GW - 001

GENERAL CORRESPONDENCE

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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 minor recapture 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	181.7		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

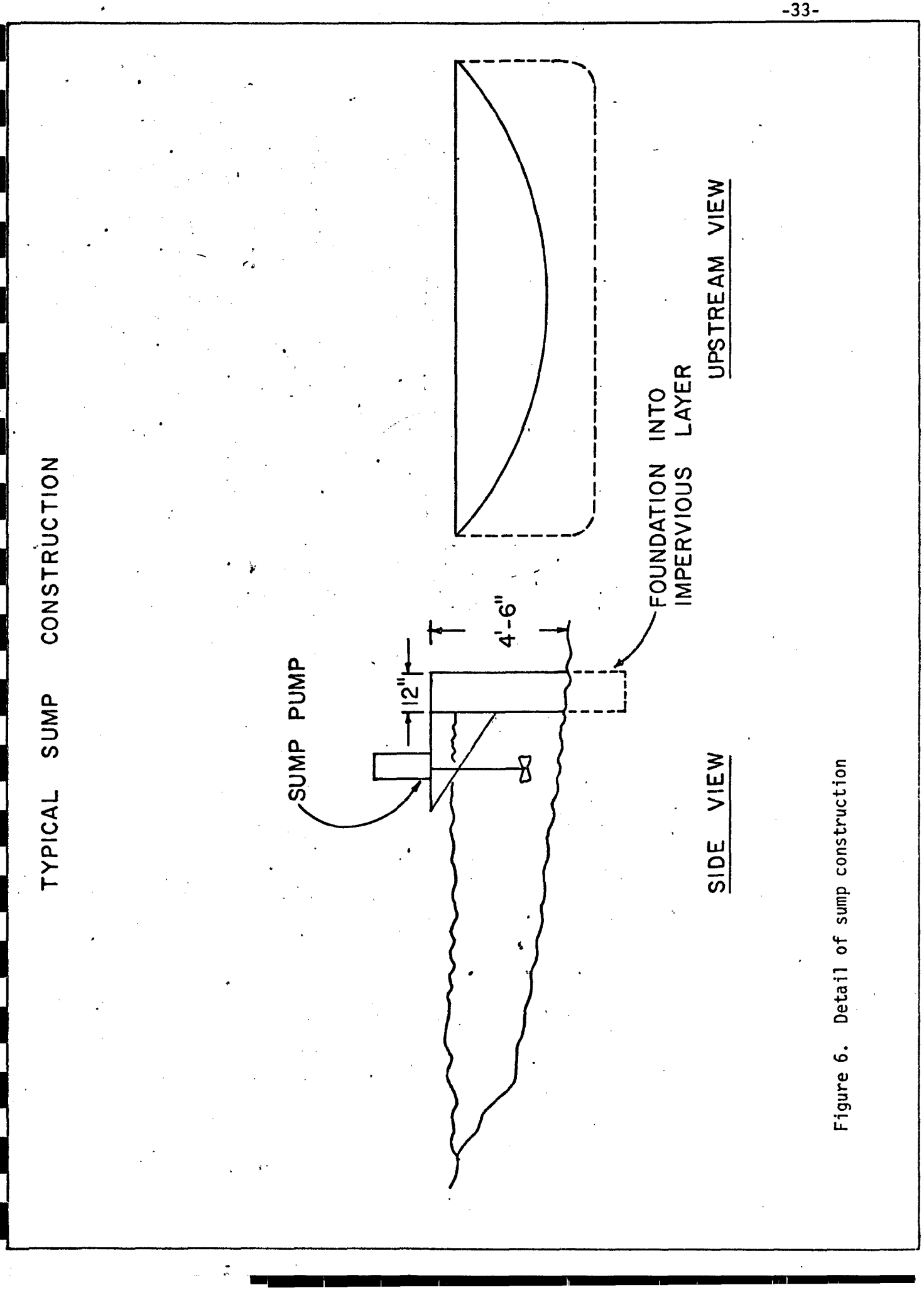

Figure 6. Detail of sump construction

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 PLAIN

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
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

.0012 mg/L

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

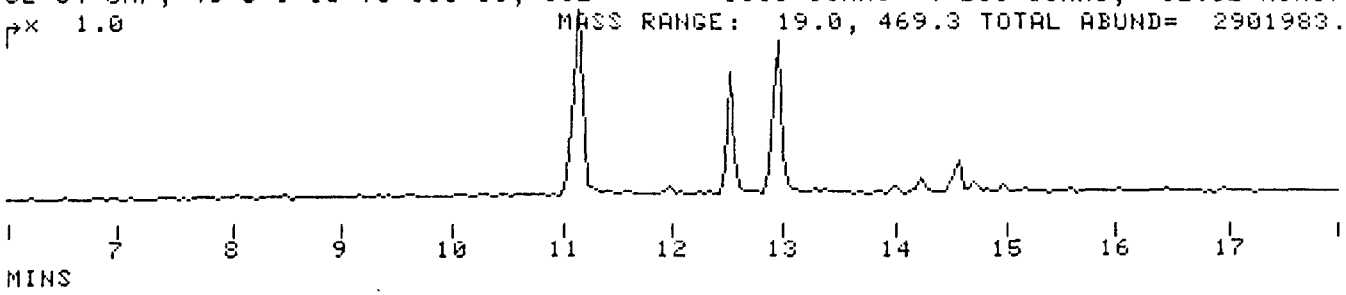
Pollutant	Concentration (ug/liter)
1. 2-chlorophenol	ND
2. 2,4-dichlorophenol	ND
3. 2,4-dimethylphenol	530
4. 4,6-dinitro-o-cresol	ND
5. 2,4-dintrophenol	ND
6. 2-nitrophenol	ND
7. 4-nitrophenol	ND
8. P-chloro-M-Cresol	ND
9. Pentachlorophenol	ND
10. Phenol	1950
11. 2,4,6-trichlorophenol	ND
12. O-&M-Cresol	2080

1.9 mg/L (.005)

