

Any seepage of water from the evaporation ponds or from the irrigated area will drain to the north on the subcrop surface of the Nacimiento Formation and will emerge as seeps at the cliff face north of the refinery or in southward trending arroyos north of the Hammond Ditch.

A depression in the Nacimiento subcrop surface should serve as a master drain for nearly all shallow artificial ground water beneath the refinery property.

There is no naturally occuring 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 cause any violation of the NMOCD regulations

Monitoring methods required by the original discharge plan have served their usefulness and are not now providing any new information. Plateau has implemented a new monitoring methodology and has constructed six new monitoring wells drilled into the Nacimiento Formation from which water level and water quality information may be obtained.

APPROVABILITY

A discharge plan is required if there is a waste-water discharge which may cause contamination of ground water within an aquifer. In the strictest sense, no aquifer can reasonably be defined as existing beneath the Plateau refinery which is subject to contamination. An aquifer must be able to provide water to wells in usable quantities. At the Plateau property, water exists in some places within a shallow cobble bed which overlies the thick impermeable Nacimiento Formation. An aquifer does not reasonably exist because:

1. The water in the cobble bed is derived from the Hammond Ditch and does not occur within the cobble bed at an elevation above the water level in the Hammond Ditch. Therefore, it is difficult to explore for the water.

2. The cobble bed is thin and the saturated zone is of variable thickness varying from about 15 feet thick at the Hammond Ditch to nothing where the bottom of the cobble bed is at an elevation above the level of water in the Hammond Ditch.

3. The saturated thickness within this zone of bank storage fluctuates widely between summer and winter. When water flows in the ditch, the water level in the cobble bed will be at its highest. In the non-irrigation season, there is no water flow in the ditch and the water within the cobble bed drains.

4. Because of the thin character of the saturated zone, where it occurs, pumping of any well will cause a cone of depression to develop which will further decrease the saturated thickness.

5. If the well is inefficient, as most wells are, the pumping water level within the well may drop to the pump intakes.

6. Any water taken from the cobble bed will induce increased leakage from the Hammond Ditch. Without the legal right to take this water, wells in the area will not be approved for withdrawal of water from the cobble bed.

It is concluded that exploration for the water in the cobble bed is difficult, the cobble bed is an unreliable source because of problems of saturated thickness and well construction, and the water may not be legally taken. Therefore, a discharge plan should not be required.

Without waiving any rights to object to the discharge plan requirements, Plateau submits this discharge plan. Even if the shallaow water overlying the Nacimiento Formation is "ground water" under the regulations, this discharge plan should be approved because it is in compliance with the requirements of the regulations of the New Mexico Water Quality Control Commission. Specifically, the portions of the plan and the plan itself should be approved for the following reasons.

1. RAW WATER HOLDING PONDS

The raw-water ponds contain only water diverted from the San Juan River. No industrial waste, industrial by-product, or other possible water contaminants are added to the water in these ponds prior to withdrawal for use in the refinery. The only additive to this water is a polyquaternary ammonium salt which is used to floculate suspended solids. This additive is BETZ 1190 for which Betz has obtained approval of potabitlity from the EPA for concentrations of the additive up to 25 ppm. At Plateau, the additive is used at concentrations not exceeding 25 parts per million and this additive is not covered by the WQCC standards of either sections 1-101(UU) or 3-103. Any leakage of water from these ponds is exempt from the requirements of the discharge plan under WQCC Regulation 3-105A, which exempts "effluent or leachate which conforms to all the listed numerical standards of Section 3-103 and has a total nitrogen concentration of 10 mg/l or less, and does not contain any toxic pollutant." Samples of water from the San Juan River both upstream and downstream of the refinery collected and analysed by the U.S. Environmental Protection Agency (EPA) indicate that uncontaminated river water in the raw-water ponds falls within this exemption. Table 1 contains analyses of water carried out by the EPA.

Even if the exemption is found not to apply, the discharge qualifies for approval under WQCC Regulation 3-109D which allows the discharge of the "weight of water contaminants in water diverted ... provided that the discharge is to the aquifer from which the water was diverted or to an aquifer containing a greater concentration of the contaminants than contained in the water diverted." There is no aquifer receiving the seepage from the raw-water ponds because there is no naturally occuring ground water lying on the Nacimiento Formation in the vicinity of th refinery. Even should an interpretation of the regulations hold that there is an aquifer receiving the leakage from the raw-water ponds, the quality of the artificial ground water is no better than that of the San Juan River from whence the raw-water holding pong leakage is derived.

Therefore, the raw-water ponds are exempt from the requirements of the discharge plan or, at the very least, must be approved by the Director.

2. API SEPARATOR AND LINED ADJACENT PONDS

The API separator and adjacent ponds are approvable under WQCC Regulations 3-109(C)(3)(b) and (c). Those subsections require approval of discharge plans for discharges to surface impoundments which seep less than 0.5 acre-feet of water per acre per year and, where there are adequate monitoring provisions. The API separator is constructed of steel-reinforced concrete and leakage is less than 0.5 acre-feet per acre per year. The manufacturers specifications for the 100-mil high density polyethylene pond lining material indicate that seepage will be less than 0.5 acre-feet per acre per year unless the integrity of the liner is breached. The leak detection system constructed at the adjacent ponds has already demonstrated its effectiveness in monitoring for tears and other leaks in the liner. Additionally, Plateau has committed itself to repair any leaks. Therefore, the discharge to the API separator and adjacent ponds should be approved.

3. SOLAR EVAPORATION PONDS AND LAND APPLICATION AREA

Both the solar evaporation ponds and the land application area are subject to some leakage and percolation of refinery waste water. The subsurface flow pattern of the seepage along the subcrop surface of the Nacimiento Formation is the same from both locations. Monitoring wells, already installed by Plateau, down dip from the evaporation ponds and land application area will be monitored periodically to ensure that the allowable contaminant concentrations are not exceeded. Any significant indication from the monitoring program that applicable concentration levels will be exceeded will trigger implementation of contingency plans. The contingency plans will define the extent of contamination and address any problems with appropriate remedial and preventative measures to ensure that applicable limits of WQCC regulations are not exceeded at a place of ground-water withdrawal for present or reasonably foreseeable future use. The discharge plan for the evaporation ponds and land applicaton area comply with the requirements of WQCC Regulaton 3-109 and should be approved.

4. NEGLIGIBLE IMPACT ON SAN JUAN RIVER

Section 3-109(G)(2) of the WQCC Regulations prohibits the approval of discharge plans for discharges "that will cause any stream standard to be violated." The only body of water protected by the WQCC Stream Standards in the vicinity of the proposed discharge locations is the San Juan River. Water quality analyses of samples taken from the San Juan River upstream of the refinery are substantially identical to analyses of water from the San Juan River downstream of the refinery. The samples analysed were collected at a time when discharge from the refinery was substantially as proposed in this discharge plan. There is no demonstrable or reasonable measureable impact on the San Juan River water quality from the proposed operations of the refinery. Neither set of river water samples collected and analysed by the EPA exceeds applicable WQCC Stream Standards. Therefore, impact on the San Juan River is not an impediment to discharge plan approval.

5. ACCIDENTAL SPILLS OR LEAKS

Plateau, by following the provisions of the "Contingency Plan and Emergency Procedures" document, will minimize the release of potential water contaminants by providing effective detection and clean-up of accidental spills of hydrocarbon substances or other refinery chemicals. The impact of such releases on ground-water quality will, therefore, be negligible. Because the "Contingency Plan and Emergency Procedures" document has been incorporated by reference in the discharge plan, the discharge plan effectively protects any artificial ground-water from accidental spills and leaks and any such discharges under the plan are approvable under WQCC Regulator 3-109 because they will not result in contamination of ground water.

6. SURFACE RUNOFF

Surface runoff from natural precipitation in the refinery area is not a source of discharge of any significant amount of potential ground-water contaminants. First, there is not a realistic possibility of flooding and overtopping of waste-water holding ponds or storage tank berms which contain some potential water contaminants. Second, there will not be any significant amount of contaminant material present in other refinery locations where runoff may occur, because the "Contingency Plan and Emergency Procedures" document will be implemented and spills in or near drainage paths will be cleaned up. Natural surface drainage, therefore, will not be a significant source of potential ground-water contamination and should not be an impediment to discharge plan approval.

Additionally, rainwater leachate is exempt in almost all cases under WQCC Reuglations 3-105(H) and (I).

SUMMARY

Any and all discharges from the Bloomfield refinery owned by Plateau, Inc. described in this discharge plan are in compliance with the WQCC Regulations and should be approved. This discharge plan will be amended or modified if required for compliance with any applicable Federal, State, or local requirements, rules, regulations, orders, or statutes.

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INTRODUCTION

Plateau, Inc. operates a refinery near Bloomfield, New Mexico which was reportedly constructed in the late 1950's. The location of the refinery is shown in Figures 1 and 2. The refinery was in operation for about five years prior to its sale to Suburban Propane Corporation, a New Jersey corporation, and prior to the effective date of the New Mexico Water Quality Control Regulations. At the time the refinery was purchased by Suburban, the refinery had been operating without any formal procedures for waste effluent discharge. During this period, hydrocarbon waste entered the subsurface and probably did not migrate any great distance as the evidence indicates there is no naturally occuring ground water in the area. With the construction of the Hammond Ditch in 1960-1964, seepage from the ditch encountered hydrocarbon substances and began moving them towards natural points of discharge along the east-west precipice overlooking the San Juan River north of the refinery. Small hydrocarbon laced seeps also developed along intermittant stream channels which have eroded to the south from the San Juan River towards the refinery. As the lighter hydrocarbon fractions evaporated, the heavier hydrocarbon fractions were left behind as testimony to this situation. Today, the artificially recharged ground water beneath the refinery remains contaminated and the small springs and seeps fed primarily by Hammond Ditch water continue to discharge.

In an effort to better understand this situation, Plateau retained American Ground Water Consultants (AGW) to prepare a

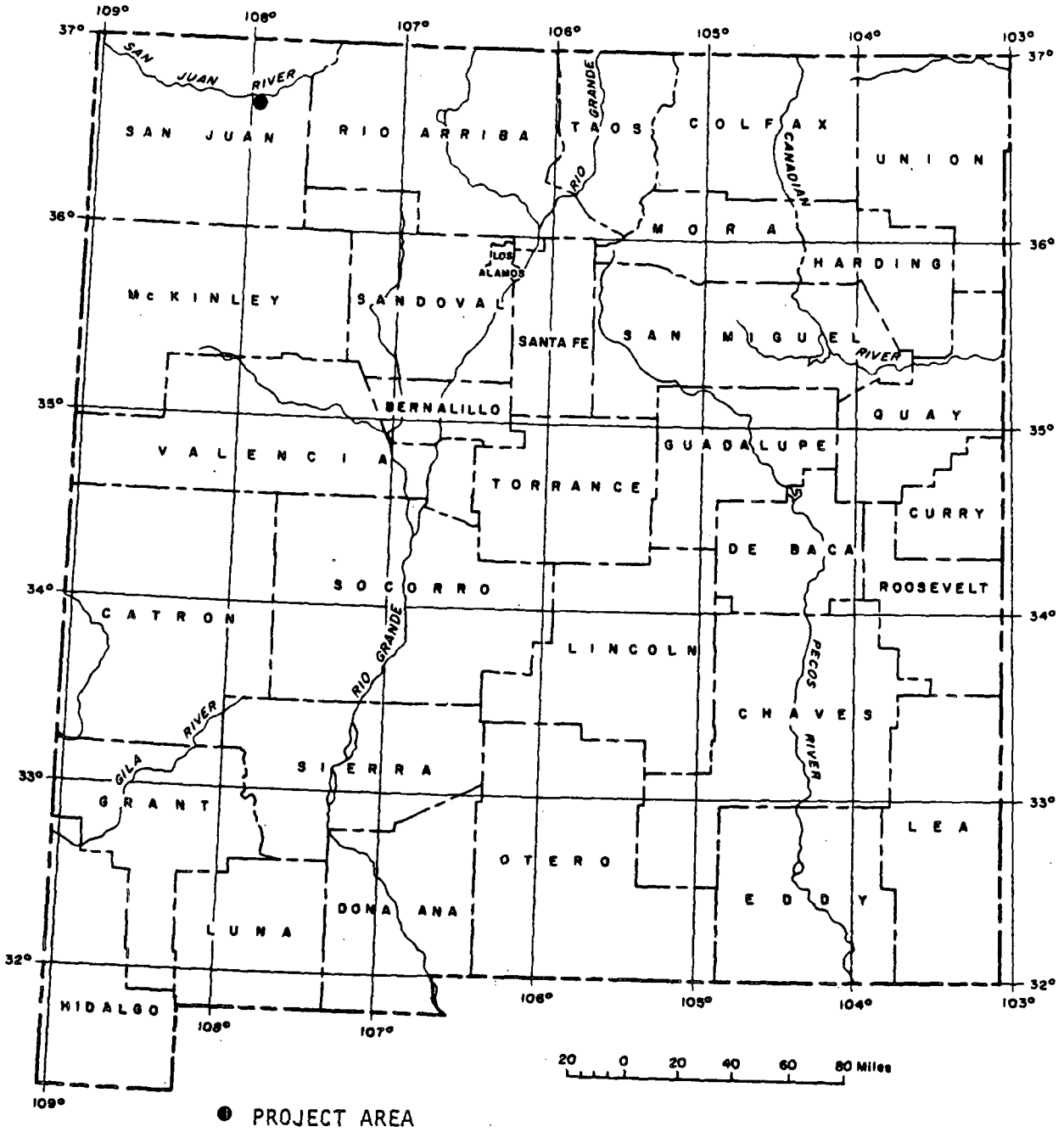

Figure 1. Map of New Mexico showing the location of the project area.

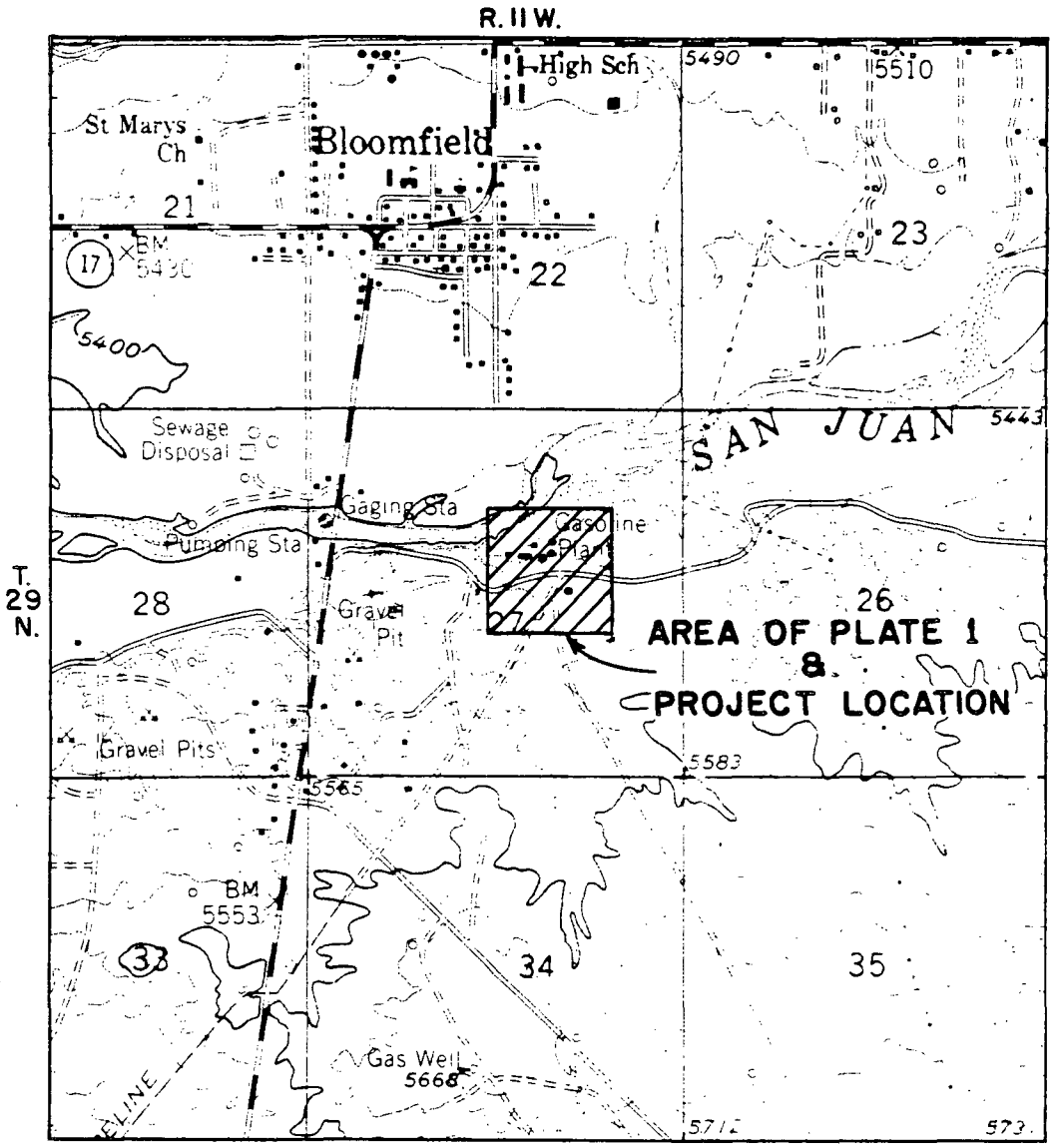

Figure 2. Diagram showing the location of the Plateau Refinery near Bloomfield, New Mexico.

sound discharge plan prior to the promulgation of the New Mexico Water Quality Control Regulations. These early efforts resulted in approval of a waste-water discharge plan for the refinery on June 5, 1977 by the Mexico Oil and Gas Conservation Commission (NMOCC), predecessor to the New Mexico Oil Conservation Division (NMOCD).

Two subsequent reports on the monitoring activities at the refinery have been submitted by Plateau, Inc., to the NMOCD and the New Mexico Environmental Improvement Division (NMEID). These reports are on file with the NMOCD.

Discharge plans are valid for a period of five (5) years and the original plan expired in the summer of 1982. On March 8, 1982 an updated plan was submitted to the NMOCD to bring up to date discharge activities and procedures used at the refinery. After reviewing this plan for 16 months, NMOCD returned the discharge plan to Plateau for additional information.

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. This discharge plan sets forth the proposed and actual methods of handling waste-water discharge from the refinery. Plate 1

is an aerial photograph of the refinery. The photograph shows the boundaries of the refinery property in its relation to Township, Range, and Section lines. Plate 1 also shows geology of the area, the subcrop topography of the Nacimeinto Formation beneath the Plateau and nearby adjacent property and hydrographic information for both surface and ground waters. Plate 2 is a detailed topographic drawing of refinery property together with all improvements current as of March 1984. The process description for the refinery is includec as Attachment 1.

On May 16, 1983, the EPA collected samples water from the San Juan river upstream and downstream from the refinery for chemical analysis. Analyses of these samples shows that of the 129 priority pollutants there is an alkane identified in the upstream sample at 0.0075 parts per million. In the downstream sample none of the 129 priority pollutants were detected in concentrations which exceeded Federal standards. That is in the reach of the river into which seeps from Plateau property occur, none of the 129 priority pollutants were detected in the San Juan River downstream of the refinery. Of the inorganic solutes, only aluminum, iron, manganese and zinc were detected above EPA levels upstream of the refinery. In the downstream sample, the concentrations of aluminum and manganese had decreased, and zinc remained the same. The downstream sample also contained 0.234 parts per million of boron whereas the upstream sample contained none.

The presence of boron is puzzling. The refinery uses no

boron compounds in any aspect of refinery operations. In general then, the quality of San Juan River water is at least as good as if not better than upstream water with the exception of iron and boron. The presence of iron and boron do not exceed the WQCC stream standards.

REFINERY SETTING

The refinery is located on the Jackson Lake Terrace of the San Juan River (Pastuzak, 1968), about 120 feet above the present river level and about 500 feet from the river. The terrace was formed during the Pleistocene by downcutting of a former valley floor which had been aggraded with cobble and gravel deposits during the last glacial advance. At that time, the San Juan River was swollen with meltwater and carried great quantities of glaciofluvial outwash. In former times, the valley floor was three to five miles wide.

During the last glacial retreat, wind-blown sand and silt from the floodplains settled over the coarse clastics to form structureless loess deposits.

The terrace deposits on which the refinery is situated are comprised of about 15 feet of cobbles and gravels overlying the Nacimiento Formation of Tertiary age. The cobble bed is overlain by about 20 feet of fine-grained, wind-blown silt and sand. South of the refinery, the cobble bed wedges out leaving only loess in overlying contact with the Nacimiento Formation. As far as can be determined, the Pleistocene cobble bed occurs everywhere beneath the refinery. Lithologic logs

for monitoring wells drilled in the vicinity of solar evaporation pond 1 are given in Attachment 3 of the original discharge plan.

As part of the investigations for the discharge plan renewal, six monitoring wells were constructed on the refinery property to obtain water samples and to determine the depth to the top of the Nacimiento Formation. Lithologic logs for these wells are given in Attachment 2 herein.

The Nacimiento Formation is a massively bedded, olive green, unctuous clay. The clay at the outcrop is a tight unfractured rock unit. As measured in nearby oil wells the Nacimiento Formation is about 500 feet thick. A log of the AMOCO DAVIS gas unit F-1 gas well was presented in Attachment 2 of the original discharge plan. At least 100 feet of this rock unit is exposed in the cliff face north of the refinery and adjacent to the San Juan River.

Of particular importance to the present discharge plan is an understanding of the morphology of the contact between the Quaternary cobble and silt of the Jackson Lake Terrace in the vicinity of the refinery and the underlying Nacimiento Formation. The morphology of the Nacimiento subcrop surface will influence control over the direction of ground-water flow.

To define the morphology of the subcrop surface, the contact between the Nacimiento Formation and the overlying Quaternary rocks was staked at numerous locations. The locatons of the stakes are shown by small triangles on Plate 1. The elevation of the contact at each stake was surveyed. In

addition, casing elevations of the neutron probe observation holes and the new monitoring wells were surveyed. Soil moisture records and lithologic logs were then used to determine the depth of the contact in these observation and monitoring wells.

All contact elevations are shown on Plate 1. This data has been contoured and the contours are also shown on Plate 1. The data suggests that there exists an almost east west trending depression in the Nacimiento subcrop surface which trends eastward from the precipice northwest of the refinery property towards the solar evaporation ponds. At the solar evaporation ponds, the depression seems to branch to the north in a much narower depression. Though there is not much control to this surface within the refinery property, the existence of the depression is consistent with the occurrence of seeps along the face of the precipise as though this is the natural discharge zone for most shallow water beneath the refinery and that the depression serves as a master French drain from most of the refinery property. Similarly, the depression which trends northward from the solar evaporation ponds has associated with it several small seeps in one of the southward-trending incised intermittant stream channels.

HYDROLOGIC FEATURES

San Juan River

The San Juan River is the only perennial stream in the vicinity of the refinery. Along the reach of the San Juan River in the vicinity of the refinery, the river is neither a gaining nor a losing stream. Its alluvium-filled channel is incised into the impermeable clay of the Nacimiento Formation. The flow of the San Juan River at Bloomfield is regulated by Navajo Dam and there is no danger of flooding of the refinery site by the San Juan River. The usual regulated flow of the river is 500 cfs.

Intermittant Stream Channels

Trending southward from the San Juan River are numerous intermittant stream channels which are incising their channels headward into the Jackson Lake Terrace. The erosion in these channels has laid bare the contact between the deposits of Quaternary age and the underlying Nacimiento Formation. Where the Quaternary material is saturated small seeps or springs occur. The water feeding the seeps and springs is supplied almost entirely by seepage from the Hammond Ditch and bank storage created by seepage from the Hammond Ditch.

Hammond Ditch

In addition to the San Juan River and the intermittent stream channels which traverse the area of interest, the Hammond Irrigation Ditch passes from east to west through the refinery property between the refinery and the San Juan River. The ditch passes through an inverted siphon beneath Sullivan Road on the east side of the property. The ditch is unlined and is excavated into the Quaternary Jackson Lake Terrace deposits. The course of the ditch through the refinery property and its geological setting are shown in Plate 1.

The Hammond Ditch conveys water only during the irrigation season from mid-April to mid-October. Although attempts have been made by the Hammond Ditch Conservancy District to line the ditch with silt from local borrow pits, leakage from the ditch and into the cobble bed is significant. The valleys of nearly all intermittent stream channels which descend from the Jackson Lake Terrace south of the San Juan River are choked with trees, bullrushes, marsh grass and other vegetation. The source of water which supports the vegetation is leakage through the bed of the Hammond Ditch. Photographs of these valleys are presented in the original discharge plan.

The Hammond Ditch is a man-made, constant-head, line-source of recharge to the cobble bed during the irrigation season. Observation and monitoring wells which have been constructed in the vicinity of the solar evaporation ponds and elsewhere on the property indicate that the cobble bed is saturated only beneath part of the property. Monitoring well

P-6, for example, is completely dry. This Hammond Ditch water flows back into the Hammond Ditch after the flow to the ditch has been turned off in October. When the ditch water is turned off, there is absolutely no water entering the ditch through the inverted siphon near the eastern edge of the refinery property. Observations of the ditch at the western edge of the property during winter show a flow of about two gallons per minute in the ditch. Much of this is return flow of bank storage. This is evident from thawed ice on the south side of the surface of the ditch water during winter. That is, warm water from bank storage enters the ditch from the south. Bank storage on the north side of the ditch flows to the north and not back into the ditch thereby sustaining water seepage into the intermittent valleys north of the ditch.

Ground Water Occurrence

Ground water is defined by Section 1-101(M) of the New Mexico Water Quality Control Regulations as: "... interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply." Based upon this definition, there is no ground water in the vicinity of the refinery which could be affected by any discharge from the refinery because water in the cobble bed above the Nacimiento Formation does not fall within the definition. Furthermore, the Nacimiento Formation is impermeable and about 500 feet thick which precludes shallow water from entering the deep Ojo Alamo Sandstone or any other

deeper aquifers as defined by the Regulations.

To verify that the cobble bed is both void of natural ground water and void of any water sufficient to reliably supply water to a well both physically and legally, a study of the hydrogeology was made. The contact between the cobble bed and the underlying Nacimiento Formation was staked at numerous points and elevations of the contact were then levelled as mentioned above. Elevations of water levels in observation and monitoring wells and of small seeps of water which occur at the top of the Nacimiento were measured and are also shown in Plate 1.

As mentioned above, a major east-west trending depression begins at the east end of the northernmost evaporation pond and procedes west. Westward, this depression becomes wider and deeper. This feature is filled with cobble at the precipice northwest of the refinery and will act as a subdrain for any ground water in the area. It will exert local control over the direction of ground-water flow.

Water levels elevations have also been measured at many locations throughout the refinery property. This data is also presented on Plate 1. This water level data indicates that:

1. the cobble bed is not saturated above the water level in the Hammond Ditch; and,

2. water in the cobble bed is presently draining to the north.

The cobble bed on the south side of the Plateau property above the elevation of the Hammond Ditch is dry and a line of zero saturation has been drawn. The elevation of zero saturation is about 5502 feet which is equivalent to the summer water level in the Hammond Ditch. Any natural recharge to the cobble bed south of the refinery property and any bank storage south of the Hammond Ditch will flow to the north and be captured by the east-west depression in the Nacimiento surface. Indeed some bank storage supplied by the Hammond Ditch during summer north of the Nacimiento subcrop depression may also be captured by the zone. All of this water will be led to the west to discharge at the cliff face. Inasmuch as there is virtually no natural ground-water accretion in the vicinity of the Plateau property, leakage water from the Hammond Ditch likely provides the entire impetus for mobilizing any hydrocarbon contaminaton in the soils of the area.

Some water from the Hammond Ditch finds its way into the southward-trending intermittant stream channels west of the evaporation ponds.

In the vicinity of the evaporation ponds, leakage from the evaporation ponds and from the Hammond Ditch may pass to the north along a minor depression in the Nacimiento subcrop. This interpretation is supported by the occurrence of several small seeps on either side of this zone as shown in Plate 1.

In the spring, when irrigation begins and water begins to flow in the Hammond Ditch, the flow direction of shallow water in the cobble bed is reversed as Hammond Ditch water flows into the ground and fills the cobble bed. When the elevation of the water level in the cobble bed rises to the level of water in the Hammond Ditch, further leakage terminates except for leakage needed to replace seepage from the precipice north of the refinery and from the small seeps in the southward-trending intermittant stream channels.

The zone of saturation beneath and in the vicinity of the refinery property varies in thickness from nothing where the cobble bed is above the elevation of the water level in the Hammond Ditch to perhaps 15 feet where the Hammond Ditch directly overlies the cobble bed. Furthermore, the thickness of the zone of saturation fluctuates with the season. During the irrigation season, the water level rises. During the winter season it falls.

Whether or not "ground water", as defined by the regulations, exists, the following must be considered.

1. The zone of saturation is of very limited and irregular areal extent such that ground-water exploration will be difficult.

2. The zone of saturation fluctutes during the year such that water may occur in a well only during part of the year making it an undependable domestic or stock water source.

3. The zone of saturation is very thin such that an inefficient pumping well would cause complete drawdown of the pumping water level inside the well thereby making the well unuseable, unreliable and probably economically infeasible.

4. The zone of saturation is hydraulically connected to the Hammond Ditch such that any ground water withdrawal will deplete the flow of water in the ditch; a situation which would likely not be long tolerated by agricultural users of Hammond Ditch water.

All seeps indicated on Plate 1 were present before the evaporation ponds were filled in 1977. All seeps have been closely observed for a period of almost eight years. The Hammond Ditch has been walked during January from 1978 until the present and in the vicinity of the filled evaporation ponds no detectable seepage has been observed in the Hammond Ditch channel.

It is concluded, that there is no naturally or artificially occurring ground water within the cobble bed capping the Jackson Lake Terrace which could physically and legally yield water to domestic wells. This conclusion is supported by the absence of private dwellings with comestic water wells situated on the Jackson Lake Terrace in the vicinity of the refinery. In addition, there are no stock or irrigaton wells in this area. This conclusion is also

supported by the absence of ground water in the cobble bed above the elevation of the Hammond Ditch.

The Nacimiento Formation is about 500 feet thick and within the upper exposed 100 feet of the formation the only known seeps of water occur at its contact with the overlying Pleistocene cobble bed. The evidence indicates also that there is no ground water within the Nacimiento Formation which could be recovered for any purpose. The impermeability of the Nacimiento Formation supports the conclusion that the Nacimiento Formation does not supply ground water to the San Juan River.

Furthermore, the San Juan River traverses the normal ground-water discharge zone of the San Juan Great Artesian Basin (Lyford, personal communication, 1976). Within ground-water discharge zones in artesian ground-water basins, the hydraulic head increases with depth (Freeze, 1969; Toth, 1963) and it is therefore impossible to cause downward vertical seepage into any water-bearing zone. Even were any potential aquifer at depth beneath the Nacimiento Formation, percolating water would be rejected and it could not recharge the aquifer to ever become a health hazard.

There can be no doubt, however, that there is water in the ground beneath the refinery. All of the ground water migrating northward beneath the refinery itself to points of discharge flows within an area where the ambient conditions were contaminated prior to the promulgation of the New Mexico Water Quality Control Regulations. Only ground water in the vicinity

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 HBF
28	Crude
29	Regular gasoline
30	Regular gasoline
31	Crude
41	Crude treating
42	Crude treating
43	Slop water

As the refinery property is situated near the San Juan River, the liklihood of flooding of the San Juan River is analysed. According to the Flood Hazard Boundary Map published by the U.S. Department of Housing and Urban Development (Community Panel No. 350064-0014A) on August 2, 1977, the area which will be affected by the 100-year flood does not include the refinery site. The San Juan River is currently regulated by the Navajo Dam located upstream of the refinery site, and the liklihood of an uncontrolled release of water in the river is rather remote. Inasmuch as the refinery site is approximately 100 feet above the river floodplain, it is unlikely that it will be flooded by any magnitude flood that might occur.

The drainage area south of the refinery site is delineated on Plate 2. The size of the area which contributes runoff at each of the numbered points of concentration is tabulated in tables in Attachment 3. The 100-year return period is generally accepted by most government agencies for flood frequency evaluation. This plan also uses the 100-year return period for flood potential analysis.

The 100-year peak discharge at each of the numbered points of concentration is computed according to the method developed by the U.S. Soil Conservation Service as revised in October 1973 for use in New Mexico. Soil information is obtained from the Soil Survey of San Juan County prepared by the U.S. Soil Conservation Service in 1980. The vegetation cover and contour information were obtained from aerial photography and aerial

mapping furnished by Plateau. The land south of the plant is covered for the most part by native grasses and no flooding has ever been observed in the area. The results of the computed peak discharges are given on Plate 2 and tables in Attachment 3.

Based on Manning's formula, the ditch between the highway and the existing east-west berm is capable of handling the 100-year discharges as shown on Plate 2. Also, as the top of the berm is higher than the elevation of the highway crown, if a flood with a magnitude greater than the 100-year flood were to occur in the area, the flood water is likely to be carried westward along the south side of Sullivan Road instead of overtopping the berm.

All the oil storage and waste-water facilities on the refinery site are bermed to contain any contaminated material and runoff inside these areas is self-contained. As the 100-year 24-hour rainfall for this area is only 2.6 inches, the storm runoff inside the bermed areas will not endanger the integrity of the berms.

Other facility areas on the refinery site are also carefully protected and sumps are provided at key locations to divert any surface runoff to the API separator. Thus, the liklihood of surface runoff from the refinery site to neighboring areas is very remote.

In 1980, Plateau constructed two small catchment ponds in a southward trending arroyo directly north of the ponds adjacent to the API separator and north of the Hammond Ditch.

These ponds were constructed to intercept any spill from the lined ponds adjacent to the API separator or rainfall runoff from the refinery which might drain across the Hammond Ditch via the El Paso Natural Gas Pipeline right-of-way. These catchment basins have served their purpose and have captured runoff. At present, they are full and their fluid level is maintained by seepage from the Hammond Ditch which was noted before the catchment ponds were filled.

These two ponds are not intended as storage ponds for waste water. It is Plateau's intention to keep these ponds pumped out so that they may continue to serve the purpose for which they were built. Water in these ponds is primarily natural Hammond Ditch water and is exempt from discharge plan requirements under WQCC Regulation 3-105(A)

Natural precipitation on the refinery property would essentially pass through undisturbed areas in which no refinery wastes are stored.

Should spills occur which might contaminate rainfall and surface runoff, Plateau is committed through its "Contingency Plan and Emergency Procedures" to clean up the spill so that it will not pose a threat of contamination to any rainfall and attendant runoff.

Consequently, the discharge plan as far as possible contaminated surface runoff is concerned should be approved because of the surface runoff control measures which have been taken at the refinery.

Raw Water Ponds

The refinery obtains its water from the San Juan River. Raw water is pumped directly from the San Juan River to two raw-water holding ponds located on the northwest part of the property. These ponds are labelled on Plate 1. The pumping station is located immediately east of the bridge across the San Juan River on the south side of the river.

The western raw-water pond was in existence at the time Suburban Propane purchased the refinery. Shortly after the purchase of the refinery, the eastern raw-water pond was constructed. At the time of its construction, significant seepage was observed to enter the Hammond Ditch along its southern sice adjacent to the raw-water pond. AGW conducted a ZETA-SP survey of the pond bottom to locate the points of leakage. As a result of this survey, a mixture of bentonite, polymer and barite were tremied onto the bottom of the pond. Following this treatment the amount of seepage was drastically reduced.

The present seepage from both raw-water ponds has not been quantified. However, the only chemical added to the water is a polyquaternary ammonium salt flocculant for which EPA has approved its potability. The water in the ponds does not exceed the WQCC standards of 1-101(UU) or 3-103. Moreover, the WQCC standards are not applicable in this instance. There are no industrial wastes or by-products in the ponds.

Consequently, the discharge plan as far as seepage from the raw-water ponds is concerned should be approved because the

water is normal untreated San Juan River water.

API Separator

The API separator at the Plateau refinery is of standard API design. The API separator is constructed of and lined with steel reinforced concrete. The API separator processes process waste water and fluids collected from all sumps located throughout the refinery and the tank farm. Any intermittant spills in the tank farm area are diverted to the sumps associated with most of the tanks. The spilled liquids are then transferred to the API separator for recovery of any hydrocarbon substances.

The discharge plan, as far as possible seepage of contaminated water into any shallow water beneath the separator is concerned, should be approved because the construction of the separator precludes seepage at a rate in excess of 0.5 acre-feet of seepage annually.

Lined Ponds

Until recently, the three ponds immediately north of the API separator were unlined. To provide further assurance, Plateau lined the ponds with 100-mil high density polyethylene liners above a French drain seepage collection system which terminates in an observation well. Shortly after completion of the lining, water was observed in the observation well leading to the conclusion that the liner in one of the ponds was leaking. To confirm this

conclusion, flourescien dye was added to the water in the ponds. Shortly thereafter, the dye was observed in the monitoring well. The conds were emptied and the seams in the liner were rechecked and repaired. At present, there is no detectable seepage from these ponds and unless the integrity of the liner is impaired, the leakage will be less than 0.5 acre feet of seepage per year. If the liner develops a leak, there is a leak detection system in place and Plateau is committed to repairing the liner.

The specifications for the liner are given in Attachment 4.

Consequently, the discharge plan as far as seepage from the lined ponds adjacent to the API separator is concered should be approved because the seepage is less than 0.5 acre-feet per year.

Evaporation Ponds

Results of monitoring at the refinery suggest that 10 to 20 gallons per minute of seepage from the solar evaporation ponds may be taking place. Observations of seepage in northward craining arroyos and the Hammond Ditch during winter suggest a total seepage including bank storage return of about 10-15 gallons per minute.

Any seepage from any waste-water impoundments or from irrigation on refinery procerty to the east of the truck-maintenance workshops will move slowly to the north in the down-dip direction of the contact between the cobble bed

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 Nacimiento 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 Nacimiento Formation will be protected from any potential contamination for several reasons. First, the Nacimiento Formation is for all practical purposes impermeable. And, second, the 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.

BACKGROUND WATER QUALITY

Water samples were collected from the new monitoring wells shown on Plate 1 on February 15, 1984 for the purpose of establishing background-water quality conditions. The samples were submitted to Controls For Environmental Pollution in Santa Fe, New Mexico and Hauser Laboratories in Boulder, Colorado following full chain-of-custody procedures. There were significant inconsistencies between the laboratories such that the reliability of the analyses are in serious question. To achieve reliable background-water quality information, Plateau will review analyses of water samples collected by the EPA during the week of March 19, 1984 when these results become available. Based upon available data, Plateau will propose background-water quality parameters to the NMOCD for approval.

Plateau agrees to protect the quality of the water in the area such that applicable standards or specific solute background concentrations, whichever are higher, are not exceeded. Plateau will continue to sample ground water in the monitoring wells semi-annually.

MONITORING

The results of the monitoring program at the refinery to date have already been detailed in milestone reports which have been submitted to the NMOCD and the NMEID. New monitoring wells shown on Plate 1 were constructed by an Ingersoll Rand TH-60 rig operating a down-the-hole air hammer. Full

construction details and lithologic logs for the monitoring wells are given in Attachment 2.

Plateau has established a daily visual monitoring program for monitoring spills at the refinery. Visual inspection of the small arroyos contiguous to the irrigated area will be made weekly to detect seepage of water applied for irrigation.

Plateau has installed the six new monitoring wells for the purpose of determining the depth to the Nacimiento/cobble bed contact, measuring water levels, and obtaining water samples for the determination of background-water quality. These monitoring wells will permit the acquisition of water quality data on a semi-annual basis.

If the quality of water collected periodically from the monitoring wells exceeds background concentrations or the New Mexico standards, whichever apply, Plateau will implement contingency plans.

WATER SUPPLY AND DISCHARGE

Water used by the Plateau refinery is obtained directly from the San Juan River. It is stored in two fresh-water retention ponds pending use. These ponds are identified on Plate 1. Water for human consumption is purchased from the City of Bloomfield.

The circulation of water through the refinery is shown in figure 3. The flow diagram indicates that 80 gallons per minute discharged to the solar evaporation ponds at the time

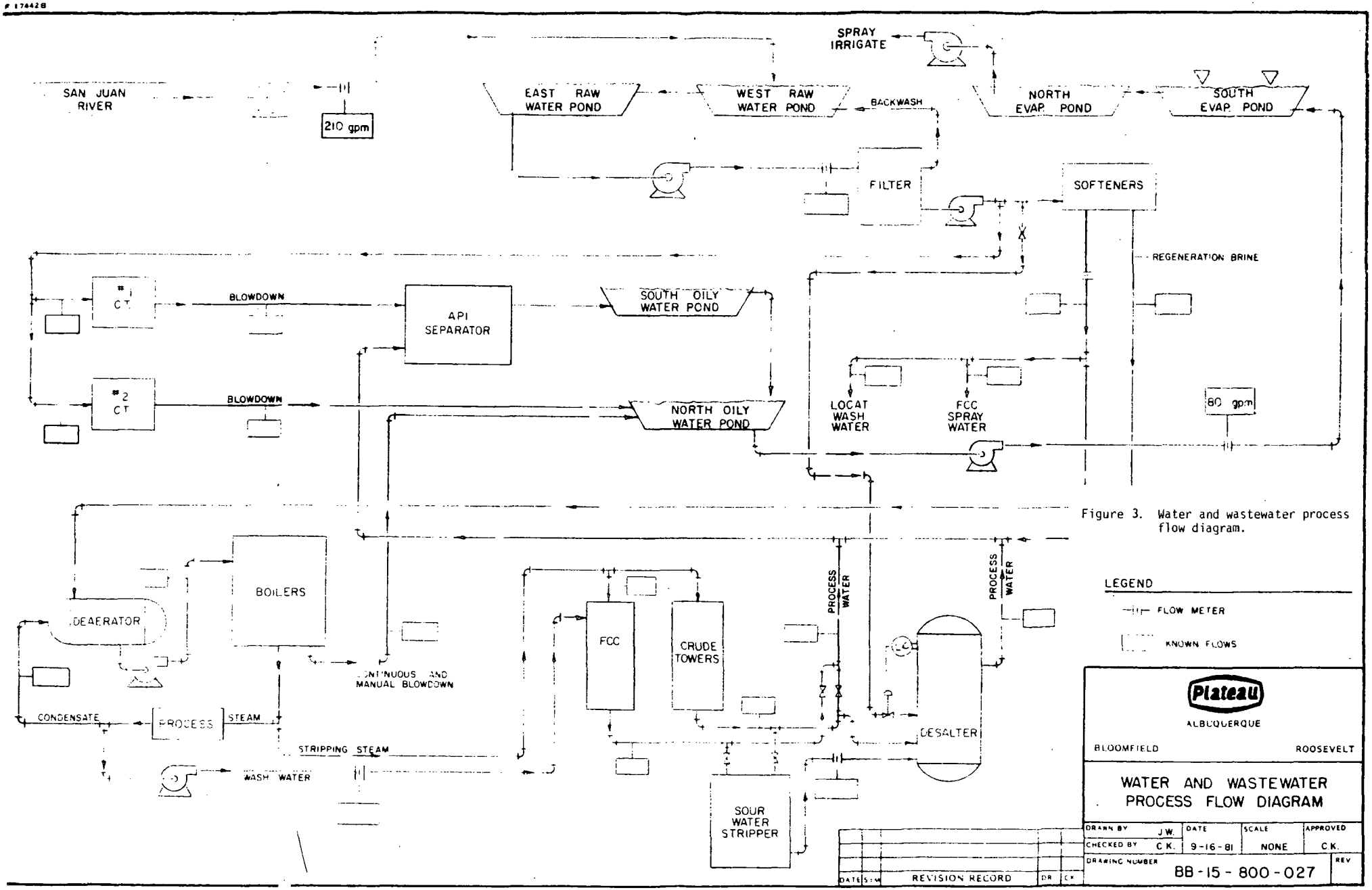

Figure 3. Water and wastewater process flow diagram.

the diagram was produced. This is based upon meter readings. The water is comprised of the following streams:

ITEM	gpm
Cooling tower blowdown	30
Boiler blowdown	12
Desalter effluent	18
Softener effluent	2
Crude process water	8
FCC process water	10

Recently, however, Plateau began recycling 30 gallons per minute within the refinery thereby reducing the average discharge to about 50 gpm (60 gpm in winter and 40 gpm in summer months). The recycling is accomplished as follows:

1. 12 gpm of boiler blowdown is cooled and recycled as makeup to the cooling tower.

2. 8 gpm of crude process water is collected and returned as makeup water to the desalter.

3. 10 gpm of FCC process water is stripped of hydrogen sulphide and ammonia in the sour water stripper and recycled as makeup to the desalter.

PLACE AND PLACES OF FORESEEABLE GROUND-WATER USE

From the direction of ground-water flow within the Quaternary material overlying the impermeable Nacimiento Formation, it is clear that the shallow, artificial ground water discharges as small seeps along the cliff face north of

the refinery and in the small intermittant stream channels. The area in which the ground-water flow occurs and in which discharge takes place is uninhabited. Most of the property belongs to Plateau. Furthermore, there are no private domestic or irrigation wells in the area and there is no farming or cattle grazing permitted in the area. Consequently, there is no present or reasonably foreseeable future impact upon the use of natural ground water by refinery operations.

CONTINGENCY PLANS

Plateau has implemented the following contingency plans.

Problem: Accidental spills of chemicals or any other material including hydrocarbons used in the refining process.

Solution: Plateau has prepared an exhaustive Contingency Plan and Emergency Procedures document as required by the Federal Plan Resource Conservation and Recovery Act (RCRA). This plan is contained in Attachment 5.

Problem: Waste water escaping from refinery property into intermittant stream channels.

Solution: If waste water escapes from refinery property which exceeds the allowable background or WQCC standards, Plateau will investigate to determine if approvable ground-water concentrations are exceeded or may be exceeded, and, if so, propose appropriate solutions.

Problem: New seeps develop.

Solution: Should new seeps develop, they will be

investigated to determine if they are in any way inconsistent with the discharge plan. If so, appropriate remedial or preventative measures will be taken.

Problem: Detection of ground water or San Juan River contamination.

Solution: If, at any time, ground or surface water is found which exceeds the applicable regulatory concentrations, Plateau will carry out additonal studies which may include construction of additional monitoring wells, performance of additional water quality analyses. Based upon these studies, Plateau will propose appropriate remedial and preventative measures to rectify the problem.

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ATTACHMENT 1

DESCRIPTION OF REFINERY PROCESS

PLATEAU, INC.

BLOOMFIELD REFINERY

WATER TREATMENT PROGRAM

AS OF FEBRUARY, 1982

FILTERED WATER

The filter aid for water is 1190, a polyamine. This is a water solution of polyquaternary ammonium chloride and aids in filtration by charge neutralization of the water. The doseage is 1 ppm or 2 quart/day. It is also approved for potable water supplies.

BOILER WATER TREATMENT

The chemical used in boiler water treatment is called API1, a phosphate formulation. The material contained within each drum consists of an aqueous solution of a polystyrene derivative, a polyacrylate type polymer, a polyphosphate, an antifoam agent and caustic soda.

The treatment is a precipitating phosphate treatment containing sludge conditioners which allows the impurities in the boiler water to become insoluble matter at a proper pH range. The doseage is approximately 45 ppm in boiler water or approximately 10 gallon/day. The chemicals are inert and broken down upon blowdown.

The corrogen used in boiler treatment is sodium sulfite in a powder form. Upon contact with oxygen in water, it is reacted to form sodium sulfate, a common water soluble salt. The doseage used is 40 ppm or 30 pound/day.

COOLING TOWER TREATMENT

The cooling treatment consists of the following:

1. 2040, a phosphate compound consisting of an aqueous solution of organic and inorganic phosphates, a triazole derivative and caustic potash. The treatment is a combining reaction with the metal surfaces it is in contact with. The doseage is 30 ppm or approximately 1 gallon/day. These are inert materials naturally broken down to salts and phosphate.

2. 2020 is an aqueous solution of low molecular weight hydroxylated polymer. It is used to disperse calcium phosphate scale from forming. The doseage is 60 ppm or 1½ gallon/day. The material has no effect on the environment.

3. HTH is a calcium hypochlorite used in the cooling treatment. It is used for oxidation of all organic material in water. The doseage is 100 ppm shocked three times per day or 75 pound/day. The HTH breaks down into inorganic salts of calcium and chloride.

4. Slimicide 508 is an organic bromine called DBNPA. It is also used as a biocide and it spontaneously breaks down in water and then loses toxicity.

5. The HTH and slimicide 508 will soon be eliminated and a gaseous chlorine treatment will be used.

PROCESS CHEMICALS

WS66 and OS16 are amines, both mixed neutralizing amines and a heterocyclic amine - amide mixture. The theory of treatment is that they film metal surfaces and neutralize acidity in water. The doseages are 100 ppm for WS66 or 8 gallon/day and 5 ppm for OS16 or 2 gallon/day. The OS16 stays in the hydrocarbon and is not discharged into water.

The EB911 is a demulsifier and is composed of an oxyalkylated phenolic resin and a polyglycol dispersed in heavy aromatic spirits. It functions to break emulsions and form oil free water as discharge after desalting. Our present doseage is 10 ppm or 7 gallon/day. Most of the chemicals are oil soluble and therefore do not exit with water.

The Neutralfilm 463 is an amine and is composed of heterocyclic and high molecular weight straight chain primary filming amines. It is designed to neutralize acidic material and film metal surfaces to protect against corrosion.

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ATTACHMENT 2

LITHOLOGIC LOGS AND CONSTRUCTION DETAILS FOR MONITORING WELLS

MONITORING WELLS

Six monitoring wells were drilled by Earl and Sons Inc. of Cedar Crest, New Mexico at the Plateau refinery located at Bloomfield, New Mexico. The wells are numbered in accordance with the numbering system used at the refinery such that the northwestern-most well is P-1. The wells are located on Plate 1. The order of drilling and the drilling dates are shown in Table 1.

Table 1. Monitoring wells at Plateau's Bloomfield refinery shown in order drilled with drilling dates and approximate yields and depth at which water was first encountered.

WELL	DRILLING BEGAN	DRILLING FINISHED	DEPTH TO WATER (ft)	YIELD (gpm)
5	2/6/84	2/6/84	42	1
6	2/7/84	2/7/84	dry	
2	2/7/84	2/8/84	23	3-4
1	2/8/84	2/8/84	18	1
3	2/8/84	2/9/84	35	<1
4	2/9/84	2/9/84	26	2

The wells were drilled with an Ingersol-Rand TH-60 rig with casing hammer using air rotary methods and a down-the-hole air hammer. No drilling mud was used in the drilling process. The hole was drilled to the cobble bed at which point six-inch black steel casing was set. As drilling continued through the cobble bed, the casing was driven simultaneously. Some water was required while drilling through the cobble bed, but the drillers used as little water as possible. The drilling water was obtained from the San Juan River. The drill bits were washed between holes with methanol or acetone. Upgradient wells were drilled first to minimize contamination from one well to the next. That is, the wells were drilled in the order of expected increase in contaminated ground water.

Drilling stopped when certain determination of the Nacimiento Formation was obtained from the drill cuttings. The holes were developed with air. Drill samples were collected every five (5) feet and described at the site. Casing lengths were measured to the nearest tenth (10th) of foot before they went down the hole. The first casing section of approximately 20 feet was slotted every four inches with an oxy-acetylene torch. A slit cut with the torch in the top of the set casing serves as a measuring point for water levels.

Water levels were taken on February 9, 1984 in all holes. These data are presented in Table 2. Well 6 was dry.

Hydrocarbons were encountered during drilling in hole 4, the last hole drilled, as evidenced by smell, oil slicks in water coming up the hole and appearance and smell of the drill cuttings.

Temporary caps were placed on all wells. At the time of this writing permanent locked caps have been placed on all monitoring wells.

Table 2. Depth to water and total well depth in Plateau monitoring wells on February 9, 1984.

WELL	TIME	TOTAL DEPTH (ft)	DEPTH TO WATER (ft)
5	1:00	51.61	42.67
6	1:30	49.63	dry
2	3:43	26.90	19.11
1	4:10	24.65	16.56
3	4:30	39.35	34.06
4	4:50	32.5	24.94

On February 14 and 15, 1984 water levels were again measured in the new monitoring wells and in the neutron-probe holes (NP) holes along the northern evaporation pond. These data are presented in Table 3.

Table 3. Water-level data in neutron-probe holes and monitoring wells.

WELL	DATE	DEPTH TO WATER (ft)
5	2-14-84	43.78
3	2-14-84	34.26
2	2-15-84	19.90
1	2-15-84	17.01
4	2-15-84	24.97
NP-8	2-15-84	23.91*
NP-7	2-15-84	24.44
NP-6	2-15-84	23.71
NP-5	2-15-84	23.19
NP-3	2-15-84	23.09
NP-2	2-15-84	31.00*
NP-1	2-15-84	39.04
NP-9	2-15-84	22.72

* No temperature probe tube. All other NP holes have tubes along their total length. Water levels were measured with the temperature probe tubes in the holes.

The four down-gradient wells (P-1,P-2,P-3,P-4) were sampled on the afternoon of February 15, 1984. Samples were collected with a bailer. Repeated attempts to pump the wells with two different pumps failed because of sand-lock. The wells in which the worst quality water was suspected were sampled last in order to minimize contamination of samples by the bailer in the event the bailer cleaning was ineffective. The sampling order was therefore P-3, P-2, P-1, P-4. The bailer was thoroughly washed with methanol between samples. The samples were collected according to instructions supplied by each of two labs, Hauser Labs of Boulder, Colorado, and Controls for Environmental Pollution of Santa Fe, New Mexico. Each lab was sent a complete sample from each well. The samples were shipped via UPS to the labs and approved chain of custody procedures were followed.

Lithologic logs for each of the monitoring wells drilled by Earl and Sons, Inc. are given hereafter.

WELL NUMBER: 1
DATE: 8 February 1984
LOCATION: 29.11.27.24221

DEPTH IN FEET	DESCRIPTION
0-5	Light brown clayey sand, coarse, poorly sorted, quartzose and slightly calcareous
5-10	Yellowish gray sandy pebbles and cobbles, poorly sorted, rounded to subrounded
10-12	Yellowish gray pebbly sand, very coarse, poorly sorted, feldspathic and noncalcareous
12-22	Dark gray pebbly and sandy cobbles, some quartz pebbles, most are volcanic, subrounded cobbles and pebbles, some clay, a little water at about 18 feet
22-25	Gray-green clayey sand becoming light yellow clayey sandstone and sandy claystone

WELL NUMBER: 2
DATE: 7 February 1984
LOCATION: 29.11.27.24321

DEPTH IN FEET	DESCRIPTION
0-5	Light yellow brown silty sandy clay, very calcareous
5-10	Light yellow brown clayey sand, subrounded to subangular, moderately to poorly sorted, very calcareous
10-15	Light brown pebbly sand, clayey, very calcareous, cobbles at 15 feet
15-20	Gray sandy pebbles, poorly sorted coarse quartzose sand, pebbles are dark gray and volcanic
20-25	Dark gray cobbles, some quartz pebbles, mostly volcanic, some sand
25-26	Yellow gray clayey sandstone and sandy claystone

WELL NUMBER: 3
DATE: 8 February 1984
LOCATION: 29.11.27.24442

DEPTH IN FEET	DESCRIPTION
0-5	Yellow brown sandy silt and clay, very calcareous quartzose
5-10	yellow brown sand, calcareous, silty and clayey, quartzose
10-15	Yellow brown sand, silty and clayey, fine-grained, very calcareous, quartzose
15-27	Light brown clay, sandy, very calcareous, becoming pebbly with depth
27-35	Gray yellow brown cobbly sand, coarse, poorly sorted, silty and clayey, volcanic pebbles small amount of water at about 35 feet
35-40	Gray cobbles, pebbly and sandy, coarse sand, yellow gray clayey sandstone at about 40 feet

WELL NUMBER: 4
DATE: 9 February 1984
LOCATION: 29.11.27.23344

DEPTH IN FEET	DESCRIPTION
0-5	Yellow gray-brown sandy silt and clay, calcareous
5-10	Yellow brown silty sandy clay and clayey silt, very slightly calcareous
10-15	Reddish yellow-brown clayey sandy silt, silty clay, fine-grained quartzose sand, noncalcareous
15-19	Light brown coarse sand with clay and pebbles, calcareous
19-25	Gray pebbly sand, very coarse, poorly sorted, some clay and silt, subrounded to subangular, quartzose, pebbles rounded, slightly calcareous
25-30	Gray cobbles and pebbles, subrounded to rounded, volcanic; at about 28 feet, hydrocarbon smell and color
30-32	Gray cobbly sand, with hydrocarbon smell and color, coarse grained, sand is quartzose and feldspathic, subrounded and subangular quartz grains are clear
32	Yellow gray clayey sandstone

WELL NUMBER: 5
DATE: 6 February 1934
LOCATION: 29.11.26.31112

DEPTH IN FEET	DESCRIPTION
0-5	Pale yellow brown clay, silty, some sand, calcareous
5-10	Pale yellow brown clayey sand and quartzose silt, poorly sorted, calcareous
10-15	Yellow brown sand, subrounded quartzose sand slightly calcareous
15-20	Yellow brown sand, clayey, moderately coarse grained, very slightly calcareous
20-25	Yellow brown sand, clayey, silty, fine to medium grained, moderately sorted, noncalcareous
25-35	Yellow brown sand, silty and slightly clayey, fine-to-medium grained, well sorted, subangular, noncalcareous, becoming more clayey with depth
35-37	Yellow brown pebbly and cobbly sand, clayey, calcareous
37-47	Dark gray sandy and clayey cobbles and pebbles, water at 42 feet
47-50	Dark gray cobbles with greenish clay
50-54	Green-gray pebbly clay

WELL NUMBER: 6
DATE: 7 February 1984
LOCATION: 29.11.27.42144 or 42233

DEPTH IN FEET	DESCRIPTION
0-15	Pale yellow brown sand, clayey and silty, subangular, poorly sorted, quartzose, very calcareous, becoming more clayey with depth
15-20	Pale yellow brown silt, sandy and clayey, silt is coarse, sand is very fine, moderate sorting, quartzose and calcareous
20-25	Pale yellow sand, slightly clayey, subrounded, well sorted, quartzose, noncalcareous
25-35	Pale yellow sand, coarse to medium grained, quartzose, noncalcareous
35-41	Pale yellow sand, clayey, fine grained, silty, quartzose, slightly calcareous
41-49	Gray-black cobbles and pebbles, volcanic
49-52	Gray-green clayey sandstone and sandy claystone

PLATEAU REFINERY Geological Points
2/25/84

Pt #	North	East	Elevation	Description	
27B	18,162.70	26,802.73	5511 [11]	℄ point	✓
Pt # 1	18,179.15	26,895.27	5454 [8]	Geological Stk	✓
Pt # 2	18,138.81	26,819.68	5501 [9]	" "	✓
Pt # 3	18,087.94	26,890.04	5493 [8]	" "	✓
Pt # 4	17,977.91	26,850.23	5490 [6]	" "	✓
Pt # 5	17,937.44	26,809.72	5494 [6]	" "	✓
Pt # 6	17,928.78	26,739.28	5500 [9]	" "	✓
Pt # 7	17,869.12	27,011.25	5500 [8]	" "	✓
Pt # 8	17,811.89	27,023.00	5500 [7]	" "	✓
Pt # 9	17,763.36	26,972.67	5504 [2]	" "	✓
Pt # 10	17,744.19	27,106.69	5491 [9]	" "	✓
Pt # 11	17,639.21	27,118.93	5495 [1]	" "	✓
Pt # 12	17,608.69	27,205.15	5498 [2]	" "	✓
Pt # 13	17,735.19	27,189.82	5496 [6]	" "	✓
Pt # 14	17,876.37	27,294.36	5497 [4]	" "	✓
Pt # 15	18,001.78	27,291.18	5495 [3]	" "	✓
Pt # 16	18,074.52	27,079.97	5478 [6]	" "	✓
Pt # 17	18,603.86	26,869.23	5493 [4]	" "	✓
Pt # 18	18,639.28	26,423.11	5497 [7]	" "	✓
Pt # 19	19,001.05	26,298.87	5500 [5]	" "	✓
Pt # 20	19,462.10	25,691.29	5496 [5]	" "	✓
Pt # 21	18,126.14	26,700.28	5499 [4]	" "	✓
Hand Well	18,459.83	26,619.81	5498 [9] (water)	Dirt	✓
Pt # 27C	19,218.30	25,895.15		℄ point	✓
East End Prop Dam	19,401.05	25,718.21	5508 [5]	East End Prop Dam	✓
West End Prop Dam	19,372.90	25,560.89	5504 [10]	West End Prop Dam	✓
Pt # 21-5	19,466.19	25,533.77	5498 [8]	Geological Stk	
Pt 19B	18,718.55	25,179.53	5521 [14]	Paving Point	✓
Well # 1	18,951.59	25,507.39	5515 [6] (casing)	Water Test well K	✓
Well # 2	18,267.66	24,982.13	5519 [18] (casing)	" " " K	✓
Well # 3	17,644.60	23,799.10	5524 [20] (casing)	" " " K	✓
Well # 4	17,852.61	25,666.55	5535 [19] (casing)	" " " K	✓
Well # 5	17,585.33	26,058.65	5545 [21] (casing)	" " " K	✓
Well # 6	17,029.99	25,128.98	5551 [13] (casing)	" " " K	
Septic Point	18,963.13	25089.23	5483 [5]	Geological Stk	✓
Pt # 28	18,906.43	25,056.10	5492 [3]	" "	✓
Pt # 29	18,873.20	24,917.64	5493 [9]	" "	✓
Pt # 27D	19,284.65	24,987.66	5504 [12]	℄ point	✓
Pt # 22	19,430.58	25,381.01	5494 [3]	Geological Stk	✓
Pt # Septic	19,241.23	25,114.48	5485 [5]	Septic point	✓
Pt # 27	19,213.45	25,013.89	5493 [5]	Geological Stk	✓
Pt # 26	19,179.44	24,936.56	5460 [8]	" "	✓
Pt # 25	19170.5	24,882.04	5454 [3]	" "	✓
Pt # 24	19,203.93	24,854.23	5464 [3]	" "	✓
Pt # 23	19,264.14	24,825.28	5465 [4]	" "	✓
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Pt #	North	East	Elevation	Description		
Pt # 30	19.142.38	24 736. 88	5493 1	Geological	Stk	✓
" 31	19 100. 28	24 585. 42	5495	"	"	✓
" 32	19 141. 66	24 409. 97	5494	"	"	✓
Pt # 33	18. 990. 75	24 521. 75	5494 8	"	"	✓
" 34	19 043. 16	24 215. 63	5493 5	"	"	✓
" 35	19. 151. 18	24. 144. 94	5493 3	"	"	✓
" 36	18. 692. 53	23. 541. 53	5465		"	✓
" 37	18. 636. 18	23 473. 87	5466 4	"	"	✓
" 38	18. 463. 82	23. 241. 46	5470 7	"	"	✓
" 39	18. 360. 89	22. 588. 29	5466 3	"	"	✓
" 40	17. 962. 76	22. 632. 60	5463 6	"	"	—
" 35	18. 696. 54	23. 169. 34	5499 11	@ point		

ATTACHMENT 3

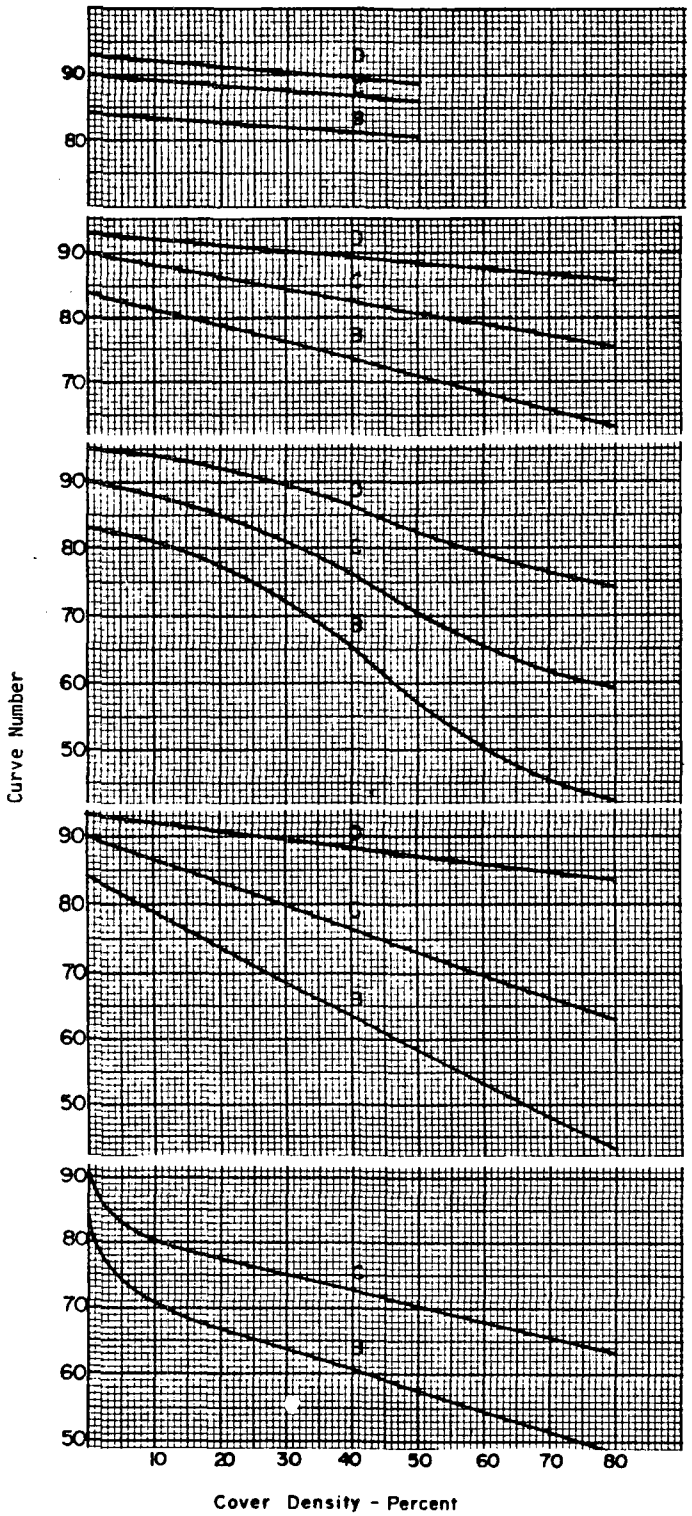
DATA FOR FLOOD POTENTIAL ANALYSIS

TIME OF CONCENTRATION

CONCENTRATION POINT NUMBER	DRAINAGE AREA SIZE (ACRES)	DRAINAGE AREA LENGTH (FEET)	TOP ELEVATION (FEET)	OUTLET ELEVATION (FEET)	DIFFERENCE IN ELEVATION (FEET)	TIME OF CONCENTRATION (HOURS)
1	2.5	1600	5580	5536	44	0.15
2	20.5	2280	5607	5535	72	0.19
3	42.0	2930	5607	5530	77	0.24
4	50.0	3730	5607	5525	82	0.31

RUNOFF COMPUTATION

CONCENTRATION POINT NUMBER	DRAINAGE AREA SIZE (ACRES)	HYDROLOGIC SOIL GROUP (FEET)	VEGETATION COVERTION (FEET)	HYDROLOGIC CONDITION (FEET)	RUNOFF CURVE NUMBER (FEET)	DIRECT RUNOFF (INCHES)	UNIT PEAK DISCHARGE (CFS/AC/IN)	PEAK DISCARGE (CFS)
11	2.5	D600	DESERT BRUSH	POOR	90 44	1.6	1.4	5.6
22	20.5	D280	DESERT BRUSH	POOR	90 72	1.6	1.38	45.3
33	42.0	D930	DESERT BRUSH	POOR	90 77	1.6	1.30	87.4
44	50.0	D730	DESERT BRUSH	POOR	90 82	1.6	1.20	96.0



Desert Brush: Brush-weed and grass mixtures with brush the predominent element. Some typical plants are - Mesquite, Creosote, Yuccas, Sagebrush, Saltbrush, etc. This area is typical of lower elevations of desert and semi-desert areas.

Herbaseous: Grass-weed-brush mixtures with brush the minor element. Some typical plants are - Grama, Tobosa, Broom Snakeweed, Sagebruch, saltbrush, Mesquite, yucca, etc. This area is typical of lower elevations of desert and semi-desert areas.

Mountain Brush: Mountain brush mixtures of Oak, Mountain Mohagany, Apache Plume, Rabbit Brush, Skunk Brush Sumac, Cliff Rose, Snowberry, etc. Mountain Brush is typical of intermediate elevations and generally higher annual rainfall than Desert Brush and herbaceous areas.

Juniper - Grass: These areas are mixed with varying amounts of juniper, pinon, grass, and cholla cover, or may be predominantly of one species. Grass cover is generally heavier than desert grasses due to higher annual precipitation. Juniper-Grass is typical of mountain slopes and plateaus of intermediate elevations.

Ponderosa Pine: These are forest lands typical of higher elevations where the principal cover is timber.

Figure 2-1
HYDROLOGIC SOIL - COVER COMPLEXES
AND ASSOCIATED CURVE NUMBERS

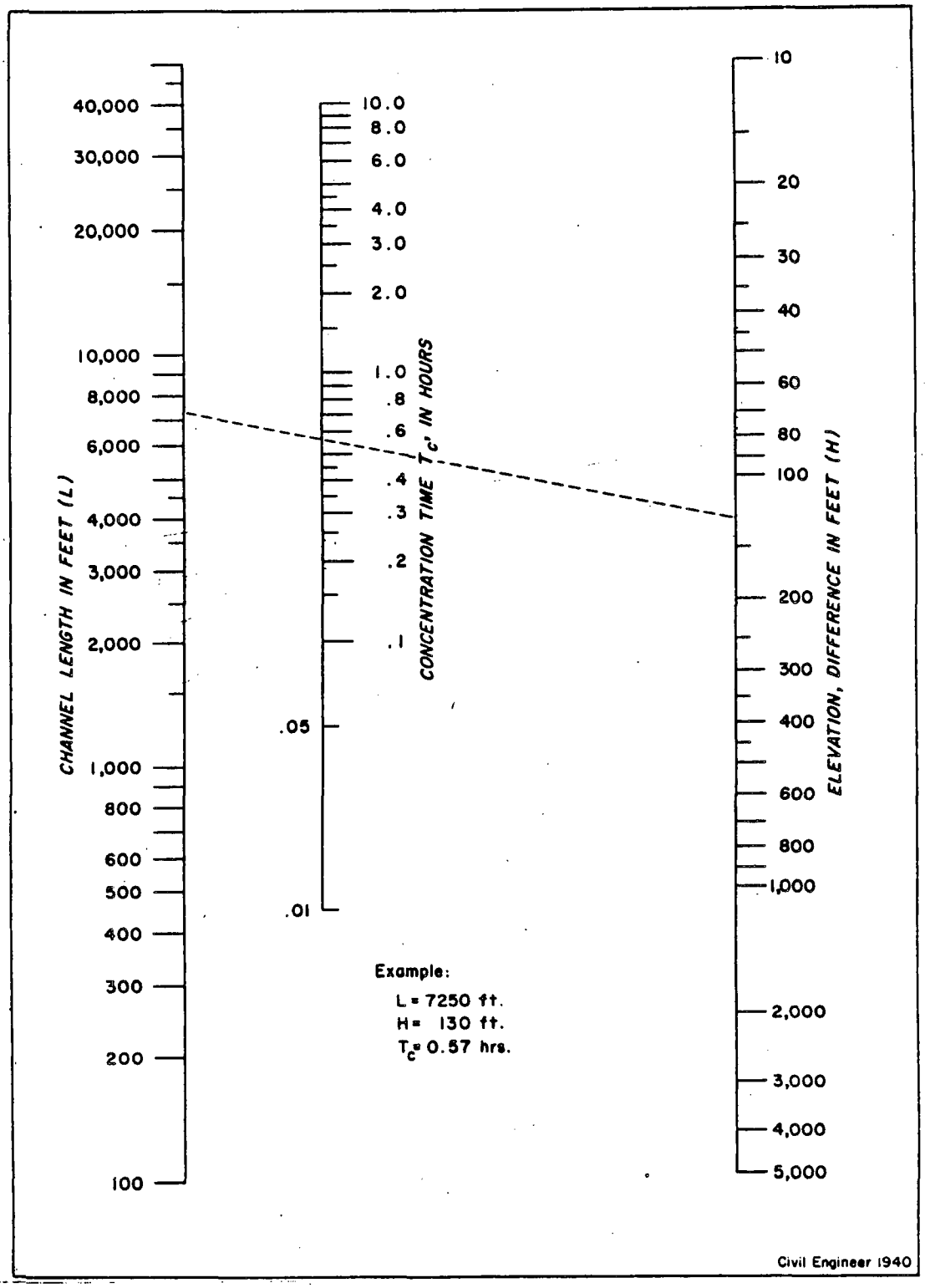
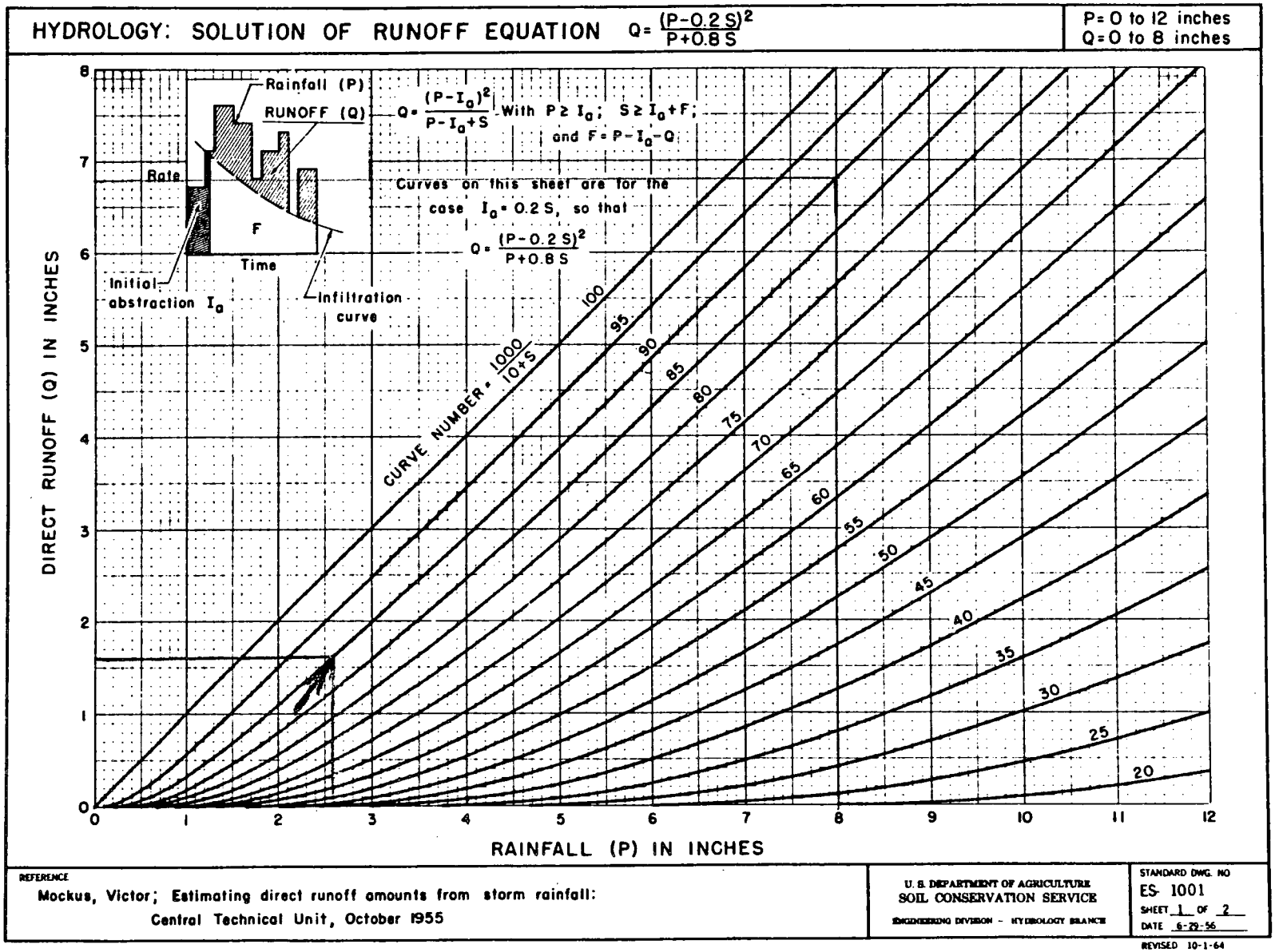


Figure 2-2 --- Nomograph to Determine Time of Concentration



REFERENCE

Mockus, Victor; Estimating direct runoff amounts from storm rainfall: Central Technical Unit, October 1955

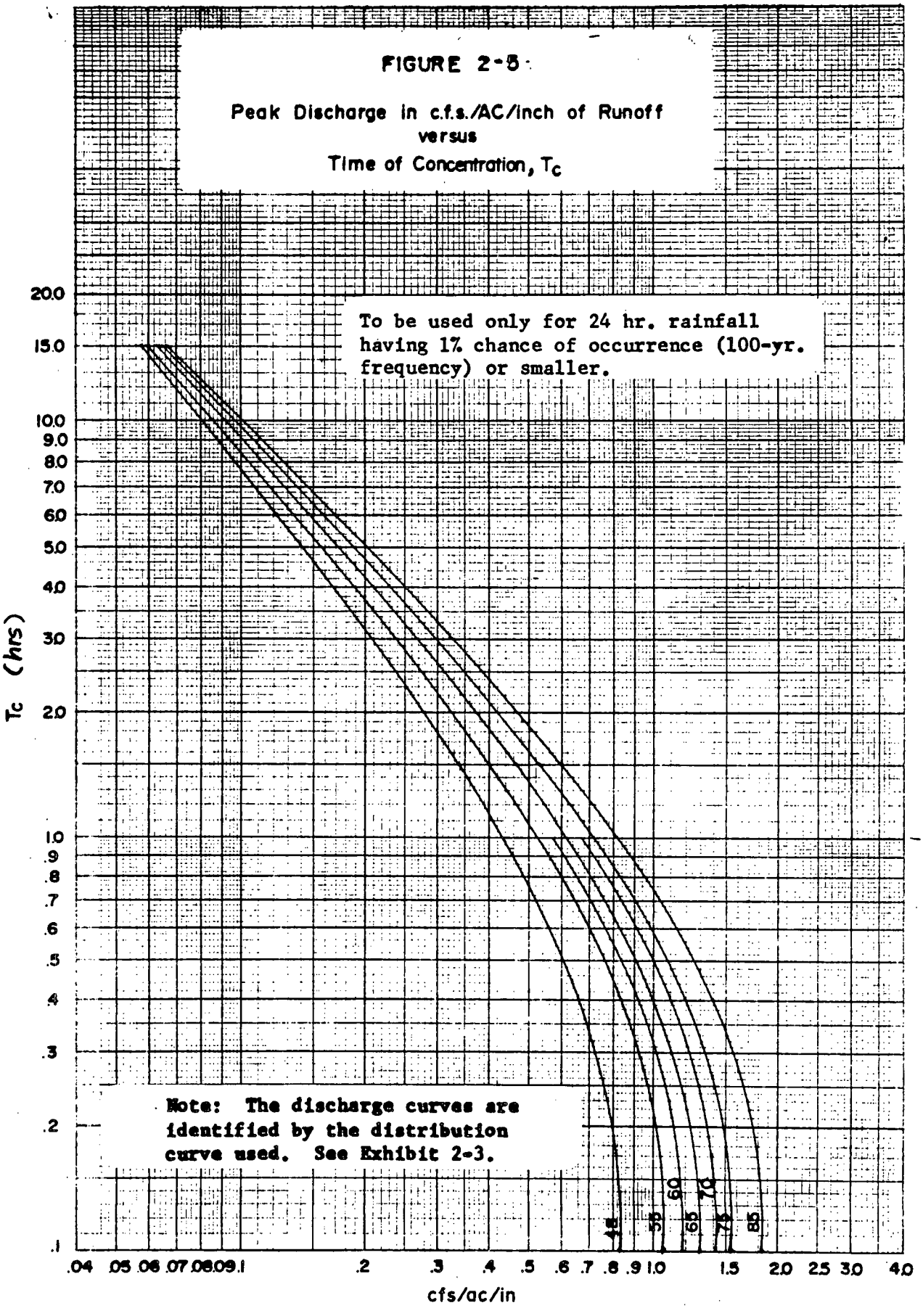
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ENGINEERING DIVISION – HYDROLOGY BRANCH

STANDARD DWG. NO
ES- 1001
SHEET 1 OF 2
DATE 6-29-56
REVISED 10-1-64

Figure 2-4

FIGURE 2-5

Peak Discharge in c.f.s./AC/inch of Runoff
versus
Time of Concentration, T_c



ATTACHMENT 4

POND LINER SPECIFICATIONS

SCHLEGEL LINING TECHNOLOGY, INC.

MINIMUM SPECIFICATIONS FOR SCHLEGEL® SHEET - POLYETHYLENE

PROPERTY	TEST METHOD	VALUE
Density	ASTM D792	0.930 gm/cc
Tensile strength @ yield	ASTM D638	1500 psi
Tensile strength @ break	ASTM D638	1500 psi
Elongation @ yield	ASTM D638	10 %
Elongation @ break	ASTM D638	500 %
Stress crack	ASTM D1693	500 hours
Low temperature	ASTM D746	−40 °C
120 day soil burial	ASTM D3083	±10 % of original tensile
Bonded seam strength	ASTM D3083	90 % of material breaking factor
Dimensional stability	ASTM D1204	±3 %

Chemical Resistance

Chemical Resistance Table.

Shown here are the results of tests reported by the supplier of high density polyethylene granulate used to manufacture Schlegel sheet. The high density polyethylene is resistant to the chemicals listed. The degree of chemical attack on any material is influenced by a number of variable factors and their interaction, including temperature, pressure, size of area under attack, exposure duration, and the like. Where sheet will be exposed to a mixture of chemicals it is recommended that tests be carried out for sheet resistance to that chemical mixture. Therefore, these ratings are offered as a guide only.

Abbreviations

S = Satisfactory
L = Limited application possible
U = Unsatisfactory
— = Not tested

Concentration

sat. sol. = Saturated aqueous solution, prepared at 20° C (68° F)
sol. = aqueous solution with concentration above 10% but below saturation level
dil. sol. = diluted aqueous solution with concentration below 10%
cust. conc. = customary service concentration

Medium	Concentration	Resistance at 20° C (68° F)	Resistance at 60° C (140° F)
A			
Acetic acid	100%	S	L
Acetic acid	10%	S	S
Acetic acid anhydride	100%	S	L
Acetone	100%	L	L
Adipic acid	sat. sol.	S	S
Allyl alcohol	96%	S	S
Aluminum chloride	sat. sol	S	S
Aluminum fluoride	sat. sol.	S	S
Aluminum sulfate	sat. sol.	S	S
Alums	sol.	S	S
Ammonia, aqueous	dil. sol.	S	S
Ammonia, gaseous dry	100%	S	S
Ammonia, liquid	100%	S	S
Ammonium chloride	sat. sol.	S	S
Ammonium fluoride	sol.	S	S
Ammonium nitrate	sat. sol.	S	S
Ammonium sulfate	sat. sol.	S	S
Ammonium sulfide	sol.	S	S
Amyl acetate	100%	S	L
Amyl alcohol	100%	S	L
Aniline	100%	S	L
Antimony trichloride	90%	S	S
Arsenic acid	sat. sol.	S	S
Aqua regia	$HCl-HNO_3$ 3/1	U	U
B			
Barium carbonate	sat. sol.	S	S
Barium chloride	sat. sol.	S	S
Barium hydroxide	sat. sol.	S	S
Barium sulfate	sat. sol.	S	S
Barium sulfide	sol.	S	S
Benzaldehyde	100%	S	L
Benzene	—	L	L
Benzoic acid	sat. sol.	S	S
Beer	—	S	S
Borax	sat. sol	S	S
Boric acid	sat. sol	S	S
Bromine, gaseous dry	100%	U	U
Bromine, liquid	100%	U	U
Butane, gaseous	100%	S	S
Butanol	100%	S	S
Butyric acid	100%	S	L
C			
Calcium carbonate	sat. sol.	S	S
Calcium chlorate	sat. sol.	S	S
Calcium chloride	sat. sol.	S	S
Calcium hydroxide	sat. sol.	S	S
Calcium hypochlorite	sol.	S	S
Calcium nitrate	sat. sol.	S	S
Calcium sulfate	sat. sol.	S	S
Calcium sulfide	dil. sol.	L	L
Carbon dioxide, gaseous dry	100%	S	S
Carbon disulfide	100%	L	U
Carbon monoxide	100%	S	S
Chloracetic acid	sol.	S	S

Medium	Concentration	Resistance at 20° C (68° F)	Resistance at 60° C (140° F)
Carbon tetrachloride	100%	L	U
Chlorine, aqueous solution	sat. sol.	L	U
Chlorine, gaseous dry	100%	L	U
Chloroform	100%	U	U
Chromic acid	20%	S	L
Chromic acid	50%	S	L
Citric acid	sat. sol.	S	S
Copper chloride	sat sol	S	S
Copper nitrate	sat sol.	S	S
Copper sulphate	sat. sol	S	S
Cresylic acid	sat sol	L	—
Cyclohexanol	100%	S	S
Cyclohexanone	100%	S	L
D			
Decahydronaphthalene	100%	S	L
Dextrine	sol.	S	S
Diethyl ether	100%	L	—
Dioctylphthalate	100%	S	L
Dioxane	100%	S	S
E			
Ethane diol	100%	S	S
Ethanol	40%	S	L
Ethyl acetate	100%	S	U
Ethylene trichloride	100%	U	U
F			
Ferric chloride	sat sol	S	S
Ferric nitrate	sol.	S	S
Ferric sulfate	sat sol.	S	S
Ferrous chloride	sat sol.	S	S
Ferrous sulfate	sat sol.	S	S
Fluorine, gaseous	100%	U	U
Fluosilicic acid	40%	S	S
Formaldehyde	40%	S	S
Formic acid	50%	S	S
Formic acid	98-100%	S	S
Furfuryl alcohol	100%	S	L
G			
Gasolene	—	S	L
Glacial acetic acid	96%	S	L
Glucose	sat. sol.	S	S
Glycerine	100%	S	S
Glycol	sol.	S	S
H			
Heptane	100%	S	U
Hydrochloric acid	10%	S	S
Hydrobromic acid	50%	S	S
Hydrobromic acid	100%	S	S
Hydrochloric acid	10%	S	S
Hydrochloric acid	concentrated	S	S
Hydrocyanic acid	10%	S	S
Hydrofluoric acid	60%	S	L
Hydrofluoric acid	4%	S	S
Hydrogen	100%	S	S

Medium	Concentration	Resistance at 20°C (68°F)	Resistance at 60°C (140°F)
Hydrogen peroxide	30%	S	S
Hydrogen peroxide	90%	S	U
Hydrogen sulfide, gaseous	100%	S	S
L			
Lactic acid	100%	S	S
Lead acetate	sat. sol.	S	—
M			
Magnesium carbonate	sat. sol.	S	S
Magnesium chloride	sat. sol.	S	S
Magnesium hydroxide	sat. sol.	S	S
Magnesium nitrate	sat. sol.	S	S
Maleic acid	sat. sol.	S	S
Mercury	100%	S	S
Mercuric chloride	sat. sol.	S	S
Mercuric cyanide	sat. sol.	S	S
Mercuric nitrate	sol.	S	S
Methanol	100%	S	S
Methylene chloride	100%	L	—
Milk	—	S	S
Molasses	cust. conc.	S	S
N			
Nickel chloride	sat. sol.	S	S
Nickel nitrate	sat. sol.	S	S
Nickel sulfate	sat. sol.	S	S
Nicotinic acid	dil. sol.	S	—
Nitric acid	25%	S	S
Nitric acid	50%	S	U
Nitric acid	75%	U	U
Nitric acid	100%	U	U
O			
Oils and Grease	—	S	L
Oleic acid	100%	S	L
Orthophosphoric acid	50%	S	S
Orthophosphoric acid	95%	S	L
Oxalic acid	sat. sol.	S	S
Oxygen	100%	S	L
Ozone	100%	L	U
P			
Petroleum	—	S	L
Phenol	sol.	S	S
Phosphorus trichloride	100%	S	L
Photographic developer	cust. conc.	S	S
Picric acid	sat. sol	S	—
Potassium bicarbonate	sat. sol.	S	S
Potassium bisulfate	sat. sol.	S	S
Potassium bisulfide	sol.	S	S
Potassium bromate	sat. sol.	S	S
Potassium bromide	sat. sol.	S	S
Potassium carbonate	sat. sol.	S	S
Potassium chlorate	sat. sol.	S	S
Potassium chloride	sat. sol.	S	S
Potassium chromate	sat. sol.	S	S
Potassium cyanide	sol.	S	S
Potassium dichromate	sat. sol.	S	S
Potassium ferricyandide	sat. sol.	S	S
Potassium ferrocyanide	sat. sol.	S	S
Potassium fluoride	sat. sol.	S	S
Potassium hydroxide	10%	S	S
Potassium hydroxide	sol.	S	S
Potassium hypochloride	sol	S	L
Potassium nitrate	sat. sol.	S	S
Potassium orthophosphate	sat. sol.	S	S
Potassium perchlorate	sat. sol.	S	S
Potassium permanganate	20%	S	S
Potassium persulfate	sat. sol.	S	S
Potassium sulfate	sat. sol.	S	S
Potassium sulfite	sol.	S	S
Propionic acid	50%	S	S
Propionic acid	100%	S	L
Pyridine	100%	S	L
Q			
Quinol (Hydroquinone)	sat. sol.	S	S

Medium	Concentration	Resistance at 20°C (68°F)	Resistance at 60°C (140°F)
S			
Salicylic acid	sat. sol.	S	S
Silver acetate	sat. sol.	S	S
Silver cyanide	sat. sol.	S	S
Silver nitrate	sat. sol.	S	S
Sodium benzoate	sat. sol.	S	S
Sodium bicarbonate	sat. sol.	S	S
Sodium biphosphate	sat. sol.	S	S
Sodium bisulfite	sol.	S	S
Sodium bromide	sat. sol.	S	S
Sodium carbonate	sat. sol.	S	S
Sodium chlorate	sat. sol.	S	S
Sodium chloride	sat. sol.	S	S
Sodium cyanide	sat. sol.	S	S
Sodium ferricyanide	sat. sol.	S	S
Sodium ferrocyanide	sat. sol.	S	S
Sodium fluoride	sat. sol.	S	S
Sodium fluoride	sat. sol.	S	S
Sodium hydroxide	40%	S	S
Sodium hydroxide	sat. sol.	S	S
Sodium hypochloride	15% active chlorine	S	S
Sodium nitrate	sat. sol.	S	S
Sodium nitrite	sat. sol.	S	S
Sodium orthophosphate	sat. sol.	S	S
Sodium sulfate	sat. sol.	S	S
Sodium sulfide	sat. sol.	S	S
Sulfur dioxide, dry	100%	S	S
Sulfur trioxide	100%	U	U
Sulfuric acid	10%	S	S
Sulfuric acid	50%	S	S
Sulfuric acid	98%	S	U
Sulfuric acid	fuming	U	U
Sulfurous acid	30%	S	S
T			
Tannic acid	sol	S	S
Tartaric acid	sol	S	S
Thionyl chloride	100%	L	U
Toluene	100%	L	U
Triethylamine	sol.	S	L
U			
Urea	sol.	S	S
Urine	—	S	S
W			
Water	—	S	S
Wine vinegar	—	S	S
Wines and liquors	—	S	S
X			
Xylene	100%	L	L
Y			
Yeast	sol	S	S
Z			
Zinc carbonate	sat. sol.	S	S
Zinc chloride	sat. sol.	S	S
Zinc (II) chloride	sat. sol.	S	S
Zinc (IV) chloride	sat. sol.	S	S
Zinc oxide	sat. sol.	S	S
Zinc sulfate	sat. sol.	S	S

Specific immersion testing should be undertaken to ascertain the suitability of chemicals not listed above with reference to special requirements.

ATTACHMENT 5

CONTINGENCY PLAN AND EMERGENCY PROCEDURES

BLOOMFIELD CONTINGENCY PLAN AND EMERGENCY PROCEDURES

It sometimes comes as a shock to generators of hazardous waste when they are asked for copies of their RCRA Contingency Plan during a state or federal RCRA inspection. If you look briefly at Part 262 40 CFR, you won't find specifics on the plan. However, if you examine the requirements further and have a good understanding of EPA's requirements for generators, you'll see the requirement outlined in Section 262.34 - Accumulation Time.

What Section 262.34(4) says is that any generator who stores hazardous waste on-site prior to transportation for a period not exceeding 90 days must still comply with the storage requirements of Subpart C and D outlined in Part 265 - "Standards For Owners And Operators Of Treatment, Storage And Disposal Facilities," and the training requirements of 265.16.

What does this mean? It simply means that each regulated generator who stores hazardous waste has the same hazardous waste storage requirements as a "permitted" storage facility and must comply with the same standards in Part 265.

Subpart C outlines the requirements for preparedness and prevention which involve the maintenance and operation of a generator's plant or facility where hazardous waste is being stored prior to treatment, storage or disposal. The requirements detail safety equipment and communications systems needed for each location where hazardous waste is stored and the testing and maintenance of and access to those systems. In addition, Subpart C details requirements for adequate aisle space to enable personnel and equipment to respond to emergency situations as well as the arrangements the owner or operator must make with local authorities. Depending on the type of waste handled at a facility, a generator may be required to make some or all of the following arrangements:

- *Familiarize police, fire departments, and emergency response teams with facility layout, properties of hazardous waste handled there and associated hazards, working locations for company personnel, entrances to roads inside the facility, and possible evacuation routes.*

- *Designate primary emergency authority to a specific police and specific fire department when more than one police and fire department might respond to an emergency at the facility.*

- *Strike agreements with state emergency response teams, emergency response contracts, and equipment suppliers.*

- *Familiarize local hospitals with the properties of hazardous waste handled at the facility and the type of injuries or illnesses which could result from fires, explosions, or releases of hazardous waste (Attachment IV).*

Subpart D

According to Subpart D - Contingency Plans and Emergency Procedures - each generator who stores, treats or disposes of hazardous waste, must develop and implement the RCRA Contingency Plan. If a generator already has prepared a "Spill Prevention, Control and Counter-Measures Plan," he or she need only

amend the SPCC plan to include the hazardous waste management provisions.

Why a contingency plan? Subpart D maintains that such a plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release or hazardous waste or hazardous waste constituents to air, soil, or surface water." Additionally, Subpart D requires that the provisions of the Contingency Plan be implemented immediately in any of the above-listed incidences which could threaten human health or the environment.

The Contingency Plan must include the following information:

- o Arrangements agreed to by local police and fire departments, hospitals, contractors and state and local emergency response personnel.(Attachment I)

- o Names, addresses and phone numbers (office and home) of all qualified personnel who will act as emergency coordinator. If more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates or secondary emergency coordinators. (Attachment II)

- o A list of all emergency equipment at the facility and decontamination equipment when this equipment is required. This list must be kept up-to-date.(Attachment III)

- o The location and a physical description of each item on the equipment list and a brief outline of its capabilities. (Figure 1)

- o An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary.

A copy of the Contingency Plan and all revisions to it must be maintained at the facility and provided to all local police departments, fire departments, hospitals, state and local emergency response teams that may be called upon to provide emergency service.

The Contingency Plan must be reviewed and amended when necessary if the regulations are revised, the plan fails in an emergency, the facility changes its operation, the list of emergency coordinators changes or the list of emergency equipment changes.

Once the Contingency Plan is complete, each person involved in any activity involving hazardous waste must now be trained on that plan.

Emergency Procedures Are Required

Because hazardous materials and waste could present major problems in an emergency, each company must develop emergency procedures to handle such wastes and materials in an emergency.

For example, an emergency coordinator who has been assigned the responsibility for coordinating all emergency response measures must be at all times either on the facility, at the plant or on call. The coordinator must be thoroughly familiar with all aspects of the facility's Contingency Plan, all operations and activities, the location and characteristics of the hazardous waste handled, the location of all records within the facility and the facility layout. If the company maintains shift operations, secondary or alternate emergency coordinators can assume responsibility in an emergency.

The emergency coordinator must immediately and effectively carry out the required emergency procedures in the event of an emergency involving hazardous waste. He or she must activate internal facility alarms or communications systems to notify all facility personnel and must notify appropriate state or local agencies with the information that will allow them to carry out their designated response roles, if they are needed in the emergency.

Where there is an emergency resulting in a release, fire or explosion, the emergency coordinator must:

1. Identify the character, exact source, amount and the real extent of any released hazardous materials or waste.

2. Assess the possible hazards to human health or the environment, considering both the direct and indirect effects of the release, fire or explosion.

3. Determine whether the release, fire or explosion may require the evacuation of the local areas and if so determined, immediately notify the appropriate local authorities, assisting them in determining which local areas require evacuation.

4. The emergency coordinator must immediately notify the government official designated as the on-scene coordinator or the National Response Center.

The Contingency Plan will provide the information necessary for the emergency coordinator to properly carry out his or her responsibilities during an emergency.

Again, the Contingency Plan must include specific information. It is recommended that as much information as possible be provided, even though not required, to make it more effective, in the event of an emergency. Included would be:

- *The facility or plant information. (Attachment V)*
- *The primary and secondary or alternate emergenc_ coordinators.*
- *While not required, it would make sense to provide a description of the waste handled or stored at the facility or plant.*
- *A list of the federal, state or local emergency response contacts.*

- *The extent of the arrangements with local police and fire departments, hospitals and emergency response services.*
- *A facility inspection check or a record of inspection activities.*
- *Personnel training record availability.*
- *Storage precautions.*
- *Job descriptions for personnel assigned specific responsibilities during an incident or emergency.*
- *A facility diagram with the location of all emergency equipment and a description of its characteristics and capabilities.*
- *Topographical and geographical diagrams or maps outlining the facility's or plant's parameters and characteristics and the evacuation routes, if required.*

A generator, owner or operator of any facility or plant where hazardous wastes are treated, stored or disposed of, may include all information, even though not required, if he or she deems it pertinent to the Contingency Plan.

One last critical point about the Contingency Plan: Section 265.16, personnel training, requires that all facility or plant personnel be trained on the hazardous waste management regulations in 40 CFR and the Contingency Plan, relevant to the jobs in which they are employed. Making sure all facility or plant personnel are knowledgeable of their responsibilities and the hazards of an incident will ensure greater protection for the facility and its personnel.

Duties of Emergency Coordinator

There are additional responsibilities for those who are designated or selected to be the "Emergency Coordinator" at each specific generator location, site, plant or facility that treats, stores or disposes of hazardous waste. According to regulations:

At all times, there must be at least one employee either on the facility premises or on call with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

When there is an emergency, spill or a release of hazardous waste at any location, the emergency coordinator must follow these procedures:

Whenever there is an imminent or actual emergency situation, the emergency coordinator (or designee when the emergency coordinator is on call) must immediately:

Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel and notify appropriate state or local agencies with designated response roles if their help is needed.

Whenever there is a release, fire or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and a real extent of any released materials. He or she may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (i.e., the effects of any toxic, irritating or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water or chemical agents used to control fire and heat-induced explosions).

If the emergency coordinator determines that the facility has had a release, fire or explosion which could threaten human health, or the environment, outside the facility, the findings must be reported as follows:

If an assessment indicates that evacuation of local areas may be advisable, he or she must immediately notify appropriate local authorities. The emergency coordinator must be available to help appropriate officials decide whether local areas should be evacuated; and must immediately notify either the government official designated as the on-scene coordinator for the geographical area (in the applicable regional Contingency Plan under Part 1510 of this Title), or the National Response Center (using their 24-hour toll free number (800) 424-8802). The report must include:

- *o Name and telephone number of reporter.*
- *o Name and address of facility.*
- *o Time and type of incident (i.e., release, fire).*
- *o Name and quantity of material(s) involved, to the extent known.*
- *o The extent of injuries, if any.*
- *o The possible hazards to human health, or the environment, outside the facility.*

During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste and removing or isolating containers.

If the facility stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes or other equipment, wherever this is appropriate.

Immediately after an emergency, the emergency coordinator must provide for treating, storing or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

The emergency coordinator must ensure that, in the affected area(s) of the facility:

1. No waste that may be incompatible with the released material is treated, stored or disposed of until cleanup procedures are completed; and

2. All emergency equipment listed in the Contingency Plan is cleaned and fit for its intended use before operations are resumed.

The owner or operator must notify the regional EPA administrator, and appropriate state and local authorities, that the facility is in compliance with the above two points before operations are resumed in the affected area(s) of the facility.

The owner or operator must note in the operating record the time, date and details of any incident that requires implementing the Contingency Plan. Within 15 days after the incident, he or she must submit a written report on the incident to the regional administrator. The report must include:

- *Name, address and telephone number of the owner or operator.*
- *Name, address and telephone number of the facility.*
- *Date, time and type of incident (i.e., fire, explosion).*
- *Name and quantity of material(s) involved.*
- *The extent of injuries, if any.*
- *An assessment of actual or potential hazard to human health or the environment, where this is applicable.*
- *Estimated quantity and disposition of recovered material that resulted from the incident.*

The most critical point about the Contingency Plan and Emergency Procedures is that any person or company who is a generator and will only store hazardous waste on site for periods of 90 days, or any person or company that treats, stores or disposes of hazardous waste under a RCRA Permit(interim status or Part B) is required to comply with these regulations.

ATTACHMENT I

EMERGENCY PHONE NUMBERS

EPA Hazardous Waste	1-214-767-9729
State Hazardous Waste	1-894-0020
National Response Center	1-800-424-8802
Bloomfield Fire Department	632-8011
Bloomfield Police Department	632-8011
San Juan County Sheriff	334-6107
State Police	325-7547
Ambulance (dispatched through Farmington Fire)	325-3501
County Fire Departments (dispatched through Farmington Fire)	325-3501
Poison Control	1-800-432-6866
Bomb Personnel (State Police Office)	325-7547
ETHYL CORP. (T.E.L. Emergencies)	1-504-344-7147
CHEMTREC (Chemical Emergencies)	1-800-424-9300
City of Farmington (Electric Utility)	327-7701
Kay-Ray	312-259-5600
E.I.D. Radiation Protection Bureau	505-984-0020
Mobile Inspection (Radiography Assistance)	327-9473
Contact of New Mexico (Call out Assistance)	327-4666

EQUIPMENT RESOURCES

Water Tankers & Vacuum Trucks	
Chief Transport	325-2396
C & J Trucking	325-7770
Delgarno	327-0461 or 327-6871
Sunco Trucking	327-4921 or 325-3862
LAD Tankers	325-1808
Earth Moving Equipment	
Adobe Construction (Ernie Motto)	334-6696
Nowlin Construction	327-2686
Coffey Construction	632-3663
Atchison Construction	327-6276
Gas Co. of New Mexico	325-2889
Welding & Cutting	
Henry Vigil	632-3045
CKS Construction	632-3228

Wrecker or Rig Up Trucks	
Sandia Detroit	*325-5071*
B. F. Walker	*325-4539*
Drake Well Service	*327-7301*
ODECO INC.	*632-3392*
Plateau Transportation	*632-3377*
Aerial Ladder or Basket	
City of Farmington Utility	*327-7701*
Farmington Fire	*325-3501*
Foam Supplies	
Plateau Roosevelt Refinery	*801-722-5128*
Thunderbird Sales	*505-881-6222*
F & M Chemical	*714-983-9551*

ATTACHMENT II

PRIMARY EMERGENCY COORDINATOR

Paul W. Liscom
2301 South Idden Glen
Farmington, NM 87401

505-632-8013 (bus.)
505-325-1135 (res.)

SECONDARY EMERGENCY COORDINATORS

Chad R. King
Route 2, Box 208
LaPlata, NM 87401

505-632-8013 (bus.)
505-325-4718 (res.)

Don Wimsett
P.O. Box 35
Bloomfield, NM 87413

505-632-8013 (bus.)
505-632-8223 (res.)

ATTACHMENT III

1. *Two 2000gpm automatic start diesel fire engines*
   One 1000 gpm manual start diesel fire engine
   One 750 gpm manual start electric fire engine
   One 750 gpm manual start gas fire engine

2. *11,000 feet of 6", 8", 10", and 12" fire line*

3. *16 - fixed fire monitors*

4. *4 - portable fire monitors*

5. *38 - fire hydrants*

6. *98 - hand portable fire extinguishers*

7. *14 - 150# wheeled extinguishers*

8. *1 - twin agent fire truck - 450# purple-K, 100 gal. foam*

9. *H_2O Deluge System in T.E.L. Building*

10. *Automatic foam Deluge System - loading rack*

11. *2 - foam cannons w/110 gal. foam - unloading rack*

12. *Automatic Halon extinguishers in Lab*

13. *1000 gallons AFFF/ATC foam concentrate*

14. *Foam Systems on tanks #11, #12, & #31*

15. *23 sets of fire fighting bunker equipment*

16. *One Fire Entry Suit*

17. *Ten self contained breathing apparatus*

18. *Two air line breathing apparatus*

19. *Two First Aid Kits (large standard)*

20. *Two First Aid Kits (Trauma)*

21. *Two medical oxygen units*

22. *One Clorine cylinder patch kit*

23. *Three stretchers and rescue baskets*

24. *400 ft. of rescue rope & equipment*

25. *7 safety showers - Lab, (2) Treator, Spent Caustic #1 Cooling Tower, & (1) portable, (1) kerosene shower*

26. *Seven fire hose boxes with 400 ft. hose - 3 nozzles & 1 gated wye*

27. *600 ft. of 2½" fire hose*
    800 ft. of 1" fire hose
    Eight nozzles
    Miscellaneous other fire appliances

28. *Assorted respiratory equipment for specific use*

29. *600 lbs. stock Purple-K extinguisher chemical*

30. *8 Acid resistant slicker suits*

ATTACHMENT IV

PROPERTIES OF HAZARDOUS WASTE AT THE BLOOMFIELD REFINERY

API Separator Sludge from the Petroleum Refining Industry (T)

Slop Oil Emulsion Solids from the Petroleum Refining Industry (T)

Heat Exchanger Bundle Cleaning Sludge from the Petroleum Refining Industry (T)

Tank Bottoms (Leaded) from the Petroleum Refining Industry (T)

Waste Streams

The waste streams listed as hazardous are:

- Primary oil/solids/water separation sludge
- Slop Oil Emulsion Solids
- Heat Exchanger Bundle Cleaning Sludge
- Tank Bottoms (Leaded)

Lead and hexavalent chromium are the constituents of concern in these waste streams. Lead in the waste streams comes predominantly from the use of tetraethyl lead in the blending of leaded products. Chromium in the waste stream comes predominantly from blowdown of cooling towers that use hexavalent chroium compounds as a corrosion inhibitor. It should be noted that the Bloomfield Refinery uses a phosphate based corrosion inhibitor and not a chromium based corrosion inhibitor. Any chromium mentioned in the waste streams is not specific to the Bloomfield Refinery but only to industry as a whole.

Primary oil/solids/water separation sludge - The primary oil/solids/water separator provides for primary refinery wastewater treatment. The separators are usually connected to the oily water plant sewer. As a result, the resultant sludges contain a mixture of all sewered waste, including tank bottoms, boiler blowdown, desalter wastes, and also traces of all chemical elements which enter the refinery process.

Oil that is present in the sludge will most likely be present in the form of heavy tars since the surface oil is skimmed periodically from the primary oil/solids/water separator. Oil content of the sludge is approximately 23% by weight while water and solids constitute approximately 53% and 24%, respectively. Most of the solids content is silt and sand, but a significant amount of heavy metals are also present in the sludge.

This waste stream is listed because it contains significant concentrations of the two metals, chromium (presumably in part hexavalent, since it derives from cooling tower blowdown) and lead. (Table 3 lists the concentration ranges of the constituents of concern in each waste stream.)

Slop Oil Emulsion Solids - *The skimmings from the primary oil/solids/water separator generally consist of a three-phase mixture of oil, water and a third emulsified layer. The oil is returned to crude storage, the water discharged to the wastewater treatment system, while the emulsion (oil, water and solids) becomes a process waste stream. A typical combination of the waste stream by weight is 40% water, 43% oil and 12% solids. Among the solids are compounds of the metals chromium (presumably in part hexavalent) and lead, for which the waste is listed.*

Heat Exchanger Bundle Cleaning Sludge - *Heat exchanger bundles are cleaned during plant shutdown to remove deposits of scale and sludge. Depending upon the characteristics of the deposits, the outside of the tube bundles may be washed, brushed, or sandblasted, while the tube insides can be wiped, brushed, or rodded out. Sludge resulting from the cleaning process has approximately 53% water, 11% oil and 36% solids.*

These solids are composed largely of salt precipitated from the water. The metals present are mostly corrosion products or scale deposits from the heat exchanger bundle tubes. Chromium presumably partly in hexavalent form, is present in the waste in substantial concentrations, and the waste is listed due to the presence of this constituent.

Tank Bottoms (Leaded) - *The petroleum products (or fractions) after being separated in the distillation column have to be cooled before they are sent out or used for making other by-products. This is done in product storage tanks. As cooling occurs, the water separates from the hydrocarbon phase and is continually drained from the tanks to the refinery water treatment system. Solids formed as products of corrosion and rust in the tanks contain toxic metals, and are periodically removed. This waste is being listed because it contains lead.*

In summary, the contaminants in these wastes which caused EPA to identify these wastes as hazardous are as follows:

Primary oil/solids/water separator sludge - hexavalent chromium and lead

Slop Oil Emulsion Solids - hexavalent chromium and lead

Heat Exchanger Bundle Cleaning Sludge - hexavalent chromium
Tank Bottoms (Leaded) - lead

Health Effects of Waste Constituents of Concern

Toxic properties of chromium and lead have been well documented. Hexavalent chromium is toxic to man and lower forms of aquatic life. Lead is also poisonous in all forms. It is one of the most hazardous of the toxic metals because it accumulates in many organisms, and its deleterous effects are numerous and severe. Lead may enter the human system through inhalation, ingestion or skin contact. Improper management of these sludges may lead to ingestion of contaminated drinking water.

The hazards associated with exposure to lead and chromium have been recognized by other regulatory programs. Lead and chromium are listed as priority pollutants in accordance with 5307 of the Clean Water Act of 1977. Under Section 6 of the Occupational Safety and Health Act of 1970, final standards for Occupational Exposure have been established and promulgated in 29 CFR 1910.1000 for lead and chromium. Also, a national ambient air quality standard for lead has been announced by EPA pursuant to the Clean Air Act. In addition, final or proposed regulations of the States of California, Maine, Massachusetts, Minnesota, Missouri, New Mexico, Oklahoma and Oregon define chromium and lead containing compounds as hazardous wastes or components thereof.

ATTACHMENT V

BLOOMFIELD REFINERY
AN OVERVIEW

The Bloomfield Refinery runs a combination of low sulfur crudes which are brought into the refinery by truck and pipeline. The refinery is rated at 13,500 bpd and nominally runs at 8,500-12,000 bpd.

The simplified flow diagram of the Bloomfield Refinery depicts a balanced operation as projected in the June Operations Forecast. The actual refinery operations will vary slightly but all in all should be very near to those shown.

During the month of June, Bloomfield will process 10,500 bpd of crude oil and 700 bpd of natural gasoline. The crude oil is processed in the crude unit which divides the crude into several fractions for further processing. At Bloomfield, there are basically seven fractions from the crude unit: Overhead comprising 2% of the crude and consisting of the lightest hydrocarbons which is taken to the plant fuel gas system; Light Straight Run comprising 17% of the crude and consisting of highly paraffinic and low octane material boiling in the 100-200 deg. F range which is taken to gasoline blending; Reformer Feed comprising 26% of the crude and consisting of naphtha in the 200-400 deg. F range which is taken to the Reformer for

further processing; Heavy Virgin Naphtha comprising 3% of the crude and consisting of the marginal Reformer feed which is taken to gasoline blending; Kerosene comprising 2% of the crude which is either sold or taken to diesel blending depending on the season; Straight Run Diesel comprising 20% of the crude which is taken to diesel blending; and finally, FCC Feed comprising 30% of the crude and consisting of the atmospheric bottoms from the crude unit which is taken to the FCC Unit for further processing.

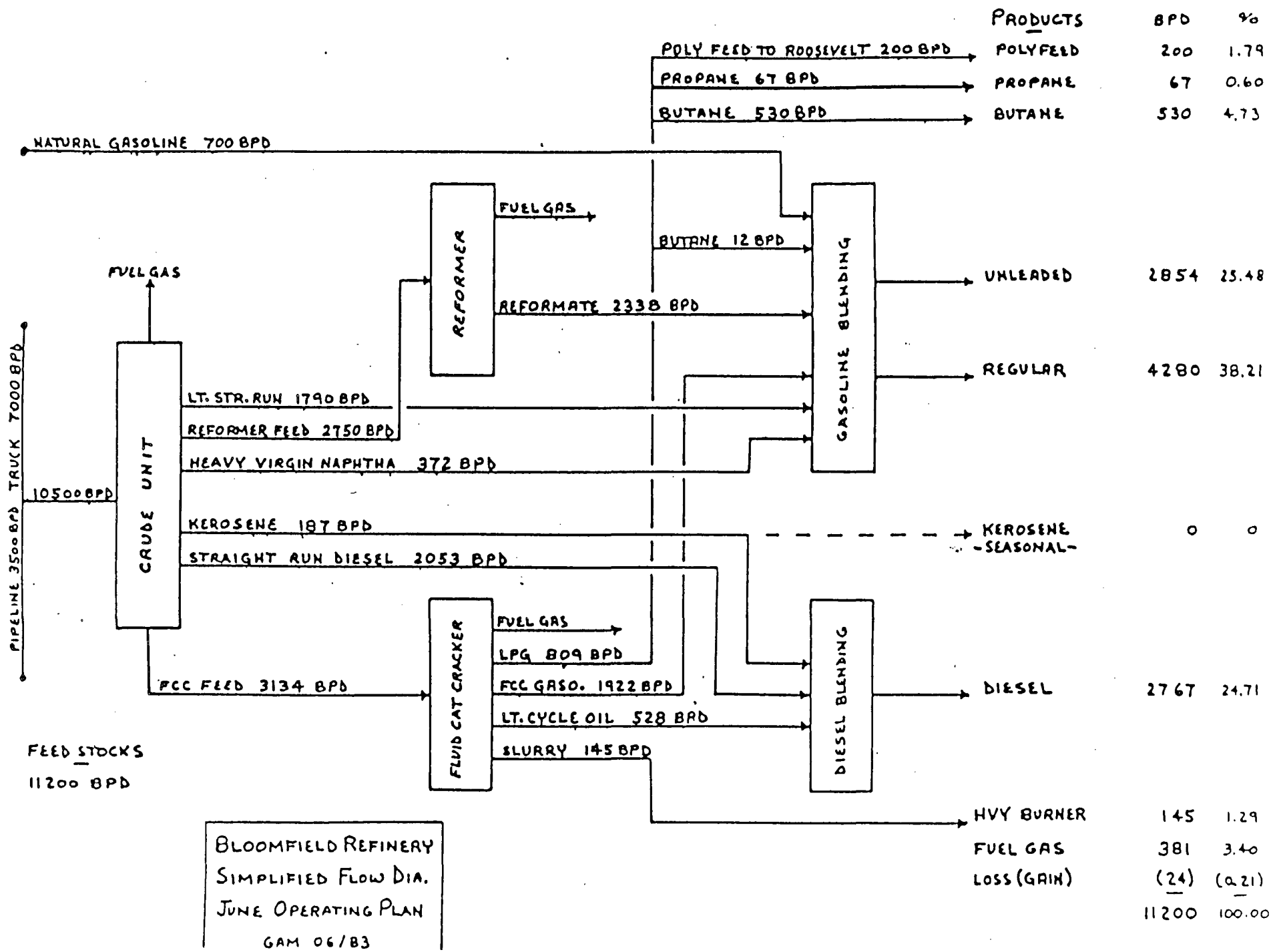
The reformer unit receives approximately 26% of the initial crude unit charge. This unit will process this naphtha under temperature and pressure and in the presence of hydrogen and a fixed bed catalyst to produce a high octane blending stock which is rich in aromatics and is taken to gasoline blending. Most of this stock is used to produce unleaded gasoline.