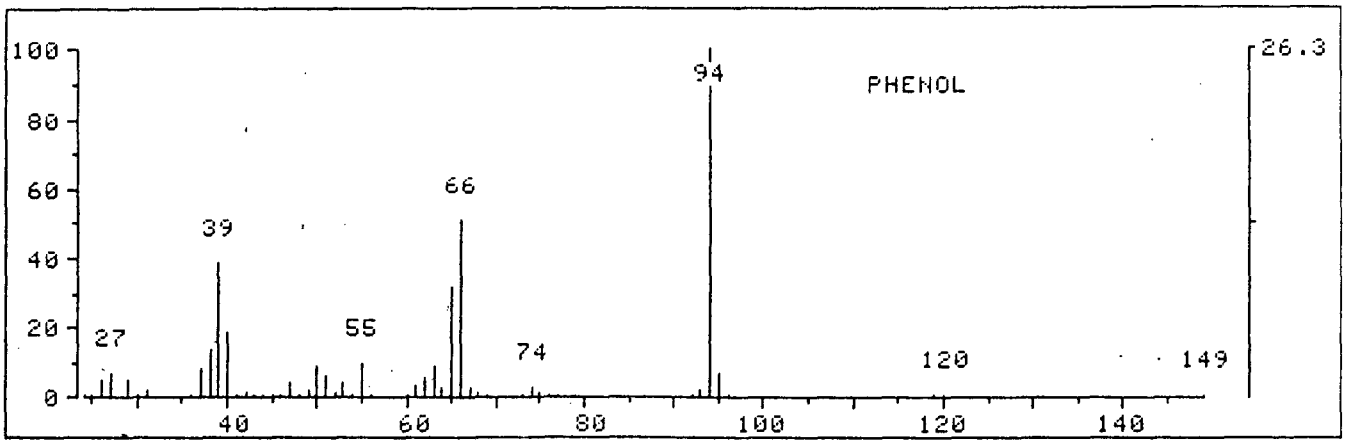
GC/MS Fraction - Pesticides

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



PLATEAU - 978; ACID FRACTION
SE 54 CAP; 40/3 @ 10 TO 300/30; 3UL
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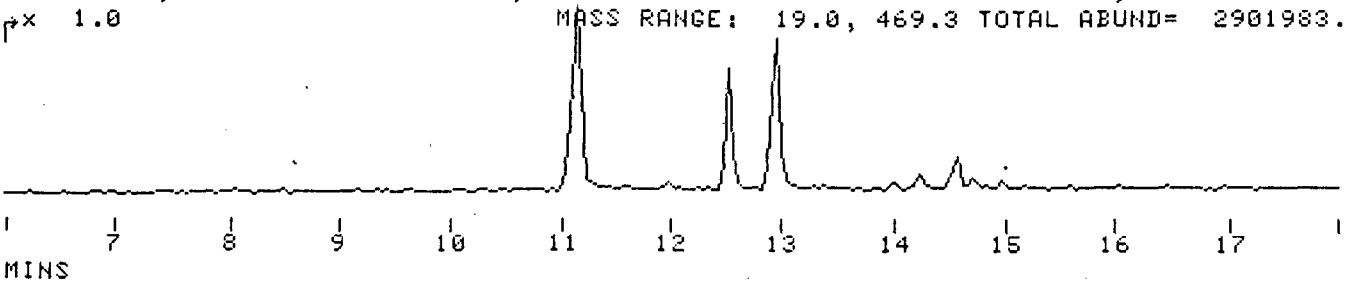
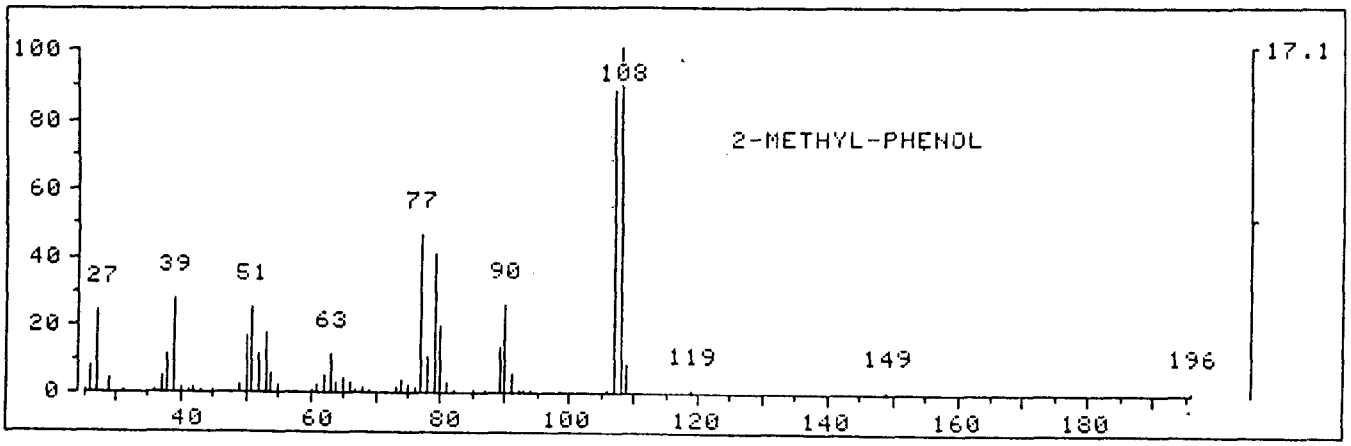
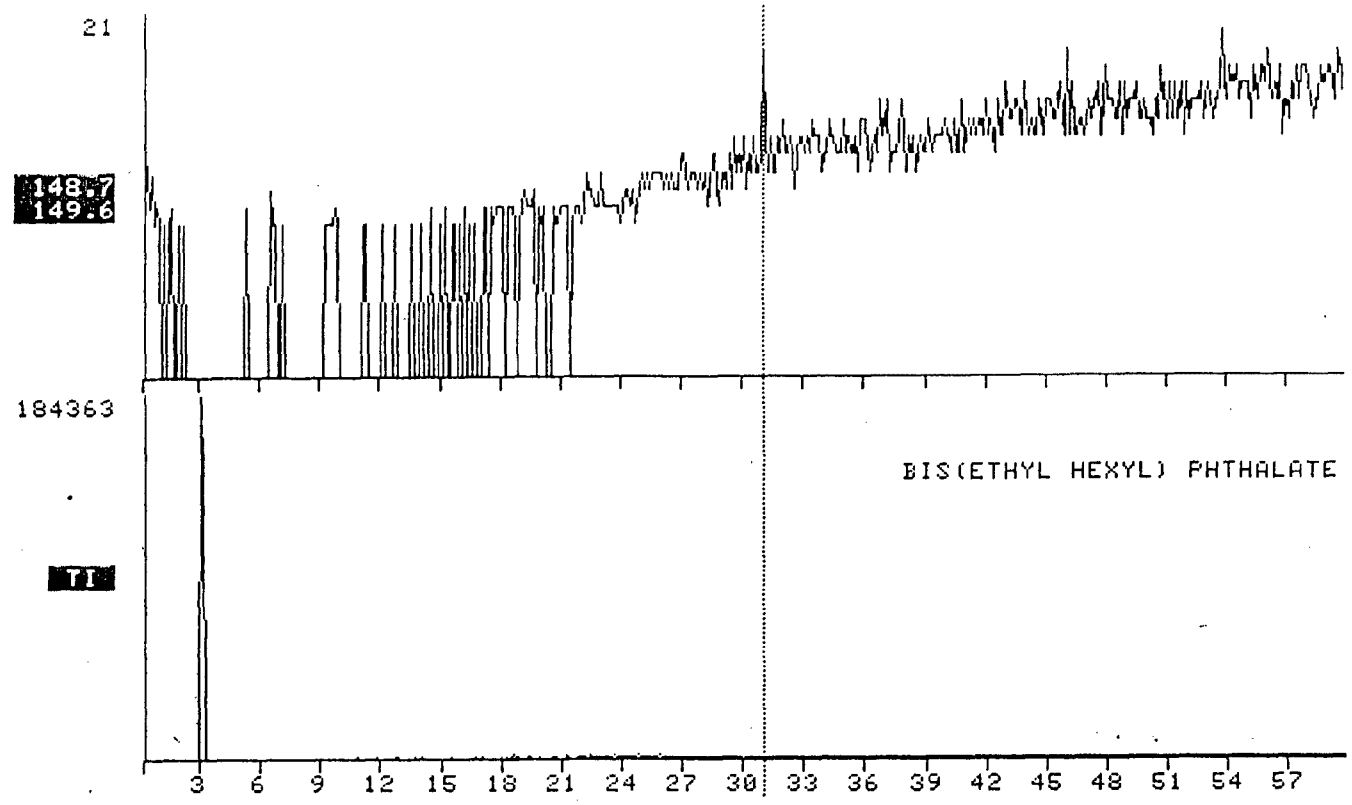


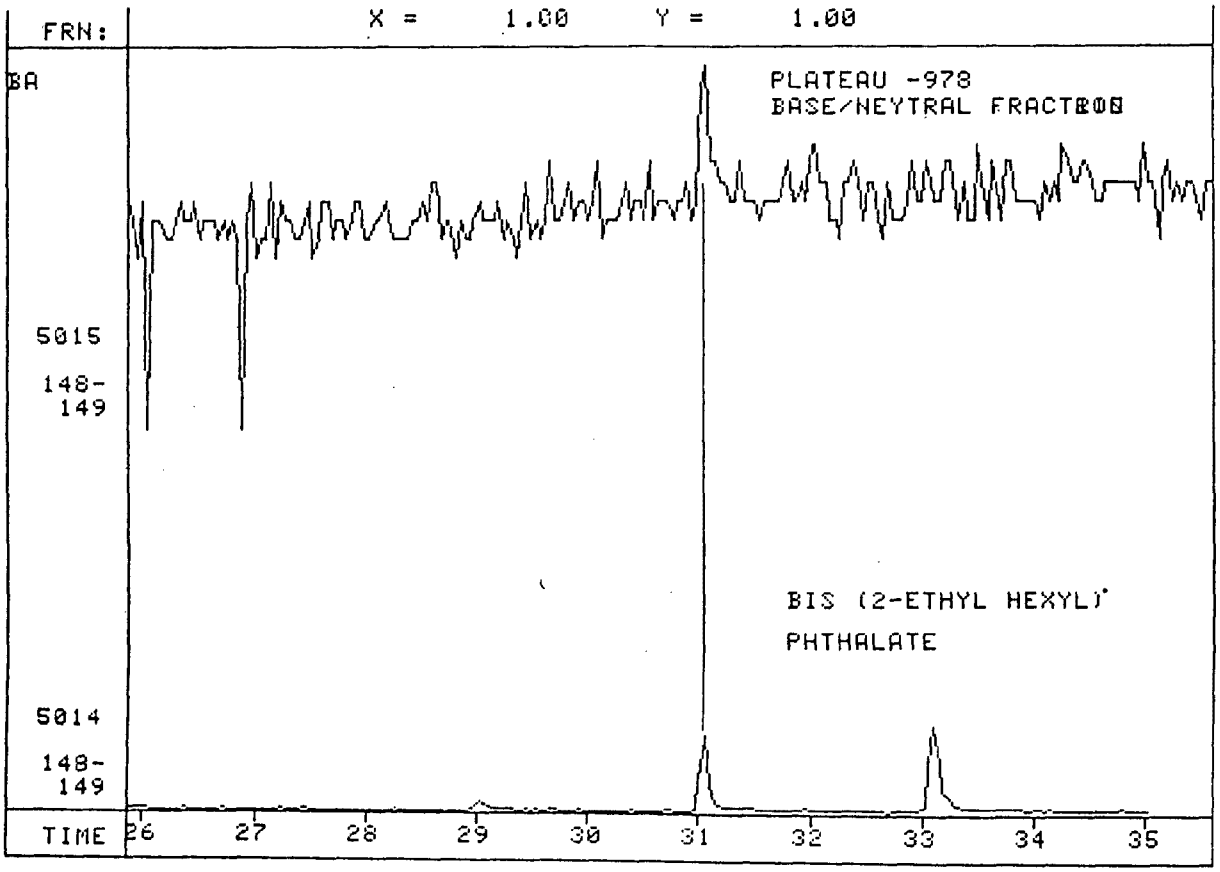
AVERAGED SPECTRUM * BASE PK/ABUND: 108.2/ 32000. -282 -288 + 285