The Fluid Catalytic Cracking Unit or FCC receives the crude atmospheric bottoms and combines them with hot regenerated catalyst. This mixture flows up the riser which provides the necessary cracking characteristics and is designed for smooth flow and minimum erosion. All the cracking takes place in the riser and the cracking process produces light olefinic hydrocarbons, LPG, high octane gasoline and middle distillates. The riser, in turn, discharges into the reactor which separates the now spent catalyst and the hydrocarbons. These pass out of the

reactor through cyclones, which prevent the catalyst from leaving the system, to a fractionator which divides the hydrocarbons into fuel gases, LPG, high octane gasoline, light cycle oil and slurry oil. These are all processed further. The spent catalyst is simultaneously drawn from the reactor into the regenerator where, in the presence of air, the remaining hydrocarbon in the form of coke, is burned from the catalyst. This burning releases large amounts of heat which acts to drive the system by cleansing and heating the catalyst. The catalyst is then drawn from the regenerator and is combined with the crude atmospheric bottoms to begin the cycle again.

At Bloomfield, in June, the slurry oil comprising 5% of the feed is sold as heavy burner fuel; the light cycle oil comprising 17% of the feed is taken to diesel blending; the FCC gasoline comprising 61% of the feed is taken to gasoline blending; and the LPG is further divided into propane, butane, and olefins which are sent to the Roosevelt Refinery.

The gasoline and diesel blending sections collect the appropriate streams, including the natural gasoline, and blend them into finished products with seasonal specifications. The Table II shows a brief synopsis of the refinery yields.



PRODUCTS	BPD	%
POLYFEED	200	1.79
PROPANE	67	0.60
BUTANE	530	4.73
UNLEADED	2854	25.48
REGULAR	4280	38.21
KEROSENE -SEASONAL-	0	0
DIESEL	2767	24.71
HVY BURNER	145	1.29
FUEL GAS	381	3.40
LOSS (GAIN)	(24)	(0.21)
	11200	100.00

TABLE II

FEED STOCKS	BPD	%
Crude	10500	93.75
Natural Gasoline	700	6.25
	11200	100.00

PRODUCTS	BPD	%
Propane	67	0.60
Butane	530	4.73
Unleaded	2854	25.48
Regular	4280	38.21
Mogas	7134	63.69
Diesel	2767	24.71
Hvy Burner	145	1.29
Fuel Gas	381	3.40
Loss (Gain)	(24)	(0.21)
	11200	100.00

GENERAL

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

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

1. Fire and/or Explosions
2. Release of Flammable Vapor or Gas
3. Release of Toxic Vapor or Gas
4. Bomb Threats

All Plateau personnel are part of the emergency organization and expected to carry out their assigned duties of fire fighting operations involving incipient stage fires as well as more advanced fire and emergencies to the ability of received training. Each employee will participate in a minimum of 24 hours per year of combined academic and practical training to better equip them with the knowledge and skill required for performance of their duties.

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

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

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

TABLE OF CONTENTS

I RESPONSIBILITIES

Operating Shift Supervisor

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

Safety Supervisor

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

Safety Representative

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

Operation Day Supervisor

Coordinate activities between emergency command post at emergency scene and process equipment control in control room.

Chief Operator

Maintain control of process unit(s) left operating and act as dispatch operator until an Emergency Control Center can be established. The Chief Operator is responsible for maintaining an updated list of employees and their phone numbers in a readily accessible location in the control room.

Operators

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

Pumper-Gauger

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

Maintenance Supervisors/Planner

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

Maintenance Employees

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

Process Engineer

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

Warehouse Supervisor

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

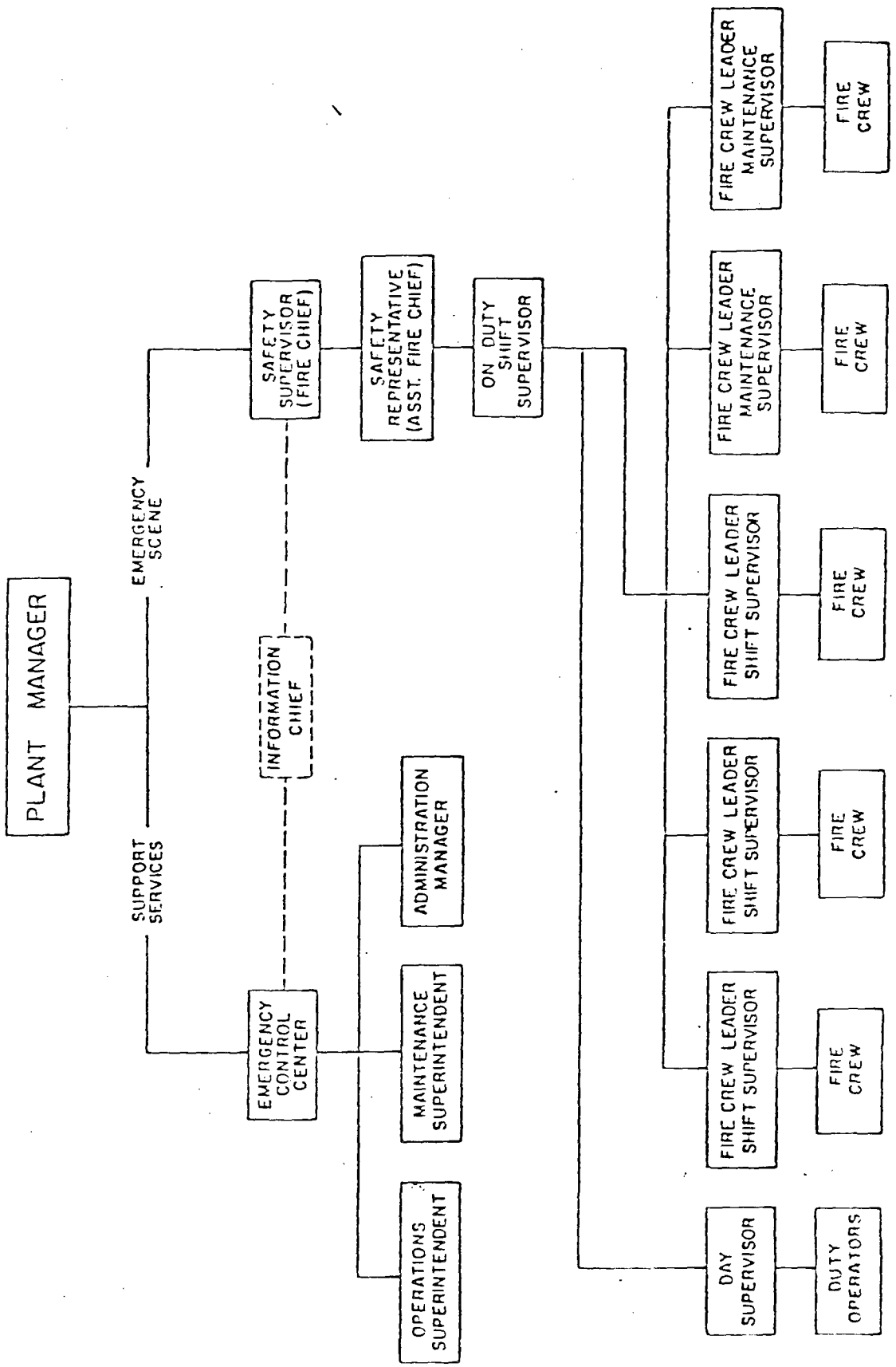
Plant Manager

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

Emergency Control Center

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

ORGANIZATIONAL CHART



IV FIRE AND/OR EXPLOSION

A. Reporting The Fire

Upon discovering a fire, unless it is obvious that the fire is so small that it can be easily extinguished, proceed immediately to the alert sounding station south of the control room and signal the alarm. The alarm signals will determine the general location of the emergency by use of fire zones. (See below)

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

B. Fire Zones

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

Zone No.	Locations	Alarm Signal
Zone 1	Process Unit	1 long - 1 short
Zone 2	Tank Farm	1 long - 2 short
Zone 3	Term./Trans.	1 long - 3 short

A recall or all clear signal will be sounded when requested by the Fire Chief and will be characterized by five short blasts of the fire alarm.

C. Immediate Corrective Action

Most fires are relatively small when first ignited, but can spread very rapidly. Many serious fires and explosions have been prevented

by taking immediate action to extinguish the fire or prevent the escape of the flammable liquid, vapor or gas. While the fire is being reported, operations and maintenance personnel at the scene should immediately proceed to block off the feed to the fire and put to use available emergency equipment as needed. Do not wait for the fire crews to arrive; in most instances, the fire can be extinguished or contained before fire crews arrive.

D. Direction of Fire Fighting Efforts

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

E. Fire Water Supply

Water for fire fighting purposes is provided by automatic start stand-by pumps, and a system of underground piping.

If long duration fire fighting is evident all possible water resources from in-plant storage and city water supplies shall be made available and periodic checks of the fire pumps should be made. The fire officer in charge shall make determination when the above items become necessary and designate an available operator to assume the duties.

F. Emergency Call Out Procedure

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

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

Alert List #1

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

1. Safety Supervisor or Safety Representative
2. Operation Superintendent or Operation Day Supervisor

Alert List #2

This call out list is designed to notify personnel of a major emergency situation that requires additional manpower. The Chief Operator, upon request of the Fire Chief, will call Contact of New Mexico at 327-4666 who will make the actual phone contact with our people. For reference purposes this list consists of:

1. Safety Department Personnel
2. Maintenance Supervisor
3. Operation Supervisor
4. Maintenance Employees
5. Operation Employees

Alert List #3

To be called by Chief Operator when extended emergency control efforts are evident and the Fire Chief determines the necessity for an Emergency Control Center:

1. Plant Manager
2. Administrative Manager

The Administrative Manager will be responsible for contacting personnel to perform support services as necessary.

All phone calls made should calmly identify the caller and explain the situation as completely and briefly as possible. The desired course of action should be explained.

G. Emergency Command Post

During a major emergency, it will be necessary to establish communication between members of management at the scene and the

Emergency Control Center outside the immediate area of the fire.

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

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

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

H. Emergency Control Center

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

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

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

I. Requests For Outside Assistance

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

Mutual aid personnel and equipment will assemble outside the main refinery gate in the roadway southwest of the gate. The person in charge of each group should report to the main gate and stand by. Personnel and equipment will be admitted to the refinery only after specific authorization and instruction is given by the Emergency Command Post. Each responding fire chief or officer is responsible for the specific safety of his personnel. Each responding fire chief will work with and under the direction of the Plateau Fire Chief at the scene.

J. Recall

As soon as the emergency situation is under control and in a safe condition, the Fire Chief will ask for the recall signal to be sounded. After the recall signal is sounded the Chief Operator will repeat over the radio three times on each channel that all is clear and under control.

The fire equipment will then be cleaned and returned to its designated locations for future use. When all equipment is returned to operable condition, fire crew members will return to their regular jobs, or may return home when released by the Fire Chief.

K. Public Relations

A spectacular fire is a very newsworthy event, and we can expect visitations by members of the news medias. It is quite important that factual information be made available as soon as possible.

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

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

L. Plant Security

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

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

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

M. Injuries And First Aid

Injuries will be handled in accordance with Safety Order S-12. If a major explosion or fire results in multiple serious injuries the Warehouse Supervisor is to coordinate first aid and medical treatment of these individuals. The Shift Supervisor or Fire Chief should consider the injuries when requesting outside assistance. If ambulances or medical assistance is needed, it can be obtained from the Bloomfield Fire Department and the San Juan Emergency Center.

After medical treatment for the individuals has been taken care of the first aid coordination group should see the contact is made with the injured parties families. A member of the Emergency Control Center will make this contact with the information supplied by the first aid group.

N. Emergency Shut Down Procedures

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

Emergency shut down procedures are found in the unit operating manuals as laid down by the engineering department for your information.

III RELEASE OF FLAMMABLE VAPOR OR GAS

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

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

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

RELEASE OF TOXIC VAPOR OR GAS

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

When responding to a release of, or fire involving toxic material, all personnel should respond to the upwind side of the emergency. All personnel should be prepared to use the protective equipment required for such a case as directed by the supervisor in charge.

It should be remembered that water solutions of some chemical vapors are extremely corrosive (chlorine, HCl). For this reason, if water sprays are played directly on the leak, the resulting corrosion could intensify the leak. However, a curtain of water spray may be played on the vapor cloud downwind of the leak, until such time as the equipment can be isolated and the leak stopped.

INCIDENTS INVOLVING RADIATION SOURCES

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

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

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

INCIDENTS INVOLVING RADIATION SOURCES (Cont'd.)

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

1. Clear the area of all personnel as quickly as possible, to a distance of 15 feet from the source.

2. Contact the Shift Supervisor and the Safety Department.

3. A 2 mRem/hr boundry line will be established using radiation detection instruments.

4. Avoid confusion and assist in maintaining control of established boundries.

5. A report or log will be established listing:

   a. Time of suspected incident.
   b. Names of personnel in the area and their exact location.
   c. Incidental meter readings and their location taken while establishing boundries.

   d. Cause of disturbance of radioactive material (if known).

6. Contact Kay-Ray if additional assistance or information is needed.

7. All reports to governmental and other agencies will be made by the Safety Department.

VI BOMB THREATS

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

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

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

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

A. Procedure

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

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

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

1. Only authorized personnel will be admitted to the refinery.
2. Designate someone to watch for suspicious persons or cars outside the plant and record any descriptions or license numbers of any such person.
3. If more help is needed, the Operation Superintendent is the only person authorized to call off duty employees to assist.
4. Two-way radios are to be left in the control room or offices and not be used while the refinery is under alert.
5. In instituting a search for possible bomb location, each operator should perform a search of his unit paying special attention to column skirts, debris and cluttered areas, and areas around major pieces of equipment. Only general visual inspection will be conducted by in-house personnel. Contact will be made with the State Police for assistance and more extensive search efforts.

6. If a time of explosion was indicated by the caller, the search will continue to within ten minutes of the set time. At that time and until clearance is given, all personnel will be withdrawn, except those required in the control room. The units will not be shut down or left unattended.

7. If a bomb is discovered:

   a. Notify the emergency headquarters.

   b. Do not touch, attempt to remove, or disarm.

   c. "Bomb removal" personnel (from the State Police Office) will be rushed to the site.

8. Outside agencies - Only after approval of Operations Superintendent or Safety Supervisor:

   a. New Mexico State Police

   b. San Juan County Sheriff

VII

RADIO SYSTEM

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

VIII

CONTRACTORS AND VISITORS

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

IX

PIPELINE EMERGENCIES

Pipeline emergencies are to be handled in the same manner as any other fire or hydrocarbon release encountered at the refinery. Of prime concern to Plateau is protection of exposures from a

fire until such time as the feed can be isolated from the involved line(s) and final extinguishment is made. The responsibility for isolating the feed will be with the pipeline company whose facilities are involved.

If fire occurs involving the LACT unit or piping between our receiving point and storage tank we will take the responsibility for isolating the equipment as well as extinguishment.

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

San Juan Pipe Line

Product Involved: Crude Oil.

Origin: Bisti Station near El Paso Chaco Plant.

Arrives Refinery: Through the southwest gates by Tank #23 (CBI-2) Plateau receiving surfaces at LACT unit.

On Site Destination: Tank #31 (GATX-1). North 8" valve on west side on tank, or, Tank #28 (CBI-3) 8" valve on north side of tank.

Securing Responsibility: On site - Pumper/gauger
Off site - San Juan Pipeline

Block Valve Location: 3" plug valve immediately preceeding the west meter (or) block valve located where line surfaces in right-of-way.

*Note: Pump station must be shut down in control room before closing valves.

Telephone Numbers: San Juan Pipeline - Bob McCoy 632-3425 or 325-1873 car 385; Torchie Smouse 632-8139 or 325-1875 car 835

El Paso - Angel Peak Field Lines

Product Involved: 20" on west in right-of-way; High pressure natural gas.

8" center of right-of-way; Liquid gas product (drip).

34" east in right-of-way; High pressure natural gas.

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

On Site Destination: None.

Securing Responsibilities: El Paso Natural Gas Company.

Emergency Phone Numbers: El Paso Natural Gas Dispatching - 325-1162

Southern Union

Product Involved: Natural gas.

Origin: Gas Company of New Mexico mainline.

Arrives: Southwest property corner by warehouse.

On Site Destination: Fuel gas drum.

Securing Responsibility: On site - Pumper/gauger
Off site - Gas Company of New Mexico

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

Emergency Phone Numbers: Gas Company of New Mexico - 325-2889

EVACUATION OF BUILDINGS

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

COMMUNICATION CONTINGENCY

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

EMERGENCY PHONE NUMBERS

Bloomfield Fire Department	632-8011
Bloomfield Police Department	632-8011
San Juan County Sheriff	334-6107
State Police	325-7547
Ambulance (dispatched through Farmington Fire)	325-3501
County Fire Departments (dispatched through Farmington Fire)	325-3501
Poison Control	1-800-432-6866
Bomb Personnel (State Police Office)	325-7547
ETHYL CORP (T.E.L. Emergencies)	504-344-7147
CHEMTREC (Chemical Emergencies	1-800-424-9300
City of Farmington (Electric Utility)	327-7701
Kay-Ray	(312) 259-5600
E.I.D. Radiation Protection Bureau	(505) 984-0020
Mobile Inspection (Radiography Assistance)	327-9473
Contact of New Mexico (Call out Assistance)	327-4666

EQUIPMENT RESOURCES

Water Tankers & Vacuum Trucks	
Chief Transport	325-2396
C & J Trucking	325-7770
Delgarno	327-0461 or 327-6871
Sunco Trucking	327-4921 or 325-3862
LAD Tankers	325-1808
Earth Moving Equipment	
Adobe Construction (Ernie Motto)	334-6696
Nowlin Construction	327-2686
Coffey Construction	632-3663
Atchison Construction	327-6276
Gas Co. of New Mexico	325-2889
Welding & Cutting	
Henry Vigil	632-3045
CKS Construction	632-3228
Wrecker or Rig Up Trucks	
Sandia Detroit	325-5071
B.F. Walker	325-4539
Drake Well Service	327-7301
ODECO INC.	632-3392
Plateau Transportation	632-3377

Aerial Ladder or Basket

City of Farmington Utility	327-7701
Farmington Fire	325-3501

Foam Supplies

Plateau Roosevelt Refinery	(801) 722-5128
Thunderbird Sales	(505) 881-6222
F & M Chemical	(714) 983-9551

THREATENING PHONE CALL FORM

Time call received _____ Time caller hung up _____

Exact words of person placing call: _____

_____

_____

Questions to ask:

1. When is bomb going to explode? _____
2. Where is the bomb right now? _____

_____

3. What kind of a bomb is it? _____

_____

4. What does it look like? _____

_____

5. Why did you place the bomb? _____

_____

Person (receiving) (monitoring) call _____

Department _____ Telephone No. _____

Home Address _____

Home Telephone No. _____ Date _____

DESCRIPTION OF CALLER'S VOICE

Male _____ Female _____ Tone of voice _____

Young _____ Middle Age _____ Old _____

Accent _____ Background Noise _____

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

_____

Remarks _____

_____

Immediately Notify following persons when call is complete: Operations Supt.
Safety Department

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-150

840.-

FEB 23 1984

TOSCA sec 17

Mr. Dick Whittington
Regional Administrator
Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75270

Dear Mr. Whittington:

As requested by Ms. Sheryl Fought of your staff, enclosed are correspondence and a newspaper article pertaining to water quality issues within the Hammond main canal at the Plateau, Inc., refinery near Bloomfield, New Mexico. If we can be of additional assistance, please call Tom Scoville of this office (phone FTS 588-6097).

Sincerely yours,

FOR Clifford I. Barrett
Regional Director

10 Enclosures

cc: Projects Manager, Durango, Colorado

BRUCE S. GARBER
ATTORNEY AT LAW

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

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

February 14, 1984

Mr. Joe D. 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 January 16, 1984, status report, Plateau has located and marked approximately 25 locations in the vicinity of the refinery where the Nacimiento Formation outcrops and is visably from the surface. The elevations of some of the outcrops have been determined and progress is being made on determining the elevations of the remainder of the outcrops. Shooting the elevations has been difficult and time consuming due to their remote locations, difficult surrounding terrain, and winter weather.

Plateau has also completed drilling six wells. These wells will serve the dual purpose of providing additional information on the elevation of the Nacimiento Formation and providing groundwater samples to determine background groundwater quality.

The preliminary topographic map of the contact of the Nacimiento Formation will be completed as soon as conditions permit. As soon as it is completed, I will contact you to arrange a meeting to discuss Plateau's progress and proposed groundwater monitoring program.

Sincerely,

Bruce S. Garber

Bruce S. Garber
Attorney at Law

BSG/dm
cc: L.S. Woodside
D.J. Stockham
G.S. Smith

HEALTH & ENVIRONMENT department

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

January 19, 1984

Mr. Bill Taylor, Chief
Enforcement Section
U.S. EPA - Region VI
1201 Elm Street
Dallas, Texas 75270

Dear Mr. Taylor:

The U.S. EPA Region VI is currently reviewing possible violations and/or non-compliance with the federal Resource Conservation and Recovery Act (RCRA) by Plateau Refinery, located in Bloomfield, New Mexico. Since any alleged violation may also be subject to state statutes and regulations, the EID requests that these related matters be addressed as expeditiously as possible by your Enforcement Section.

EPA action related to Plateau potential non-compliance status with RCRA is of immediate concern to this Division due to the water service contract between the U.S. Department of Interior (DOI) and Plateau's Bloomfield refinery dated December 14, 1983, which provides additional surface water rights to their facility. Of specific interest is how you as chief of the Enforcement Section will coordinate with DOI in addressing specific terms of the contract which states:

> "This contract shall be effective for one year from date of execution contingent upon a quarterly review of the Contractor's operation as it relates to and is in compliance with Federal and State water quality and hazardous waste regulations by the contracting officer."

I would appreciate any update, by March 1, 1984 as to the status of your ongoing investigation and your response to DOI so that this Bureau may formulate an appropriate course of action to ameliorate potential and/or documented threat to the environment whether to surface, and/or ground water, or to the public health in general.

If you have any questions regarding my request, please feel free to contact me at (505) 984-0020 ext. 281.

Sincerely,

Anthony Drypolcher
Acting Bureau Chief
Ground Water/Hazardous Waste Bureau

AD/ps

cc: William Rhea, - EPA, Dallas
Joe Ramey, OCD, Santa Fe, NM
S.E. Reynolds, State Engineer's Office
Charles Nylander, - EID, Santa Fe, NM
Richard Mitzelfelt, EID-District I, Albuquerque
Dwight Stockham - Plateau, Inc., Albuquerque, NM
Clifford I. Barrett, Bureau of Reclamation

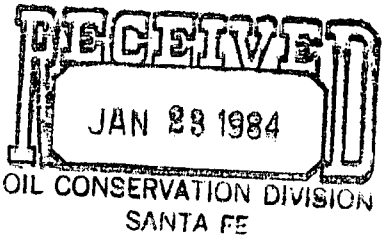
BRUCE S. GARBER
ATTORNEY AT LAW

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

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

January 19, 1984

Mr. Joe D. 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:

Thank you for meeting with Lee Woodside, Dwight Stockham and me on January 16, 1984. We were pleased to have the opportunity to discuss Lee Woodside's January 16, 1984 letter with you. We understood from your comments that the schedule and work plan in the January 16th letter are satisfactory. In response to our specific questions, you requested that you be notified one day before any planned ground water sampling to allow someone from O.C.D.'s Aztec, New Mexico office to observe the sampling. Plateau will provide you with such notice. You also stated that analysis of ground water samples for the following constituents should be adequate.

Arsenic	Total Mercury	Manganese	Cobalt
Barium	Nitrate	Sulfate	Molybdenum
Cadmium	Selenium	TDS	Nickel
Chromium	Silver	Zinc	Benzene
Cyanide	Chloride	PH	Toulene
Fluoride	Copper	Aluminum	Phenols
Lead	Iron	Boron	

Plateau will therefore analyze its ground water samples for those constituents. Also, as we discussed, Plateau will perform its ground water samples according to accepted sampling methods and use the services of a certified laboratory for sample analysis. Split samples will not be required, and the wells need not be drilled by any particular method. Finally we appreciate the confidence you expressed in Dr. Turner.

Please let me know if any of the understandings set forth above are in error. Thank you again for your continuing cooperation.

Sincerely,

Bruce S. Garber

BSG/ljc

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

400
840./120

OFFICIAL FILE COPY

Date	Surname	Code
1/19	REdwards	450
1/[illegible]	[illegible]	400
1/20	[illegible]	420
1/[illegible]	[illegible]	150
1/23	[illegible]	101
1/23	[illegible]	100

1/23 Draft 451

Memorandum January 17, 1984

To: Files

From: Rex Edwards, Chief of Lands and Contracts Branch

Subject: Environmental Issues Contract Compliance Plateau Inc., Hammond Main Canal, Hammond Project, New Mexico

Tom Scoville of the environmental staff, Salt Lake City, Utah, Regional Office telephoned January 16, 1984 concerning what authority and procedures are required to modify the Hammond Main Canal. Plateau Inc. has told Sheryl Fought of the Environmental Protection Agency located in Dallas, Texas that the Bureau of Reclamation would not let Plateau pipe the canal section through their refinery.

A brief summary of events leading to the present conditions is outlined below:

1. Acquired reserved right-of-way parcel No. H-142 Plateau, Inc. $2,450.00, Contract No. 14-06-400-1894; September 20, 1961.

2. Hammond Main Canal construction completed through this area and accepted by government April 13, 1962.

3. Begin serving water through Hammond Main Canal April 16, 1962.

4. Identified seepage and sludge deposits entering Hammond Main Canal from newly constructed fire protection water pond located higher and adjacent to canal on Plateau property January 18, 1978.

5. Notified Plateau to correct seepage which they attempted to do with bentonite and polymer in bottom of pond, February 3, 1978.

6. Hammond Conservancy District identified seepage in canal at monthly board meeting January 3, 1980 through Plateau Refinery area; no action taken.

7. Bureau of Reclamation met with Plateau Inc. and Hammond Conservancy District January 23, 1981 to resolve canal seepage problem and cleaning of canal. Plateau agreed to pump seepage and pay for canal cleaning as temporary solution.

8. Plateau requested renewal of water contract No. 7-07-40-W0387, on April 13, 1982.

☆GPO 1980- 680-01

9. The Bureau issued a 90 day short interim water service contract No. 2-07-40-L3319 on July 12, 1982 to Plateau until the magnitude of the environmental issues could be identified.

10. Meeting with Plateau Inc., New Mexico State oil Conservation Division and Bureau of Reclamation concerning Plateau implementing a discharge plan to comply with New Mexico State Water Quality Control Commission Regulations on September 2, 1982.

11. Issued a 1 year interim water service contract October 12, 1982 to Plateau Inc., providing they submit a plan for a permanent solution to the sloughing within the canal on Plateau property.

12. Received remedial plan for Plateau Inc., January 6, 1983.

13. Renewed water service contract for 1 year with provisions for quarterly inspections to comply with environmental protection provisions and standards, December 14, 1983.

The Environmental Protection Agency became involved and fined Plateau Inc. for an air quality standards violation. This fine ($50,000) was placed in escrow until the violation was corrected. Plateau Inc. now stands to loose the money in 20 days if it is not used on improving some environmental concern. Plateau wants to use the money to place a portion of the Hammond Main Canal in pipe through areas within the boundaries of the Refinery to prevent the water from leaching into soils that are contaminated with hydro-carbons and carrying them to areas that may contaminate other lands and ground water.

The issue of the Bureau not letting Plateau Inc. pipe this section of the canal is probably a misunderstanding. During past meetings Plateau expressed as an idea of piping this section of the canal and wanted to know if the government would contribute an equal share of the costs. It was explained that the Bureau of Reclamation could not contribute funds but Plateau Inc. could pipe the canal if plans and construction were approved by the Bureau of Reclamation. An estimate of pipe size and cost was prepared by the Bureau at that time. The Bureau determined the size to be 60 inch diameter concrete at $93 a linear foot for materials delivered to the site. These costs have increased to $160 for the same materials in 1984.

Ray J Edwards

RJEdwards:jb:1/18/84

PLATEAU, INC.

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

January 16, 1984

Mr. Joe D. Ramey, Director
Oil Conservation Division
P. O. Box 2088
State Land Office Bldg.
Santa Fe, NM 87501

Dear Mr. Ramey:

Re: Plateau, Inc. Discharge Plan

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

Since the December status report, Plateau has developed the work plan and schedule set forth in Lee S. Woodside's January 16, 1984 letter to you.

Sincerely,

Dwight J. Stockham

Dwight J. Stockham
Associate Environmental Engineer

DJS:lh

cc: B. G. Dixon
G. A. Masson
R. G. Perry
L. S. Woodside
B. S. Garber
G. S. Smith
File- DJS

PLATEAU, INC.

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

January 16, 1984

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

Re: Plateau, Inc., Discharge Plan

Dear Mr. Ramey:

Set forth below is Plateau's schedule for the resolution of outstanding discharge plan issues as required by condition number 3 of your October 14, 1983 letter to me.

The outstanding discharge plan issues are listed as numbers 1-7 in my November 14, 1983 letter to you. Plateau believes that it has sufficient data and information to satisfactorily address issues 1-5 in the discharge plan. Issues number 6 and 7 will be the subject of field research as described in the schedule below.

A. On or before February 14, 1984, Plateau will determine the morphology of the Nacimiento subcrop and the direction of ground water flow (issue 6). This will be accomplished through the identification, marking and levelling of the contact between the Quaternary deposits and the underlying Nacimiento Formation in the vicinity of the refinery. Following collection of this information and the preparation of a preliminary topographic map of the subcrop, multipurpose boreholes will be sited to provide additional information on the elevation of the contact.

The boreholes will also provide detailed lithologic information on the Quaternary deposits and Nacimiento Formation penetrated and the thickness of the Quaternary deposits. The location of the contact between the Quaternary deposits and the Nacimiento Formation will lead to a geologic map of the Quaternary deposits of the area. Water levels measured in monitoring wells and the subcrop topography map will be used to define directions of ground water movement.

B. On or about February 14, 1984, representatives of Plateau will meet with representatives of O. C. D. to report the results of the morphology and flow direction determination described in A above. Based on those results, the locations of reasonably foreseeable ground water use will be determined by Plateau

and presented to O. C. D. for concurrence. Also, at the meeting, Plateau will discuss with O. C. D. its program to determine ground water background concentrations for the purpose of determining the applicable standards under Section 3-103 of the Water Quality Control Commission regulations. (issue 7) Following the meeting, the ground water monitoring program will be accomplished as quickly as conditions (well drilling conditions and laboratory sample analysis turn around time) allow. Plateau will then revise its discharge plan to address all 7 issues and submit the revised plan to the O. C. D.

We look forward to meeting with you on January 16, 1984 and thank you for your continuing cooperation.

Sincerely,

Lee S. Woodside

Lee S. Woodside
Vice President/Refining

LSW:lh

cc: B. G. Dixon
G. A. Masson
R. G. Perry
D. J. Stockham
B. S. Garber
G. S. Smith
File

DISCHARGE PLAN SCHEDULE

**** PROPOSED
++++ ACTUAL
---- PREPARATORY WORK

DESCRIPTION	JANUARY 25 31	FEBRUARY 1 7 8 15 16 23 24	MARCH 30 1 7 8 15 16 23 24	APRIL 30 1 7
	NUMBER OF DAYS AFTER START OF WORK			
	1 7	14 21 28	35 42 49	56 63
TASK #1				
- ID, MARKING OF NACIMIENTO FORMATION	<**> (2 DAYS)			
- DRILLING INITIAL BOREHOLES	<******> (7 DAYS)			
TASK #2				
- DETERMINATION OF FLOW DIRECTION	<*> (1 DAY)			
- DRILL ADDITION BORE HOLES IF NEEDED	<******> (7 DAYS)			
TASK #3				
- DETERMINE THICKNESS OF DEPOSITS	<*> (1 DAY)			
TASK #4				
- DETERMINE GROUND WATER QUALITY				
- COLLECT SAMPLES	<**> (2 DAY)			
- ANALYSIS	<**********> (21 DAYS)			
TASK #5				
- SEEPAGE RATES	<*> (1 DAY)			
TASK #6				
- DISCHARGE PLAN	<******> (7 DAYS)			

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

December 22, 1983

BATAAN MEMORIAL BUILDING
STATE CAPITOL
SANTA FE, NEW MEXICO 87503

Mr. Joe Ramey
Oil Conservation Commission
State Land Office Bldg.
Santa Fe, New Mexico 87503

Dear Joe:

Herewith for your information and files is a copy of Cliff Barrett's December 15 letter to Mr. Dwight Stockham concerning a contract between the United States and Plateau, Inc. for water from Navajo Reservoir. Your attention is invited particularly to paragraph 1 at page 2 of the contract attached to Mr. Barrett's letter.

With best wishes for a happy holiday season,

Sincerely,

S. E. Reynolds
State Engineer

SER:pt

cc: Steve Asher w/enclosure

12-1-10

United States Department of the Interior

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

RECEIVED
DEC 29 1983
OIL CONSERVATION DIVISION
SANTA FE

IN REPLY REFER TO: UC-440
832.

DEC 15 1983

'83 DEC 19 AM 9 27

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

Dear Mr. Stockham:

One signed copy of a water service contract between your company and the United States is enclosed. The contract provides for depletion of 200 acre-feet of water from Navajo Reservoir over the period of 1 year. This contract term is conditioned upon your company complying with Article 1.

We will make quarterly reviews of your facilities and operations as needed and will contact you in advance if site inspection is necessary.

If you have any questions, please contact Ms. Theresa Moore at (801) 524-5452.

Sincerely yours,

Harl A. Noble

For Clifford I. Barrett
Regional Director

Enclosure

cc: Ms. Pat Hall
Environmental Protection Agency
Region 6
1201 Elm Street 6ASASC
Dallas, Texas 75270

Mr. Steve Reynolds
New Mexico State Engineer
Water Resource Division
Room 101 - Bataan Memorial Building
Santa Fe, New Mexico 87503

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

THIS CONTRACT, made this 14th day of December 1983, pursuant to the Act of Congress approved June 17, 1902 (32 Stat. 388), and acts amendatory thereof or supplementary thereto, and particularly pursuant to the Colorado River Storage Project Act approved April 11, 1956 (70 Stat. 105), between THE UNITED STATES OF AMERICA, hereinafter referred to as the United States, represented by the officer executing this contract, his duly appointed successor or his duly authorized representative, hereinafter referred to as the Contracting Officer, and PLATEAU INCORPORATED a company organized under the laws of NEW MEXICO with an office at Albuquerque, New Mexico hereinafter referred to as the Contractor,

WITNESSETH:

WHEREAS, the following statements are made in explanation:

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

(b) The Contractor is in need of a water supply for Industrial use in the area for their petroleum refinery, and water is available on a temporary basis to supply the Contractor from Navajo Reservoir.

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

TERM OF CONTRACT

1. This contract shall be effective for 1 year from the date of execution contingent upon a quarterly review of the Contractor's operation as it relates to and is in compliance with Federal and State water quality and hazardous waste regulations by the Contracting Officer.

It is the Bureau of Reclamation's understanding that the Environmental Protection Agency is investigating the Contractor's facilities for non-compliance with the Federal Hazardous Waste Regulations and Clean Water Act. Quarterly reviews will be made of the Contractor's facilities and operations. The reviews will concentrate on the Contractor's compliance with these regulations and cooperation with any investigations by the Environmental Protection Agency. This contract can be terminated by a 2 week advance written notice by the Contracting Officer for noncompliance with these environmental laws as required in Articles 8(F) and 8(G) of this contract.

WATER DELIVERY

2. The United States grants the Contractor the right, during the term of this contract, to have delivered from Navajo Reservoir, as hereinafter provided, 200 acre-feet of water at such times as best suits its needs and the Contractor shall pay for the water as provided in Article 4.

FOR INDUSTRIAL USE ONLY

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

RATE AND METHOD OF PAYMENT FOR WATER

4. (a) The Contractor shall pay in advance for the quantity of water which it has contracted to take and pay for, whether or not it actually takes and uses such water, at a rate of $42 per acre-foot, plus $1 per acre-foot for operation and maintenance charges as follows:

Water Contracted (acre-feet)	Annual Payment (Based on $43) per acre-foot
200	$8,600

(b) If the Contracting Officer terminates this contract for noncompliance with environmental laws as provided for in Article 1, the Contractor may be reimbursed for water paid for but not yet taken. Reimbursement is conditioned upon the Contractor providing the Contracting Officer copies of the monthly water use reports required by the New Mexico State Engineer. Copies of the reports should be mailed to:

Projects Manager
Durango Projects Office
835 Second Avenue
P.O. Box 640
Durango, Colorado 81301

MEASUREMENT AND RESPONSIBILITY FOR DISTRIBUTION

5. (a) The water to be furnished to the Contractor will be measured by facilities of the United States at the outlet works of Navajo Reservoir. The Contractor shall suffer all distribution and administration losses from the point of such delivery to the place of use. The Contractor agrees to provide a measuring device, which is acceptable to the Contracting Officer, at or near the Contractor's point of diversion, to measure the quantity of water delivered and diverted under this contract. The Contractor is responsible for making arrangements with the State of New Mexico and others needed for the transportation and diversion of such water. The

Contractor shall pay any charges from the New Mexico State Engineer's Office for the distribution, handling, or administration of this water.

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

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

UNITED STATES NOT LIABLE FOR WATER SHORTAGE - ADJUSTMENTS

6. On account of drought, errors in operation, or other causes, there may occur at times, a shortage during any year in the quantity of water available to the Contractor by the United States pursuant to this contract through and by means of the project, and in no event shall any

liability accrue against the United States or any of its officers, agents, or employees for any damage direct or indirect, arising therefrom. In any year in which there may occur such a shortage, the United States reserves the right to apportion the available water supply among the Contractor and others entitled, under existing and future contracts, to receive water from the same project water supply all in a manner to be prescribed by the Contracting Officer.

NOTICES

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

STANDARD CONTRACT ARTICLES

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

A. Contingent Upon Appropriation or Allotment of Funds

B. Officials Not To Benefit

C. Assignment Limited - Successor's and Assigns Obligated

D. Books, Records, and Reports

E. Rules, Regulations, and Determinations

F. Quality of Water

G. Water and Air Pollution Control

H. Equal Opportunity

I. Title XI, Civil Rights Act of 1964

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

THE UNITED STATES OF AMERICA

(seal) _____ By: _____
Regional Director
Bureau of Reclamation

ATTEST:

PLATEAU INCORPORATED

BY: _____
PRESIDENT

ATTEST:

_____ DATE: November 28, 1983

My Commission Expires 12-8-86.

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

1. 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.

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

F. QUALITY OF WATER

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

G. WATER AND AIR POLLUTION CONTROL

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

H. EQUAL OPPORTUNITY

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

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

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

3. The Contractor will send to each labor union or representative of workers, with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Contracting Officer, advising the said labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order 11246 of

September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

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

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

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

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

I. TITLE VI, CIVIL RIGHTS ACT OF 1964

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

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

3. This assurance is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property, discounts, or other Federal financial assistance extended after the date hereof to the Contractor by the United States, including installment payments after such date on account of arrangements for Federal financial assistance which were approved before such date. The Contractor recognizes and agrees that such Federal financial assistance will be extended in reliance on the representations and agreements made in this assurance, and that the United States shall reserve the right to seek judicial enforcement of this assurance. This assurance is binding on the Contractor, its successors, transferees, and assignees.

BRUCE S. GARBER
ATTORNEY AT LAW

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

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

December 14, 1983

HAND DELIVERED

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

Re: Plateau, Inc. - Discharge

Dear Mr. Ramey:

This letter constitutes Plateau's second report in compliance with condition No.4 of your October 14, 1983 letter. Since November 14, 1983 Plateau and its consultants have developed a task specific work plan designed to resolve the technical issues outlined in L.S. Woodside's November 14, 1983 letter to you and to produce an approvable discharge plan document in a timely manner. Our final work plan has been submitted for management approval, the last step prior to commencing work.

Although holiday season schedulling difficulties have slowed the management approval process somewhat, a decision on the proposed work plan is expected in the near future. As soon as the work plan is approved, Plateau will submit to you its schedule for performing the tasks in the work plan and resolving the outstanding discharge plan issues.

Thank you for your continuing cooperation.

Sincerely,

Bruce S. Garber

Bruce S. Garber

BSG:ljc

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

PLATEAU, INC.

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

November 14, 1983

Mr. Joe D. Ramey, Director
Oil Conservation Division
P. O. Box 2088
State Land Office Bldg.
Santa Fe, NM 87501

RE: Plateau, Inc. - Discharge Plan

Dear Mr. Ramey:

Thank you and your staff for meeting with Plateau's representatives in Santa Fe on October 20, 1983. We feel that the meeting was productive and enabled Plateau to comply with Condition 2 of your October 14, 1983 letter in a more than timely manner. Our understanding from that meeting is that the following issues are to be addressed by Plateau in the Discharge Plan approval process.

1. Plateau will address the seepage from the river water holding ponds on the west side of the refinery property under W.Q.C.C. Reg 3-105A, or 3-109D as appropriate. These holding ponds contain water which is diverted from the San Juan River and used for cooling purposes. There are no industrial wastes or by-products in those ponds.

2. Plateau will address the lined holding ponds located near the A.P.I. separator facility under regulation 3-109C.3.b. and c. Approval of those ponds will be applied for on the basis that the ponds seep less than .5 acre feet per acre per year.

3. The Contingency Plan portion of the Discharge Plan will address the protocol for handling spills of any material including hydrocarbons and other chemicals used in the refining process. Plateau will also provide additional information on the sumps located near the large storage tanks on Plateau's property. Plateau will also inform the O. C. D. if any of those storage tanks contain material which merits special handling or spill prevention measures.

4. Plateau will provide information on the natural drainage in the vicinity of the refinery and the existence, or lack thereof, of contaminants from Plateau's operations which may be carried by storm run-off.

5. Plateau will provide O. C. D. with analytical data which confirms that Plateau's discharge does not demonstratively impact the water quality in the San Juan River or result in any violation of W. Q. C. C. stream standards for the San Juan River.

6. In order to determine the direction of flow of any seepage from the large bentonite lined holding ponds on the east side of Plateau's property and from the land application irrigation area to the south of those holding ponds, Plateau will determine the elevations of the top of the Nacimiento formation. It is understood that O. C. D. and Plateau agree that the Nacimiento is, for all practical purposes, impermeable, and that seepage will travel in the cobble bed that lies on top of the Nacimiento.

7. Once the direction of flow in the cobble bed is determined, Plateau will undertake an investigation to determine the place or places of reasonably foreseeable future use of ground water in the direction of the seepage flow. Plateau will also determine the background concentration of that ground water for the purpose of determining the applicable standards under Section 3-103 of the Water Quality Control Commission regulations.

We believe that the above issues constitute the remaining technical issues in the Discharge Plan approval process and that resolution of those issues should result in approval of Plateau's Discharge Plan. Please contact me if you feel that our characterization of the issues is incorrect or incomplete.

Plateau has already begun the preparation of a schedule for addressing the above issues. We look forward to your continued cooperation and assistance in the Discharge Plan approval process.

Sincerely,

L. S. Woodside

L. S. Woodside
Vice President/Refining

LSW:lh

cc: P. W. Liscom
D. J. Stockham
G. A. Masson
R. G. Perry
G. S. Smith
B. S. Garber

PLATEAU, INC.

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

November 14, 1983

Mr. Joe Ramey, Director
Oil Conservation Director
P. O. Box 2088
State Land Office Bldg.
Santa Fe, NM 87501

Dear Mr. Ramey:

Our status report under Condition No. 4 of your October 14, 1983 letter is contained in the letter from Lee S. Woodside to Joe Ramey. (Letter dated November 14, 1983)

Sincerely,

Dwight J. Stockham

Dwight J. Stockham
Assoc. Environmental Engineer

DJS:lh

cc: B. S. Garber
P. W. Liscom
G. A. Masson
G. S. Smith
L. S. Woodside
File- DJS

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

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

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.

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,

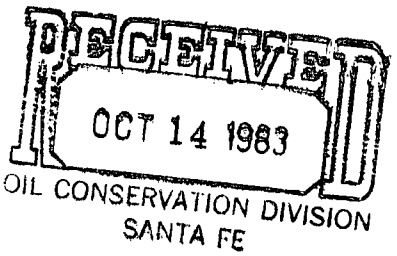
JOE D. RAMEY,
Director

JDR/WPP/dr

PLATEAU, INC.

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

October 11, 1983



Mr. Joe Ramey, Director
Oil Conservation Division
P. O. Box 2088
State Land Office Bldg.
Santa Fe, NM 87501

Dear Mr. Ramey:

Plateau has determined that there is water in the North API pond leak detection system. It is possible that water could be coming from the pond. That possibility of a possible leak dictates us to notify the Division. We are in the process of determining, through various methods, the source of the water in the leak detection system. When Plateau has conclusive information concerning this matter, we will notify you.

Sincerely,

Dwight J. Stockham

Dwight J. Stockham
Assoc. Environmental Engineer

DJS:lh

cc: B. S. Garber
P. W. Liscom
G. A. Masson
R. G. Perry
G. S. Smith
L. S. Woodside
File -DJS

HEALTH ENVIRONMENT department

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 MSG

FROM: BRUCE GALLAHER, GEOHYDROLOGIST, SURVEILLANCE SECTION BG by MSG

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. Reconniter 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 spectulative. 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

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

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	U
	V
	Ra 226
	Ra 228
	Cu
	Fe
	Mn
	Phenols
	Zn
	Al
	B
	Co
	Mo
	Ni
	pH
	Conduct.

FIELD TRIP REPORT
GROUND WATER SECTION

SLD USER CODES

Ground Water: 59300

NO_3, HC, & Toxics: 59600

UIC: 59500

County SAN JUAN

FACILITY VISITED

Name of Facility: PLATEAU REFINERY

Location: 1-mi S.E. OF BLOOMFIELD N.M.
SEC. 27, T29N, R11W

Discharge Plan Number: DP- # 1 UP FOR RENEWAL

Type of Operation: REFINERY—PLATEAU INC.

ENVIRONMENTAL IMPROVEMENT DIVISION FIELD VISIT

EID Inspector(s): OSCAR SIMPSON BRUCE GALANER, KENT BOSTIC

Date of Inspection or Visit: 9-27-83

Discharger's Representative Present During EID Visit: YES

Name: CHAD KING

Title or Position: ENGINEER

Purpose of Visit:

a. Evaluation of Proposed Discharge Plan ✓

b. Compliance Inspection of Discharge with Approved Plan _____

c. Other (specify) _____

Inspection Activities During Field Visit:

a. Inspection of Facilities or Construction (specify)
INSPECT REFINERY FACILITIES IN RELATION TO DISCHARGE PLAN RENEWAL

b. Sampling of Effluents (give sampling locations)
NO

c. Sampling of Ground Water (give names or locations of wells)
NO

d. Evaluation of geology, soils, water levels or other physical characteristics of the location (specify)
EVALUATE GEOLOGIC + HYDROLOGIC SETTING OF THE AREA AROUND PLATEAU REFINERY

e. Other (specify)

Observations and Information Obtained during the Visit:

A) SEVERAL DISCHARGES FROM PRODUCT STORAGE TANKS TANKS (LEAKS)

B) 2 - UNLINED PONDS NOT COVERED IN DISCHARGE PLAN

C) WATER IN LEAK DECTION SUMP OF ATI PONDS

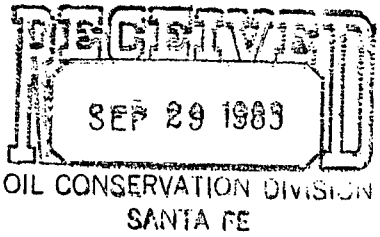
ACTION REQUIRED

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

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

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

Sincerely,

Bruce S. Garber

BSG/ea

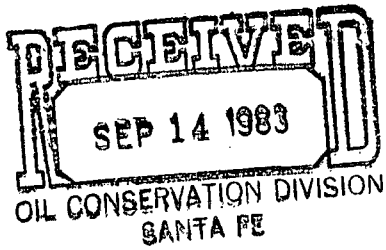
cc: Lee S. Woodside
Dwight J. Stockham
Gregory S. Smith
Charles Nylander
Louis W. Rose

BRUCE S. GARBER
ATTORNEY AT LAW

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

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

12 September 1983



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

Re: Plateau, Inc. Discharge Plan

Dear Mr. Ramey:

I am in receipt of your letter of September 2, 1983 granting Plateau an extension of time until October 17, 1983 to continue to discharge under its existing discharge plan.

In response to the second paragraph of that letter and as I have discussed with both you and Charles Nylander of the EID, representatives of Plateau, Inc. are available to meet with appropriate OCD and EID personnel to negotiate further procedures and timetables for obtaining an approved discharge plan. Therefore, I request that such a meeting be arranged shortly after the September 13, 1983 Water Quality Control Commission meeting and in no event later than October 1, 1983. Please contact me to schedule the meeting.

Additionally, by copy of this letter I request that the EID staff provide Plateau, Inc. in writing, prior to the meeting, a revision of OCD's June 30, 1983 comments on Plateau's Discharge Plan which were transmitted to Plateau by your July 15, 1983 letter to Mr. Lee S. Woodside. Such a revision would be most valuable in limiting the upcoming negotiations to those issues of importance to the EID. The revision should also serve to eliminate some of the confusion generated by OCD's prior comments. I appreciate your cooperation in this matter and look forward to hearing from you.

Sincerely,

Bruce S. Garber

Bruce S. Garber

BSG/ea

cc: Lee S. Woodside
Bob D. Dixon
Gary A. Masson
Dwight J. Stockham
Gregory S. Smith
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12 September 1983

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

Re: Plateau, Inc. Discharge Plan

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Sincerely,

Bruce S. Garber

BSG/ea

cc: Lee S. Woodside
Bob D. Dixon
Gary A. Masson
Dwight J. Stockham
Gregory S. Smith
Charles Nylander
Louis W. Rose

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

September 2, 1983

TONEY ANAYA
GOVERNOR

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

Bruce S. Garber, Esq.
P. O. Box 8933
Santa Fe, New Mexico 87501

Re: Plateau Discharge Plan

Dear Mr. Garber:

I have received your letter of August 26, 1983, requesting an extension of time for approval of the Updated Discharge Plan of Plateau, Inc. for its Bloomfield Refinery and requesting approval of the continued discharge at this facility under a previously approved discharge plan.

You are hereby granted such an extension until October 17, 1983. This extension is granted with the understanding that Plateau, Inc. will attempt to negotiate further procedures and timetables for processing and modifying this plan and for taking corrective actions as necessary.

Sincerely,

JOE D. RAMEY,
Director

WPP/JDR/dr

cc: Charles Nylander, EID

HEALTH ENVIRONMENT department

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: Charles Nylander, Chief, Water Pollution Control Bureau

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

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

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".

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5. Plateau discharge plan approval June 5, 1978 expired June 5, 1983.

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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 immedite 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 occassionally 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 toa long extension of time since, as part of the assurance, certain conditions are negotiated, and deadlines stipulated as was done with

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

GROUND WATER
CONSULTANTS, INC.

ALBUQUERQUE, NEW MEXICO 87107
TELE (505) 345-9505 CABLE HYDROCONSULT
TELE (505) 345-0422 TELECOPIER (505) 247-0155

April 29, 1977

Mr. Joe D. Ramey
Secretary-Director
New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico 87503

Dear Mr. Ramey:

American Ground-Water Consultants has been retained by Plateau, Inc. to assist them in complying with the New Mexico Water Quality Control Commission Regulations (NMWQCCR) as ammended.

At the present time, we should like to bring to your attention plans by Plateau to make a new contaminant discharge and to alter the character or location of an existing discharge from their refinery as required by Part 1, Section 201 (A) of the Regulations. The information required under 1-201 (B) is as follows:

1. Plateau, Inc.

2. Post Office Box 108
   Farmington, New Mexico 87401

3. NE 1/4, Sec. 27, T. 29 N., R. 11 W. The refinery location is shown in figure 1. The discharge will be made into two three-acre evaporation ponds.

4. The quality of the wastewater from the boilers and from the existing and new cooling towers as well as the quality of the composite wastewater stream is given in table 1. As additional data becomes available, it will be forwarded to the OCC.

5. Total discharge will be 29,540 gallons per day.

6. Discharge is intended to begin in August, 1977.

In compliance with Part 1, Sections 202 (A) and (B) of the Regulations, we are enclosing herewith, a copy of the Water and Drainage Diagram for the Plateau refinery. This diagram shows the path of water flow from its source, the San Juan River, through all existing and newly constructed facilities to its ultimate disposal in the evaporation ponds. In addition, this diagram shows the normal (N) and design (D) rates of water flow throughout the refinery.

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.

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

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 diposal 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 Division (OCD) bases its rejection of the Updated Discharge Plan on the following:

1) OCD field investigations and literature search of the refinery and surrounding area found ground water as defined in Sections 1-101 (Y) and 3-101 (A) of the WQCC Regulations and surface waters to protect.

2) OCD analysis of waste water effluent indicates high concentrations of toxic pollutants and other elements that exceed the WQCC regulations as defined in Section 1-101, Definition "UU" and Section 3-103 (A B C). The refinery waste water is or has the potential for contaminating ground and surface waters in the area of the refinery.

3) The Updated Discharge Plan does not provide for suitable methods to capture, contain, store, and dispose of storm runoff, leaks and spills of raw and refined products, by-products, waste water effluent, and the associated waste of each.

4) Plateau did not adequately or completely address Sections 3-106 and 3-107 in their Updated Discharge Plan.

To obtain an approved discharge plan, Plateau must satisfactorily address and resolve the problems associated with the above and the items requested in this report.

HEALTH & ENVIRONMENT department

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
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ROBERT McNEILL
SECRETARY

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

JOSEPH F. JOHNSON
DEPUTY SECRETARY

87

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 MSG

FROM: David G. Boyer, Water Resource Specialist, Ground Water Section DGB by msg

SUBJ: Plateau Refinery - Current Issues

DATE: August 29, 1983

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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. At least another staff person should be assigned to assist Simpson in the review of this discharge plan.

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4. On page 32 of Simpson's comments (attached), OCD summarizes the reasons for rejecting Plateau's "Updated Discharge Plan." I do not know whether this rejection is in actuality, or intended to be, a denial of a discharge plan under WQCC Section 3-109.A., and if it is a denial, what further action(s) should be taken.

Summary & Recommendations

1. Although Mr. Simpson's 6/30/83 comments and request for additional information may be sometimes overly long and occassionally 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.

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   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.

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4. At least one and possibly two EID technical staff member(s) should be assigned to assist Oscar. My recommendations are Bruce Gallaher (hydrology and prior work) and Pat Longmire (geochemistry and hydrocarbons). As Oscar's supervisor, I will retain general direction. Assignment of additional staff is also important, since one of EID's consultants, Dan Stevens of NM Tech at Socorro, has been retained by Plateau. The inter-relationship of Stevens and Garber to AGWC and Plateau is unknown at this time.

MSG:DGB:jba

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 29, 1977

Mr. Joe D. Ramey
Secretary-Director
New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico 87503

Dear Mr. Ramey:

American Ground-Water Consultants has been retained by Plateau, Inc. to assist them in complying with the New Mexico Water Quality Control Commission Regulations (NMWQCCR) as ammended.

At the present time, we should like to bring to your attention plans by Plateau to make a new contaminant discharge and to alter the character or location of an existing discharge from their refinery as required by Part 1, Section 201 (A) of the Regulations. The information required under 1-201 (B) is as follows:

1. Plateau, Inc.

2. Post Office Box 108
   Farmington, New Mexico 87401

3. NE 1/4, Sec. 27, T. 29 N., R. 11 W. The refinery location is shown in figure 1. The discharge will be made into two three-acre evaporation ponds.

4. The quality of the wastewater from the boilers and from the existing and new cooling towers as well as the quality of the composite wastewater stream is given in table 1. As additional data becomes available, it will be forwarded to the OCC.

5. Total discharge will be 29,540 gallons per day.

6. Discharge is intended to begin in August, 1977.

In compliance with Part 1, Sections 202 (A) and (B) of the Regulations, we are enclosing herewith, a copy of the Water and Drainage Diagram for the Plateau refinery. This diagram shows the path of water flow from its source, the San Juan River, through all existing and newly constructed facilities to its ultimate disposal in the evaporation ponds. In addition, this diagram shows the normal (N) and design (D) rates of water flow throughout the refinery.