NAME PLATEAU-978; BASE/NEUTRAL FRACTION
MISC SE54 CAP; 40/3 @ 10 TO 300/30; 3UL

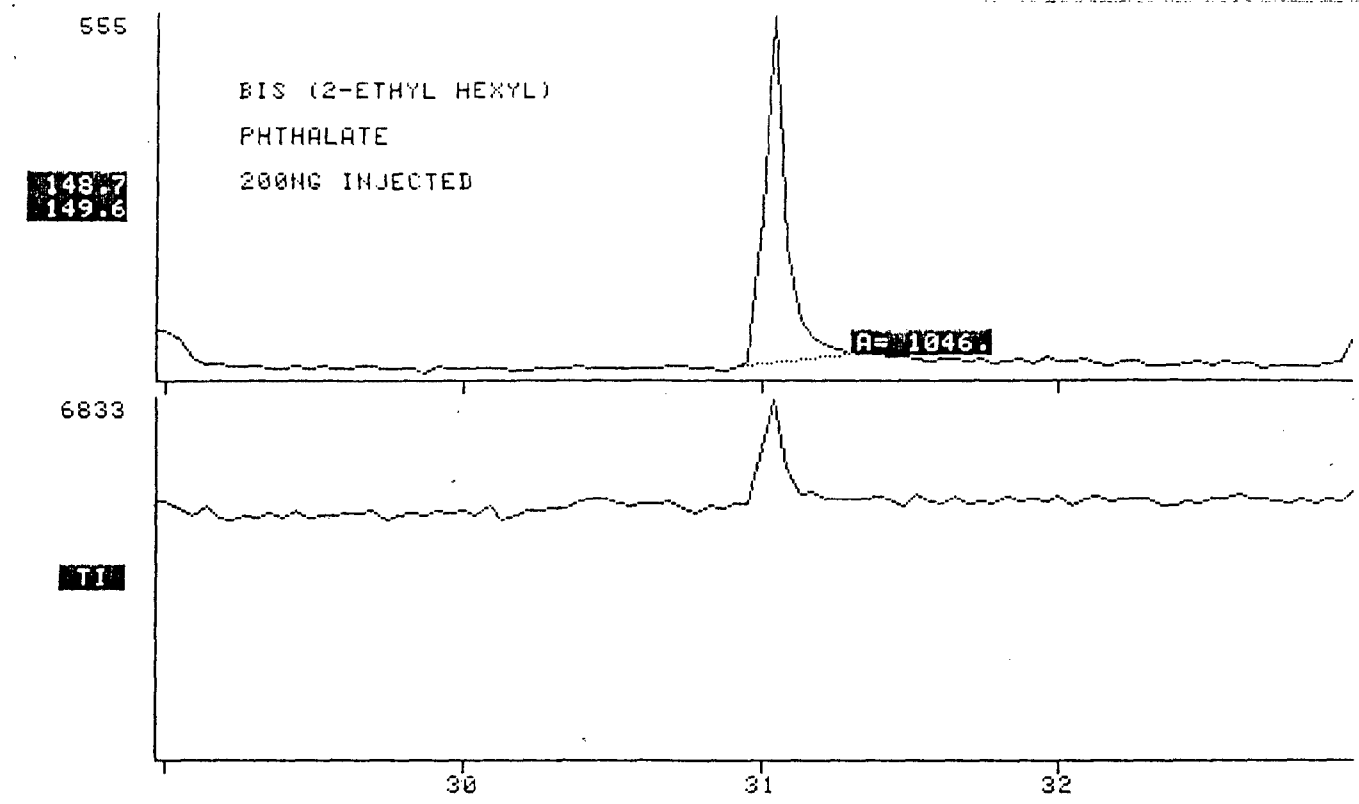
FRN 5015



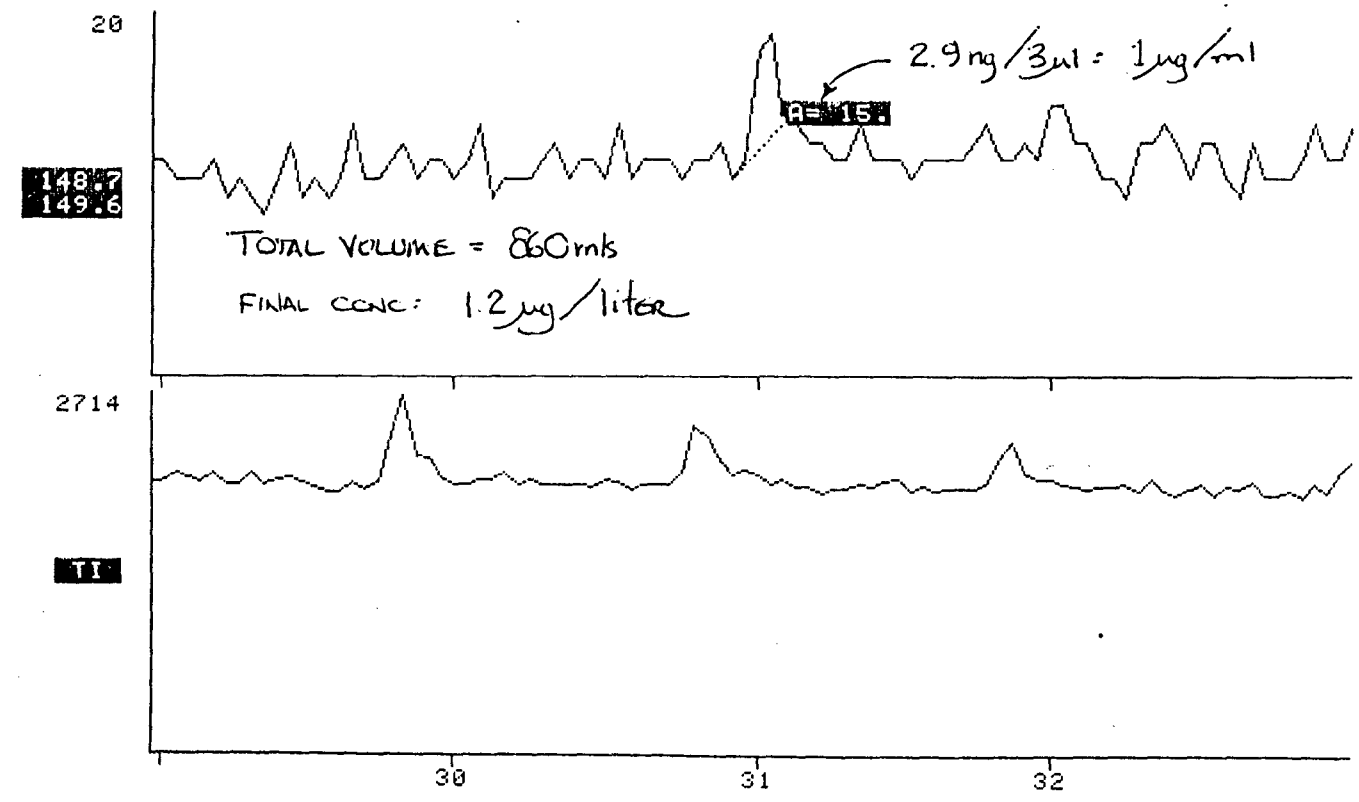


NAME BASE/NEUTRAL STANDARDS - SUPELCO #4-8818,9,20,21
MISC SE54 CAP; 40/3 @ 10 TO 300/30; 1UL EACH

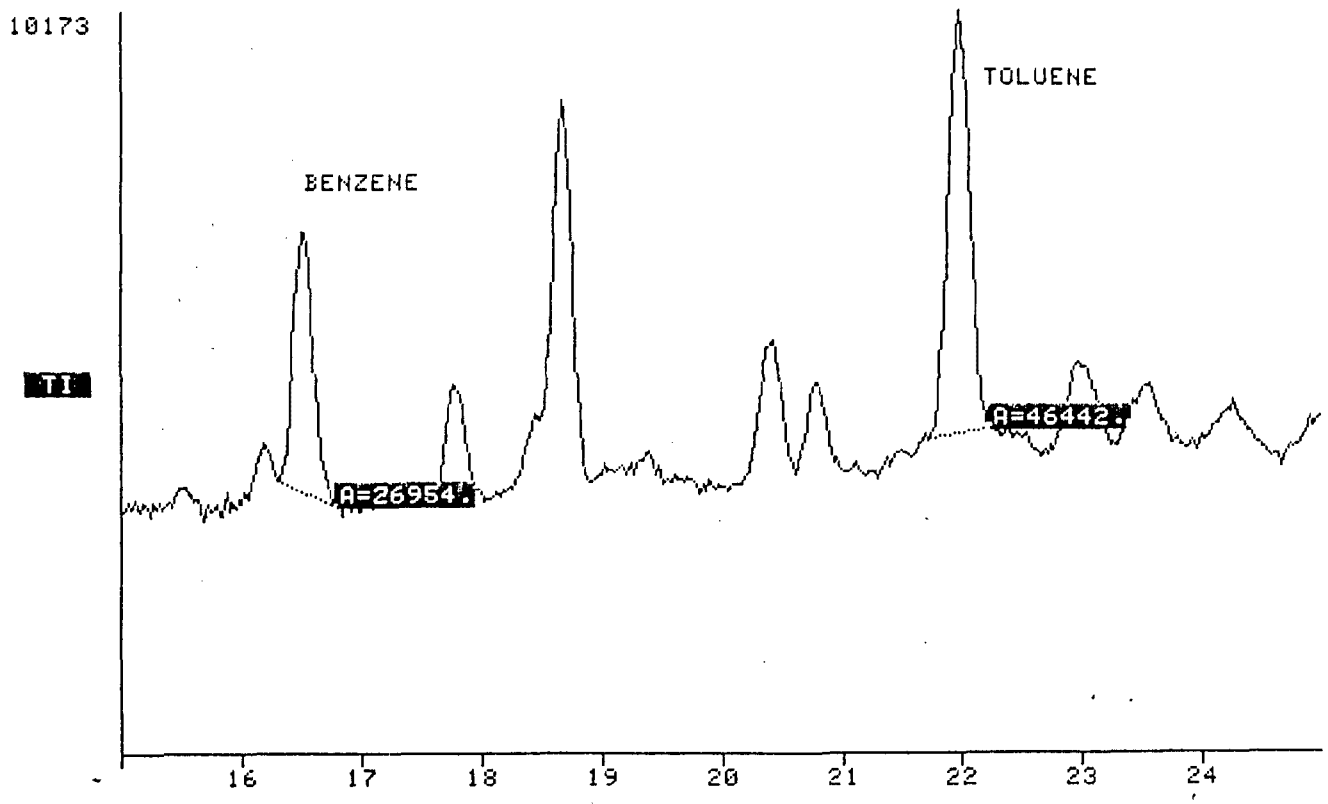
FRN 5014



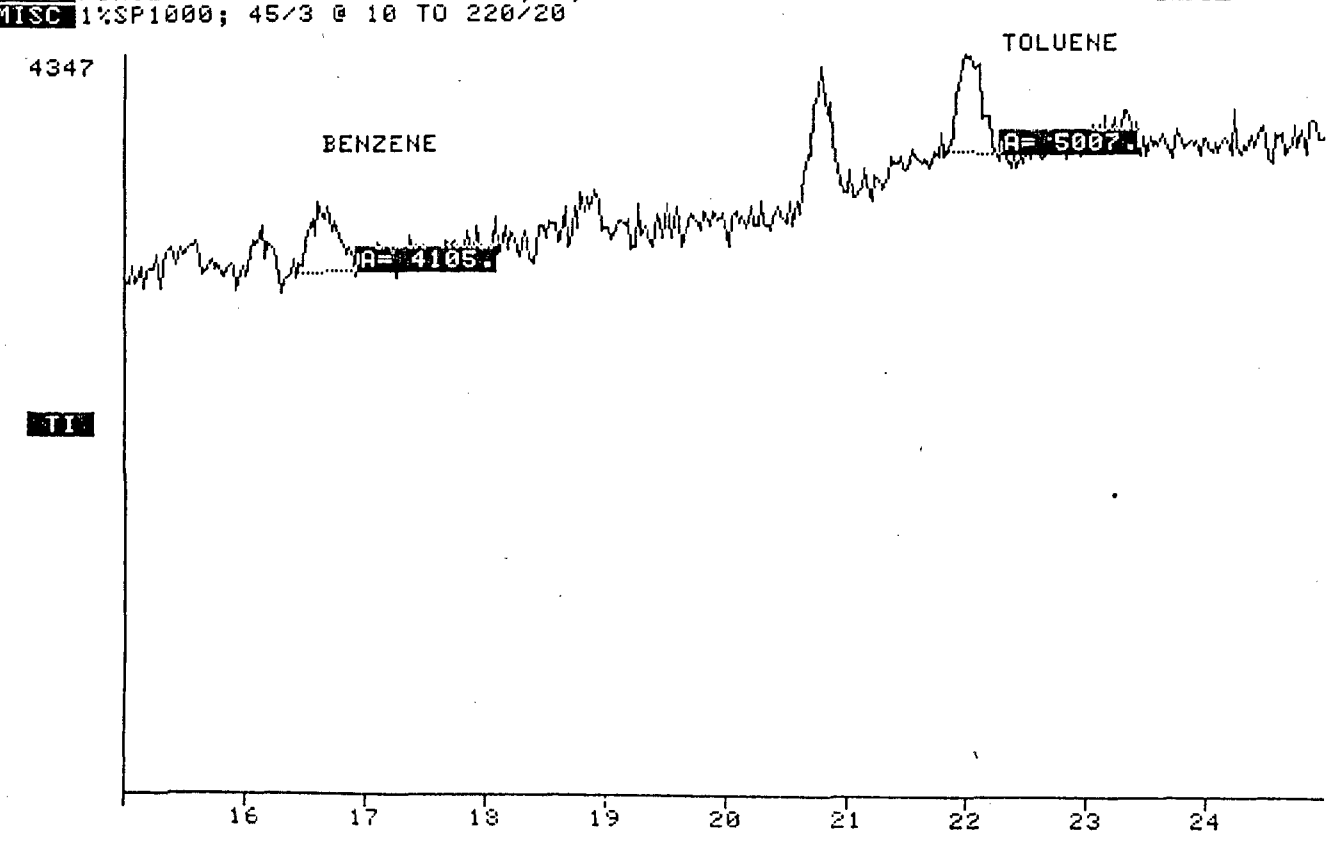
NAME PLATEAU-978; BASE/NEUTRAL FRACTION FRN 5015
MISC SE54 CAP; 40/3 @ 10 TO 300/30; 3UL