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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.

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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)

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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

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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 Division (OCD) bases its rejection of the Updated Discharge Plan on the following:

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4) Plateau did not adequately or completely address Sections 3-106 and 3-107 in their Updated Discharge Plan.

To obtain an approved discharge plan, Plateau must satisfactorily address and resolve the problems associated with the above and the items requested in this report.

BRUCE S. GARBER
ATTORNEY AT LAW

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

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

86

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

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

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

85

TONEY ANAYA
GOVERNOR

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

MEMORANDUM

TO: CHARLES NYLANDER, EID

FROM: PERRY PEARCE, OCD

RE: PLATEAU DISCHARGE PLAN

DATE: AUGUST 22, 1983

Attached is a copy of the letter sent to Plateau after our last meeting. As you will see, we got ahead of ourselves. I suppose we need to grant another extension until the responsibility shift is either completed or withdrawn.

Please let me know if you have any suggestions.

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
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dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDIN
SANTA FE, NEW MEXICO 875
(505) 827-5800

August 5, 1983

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

HEALTH ENVIRONMENT department

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: Charles Nylander, Chief, Water Pollution Control Bureau

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

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

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.

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 immedite 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 occassionally 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 toa long extension of time since, as part of the assurance, certain conditions are negotiated, and deadlines stipulated as was done with

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.

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MSG:DGB:jba

AMERICAN
GROUND WATER
CONSULTANTS, INC.

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ALBUQUERQUE, NEW MEXICO 87107
TELE: (505) 345 9505 CABLE HYDROCONSULT
TELEX: 66-0422 TELECOPIER (505) 247-0155

April 29, 1977

Mr. Joe D. Ramey
Secretary-Director
New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico 87503

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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

Dear Mr. Ramey:

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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

BRUCE S. GARBER
ATTORNEY AT LAW

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

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

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Energy and Minerals Department
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Charles Nylander
Lee S. Woodside
Bob D. Dixon
Gary A. Masson
Gregory S. Smith
Dwight J. Stockham

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

August 5, 1983

COPY

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

CERTIFIED - RETURN
RECEIPT REQUESTED

RECEIVED
AUG 10 P.M.
WATER POLLUTION
CONTROL

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

PLATEAU, INC.

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

RECEIVED
AUG - 1 1983
OIL CONSERVATION DIVISION
SANTA FE

July 29, 1983

CERTIFIED MAIL #366-664-232

Mr. Joe D. Ramey
Director
Oil Conservation Division
P. O. Box 2088
State Land Office Bldg.
Santa Fe, NM 87501

Dear Mr. Ramey:

Plateau has received the Oil Conservation Division's review of our updated Discharge Plan for our Bloomfield Refinery and Plateau's own review is underway. We will proceed with this review continuously and will inform you as to the date when we will be prepared to meet.

The review period required by Plateau will be beyond the extension date of our present Discharge Plan. This is due to the time frame in which we received a copy of the OCD's review of the updated Discharge Plan and pertinent data that is needed for a complete review is not available at this time.

We will proceed with our review and Plateau is requesting that we be granted the maximum extension on our present Discharge Plan so that Plateau can properly complete its review.

Sincerely,

Lee S. Woodside
Vice President/Refining

DJS:lh

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

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

82

TONEY ANAYA
GOVERNOR

July 15, 1983

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

Plateau, Inc.
7575 Indian School Road, NE
Albuquerque, New Mexico 87110

Attention: Mr. Lee S. Woodside

Gentlemen:

Attached is a review of your updated discharge plan for your Bloomfield Refinery.

This was prepared by Mr. Oscar Simpson and is submitted without change. I do not necessarily agree nor do I disagree with his comments. However, he is adamant that the contents are necessary for an adequate discharge plan.

I would suggest that you review the attached and then arrange a meeting with the Division to discuss any problems you may have.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd
enc.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

July 6, 1983

TONEY ANAYA
GOVERNOR

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

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

Attention: Dwight J. Stockham
Environmental Engineer

Re: Discharge Plan Review
Plateau Inc.
Bloomfield Refinery
SW/4 NE/4, Sec - 27,
T-29N, R-11W, NMPM
San Juan County, NM.

Dear Sir:

Following receipt of Mr. Lee S. Woodside's letter dated April 18, 1983, and at the request of Mr. Gregory Smith, Legal Counsel for Plateau, at our April 4, 1983 meeting, the Oil Conservation Division is submitting a detailed review of the subject discharge plan.

The OCD considers Mr. Joe D. Ramey's letter which should have been dated March 8, 1983, to Lee S. Woodside as sufficient comment and grounds for rejection of the Updated Discharge Plan.

After you and other concerned parties have had an opportunity to review this letter and the attached comments on the Updated Discharge Plan, we believe that a meeting to discuss any issues or concerns you have will be beneficial.

Please contact me so that a meeting can be set up.

Sincerely,

JOE D. RAMEY
Director

JDR/dp

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

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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: respectively>

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 continously violated the requirements of Section 3-107 (C). Refer to Exhibit No. 4 for a summary of those violations.

Are these subjects related?

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 it 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~~

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.

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 visable 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 previuosly 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. ? reword

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

2) Perform site - specific drilling on the Nacimiento formation to obtain information on the characteristics of the Nacimiento. 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 dillution, and dispersion, chemical and physical attenuation, locations of recharge and discharge beds or zones, vertical and horizontal hydraulic conductivity, faults, bedding plans, fractures, litho-logic descriptions

   c) Perform pump and slug tests on the Naci-miento and sandstone layers thereof

   e) Submit detailed lithologic descriptions of the Nacimiento

   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 till, 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 Nacimiento 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 decription 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 errosional 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 visable 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 visable estimated flow from all the draws is between 30 and 50 gallons per minute between June and October of 1981. The visable 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 Nacimiento 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 errosional surface of the Nacimiento 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 Nacimiento 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 Nacimiento; 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 ± 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 an 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 Nacimiento Formation. Nacimiento 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 ploted 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 Nacimiento and Ojo Alamo Formations. These are as follows:

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

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

> "Field investigation indicates that the shale of the Nacimiento 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 Nacimiento 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 unfractured rock unit. The best exposures of

the Nacimiento 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 Nacimiento Formation". Page 8, fourth paragraph, Original Discharge Plan Exhibit No. 3C.

"The Nacimiento 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 Nacimiento 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 Nacimiento formation. (Exhibit No. 3A, Page 8, 2nd paragraph.)

"It is concluded that there is no ground water within the Nacimiento Formation which could be recovered for domestic purposes. Seeps at the contact of the cobble bed with the Nacimiento Formation support the conclusion that the Nacimiento 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 Nacimiento 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 Nacimiento) #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 Nacimiento. 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 Nacimiento formation.

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

1) The Nacimiento Formation is a principal aquifer in the San Juan Basin

2) Ground water principally is obtained from the sandstone beds within the Nacimiento 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 Nacimiento formation.

5) In the Plateau refinery area, there are sandstone beds in the Nacimiento 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 Nacimiento 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 Nacimiento is impermeable.

9) The San Juan River and the saturated alluvium (Valley Fill) channel is in direct contact with the Nacimiento 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 Nacimiento 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 Nacimiento 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 - Nacimiento errosional 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 paramets of the Nacimiento 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 Nacimiento 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 Nacimiento 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 Nacimiento 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 Nacimiento 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 Nacimiento 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 or 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 Platau 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 degradated 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 evalutaions, estimate the magnitude and extent of migration of the degradated 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 berm 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 occuring 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 Nacimiento formation.

The plume of degradated 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 retension 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 quanitity, 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 conserted 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 scheen 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 Platau'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.

Why
How by

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 diposal 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

Division (OCD) bases its rejection of the Updated Discharge Plan on the following:

1) OCD field investigations and literature search of the refinery and surrounding area found ground water as defined in Sections 1-101 (Y) and 3-101 (A) of the WQCC Regulations and surface waters to protect.

2) OCD analysis of waste water effluent indicates high concentrations of toxic pollutants and other elements that exceed the WQCC regulations as defined in Section 1-101, Definition "UU" and Section 3-103 (A B C). The refinery waste water is or has the potential for contaminating ground and surface waters in the area of the refinery.

3) The Updated Discharge Plan does not provide for suitable methods to capture, contain, store, and dispose of storm runoff, leaks and spills of raw and refined products, by-products, waste water effluent, and the associated waste of each.

4) Plateau did not adequately or completely address Sections 3-106 and 3-107 in their Updated Discharge Plan.

To obtain an approved discharge plan, Plateau must satisfactorily address and resolve the problems associated with the above and the items requested in this report.

United States Department of the Interior

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

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IN REPLY
REFER TO: UC-440
832.

JUN 2 1983

Mr. Dwight J. Stockham
Associate Environmental Engineer
Plateau, Inc.
4775 Indian School Road, N.E.
Albuquerque, New Mexico 87110

Dear Mr. Stockham:

Continued delivery of water from Navajo Reservoir, Colorado River Storage Project, is contingent upon compliance with the requirements of articles 1 and 7 under your contract dated October 12, 1982 (Contract No. 3-07-40-L0540). We have completed our review of Plateau's progress towards complying with the conditions of those articles.

Article 1 requires, "review and certification of the contractor's progress toward achieving the environmental quality goals as described on the Discharge Plan filed with the State of New Mexico Oil Conservation Division." We understand by letter dated April 11, 1983, from the State of New Mexico (copy enclosed) that progress is being made toward compliance with the Water Quality Control Commission Regulations. Therefore, the intent of Article 1 is adequately satisfied from the Bureau of Reclamation's standpoint.

Sufficient progress towards meeting the conditions of Article 7 concerning the Hammond Project Canal has also been made. Our Durango Projects Office will continue to work with you and keep us apprised of your continuing progress.

Should Plateau wish future water service contracts, yearly terms will be considered depending upon continued effort to comply with the substance of Articles 1 and 7 of the present contract. However, we will expect Plateau to proceed with an expeditious program to reach full compliance with the State of New Mexico discharge plan regulation in the shortest possible time frame as we do not intend to continue renewing this contract in perpetuity on an annual basis. With each annual request for water, please submit the following:

1. $150 contract renewal fee.
2. Certification from the State of New Mexico Energy and Minerals Department, Oil Conservation Division stating that the Water Quality Control Commission Regulations are being adequately met by your company.
3. State of New Mexico Diversion permit.

Your water service contract dated January 1, 1975 (Contract No. 14-06-400-6200) will expire on January 1, 1985. If Plateau's interest in water service totaling 340 acre-feet continues through that time, we will consider

consolidation of the two separate contracts into a single document. We will also be better able to consider whether to negotiate a longer term contract at that time. This gives Plateau 1 year and 8 months to achieve full compliance with both the state environmental regulations and correcting the maintenance problems concerning Hammond Project Canal. We will also need to discuss compliance with the National Environmental Policy Act for a longer termed contract.

If you have any questions, please contact Ms. Deborah Linke, Chief, Repayment Staff at (801) 524-5452.

Sincerely yours,

W. J. Hirschi

For Clifford I. Barrett
Regional Director

Enclosure
cc: State of New Mexico Energy
and Minerals Department
Director
Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

NAVAJO UNIT
NSP

APR 13 '83

Date	Initials	To
4/14		401
	DJR	440

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

Subs. Corresp. ____
Date Ans'd ____

TONEY ANAYA
GOVERNOR

April 11, 1983

U. S. Department of the Interior
Bureau of Reclamation
Box 11568
Salt Lake City, Utah 84147

Attention: Mr. Clifford I. Barrett

Re: UC-440
832.

Gentlemen:

The Oil Conservation Division and Plateau are working together to resolve the differences they have with the present discharge plan and the submitted update.

You may be assured that the Division will require a satisfactory discharge plan from Plateau. If their plan is not satisfactory, the Division will stop all discharges even if it requires shutting in the refinery.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

cc: Plateau, Inc.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

79

May 31, 1983

TONEY ANAYA
GOVERNOR

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

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

Attention: Lee Woodside

Re: Plateau, Inc., Discharge Plan

Dear Mr. Woodside:

I have received your letter of May 20, 1983, requesting an extension of time to file a new Discharge Plan. The current plan expires on June 5, 1983, and members of each of our staffs are cooperating to formulate an acceptable plan.

In view of this cooperative effort, Plateau, Inc. is granted an extension of sixty (60) days to obtain approval a new plan. The new deadline is therefore August 5, 1983.

Thank you for your assistance in resolving these important environmental problems.

Sincerely,

JOE D. RAMEY,
Director

JDR/WPP/dr

77

PLATEAU, INC.

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

May 20, 1983

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

Dear Mr. Ramey:

As you know, Plateau, Inc.'s Discharge Plan as permitted under the Water Quality Control Commission Regulations (WQCC) expires on June 5, 1983.

While substantial progress has been made to date, it is anticipated that the cooperative team effort to resolve the points in question, formulated in Plateau's meeting with your department on April 4, 1983 and mutually agreed to by both parties as a plan that would lead to an acceptable new Discharge Plan, cannot be completed by the expiration date of the Discharge Plan now in effect.

Therefore, Plateau is requesting an extension to the expiration date of our present Discharge Plan until our mutual efforts produce an acceptable plan.

Unless Plateau is notified of an objection to the request as made in this letter, Plateau will continue under this time table to make a continuous effort to complete an acceptable plan.

Sincerely,

Lee S. Woodside
Vice President/Refining

LSW:lh

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

NOTICE OF PUBLICATION

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

SANTA FE, NEW MEXICO

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following proposed discharge plan has been submitted for approval to the Director of the Oil Conservation Division, P. O. Box 2088, State Land Office Building, Santa Fe, New Mexico 87501, telephone (505) 827-5800.

PLATEAU INCORPORATED, Bloomfield Plant, P. O. Box 159, Bloomfield, New Mexico 87413, also P. O. Box 26251, Albuquerque, New Mexico 87125, proposes to discharge approximately 72,000 gallons per day of refinery wastewater effluent at their facility site located in: SW/4,NE/4 of Section 27, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. Geographically, the Bloomfield plant is approximately one mile South of the City of Bloomfield, New Mexico, adjacent to the San Juan River and 1/2 mile East of Highway 44. Plateau proposes to dispose of its effluent through the use of two unlined solar evaporation ponds approximately 7 acres in size and by spraying effluent over 10 acres of nearby land.

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 a public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing shall 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 the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 10th day of May, 1983.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

S E A L

HEALTH & ENVIRONMENT department

STATE OF NEW MEXICO

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

TONEY ANAYA
GOVERNOR

ROBERT McNEILL
SECRETARY

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

JOSEPH F. JOHNSON
DEPUTY SECRETARY

April 27, 1983

Mr. Joe Ramey, Division Director
Oil Conservation Division
New Mexico Energy and Minerals Department
Sante Fe, New Mexico 87504

Dear Mr. Ramey:

The purpose of this letter is to request the presence of Mr. Jeff Edminister of your Division at an upcoming meeting concerning Plateau Refinery. A U.S. Environmental Protection Agency criminal investigator from Denver will be in our office on May 3rd. to go through our files; his investigation centers around the recent cleaning and shipping of various sludges from Plateau's surface pits. Information from your files, plus first-hand knowledge of your staff, would likely be very beneficial to his investigation.

We have been dealing with Mr. Oscar Simpson of your staff concerning Plateau; however, as he will be out of town we would appreciate the presence of Mr. Jeff Edminister on May 3rd. We appreciate the past assistance which we have received from your Division and look forward to our continued interagency cooperation.

The meeting will start around nine; thank you for your support.

Sincerely,

Raymond R. Sisneros, Program Manager
PEM Section

Dick:

I don't see any need in bringing Jeff down for this. He did see Plateau dumping & plowing it under, but this could be handled by telephone instead of having him come down.

JDR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
525 Camino de los Marquez
Santa Fe, New Mexico
87501

TONEY ANAYA
GOVERNOR

April 25, 1983

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

Dear Mr. Woodside:

I want to apologize for the misunderstanding that resulted from the meeting of April 4, 1983.

The Oil Conservation Division feels that they should forward technical comments to you on your updated discharge plan before the two environmental groups meet. In the meantime, if you are not satisfied with the samples and analysis of the samples collected by the OCD, you should collect your own and have them analyzed by a laboratory of your choice.

On the subject of ground water analysis for background information, I would suggest that you immediately proceed to compile that information if you feel it necessary. As to sample points, this can be agreed upon by telephone, but if you want to meet to discuss this, the OCD will be happy to do so.

All of the information gathered by OCD as to Plateau's operations and discharges and fresh water in the area of the refinery are available to you at any time.

Yours very truly,

PAUL BIDERMAN
Secretary

PB/jr

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 facilites (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

PLATEAU, INC.

P.O. BOX 26251
ALBUQUERQUE, NM 87125-6251
TELEPHONE 505/262-2221

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

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

73

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

April 11, 1983

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

U. S. Department of the Interior
Bureau of Reclamation
Box 11568
Salt Lake City, Utah 84147

Attention: Mr. Clifford I. Barrett

Re: UC-440
832.

Gentlemen:

The Oil Conservation Division and Plateau are working together to resolve the differences they have with the present discharge plan and the submitted update.

You may be assured that the Division will require a satisfactory discharge plan from Plateau. If their plan is not satisfactory, the Division will stop all discharges even if it requires shutting in the refinery.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

cc: Plateau, Inc.

AnaCor Laboratories
7300 Jefferson Street, N.E.
Albuquerque, NM 87109
(505) 345-8964

Joint Venture of AnaChem, Inc. and Assaigai Analytical Laboratory

collected April 4, 1983

To: Oil Conservation Division
P.O. Box 2008
Santa Fe, NM 87501

Date: April 13, 1983
JV-324

Att: Oscar Simpson

Analyte	Sample Identification			
	Plastic A	Plastic B	Glass A	Glass B
Pb	<0.05 ppm	<0.05 ppm		
Benzene			4.04 ppb	0.45 ppb
Toluene			31.85 ppb	0.83 ppb
Ethyl benzene			154.32 ppb	None Detected
Xylene			32.21 ppb	None Detected

Normal Detection Limit:

Pb	0.05 mg/l
Benzene	0.1 ppb
Toluene	0.1 ppb
Ethyl benzene	0.1 ppb
Xylene	0.1 ppb

Reference: 1."Standard Methods for the Examination of Water and Waste Water", 15th Edition, APA, N.Y., 1980.
2. E.P.A. Method 602

An invoice for services is enclosed. Thank you for contacting AnaCor Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

JVS:rp

Enclosure

OK
Submit for
Payment OAS
4-19-83

Invoice No. 313

AnaCor Laboratories
7300 Jefferson Street, N.E.
Albuquerque, NM 87109
(505) 345-8964

Joint Venture of AnaChem, Inc. and Assaigai Analytical Laboratories

Sold To: Oil Conservation Division JV-324
P.O. Box 2008
Santa Fe, NM 87501

Att: Oscar Simpson

Invoice Date	Your Order No.
4-13-83	

Date Shipped	Ship Via
4-13-83	

Quantity	Description	Price	per	Amount
2	Pb	8.00	ea	16.00
2	Benzene	15.00	ea	30.00
2	Toluene	15.00	ea	30.00
2	Ethyl Benzene	15.00	ea	30.00
2	Xylene	12.50	ea	25.00
				131.00
		Tax		5.57
		Total		136.57

Thank You

Net 15 Days

FIELD TRIP REPORT

0/G 1-4-83

71

Name Jeff A. Edmister Date 4/4/83 Miles 64 District 3

Time of Departure 1:00 PM Time of Return 4:00 PM Car No. OF330

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature Jeff A. Edmister

INSPECTION	CLASSIFICATION	FACILITY	HOURS	QUARTER HOURS
O	O	F	3	O

Refinery location SE of Bloomfield, and bus depot in Farmington

I collected six water samples from the water in the Hammond Ditch directly north of Plateau Refinery between the two dams the refinery has built. Three samples were collected near the east dam and three at the area that was the west dam. The west dam had been opened and a new dam built almost to the intersection of the ditch and Sullivan Road. The water had an oily rainbow film. A pump had been installed by the east dam and was presently working. Some photos were taken of the areas where the water samples were taken and of the water and dams. The samples were packed in ice in a cooler immediately after sampling. These were taken to the bus depot and shipped to Assaigai Analytical Labs.

Mileage		Per Diem		Hours	
UIC		UIC		UIC	
RFA		RFA		RFA	
Other	64	Other	-0-	Other	3

TYPE INSPECTION PERFORMED

H - Housekeeping
P - Plugging
C - Plugging Cleanup
T - Well Test
R - Repair/Workover
F - Waterflow
M - Mishap or Spill
W - Water Contamination
O - Other

INSPECTION CLASSIFICATION

U - Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)
R - Inspections relating to Reclamation Fund Activity
O - Other - Inspections not related to injection or The Reclamation Fund

E - Indicates some form of enforcement action taken in the field (show immediately below the letter U, R or O)

NATURE OF SPECIFIC WELL OR FACILITY INSPECTED

D - Drilling
P - Production
I - Injection
C - Combined prod. inj. operations
S - SWD
U - Underground Storage
G - General Operation
F - Facility or location
M - Meeting
O - Other

PLATEAU

AnaCor Laboratories
7300 Jefferson Street, N.E.
Albuquerque, NM 87109
(505) 345-8964

Joint Venture of AnaChem, Inc. and Assaigai Analytical Laboratory

To: Oil Conservation District
P.O. Box 2008
Santa Fe, NM 87501

Date: March 29, 1983
JV-280

Att: Oscar Simpson

Analyte	Sample Identification	Normal Detection Limits	Reference
	Water		
benzene	1.21 ppm	0.1 mg/l	*
toluene	None Detected	0.1 mg/l	*
ethyl benzene	0.082 ppm	0.01 mg/l	*
xylene	None Detected	0.1 mg/l	*
Pb	2.48 ppm	0.001 mg/l	*

* "Standard Methods for the Examination of Water and Waste Water", 15th Edition, APA, N.Y., 1980.

* ASTM, Part 31, 1981.

Note: Sample received in plastic container.

An invoice for service is enclosed. Thank you for contacting AnaCor Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

JVS:rp

Enclosure

Samples collected week of March 14, 83

OFFICIAL FILE COPY

Date	Surname	Code
3/29	REdwards	450
3/	[illegible]	400
3/29	[illegible]	101
3.29	[illegible]	100
3/29	[illegible]	420
3/30	[illegible]	451
3/30	DGP	421

400
105./840.

Memorandum

March 28, 1983

To: Files

From: Rex Edwards, Lands & Contracts Branch

Subject Inspection of Water Contract Compliance Requirements, Plateau Inc., Hammond Project, New Mexico

On March 25, 1983, Pat Schumacher and I met with Chad King of Plateau and Henry Hotter of the Hammond Conservancy District to review specific contract compliance requirements directly affecting the operation and maintenance of the Hammond Main Canal through the Plateau properties. The specific requirements being reviewed were the surface drainage away from the Hammond Main Canal and the steps taken to provide a permanent solution to eliminate the sloughing of the canal banks. The sloughing of the canal banks has been attributed to the seepage of water from holding ponds located on Plateau property approximately 10 to 20 feet higher in elevation than the canal and 60 to 80 feet horizontal distance from the canal.

* Surface drainage in the larger areas has been diverted and directed into containment ponds for recovery. Some minor surface areas which were not previously identified were inspected and will be handled on a case by case basis as each begins to contribute surface runoff into the canal system.

Plateau has drained and reconstructed the oily water ponds sealing the bottoms with 100 mil high density polyethylene to prevent the loss of water through the underlying strata and seeping into the canal. They have also reconstructed the float overflow pump box which now has a greater capacity with a higher head and should eliminate any possible spills that could reach the canal. were there spills?

I asked Chad King what was planned for remedying the seeping caused by the 2 fresh water ponds located near the west side of the refinery. Chad indicated that I should talk to Dwight Stockham in the Albuquerque, New Mexico office concerning the permanent solution of rectifying the seepage from the fresh water ponds.

We toured the remainder of the plant area which is presently satisfactory for surface runoff and sloughing of the canal banks that could be attributed to underground seepage from Plateaus evaporation ponds.

I told Chad King that I would contact Dwight Stockham in Albuquerque and obtain his plan for preventing the fresh water ponds from seeping into the canal.

Scott M. Matheson
Governor

James O. Mason, M.D., Dr.P.H.
Executive Director
801-533-6111

DIVISIONS
Community Health Services
Environmental Health
Family Health Services
Health Care Financing

OFFICES
Administrative Services
Community Health Nursing
Management Planning
Medical Examiner
State Health Laboratory

STATE OF UTAH
DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110-2500

69

March 25, 1983
533-4145

Marv H. Maxell, Ph.D., Acting Director
Room 474 801-533-6121

Mr. Peter Pache
Hazardous Waste Management Program
Health and Environmental Department
P.O. Box 968, Crown Building
Santa Fe, New Mexico 87503

Dear Mr. Pache:

This is to confirm a telephone conversation between yourself and Bill Sinclair of my staff of March 25, 1983. The purpose of the call was to inform you of a situation involving the shipment of hazardous waste from the Plateau New Mexico oil refinery to Overthrust Tools of Vernal, Utah.

Kent Montague and Bill Sinclair visited Overthrust Tools on March 16, 1983, after being informed by some gentlemen in the crude oil re-refining business that a shipment of "pit sludge" was sitting in a storage tank on the Overthrust Tools property. Contact was made with Mr. Tim Mulville of Overthrust who was involved in the removal of this waste. Mr. Mulville stated he had been asked by Plateau to clean the pit directly upstream from the API separator because they needed a liner installed quickly. Mr. Mulville steam heated the pit and removed all of its contents ending up with a mixture of crude oil, water, sludge, and dirt. The waste was loaded aboard a PIE tanker and shipped to Vernal, Utah. Overthrust paid approximately $20,000 for transport of the waste to later discover that the resultant waste mixture would be difficult to re-refine. Therefore the 1800 barrels of waste remains in storage in Vernal, Utah. Overthrust claims it was unaware and was never informed that this waste might be hazardous. The State of Utah contends that this "pit sludge" is actually K051, a listed hazardous waste.

In a meeting on another matter with Plateau, this incident was brought up. Dwight Stockhom of Plateau vehemently denied that the waste was hazardous and stated it was only the skimmings of crude off of the pit top. If this was the case, why didn't Plateau reclaim the crude themselves? A couple of days after the meeting, Mr. Mulville received a phone call from Mr. Stockhom wondering about the final disposition of the crude (whether or not it had been re-refined).

The State of Utah has requested enforcement assistance through Region VIII, EPA in Denver concerning this incident. If you need additional information or have any questions, please contact Bill Sinclair or Kent Montague at (801) 533-4145.

Sincerely,

Dale D. Parker

Dale D. Parker, Ph.D.
Executive Secretary
Utah Solid and Hazardous Wastes
Committee

WJS:cw
1315

United States Department of the Interior

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

RECEIVED
MAR 14 1983
OIL CONSERVATION DIVISION
SANTA FE

IN REPLY
REFER TO: UC-440
832.

MAR 10 1983

Mr. Joe D. 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 87501

Dear Mr. Ramey:

We appreciated your letter dated September 28, 1982, informing us that Plateau, Inc. indicated a willingness to comply with the Water Quality Control Commission Regulations of the State of New Mexico.

The Bureau of Reclamation currently has a water service contract with Plateau, Inc. for 200 acre-feet of water over a 1 year period. Article 1 of the contract states, "This contract shall be effective for 1 year, contingent upon a 6 month review and certification of the contractor's progress toward achieving the environmental quality goals as described in a Discharge Plan filed and approved with the State of New Mexico Oil Conservation Division." A copy of the contract is enclosed. The 6 month period expires on April 12, 1983. This contract article further stipulates that, "Should such progress not be determined sufficient, this contract may be terminated by a 2 week advance written notice from the Contracting Officer."

We would appreciate your assessment of Plateau, Inc.'s progress to date toward achieving environmental quality standards required by the State of New Mexico. If you feel a meeting is necessary among our staffs, please let us know and we will be happy to arrange one. If you have any questions, please contact Ms. Deborah Linke at (801) 524-5435.

Sincerely yours,

W. J. Hirschi

For Clifford I. Barrett
Regional Director

Enclosure

cc: Plateau, Inc.
P.O. Box 26251
Albuquerque, New Mexico 87125

Mr. Dick Staments
P.O. Box 2088
Santa Fe, New Mexico 87501

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

March ~~April~~ 8, 1983

TONEY ANAYA
GOVERNOR

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 decribed 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

FEB 25, 1983

65

TONEY ANAYA
GOVERNOR

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 Refinerys' 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
525 Camino de los Marquez
Santa Fe, New Mexico
87501

TONEY ANAYA
GOVERNOR

February 24, 1983

(6) 3A

MEMORANDUM

TO: Joe Ramey, Director, Oil Conservation Division

FROM: Paul L. Biderman, Secretary

SUBJECT: Plateau Refinery

I have been informed by Oscar Simpson that effluent from the Plateau Refinery may have been disposed of in violation of state regulations, to the jeopardy of the San Juan River and groundwater in the vicinity of the plant. Mr. Simpson has given me some material to review, but has indicated that your Division intends to issue imminently a formal response to Plateau with regard to both past and future effluent problems.

I would like to meet with you to discuss this matter and the appropriate response of your Division prior to the issuance of that letter, but after I have had an opportunity to review Mr. Simpson's materials. Please do not issue your response to Plateau until after we have talked.

I apologize for the memo -- I had to attend unanticipated legislative hearings. When Dick Stamets recovers, please arrange an appointment with Rosie, but not until Tuesday.

PLB:rm

Thanks,
Paul

OFFICE OF THE SECRETARY
(505) 827-5950

ADMINISTRATIVE SERVICES DIVISION (505) 827-5925
CONSERVATION & MANAGEMENT DIVISION (505) 827-5860
MINING & MINERALS DIVISION (505) 827-5970
RESOURCE & DEVELOPMENT DIVISION (505) 827-5900
OIL CONSERVATION DIVISION (505) 827-5800
Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87501

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

GR

FEB 18, 1983

TONEY ANAYA
GOVERNOR

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: R. L. STAMETS

SUBJECT: FEBRUARY 17, 1983, STAFF MEETING ON PLATEAU REFINERY'S AMENDED DISCHARGE PLAN

On February 17, 1983, an OCD staff meeting was held for the purpose of establishing priorities for dealing with problems related to Plateau Refinery's amended discharge plan. Those in attendance were Joe D. Ramey, Perry Pearce, R. L. Stamets, Mike Stogner, Gilbert Quintana, and Oscar Simpson.

The identified problems related to two issues. No. (1) is the need to obtain an acceptable discharge plan from Plateau which will lead to the quickest reasonable elimination of discharges to anything other than impermeable facilities. No. (2) is the evaluation of the nature and extent of any existing pollution at the site and the determination of the proper course of action in response thereto.

Mr. Simpson wished to deal with these as inseparable issues. However, the staff consensus was to deal with these issues one at a time. The development of the discharge plan was given the highest priority. Evidence related to contamination will be collected as a part of the activity under such a plan (sampling fluids in newly drilled monitor wells, discharge characterization, etc.). Following collection of such data, evaluation of appropriate further action will be made.

The primary problems related to the amended discharge plan were defined as follows:

(1) failure to address catchment of fluids (leaks, spills, rainwater) within the refinery area;

(2) failure of the plan to provide for monitor wells;

(3) failure of the plan to provide for impermeable storage of discharged materials;

(4) failure of the plan to properly characterize the discharged fluids;

(5) failure of the plan to address monitoring of the Hammond ditch or the San Juan River.

Mr. Simpson was requested to take this outline and prepare a written Division response to Plateau. Completion of this response is expected by Tuesday, February 22, 1983.

February 18, 1983
fd/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

64

FEB. 25 1983

TONEY ANAYA
GOVERNOR

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

TO: JOE D. RAMEY, DIRECTOR

FROM: OSCAR A. SIMPSON, WATER RESOURCE SPECIALIST OAS

SUBJECT: FEBRUARY 18, 1983 MEMO FROM R. L. STAMETS TO JOE D. RAMEY

In reference to the February 18, 1983, Memo from R. L. Stamets to you, I would like to point out some potential problems with the procedure that was outlined in the Memo as quoted here.

ISSUE "No. 2 is the evaluation of the nature and extent of any existing pollution of the site and the determination of the proper course of action in response thereto." Evidence related to contamination will be collected as a part of the activity under such a plan (sampling fluids in newly drilled monitor wells, discharge characterization, etc.). Following collection of such data, evaluation of appropriate further action will be made."

1. The total time frame to accomplish the above would probably take from 9 months to 1 1/2 years to accomplish. This length of time is too long.

2. Ongoing pollution at Plateau Refinery should be evaluated as soon as possible. Evaluation of the Plateau Refinery area could be accomplished in approximately 4 months if the procedures as outlined in the Plateau report of February 17, 1983 are followed.

3. The evidence shown in my report of February 17, 1983, indicates that ground and surface waters have in the past and are presently being polluted.

4. Plateau did not notify the OCD of refinery expansions and production and process changes as required by Section 3-107 (c) of the WQCC regulations.

5. Based on the above and Section 3-109 (E-1) of the WQCC regulations, Plateau should be notified and required to modify their present discharge plan, GWR-1 in the shortest reasonable time and any ground water at any place of withdrawal for present or reasonably foreseeable future use due to the discharge will be abated or prevented.

6. There may be legal problems with the method proposed (Memo - 2-18-83- R. L. Stamets to Joe D. Ramey) such as legal action the OCD could take later on against Plateau Inc. for polluting and violating their GWR-1 Discharge Plan without notifying Plateau of such infractions.

FEBRUARY 25, 1983

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)?

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

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

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

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 benificial 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 utlimate discharge point of stormwater runoff.

8. The area of heavily polluted soils containing oil (inspisated oil) will continuely 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.

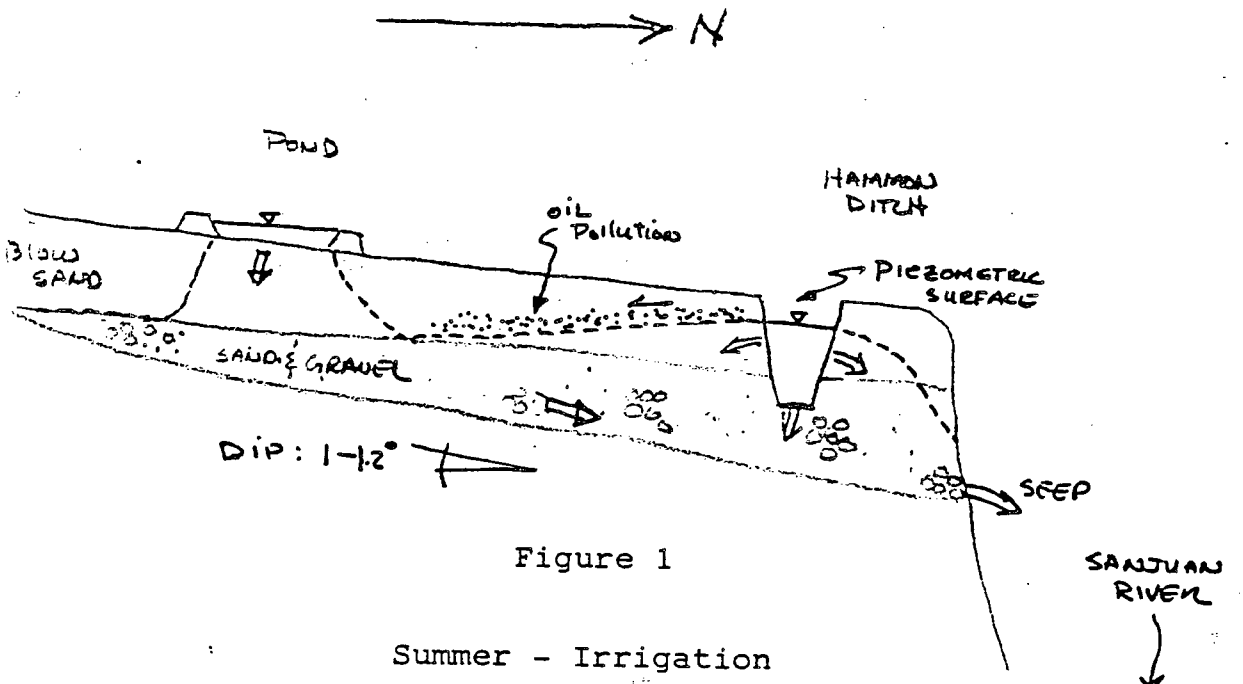


Figure 1

Summer - Irrigation
no scale

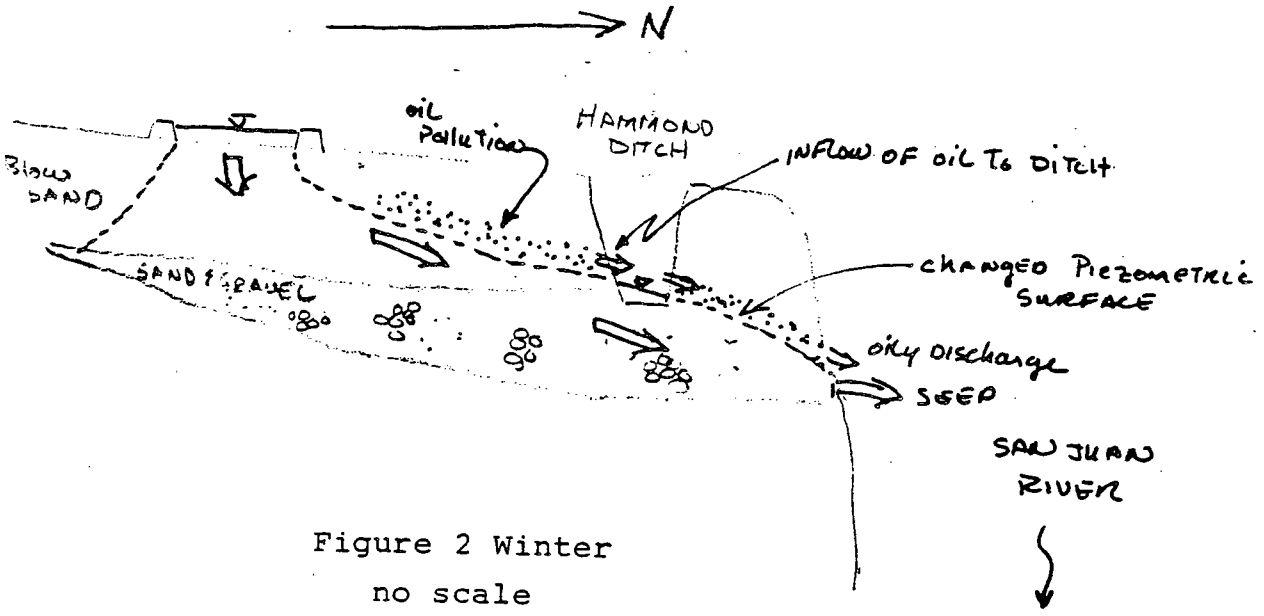


Figure 2 Winter
no scale

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.

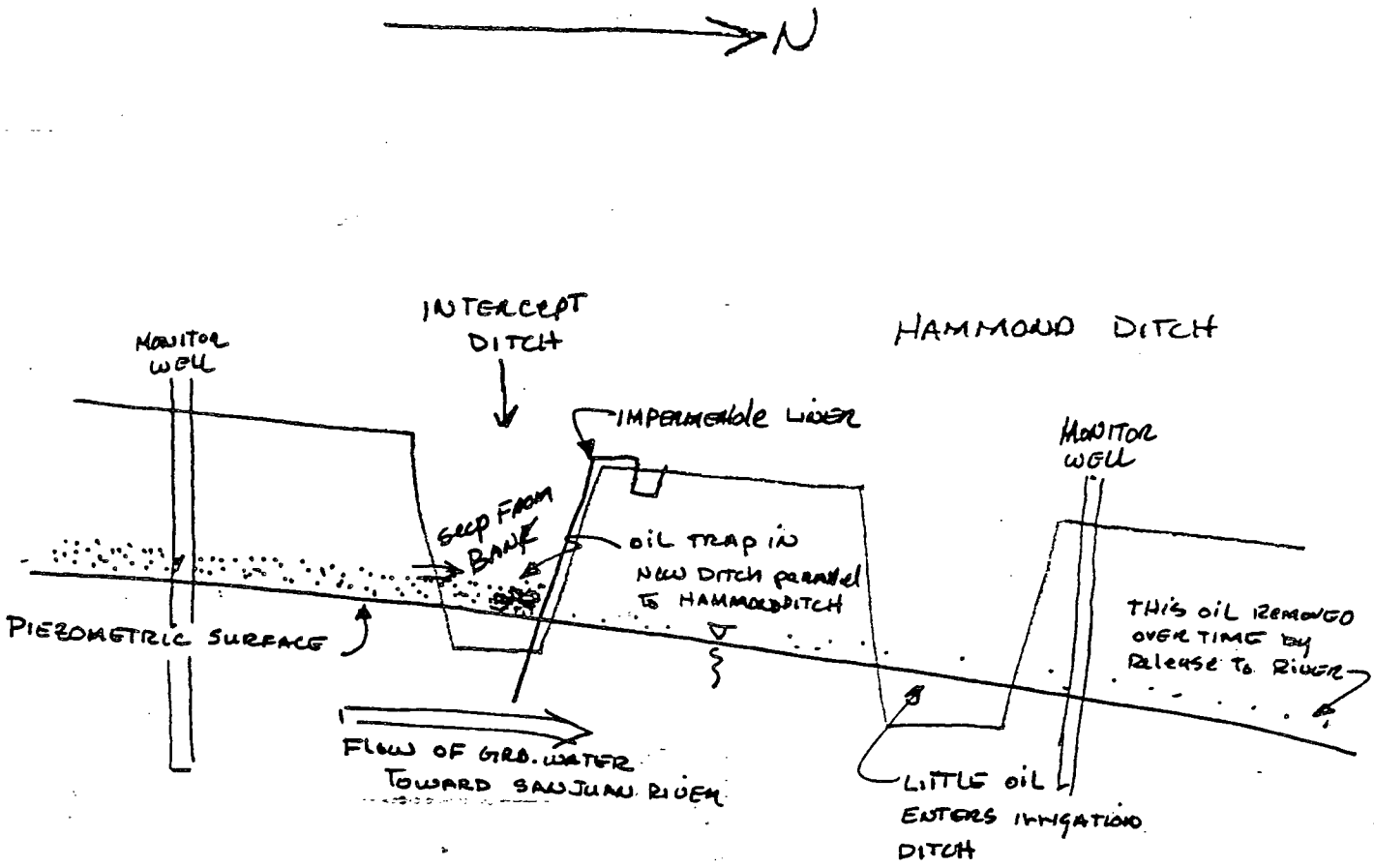


Figure 3

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 reducted 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 Handbood for Monitoring Industrial Wastwater, 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 benzine 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 down-stream 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,

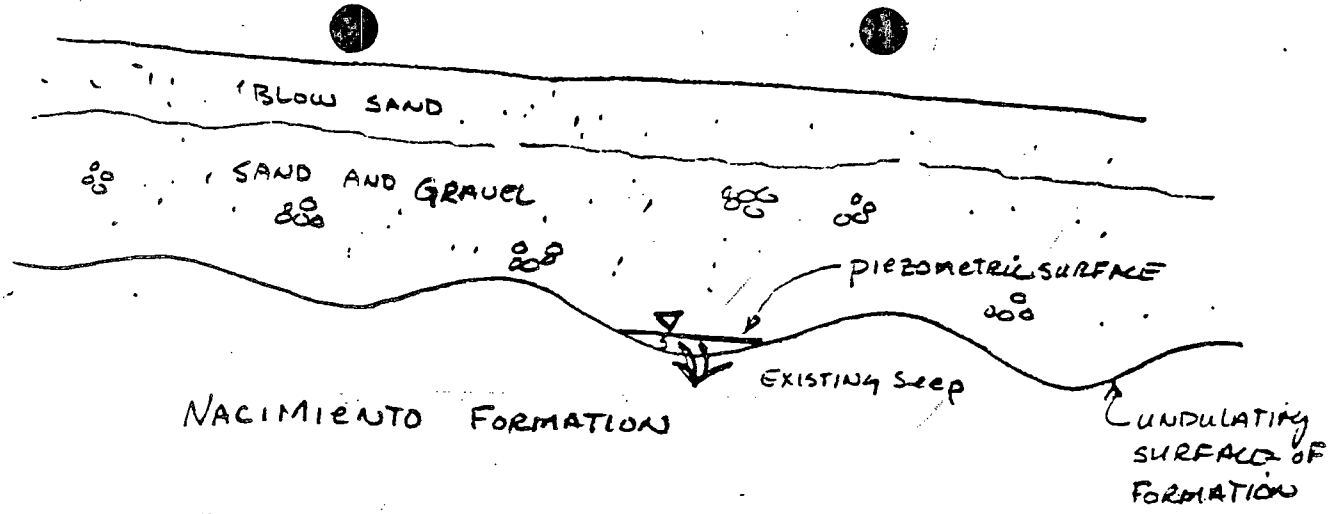
(2) removal is temperature dependent (high temperature reduces removal efficiency),

(3) removal is dependent upon the density and size of oil globules, and

(4) removal is also dependent upon the character of suspended solids.

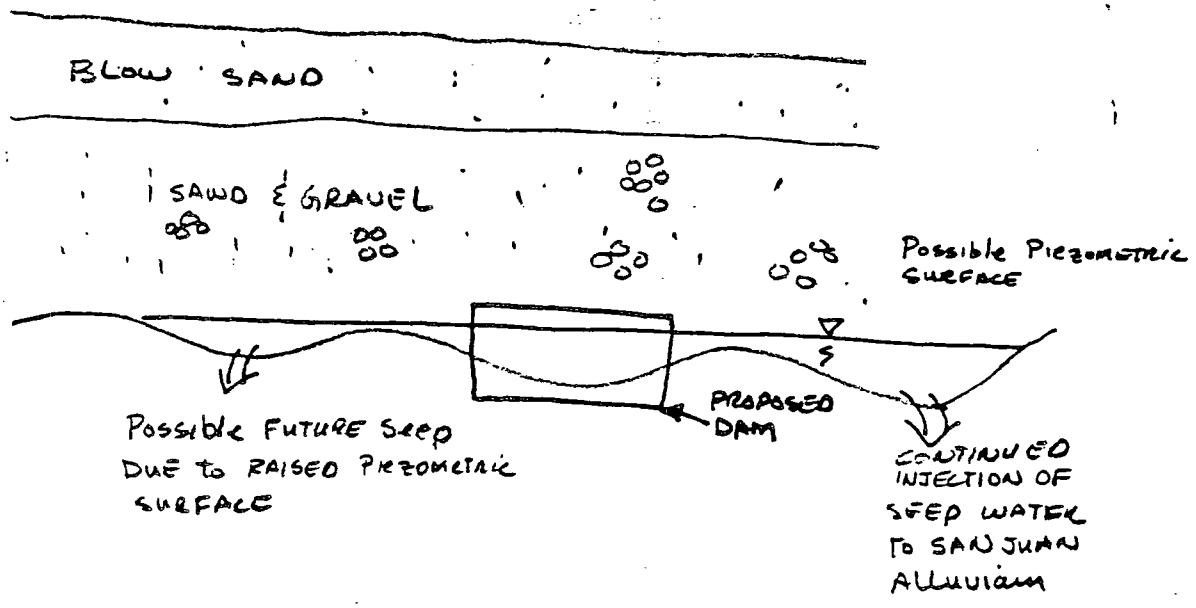
A test is available to determine efficiency of API separators called "susceptibility to separation." This test will also determine the amount of sludge produced for disposal. Normally an API separator is followed with a clarifier, filter, or air flotation process to remove those constituents that passed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

Figure 4a



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

Figure 4b

9-82

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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 operatins that might affect underground water supplies.

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

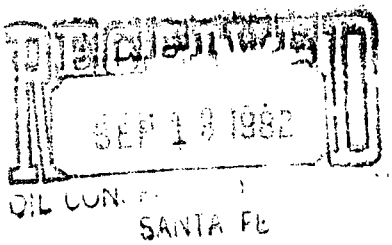
SPG ENERGY

Suburban Propane
Gas Corporation

334 Madison Avenue
CN 1915
Morristown, New Jersey
07960

Telephone
201-540-0300

September 8, 1982



Joseph Ramey, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
PO Box 2088
State Lane Office Building
Santa Fe, NM

Dear Mr. Ramey:

On Thursday, September 2, 1982, representatives of your office and the U. S. Bureau of Reclamation met with Plateau Inc. personnel at Plateau's Bloomfield, New Mexico refinery to discuss the results of certain water and/or soil sampling that had been performed by Oscar Simpson of your office. My understanding of the results of that sampling is that it showed one area off of Plateau's property where the ground held an unacceptable level of lead. In addition, it showed what was known all along, that unacceptable levels of contaminants were contained in the acquifer located at the bottom of the 150 foot bluff which at one point borders Plateau's property. I do not believe any evidence was presented to show any actual or potential contamination of the San Juan River.

While Dick Staments did concede to me on September 3, 1982 that the lead situation might be naturally occurring and unrelated to any discharge by Plateau, he further advised me that the Naciemento formation might not be sufficiently consistent to foreclose the real possibility of the existence of permiable groundwater areas where there was a present or reasonably forseeable future use, and into which Plateau discharge might possibly seep. Dick also advised me that evidence showed that migration of contaminants from the referenced acquifer might occur in a downstream direction over a period of perhaps several years, resulting in the contamination of another acquifer perhaps one to two miles away, which acquifer is presently being exploited as a water supply.

Since I continue to have no written explanation of the Commission's position to go by, I merely gather it is the position of the Commission, that the evidence shows Plateau effluent may move directly or indirectly into groundwater; the term "may" being reasonably and intelligently interpreted of course.

Plateau has been advised by Harold Sersland of the Bureau of Reclamation that the Bureau takes the position that failure by Plateau to file a water discharge plan at the direction of the State would constitute a breach of State water quality regulations and entitle the Bureau to refuse to continue to supply water to Plateau. This position has been characterized by Mr. Sersland as "supporting the State".

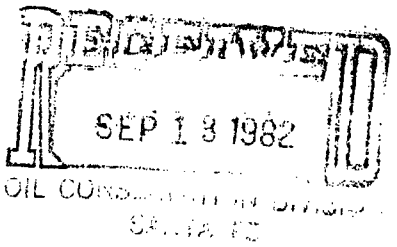
Upon careful consideration of the foregoing matters, Plateau feels compelled to and does in fact deem its Updated Discharge Plan, submitted to your office on June 2, 1982, as an application for approval of a discharge plan pursuant to the regulations of the Commission. Plateau looks forward to cooperating with your office based on the plan, which I hope is approved shortly. This will enable Plateau to maintain its vital water supply and at the same time continue with its progress on water containment at the Bloomfield refinery.

Plateau looks forward to hearing from you in the near future.

Very truly yours,

Gregory S. Smith
Staff Attorney

bv



(56)

United States Department of the Interior

BUREAU OF RECLAMATION
~~WATER AND POWER RESOURCES SERVICE~~
UPPER COLORADO REGIONAL OFFICE
P. O. BOX 11568
SALT LAKE CITY, UTAH 84147

IN REPLY
REFER TO: UC-440
832.

AUG 19 1982

RECEIVED
AUG 23 1982
OIL CON.

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

Dear Mr. Stockham:

Your company's contract dated July 12, 1982, Contract No. 2-07-40-L3319, for water service from Navajo Reservoir, Colorado River Storage Project, New Mexico, has a remaining term of approximately 60 days. In the 60 days remaining, we plan to accomplish:

1. Formal identification of Plateau's operating practices which may be creating environmental hazards.

2. Formal identification of the magnitude of the environmental problems.

3. Formal agreement between the Bureau of Reclamation and Plateau, Inc. on methods and deadlines for mitigating the environmental problems.

We have contacted the State of New Mexico, Oil Conservation Division by letter requesting their perception of the apparent problem. To a large extent, the Bureau will require corrective action by Plateau based upon the states recommendations. We expect a response from the state during the week of August 16, 1982. As soon as we have their recommendation, we will contact you. If you have any interim questions, please contact Ms. Deborah Linke, Chief Repayments Staff, at (801) 524-5435.

Sincerely yours,

Clifford I. Barrett

Clifford I. Barrett
Regional Director

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

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

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

October 26, 1982

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

Dear Oscar:

During a recent plugging program, I was in the vicinity of the Plateau Refinery. I observed that Plateau was again sprinkling water onto an open field. I first observed this at 9:00 AM on October 10, 1982. The temperature was around 35°F. This plugging program allowed me to observe the spraying several times a day from October 10, through October 15, 1982. On October 15, the spayers were turned off by 11:30 AM. The temperature ranged from 30°F to 64°F during the six days of observation. Three pictures, included with this letter, show the spraying during warm and cold weather and how marshy the land was getting. The sprayers were not moved from the one location, which made the field very marshy.

I made some more trips on October 18, and October 19, 1982. The sprayers were back on by 10:00 AM on October 18, and were still spraying at 7:00 PM on October 19, 1982.

The other two pictures included, are of the solar evaporative ponds #1 and #2.

Mike Stogner and I checked the water run-off for contamination into arroyos or streams. We found no evidence of this happening. The water went as far as the paved road and soaked in.

If you have any further questions, contact our office.

Yours truly,

Jeff A. Edmister

Jeff A. Edmister
Geologist/Field Representative

JAE:dh

Enc.

HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
Phone: 843-9240

INVOICE

FOR LABORATORY SERVICES

Date	User identification	Billing period
August 30, 1982	52999	8/27/82

Please forward your check, payable to: Scientific Laboratory Division, 700 Camino de Salud NE, Albuquerque, NM 87106
Purpose: SLD ANALYTICAL SERVICES

Please return PINK remittance copy with your payment.

402-16

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

710592

I certify that the charges herein are correct and that payment therefor has not been received.

Signature

8/30/82
Date

TYPE of SERVICE/ANALYSIS	NUMBER of TEST		PRICE per TEST	AMOUNT
Heavy Metals, complete	5	Lab #77,78,79,80 & 81	56.95	284.75
Heavy Metals, partial	6	Lab #112,113,114, 115,116,117	16.75	100.50
Uranium	1	Lab #113	33.50	33.50
Volatilemm, Screen	17	Lab #135,136,137, 138,139,140,141, 142,143,144,161, 162,163,164,165, 166,167	20.00	340.00

AMOUNT DUE
$ 758.75

SLD 011 Form Revised 8/78
(Replaces SLS 011)

Distribution:
White—Original Canary—Duplicate Pink—Remittance Goldenrod—SLD File

HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
Phone: 843-9240

INVOICE

FOR LABORATORY SERVICES

Date	User identification	Billing period
July 20, 1982	32939	7/16/82

Please forward your check, payable to: Scientific Laboratory Division, 700 Camino de Salud NE, Albuquerque, NM 87106
Purpose: SLD ANALYTICAL SERVICES

Please return PINK remittance copy with your payment.

403-16

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

710125

I certify that the charges herein are correct and that payment therefor has not been received.

Signature

7/20/82
Date

TYPE of SERVICE/ANALYSIS	NUMBER of TEST	PRICE per TEST	AMOUNT
Cyanide analysis	3 Lab #127,128,129	34.85	104.55
Phenols	3 Lab #113,114,115	15.00	45.00
Oil & Grease	3 Lab #116,117,118	12.00	36.00

AMOUNT DUE
$ 185.55

SLD 011 Form Revised 8/78
(Replaces SLS 011)

Distribution:
White—Original Canary—Duplicate Pink—Remittance Goldenrod—SLD File

HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
Phone: 843-9240

INVOICE

FOR LABORATORY SERVICES

Date	User identification	Billing period
July 28, 1982	52999	June 27, 1982

Please forward your check, payable to: Scientific Laboratory Division, 700 Camino de Salud NE, Albuquerque, NM 87106
Purpose: SLD ANALYTICAL SERVICES

Please return PINK remittance copy with your payment.

402-16

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

710227

I certify that the charges herein are correct and that payment therefor has not been received.

Leo N. Hamon — *Signature*

7/28/82 — *Date*

TYPE of SERVICE/ANALYSIS	NUMBER of TEST	PRICE per TEST	AMOUNT
Normal Partial Water Chemistry	5 Lab #WC-122,123, 124,125,126	16.75	83.75

AMOUNT DUE
$ 83.75

SLD 011 Form Revised 8/78
(Replaces SLS 011)

Distribution:
White—Original Canary—Duplicate Pink—Remittance Goldenrod—SLD File

HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
Phone: 843-9240

INVOICE

FOR LABORATORY SERVICES

Date	User identification	Billing period
8/3/82	52999	8/2/82 & 7/29/82

Please forward your check, payable to: Scientific Laboratory Division, 700 Camino de Salud NE, Albuquerque, NM 87106
Purpose: SLD ANALYTICAL SERVICES

Please return PINK remittance copy with your payment.

402-16

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

710335

I certify that the charges herein are correct and that payment therefor has not been received.

Signature

8/3/82
Date

TYPE of SERVICE/ANALYSIS	NUMBER of TEST	PRICE per TEST	AMOUNT
TOC	3 Lab #119,120,121	12.10	36.30
Phenols	3 Lab #317,318,319	15.00	45.00

Sent 8/18

AMOUNT DUE
$ 81.30

SLD 011 Form Revised 8/78
(Replaces SLS 011)

Distribution:
White—Original Canary—Duplicate Pink—Remittance Goldenrod—SLD File

HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
Phone: 843-9240

FOR LABORATORY SERVICES

Date	User identification	Billing period
Aug. 11, 1982	52999	8/9/82

Please forward your check, payable to: Scientific Laboratory Division, 700 Camino de Salud NE, Albuquerque, NM 87106
Purpose: SLD ANALYTICAL SERVICES

402-09

Please return PINK remittance copy with your payment.