NAME PLATEAU-978; PURGE AND TRAP; 10ML + 10UL STDS
MISC 1%SP1000; 45/3 @ 10 TO 220/20
FRN 5013

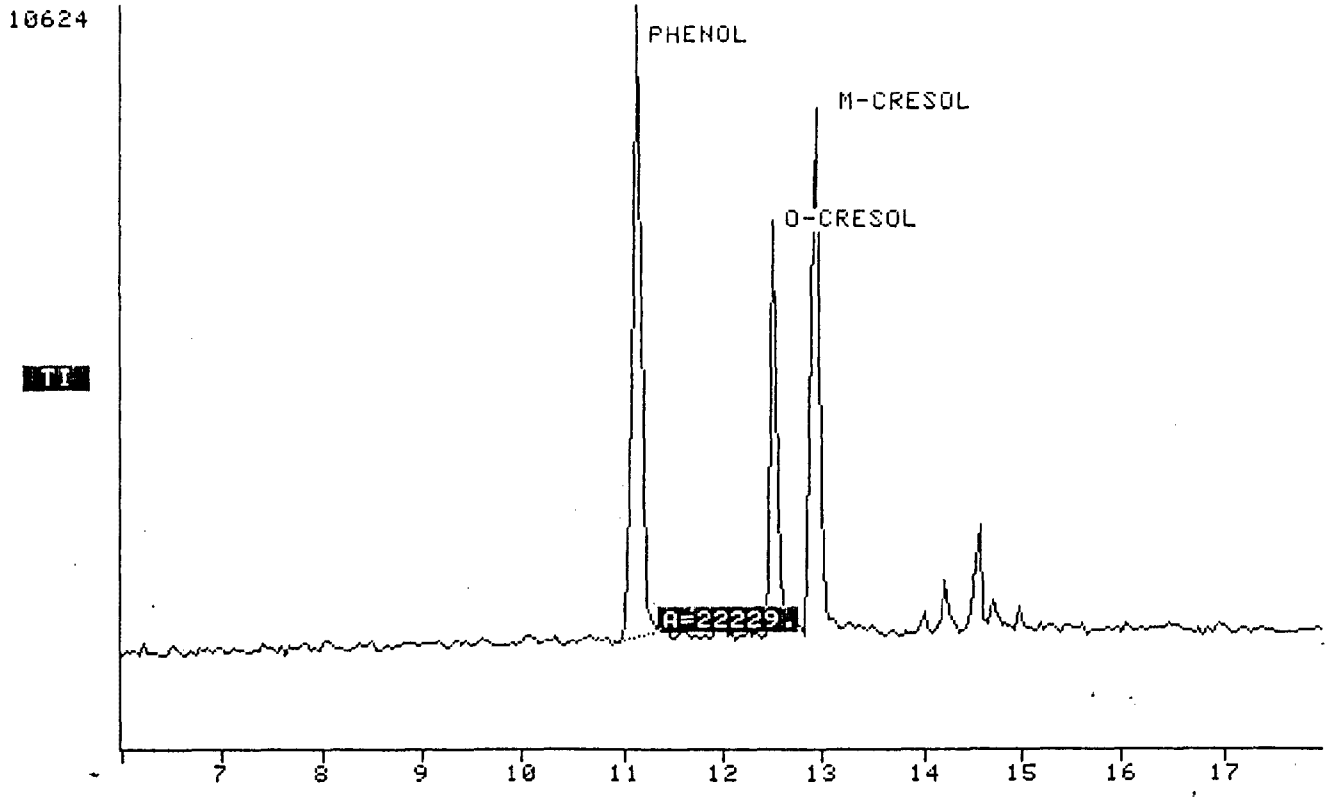


NAME PURGE AND TRAP STANDARDS A, B, C
MISC 1%SP1000; 45/3 @ 10 TO 220/20
FRN 5011