Oil Conservation Div.
P.O. Box 2088
Santa Fe, NM 87501

710433

I certify that the charges herein are correct and that payment therefor has not been received.

Signature

8/11/82
Date

TYPE of SERVICE/ANALYSIS	NUMBER of TEST	PRICE per TEST	AMOUNT
TOC	6 Lab #325,326,327, 328,329,336	12.10	72.60
Boron	6 Lab #330,331,332, 333,334,335	9.00	54.00
Sulfate	6 Same as above	7.00	42.00
Chlorides	6 Same as Above	6.00	36.00
Residue Total Filterable	6 Same as above	7.00	42.00

ok P.C. 16/10/01

AMOUNT DUE
$ 246.60

SLD 011 Form Revised 8/78
(Replaces SLS 011)

Distribution:
White—Original Canary—Duplicate Pink—Remittance Goldenrod—SLD File

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HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
Phone: 843-9240

INVOICE

FOR LABORATORY SERVICES

Date	User identification	Billing period
Aug. 5, 1982		8/5/82

Please forward your check, payable to: Scientific Laboratory Division, 700 Camino de Salud NE, Albuquerque, NM 87106
Purpose: SLD ANALYTICAL SERVICES

Please return PINK remittance copy with your payment.

402-16

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

710398

I certify that the charges herein are correct and that payment therefor has not been received.

Signature

8/5/82
Date

TYPE of SERVICE/ANALYSIS	NUMBER of TEST	PRICE per TEST	AMOUNT
Cyanide	5 Lab #320,321,322, 323 & 324	34.85	174.25

Sent 8/16

ok P.C. 16/10/01

AMOUNT DUE
$ 174.25

SLD 011 Form Revised 8/78
(Replaces SLS 011)

Distribution:
White—Original Canary—Duplicate Pink—Remittance Goldenrod—SLD File

ASSAIGAI ANALYTICAL LABORATORIES, INC.
7300 Jefferson, North
Albuquerque, New Mexico
Telephone: (505) 345-3964

RECEIVED
JUL 21 1982
OIL CONSERVATION DIVISION
SANTA FE

STATEMENT

TO: ENERGY & MINERALS DEPARTMENT
P. O. BOX 2088D. NW.
SANTA FE, NEW MEXICO 87501

Invoice Date: 7-16-82
AAL Vendor No. 00015
AAL NO. 7072-001
through -019

ITEM#	NO. OF ANALYSES	DESCRIPTION	UNIT PRICE	AMOUNT
1	19	TOTAL ORGANIC CARBON	15.00	285.00
2	19	BORON	8.00	152.00
3	19	COBALT	8.00	152.00
4	19	CHROMIUM	8.00	152.00
5	19	LEAD	8.00	152.00
6	19	CHLORIDE	8.00	152.00
7	19	FLUORIDE	10.00	190.00
8	19	TOTAL DISSOLVED SOLIDS	7.00	133.00
		SUB-TOTAL		1368.60
		4% TAX.....		54.72
		INVOICE TOTAL		1422.72

Terms for Payment are 1% 10 days, net 30 days.

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 Thorpe

for Clifford I. Barrett
Regional Director

(54)

United States Department of the Interior

BUREAU OF RECLAMATION

~~WATER AND POWER RESOURCES SERVICE~~

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

IN REPLY
REFER TO: UC-440
832.

AUG 2 1982

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

RECEIVED
AUG 04 1982
OIL CONSERVATION DIVISION
SANTA FE

Dear Mr. Stockham:

One original copy of a fully executed contract between your company and the United States is enclosed. The term of this contract is 3 months and it expires on October 12, 1982.

We will soon contact you regarding the administration of the environmental provisions of this contract. If you have any questions, please contact Ms. Deborah Linke, Chief, Repayments Staff, at (801) 524-5435.

Sincerely yours,

For

Clifford I. Barrett
Regional Director

Enclosures

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

Mr. Oscar Simpson
State of New Mexico
Oil Conservation Division
P.O. Box 2088
Sante Fe, New Mexico 87501

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

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

WITNESSETH:

WHEREAS, the following statements are made in explanation:

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

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

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

TERM OF CONTRACT

1. This contract shall be effective for 3 months.

WATER DELIVERY

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

FOR INDUSTRIAL USE ONLY

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

RATE AND METHOD OF PAYMENT FOR WATER

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

Water Contracted (acre-feet)	First Annual Payment (Based on $41.00) per acre-foot
70	$2,870

MEASUREMENT AND RESPONSIBILITY FOR DISTRIBUTION

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

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

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

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

UNITED STATES NOT LIABLE FOR WATER SHORTAGE - ADJUSTMENTS

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

NOTICES

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

STANDARD CONTRACT ARTICLES

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

A. Contingent Upon Appropriation or Allotment of Funds

B. Officials Not To Benefit

C. Assignment Limited - Successor's and Assigns Obligated

D. Books, Records, and Reports

E. Rules, Regulations, and Determinations

F. Quality of Water

G. Water and Air Pollution Control

H. Equal Opportunity

I. Title XI, Civil Rights Act of 1964

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

THE UNITED STATES OF AMERICA

(seal)

By: F. Phillip Shamp
Regional Director
Bureau of Reclamation

ATTEST:

PLATEAU, INCORPORATED

By:

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

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

F. QUALITY OF WATER

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

G. WATER AND AIR POLLUTION CONTROL

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

H. EQUAL OPPORTUNITY

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

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

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

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

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

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

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

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

I. TITLE VI, CIVIL RIGHTS ACT OF 1964

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

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

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

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

(63)

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 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.

"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 diacharge 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 is 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.

PLATEAU, INC.

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

July 20, 1982

52

Mr. Oscar Simpson
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Dear Oscar:

Please find outlined below the chemicals and the vendors who supply these chemicals to our Refinery.

CHEMICAL	COMPANY
Polymer 1190	Betz Labs
Betz 2040	Betz Labs
Betz 2020	Betz Labs
Balanced Polymer AP-II	Betz Labs
Industrial Corrogen	Betz Labs
Slimicide 508	Betz Labs
HTH Dry Chlorine	Olin Corporation
Chlorine	Thatcher Chemical Co.
Petromeen WS-66	Betz Process Chemicals, Inc.
Petromeen OS-16	Betz Process Chemicals, Inc.
Petromeen EB-911	Betz Process Chemicals, Inc.
Neutrafilm 463	Betz Labs
Tetramix 50	Dupont
MLA 500	Ethyl
MPA 447R	Ethyl
Oil Bronze Dye	Ethyl
Tolad 346	Tretolite
Stadis 450	Tretolite

The products that we refine or produce are readily available at any of our service stations for purchase.

If you have further questions, feel free to contact me.

Sincerely yours,

Dwight J. Stockham

Dwight J. Stockham
Assoc. Environmental Engineer

DJS:Lh

Enclosure
cc: G.A.Masson
Chad King
P. W. Liscom
R. G. Perry

Plateau

PETROLEUM REFINERS • MARKETERS

Betz Laboratories
4636 Somerton Road
Trevose, PA 19047

Olin Corporation
120 Long Ridge Road
Stanford, Connecticut 06904

Betz Process Chemicals, Inc.
2203 Timberloch Place, Ste. 250
The Woodlands, TX 77380

Ethyl Corporation
Petroleum Chemicals Division
2 Houston Center, Ste. 900
Houston, TX

E. I. DuPont De Nemours
File No. 7761
1000 W. Temple
Los Angeles, CA 90074

Tretrolite Division
P. O. Box 14513B
St. Louis, MO 63178

Thatcher Chemical Co.
1900 Fortune Road
Salt Lake City, UT 84104

PLATEAU, INC.

4775 INDIAN SCHOOL ROAD, N.E.
ALBUQUERQUE, NEW MEXICO 87110
PHONE 505/262-2222

July 19, 1982

Joseph Ramey, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
PO Box 2088
State Lane Office Building
Santa Fe, NM

Dear Mr. Ramey:

On July 12, 1982, I had occasion to meet with Oscar Simpson of your office at Plateau's Bloomfield New Mexico Refinery offices. Also present at the meeting were Rex Edwards from the Bureau of Reclamation, and for Plateau, Robert Perry, Dwight Stockham, Chad King and Mike Palumbo along with Bill Turner from American Groundwater Consultants, Inc., the company which prepared the Up-dated Discharge Plan which was submitted to your office on June 2, 1982.

Mr. Simpson called this meeting to learn from Plateau what Plateau planned to do about some water seeps in the Northwest corner of its property that Mr. Simpson stated were, in his opinion, polluting ground water adjacent to the San Juan River. Mr. Simpson stated that he had come onto Plateau's property the previous Tuesday to take water and soil samples of earth from areas along the river, which samples have not yet been fully analyzed. He also stated that he would make arrangements to come onto Plateau's property on July 13, 1982, to do some organic sampling and take samples of the river water in the areas most likely to show whether or not harmful concentrations of effluent, as defined in the regulations, were being discharged into the river. For our purposes, I will assume that the term "discharge" is as defined in Section 1-203(c) of the regulations.

I asked Mr. Simpson under what provisions of the regulations he felt Plateau was required to file a water discharge plan. It is my understanding that he relies on Section 3-101 of the regulations which sets forth the purpose of the regulations as to protect all ground water of the state for present and potential future use as a domestic and agricultural water supply and to protect those segments of surface water which are gaining because of ground water inflow.

I had already pointed out to you over the telephone two weeks ago that my understanding of the facts and the regulations had led me to believe that no discharge

plan was required because Plateau was not discharging effluent so that it may move directly or indirectly into ground water. I do understand that the aquifer which Mr. Simpson is concerned with on the Northwest portion of Plateau's property may be considered to contain ground water as that term is defined in Section 1-101(M) of the regulations. However, I must point out that this aquifer is at the bottom of a 150 foot embankment adjacent to the river and is also part of the flood plain of the river. No one is ever going to be using that tiny area to drill a well for domestic or agricultural use. You will also note that Section 3-103 speaks of present or "reasonably forseeable future use". Thus, I think it is clear that the requirement that Plateau file a discharge plan under those circumstances would not be consistent with the intent of the regulations. I will also point out that to date, there is no empirical evidence to show that Plateau is in fact discharging into ground water not in conformance with applicable effluent concentration standards. Hopefully, the present testing will reveal whether Plateau is or is not doing so. In addition, as far as the San Juan River is concerned, Section 3-101 talks about surface waters which are gaining because of ground water inflow. I understand that along Plateau's property the San Juan River is a losing stream rather than a gaining stream. Again, I hope that the tests will bring us evidence of this.

Based upon my impressions of last Monday's meeting, I request that you send me a written statement of the Commission's position on the applicability of Section 3-104 to Plateau. Perhaps this could be prepared by Perry Pierce. I would appreciate receiving such a statement at your earliest convenience. Inclusion of a marked up aerial photo of the Plateau property would be most helpful.

As far as the testing itself is concerned and the ongoing efforts of Plateau to ensure that no water contamination takes place, I wish to make a few points. First, Plateau would appreciate it if Mr. Simpson would contact its offices in advance when he desires to come on to Plateau's property to inspect or to take samples of anything. This is for Mr. Simpson's own personal safety, a matter of simple courtesy and to ensure that testing is done in a way that results in admissible evidence. Without a Plateau presence at the time of the sampling, there is no independent support for the test results on questions of when the tests were taken, by whom, or the location of the test areas. On the other hand, a Plateau presence would serve to establish the verifiability of the testing by joint initialling of samples taken and joint sample taking.

Secondly, Plateau had submitted a draft discharge plan for your comment and review. You were asked to go over the plan and tell Plateau all that it had yet to do to satisfy the Commission. The Commission came back with a letter dated February 24, 1982 specifying those items, all of which Plateau has addressed. Mr. Simpson recalls having mentioned testing and handling of the Northwest seeps in a meeting between himself and Plateau personnel. There is no written record of such a request and no recollection of such a request by any Plateau person or by Mr. Turner. Thus it appeared to Plateau as though your office was never satisfied. Be that as it may, and perhaps from a simple failure of communication, I think you can appreciate the feeling of frustration experienced by Plateau at hearing about yet another matter that had not been mentioned in the February 24 letter. Ironically, Mr. Simpson stated that Plateau had not addressed the Northwest seep matter at all in its discharge plan. On the contrary, page 34 of the plan does in fact address the question of additional seeps and how Plateau could handle them. Now Mr. Simpson asks for time schedules for this process. What will be next?

Plateau will wait to see the results of the current testing and I will look forward to a statement from your office on the question of the applicability of Section 3-104 to Plateau. While I can easily see that under proper circumstances Plateau might be subject to Sections 1-201 and 1-203 of the regulations, without a cogent explanation of the Commission's position on Section 3-104 I might be prepared to recommend that Plateau simply disregard the Commission's authority regarding the filing of, compliance with, supplements to, amendments of, or anything else having to do with a water discharge plan.

Plateau has been taking steps in good faith to ensure that there is no water contamination on or off its property and wants to cooperate with whoever can provide advice on how best to accomplish that goal. In order for this to take place however, we must be open with one another on the reasons and authority for requesting or demanding things, the planning on how things will be accomplished and the practical business problems which Plateau might face in trying its best to do the job right.

I look forward to hearing from you soon.

Sincerely,

Gregory S. Smith
Staff Attorney

bv

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
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

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

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

July 12, 1982

Plateau, Inc.
P. O. Box 159
Bloomfield NM 87413

Attn: Paul Liscom

Re: Discharge plan for Plateau Refinery, Inc.

Dear Sir,

The Oil Conservation Division hereby requests Plateau to submit samples of the treatment chemicals that they have listed in their Discharge Plan as described in attachment #2. Also submit samples of the products they refine or produce and the chemical additives used to supplement the refined products. Please attach with these samples the product manufacturer, brand name, and generic composition for each sample.

The Oil Conservation Division under the authority of the Water Quality Control Commission Regulations WQCC 81-2 Part 3 Water Quality Control section 3-106, (C-7) and section 3-107 (D-3) and the Oil Conservation Commission Section 70-2-12 NMSA 1978 make this request.

If you have any questions concerning this matter call me at (505) 827-2534.

Sincerely,

Oscar A. Simpson

Oscar Simpson
Water Resource Specialist

OS:gc

PS: This letter will be hand delivered by myself and presented to you or Chad Kirgi upon submittal, the Oil Conservation Division requests Plateau to submit the samples to me at that time or within seven days of the date of this letter to the Oil Conservation Division, P.O. Box 2088, Santa Fe New Mexico 87501 (O.S.)

45

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

Submitted To OCD on June 2, 1982

CAPITAL EXPENDITURE DISPERSAL FORM

PROJECT: Oil Conservation Commission Ground Water Retention Project

C.I.P. # 500-015-162 DATE OF APPROVAL: April 16, 1982

AMOUNT APPROVED: $ 35,000.00

Attached is a copy of the approved Request for Capital Expenditure which will provide pertinent information.

DESCRIPTION OF PROJECT: See attached

DISTRIBUTION:

ORIGINATOR: P. Liscom/Bloomfield Refinery

DEPARTMENT HEAD: Refining Coordination

PURCHASING

INTERNAL AUDITING

ASSET ACCOUNTING K. K. MORGAN

ACCOUNTS PAYABLE D. F. Bryant

SAFETY

DATA PROCESSING C. ZARECKI

OTHER:

500-015-162

MAR 22 1982

SUBURBAN PROPANE GAS CORPORATION
REQUEST FOR CAPITAL EXPENDITURE SUMMARY

DIVISION:	DATE:	PROPOSAL IN ☐ NOT IN ☒ FISCAL YEAR 82 BUDGET	BUDGETED AMOUNT:
Plateau, Inc.	3-10-82		$ 0

PROPOSED STARTING DATE:	ESTIMATED COMPLETION DATE:	PROJECT TYPE:
March 1982	May 1982	CAPITAL EXPENDITURE ☒ ACQUISITION ☐ LEASE ☐

PROJECT OBJECTIVE:

ADDITION/EXPANSION ☐ PROFIT IMPROVEMENT ☐ REPLACEMENT/MAINTENANCE ☐ OTHER (Specify) ☒

Oil Conservation Commission Ground Water Retention Project - Bloomfield Refinery

TOTAL CASH OUTLAY: $ 35,000.00

DESCRIPTION OF PROPOSAL: (Use additional sheets if necessary)

This project will consist of the following: (1) Build two earthen dikes in arroyos south of Sullivan Road and east of the proposed spray irrigation area on Plateau's property. (2) Build a small retaining wall along the east side of the spray area extending from Sullivan Road to the south end of Plateau's property. (3) Build concrete retention dams in three arroyos north of the refinery. These dams will be located in the outcrop of the (CONTINUED ON PAGE 2)

PURPOSE OR NECESSITY OF PROJECT: (Use additional sheets if necessary)

The purpose of this project is the following: (1) Contain any possible runoff from the spray irrigation area. (2) Recover any water seeping from the evaporation ponds and running down arroyos north of the refinery towards the San Juan River.

JUSTIFICATION/NATURE OF SAVINGS OR BENEFITS: (Use additional sheets if necessary)

This project has been mandated by the New Mexico Oil Conservation Division and agreed upon by Plateau.

MONTHS DURING WHICH FUNDS WILL BE REQUIRED AND APPROXIMATE AMOUNTS:

March 1982 - $10,000 May 1982 - $10,000
April 1982 - $15,000

TOTAL INVESTMENT: (Include incremental working capital and attach Form GEN. 5149)

35,000.00

RETURN ON INVESTMENT:
PRESENT VALUE NET CASH FLOW @ 10% $____

ACTUAL RETURN: (CORPORATE USE)
PRESENT VALUE NET CASH FLOW @____% $____

No economic justification calculated

INVESTMENT PAYBACK:

NUMBER OF YEARS [XX]

N/A [ ]

	DATE
K. Sinks (signature on original) — REQUESTED BY	3-15-82
M. E. [signature] — APPROVED: DIVISION CONTROLLER	3/29/82
[signature] — APPROVED: DIVISION PRESIDENT	4/2/82
R. G. Perry (signature on original) — APPROVED	3-19-82
P. W. Liscom (signature on original) — APPROVED	3-24-82
R.M. Grass via Telephone 4/8/82 [initials] — APPROVED	
[signature] — APPROVED	4-12-82

GEN. 5146 0677

MAR 22 1982

.UBURBAN PROPANE GAS CORPORATIO

REQUEST FOR CAPITAL EXPENDITURE SUMMARY

DIVISION:	DATE:	PROPOSAL	FISCAL YEAR	BUDGETED AMOUNT:
Plateau, Inc.	3-10-82	IN ☐ NOT IN ☒	82 BUDGET	$ 0

PROPOSED STARTING DATE:	ESTIMATED COMPLETION DATE:	PROJECT TYPE:
March 1982	May 1982	CAPITAL EXPENDITURE ☒ ACQUISITION ☐ LEASE ☐

PROJECT OBJECTIVE:

ADDITION/EXPANSION ☐ PROFIT IMPROVEMENT ☐ REPLACEMENT/MAINTENANCE ☐ OTHER (Specify) ☒

Oil Conservation Commission Ground Water Retention Project - Bloomfield Refinery

TOTAL CASH OUTLAY: $ 35,000.00

DESCRIPTION OF PROPOSAL: (Use additional sheets if necessary)

This project will consist of the following: (1) Build two earthen dikes in arroyos south of Sullivan Road and east of the proposed spray irrigation area on Plateau's property. (2) Build a small retaining wall along the east side of the spray area extending from Sullivan Road to the south end of Plateau's property. (3) Build concrete retention dams in three arroyos north of the refinery. These dams will be located in the outcrop of the (CONTINUED ON PAGE 2)

PURPOSE OR NECESSITY OF PROJECT: (Use additional sheets if necessary)

The purpose of this project is the following: (1) Contain any possible runoff from the spray irrigation area. (2) Recover any water seeping from the evaporation ponds and running down arroyos north of the refinery towards the San Juan River.

JUSTIFICATION/NATURE OF SAVINGS OR BENEFITS: (Use additional sheets if necessary)

This project has been mandated by the New Mexico Oil Conservation Division and agreed upon by Plateau.

MONTHS DURING WHICH FUNDS WILL BE REQUIRED AND APPROXIMATE AMOUNTS:

March 1982 - $10,000 May 1982 - $10,000
April 1982 - $15,000

TOTAL INVESTMENT: (Include incremental working capital and attach Form GEN. 5149)

$ 35,000.00

RETURN ON INVESTMENT:

PRESENT VALUE NET CASH FLOW @ 10% $____

ACTUAL RETURN: (CORPORATE USE)

PRESENT VALUE NET CASH FLOW @___% $____

No economic justification calculated

INVESTMENT PAYBACK:

NUMBER OF YEARS [XX]

N/A [ ]

	DATE
REQUESTED BY: K. Sinks (signature on original)	3-15-82
APPROVED: DIVISION CONTROLLER	3-30-82 / 3/29/82
APPROVED: DIVISION PRESIDENT	4/2/82
APPROVED: R. G. Perry (signature on original)	3-19-82
APPROVED: P. W. Liscom (signature on original)	3-24-82
APPROVED:	
APPROVED:	
APPROVED:	

GEN. 5146-0677

OIL CONSERVATION COMMISSION GROUND WATER RETENTION PROJECT - 500

DESCRIPTION OF PROPOSAL:

Nacimiento formation in each canyon, the footing being sunk at least two feet into that impervious layer. The concrete dike will be 8-12' wide and high enough to retain a water volume for pumping, probably 3-4'. (4) Gravity flow water from each of the above retention ponds to a common pump station or install a pump at each pond. Piping will be run to bring the water back up to the refinery waste water system. (5) Install a pump station at natural drainage pond located east of the evaporation ponds and pipe this water back to the refinery. (6) Install a totalizing water meter on the spray irrigation line leaving the refinery. (7) Modify existing equipment to eliminate the possibility of sump overflow at pump station located on the north oily water pond.

PLATEAU, INC.

REQUEST FOR CAPITAL EXPENDITURE SUMMARY
(For Internal Use Only)

DIVISION:	DATE:	PROPOSAL	FISCAL YEAR	BUDGETED AMOUNT
Bloomfield Refinery	March 10, 1982	IN ○ NOT IN ⊗	82 BUDGET	$ -

PROPOSED STARTING DATE:	ESTIMATED COMPLETION DATE:	PROJECT TYPE:	
March 1982	May 1982		CAPITAL EXPENDITURE ⊗ ACQUISITION ○ LEASE ○

PROJECT TITLE: Oil Conservation Commission Ground Water Retention Project

CHARGE DEPT. #_____

PROJECT OBJECTIVE:

ADDITION/EXPANSION PROFIT IMPROVEMENT REPLACEMENT/MAINTENANCE OTHER (specify)

TOTAL CASH OUTLAY $ 35,000

TOTAL ASSET WRITEOFF $_____ (Bus. Serv. Only)

TOTAL PROJECT COST $_____ (Bus. Serv. Only)

DESCRIPTION OF PROPOSAL: (use additional sheets if necessary)

This project will do the following: (1) Build two earthen dikes in arroyos south of Sullivan Road and east of the proposed spray irrigation area on Plateau's property. (2) Build a small retaining wall along the east side of the spray area extending from Sullivan Road to the south end of Plateau's property. (3) Build concrete retention dams in three arroyos north of the refinery. These dams will be located in the outcrop of the Nacimiento formation in each canyon, the footing being sunk at least two feet into that impervious layer. The concrete dike will be 8-12' wide and high enough to retain a water volume for pumping, probably 3-4'. (4) Gravity flow water from each of the above retention ponds to a common pump station or install a pump at each pond. Piping will be run to bring the water back up to the refinery waste water system. 5) Install a pump station at natural drainage pond located east of the evaporation ponds and pipe this water back to the refinery. (6) Install a totalizing water meter on the spray irrigation line leaving the refinery. (7) Install equipment for eliminating the possibility of sump overflow at pump station located on the north oily water pond.

MONTHS DURING WHICH FUNDS WILL BE REQUIRED AND APPROXIMATE AMOUNTS:

March 10,000, April 15,000, May 10,000

REQUESTED BY: _____ DATE: 15 MAR 82

APPROVED: (DEPT. HEAD) _____ DATE:

TOTAL INVESTMENT: (include incremental working capital - see page 4)

$_____

PURPOSE OR NECESSITY OF PROJECT: (use additional sheets if necessary)

The purpose of this project is the following:

1) Contain any possible runoff from the spray irrigation area.

2) Recover any water seeping from the evaporation ponds and running down arroyos north of the refinery towards the San Juan River.

JUSTIFICATION/NATURE OF SAVINGS OR BENEFITS: (use additional sheets if necessary)

This project has been mandated by the New Mexico Oil Conservation Division and agreed upon by Plateau.

PLATEAU, INC.

Date: 3-10-82

INVESTMENT SUMMARY

ROJECT:

Oil Conservation Commission Ground Water Retention Project.

Permanent Capital:	Capital Investment	Capital Write-Off	Salvage Value	Total (B.S. Use Only)
Land	$			
Buildings				
Equipment				
Vehicles				
Furniture & Fixtures				
Leases				
Other				
TOTAL				
Working Capital:				
Accounts Receivable				
Inventories				
Other				
TOTAL				
TOTAL INVESTMENT	$			

PAYBACK: $\frac{\text{Total Investment}}{\text{Net Income After Taxes \& Depreciation}}$ = None yrs.

RETURN ON INVESTMENT: For purposes of preliminary review by departmental management, computations generally show that an investment which has a payback of 4.5 years or less will normally show a R.O.I. exceeding 20%. Business Services will compute R.O.I. as part of the formal presentation.

HEALTH & ENVIRONMENT department

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87504-0968 FE
(505) 827-5271
Thomas E. Baca, M.P.H., Director

Bruce King
GOVERNOR

George S. Goldstein, Ph.D.
SECRETARY

Larry J. Gordon, M.S., M.P.H.
DEPUTY SECRETARY

HM
214 767 9726

March 31, 1982

~~214 767 2858~~
Scot Nickelson

Plateau Discharge Plan

EID Comments

Zoe K. Shultz
EPA
RCRA Permits Section (6E-GR)
First International Building
1201 Elm Street
Dallas, TX 75270

Dear Ms. Shultz:

Enclosed are some questions and comments concerning the two ground-water monitoring waiver justification reports that you submitted to the New Mexico Environmental Improvement Division on October 22, 1981. I reviewed them upon request by Dr. Raymond Krehoff.

If you have any questions, please call me at the above telephone number, Ext. 237.

Sincerely,

Kent Bostick

Kent Bostick
Ground-Water Hydrologist
Water Pollution Control Bureau

KB:md

Enclosure

cc: Ray Krehoff, PEM
O. Simpson, OCD

Discharge and Monitoring Plan for a Refinery Operated by Plateau, Inc. near Bloomfield, New Mexico.

1. All potential seepage sites and seepage rates at the plant must be assessed. Operation of the oily water ponds and the solar evaporation ponds can be expected to produce some seepage. The quantity of seepage depends on the hydraulic conductivity of the bentonite liners, the thickness of the liners, the area of the ponds and the amount of hydraulic head above the liners. As none of this information has been provided in the report, seepage rates cannot be calculated. However, using estimated parameters of a hydraulic conductivity of 10 ft/year, a one foot thick liner and 1 foot of head on a pond area of 5 acres, seepage from the evaporation ponds alone could amount to one-half of the plant discharge. For a monitoring waiver requirement to be considered, the quantity of seepage needs to be more adequately assessed as seepage rates could be as high as several thousand gallons per day.

2. The neutron logging, thermonics and Zeta-SP methods of ground water monitoring have not been sufficiently documented. For instance, there is no map showing the locations of the monitoring points around the ponds. No monitoring points have been provided for the oily water ponds, which also may seep. Will the thermonic measurements be made in different holes than those provided for the neutron logging? If so, how many holes will be provided and what are their locations? How does Plateau propose to measure Zeta-SP at discrete locations in the bottom of the pond? Will electrodes be installed in the bottom of the pond before construction? If so, how many installations will there be and at what locations? Will you also monitor the oily water ponds with Zeta-SP?

3. The statement that Fluorocarbon tracers have no measurable background in natural waters on page 36 is false. Waters derived from meteoric sources where recharge has been relatively recent, may have detectable limits of fluorocarbons. It is then necessary to establish background concentrations.

4. No procedure for fluorocarbon sampling has been presented. Are samples to be collected from seeps along escarpments near the Hammond Ditch or the San Juan River? This should be requested, as the seepage will probably create a zone of saturation in the cobble strata that overlies the Nacimiento Formation. The seepage will probably flow to the northwest along the contact between the Nacimiento Formation and the cobble zone and discharge at seeps.

5. Organic pollutants have not been addressed by the study. Washdown water and the presence of oily water ponds implies that organic compounds resulting from the fuel refining process, are potential pollutants. These compounds and their biologically altered derivatives are classified in New Mexico as Toxic Pollutants. The impact of their discharge to the San Juan River and the Hammond Ditch is extreme as they may be concentrated in the aquatic food chain. A request should be made for periodic sampling of potential organic contaminants and for an assment of the impact of their discharge to surface waters in the area.

In review, the document lacks the necessary details concerning monitoring procedures and the number and location of monitoring points to facilitate a waiver of the ground water monitoring requirements. These procedures and items must be described in detail so that there is no equivocation as to their installation and operation. Because

Plateau has not done this to our satisfaction, we suggest that you request a monitoring plan. The possible contamination of surface water bodies in the area by Toxic Pollutants emanating from plant process makes this request imperative and undermines their described ability to monitor possible sources of pollutions by their own volition, as they didn't even consider toxic pollutants. Also, no contingency plan has been presented, should pollution be found to occur. (An industrial-chemical plant with such a potential for pollution must have a ~~contingency~~ plan.

Recent communications with Oscar Simpson of the New Mexico Oil Conservation Division (OCD) indicate that seepage from the ponds has occured and is currently flowing into the San Juan River. Concrete diversions and an irrigation scheme are being employed to reduce the potential rates of seepage. The OCD has requested a Discharge Plan which should be submitted shortly. Any further questions should be submitted to Oscar Simpson as he is familiar with OCD's Discharge Plan.

AMERICAN GROUND WATER CONSULTANTS, INC.

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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.

COVER SHEET
FOR FINAL DRAFT
BLACK BINDER

Dr. William M. Turner
President

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

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William M. Turner

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. Error strong

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 Explosion

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.

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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.

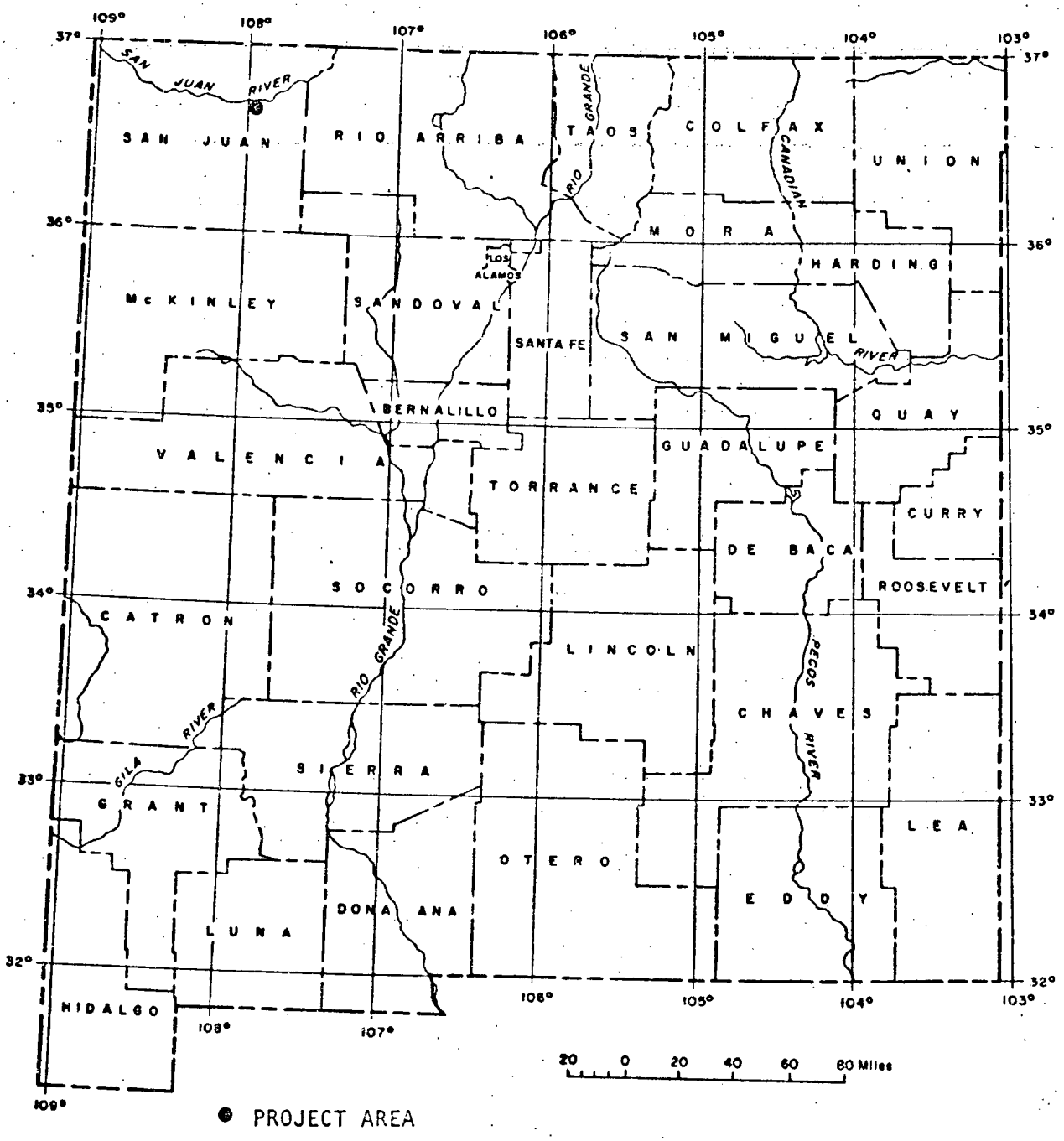

Figure 1. Map of New Mexico showing the location of the project area.

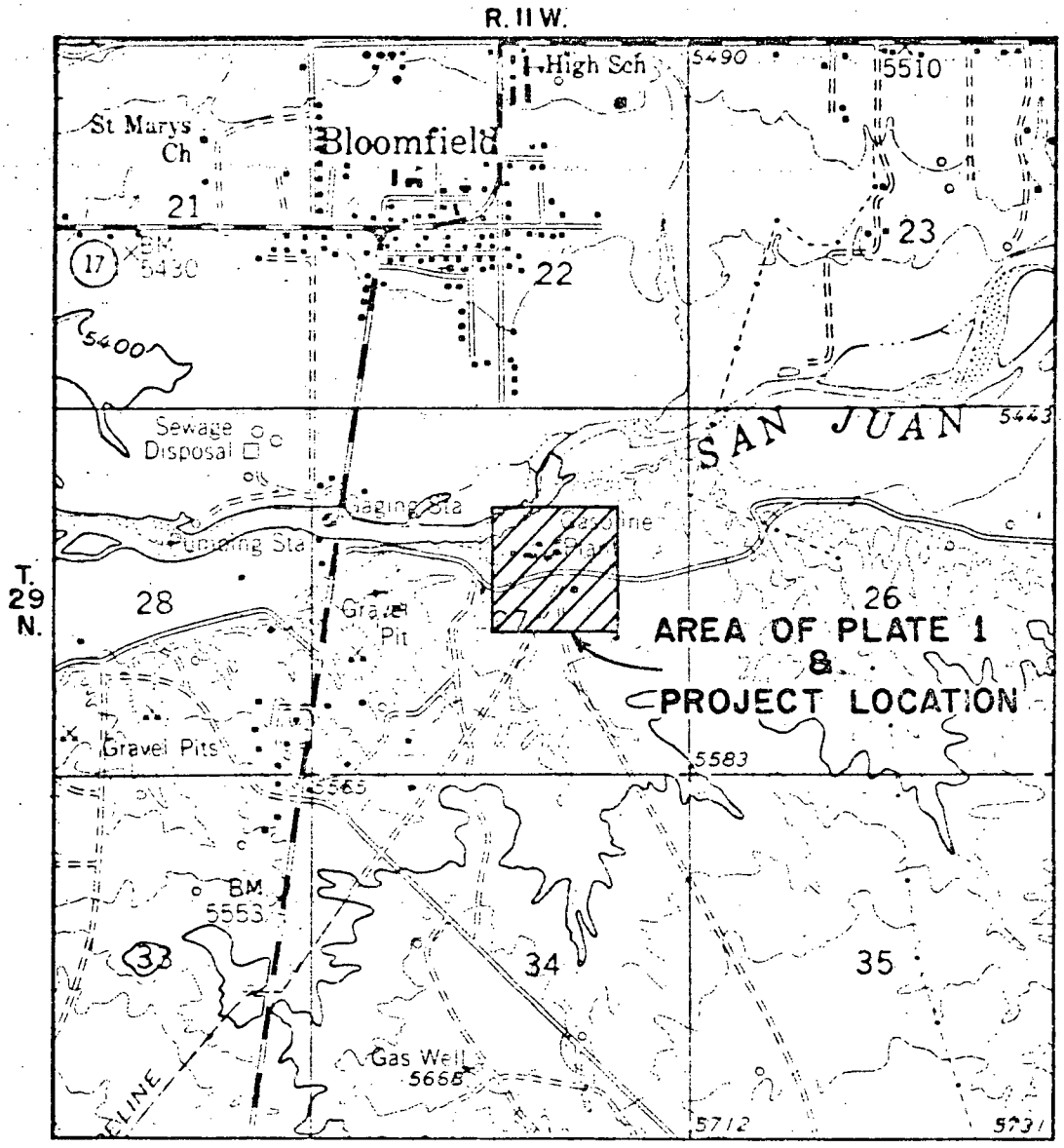

Figure 2. Diagram showing the location of the Plateau Refinery near Bloomfield, New Mexico.

This document is intended to provide sufficient information to update the discharge plan for the Plateau refinery at Bloomfield, if in fact an updated discharge plan is required. Plate 1 is an aerial photograph of the refinery. The boundaries of the refinery property and its legal description are given in Plate 2. Plates 3 through 5 are detailed topographic maps of the refinery property together with all improvements current as of April 1981. The process description for the refinery is incluted as Attachment 2.

REFINERY SETTING

The refinery is located on the Jackson Lake Terrace of the San Juan River (Pastuzak, 1968), about 120 feet above the present river level and about 500 feet from the river. The terrace was formed during the Pleistocene by downcutting of a former valley floor which had been aggraded with cobble and gravel deposits during the last glacial advance. At that time, the San Juan River was swollen with meltwater and carried great quantities of glaciofluvial outwash. In former times, the valley floor was three to five miles wide.

During the last glacial retreat, wind-blown sand and silt from the floodplains settled over the coarse clastics to form structureless loess deposits.

The terrace deposits on which the refinery is situated are comprised of about 15 feet of cobbles and gravels

overlying the Nacimiento Formation of Tertiary age. The cobble bed is overlain by about 20 feet of fine-grained, wind-blown silt and sand. South of the refinery, the cobble bed wedges out leaving only loess in overlying contact with the Nacimiento Formation. As far as can be determined, the Pleistocene cobble bed occurs everywhere beneath the refinery. Lithologic logs for monitoring wells drilled in the vicinity of solar evaporation pond 1 are given in Attachment 3 of the original discharge plan.

The Nacimiento Formation is a massively bedded, olive green, unctuous clay. The clay at the outcrop is a tight unfractured rock unit. As measured in nearby oil wells the Nacimiento Formation is about 500 feet thick. A log of the AMOCO DAVIS gas unit F-1 gas well was presented in Attachement 2 of the original discharge plan. At least 100 feet of this rock unit is exposed in the cliff face north of the refinery and adjacent to the San Juan River.

HYDROLOGIC FEATURES

San Juan River

The San Juan River is the only perennial river in the vicinity of the refinery. Along the reach of the San Juan River in the vicinity of the refinery, the river is neither a gaining nor a losing stream. Its alluvium-filled channel is incised into the impermeable clay of the Nacimiento Formation. The flow of the San Juan River at Bloomfield is

wrong

regulated by Navajo Dam and there is no danger of flooding of the refinery site by the San Juan River. The usual flow of the river is 500 cfs.

Hammond Ditch

In addition to the San Juan River and the intermittent stream channels which traverse the area of interest, the Hammond Irrigation Ditch passes from east to west through the refinery property between the refinery and the San Juan River. The ditch passes through an inverted siphon upon entering the refinery property on the east side. The ditch is unlined and is excavated into the Quaternary Jackson Lake Terrace deposits. The course of the ditch through the refinery property and its geological setting are shown in Plate 1.

The Hammond Ditch conveys water only during the irrigation season from mid-May to early October. Although attempts have been made by the Hammond Ditch Conservancy District to line the ditch with silt from local borrow pits, leakage from the ditch and into the cobble bed is significant. The valleys of nearly all intermittent stream channels which descend from the Jackson Lake Terrace south of the San Juan River are choked with trees, bullrushes, marsh grass and other vegetation. The source of water which supports the vegetation is leakage through the bed of the Hammond Ditch. Photographs of these valleys are presented in the original discharge plan.

The Hammond Ditch is a man-made, constant-head, line-source of recharge to the cobble bed during the irrigation season. Observation wells which have been constructed in the vicinity of the solar evaporation ponds indicate that the cobble bed is saturated. This water flows back into the Hammond Ditch after the flow to the ditch has been turned off in October. When the ditch water is turned off, there is absolutely no water entering the ditch through the inverted siphon at the eastern edge of the refinery property. Observations of the ditch at the western edge of the property show a flow of about two gallons per minute. Much of this is return flow of bank storage + POND DRAINAGE. This is evident from thawed ice on the south side of the surface of the ditch water during winter. That is, warm water from bank storage enters the ditch from the south. Bank storage on the north side of the ditch flows to the north and not back into the ditch thereby sustaining water seepage into the intermittent valleys north of the ditch.

Ground Water Occurrence

Ground water is defined by Section 1-101(M) of the New Mexico Water Quality Control Regulations as: "... interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply." Based upon this

definition, there is no ground water in the vicinity of the refinery which could be affected by any discharge from the refinery. Wrong

To verify that the cobble bed is void of natural ground water, the contact between the cobble bed and the underlying Nacimiento Formation was staked at numerous points shown in figure 3. Elevations of the contact were then levelled. The elevations of the contacts are also shown in figure 3. Elevations shown in italics represent elevations of the contact at points where small seeps of water were observed.

It is evident from figure 3 that the slope of the subcrop beneath the cobble bed is to the north or northwest at about 1.2 degrees. It is also evident that the subcrop topography is slightly undulose and this is easily visible in the outcrop. The spatial occurrence of the cobble bed indicates that it is dry. Wrong Any natural recharge to the cobble bed would drain to the north and either discharge into one of the southward trending valleys or onto the northward facing cliff immediately north of the refinery. All seeps indicated on Plate 1 were present before the evaporation ponds were filled. All seeps have been closely observed for a period of almost four years. wrong The Hammond Ditch has been walked during January from 1978 until the present and in the vicinity of the filled evaporation ponds no detectable seepage has been observed. — Wrong Personal OCD observation indicate leakage

It is concluded, therefore, that there is no naturally occurring ground water within the cobble bed capping the Wrong

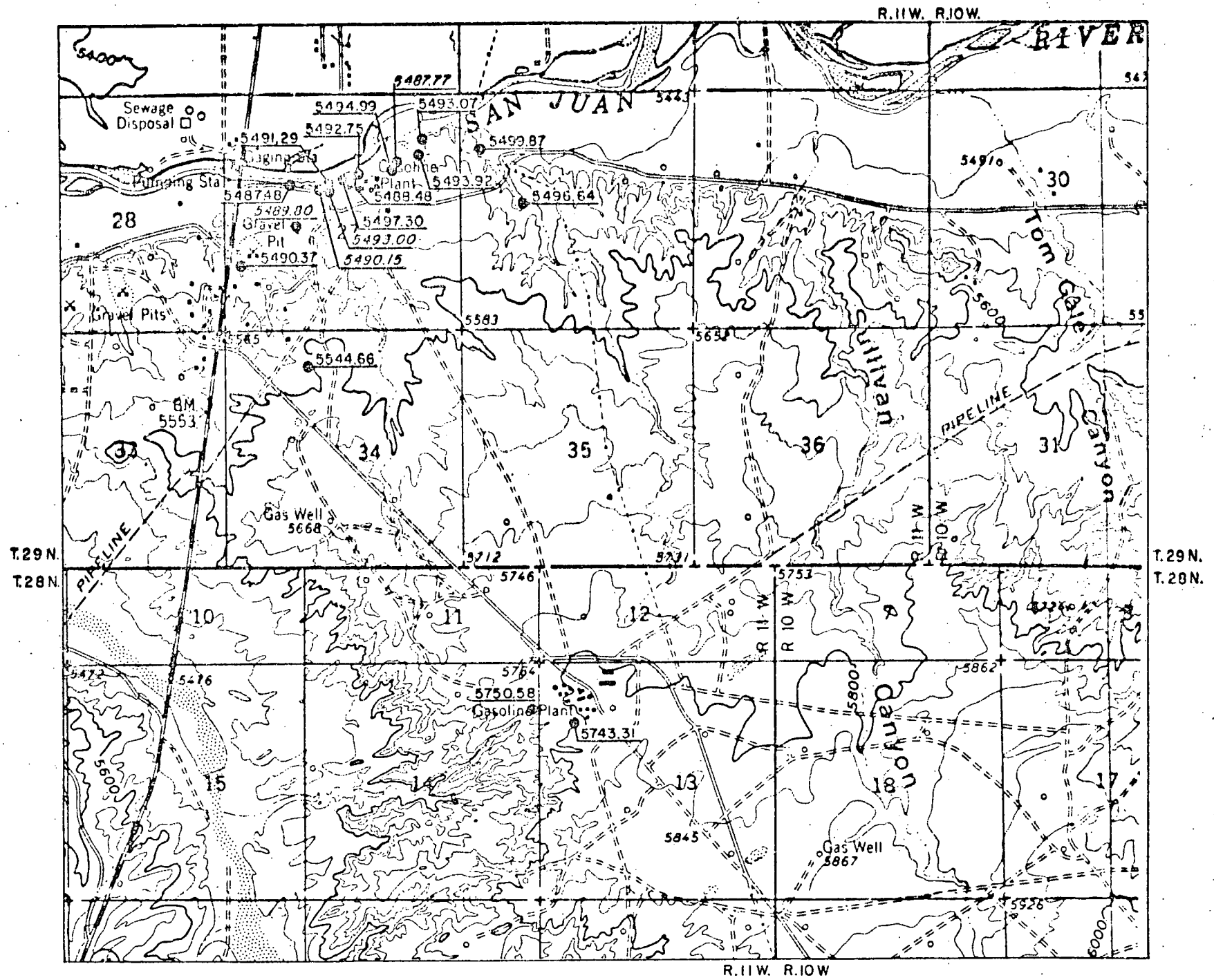

Figure 3. Map of Plateau refinery and vicinity showing elevation of the contact between the Nacimiento Formation and the cobble bed.

Jackson Lake Terrace which could yield water to domestic wells. This conclusion is supported by the absence of private domestic water wells at nearby private dwellings. – Pond Reduction

The Nacimiento Formation is about 500 feet thick and within the upper exposed 100 feet of the formation the only known seeps of water occur at its contact with the overlying Pleistocene cobble bed. Therefore, it is also concluded that there is no ground water within the Nacimiento Formation which could be recoverd for domestic purposes. The impermeability of the Nacimiento Formation supports the conclusion that the Nacimiento Formation does not supply ground water to the San Juan River.

Furthermore, the San Juan river traverses the normal ground-water discharge zone of the San Juan Great Artesian Basin (Lyford, personal communication). Within ground-water discharge zones in artesian ground-water basins, the hydraulic head increases with depth (Freeze, 1969; Toth, J., 1963) and it is therefore impossible to cause downward vertical seepage into any water-bearing zone. As a result, should there be any potential aquifer at depth beneath the Nacimiento Formation, percolating water would be rejected and it could not recharge the aquifer to ever become a health hazard.

FLOODING POTENTIAL

The refinery is located on the Jackson Lake Terrace which, for a small area such as is occupied by the refinery,

may be considered for all intents and purposes as level. There are no arroyos or other intermittent stream channels developed south of the refinery which would collect large amounts of surface runoff during transient thunderstorms and which would lead to flooding of the refinery property. The rising slope of the land surface south of the refinery is determined from the U.S.G.S. topographic map shown in figure 3 and from Plate 5 to be about 0.02 or 2 feet of rise per 100 feet of distance to the south. The land south of the plant is covered for the most part by native grasses and no flooding has ever been observed in the area.

The refinery property itself possesses many small embankments or berms which enclose hydrocarbon storage tanks and other facilities and which separate the refinery from the Hammond Ditch in places. These embankments are intended to contain any potential accidental hydrocarbon spills. Moreover, they act to contain rainfall on the property and to prevent runoff of rainfall into the nearby Hammond Ditch. w Rong Easement from Hammond Ditch

In 1980, Plateau constructed two small catchment ponds in a southward trending arroyo directly north of the second oily water pond and north of the Hammond Ditch. These ponds were constructed to intercept any spill from the oily water pond or rainfall runoff from the refinery which might drain across the Hammond Ditch over the El Paso Natural Gas Pipeline right-of-way. These catchment basins have served their purpose and have captured runoff. At present, they are

full and their fluid level is maintained by seepage from the Hammond Ditch which was noted before the catchment ponds were filled.

These two ponds are not included in the original dischage plan and were not intended as storage ponds for waste water. It is Plateau's intention to pump these ponds out so that they may continue to serve the purpose for which they were built.

SEEPAGE

Results of monitoring at the refinery suggest that 10 to 20 gallons per minute of seepage may be taking place. However, observations of seepage in northward draining arroyos and the Hammond Ditch during winter suggest a total seepage including bank storage return of about 10-15 gallons per minute. How did determine what mea.

NOT ACCURATE NO MEASUREMENT.

Any seepage from any waste-water impoundments or from irrigation of alfalfa on refinery property to the east of the truck-maintenance workshops must move slowly to the north in the down-dip direction of the contact between the cobble bed 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 in the southward trending arroyos. These arroyos behave then as collector drains and will intercept and channelize any seepage from the refinery property.

WATER CHEMISTRY

Water samples were collected by Oscar Simpson of the NMOCC from seven locations at and near the refinery property on September 3, 1981. These samples were analysed for specific solutes by the New Mexico State laboratory. The results of the analyses are presented in tables 1 and 2.

Figure 4 is the Schoeller diagram of ionic concentrations of specific ions expressed in milliequivalents per liter for water samples collected by the NMOCC. Schoeller diagrams are useful for determining the chemical similarity or dissimilarity between different waters. Regardless of actual ionic concentrations, for example, a similar slope of lines joining the concentrations of various ions from different water samples indicates that the relative concentrations of these solutes are similar and that the water is of similar character.

Samples 3 and 7 are from upstream and downstream of the Hammond Ditch, respectively. The sample locations are shown in Plate 1. The chemical character of the samples is similar. A slight increase in the chloride concentration downstream from the refinery seems to indicate leakage from the ponds to the ditch. However, a similar flouride and sulfate concentration from upstream to downstream suggest the chloride analysis is in error and that no detectable seepage of refinery effluent enters the Hammond Ditch. Samples 1 and 2 are from ponds on the refinery grounds. Samples 4, 5

Table 1. Chemical analyses of water samples from the Bloomfield refinery. Concentrations in milligrams/liter (mg/l). Samples were collected September 3, 1981 by the Oil Conservation Division. See Plate 1 for sample locations. [="less than"

ION	STATE STD	1	2	3	4	5	6	7
CA	-	-	-	-	-	-	-	-
MG	-	-	-	-	-	-	-	-
NA	-	-	-	-	-	-	-	-
K	-	-	-	-	-	-	-	-
FE	1	.4	-	-	-	[.1	-	[.1
MN	.2	[.1	-	-	-	[.1	-	[.1
NI	.2	.04	-	-	-	[.01	-	[.01
MO	1	[.01	-	-	-	[.01	-	[.01
CO	.05	[.005	-	-	-	[.005	-	[.005
AS	.1	.046	-	-	-	.005	-	[.005
BA	1	.4	-	-	-	.4	-	[.1
CD	.01	[.001	-	-	-	[.001	-	[.001
CR	.05	.009	-	-	-	[.005	-	[.005
PB	.05	[.005	-	-	-	[.005	-	[.005
HG	.002	[.0005	-	-	-	[.0005	-	[.005
SE	.05	[.005	-	-	-	[.005	-	[.005
AG	.05	[.001	-	-	-	[.001	-	[.001
ZN	10	[.1	-	-	-	[.1	-	[.1
CU	1	.061	-	-	-	[.05	-	[.05
AL	5	[.1	-	-	-	.24	-	.1
B	.75	1.2	-	-	-	.28	-	.04
SCN	.2	-	-	-	-	-	-	-
NO3	10	-	-	-	-	-	-	-
SO4	600	355.2	563.3	46.3	314.3	1118	1896	46.5
CL	250	1102.2	997.8	3.6	235.8	603.9	696.8	4.6
F	1.6	.45	.56	.16	1.12	1.16	.77	.15
TDS	1000							
PH	6-9							

Table 2. Chemical analyses of water samples from Plateau Bloomfield refinery with concentrations in meq/l of selected ions from Table 1. (meq/l=gram formula weight/valence/mg/l) See Plate 1 for sample locations.

SAMPLE	SO4--	CL-	F-	B+3
STATE STD	12.49	7.05	.084	.208
1	7.4	31.09	.024	.333
2	11.73	28.14	.029	-
3	.964	.1	.008	-
4	6.54	6.65	.059	-
5	23.38	17.03	.061	.078
6	39.47	19.65	.04	-
7	.968	.13	.008	.011

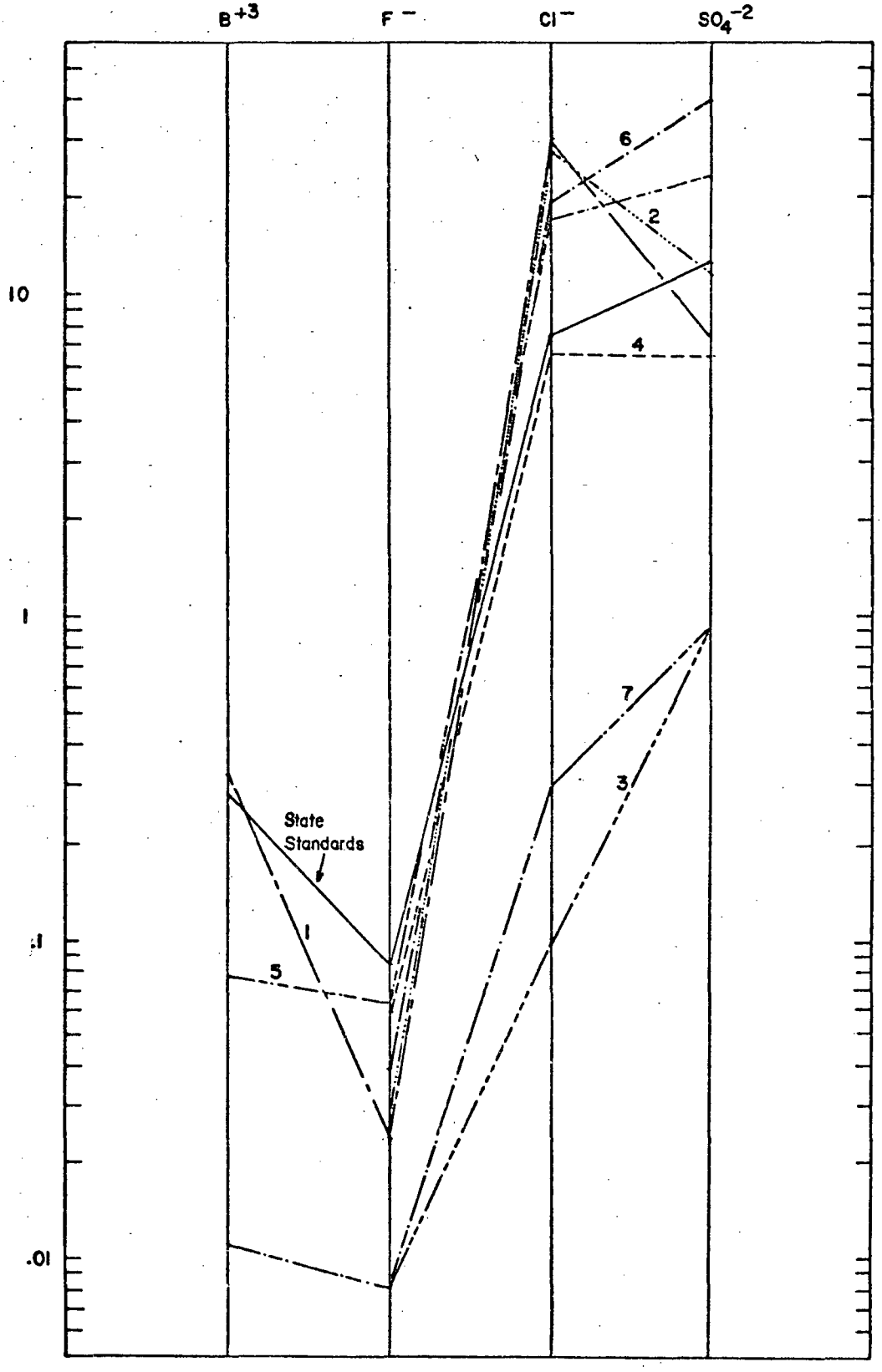

Figure 4. Schoeller diagram of water analyses for boron, floride, chloride, and sulfate. Concentrations are expressed in meq/l. Data from Table 2.

and 6 from seeps in the arroyos between the Hammond Ditch and the San Juan River should show concentration values falling between the ditch and pond values if water is leaking from the refinery to the arroyos and the San Juan River. This is the case for boron and chloride, and sample 4 for sulfate. The similar slopes of segments between boron and flouride for samples 5 and 7 indicate ditch contribution to the arroyo seeps. Similar slopes for 1, 2, 4, 5, and 6 between flouride and chloride show pond leakage.

Samples 4 and 5 are higher in flouride than either the ditch water or the ponds, and 5 and 6 are higher in sulfate than ditch water or the two pond-water analyses. There may be two possible explanations. First, the quality of water in the ponds may vary and seepage originated at the ponds when the concentrations of flouride and sulfate were much higher in the ponds. Second, significant evapotranspiration takes place in these arroyos and the solutes remain behind in the remaining water at higher concentrations. Both causes are probably operative.

The values for the state standards set by the New Mexico Water Quality Control Commission are also plotted on figure 4 and show water from seeps at sample sites 5 and 6 and water in the ponds have higher than permissible values of chloride and sulfate. Boron is also higher than state standards in the ponds.

MONITORING

American Ground Water Consultants has monitored this seepage with regular water-level measurements, neutron logging, Thermonics, ZETA-SP, and AQUATRACE since April 1977. The dates of monitoring and the type of monitoring done are given in Table 3. The monitoring information is presented in Attachment 3 together with lithologic logs from each of the monitoring wells. No construction details are presented for the monitoring wells. They were constructed by mud rotary drilling methods. Each well was completed by installing blank 2-inch diameter schedule-40 PVC casing to the bottom. The annular space was filled with dry bentonite drilling mud. The casings are only open at their bottoms.

The results of the monitoring program at the refinery to date has already been detailed above and in milestone reports which have been submitted to the NMOCC and the NMEID. Based upon the results of the monitoring program it may be concluded that further monitoring using the present methodologies will yield no further useful new information and it is recommended that all monitoring of the evaporation ponds be terminated.

Plateau will establish a daily visual monitoring program for monitoring spills at the refinery and monthly program for monitoring seepage north of the property. Visual inspection of the small arroyos contiguous to the irrigated area will be made weekly to detect seepage of water applied for irrigation.

Table 3. Dates and type of monitoring activity at the Plateau refinery.

N=Neutron Logging, W = Water-Level Measurements, T = Thermonics, Z = ZETA-SP, A = AQUATRACE

26 Apr 1977	NW
6 May 1977	NW
21 May 1977	NWT
15 Jul 1977	NWTZ
11 Sep 1977	NWT
	NWTA
27 Mar 1978	NWTA
28 Jun 1978	NWA
12 Jul 1978	WTZA
25 Aug 1978	NWTZA
20 Sep 1978	NWTZA
13 Dec 1978	NWA
9 Mar 1979	NWTA
16 Jun 1979	NWA
19 Sep 1979	NWTA
12 Dec 1979	NWA
9 Jul 1980	NWA
20 Oct 1980	NWA
11 Dec 1980	NWA
13 Mar 1981	NA
5 Jun 1981	NWA
17 Sep 1981	NWA
8 Dec 1981	NWA

Because there is no naturally occuring ground water in the vicinity of the refinery property, there is no ground water quality assessment plain maintained at the refinery.

WATER SUPPLY AND DISCHARGE

Water used by the Plateau refinery is obtained directly from the San Juan River. It is stored in two fresh water retention ponds pending use. These ponds are identified on Plate 1. Water for human consumption is purchased from the City of Bloomfield.

The circulation of water through the refinery is shown in figure 5. The flow diagram indicates that 80 gallons per minute discharge to the solar evaporation ponds. This is based upon meter readings. The water is comprised of the following streams:

ITEM	gpm
Cooling tower blowdown	30
Boiler blowdown	12
Desalter effluent	18
Softener effluent	2
Crude process water	8
FCC process water	10
	80

Recently however, Plateau began recycling 30 gallons per minute within the refinery thereby reducing the average (where)

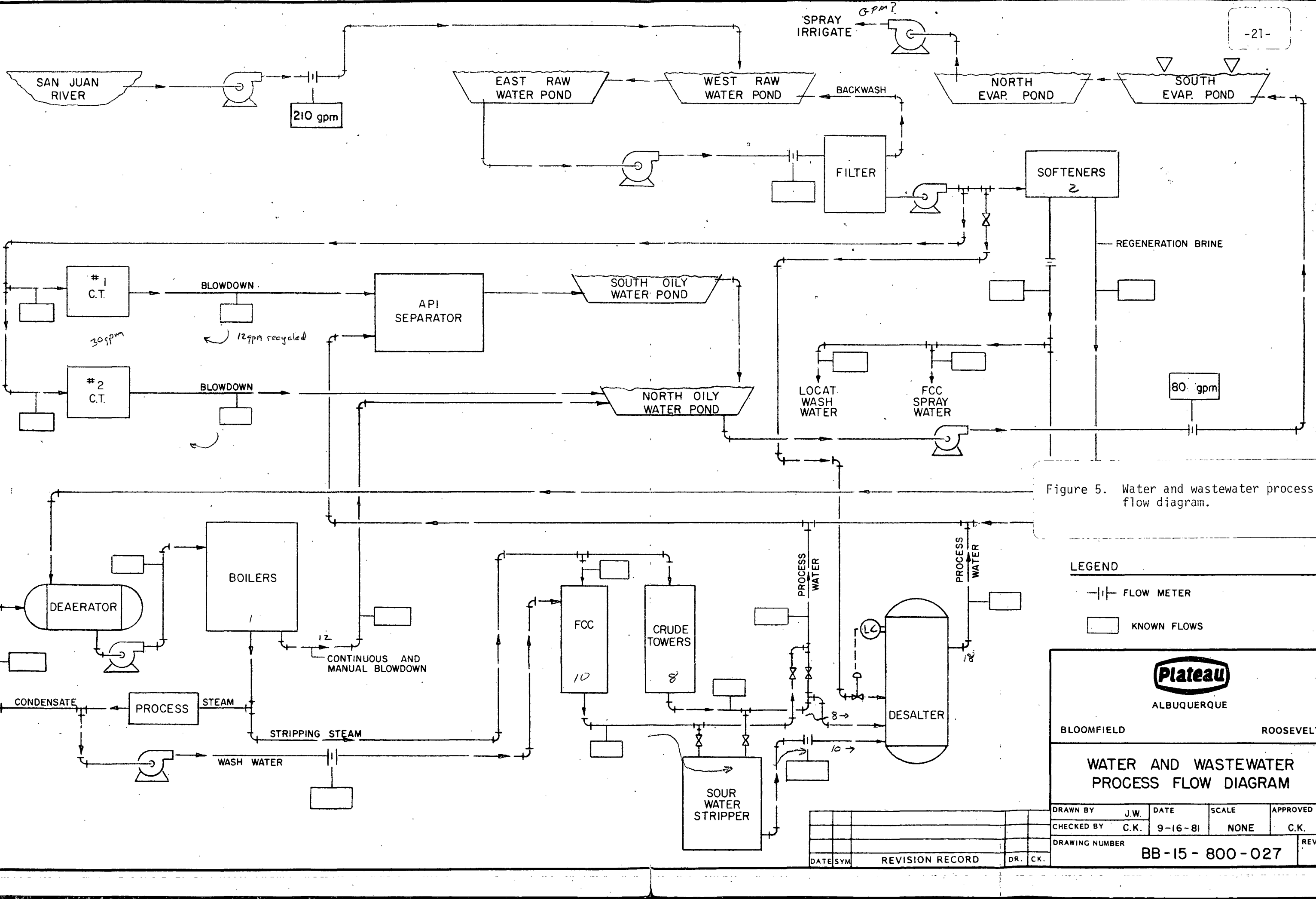

Figure 5. Water and wastewater process flow diagram.

LEGEND

FLOW METER

KNOWN FLOWS

Plateau

ALBUQUERQUE

BLOOMFIELD ROOSEVELT

WATER AND WASTEWATER PROCESS FLOW DIAGRAM

DRAWN BY	J.W.	DATE	SCALE	APPROVED
CHECKED BY	C.K.	9-16-81	NONE	C.K.

DRAWING NUMBER BB-15-800-027 REV

DATE	SYM	REVISION RECORD	DR.	CK.

discharge to about 50 gpm (60 gpm in winter and 40 gpm in summer months). The recycling is accomplished as follows:

1. 12 gpm of boiler blowdown is cooled and recycled as makeup to the cooling tower.

2. 8 gpm of crude process water is collected and returned as makeup water to the desalter.

3. 10 gpm of FCC process water is stripped of hydrogen sulphide and ammonia in the sour water stripper and recycled as makeup to the desalter.

These most recent discharge figures were used to construct the water budget table. 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 partly shown on Plate (1) and entirely shown on Plate (5). Plate 5 also shows the topography of the irrigated land and environs in considerable detail. It is intended to dispose of refinery waste-water by utilizing this water for the production of alfalfa on up to 30 acres of company land. This use will facilitate the removal of solutes from the area with the harvest and removal of the alfalfa. The irrigated area will be bordered by a berm where necessary to prevent surface drainage of irrigated water into nearby arroyos.

A sample of final effluent from the second evaporation pond ~~and~~ was analysed. The results of the analyses are presented in Attachment 4.

It is evident that the adjusted sodium adsorption ratio is quite high as is the electrical conductivity of the water. Although alfalfa is tolerant of this water quality, higher productivity will be achieved by also using some fresh water from the San Juan River. In the event irrigation of the 10 acres already equipped with irrigation sprinkler equipment yields unsatisfactory amounts of alfalfa, a larger area of up to 30 acres may be irrigated. Any water applied in excess of the consumptive use of the alfalfa will percolate to the underlying impermeable Nacimiento Formation, migrate down dip to the north, and discharge into southward trending arroyos from which it will be captured and sent to waste water handling facilities on the refinery property.

no mixing moisture from drainage of irrigated area

WATER BUDGET

The purpose of a water budget is to account for all waste-water discharged from the refinery and its disposal. The basic elements of the waste water disposal methods proposed and implemented at the refinery include: waste water storage, evaporation and irrigation.

The monthly water budget for the refinery is presented in table 9. The assumptions used in the preparation of the table are included as notes to the table and in tables 4 through 8.

Table 4. Monthly evaporation rates for Farmington, New Mexico

Month	Radiation, (langleys)	Albedo (%)	Evaporation (in.)
JAN	395	8.9	5.24
FEB	525	8.5	6.62
MAR	660	7.9	7.65
APR			7.01
MAY			8.74
JUN			10.12
JUL			10.51
AUG			9.33
SEP			6.85
OCT	558	7.9	6.47
NOV	420	8.5	5.29
DEC	360	8.9	4.78
			88.41

Notes for Table 4:

Evaporation rates from April through September are average monthly pan evaporation rates for Farmington, NM, 1966-1981, from NOAA Climatological Data. Remaining rates are figured using the equation:
Evaporation=Radiation(1-%surface albedo)/latent heat of vaporization of water (=595cal/gm)
Values for radiation and albedo are from Seller, 1965, p. 28.

Table 5. Water storage area at Plateau Bloomfield refinery.

	AREA, ($ft.^2$)	(acres)
Solar Evaporation Pond 1 (north)	103,200	2.38
Solar Evaporation Pond 2 (south)	195,500	4.49 / 6.87
Oily Water Pond 1 (south)	6,167	.142
Oily Water Pond 2 (north)	18,000	.413
Arroyo South Pond	9,525	.219
Arroyo North Pond	14,633	.336
API Separator	1,300	.030
TOTAL	348,892	8
TOTAL, minus solar evaporation ponds	49,625	

Table 6. (Table 14, p. 39, Blaney and Hanson, 1965)
Mean Monthly Temperatures, Percent of Daytime Hours, Consumptive-Use Factor, and Precipitation Near Bloomfield, N. Mex.

Elevation 5,794 feet
Latitude 31°40'N.

Average frost-free period: 171 days
May 1-October 19.

Month	(t)	(p)	(f)	(prec.)	(r)
January	28.5	6.95	1.98	0.52	0.49
February	34.3	6.33	2.34	.67	.64
March	41.5	8.35	3.47	.59	.56
April	50.8	8.86	4.50	.51	.48
May	60.6	9.85	5.97	.63	.60
June	70.4	9.87	6.95	.33	.31
July	75.8	10.03	7.60	.81	.77
August	73.5	9.43	6.93	1.32	1.24
September	66.1	8.36	5.53	.87	.85
October	53.7	7.83	4.20	.93	.88
November	39.3	6.89	2.71	.44	.42
December	30.4	6.75	2.05	.60	.57
Totals	52.1	100.00	54.23	8.22	7.81

t = Mean monthly temperature in degrees F.

p = Monthly percent of annual daytime hours.

$f = \frac{t \times p}{100}$ = Monthly consumptive-use factor.

prec. = Mean monthly precipitation in inches.

r = Effective rainfall in inches

Table 7. (Table 15, p. 40, Blaney and Hanson, 1965)
Example of Computation of Seasonal Consumptive Use, Effective Rainfall, and Irrigation Requirements for Crops Near Bloomfield, N. Mex.*

Land use and crops	Length of growing season or period	Consumptive use			Effective rainfall (R)	Consumptive use minus effective rainfall (U-R)	Field irrigation efficiency (E)	Field irrigation requirement (I)	
		Factor (F)	Coefficient (K)	Amount (U)					
				Inches	Inches	Inches	Percent	Inches	Feet
Alfalfa/	5/1 10/19	35.36	0.85	30.06	4.29	25.77	65	39.6	3.3
Apples	5/1 10/19	35.36	.65	22.98	4.29	18.69	60	31.2	2.6
Corn	5/15 10/10	31.45	.75	23.59	3.76	19.83	55	36.1	3.0
Grain (winter)	9/1 12/1 1/1 2/28	16.70	.35						
	3/1 7/1	21.02	.70	20.56	5.22	15.34	55	27.9	2.3

* Average frost-free period May 1 to October 19. Irrigation prior to frost-free period may be necessary.

/ Some additional consumptive use occurs before and after the frost-free period.

F: From table 14.

K: Based on U.S. Department of Agriculture measurements in Arizona and New Mexico (see table 6).

R: See tables 5 and 14.

I: $I = \frac{U-R}{E}$ = Irrigation requirement at head of field. Assumes no carry-over from winter rainfall.

E: Assumed efficiencies.

Table 8. (Table 16, p. 41, Blaney and Hanson, 1965)
Example of Method Used to Compute the Amount of Irrigation Water Required at Farm Headgate for 100 Acres of Irrigated Farmland Near Bloomfield, N. Mex. *

Land use and crops	Land area	Irrigation water required for consumptive use/		Farm irrigation efficiency#	Water required at farm headgate**	
		Per acre	Total		Per acre	Total
	Acres	Ac-ft	Ac-ft	Percent	Ac-ft	Ac-ft
Alfalfa	50	2.15	107.5	60	3.6	180
Apples	10	1.56	15.6	60	2.6	26
Corn	20	1.65	33.0	55	3.0	60
Grain	20	1.28	25.6	50	2.6	52
Total or weighted average	100	1.82	131.7		3.18	318

* Average frost-free period, May 1 to October 19.

/ Consumptive use (U) minus effective rainfall (R) (see table 7).

\# Assumed efficiencies.

** In computing the total water requirements for a farm or project such items as farmsteads and fallow land must be considered.

Table 9. Water budget for two years at the Plateau Bloomfield refinery.

A MONTH	B (days/mo.)	C EVAP. (in.)	D ADJ. EVAP. (in.)	E POND AREA (ft^2)	F EVAP. (gals/mo.)	G CONS. USE FACTOR (f)	H RAINFALL (r) (in.)	I IRRIG. (gals/mo.)	J WASTE WATER (gals/mo.)	K STORAGE (gals/mo.)	L CUM. STOR. YR.1(gals)	M CUM. STOR YR.2(gal)
JAN	31	5.24	3.668	348892	797757	1.98	.49	0	2678400	1880643	1880643	6938825
FEB	28	6.62	4.634	348892	1007854	2.34	.64	0	2419200	1411346	3291989	8350171
MAR	31	7.65	5.355	348892	1164665	3.47	.56	0	2678400	1513735	4805724	9863906
APR	30	7.01	4.907	348892	1067229	4.5	.48	1513852	1728000	-853081	3952643	9010826
MAY	31	8.74	6.118	348892	1330611	5.97	.6	2025031	1785600	-1570042	2382601	7440784
JUN	30	10.12	7.084	348892	1540707	6.95	.31	2533269	1728000	-2345976	36625	5094808
JUL	31	10.51	7.357	49625	227589	7.6	.77	2575132	1785600	-1017121	-980495	2705194
AUG	31	9.33	6.531	49625	202037	6.93	1.24	2104684	1785600	-521120	0	965676
SEP	30	6.85	4.795	49625	148334	5.53	.85	1742626	1728000	-162960	0	-91820
OCT	31	6.47	4.529	49625	140105	4.2	.88	1217417	2678400	1320878	1320878	1320878
NOV	30	5.29	3.703	348892	805370	2.71	.42	0	2592000	1786630	3107508	3107508
DEC	31	4.78	3.346	348892	727725	2.05	.57	0	2678400	1950675	5058183	5058183

Notes to Table 9.

Column C: Evaporation rates from Table 4.
D: Adjusted evaporation rates = C*0.7
E: Total area includes oily water ponds, arroyo ponds, solar evaporation ponds, API separator. Total area minus area of solar evaporation ponds is used for calculations in summer months when evaporation ponds are low or empty. See Table 5.
F: (D/12 inches/ft)(E)(7.48052 gal/cu.ft.)=Evaporation from all ponds in gallons per month
G: Monthly consumptive use factor from Table 6.
H. Effective rainfall from Table 6.
I: Irrigation needs in gallons/month, for 10 acres of alfalfa=((f)(.85)-(r))(325851 gals/acre-ft)(10). See Tables 7&8.
J: Based on average plant usage of 50 gallons/minute (gpm); 60 gpm in summer, 40 gpm in winter. gals/month=gallons/minute*1440*B
K: Storage to evaporation ponds=J-I-F
L: Cumulative storage in solar evaporation ponds assuming empty pond on Jan 1.
M: Cumulative storage in solar evaporation ponds assuming carryover from past year (last figure in column L)

The evaporation rates are based upon Class A pan evaporation rates provided by the U.S. Weather service data. Where Class A pan information was not available, use was made of the R/L method described in the original discharge plan.

It is evident from perusal of the table that there will be insufficient carryover storage in the evaporation ponds to adequately irrigate the alfalfa in the summertime. To make up this deficit fresh water directly from the San Juan River will be required. This is a fortunate circumstance because the fresh water will serve to dilute the concentration of solutes in the waste water thereby making it more suitable for irrigation.

The negative numbers in column (K) are the volume of additional fresh water needed for irrigation. Despite carryover storage from year to year, irrigation of 10 acres of alfalfa will require 91,820 gallons of additional fresh water in September (Col. M, table 9). If Plateau irrigates 15 acres instead of 10, additional water will be needed. Caluculations in table 9 also assume a slightly longer irrigation period than the number of frost free days (See table 7), as alfalfa will grow before and after the frost-free period. Additional irrigation before and after the maximum growth period is desirable.

ARROYO CATCHMENT PLAN

Since the submittal of the original discharge plan, American Ground Water Consultants has carried out periodic

monitoring of seepage from the solar evaporation ponds to determine if seepage was taking place and if so how much. Monitoring methodologies employed have been neutron logging, Thermonics, Aquatrace and and ZETA-SP methods, all of which have been described in the original discharge plan and in the subsequent monitoring milestone reports.

The results of monitoring over the past four years indicate that from 10 to 20 gallons per minute of seepage may be taking place from the solar evaporation ponds. Because of the impermeability of the underlying Nacimiento Formation and the northward dip of the subcrop, any seepage must flow to the north to discharge in the several southward trending arroyos which dissect the upland Jackson Lake Terrace. Water occurring in these seeps must also include seepage from the Hammond Ditch for reasons previously described. Therefore, any seepage observed flowing from these arroyos derives from both evaporation pond seepage and from the Hammond Ditch. The total flow from these arroyos may serve as a maximum estimate of seepage from the evaporation ponds and any other waste-water handling facilites of the refinery.

The observed flow of water from these arroyos may be as much as 15 gallons per minute. It seems reasonable therefore, that the values of seepage calculated from monitoring data are in agreement with observed flow data.

Because of the hydrogeological setting of the refinery, it is evident that any seepage from waste water handling facilities will discharge into the southward trending arroyos

and from there into the San Juan River. To provide absolute assurance that all waste water will not escape from the refinery to pose a human health hazard or a salinity problem in a tributary to the Colorado River, low concrete dikes will be constructed across the arroyos to capture any waste-water seepage. Figure 6 is a schematic diagram showing typical construction details of these dikes. The dikes will be set in a foundation of impermeable Nacimiento Formation. Drain lines will run from each of the impoundments to a main gravity drain line which will extend along the grade of the San Jaun River to a point due north of the fresh water ponds. At this location, all captured water will be discharged into a sump from whence it will be pumped up to the fresh water ponds of the refinery. The grade of the San Juan River in the vicinity of the refinery has been determined by San Juan Engineering and is 0.0006667. To determine the ability of polyethylene pipe to transport the seepage water, use is made of the Manning equation. Results are given in Table 10.

where

V = fluid velocity, ft/sec

n = Manning roughness coefficient, dimensionless

R = Hydraulic radius of pipe, ft

s = slope of line, ft/1000ft

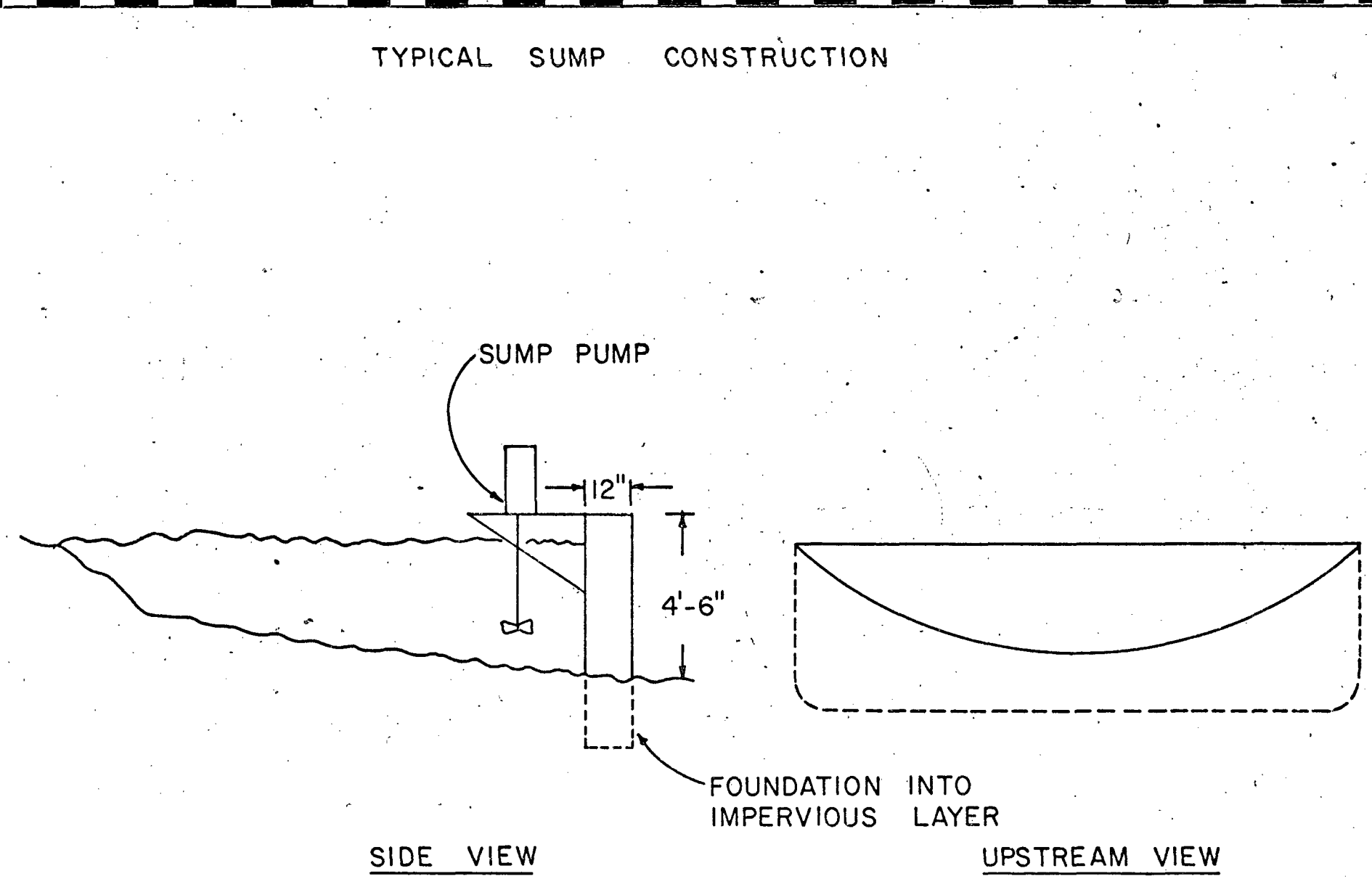

Figure 6. Detail of sump construction

Tabel 10. Fluid velocities in pipes of different sizes at grade with the San Juan River.

Diameter (in)	Velocity (ft.sec)	Flow Rate (gpm)
2	0.46	4.52
3	.60	13.32
4	.73	28.69
5	.85	52.03

Pipes will be sized for flow between sumps. If the total rate of seepage is as much as 50 gallons per minute, the drainage system will be adequate to collect and transport the seepage water to the main collection sump.

Of concern may be the liklihood of rupture of the polyethylene pipe by flooding of the river. The San Juan River has a regulated flow of 500 cfs. The flow is never greater than this but does decline on occassion to 250 cfs.

In the event other seeps become evident north of the refinery, it will be an easy matter to lead this water to the main drain pipe.

Dikes will also capture any return flow from the irrigation operation. Approval has already been obtained from the San Juan County road department for the placement of earthen dams adjacent to Sullivan Road in the event they are needed.

The proposed locations of the four proposed concrete dikes are shown on Plates 1 and 5.

HYDROCARBON DISCHARGE INTO HAMMOND DITCH

During December 1981, a hydrocarbon substance was observed on the surface of the relatively stagnant water lying in the Hammond Ditch immediately downstream of the El Paso right-of-way. Samples of the hydrocarbon were analysed and found to be diesel fuel. The hydrocarbon was traced to soils adjacent to the Hammond Ditch on the south side. Investigation revealed that the diesel fuel had been spilled on the ground in the vicinity many years ago as a result of improper tank-filling practices.

This hydrocarbon poses no threat to public health as contemplated under Section 1-101(N) because Hammond Ditch water is not for public consumption but is only for irrigation. Furthermore, the discharge does not pose a threat to agriculture as it is well known that bacterial activity will thoroughly degrade hydrocarbons. Among the bacteria which are recognized to consume hydrocarbon are species of Acinetobacter, Pseudomonas, Nocardia and Flavobacterium. In fact, bacterial decomposition of hydrocarbon spills is a recognized method of cleaning up such spills (Raymond et al, 1976; Bobra et al). Bacterial action will also degrade other organic compounds (Shamit et al). However, in an effort to intercept discharge of the diesel fuel into the Hammond Ditch, Plateau has constructed two 4-foot-diameter sumps in the Hammond Ditch downstream of the diesel-fuel seep. The location of the sumps is shown in Plate 1.

If the diesel fuel exists only as a thin film in the cobble bed directly above the impermeabile Nacimiento Formation, recovery using the sump method may not be effective which is, in fact, Plateau's experience. Therefore, the Hammond Ditch is now being used as a collection gallery in the winter and Con-Web sorbent pads are now floated on the water surface to remove the oil. This approach has been working well and will be continued. In the summer, the hydrocarbon is not likely to pose a problem because during the summer bank storage will be flowing against the flow of the diesel fuel thereby preventing its discharge into the ditch.

CONTINGENCY PLANS

Plateau has implemented the following contingency plans to cope with spills at the refinery.

Problem: Break in the main gravity drain pipe.?

Solution: In the event the main gravity drain pipe breaks, work crew will be dispatched to repair the break immediately.

Problem: Seepage buildup behind dikes near irrigated area.

Solution: Either the seepage will be pumped back to irrigation or vacuum trucks will be used to remove the seepage to the main evaporation ponds. The agreement with the San Juan County road department requires that Plateau remove this seepage if it becomes a problem.

Problem: New seeps develop.

Solution: If new seeps are located, they will be blocked with concrete dikes or earthen dams where appropriate. Any spill leaving company property will be reported to the NMOCC.

Problem: Cracks develop in concrete dikes.

Solution: Cracks in the dikes which permit leakage will be sealed immediately after discovery of the cracks and leakage.

Problem: Failure of main gravity drain sump pump.

Solution: A backup pump will be maintained at the refinery so that replacement can be made in several hours.

Problem: Electrical power failure.

Solution: experience indicates power failures are infrequent and when they do occur are of short duration.

Problem: Fate of seepage upon site abandonment.

Solution: If the Plateau refinery site is abondoned in the future, seepage will of course continue for some time. The gravity drain system will remain in service and irrigation of alfalfa will continue until such time as the presence of undesireable contaminants in intercepted water diminishes to acceptable levels.

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ATTACHMENT 1

Summary and recommendations
from 1st and 2nd milestone reports

SUMMARY

The results of monitoring activities to date indicate:

1. The Hammond ditch is the principle source of ground-water below the solar-evaporation ponds.

2. At least while the water in the ditch is flowing, the direction of ground-water flow is to the south.

3. There are several anomalously high water levels in the observation holes which would suggest that water is moving towards the ditch. These ground-water elevations could be caused by errors in the bench-mark elevations.

4. The saturated zone in the vicinity of the Hammond ditch may extend as far as 600 feet south of the ditch and the saturated cobble may be as much as ten feet thick.

5. The neutron-probe-soil-moisture data indicates a slight increase in soil moisture in the silt beneath the embankment which surrounds the solar-evaporation ponds. A 10 volume-percent moisture increase over a pond area with dimensions of 650 x 250 feet for a depth of 10 feet beneath the pond prepresents an increase of about 1,215,584 gallons of water in storage in the soils. The results of neutron-probe studies are only strictly valid for the embankments of the pond and may not be valid for the inundated foundation of the reservoir.

6. Temperature data suggest that about 10 gpm of seepage is taking place also. The estimates based on an analysis of the temperature data are only valid for the embankment and may not be valid for the inundated reservoir foundation.

7. AQUATRACE methods indicate about 20 gpm seepage into the Hammond ditch and the San Juan River.

8. As of October 26, the Hammond ditch was empty and water in bank storage was emptying into the ditch at about one-half gallon per minute from uptstream to downstream of the refinery. The flow from bank storage must represent a maximum flow into the Hammond ditch.

9. Based upon present information, seepage is presently taking place from the pond at a very low rate.

10. At the location where seepage rates have been estimated, wave action has eroded the bentonite liner away and it is possible that the percolation is greater in the vicinity of the embankments than through the pond bottoms.

11. In conjunction with further monitoring a single water budget study should be made of the pond.

RECOMMENDATIONS

The recommendations given below deal with information on the monitoring program for improving the estimate of seepage.

1. Neutron monitoring has about fulfilled its usefulness because soil-moisture does not appear to be changing rapidly. It is therefore recommended that neutron logging be carried out semi-annually, in December and June.

2. Thermal methods are providing useful information. Data collected in September and March seems to be the most useful, and it is recommended that temperature profiles be made of all observation holes for one more year, in September and March.

3. ZETA-SP methods, while useful initially, are of little use at present because of the existence of plant growth on the pond bottom which prevents the measurement electrodes from contacting the soils on the pond bottom.

4. Water-level data is of value for evaluating the direction of ground-water flow in the cobble beneath the solar-evaporation ponds. Because water-level measurements are rapidly carried out, it is recommended that water-level measurements be carried out monthly in conjunction with other monitoring activities.

5. AQUATRACE is likely to provide the most unambiguous results in the quantification of seepage and it is recommended that samples of pond and ditch water be collected monthly and analyzed for TRAC-5.

6. The results of all monitoring activities should be presented in milestone reports at least once a year. Any change in the frequency of monitoring or the possible abandonment of a monitoring method will be recommended at that time.

7. All bench marks on the PVC casing in the observation holes should be relevelled with reference to a bench mark of known altitude. Also, the water-level surface of water in the Hammond ditch should be accurately levelled when the ditch again has water in it. All levelling should be accurate to the nearest 0.01 foot and should be carried out at the same time to minimize error.

SUMMARY

The results of monitoring activities to date indicate:

1. The principal source of ground-water beneath the solar evaporation ponds is seepage from the ponds themselves as well as water contributed to bank storage by seepage away from the Hammond Ditch while it is in use.

2. An area directly north of Pond 1 behaves as a ground-water sink. In this area seepage from both the Hammond Ditch and Pond 1 enter the underlying cobble bed and the water is channeled away to the north beneath the ditch to discharge in the numerous small arroyos north of the refinery.

3. There has been no change in the moisture content of the soils penetrated by the observation holes since the preparation of the first milestone report more than one year ago.

4. Temperature data indicate a maximum amount of seepage of about 13 gallons per minute from Pond 1. This is in agreement with results of monitoring reported in the first milestone report.

5. The greatest rate of seepage appears to take place at the eastern end of Pond 1. This is confirmed by ground-water-level measurements, Thermonic analysis of subsurface temperatures to arrive at actual mass rates of percolation, and Thermonic analysis of temperature profiles along the axis of the earthen embankment.

6. At locations where mass rates of percolation have been determined, wave action has eroded the bentonite liner away and it is possible that the percolation is greater in the vicinity of the embankments than through the pond bottom.

RECOMMENDATIONS

The following recommendations are made based upon the results of the monitoring program over the past three years.

1. Neutron logging of observation holes indicates that a steady state soil moisture condition exists. No new information is being obtained by neutron logging methods and it is recommended that neutron logging of the observation holes be discontinued.

2. Results of Thermonic analysis of data collected subsequent to the first milestone report are in good agreement with seepage analyses reported in the first milestone report. It is recommended that additional temperature measurements in the observation holes be discontinued because no new information is being developed. This is because a new steady state condition has been achieved in the embankment penetrated by the observation holes.

3. Water-level measurements are of value. However, because of the significant lag of water levels in the observation holes to changing ground-water levels in the soils adjacent to the observation holes, water-level measurements have only limited value. Because present data suggests that the water levels in the observation holes are in equilibrium with the average water levels in the soils and that these water levels have not changed over a long period, it is recommended that water-level measurements be discontinued. The fact that steady state soil moisture and thermal regimes have developed in the soils adacent to the observation holes supports this recommendation.

4. Because of the development of steady-state conditions with regard to soil moisture and thermal conditions in the embankment surrounding the ponds, and because of the agreement of the results of monitoring efforts since the first milestone report, it is recommended that AQUATRACE monitoring also be discontinued.

ATTACHMENT 2

Description of refinery process

HAVE NOT SUPPLIED YET

PLATEAU, INC.

BLOOMFIELD REFINERY

WATER TREATMENT PROGRAM

AS OF FEBRUARY, 1982

FILTERED WATER

The filter aid for water is 1190, a polyamine. This is a water solution of polyquaternary ammonium chloride and aids in filtration by charge neutralization of the water. The doseage is 1 ppm or 2 quart/day. It is also approved for potable water supplies.

BOILER WATER TREATMENT

The chemical used in boiler water treatment is called API, a phosphate formulation. The material contained within each drum consists of an aqueous solution of a polystyrene derivative, a polyacrylate type polymer, a polyphosphate, an antifoam agent and caustic soda.

The treatment is a precipitating phosphate treatment containing sludge conditioners which allows the impurities in the boiler water to become insoluble matter at a proper pH range. The doseage is approximately 45 ppm in boiler water or approximately 10 gallon/day. The chemicals are inert and broken down upon blowdown.

The corrogen used in boiler treatment is sodium sulfite in a powder form. Upon contact with oxygen in water, it is reacted to form sodium sulfate, a common water soluble salt. The doseage used is 40 ppm or 30 pound/day.

COOLING TOWER TREATMENT

The cooling treatment consists of the following:

1. 2040, a phosphate compound consisting of an aqueous solution of organic and inorganic phosphates, a triazole derivative and caustic potash. The treatment is a combining reaction with the metal surfaces it is in contact with. The doseage is 30 ppm or approximately 1 gallon/day. These are inert materials naturally broken down to salts and phosphate.

2. 2020 is an aqueous solution of low molecular weight hydroxylated polymer. It is used to disperse calcium phosphate scale from forming. The doseage is 60 ppm or 1½ gallon/day. The material has no effect on the environment.

3. HTH is a calcium hypochlorite used in the cooling treatment. It is used for oxidation of all organic material in water. The doseage is 100 ppm shocked three times per day or 75 pound/day. The HTH breaks down into inorganic salts of calcium and chloride.

4. Slimicide 508 is an organic bromine called DBNPA. It is also used as a biocide and it spontaneously breaks down in water and then loses toxicity.

5. The HTH and slimicide 508 will soon be eliminated and a gaseous chlorine treatment will be used.

PROCESS CHEMICALS

WS66 and OS16 are amines, both mixed neutralizing amines and a heterocyclic amine - amide mixture. The theory of treatment is that they film metal surfaces and neutralize acidity in water. The doseages are 100 ppm for WS66 or 8 gallon/day and 5 ppm for OS16 or 2 gallon/day. The OS16 stays in the hydrocarbon and is not discharged into water. NOT PLAN

The EB911 is a demulsifier and is composed of an oxyalkylated phenolic resin and a polyglycol dispersed in heavy aromatic spirits. It functions to break emulsions and form oil free water as discharge after desalting. Our present doseage is 10 ppm or 7 gallon/day. Most of the chemicals are oil soluble and therefore do not exit with water. ?

The Neutralfilm 463 is an amine and is composed of heterocyclic and high molecular weight straight chain primary filming amines. It is designed to neutralize acidic material and film metal surfaces to protect against corrosion.

AK/kce

2/3/82

ATTACHMENT 3

Monitoring results and lithologic logs

LITHOLOGY	INTERVAL (ft)
Neutron Access Hole 1	
Samples missing	0-5
Samples missing	5-10
Samples missing	10-15
Samples missing	15-20
Cobble and large pebbles	20-25
Pebbles and cobble	25-30
Brownish silt and pebbles	30-35
Brownish green silty clay	35-40
Bluish gray silty clay	40-45
Grayish silty clay	45-50
Neutron Access Hole 2	
Samples missing	0-5
Samples missing	5-10
Samples missing	10-15
Samples missing	15-20
Brownish silt and pebbles	20-25
Greenish clay	25-30
Greenish gray silty clay	30-35
Grayish silty clay	35-40
Grayish silty caly	40-45
Grayish silty clay	45-50
Neutron Access Hole 3	
Samples missing	0-5
Samples missing	5-10
Samples missing	10-15
Brown silt, and pebbles and cobble	15-20
Pebbles and cobble	20-25
Green shale	25-30
Greenish gray clay	30-35
Greenish gray silty clay	35-40
Bluish gray silty clay	40-45
Bluish gray sandy clay	45-50

LITHOLOGY	INTERVAL (ft)
Neutron Access Hole 5	
Samples missing	0-5
Samples missing	5-10
Samples missing	10-15
Samples missing	15-20
Gravel and pebbles	20-25
Pebbles	25-30
Greenish gray silty clay	30-35
Grayish silty clay	35-40
Grayish silty clay	40-45
Grayish silty clay	45-50
Neutron Access Hole 6	
Gray sand	0-5
Gray sand	5-10
Gray sand	10-15
Gray sand	15-20
Pebbles and cobble	20-25
Pebbles	25-30
Buff silt	30-35
Buff silty clay	35-40
Buff sand	40-45
Buff sand	45-50
Neutron Access Hole 7	
Samples missing	0-5
Brownish sand	5-10
Silt and pebbles	10-15
Pebbles	15-20
Pebbles and cobble	20-25
Pebbles and cobble	25-30
Pebbles and cobble	30-35
Grayish clayey sand	35-40
Grayish clayey sand	40-45
Grayish clayey sand	45-50

LITHOLOGY	INTERVAL (ft)
Neutron Access Hole 9	
Samples missing	0-5
Samples missing	5-10
Samples missing	10-15
Samples missing	15-20
Samples missing	20-25
Samples missing	25-30
Samples missing	30-35
Buff silt	35-40
Gray sand	40-45
Gray sand	45-50

ATTACHMENT 4

Chemical analyses of water

Hauser Laboratories

April 26, 1982
Test Report No. 82-675

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

P. O. No. R035043

MATERIAL: NPDES sample collected 3-23-82 (HL #82-432).

TESTS: Pollutant Characterization as per Federal Register/Vol 44, No. 233/Methods 624, 625; Water Testing, as per Methods for Chemical Analysis of Water and Wastes, PB-297686.

RESULTS: Testing evaluation completed on enclosed tables.

Tests Conducted By:

Doyce T. Blair, Analytical Chemist/
Lab Supervisor

Metals, Cyanide, Total Phenolas, and Misc.

Pollutant	Concentration (mg/liter)	STANDARD
1. Aluminum	<0.7	5.0
2. Antimony	---	
3. Arsenic	0.02	0.1
4. Barium	<0.3	1.0
5. Beryllium	---	
6. Boron	(<50)	0.75
7. Cadmium	(<0.02)	0.01
8. Chromium	(<0.05)	0.05
9. Cobalt	(2.2)	0.05
10. Copper	<0.06	1.0
11. Iron	0.4	1.0
*12. Lead	(<0.1)	.05
13. Magnesium	21.4	
14. Manganese	---	
15. Mercury	<0.001	.002
16. Molybdenum	<0.4	1.0
17. Nickel	(<0.2)	0.2
18. Selenium	<0.01	.05
19. Silver	<0.03	5.0
20. Thallium	---	
21. Tin	---	
22. Titanium	---	
23. Zinc	0.3	10.0
24. Cyanide	(0.02)	0.2
25. Phenols	(0.0054)	.005
26. Total Organic carbon	(148)	
27. Total dissolved solids	(2401)	1000
28. Total suspended solids	NA	
29. Ammonia (as N)	NA	
30. pH	7.12	6 - 9
31. Chloride	(900)	250
32. Fluoride	0.7	1.6
33. Nitrate (as N)	0.06	10.0
34. Nitrite (as N)	---	
35. Total Organic Nitrogen (as N)	---	
36. Oil and grease	---	
37. Phosphorus	---	
38. Sulfate	500	600
39. Sulfite	---	

*Tested May 21, 1982

GC/MS Fraction - Base/Neutral Compounds

Pollutant	Concentration (µg/liter)
1. Acenaphthene	ND
2. Acenaphtylene	ND
3. Anthracene	ND
4. Benzidine	ND
5. Benzo (a) Anthracene	ND
6. Benzo (a) Pyrene	ND
7. 3,4-benzofluoranthene	ND
8. Benzo (ghi) Perylene	ND
9. Benzo (k) Fluoranthene	ND
10. Bis (2-chloroethyoxy) methane	ND
11. Bis (2-chloroethyl) ether	ND
12. Bis (2-chloroisopropyl) ether	ND
13. Bis (2-ethylhexyl) phthalate	1.2 .0012 mg/L
14. 4-bromophenyl phenyl ether	ND
15. Butyl benzyl phthalate	ND
16. 2-chloronaphthalene	ND
17. 4-chlorophenyl phenyl ether	ND
18. Chrysene	ND
19. Dibenzo (a,h) anthracene	ND
20. 1,2-dichlorobenzene	ND
21. 1,3-dichlorobenzene	ND
22. 1,4-dichlorobenzene	ND
23. 3,3-dichlorobenzidine	ND
24. Diethyl phthalate	ND
25. Dimethyl phthalate	ND
26. Di-n-butyl phthalate	ND
27. 2,4-dinitrotoluene	ND
28. 2,6-dinitrotoluene	ND
29. Di-n-octyl phthalate	ND
30. 1,2-diphenylhydrazine	ND
31. Fluoranthene	ND
32. Fluorene	ND
33. Hexaclorobenzene	ND
34. Hexachlorobutadiene	ND
35. Hexachlorocyclopentadiene	ND
36. Hexachloroethane	ND
37. Indeno (1,2,3-cd) pyrene	ND
38. Isophorone	ND
39. Naphthalene	ND
40. Nitrobenzene	ND
41. N-nitroso-dimethylamine	ND
42. N-nitroso-di-n-propylamine	ND
43. N-nitroso-diphenylamine	ND
44. Phenanthrene	ND
45. Pyrene	ND
46. 1,2,4-trichlorobenzene	ND

GC/MS Fraction - Volatile Compounds

Pollutant	Concentration (µg/liter)
1. Acrolein	ND
2. Acrylonitrile	ND
3. Benzene	130
4. Bis (Chloromethyl) ether	ND
5. Bromoform	ND
6. Carbon tetrachloride	ND
7. Chlorobenzene	ND
8. Chloro-dibromomethane	ND
9. Chloroethane	ND
10. 2-Chloroethylvinyl Ether	ND
11. Chloroform	ND
12. Dichlorobromoethane	ND
13. Dichloro-difluoromethane	ND
14. 1,1-dichloroethane	ND
15. 1,2-dichloroethane	ND
16. 1,1-dichloroethylene	ND
17. 1,2-dichloropropane	ND
18. 1,2-dichloropropylene	ND
19. Ethylbenzene	ND
20. Methyl Bromide	ND
21. Methyl Chloride	ND
22. Methylene Chloride	ND
23. 1,1,2,2-tetreachloroethane	ND
24. Tetrachloroethylene	ND
25. Toluene	190
26. 1,2-trans-dichloroethylene	ND
27. 1,1,1-trichloroethane	ND
28. 1,1,2-trichloroethane	ND
29. Trichloroethylene	ND
30. Trichlorofluoromethane	ND
31. Vinyl Chloride	ND

0.01 mg/L = .130 mg/L

.190 mg/L

GC/MS Fraction - Acid Compounds

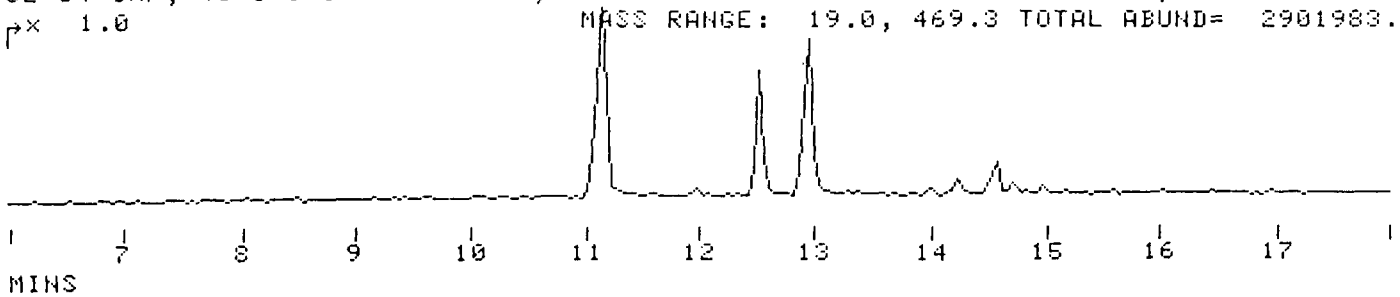
Pollutant	Concentration (ug/liter)
1. 2-chlorophenol	ND
2. 2,4-dichlorophenol	ND
3. 2,4-dimethylphenol	530
4. 4,6-dinitro-o-cresol	ND
5. 2,4-dintrophenol	ND
6. 2-nitrophenol	ND
7. 4-nitrophenol	ND
8. P-chloro-M-Cresol	ND
9. Pentachlorophenol	ND
10. Phenol	1950
11. 2,4,6-trichlorophenol	ND
12. O-&M-Cresol	2080

1.9 mg/L (.005)

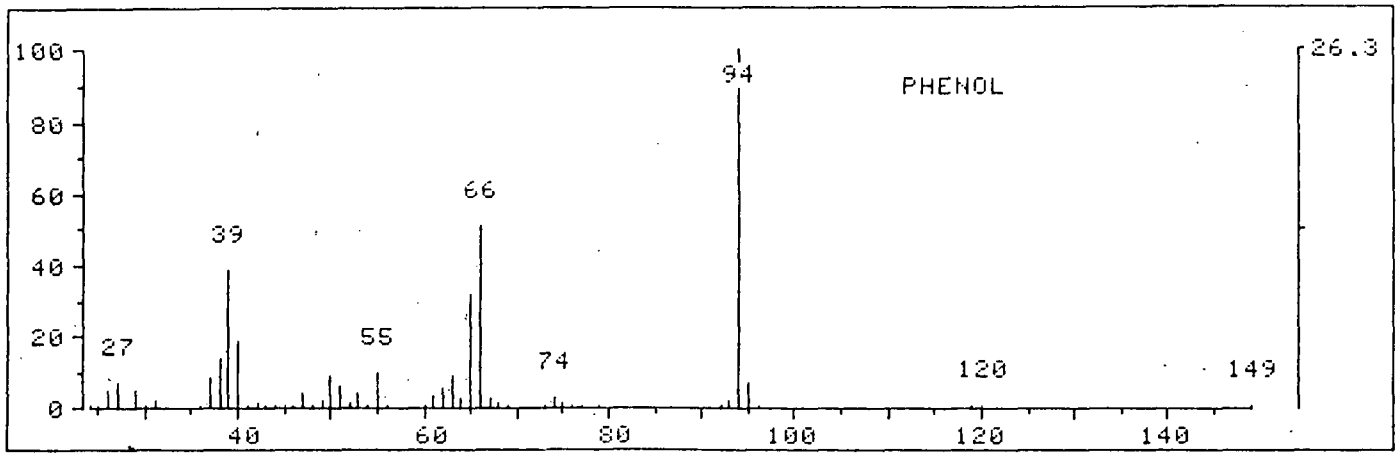
GC/MS Fraction - Pesticides

Pollutant	Concentration (ug/liter)
1. Aldrin	ND
2. α-BHC	ND
3. β-BHC	ND
4. γ-BHC	ND
5. δ-BHC	ND
6. Chlordane	ND
7. 4,4'-DDT	ND
8. 4,4'-DDE	ND
9. 4,4'-DDD	ND
10. Dieldrin	ND
11. α-Endosulfan	ND
12. β-Endosulfan	ND
13. Endosulfan Sulfate	ND
14. Endrin	ND
15. Endrin Aldehyde	ND
16. Heptachlor	ND
17. Heptachlor Epoxide	ND
18. PCB-1242	ND
19. PCB-1254	ND
20. PCB-1221	ND
21. PCB-1232	ND
22. PCB-1248	ND
23. PCB-1269	ND
24. PCB-1016	ND
25. Toxaphene	ND

PLATEAU - 978; ACID FRACTION
SE 54 CAP; 40/3 @ 10 TO 300/30; 3UL
FRN 5016, CRN 101
1300 SCANS (281 SCANS, 12.02 MINS)
MASS RANGE: 19.0, 469.3 TOTAL ABUND= 2901983.