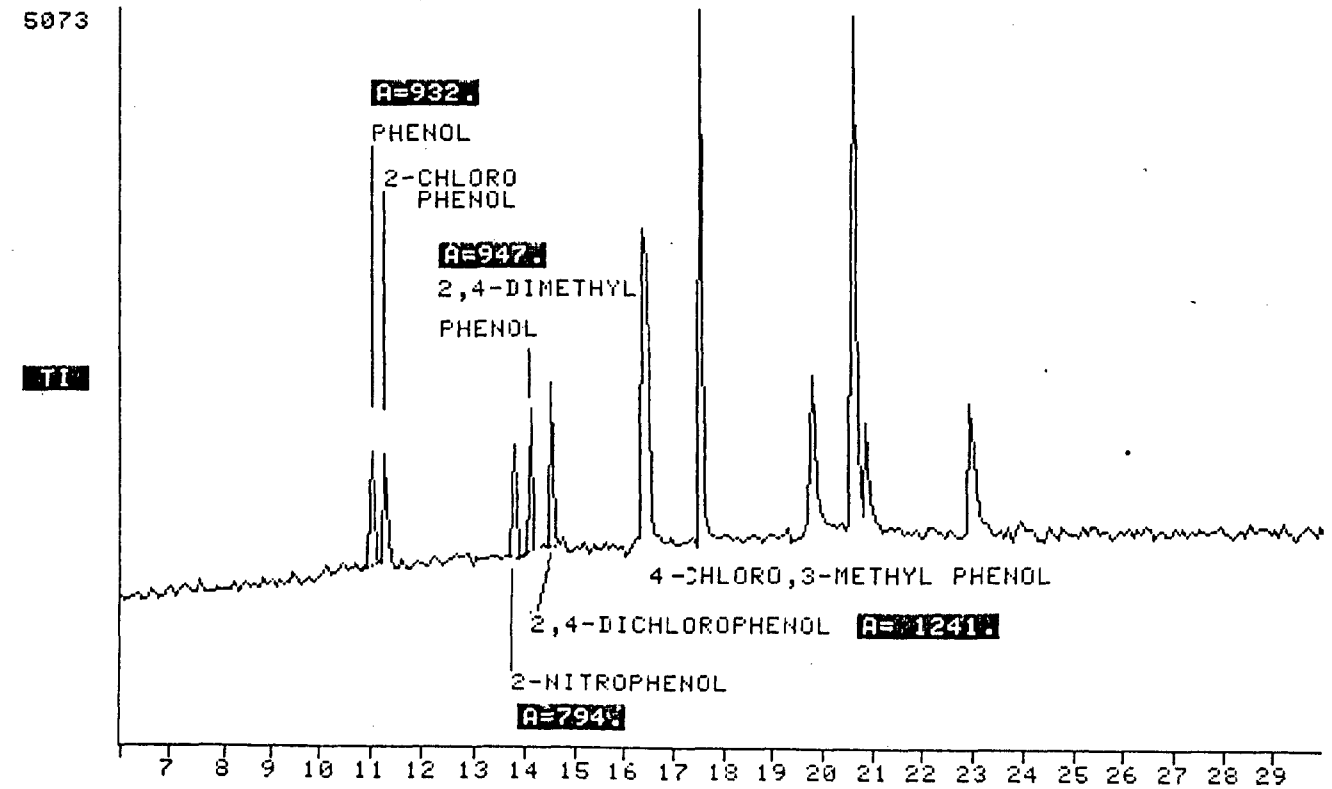
NAME PLATEAU - 978; ACID FRACTION
MISC SE 54 CAP; 40/3 @ 10 TO 300/30; 3UL

FRN 5016



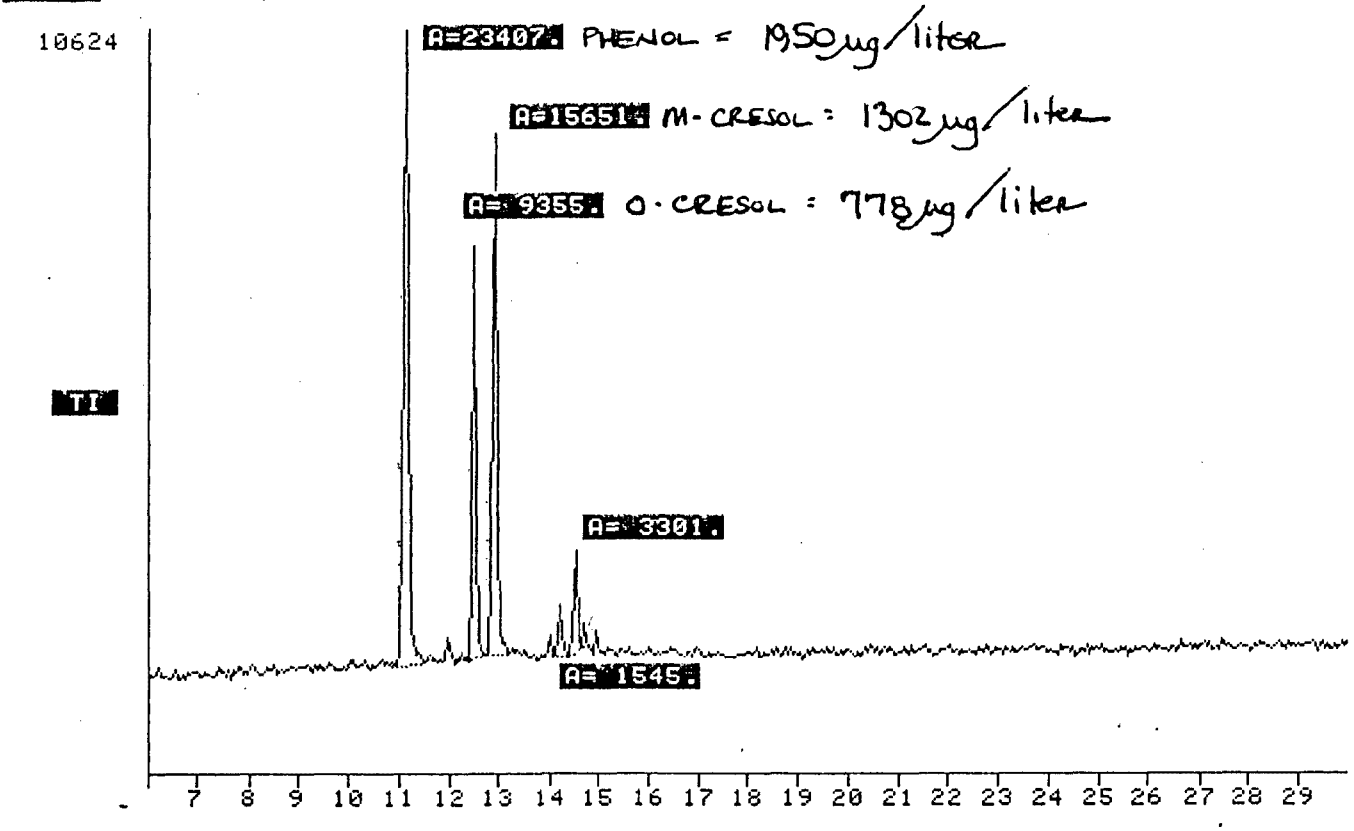
NAME PHENOL STANDARDS; SUPELCO #4-8810
MISC SE54 CAP; 40/3 @ 10 TO 300/30; 1UL OF 20