AVERAGED SPECTRUM * BASE PK/ABUND: 94.2/ 32000. -249 -256 + 253



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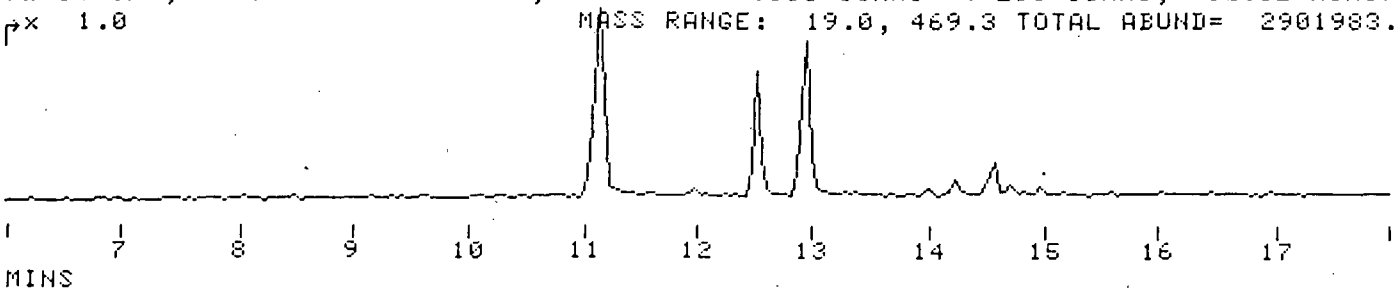
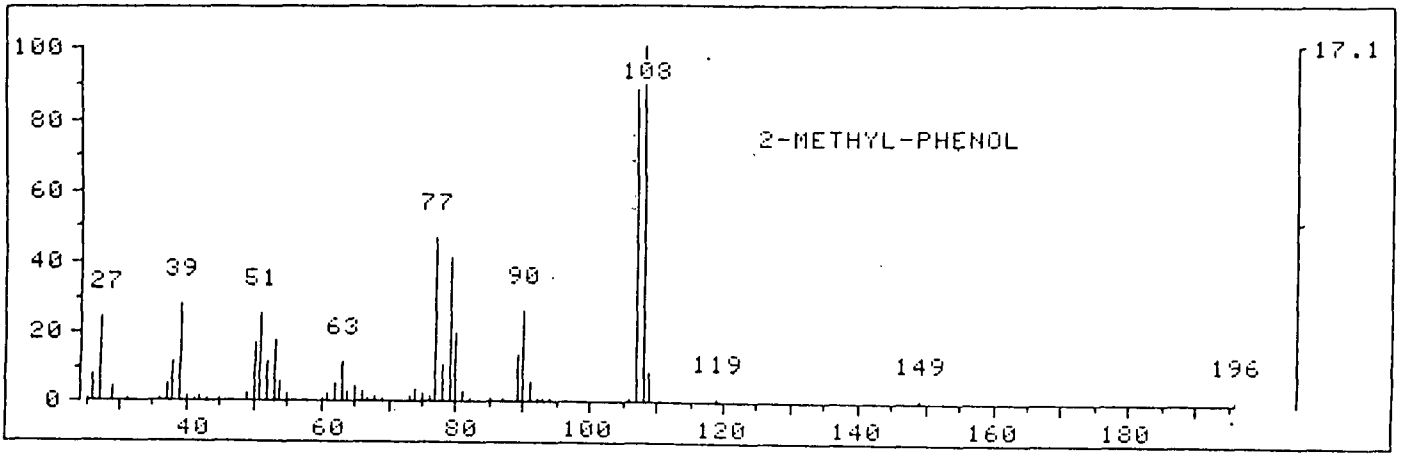
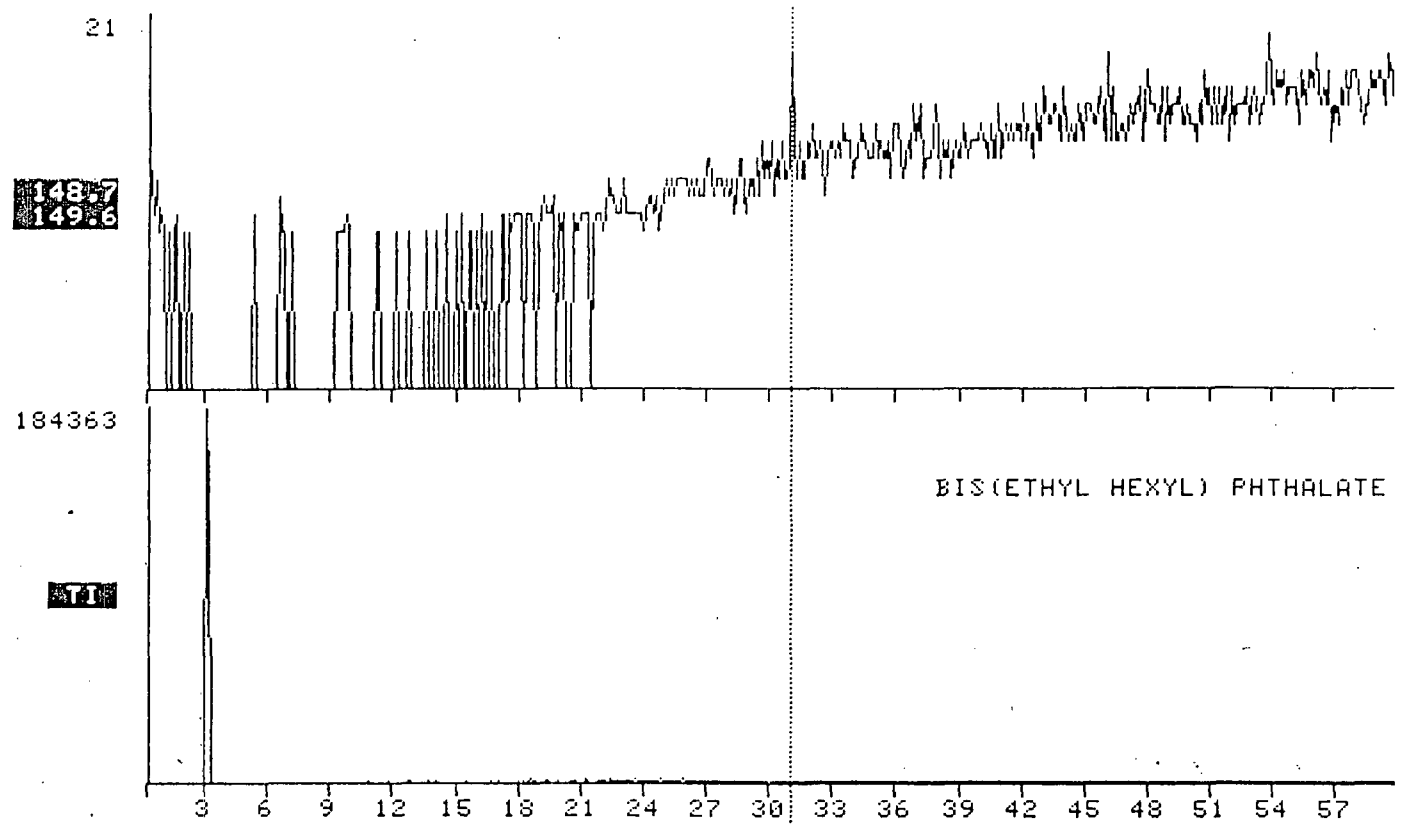


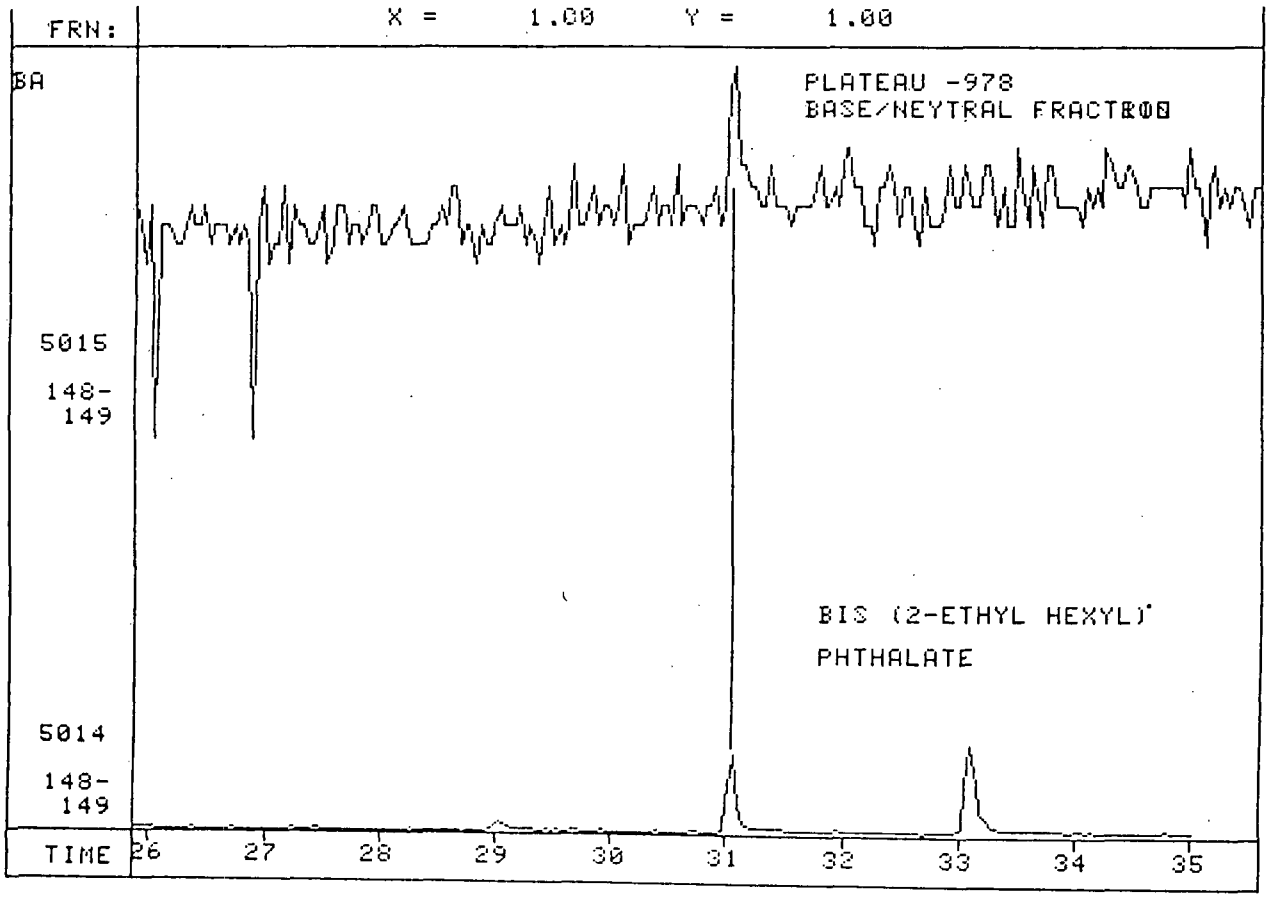
AVERAGED SPECTRUM * BASE PK/ABUND: 108.2/ 32000. -282 -288 + 285



NAME PLATEAU-978; BASE/NEUTRAL FRACTION
MISC SE54 CAP; 40/3 @ 10 TO 300/30; 3UL

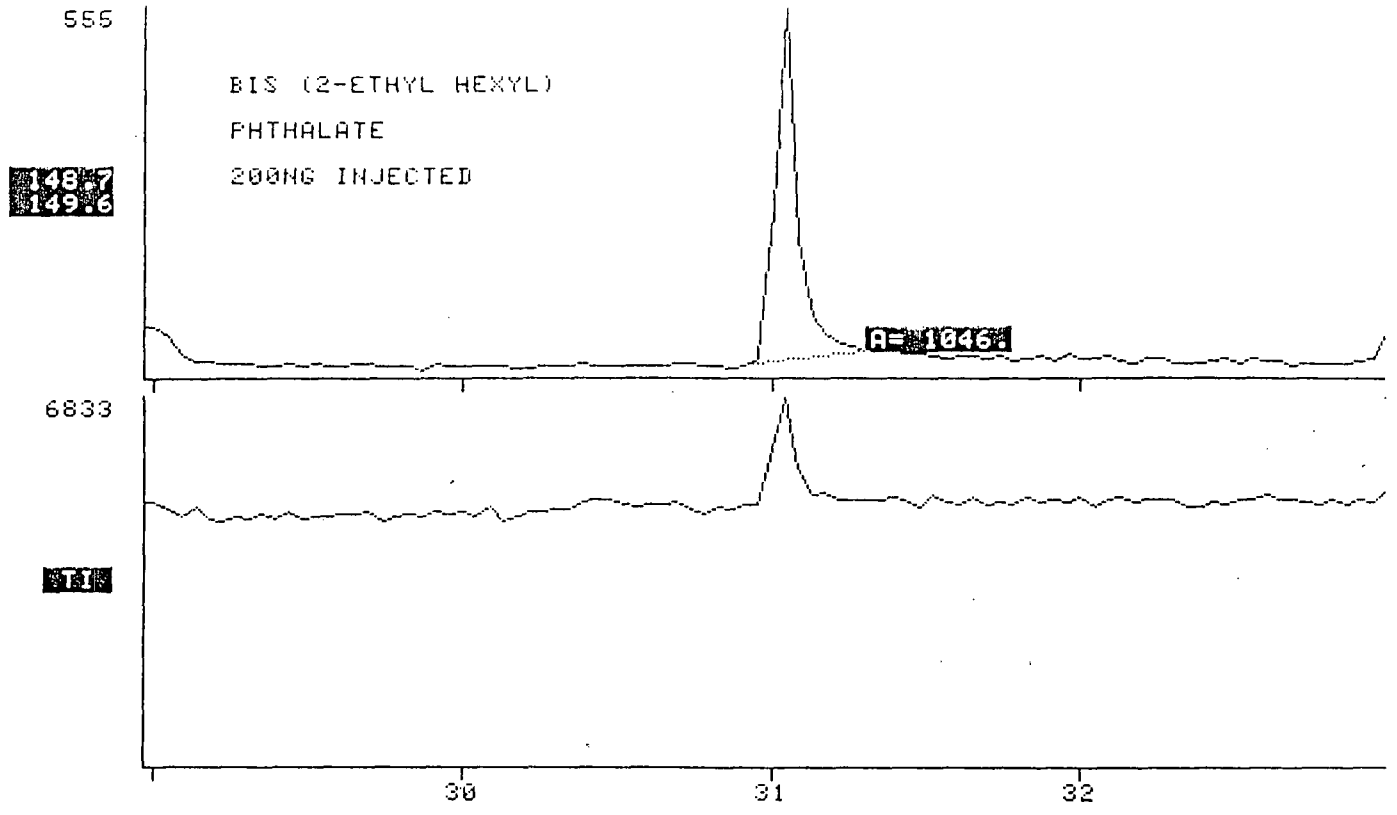
FRN 5015



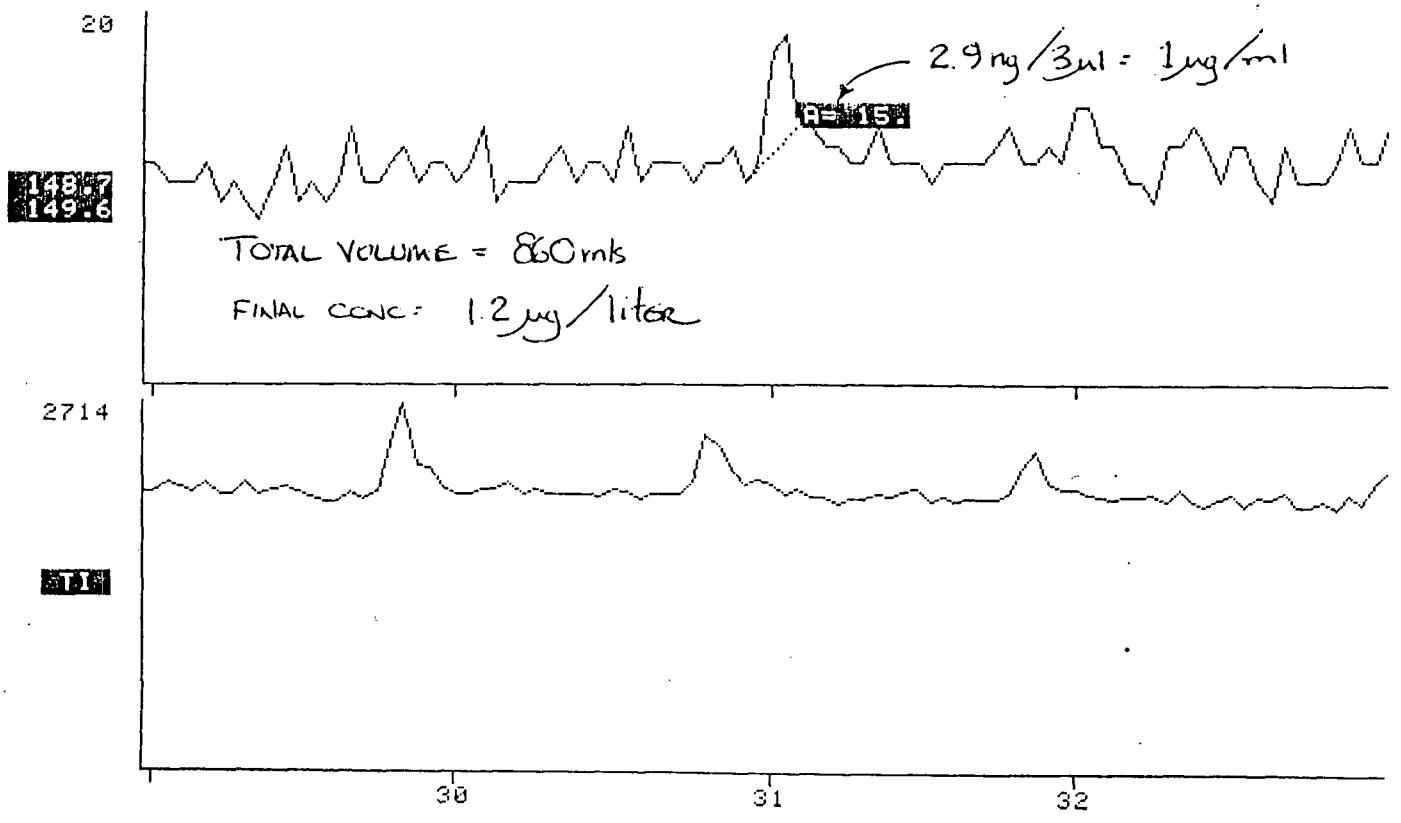


NAME BASE/NEUTRAL STANDARDS - SUPELCO #4-8818,9,20,21
MISC SE54 CAP; 40/3 @ 10 TO 300/30; 1UL EACH

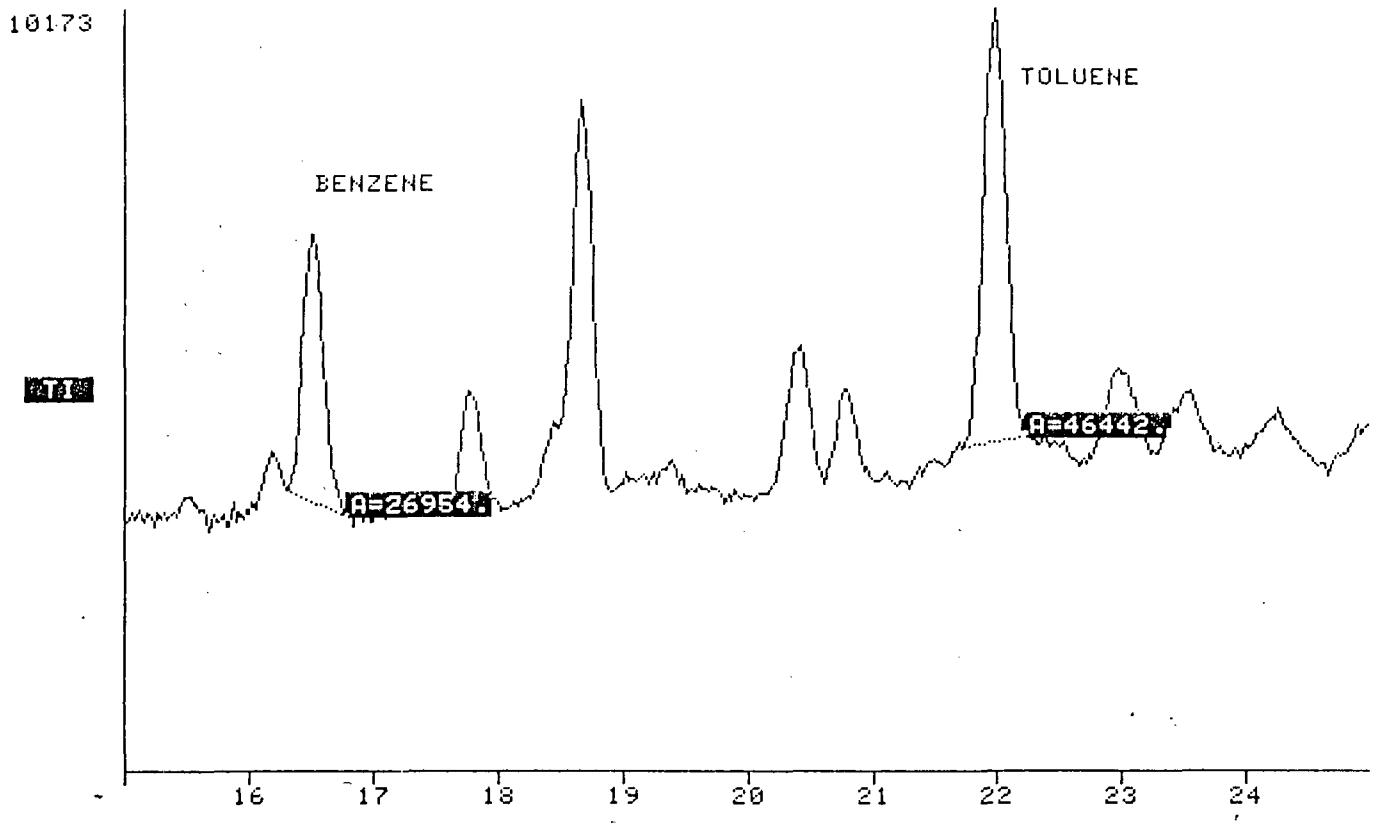
FRN 5014



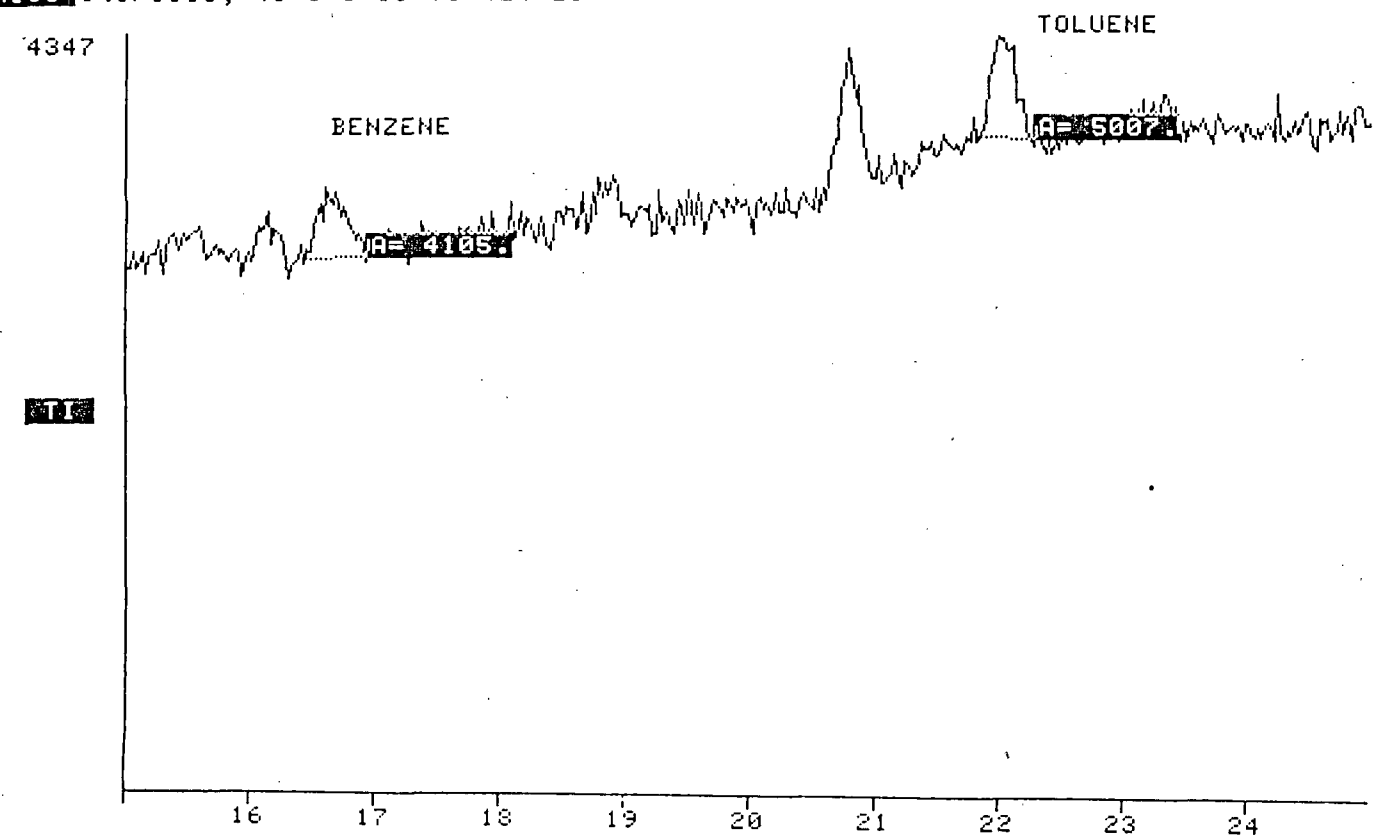
NAME PLATEAU-978; BASE/NEUTRAL FRACTION FRN 5015
MISC SE54 CAP; 40/3 @ 10 TO 300/30; 3UL



NAME PLATEAU-978; PURGE AND TRAP; 10ML + 10UL STDS
MISC 1%SP1000; 45/3 @ 10 TO 220/20
FRN 5013

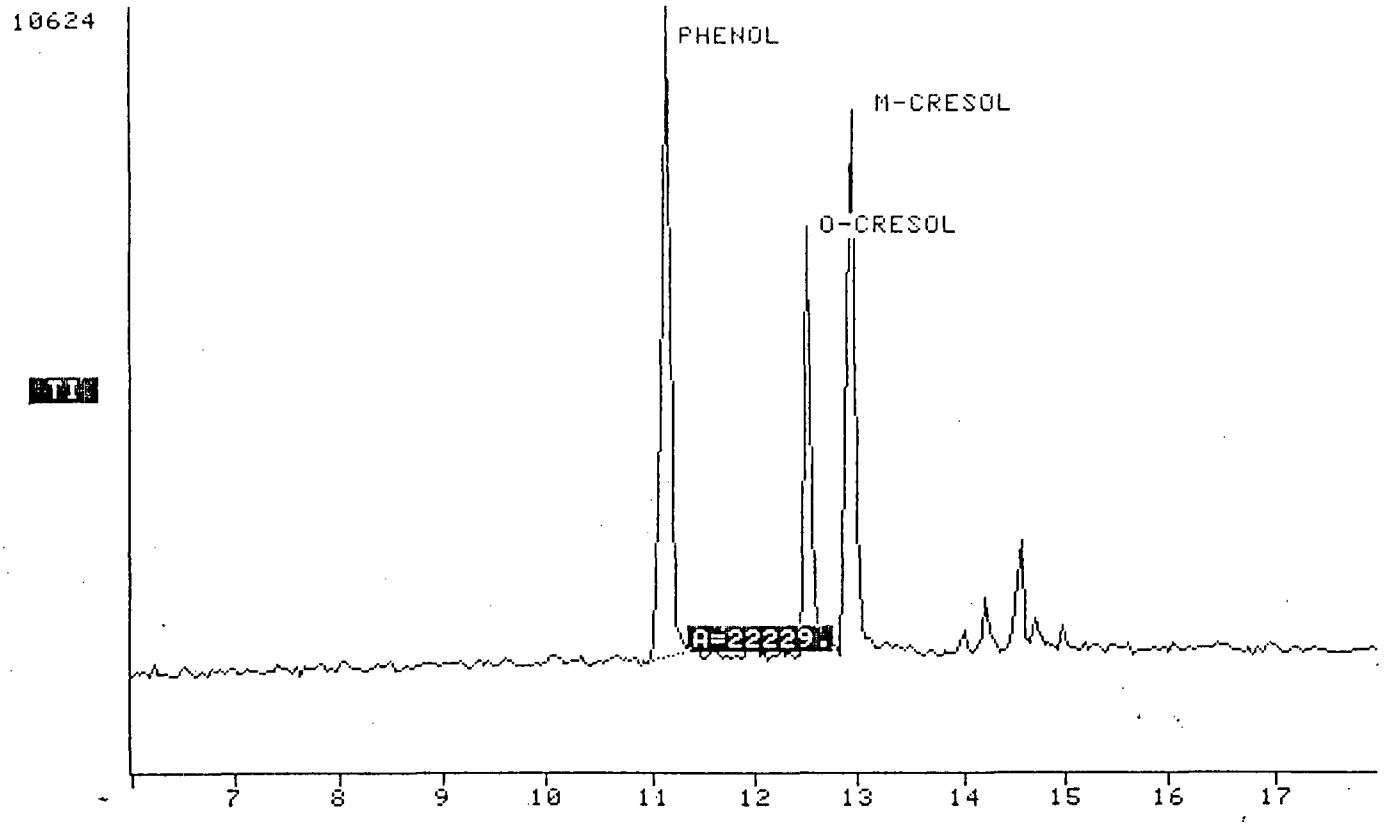


NAME PURGE AND TRAP STANDARDS A, B, C
MISC 1%SP1000; 45/3 @ 10 TO 220/20
FRN 5011



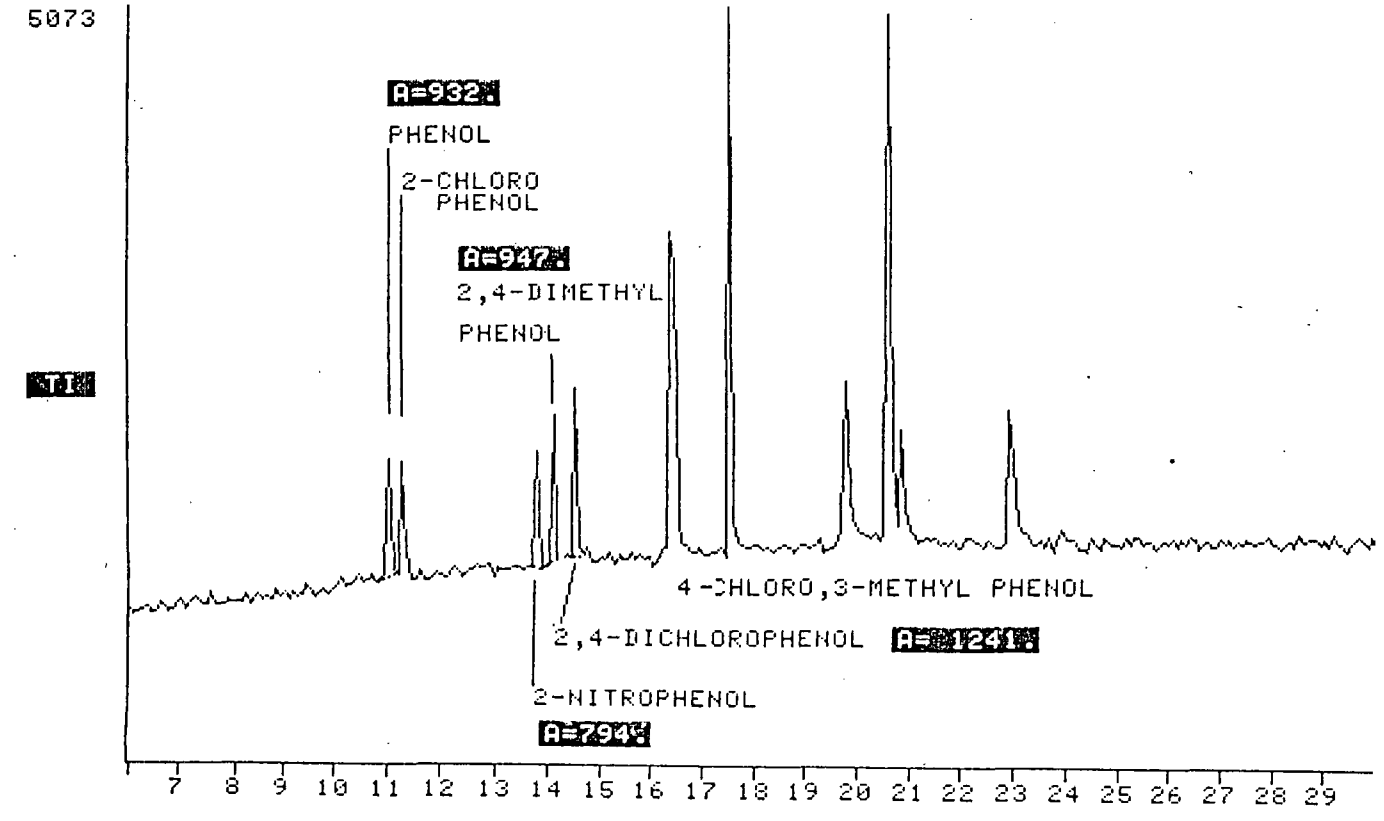
NAME PLATEAU - 978; ACID FRACTION
MISC SE 54 CAP; 40/3 @ 10 TO 300/30; 3UL

FRN 5016



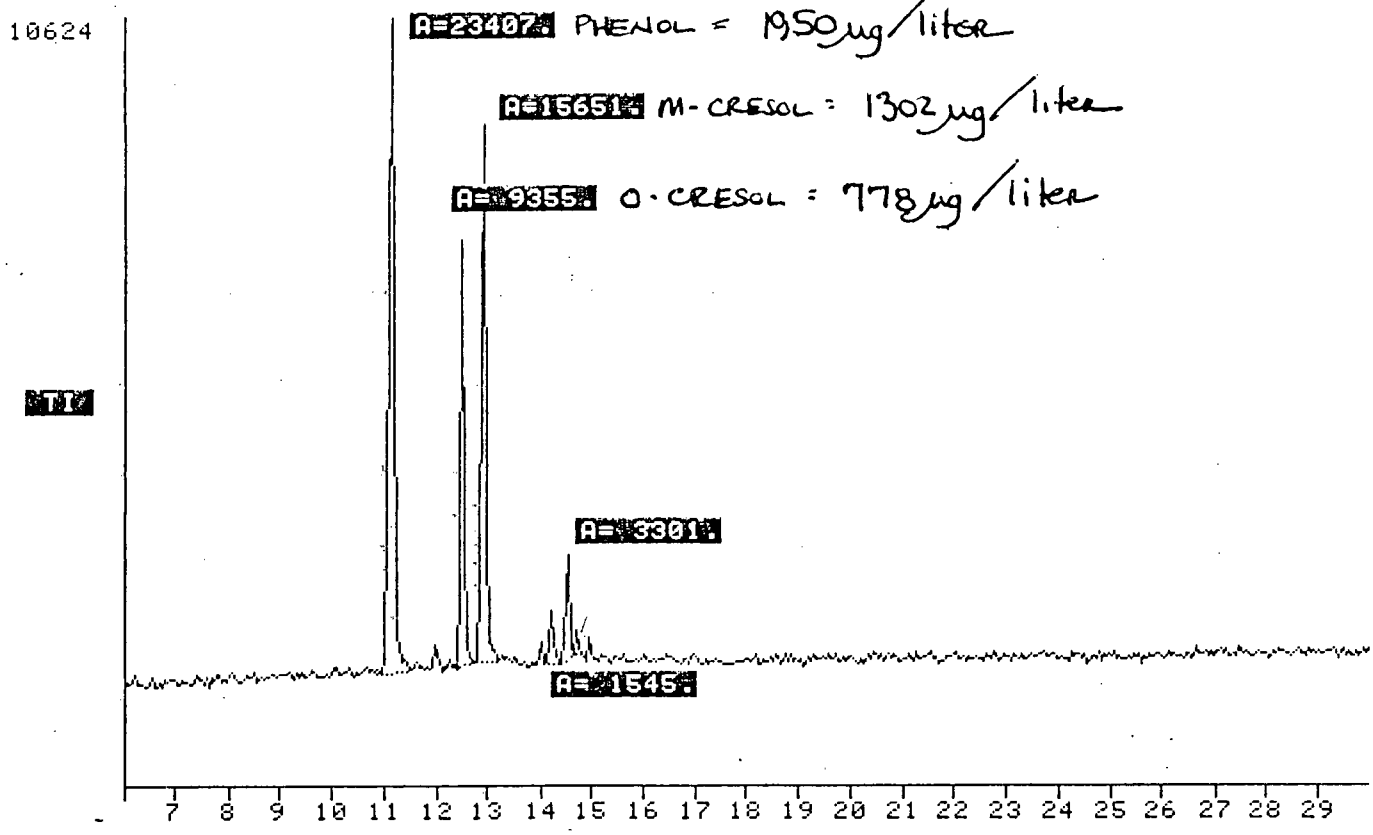
NAME PHENOL STANDARDS; SUPELCO #4-8810
MISC SE54 CAP; 40/3 @ 10 TO 300/30; 1UL OF 20

FRN 5017



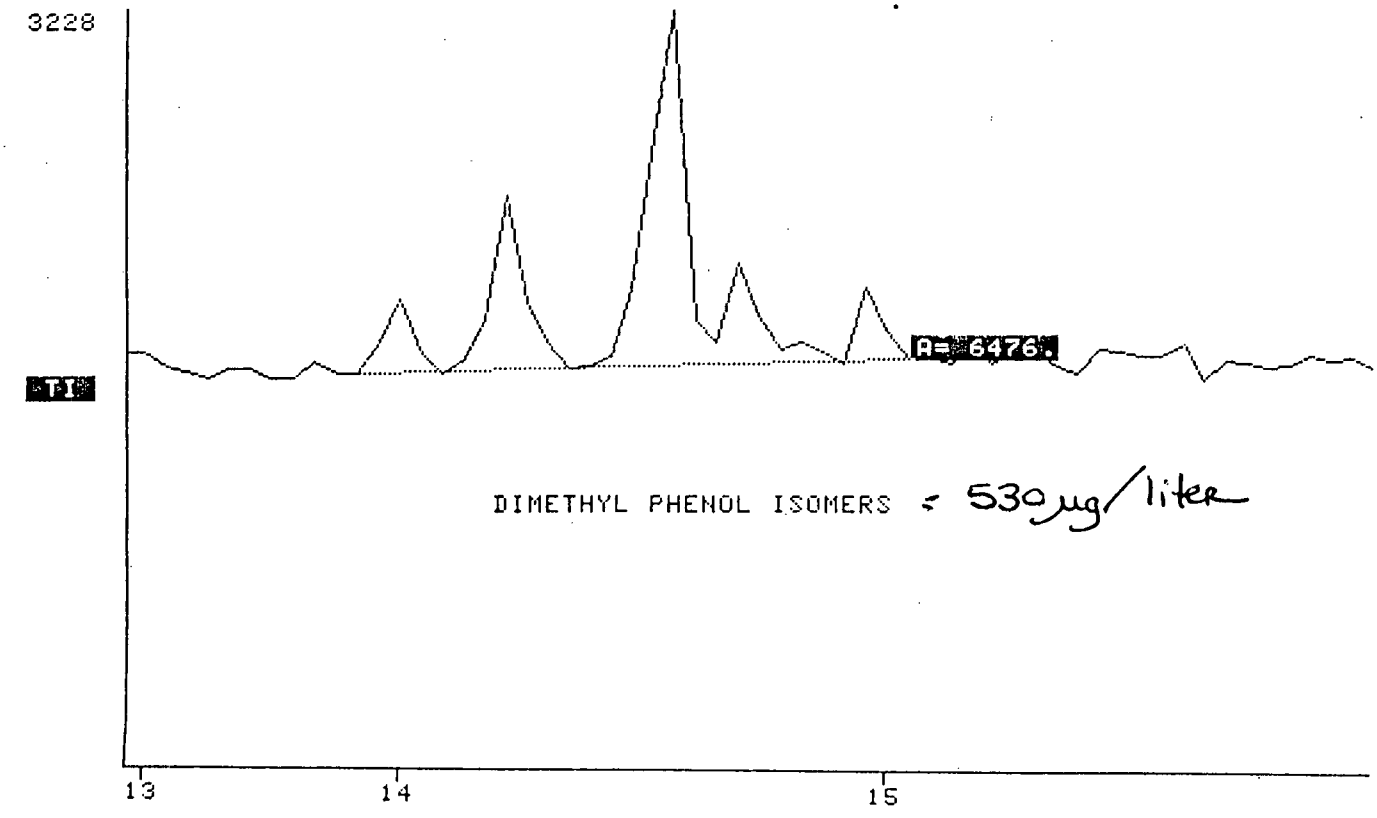
NAME PLATEAU - 978; ACID FRACTION
MISC SE 54 CAP; 40/3 @ 10 TO 300/30; 3UL

FRN 5016



NAME PLATEAU - 978; ACID FRACTION
MISC SE 54 CAP; 40/3 @ 10 TO 300/30; 3UL

FRN 5016



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

Review of Draft + comments By OCD

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

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

February 24, 1982

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 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) Submt 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, setteable 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

Oscar A. Simpson, III
Water Resource Specialist

OAS/dp

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

42 A

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

February 11, 1982

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

Mr. Anthony C. Leonard
President
Plateau Inc.
P. O. Box 26251
Albuquerque, New Mexico 87125

Dear Mr. Leonard:

Thank you for your letter of January 27, 1982, summarizing our meeting of that same date. It was a pleasure to meet with you and members of your staff and I hope that as a result of that meeting, communications between your company and this agency will be considerably improved.

In addition to summarizing the information brought out at that meeting, your letter of January 27, 1982, requests a variance to allow Plateau to continue its irrigation of certain lands adjacent to the Plateau Refinery in order to reduce the level of water in the presently existing solar evaporation ponds. That request to continue those operations which are not in the presently approved discharge plan, but which are contained in the discharge plan draft presently under review by my staff, is hereby approved. I understand that it will be necessary to begin these irrigation operations in late February, 1982, in order to prevent overflow of these solar evaporation ponds.

I look forward to the results of the review by my staff of your presently pending discharge plan draft and feel confident that the increase in communication between our organizations will be beneficial.

Sincerely yours,

JOE D. RAMEY,
Director

JDR/WPP/dr

PLATEAU, INC.

P.O. BOX 26251
ALBUQUERQUE, NEW MEXICO 87125
PHONE 505/262-2221

BLOOMFIELD REFINERY
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413
PHONE 505/632-8013

February 3, 1982

Mr. Oscar Simpson
State of New Mexico
Oil Conservation Division
Santa Fe, New Mexico 87501

Dear Oscar:

Enclosed are copies of the Refinery topo maps you requested when you and Bill Turner were here last week. Also enclosed are minutes of our meeting.

If you have questions concerning any matter please contact me.

Sincerely yours,

Chad King
Process Engineer

CK/mg

Plateau

Date: February 2, 1982

Copy to: Oscar Simpson, OCC
Bill Turner
Murray Wyman

To: Ken Sinks

From: Chad King

Subject: MINUTES OF MEETING BETWEEN OSCAR SIMPSON, BILL TURNER, KEN SINKS AND CHAD KING CONCERNING GROUNDWATER RETENTION ON PLATEAU PROPERTY

The following items were agreed upon between Plateau Bloomfield Refinery and Oscar Simpson of New Mexico Oil Conservation Commission.

SPRAY IRRIGATION AREA SOUTH OF SULLIVAN ROAD

1. In order to contain any possible runoff from the spray irrigation area, Plateau will build two earthen dikes. With permission from the County Highway Department, one will be built directly south along Sullivan Road northeast of the spray area and will include an overflow culvert. The second dike will be built on the first arroyo south of the El Paso right-of-way and directly east of the spray area. An attempt will be made to build both dikes from the impervious material found in the Nacimiento formation.

2. Plateau will build a combination roadway and retaining wall along the east side of the spray area extending from Sullivan Road to the south end of Plateau's property. This wall will be wide enough for one vehicle and be at least 18" above existing grade and will be made from compacted road base material.

3. Since part of the irrigation area extends south beyond Plateau's south property line, Plateau will seek permission of the owner for using the property.

RUNOFF ARROYOS NORTH OF THE REFINERY

1. Plateau will build retention dams in three arroyos north of the refinery. These are (1) directly north of the evaporation ponds, (2) east of the Amoco gas well and (3) east of the new water tank.

2. The dams will be located in the outcrop of the Nacimiento formation in each canyon, the footing being sunk at least two feet into that impervious layer. The concrete dike will be 8" wide and high enough to retain a water volume for pumping, probably three to four feet.

3. Water from each retention pond will either be gravity flow to the pond with the lowest elevation and then pumped up to the refinery or each pond will have its own pumping system.

4. Each pumping system will include two electric sump pumps with automatic on/off control on pond level. Discharge piping will bring the water to Plateau's existing waste water system.

5. The dike in the arroyo east of the Amoco gas well will include a culvert under the existing roadway diverting water to the dike.

MISCELLANEOUS

1. Plateau will install a totalizing water meter on the spray irrigation line leaving the refinery.

2. Plateau will install equipment for eliminating the possibility of sump overflow at the pump station located on the north oily water pond.

3. Plateau will install a pump system in the runoff pond located east of the evaporation ponds and west of the Hammond ditch. This water will be returned to the evaporation ponds.

CK/kce

41

Plateau

Date: February 2, 1982

To: Ken Sinks

Copy to: ~~Oscar Simpson, OCC~~
Bill Turner
Murray Wyman

From: Chad King

Subject: MINUTES OF MEETING BETWEEN OSCAR SIMPSON, BILL TURNER, KEN SINKS AND CHAD KING CONCERNING GROUNDWATER RETENTION ON PLATEAU PROPERTY

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1. In order to contain any possible runoff from the spray irrigation area, Plateau will build two earthen dikes. With permission from the County Highway Department, one will be built directly south along Sullivan Road northeast of the spray area and will include an overflow culvert. The second dike will be built on the first arroyo south of the El Paso right-of-way and directly east of the spray area. An attempt will be made to build both dikes from the impervious material found in the Nacimiento formation.

2. Plateau will build a combination roadway and retaining wall along the east side of the spray area extending from Sullivan Road to the south end of Plateau's property. This wall will be wide enough for one vehicle and be at least 18" above existing grade and will be made from compacted road base material.

3. Since part of the irrigation area extends south beyond Plateau's south property line, Plateau will seek permission of the owner for using the property.

RUNOFF ARROYOS NORTH OF THE REFINERY

1. Plateau will build retention dams in three arroyos north of the refinery. These are (1) directly north of the evaporation ponds, (2) east of the Amoco gas well and (3) east of the new water tank.

2. The dams will be located in the outcrop of the Nacimiento formation in each canyon, the footing being sunk at least two feet into that impervious layer. The concrete dike will be 8" wide and high enough to retain a water volume for pumping, probably three to four feet.

3. Water from each retention pond will either be gravity flow to the pond with the lowest elevation and then pumped up to the refinery or each pond will have its own pumping system.

4. Each pumping system will include two electric sump pumps with automatic on/off control on pond level. Discharge piping will bring the water to Plateau's existing waste water system.

5. The dike in the arroyo east of the Amoco gas well will include a culvert under the existing roadway diverting water to the dike.

MISCELLANEOUS

1. Plateau will install a totalizing water meter on the spray irrigation line leaving the refinery.

2. Plateau will install equipment for eliminating the possibility of sump overflow at the pump station located on the north oily water pond.

3. Plateau will install a pump system in the runoff pond located east of the evaporation ponds and west of the Hammond ditch. This water will be returned to the evaporation ponds.

CK/kce

OSCAR
Simpson

Mike
Stogner

Mike Palumbo

Jeff
Edmisten

Dwight
Stockham

Ken Sinks

Chad King

Bill Turner

Bob Perry

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

8427

January 27, 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 discharge plan under which the refinery is currently operating if in fact necessary.

Respectfully submitted,

AMERICAN GROUND WATER CONSULTANTS, INC.

William M. Turner

Dr. William M. Turner
President

DRAFT copy
Final Dated
March 82

PLATEAU, INC.

P.O. BOX 26251
ALBUQUERQUE, NEW MEXICO 87125
PHONE 505/262-2221

January 27, 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 87501

Dear Mr. Ramey:

As a result of your letter of January 20, 1982, my associates and I met with you and members of your staff on January 27, 1982, in Santa Fe. In that meeting, issues brought up in your letter of January 20th were discussed. Plateau presented information and data relative to those issues which satisfied your office to the extent that the February 1, 1982, deadline, given in your letter of January 20th, was dropped.

The division was concerned that two activities were being carried on at the Bloomfield Refinery which were not in our filed water discharge plan. These activities were:

1) Onsite irrigation,

2) Unreported runoff catch basins.

Plateau has been preparing an updated discharge plan including these two activities as well as additional runoff-seepage catch basins. A draft of this plan was given to you in our meeting of January 27, 1982. Preparation of the updated discharge plan has been in progress since September, 1981, and a progress report given to you in a letter dated December 23, 1981. At no time was Plateau aware of an October 31, 1981, deadline for filing an amended water discharge plan.

A formal request is hereby made for a variance to allow Plateau to continue its irrigation plan as outlined in the updated discharge plan draft, prior to the plan's approval. This system will go into operation in late February.

Thank you for your consideration of our situation and your willingness to meet with us on such short notice.

Sincerely yours,

A. C. Leonard
President
Plateau, Inc.

ACL/RGP:sac

cc: Mr. Perry Pearce
Mr. Oscar Simpson

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

January 20, 1982

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

Mr. A. C. Leonard
President
Plateau Inc.
7575 Indian School Road, N.E.
Albuquerque, New Mexico 87110

Re: Operations at the Plateau Refinery

Dear Mr. Leonard:

This letter is addressed to you in the hope of speedy resolution of a long-standing problem. The problem concerns the operations of your refinery near Bloomfield, New Mexico.

As you may be aware, by action of the New Mexico Water Quality Control Commission, the New Mexico Oil Conservation Division is charged with administration and enforcement of the New Mexico Water Quality Act and the rules and regulations adopted pursuant to that act. For some period of time the operations of the Plateau Refinery have been in violation of such rules and regulations, and this letter is a final attempt to resolve this matter without the necessity of court action.

Last summer reports were received by this office that the refinery was spraying waste water onto an empty field in an apparent effort to speed evaporation and that the refinery had constructed two waste water ponds for holding and disposing of fluids which were not authorized in your approved discharge plan. It was reported that the waste from both of these operations was reaching or threatened to reach the San Juan River. Both the spraying operations and the construction of the ponds are in violation of Plateau's Discharge Plan, approved by the Oil Conservation Division and the New Mexico Water Quality Control Commission Regulations.

Section 1-201 of those regulations provides that a notice of intention to discharge a new water contaminant or to change the character or location of a water contaminant discharge shall be filed with the Oil Conservation Commission. Both the spraying of the waste water and the construction and use of the additional ponds required such notice and failure to give

such notice prior to beginning these operations is a violation of that regulation.

Section 1-203 requires that the Oil Conservation Commission be notified of the nature, amount and location of any discharge which has a reasonable probability of injuring or being detrimental to human health, animal or plant life, or property. The discharges from both the spraying and the unauthorized ponds has this reasonable probability.

Section 2-201 provides that no person shall dispose of any refuse in any manner or location which raises a reasonable probability that the refuse will be moved into a natural water course. Both activities complained about raise such a probability and therefore are violations of this regulation.

In addition, Section 3-104 prohibits discharges which may move directly or indirectly into ground water unless such discharges are made pursuant to an approved discharge plan. Since the discharge plan which has been approved for the Plateau Refinery does not provide for either spray evaporation or the two additional ponds, these activities and facilities are in violation of the Water Quality Control Commission Regulations.

On September 3, 1981, a meeting was held with representatives of your refinery and personnel of this Division charged with administering and enforcing these Water Quality Control Regulations.

At that meeting your representatives from the refinery were informed that:

1. Plateau would have to update their discharge plan (GWR-1) prior to the end of October, 1981.

2. Plateau must stop spray irrigating its waste water effluent onto the surface of the ground.

3. Plateau would have to drain and not use two illegal pits on the northside of the refinery.

To date, none of these items have been accomplished, nor, has a request for waiver or variance pursuant to the provisions of the Water Quality Control Regulations been

sought or given. It is, therefore, my conclusion that at this time, and since the end of October of 1981, the Plateau Refinery has been operating in violation of certain provisions of the New Mexico Water Quality Control Commission Rules and Regulations.

Under the provisions of the New Mexico Water Quality Act, the Oil Conservation Division has at its disposal two courses of action. The first is for the Oil Conservation Division, acting on behalf of the Water Quality Control Commission, to bring suit in district court to collect a fine for past violations of the Water Quality Act of up to $1,000 per day for each violation and to seek an injunction against future violations of that Act. The second course of action is for the company involved and the Water Quality Control Commission to enter into an assurance of discontinuance which provides for the immediate suspension of the violating activity, as well as an assurance that the violations will cease for a period of time.

Since I have not corresponded with you directly on this matter previously, I have requested that an appropriate assurance of discontinuance be drafted and I am including a copy of that draft with this letter. I hope that this method of resolution can be used so that we can avoid the delay and expense which is inevitably incurred in court proceedings. I have instructed my staff that if some response is not received from you prior to February 1, 1982, that they are to institute an appropriate legal action for collection of the maximum allowable fine and the institution of an injunction against further violations by Plateau.

For clarification, I am repeating the statements made to your field personnel at their meeting on September 3, 1981. Pursuant to the provisions of the New Mexico Water Quality Act and the rules and regulations of the New Mexico Water Quality Control Commission, Plateau Inc. is hereby instructed to immediately stop the spraying of waste water on any lands, Plateau is also instructed to immediately drain and cease using the two unauthorized drainage ponds on the northside of the Plateau Refinery and Plateau is instructed that a revised discharge plan must be received in this office no later than February 1, 1982. Prior to the receipt of an amended discharge plan, Plateau Inc. is instructed that failure to comply with the discharge plan presently on file with the New

Mexico Oil Conservation Division constitutes a violation of the New Mexico Water Quality Act and the rules and regulations of the New Mexico Water Quality Control Commission.

Thank you for your prompt attention to this matter.

Sincerely,

JOE D. RAMEY,
Director

JDR/WPP/dr

ASSURANCE OF DISCONTINUANCE BETWEEN PLATEAU INC. AND THE NEW MEXICO OIL CONSERVATION DIVISION ACTING ON BEHALF OF THE NEW MEXICO WATER QUALITY CONTROL COMMISSION.

Plateau Inc. is the owner of and the operator of Plateau Refinery near Bloomfield, New Mexico, and as such owner and controller, is responsible for the discharge of effluent from that facility. Plateau admits that said discharge of effluent has at times been in violation of Sections 1-201, 1-203, 2-201, and 3-104 of the Water Quality Control Commission regulations and pursuant to Section 74-6-10(D) NMSA 1978, assures the Water Quality Control Commission that said violations will be discontinued as follows:

1. Plateau will cease the spraying of waste water onto the surface of the ground immediately.

2. Plateau will cease the use of those certain unauthorized drainage ponds on the northside of the Plateau Refinery and will cause those ponds to be immediately drained.

3. Plateau will cause a revised discharge plan to be filed with the New Mexico Oil Conservation Division no later than February 1, 1982.

4. Plateau will immediately, and during the term of this Assurance of Discontinuance, assure that no discharge of any effluent or waste product is allowed except in compliance with the approved discharge plan applicable at that time.

5. This Assurance of Discontinuance will be deemed violated if during the term of this assurance any discharge other than as approved in the currently operative discharge plan on file with, and approved by the New Mexico Oil Conservation Division, is conducted.

6. The New Mexico Oil Conservation Division, acting on behalf of the New Mexico Water Quality Control Commission, will take any enforcement action it deems necessary in the event the terms of this Assurance of Discontinuance are violated.

7. This Assurance of Discontinuance will remain in effect until July 1, 1983.

8. Nothing in this Assurance of Discontinuance shall relieve Plateau Inc. from the responsibility of compliance with all other provisions of the Water Quality Control Act, the regulations promulgated thereunder, or any other provision of law except as specifically set forth herein.

Signed this_____day of January, 1982.

_____
A. C. LEONARD, President
Plateau Inc.

Accepted by:

_____
JOE D. RAMEY, Director
New Mexico Oil Conservation
Division on behalf of the
New Mexico Water Quality
Control Commission

(36)

January 7, 1982

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

Re: Improper Waste Water Disposal

Dear Mr. Stockham:

This letter is sent at your request in confirmation of a telephone conversation we had on December 9, 1981 regarding the December 4, 1981 letter complaining of improper waste water disposal. Frank Chavez and I did not proceed as far as the San Juan River to check if the waste water had drained into it. We did proceed within 200 yards of the river. The water was still moving a stream about one foot wide, about one foot every four seconds. I'm sure that this will be taken into consideration in the review of this problem.

Yours truly

S/Jeff A Edmister

Jeff A. Edmister
Geologist/Field Representative

JAE:gc

cc: Plateau Refinery
Oscar Simpson
Reading File
Operator File

No Fines For Plateau, State Lacks Report

Refinery Shifts Stand, Confirms Past Spills

January 6, 1982

Photos by Nell Jacobs
Story by Rex Graham

The Plateau Inc. refinery looks like a giant pipe organ overlooking the San Juan River south of Bloomfield.

A tall, flame tipped stack hums like a bass flute as "flue gas" exits the plant. White flags of steam hiss noisily from dozens of leaky connections and swirl around the steel columns before soaking into the parched air.

Water drips incessantly from the equipment, creating an incongruous feeling of a London drizzle under the New Mexico sky.

The immediately visible signs of the 500,000 gallons of crude oil converted daily into gasoline, diesel fuel and other products are an occasional oily splash on the ground and a paint thinner smell.

Another more disturbing sign is an oil slick in the Hammond irrigation ditch next to the refinery that leads to the San Juan River.

The apparent source of the problem oil was a series of routine fuel oil spills at the refinery over an unknown number of years.

Because of the old spills, plant manager Ken Sinks said the company is now being "haunted" by the oil slowly seeping into the ditch. The slick was reported anonymously to regulatory officials in December and later identified as a substandard grade of diesel fuel, according to Oil Conservation Division officials.

Sinks said the ditch has been dammed off to keep the oil from continuing on to the river, and the collected material will be removed.

State and local OCD regulators said the company will not be fined because the company has no record of how much oil was spilled, and fines are linked to the size of the spill.

Sinks told the Daily Times Jan. 5: "As far as I know, we haven't had any spills here at all." But in a Jan. 26 interview at the refinery he conceded "We know we contributed to it, but we don't know how much." He said he has been manager of the refinery for two years.

Frank Chavez, district manager of the OCD in Aztec, said even though the refinery routinely allowed substandard quality diesel fuel to overflow a holding tank - a practice he called "unacceptable" - no action will be taken, or fines levied in connection with the incidents.

Sinks said the practice resulted in spills of 200 to 250 gallons of diesel fuel, "two or three times a week, for years, and years and years."

But OCD officials said the refinery will not be required to fill out a report on the spills "because they (Plateau) don't have good enough records to determine how much was spilled.

"(Plateau) doesn't know how many times their tanks overflowed, or how much overflowed each time," explained Chavez. "We don't know how many years it has gone on, and we are not estimating how much has gone" into the ground.

"It may not have been that much."

Sinks and Plateau maintenance supervisor Don Wimsatt said not all the spilled fuel soaked into the ground, and some was recovered.

And, Wimsatt said, "We found one tank with a leak in the bottom."

Asked if the OCD's policies amounted to letting the company police itself, the divisional director for the OCD in Santa Fe, Joe Ramey, said, "We rely on all the operators to police themselves. We make periodic inspections and are more than happy to prosecute."

Ramey said each spill can be "up to 1,050 gallons of oil without being required to report to us, unless it directly enters the water course."

Chavez said his agency will not attempt to determine how much total oil was spilled and defended the agency's position: "They changed the management of the company, and changed a lot of policies. It would be like us assessing a fine for something they did 10 years ago."

But Chavez said the Plateau managment told him the practices causing the spills were changed 18 months ago.

The problem, Chavez said, was that diesel fuel that did not pass quality control tests for marketing was metered into tanks for processing later.

"When they came upon a batch of fuel that didn't meet quality control, it was pumped back into the day (holding) tanks.

"They didn't know from hour to hour if it would be 5 gallons or 500 gallons," Chaves explained, "A 40-gallon batch sent to the tanks might cause the tank to run over.

"I don't know what the new procedures are — I didn't ask them. I just know they're not spilling anymore." the regulator said.

"They know that if they don't keep the spills from occurring we can take legal and administrative action."

OCD director Ramey said 10 fines were issued statewide during 1980 and 1981 in connection with operation of over 30,000 oil and gas wells.

He said he couldn't recall an incident resulting in an OCD fine of a refinery.

Chavez said inspectors plan to regularly check the Hammond irrigation ditch near the refinery for contamination in addition to the once-a-year inspection of the refinery.

But, he volunteered that the once-a-year checks may be inadequate.

"The spills that occurred at the tanks very easily might not have been detectable by the one-day inspection," he said.

He said the public might overreact to the sight of oil in the ditch. "It is very, very visible. It's dark in color and it spreads out.

"It is like the mole on a pretty girl's face - it's small but it's noticeable," he said.

"I'm not saying we are accepting it. But we don't feel there is any danger by using the water for irrigation because the quantity of oil is so small.

"The water already has insecticides, herbicides and other agricultural chemicals," Chavez noted.

"We're doing the best we can, using the present technology, to keep oil from reaching the ditch." And he explained that Plateau dug a hole Jan. 18 in the bottom of the ditch, and the collected oil will be pumped out. Two or three additional collection holes might be excavated, he said.

Sinks, a chemical engineering graduate of Brigham Young University, said "I was hired here to clean things up," and he said a company policy was started to suspend without pay, or dismiss, employees responsible for spills.

OCD COMPLAINT FORM

UIC ____
OTHER X

COMPLAINT TAKEN BY: C. Gholson DATE: 1-5-82 TIME: 2:00 PM

PERSON COMPLAINING: IN PERSON: ____ PHONE: X

Name: Annette Montoya

Address: EID
724 Animas, Farmington, NM

Phone: 327-9851

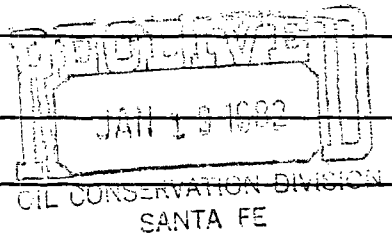
Complaint: A spill in Hammond Ditch behind Plateau Refinery

INVESTIGATION

INVESTIGATOR: J.A. Edmister DATE: 1-5-82 TIME: 2:30 PM

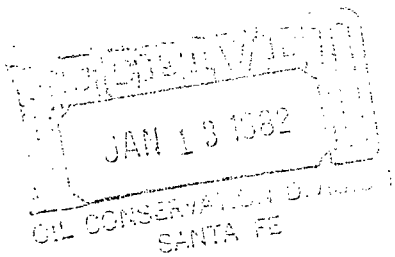
DESCRIBE INVESTIGATION AND FINDINGS: Found an oily substance leaking out of the soil of the bank into Hammond Ditch. Substance was collecting within an area of 500' long. The substance turned reddish brown. Two samples were taken. One at one of the sources of leaking and one of the reddish brown substance. The results of analyzing the samples showed it to be a degraded diesel fuel. The problem was from old diesel fuel that has soaked into the refinery grounds over the years. With

ACTION TAKEN: DATE: TIME:



USE ADDITIONAL SHEET IF NECESSARY

the moisture recently soaking into the ground, the diesel fuel is leaking out. EID out of Farmington, N.M. will handle the situation.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

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

MEMO

DATE: December 28, 1981

TO: Perry Pearce

FROM: Oscar A. Simpson, III

SUBJECT: Plateau Refinery

On September 3, 1981, at 9:00 A.M. a meeting was held with Plateau and the Oil Conservation Division personnel at the Plateau Refinery near Bloomfield, New Mexico. The subject of the meeting was to discuss and rectify Plateau violating their Discharge Plan GWR-1 at the Plateau Refinery.

The outcome of the meeting was as follows:

1. Plateau would update their Discharge Plan GWR-1 and submit it to the OCD for review by the end of October, 1981.

2. Plateau would stop spray irrigating its waste water effluent on the land surface

3. Plateau would drain and not use its two illegal pits on the north side of the Refinery

The status of the above to date:

1. As of this date, the OCD has not received an updated Discharge Plan from Plateau, Inc.

2. An inspection and following report of Plateau Refinery on December 4, 1981, by District III personnel found Plateau still spray irrigating its waste water on the land surface

3. As of this date, the two ponds on the north side of the refinery have not been drained and are still discharging into the San Juan River as verified by an inspection on December 15, 1981, by District III personnel

The discharge does not meet San Juan River standards nor does it meet the standards of N.P.D.S, therefore, I request that appropriate legal action be taken against Plateau Inc.

B4

PLATEAU, INC.

P.O. BOX 26251
ALBUQUERQUE, NEW MEXICO 87125
PHONE 505/262-2221

December 23, 1981

Mr. Joe Ramey, Director
New Mexico Oil Conservation Commission
Morgan Hall
Santa Fe, New Mexico

Dear Mr. Ramey:

At the time of the submittal of the discharge plan for the Plateau refinery at Bloomfield, the refinery was undergoing significant expansion and the information on waste water discharge included in the discharge plan was based upon projections by the company and the construction firm in charge of the expansion.

Since the completion of that activity, Plateau has experienced continued activity in the modification and further alteration of the refinery to meet the ever changing requirements of raw product supply and product demand. As a result of this continuous activity, it is our belief that our discharge plan may no longer be current.

Beginning several months ago, we began the preparation of a supplement to our discharge plan. We intended to include in the plan the analytical results of analysis of water samples collected by your office. These samples were submitted to the State lab and only last week after approximately six weeks we finally have the results. We have collected a sample of discharge from the API separator for complete analysis. This is currently being completed. NEVER SUBMITTED.

We do not believe that any significant amount of waste water escapes the refinery property and we have plans to capture and reuse that small amount which presently seeps from our evaporation ponds. We have also undertaken to spray irrigate a small parcel of our property so as to reduce the volume of water in our evaporation ponds thereby giving the refinery ample storage capacity to carry it through the winter. On August 27, 1981, at a meeting with Bill Turner (American Groundwater Consultants), Oscar Simpson (Oil Conservation Division), and you, we mentioned the spray irrigation being conducted on our property. To the best of our knowledge no runoff from this irrigation occurred to the San Juan River.

We are corresponding with you at this time to make you aware of our activities and the activities at the refinery.

Sincerely,

Dwight J. Stockham

Dwight J. Stockham
Associate Environmental Eng.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

December 4, 1981

Mr. Perry Pearce
Oil Conservation Division
Post Office Box 2088
Santa Fe NM 87501

Re: Plateau Refinery--Improper waste water disposal

Dear Mr. Pearce:

On November 20, 1981, at 9:18 PM, Frank Chavez and I observed Plateau Refinery spraying waste water through sprinklers into an open field. The water was coming off the field, down a dirt road, down an arroyo, to the San Juan River. This is in direct violation of the method of disposal that was outlined in their discharge plan filed with the Division. Oscar Simpson had previously warned them against using such methods of disposal.

We recommend that appropriate legal action be taken.

If you have any questions please call this office.

Yours truly,

Jeff A. Edmister

Jeff A. Edmister
Geologist/Field Representative

JAE:gc

cc: Plateau Refinery
Oscar Simpson
Reading file
Operator file

(32)

Plateau

Date: September 24, 1981

Copy to:

To: File

From: Coleen

Subject: SEPTEMBER 24TH MEETING WITH SENATOR DONISTHORPE AND RESIDENTS ALONG THE HAMMOND DITCH

Attendees: Jose Candelaria, Box 54, Bloomfield
Phil Schofield, Box 41, Bloomfield
Christine Donisthorpe, Box 746, Bloomfield
Ernesto F. Sanchez, Box 731, Bloomfield
Cecil & Alma Schofield, Rt #2, Box 1562, Bloomfield
Bill Turner - American Ground Water Consultants
Dwight Stockham - Plateau
Ken Sinks - Plateau
Chad King - Plateau

Mr. and Mrs. Schofield commented on the fact that several times, early in the morning around 2:00 a.m., they smell a heavy, sweet gaseous odor. Mrs. Donisthorpe lives down from Thirftway and said that usually around 4:00 or 4:30 a.m. she smells a heavy odor like parafin burning. Mr. Candelaria said he was sure this odor was coming from Plateau's refinery.

Mr. Sinks said that the sweet gaseous smell is not typical to refining and if it were a rotton smell like sulfur he could understand it coming from our refinery. Mr. Sinks stated that the next time someone smelled this odor for them to call our shift supervisor. The shift supervisor would then come to their home and try to trace the source of the odor. If it turns out to be coming from the refinery, we will do everything in our power to eliminate it.

The residents along the Hammond Ditch related the story of how their irrigation lines became full of water at night during the months of January and February in 1979 and 1980. Because the Hammond Ditch is turned off in October, the only source of water that came to their mind was Plateau's refinery. Mr. Sinks assured everyone that the refinery never discharged water into the Hammond Ditch.

Mr. Turner, who is employed by Plateau to monitor the flow of any pollutants into or out of the refinery, explained that Plateau was the only refinery complying with the State of New Mexico in filing a discharge plan. He told of the one gallon per minute seepage from the fresh water ponds into the Hammond Ditch in which small amounts of hydrocarbon were present (however, not nearly enough to hurt agriculture). He also stated that when the ditch is full, water seeps into the cobble beds along the ditch. When the water is turned off, this water seeps back out of the cobble beds into the ditch, discharging a relatively large maount of water for a few weeks.

Mr. Sinks said we would consider getting with the Hammond Conservancy District and damming the ditch during the shutoff periods.

The Environmental Improvement Agency sampled our water last week and tests are presently being made for hazardous waste material. Mr. Sinks stated that we use biodegradable and natural elements in treating our waste water.

Mrs. Donishtorpe asked if it would help to have the ditch lined; and, if it was, would our fresh water pond leakage hurt anything.

If the ditch was lined, the fresh water pond leaks would hurt nothing. However, Plateau has spent over $50,000 in the last nine months cleaning and fixing things up at and around the refinery. Lining the ditch would be an expense that Plateau would not be able to incur and still maintain a margin of profit.

The meeting was adjourned and the residents along the Hammond Ditch went with Mr. Turner to see the leak that Southern Union had next to one of their wells.

kce

30

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

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

MEMO

DATE: August 20, 1981

TO: Perry Pearce

FROM: Oscar A. Simpson, III

SUBJECT: Plateau Refinery

On July 7, 1981, a routine inspection was made of Plateau Refinery by Charlie Gholson and myself. The inspection revealed that two illegal ponds were constructed for the use of holding and disposing of wastewater. Hydrocarbons were found on the surface of the ponds with evidence of hydrocarbons being dumped in several locations from the banks of the ponds. The ponds were discharging directly into the San Juan River. Discharging into the River is illegal without a N.P.D.S. Permit.

The two ponds were not part of Plateau's Discharge Plan GWR-1 and their use is in violation of the Plan. If this matter cannot be resolved with Plateau, I may recommend legal action to be taken.

Oscar Simpson III

OIL CONSERVATION DIVISION
SANTA FE

28

Bruce King
GOVERNOR

George S. Goldstein, Ph.D.
SECRETARY

Larry J. Gordon, M.S., M.P.H.
DEPUTY SECRETARY

HEALTH & ENVIRONMENT department

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION
DISTRICT I/4219 MONTGOMERY NE
ALBUQUERQUE, NEW MEXICO 87109
Thomas E. Baca, M.P.H., Director

PHONE: (505) 842-3355

Frank:
Please check this out & give me a report.
JKR

July 29, 1981

Mr. Joe Ramey, Director
Oil Conservation Division
N.M. Energy & Minerals Dept.
P.O. Box 2088
Santa Fe, NM 87501

Dear Mr. Ramey:

I write to advise you of a problem which, I understand, is under the jurisdiction of your Division, pursuant to direction provided recently by the Water Quality Control Commission.

Senator Christine Donisthorpe recently contacted me with regard to the seepage and/or discharge of waste oil into the Hammond Ditch from Plateau Refinery just south of Bloomfield. The problem has apparently existed intermittently for several years, and impacts downstream users some of whom, Senator Donisthorpe tells me, use the Hammond Ditch for a source of drinking water during the summer months. Some 50 - 100 people apparently are at risk from this practice. Additionally, there is the possibility of harm to crops irrigated with this water when it becomes contaminated. The Senator believes the problem is caused by seepage from sludge pits or other impoundments on the Plateau property. However, the Environmental Improvement Division has not recently investigated the problem. It is my understanding that Mr. Joe Candelaria (632-2004) might be able to provide additional information.

Thank you for the assistance of your Division in looking into this problem and working toward its resolution.

Sincerely,

William C. Bennett
District I Environmental Manager

cc: Senator Christine Donisthorpe
Joe Pierce, Chief, Water Pollution Control Bureau
Janet King, Supervising Environmentalist, Farmington

Conversation with Charlie Artesia

said had 1 instance when first turned Hammond ditch on at beginning of Spring

no problem since

old seep gone 2 at ditch below plateau

1 at river below ditch

HEALTH & ENVIRONMENT department

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87503
(505) 827-5271
Thomas E. Baca, M.P.H., Director

Bruce King
GOVERNOR

George S. Goldstein, Ph.D.
SECRETARY

Larry J. Gordon, M.S., M.P.H.
DEPUTY SECRETARY

MEMORANDUM

June 22, 1981

TO: R. L. Stamets, Oil Conservation Division

FROM: Maxine S. Goad, Environmental Improvement Division MSG

Enclosed is the memorandum about Plateau Refinery which we discussed this morning. Since we spoke I have contacted the EID Farmington Field Office. They will be pleased in the future to refer comments about refineries to the Aztec OCD office.

STATE OF NEW MEXICO
HEALTH ENVIRONMENT

MEMORANDUM

Maxine

DATE: June 16, 1981

TO: Maxine Goad, Program Manager
Water Pollution Control Bureau, Groundwater Section

FROM: David A. Tomko, Environmentalist II DAT
District I, Farmington Field Office

SUBJECT: Complaint concerning discharge of Plateau Refinery in Bloomfield

On June 1, 1981, an anonymous complaint was made to this office concerning Plateau Refinery in Bloomfield. The complaint alleged that water from Plateau's sour water evaporation ponds had been sprayed on an adjacent field by a fire monitor (large fixed fire gun). The dates of spraying was said to be May 29, 30, and 31.

I drove to the area at 2:00 p.m. June 1 to investigate the complaint. I saw no active spraying at that time. However, I did see that recent spraying had occurred on a field just east of the gas loading racks on the south side of Sullivan Road. Looking at the field, it appeared that an oil residue was left on the ground surface. The fire monitor was still in place in the field, with fire hoses leading towards the gas loading rack. I could not determine what the hoses connected to. No further action was taken.

If you have any questions, please call me.

DAT:lm
cc: File

24

New Mexico Independent
Bernalillo Co.

E JUN 12 1981

New Mexico Press Clipping Bureau

Plateau plans major expansion

72

ANTHONY C. LEONARD, President, Plateau, Inc., recently announced a $13.6 million expansion project for Plateau's Bloomfield, New Mexico refinery.

The project includes a 56% expansion of the refinery's catalytic reformer from 2,250 to 3,500 barrels per day, and a 50% increase in the capacity of its fluid catalytic cracking unit from 5,000 to 7,500 barrels per day.

Leonard stated that the project, which will begin immediately and is scheduled for Fall, 1982 completion, will also improve Bloomfield's emissions control and energy recovery systems. The contract for engineering and construction has been awarded to Ford, Bacon & Davis of Dallas, Texas.

"This major expansion and modification will enable Plateau to meet the growing demand for unleaded fuel," Leonard said.

He further noted that implementation of the project has grown steadily, and we look forward to completion of this project, which will enable us to meet the many challenges that lie ahead in the energy field," Leonard said.

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

January 28, 1981

Mr. William Carpenter
Plateau, Inc.
4775 Indian School Road, NE
Albuquerque, NM 87110

Dear Mr. Carpenter:

American Ground Water Consultants has the honor to submit herewith our report entitled; "Second Milestone Report on Monitoring Activities at the Bloomfield Refinery Operated by Plateau, Inc."

We regard this report as quantitatively definitive.

We appreciate the opportunity to be of service to Plateau, Inc. in this matter.

Sincerely,

Dr. William M. Turner
President

WMT/sm

(21)

PLATEAU, INC.

4775 INDIAN SCHOOL ROAD. N.E.
ALBUQUERQUE. NEW MEXICO 87110
PHONE 505/262-2222

March 14, 1980

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

Dear Joe:

Our meeting today was most enjoyable and informative. I will be waiting to file your confirmation letter on our Bloomfield refinery oily waste sludge disposal. Curiously enough, our original water discharge and monitoring plan was waiting for me when I returned to the office. I will be reviewing it in the next few weeks and get back to you if I have any questions.

For now, please find enclosed a copy of our initial milestone report on monitoring activities for our permit. Call me if you have any comments or questions on it.

Sincerely,

William C. Carpenter Jr.

William C. Carpenter, Jr.
Senior Staff Engineer

Enclosure

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

(19)

Febraury 7, 1979

Mr. Joe D. Ramey, Director
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

On January 30, 1979, American Ground Water Consultants presented to Plateau, Inc. its report entitled: Milestone Report on Monitoring Activities at the Bloomfield Refinery Operated by Plateau, Inc., San Juan County, New Mexico. This report made specific recommendations for modification of the presently required monitoring program based upon the review of monitoring activities which had been carried on during 1978. It is the purpose of this letter to request that the presently required monitoring program be modified as follows.

1. Neutron logging should be carried out semi-annually in December and June.

2. Temperature logging should be carried out in September and March of each year.

3. ZETA-SP methods should be abandoned because it is no longer possible to carry out effective surveys with the plant growth on the bottom of the ponds.

4. Water-level measurements should be carried out monthly in conjunction with other activities.

5. AQUATRACE studies should be carried out monthly.

Upon your review of our report, should you concur with our recommendations, we would appreciate receiving a letter from you to this effect.

Sincerely,

William M. Turner

Dr. William M. Turner
President

WMT:rt

cc: Mr. J. T. Hearne

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

(18)

January 30, 1979

Mr. John T. Hearne
Vice President of Refining
Plateau, Inc.
Post Office Box 108
Farmington, New Mexico 87401

Dear Mr. Hearne:

American Ground Water Consultants takes great pleasure in submitting herewith our report entitled: Milestone Report on Monitoring Activities at the Bloomfield Refinery Operated by Plateau, Inc., San Juan County, New Mexico.

We regard the results of our interpretation of all monitoring data collected to date and included in this report as quantitatively definitive.

It has been a privelege serving Plateau in this matter.

Sincerely,

William M. Turner

Dr. William M. Turner
President

WMT:rt

refer to Exhibit 3A July 6, 1983 for text

SUMMARY

The results of monitoring activities to date indicate:

1. The Hammond ditch is the principle source of ground-water below the solar-evaporation ponds.

2. At least while the water in the ditch is flowing, the direction of ground-water flow is to the south.

3. There are several anomalously high water levels in the observation holes which would suggest that water is moving towards the ditch. (These ground-water elevations could be caused by errors in the bench-mark elevations.)----------?

4. The saturated zone in the vicinity of the Hammond ditch may extend as far as 600 feet south of the ditch and the saturated cobble may be as much as ten feet thick.

5. The neutron-probe-soil-moisture data indicates a slight increase in soil moisture in the silt beneath the embankment which surrounds the solar-evaporation ponds. A 10 volume-percent moisture increase over a pond area with dimensions of 650 x 250 feet for a depth of 10 feet beneath the pond prepresents an increase of about 1,215,584 gallons of water in storage in the soils. The results of neutron-probe studies are only strictly valid for the embankments of the pond and may not be valid for the inundated foundation of the reservoir.

6. Temperature data suggest that about 10 gpm of seepage is taking place also. The estimates based on an analysis of the temperature data are only valid for the embankment and may not be valid for the inundated reservoir foundation.

7. AQUATRACE methods indicate about 20 gpm seepage into the Hammond ditch and the San Juan River.

8. As of October 26, the Hammond ditch was empty and water in bank storage was emptying into the ditch at about one-half gallon per minute from uptstream to downstream of the refinery. The flow from bank storage must represent a maximum flow into the Hammond ditch.

9. Based upon present information, seepage is presently taking place from the pond at a very low rate.

10. At the location where seepage rates have been estimated, wave action has eroded the bentonite liner away and it is possible that the percolation is greater in the vicinity of the embankments than through the pond bottoms.

11. In conjunction with further monitoring a single water budget study should be made of the pond.

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

17

August 28, 1978

Dr. William M. Turner
American Ground Water Consultants, Inc.
2300 Candelaria Road, N.E.
Albuquerque, New Mexico 87107

Dear Dr. Turner:

As requested in your letter of August 21, 1978, permission is hereby granted for an extension of monitoring time required in GWR-1.

It is my understanding that you are preparing a milestone report on all monitoring activities for the purpose of establishing baseline data. I also understand that data collected in September, 1978, will be included in the report.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

COPY

(16)

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

August 21, 1978

Mr. Joe D. Ramey
Secretary-Director
Oil Conservation Commission
Post Office Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

The discharge permit issued by your office to Plateau, Inc. (GWR-1) requires that monitoring data be submitted to your office within 15 days following its collection.

At present American Ground Water Consultants is preparing a milestone report on all monitoring activities. It is the purpose of this report to establish baseline conditions to which future monitoring data may be compared. For this reason no monitoring data has yet been submitted to your office. We contemplate that the set of data to be collected in September will also be included in the milestone report.

Should this approach meet with the approval of your department, would you please drop me a note to that effect.

Sincerely,

William M. Turner

Dr. William M. Turner
President

AUG 24 1978

Santa Fe

WMT:gek

cc: William Hagler

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

June 5, 1978

Plateau, Inc.
P. O. Box 108
Farmington, New Mexico 87401

Attention: Mr. W. N. Hagler

Re: GWR-1

Gentlemen:

The discharge plan (GWR-1) submitted for the discharge of boiler and cooling tower waters from your Plateau Refinery located in Section 27, Township 29 North, Range 11 West, San Juan County, New Mexico, is hereby approved.

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

Monitoring, as outlined in the discharge plan application, shall be at intervals of two months and results obtained shall be submitted to the Oil Conservation Division within 15 days. After one year of monitoring with satisfactory results, the Director may grant an extension to the frequency of monitoring.

Pursuant to subsection 3-109.G.4. this plan approval is for a period of five years. This approval will expire June 5, 1983, and you should submit an application for new approval in ample time before that date.

If you have any questions, please feel free to call at the above address and telephone number.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

(13)

PETROLEUM PRODUCERS • REFINERS • MARKETERS

PLATEAU, INC.
P. O. Box 108 • Farmington, N. M. 87401
Telephone: Area Code 505 / 325-1921

Plateau®

CLEAN • SILENT • POWER ®

EXECUTIVE OFFICES
1921 Bloomfield Blvd.
Valle Grande Center
Farmington, N.M. 87401

APR 1 1978
CONSERVATION DIV.

April 11, 1978

Mr. Joe D. Ramey, Director
Oil Conservation Commission
State of New Mexico
P. O. Box 2088
Santa Fe, NM 87501

Dear Mr. Ramey:

As you know, Plateau, Inc. formally submitted to the New Mexico Oil Conservation Commission the discharge and monitoring plan for its refinery near Bloomfield, New Mexico on April 6, 1978. Because of poor weather during January and February of this year it was not possible to carry out the final phase of field work necessary to complete the plant in a more timely manner.

At the present time, it is anticipated that our refinery will commence operation in early May of this year. Because of the normal time required to carry out the remaining steps in the permitting procedure, it may develop that the refinery is ready to begin operation before the permit has been issued. Consequently, under the authority granted the NMOCC in Section 3-106 of the New Mexico Water Quality Control Regulations, Plateau, Inc. requests a temporary discharge permit so that we may begin refinery operations and initiate discharge into our solar evaporation ponds.

If at all possible, we would like the date of issuance of the temporary permit to coincide with the beginning of refinery operation to allow a maximum amount of time for the normal permitting procedure to operate and to allow for a maximum amount of time following startup for any remaining details in the permitting procedure to be ironed out.

Your favorable attention to this matter will be greatly appreciated.

Very truly yours,

PLATEAU, INC.

William N. Hagler

WNH/mjs

William N. Hagler, Vice President

cc - Mr. Bruce Gallaher, New Mexico Environmental Improvement Agency

APPLICATION FOR PERMIT

To Discharge Waste Water in the State of New Mexico

(12)

Date Received 4-7-78 File No. GWR-1

1.	Name of applicant: Mailing address:	Plateau, Inc. P.O. Box 108
	City and State:	Farmington, New Mexico 87401
2.	Place of discharge:	Discharge is into a two solar evaporation ponds located in the NE¼, Sec. 27, T. 29 N., R. 11 W.
3.	Type of facility:	Petroleum refinery.
4.	Source of discharge:	Boiler and cooling tower blowdown.
5.	Discharge facility:	Solar evaporation ponds.
6.	Amount of discharge:	29,540 gallons per day.
7.	Method measurement:	In-line orifice meter will be installed.
8.	Receiving aquifer:	None
9.	Depth to aquifer:	Not applicable.
10.	Depth of Receiving zone:	Not applicable.
11.	Chemical quality of discharge water:	TDS is about 4,691 mg/l.
12.	Chemical quality of formation water:	Not applicable.
13.	Surface water bodies within one mile:	San Juan River and the Hammond Ditch.
14.	Flooding potential:	None
15.	Hydrogeology:	See accompanying report.
16.	Monitoring methods:	Neutron logging, Thermonics, Zeta-SP, and Flourocarbon tracers.
17.	Additional statements or explanations:	The result of detailed studies to date indicate: 1. There are no aquifers underlying the location of proposed discharge. 2. In the event of direct discharge into either the San Juan River or the Hammond ditch, no detectable increase in contamination would occur. 3. In addition to the bentonite liner installed in the bottom of the ponds, precipitation of salts from the effluent will provide an additional sealing mechanism.

I, William N. Hagler, affirm that the foregoing statements are true and accurate to the best of my knowledge and belief.

Plateau, Inc., Permitee,

By: W. N. Hagler, VP

Subscribed and sworn to before me this 17th day of October, A.D., 1977.

My commision expires 5-25-81 Melody J. Speer
Notary Public

APPLICATION FOR PERMIT

To Discharge Waste Water in the State of New Mexico

Date Received 4-7-78 File No. GWR-1

1.	Name of applicant: Mailing address:	Plateau, Inc. P.O. Box 108
	City and State:	Farmington, New Mexico 87401
2.	Place of discharge:	Discharge is into a two solar evaporation ponds located in the NE¼, Sec. 27, T. 29 N., R. 11 W.
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8.	Receiving aquifer:	None
9.	Depth to aquifer:	Not applicable.
10.	Depth of Receiving zone:	Not applicable.
11.	Chemical quality of discharge water:	TDS is about 4,691 mg/l.
12.	Chemical quality of formation water:	Not applicable.
13.	Surface water bodies within one mile:	San Juan River and the Hammond Ditch.
14.	Flooding potential:	None
15.	Hydrogeology:	See accompanying report.
16.	Monitoring methods:	Neutron logging, Thermonics, Zeta-SP, and Flourocarbon tracers.
17.	Additional statements or explanations:	The result of detailed studies to date indicate: 1. There are no aquifers underlying the location of proposed discharge. 2. In the event of direct discharge into either the San Juan River or the Hammond ditch, no detectable increase in contamination would occur. 3. In addition to the bentonite liner installed in the bottom of the ponds, precipitation of salts from the effluent will provide an additional sealing mechanism.

I, William N. Hagler, affirm that the foregoing statements are true and accurate to the best of my knowledge and belief.

Plateau, Inc., Permitee,

By: W. N. Hagler, V.P.

Subscribed and sworn to before me this 17th day of October, A.D., 1977.

My commision expires 5-25-81 Melody J. Speer
Notary Public

State of New Mexico
HEALTH and SOCIAL SERVICES DEPARTMENT

MEMORANDUM

To: Plateau Refinery

Date: 3-21-78

From: Tom Young

Subject: water pond

a water pond that holds riverwater was evidently inadequately lined with Bentonite, and seems to be leaking. A gravel layer that is below the pond is saturated and the prior seepage of petroleum products into the gravel layer is now appearing on the embankment wall over the West Hammond ditch and getting into the ditch. Jeff Hull was going to try to get the contractor to fix the pond lining

HSS 950A Form Revised 9/76

State of New Mexico
HEALTH and SOCIAL SERVICES DEPARTMENT

MEMORANDUM

To: File

Date: March 28, 1978

From: Bruce Gallaher

Subject: Plateau Discharge Plan

Wm.
Dr. Turner called and requested our copy of the Plateau Discharge Plan inorder to make additions + corrections within. Will formally submit revised copy next week (?).

State of New Mexico
HEALTH and SOCIAL SERVICES DEPARTMENT

MEMORANDUM

To: Plateau Refinery

Date: 3-21-78

From: Ann Young

Subject: water pond

a water pond that holds riverwater was evidently inadequately lined with Bentonite, and seems to be leaking. A gravel layer that is below the pond is saturated and the prior seepage of petroleum products into the gravel layer is now appearing on the embankment wall over the West Hammond ditch and getting into the ditch. Jeff Hull was going to try to get the contractor to fix the pond lining before he wrote to the Oil Conservation Commission about the problem.

HSS 950A Form Revised 9/76

State of New Mexico
HEALTH and SOCIAL SERVICES DEPARTMENT

MEMORANDUM

To: Plateau Refinery

Date: 3-21-78

From: Ann Young

Subject: water pond

a water pond that holds riverwater was evidently inadequately lined with Bentonite, and seems to be leaking. A gravel layer that is below the pond is saturated and the prior seepage of petroleum products into the gravel layer is now appearing on the embankment wall over the West Hammond ditch and getting into the ditch. Jeff Hull was going to try to get the contractor to fix the pond lining before he wrote to the Oil Conservation Commission about the problem

HSS 950A Form Revised 9/76

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

December 13, 1977

COPY

American Ground Water Consultants, Inc.
2300 Candelaria Road, N.E.
Albuquerque, New Mexico 87107

Attention: Dr. William M. Turner

Dear Dr. Turner:

I am attaching for your information a copy of a letter from Mr. Bruce Gallaher of the NMEIA.

This letter is self-explanatory and should aid you in the submission of your discharge plan for the Plateau Refinery.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd
enc.

STATE OF NEW MEXICO
JERRY APODACA, *Governor*
FERNANDO E.C. DE BACA, *Executive Director*
ENVIRONMENTAL IMPROVEMENT AGENCY
P.O. Box 2348 - Crown Building
Santa Fe, New Mexico 87503
(505) 827-5271 Ext. 371

HEALTH and SOCIAL SERVICES department

(9)

December 8, 1977

Mr. Joe D. Ramey
Secretary-Director
New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico 87503

Dear Mr. Ramey:

I have completed a cursory review of Plateau's preliminary discharge plan submitted to O.C.C. for the Bloomfield refinery. It must be noted that this review considered hydrogeologic and water quality conditions exclusively as they pertained to the operation of the new solar evaporation ponds.

The plan reflects considerable employment of state-of-the art pond seepage detection and monitoring techniques. Plateau and its consultants should be commended for their use of a multiple faceted monitoring approach. Most of these techniques are intended for examination of the unsaturated zone beneath the ponds.

It is clear that protection of the ground water resource is the prime motivation behind the discharge plan requirement. Before the plan's adequacy in safeguarding the saturated zone can be completely assessed, additional information and clarification is needed. This information should be included within a modified discharge plan when formal submission transpires. The following material is required pursuant to sections 3-106C and 3-107 of the Water Quality Control Commission Regulations.

Information Lacking from 3-106C Requirements

1. (3-106C.3) "depth to and TDS concentration of the ground water most likely to be affected by the discharge".

2. (3-106C.4) "Flooding potential at the site".

General Ground Water Information

1. Although it is inferred, no specific evidence of the shallow ground water flow direction is presented. This is critical in locating the saturated zone monitoring wells. A water table contour map could be such supportive evidence.

2. Similarly, it is unknown what is the background quality of the ground water most likely to be affected.

Construction and Location of Monitor Wells

1. The applicant should provide detailed construction information about the proposed ground water sampling wells. This should include bore hole diameter, total depth, screened or perforated interval(s), and completion depth in the saturated zone. This information should be provided with specific reference to known or projected static water levels. Will these wells be capable of being pumped?

2. Presently, all monitoring efforts seem to be focused on pond #1. Is it the intention of Plateau not to monitor solar evaporation in pond #2? If so, the company should provide discussion as to the worth of the present design for pond 2 seepage evaluation.

Sampling, Reporting, and Contingency

1. It is unclear what the sampling frequency of the proposed ground water sampling wells. What parameters will be analyzed for?

2. Does the applicant intend to periodically submit to the NMEIA or NMOCC results obtained via the monitoring program? The frequency should be set forth.

3. If the monitoring indicates significant seepage and related deterioration of the ground water system, what remedial measures can be implemented to cope with the failure?

I hope these comments help both the O.C.C. and Plateau, Inc. at this preliminary stage.

Sincerely,

Bruce Gallaher

Bruce Gallaher,
Geohydrologist

BG/jeb

cc: EIA Files

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

(6)

September 30, 1977

Mr. William Hagler
Vice President of Marketing
Plateau, Inc.
Post Office Box 108
Farmington, New Mexico 87401

Dear Mr. Hagler:

American Ground Water Consultants has the pleasure to submit herewith our report entitled: Discharge and Monitoring Plan for a Refinery Operated by Plateau, Inc. near Bloomfield, New Mexico.

This document has been prepared to support Plateau's application to the New Mexico Oil Conservation Commission for a permit to discharge waste water from their refinery at Bloomfield, New Mexico.

It has been a privelege serving Plateau in this matter.

Sincerely,

William M. Turner

Dr. William M. Turner
President

WMT:ajs

(5)

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

May 23, 1977

Mr. Joe D. Ramey
Secretary-Director
Oil Conservation Commission
Post Office Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

This letter is intended to aknowledge receipt of your letter of May 13, 1977 to Mr. William Hagler, Vice President of Marketing for Plateau, Inc..

American Ground Water Consultants is presently in the process of preparing the discharge plan required by the New Mexico Water Quality Control Commission Regulations and hope to have it to you by early July.

Sincerely,

William M. Turner

Dr. William M. Turner
President

WMT:rrt

cc: William Hagler
James Weith
Joe Pierce

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

May 13, 1977

CERTIFIED - RETURN
RECEIPT REQUESTED

COPY

Mr. William Nagler
Vice President of Marketing
Plateau, Inc.
P. O. Box 108
Farmington, New Mexico 87401

Dear Mr. Nagler:

I am in receipt of your letter of 4-29-77 from American Ground Water Consultants, Inc. concerning your intent to make a new contaminant discharge and to alter an existing discharge from the Plateau Refinery in Section 27, Township 29 North, Range 11 West, San Juan County, New Mexico.

After reviewing the information submitted with the letter, it is apparent that a discharge plan approval will be required. Therefore, pursuant to New Mexico Water Quality Control Commission requirements, you are hereby notified that a discharge plan as defined in Section 1-101.I is required of the Plateau Refinery.

This notification of Discharge plan required is pursuant to Sections 3-104 and 3-106.

Yours very truly,

JOE D. RAMEY,
Secretary-Director

JDR/dr

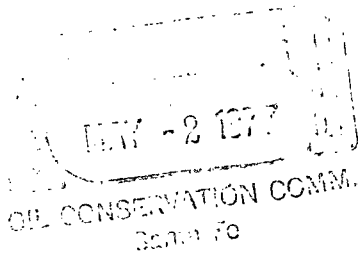
cc: Mr. James Weith
Dr. William N. Turner
Mr. Joe Pierce

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

(3)

April 29, 1977



Mr. Joe D. Ramey
Secretary-Director
New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico 87503

Dear Mr. Ramey:

American Ground-Water Consultants has been retained by Plateau, Inc. to assist them in complying with the New Mexico Water Quality Control Commission Regulations (NMWQCCR) as ammended.

At the present time, we should like to bring to your attention plans by Plateau to make a new contaminant discharge and to alter the character or location of an existing discharge from their refinery as required by Part 1, Section 201 (A) of the Regulations. The information required under 1-201 (B) is as follows:

1. Plateau, Inc.

2. Post Office Box 108
   Farmington, New Mexico 87401

3. NE 1/4, Sec. 27, T. 29 N., R. 11 W. The refinery location is shown in figure 1. The discharge will be made into two three-acre evaporation ponds.

4. The quality of the wastewater from the boilers and from the existing and new cooling towers as well as the quality of the composite wastewater stream is given in table 1. As additional data becomes available, it will be forwarded to the OCC.

5. Total discharge will be 29,540 gallons per day.

6. Discharge is intended to begin in August, 1977.

In compliance with Part 1, Sections 202 (A) and (B) of the Regulations, we are enclosing herewith, a copy of the Water and Drainage Diagram for the Plateau refinery. This diagram shows the path of water flow from its source, the San Juan River, through all existing and newly constructed facilities to its ultimate disposal in the evaporation ponds. In addition, this diagram shows the normal (N) and design (D) rates of water flow throughout the refinery.

Plateau, Inc. is presently preparing its application for a discharge permit as required by Part 3, Section 104 of the Regulations and intends to submit its application to the OCC in the near future.

Should you have any questions regarding this notice, please direct your inquiries in writing to Mr. William Hagler, Vice President of Marketing for Plateau with copies going to Mr. James Weith, also of Plateau, and myself.

Sincerely,

William M. Turner

Dr. William M. Turner
President

WMT jj

cc: William Hagler, Plateau
James Weith, Plateau
Joseph Pierce, N.M.E.I.A. (w/o Water and Drainage Diagram)

(2)

STATE OF NEW MEXICO

EIA - Water Quality Division
Permits & Regulations Section
P. O. Box 2348
Santa Fe, NM 87503
(505) 827-5271

HEALTH and SOCIAL SERVICES department

MEMORANDUM

TO: Mr. Joe D. Ramey, Secretary - Director
Oil Conservation Commission
State Land Office Building
Santa Fe, NM 87503

FROM: Maxine S. Goad, Program Manager
Permits & Regulations

Maxine S. Goad

DATE: April 25, 1977

RE: Plateau Refinery near Bloomfield

Since the Oil Conservation Commission administers New Mexico Water Quality Control Commission regulations (including the new ground water regulations) as they apply to oil and gas facilities, the following information received from Richard Mitzelfelt of the Environmental Improvement Agency field office in Farmington is provided to you:

Plateau, Inc., P. O. Box 108, Farmington, NM 87401 operates a refinery on the south side of the San Juan River approximately one mile south and one mile east of Bloomfield. Existing wastewater ponds are associated with the refinery, and new ponds are under construction. The facility is located near the edge of a bluff, with the San Juan River at the bottom of the bluff. EIA Farmington field office personnel have, on several occasions, observed an oily discharge seeping out of the bluff above the river and below the Plateau facility. To date the oily discharge has not been observed entering the river.

If you want further information on the oily discharges observed by EIA field personnel, please let me know.

MSG:jm

cc: Joseph Pierce, Chief, Water Quality Division
Richard Mitzelfelt, EIA, Farmington

DISCHARGE AND MONITORING PLAN FOR A REFINERY OPERATED BY PLATEAU, INC. NEAR BLOOMFIELD, NEW MEXICO

SUBMITTED TO

PLATEAU INC.

FARMINGTON, NEW MEXICO

4/1/82
Plateau had asked EPA for a Waiver of RCRA monitoring based on this document, and Kent Boatler commented on it. See file "Resource Conservation and Recovery Act" (green) RCRA Comments

SUBMITTED BY

AMERICAN GROUND WATER CONSULTANTS, INC.

CONSULTING GROUND WATER GEOLOGISTS & HYDROLOGISTS

ALBUQUERQUE, NEW MEXICO

No Fine For Plateau; State Lacks Report

Refinery Shifts Stand, Confirms Past Spills

Photos by Neil Jacobs
Story by Rex Graham

The Plateau Inc. refinery looks like a giant pipe organ overlooking the San Juan River south of Bloomfield.

A tall, flame tipped stack hums like a bass flute as "flue gas" exits the plant. White flags of steam hiss noisily from dozens of leaky connections and swirl around the steel columns before soaking into the parched air.

Water drips incessantly from the equipment, creating an incongruous feeling of a London drizzle under the New Mexico sky.

The immediately visible signs of the 500,000 gallons of crude oil converted daily into gasoline, diesel fuel and other products are an occasional oily splotch on the ground and a paint thinner smell.

Another more disturbing sign is an oil slick in the Hammond irrigation ditch next to the refinery that leads to the San Juan River.

The apparent source of the problem oil was a series of routine fuel oil spills at the refinery over an unknown number of years.

Because of the old spills, plant manager Ken Sinks said the company is now being "haunted" by the oil slowly seeping into the ditch. The slick was reported anonymously to regulatory officials in December and later identified as a substandard grade of diesel fuel, according to Oil Conservation Division officials.

Sinks said the ditch has been dammed off to keep the oil from continuing on to the river, and the collected material will be removed.

State and local OCD regulators said the company will not be fined because the company has no record of how much oil was spilled, and fines are linked to the size of the spill.

Sinks told the Daily Times Jan. 5: "As far as I know, we haven't had any spills here at all." But in a Jan. 26 interview at the refinery he conceded "We know we contributed to it, but we don't know how much." He said he has been manager of the refinery for two years.

Frank Chavez, district manager of the OCD in Aztec, said even though the refinery routinely allowed substandard quality diesel fuel to overflow a holding tank - a practice he called "unacceptable" - no action will be taken, or fines levied in connection with the incidents.

Sinks said the practice resulted in spills of 200 to 250 gallons of diesel fuel, "two or three times a week, for years, and years and years."

But OCD officials said the refinery will not be required to fill out a report on the spills "because they (Plateau) don't have good enough records to determine how much was spilled.

"(Plateau) doesn't know how many times their tanks overflowed, or how much overflowed each time," explained Chavez. "We don't know how many years it has gone on, and we are not estimating how much has gone" into the ground.

"It may not have been that much."

Sinks and Plateau maintenance supervisor Don Wimsatt said not all the spilled fuel soaked into the ground, and some was recovered.

And, Wimsatt said, "We found one tank with a leak in the bottom."

Asked if the OCD's policies amounted to letting the company police itself, the divisional director for the OCD in Santa Fe, Joe Ramey, said, "We rely on all the operators to police themselves. We make periodic inspections and are more than happy to prosecute."

Ramey said each spill can be "up to 1,050 gallons of oil without being required to report to us, unless it directly enters the water course."

Chavez said his agency will not attempt to determine how much total oil was spilled and defended the agency's position: "They changed the management of the company, and changed a lot of policies. It would be like us assessing a fine for something they did 10 years ago."

But Chavez said the Plateau managment told him the practices causing the spills were changed 18 months ago.

The problem, Chavez said, was that diesel fuel that did not pass quality control tests for marketing was metered into tanks for processing later.

"When they came upon a batch of fuel that didn't meet quality control, it was pumped back into the day (holding) tanks.

"They didn't know from hour to hour if it would be 5 gallons or 500 gallons," Chaves explained, "A 40-gallon batch sent to the tanks might cause the tank to run over.

"I don't know what the new procedures are — I didn't ask them. I just know they're not spilling anymore." the regulator said.

"They know that if they don't keep the spills from occurring we can take legal and administrative action."

OCD director Ramey said 10 fines were issued statewide during 1980 and 1981 in connection with operation of over 30,000 oil and gas wells.

He said he couldn't recall an incident resulting in an OCD fine of a refinery.

Chavez said inspectors plan to regularly check the Hammond irrigation ditch near the refinery for contamination in addition to the once-a-year inspection of the refinery.

But, he volunteered that the once-a-year checks may be inadequate.

"The spills that occurred at the tanks very easily might not have been detectable by the one-day inspection," he said.

He said the public might overreact to the sight of oil in the ditch. "It is very, very visible. It's dark in color and it spreads out.

"It is like the mole on a pretty girl's face - it's small but it's noticeable," he said.

"I'm not saying we are accepting it. But we don't feel there is any danger by using the water for irrigation because the quantity of oil is so small.

"The water already has insecticides, herbicides and other agricultural chemicals," Chavez noted.

"We're doing the best we can, using the present technology, to keep oil from reaching the ditch." And he explained that Plateau dug a hole Jan. 18 in the bottom of the ditch, and the collected oil will be pumped out. Two or three additional collection holes might be excavated, he said.

Sinks, a chemical engineering graduate of Brigham Young University, said "I was hired here to clean things up," and he said a company policy was started to suspend without pay, or dismiss, employees responsible for spills.

File Plateau (blue) General re discharge plan

MSS Gallaher ✓.

Joe Pierce

NOTICE OF PUBLICATION

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

SANTA FE, NEW MEXICO

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following proposed discharge plan has been submitted for approval to the Director of the Oil Conservation Division, P. O. Box 2088, State Land Office Building, Santa Fe, New Mexico 87501, telephone: 505-827-3260.

Plateau, Inc., P. O. Box 108, Farmington, New Mexico 87401, proposes to discharge 29,540 gallons per day of boiler and cooling tower water into two solar evaporation ponds located in the NE/4, Section 27, Township 29 North, Range 11 West, San Juan County, New Mexico. Total dissolved solids of the discharged water is 4,691 mg/l. and the applicant states that no ground water will be affected.

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 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 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 the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 20th day of April, 1978.

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

Joe D. Ramey

JOE D. RAMEY

Director

S E A L

(blue) general re discharge plan

MSQ ✓
Gallaher

PETROLEUM PRODUCERS • REFINERS • MARKETERS

PLATEAU, INC.

P. O. Box 108 • Farmington, N. M. 87401
Telephone: Area Code 505 / 325-1921

Plateau ®

CLEAN • SILENT • POWER ®

EXECUTIVE OFFICES

1921 Bloomfield Blvd.
Valle Grande Center
Farmington, N.M. 87401

April 11, 1978

RECEIVED
APR 17 1978
WATER POLLUTION
CONTROL DIVISION

Mr. Joe D. Ramey, Director
Oil Conservation Commission
State of New Mexico
P. O. Box 2088
Santa Fe, NM 87501

Dear Mr. Ramey:

As you know, Plateau, Inc. formally submitted to the New Mexico Oil Conservation Commission the discharge and monitoring plan for its refinery near Bloomfield, New Mexico on April 6, 1978. Because of poor weather during January and February of this year it was not possible to carry out the final phase of field work necessary to complete the plant in a more timely manner.

At the present time, it is anticipated that our refinery will commence operation in early May of this year. Because of the normal time required to carry out the remaining steps in the permitting procedure, it may develop that the refinery is ready to begin operation before the permit has been issued. Consequently, under the authority granted the NMOCC in Section 3-106 of the New Mexico Water Quality Control Regulations, Plateau, Inc. requests a temporary discharge permit so that we may begin refinery operations and initiate discharge into our solar evaporation ponds.

If at all possible, we would like the date of issuance of the temporary permit to coincide with the beginning of refinery operation to allow a maximum amount of time for the normal permitting procedure to operate and to allow for a maximum amount of time following startup for any remaining details in the permitting procedure to be ironed out.

Your favorable attention to this matter will be greatly appreciated.

Very truly yours,

PLATEAU, INC.

WNH/mjs

William N. Hagler, Vice President

cc - Mr. Bruce Gallaher, New Mexico Environmental Improvement Agency ✓

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

September 30, 1977

Mr. William Hagler
Vice President of Marketing
Plateau, Inc.
Post Office Box 108
Farmington, New Mexico 87401

Dear Mr. Hagler:

American Ground Water Consultants has the pleasure to submit herewith our report entitled: Discharge and Monitoring Plan for a Refinery Operated by Plateau, Inc. near Bloomfield, New Mexico.

This document has been prepared to support Plateau's application to the New Mexico Oil Conservation Commission for a permit to discharge waste water from their refinery at Bloomfield, New Mexico.

It has been a privelege serving Plateau in this matter.

Sincerely,

William M. Turner

Dr. William M. Turner
President

WMT:ajs

Submitted to OCD
+ copy given to EIB
4/6/78

APPLICATION FOR PERMIT

To Discharge Waste Water in the State of New Mexico

Date Received _____ File No. _____

1.	Name of applicant: Mailing address: City and State:	Plateau, Inc. P.O. Box 108 Farmington, New Mexico 87401
2.	Place of discharge:	Discharge is into a two solar evaporation ponds located in the NE¼, Sec. 27, T. 29 N., R. 11 W.
3.	Type of facility:	Petroleum refinery.
4.	Source of discharge:	Boiler and cooling tower blowdown.
5.	Discharge facility:	Solar evaporation ponds.
6.	Amount of discharge:	29,540 gallons per day.
7.	Method measurement:	In-line orifice meter will be installed.
8.	Receiving aquifer:	None
9.	Depth to aquifer:	Not applicable.
10.	Depth of Receiving zone:	Not applicable.
11.	Chemical quality of discharge water:	TDS is about 4,691 mg/l.
12.	Chemical quality of formation water:	Not applicable.
13.	Surface water bodies within one mile:	San Juan River and the Hammond Ditch.
14.	Flooding potential:	None
15.	Hydrogeology:	See accompanying report.
16.	Monitoring methods:	Neutron logging, Thermonics, Zeta-SP, and Flourocarbon tracers.
17.	Additional statements or explanations:	The result of detailed studies to date indicate: 1. There are no aquifers underlying the location of proposed discharge. 2. In the event of direct discharge into either the San Juan River or the Hammond ditch, no detectable increase in contamination would occur. 3. In addition to the bentonite liner installed in the bottom of the ponds, precipitation of salts from the effluent will provide an additional sealing mechanism.

RECEIVED
APR 06 1978
WATER POLLUTION
CONTROL DIVISION

I, William N. Hagler, affirm that the foregoing statements are true and accurate to the best of my knowledge and belief.

Plateau, Inc., Permitee,

By: W. N. Hagler, V.P.

Subscribed and sworn to before me this 17th day of October, A.D., 1977.

My commision expires 5-25-81 _____, Notary Public

STATE OF NEW MEXICO
JERRY APODACA, *Governor*
FERNANDO E.C. DE BACA, *Executive Director*
ENVIRONMENTAL IMPROVEMENT AGENCY
P.O. Box 2348 - Crown Building
Santa Fe, New Mexico 87503
(505) 827-5271 Ext. 371

HEALTH and SOCIAL SERVICES department

December 8, 1977

Mr. Joe D. Ramey
Secretary-Director
New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico 87503

Dear Mr. Ramey:

I have completed a cursory review of Plateau's preliminary discharge plan submitted to O.C.C. for the Bloomfield refinery. It must be noted that this review considered hydrogeologic and water quality conditions exclusively as they pertained to the operation of the new solar evaporation ponds.

The plan reflects considerable employment of state-of-the art pond seepage detection and monitoring techniques. Plateau and its consultants should be commended for their use of a multiple faceted monitoring approach. Most of these techniques are intended for examination of the unsaturated zone beneath the ponds.

It is clear that protection of the ground water resource is the prime motivation behind the discharge plan requirement. Before the plan's adequacy in safeguarding the saturated zone can be completely assessed, additional information and clarification is needed. This information should be included within a modified discharge plan when formal submission transpires. The following material is required pursuant to sections 3-106C and 3-107 of the Water Quality Control Commission Regulations.

Information Lacking from 3-106C Requirements

1. (3-106C.3) "depth to and TDS concentration of the ground water most likely to be affected by the discharge".

2. (3-106C.4) "Flooding potential at the site".

Brimhall, Ron
4 Corners Geological Society Memoir, 1973

Cretaceous + Tertiary Rocks of the Southern Colorado Plateau

sellers

General Ground Water Information

1. Although it is inferred, no specific evidence of the shallow ground water flow direction is presented. This is critical in locating the saturated zone monitoring wells. A water table contour map could be such supportive evidence.

2. Similarly, it is unknown what is the background quality of the ground water most likely to be affected.

Construction and Location of Monitor Wells

1. The applicant should provide detailed construction information about the proposed ground water sampling wells. This should include bore hole diameter, total depth, screened or perforated interval(s), and completion depth in the saturated zone. This information should be provided with specific reference to known or projected static water levels. Will these wells be capable of being pumped?

2. Presently, all monitoring efforts seem to be focused on pond #1. Is it the intention of Plateau not to monitor solar evaporation in pond #2? If so, the company should provide discussion as to the worth of the present design for pond 2 seepage evaluation.

Sampling, Reporting, and Contingency

1. It is unclear what the sampling frequency of the proposed ground water sampling wells. What parameters will be analyzed for?

2. Does the applicant intend to periodically submit to the NMEIA results obtained via the monitoring program? The frequency should be set forth.

3. If the monitoring indicates significant seepage and related deterioration of the ground water system, what remedial measures can be implemented to cope with the failure?

I hope these comments help both the O.C.C. and Plateau, Inc. at this preliminary stage.

Sincerely,

Bruce Gallaher

Bruce Gallaher,
Geohydrologist

BG/jeb

cc: EIA Files

Plateau Refinery (pink) general

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

May 23, 1977

Mr. Joe D. Ramey
Secretary-Director
Oil Conservation Commission
Post Office Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

This letter is intended to aknowledge receipt of your letter of May 13, 1977 to Mr. William Hagler, Vice President of Marketing for Plateau, Inc..

American Ground Water Consultants is presently in the process of preparing the discharge plan required by the New Mexico Water Quality Control Commission Regulations and hope to have it to you by early July.

Sincerely,

William M. Turner

Dr. William M. Turner
President

WMT:rrt

cc: William Hagler
James Weith
Joe Pierce ✓

RECEIVED
MAY 25 1977
WATER QUALITY SECTION

Joe ✓
Maxine ✓

Joe ✓ Maxine ✓ File - Plateau (permits) general

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

May 13, 1977

CERTIFIED - RETURN
RECEIPT REQUESTED

COPY

Mr. William Hagler
Vice President of Marketing
Plateau, Inc.
P. O. Box 108
Farmington, New Mexico 87401

Dear Mr. Hagler:

I am in receipt of your letter of 4-29-77 from American Ground Water Consultants, Inc. concerning your intent to make a new contaminant discharge and to alter an existing discharge from the Plateau Refinery in Section 27, Township 29 North, Range 11 West, San Juan County, New Mexico.

After reviewing the information submitted with the letter, it is apparent that a discharge plan approval will be required. Therefore, pursuant to New Mexico Water Quality Control Commission requirements, you are hereby notified that a discharge plan as defined in Section 1-101.I is required of the Plateau Refinery.

This notification of Discharge plan required is pursuant to Sections 3-104 and 3-106.

Yours very truly,

JOE D. RAMEY,
Secretary-Director

JDR/dr

cc: Mr. James Weith
Dr. William M. Turner
✓Mr. Joe Pierce

RECEIVED
MAY 17 1977
WATER QUALITY SECTION

Plateau, Inc. (pink) general

Maxine

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 29, 1977

Mr. Joe D. Ramey
Secretary-Director
New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico 87503

Dear Mr. Ramey:

American Ground-Water Consultants has been retained by Plateau, Inc. to assist them in complying with the New Mexico Water Quality Control Commission Regulations (NMWQCCR) as ammended.

At the present time, we should like to bring to your attention plans by Plateau to make a new contaminant discharge and to alter the character or location of an existing discharge from their refinery as required by Part 1, Section 201 (A) of the Regulations. The information required under 1-201 (B) is as follows:

1. Plateau, Inc.

2. Post Office Box 108
   Farmington, New Mexico 87401

3. NE 1/4, Sec. 27, T. 29 N., R. 11 W. The refinery location is shown in figure 1. The discharge will be made into two three-acre evaporation ponds.

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5. Total discharge will be 29,540 gallons per day.

6. Discharge is intended to begin in August, 1977.

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Plateau, Inc. is presently preparing its application for a discharge permit as required by Part 3, Section 104 of the Regulations and intends to submit its application to the OCC in the near future.

Should you have any questions regarding this notice, please direct your inquiries in writing to Mr. William Hagler, Vice President of Marketing for Plateau with copies going to Mr. James Weith, also of Plateau, and myself.

Sincerely,

William M. Turner

Dr. William M. Turner
President

WMT jj

cc: William Hagler, Plateau
James Weith, Plateau
Joseph Pierce, N.M.E.I.A. (w/o Water and Drainage Diagram)

Table 1. Ordinary chemical analyses of water from the Plateau refinery located near Bloomfield, New Mexico (results in milligrams per litre where applicable).

Source	Cooling Tower	Boilers	Weighted Composite	Standard
Calcium	380	0	314.9	
Magnesium	122	0	101.3	
Sodium	1892	2500	1955.4	
Chloride	600	600	600	250
Sulfate	1000	1665	1113.9	600
Bicarbonate	250	0	207.2	
Carbonate	0	85	14.6	
Iron	3.5	0.0	2.9	1.0
Phosphorous	4.9	16.1	6.8	
Zinc	1.0	0	0.8	10.0
Chromium	0.04	0	0.03	0.05
Sulfite	0	30	5.1	
Nitrate	nil	Tr	nil	10.0
pH	8.0	12.0	8.7	6-9
Total Dissolved Solids	4953.4	5001.1	4961.6	1000
Temp. (^{o}F)	98	175	111	

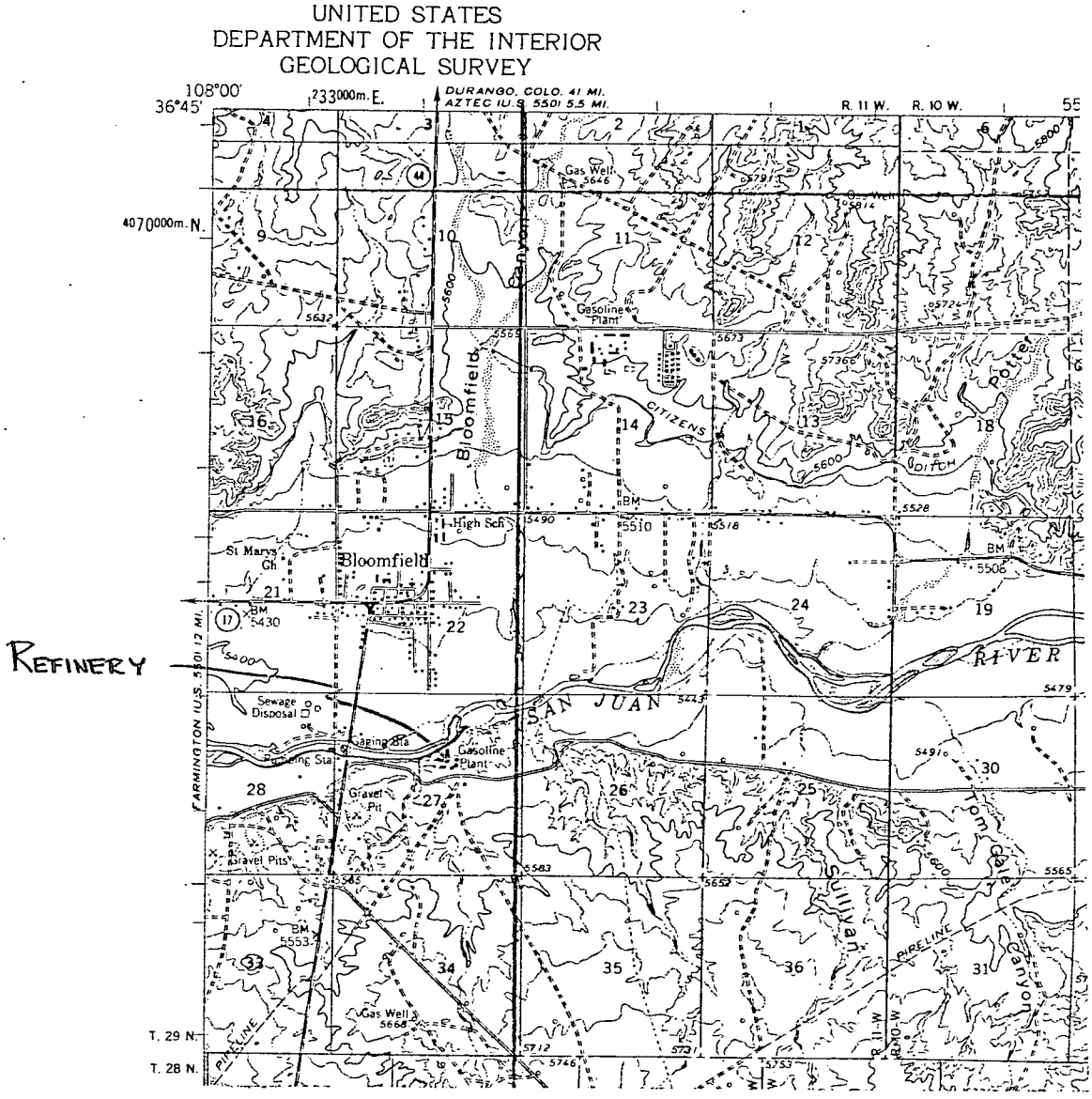

Figure 1. Map showing the location of the Plateau refinery near Bloomfield, New Mexico.