FRN 5017



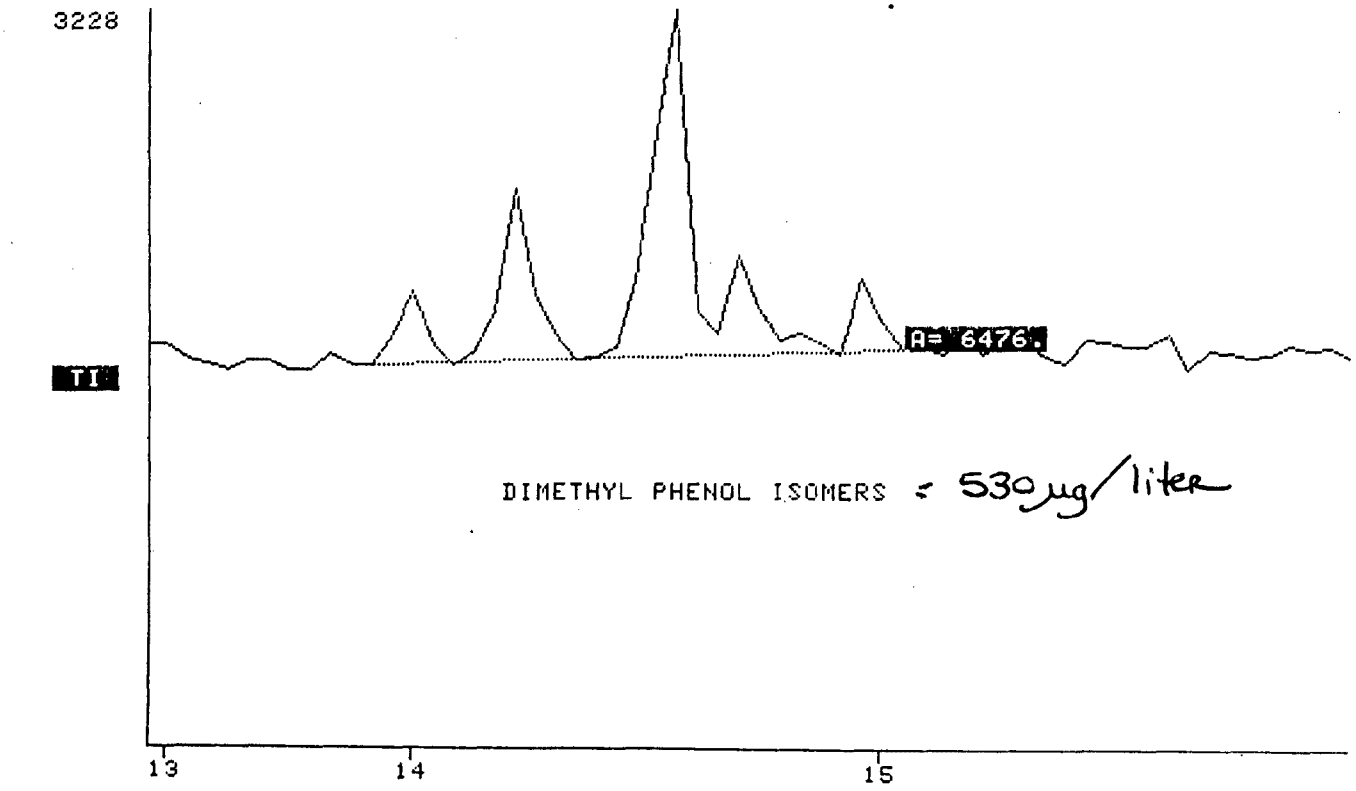
NAME PLATEAU - 978; ACID FRACTION
MISC SE 54 CAP; 40/3 @ 10 TO 300/30; 3UL

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

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

OSCAR
Simpson

Mike
Stogner

Mike Palumbo

Jeff
Edmisten

Ken Sinks

Dwight
Stockham

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 5, 1982

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 base 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.

UIC ____
OTHER X

OCD COMPLAINT FORM

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

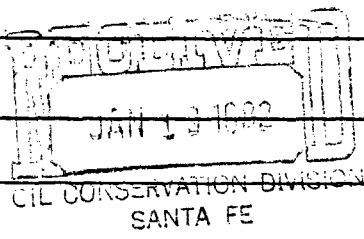
Complaint: A spill in Hammond Ditch behind Plateau Refinery

INVESTIGATION

INVESTIGATOR: J.A. Edmister DATE: 1-5-82 TIME: 2:30 PM

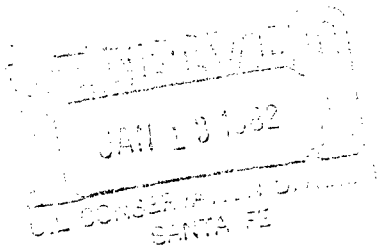
DESCRIBE INVESTIGATION AND FINDINGS: Found an oily substance leaking out of the soil of the bank into Hammond Ditch. Substance was collecting within an area of 500' long. The substance turned reddish brown. Two samples were taken. One at one of the sources of leaking and one of the reddish brown substance. 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.

(34)

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

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

Bruce King
GOVERNOR

George S. Goldstein, Ph.D.
SECRETARY

Larry J. Gordon, M.S., M.P.H.
DEPUTY SECRETARY

PHONE: (505) 842-3355

Frank:
Please check this out & give me a report.
JOR

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

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
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

22

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

(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

refuen 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

COPY

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

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

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	City and State:	Farmington, New Mexico 87401
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12.	Chemical quality of formation water:	Not applicable.
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14.	Flooding potential:	None
15.	Hydrogeology:	See accompanying report.
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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: 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 (?).

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

HSS 950A Form Revised 9/76

before he wrote to the Oil Conservation Commission
about the problem

State of New Mexico
HEALTH and SOCIAL SERVICES DEPARTMENT

MEMORANDUM

To: Plateau Refinery

Date: 3-21-78

From: Jim 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

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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 Bostick 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 base 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 sploch 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.

msa Gallaher ✓. File Plateau (blue) General re discharge plan

Joe Pierce RECEIVED APR 24 1978 EIA Dir's Office

RECEIVED APR 26 1978 WATER POLLUTION CONTROL

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

SEAL

(blue) general re discharge plan

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 EIO
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:	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.

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

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 Color Plateau

[redacted] 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 (prob.) 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

File - Plateau (pub) general

Joe ✓
Maxine ✓

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:

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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

Martine

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:

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2. Post Office Box 108
   Farmington, New Mexico 87401

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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. (°F)	98	175	111	

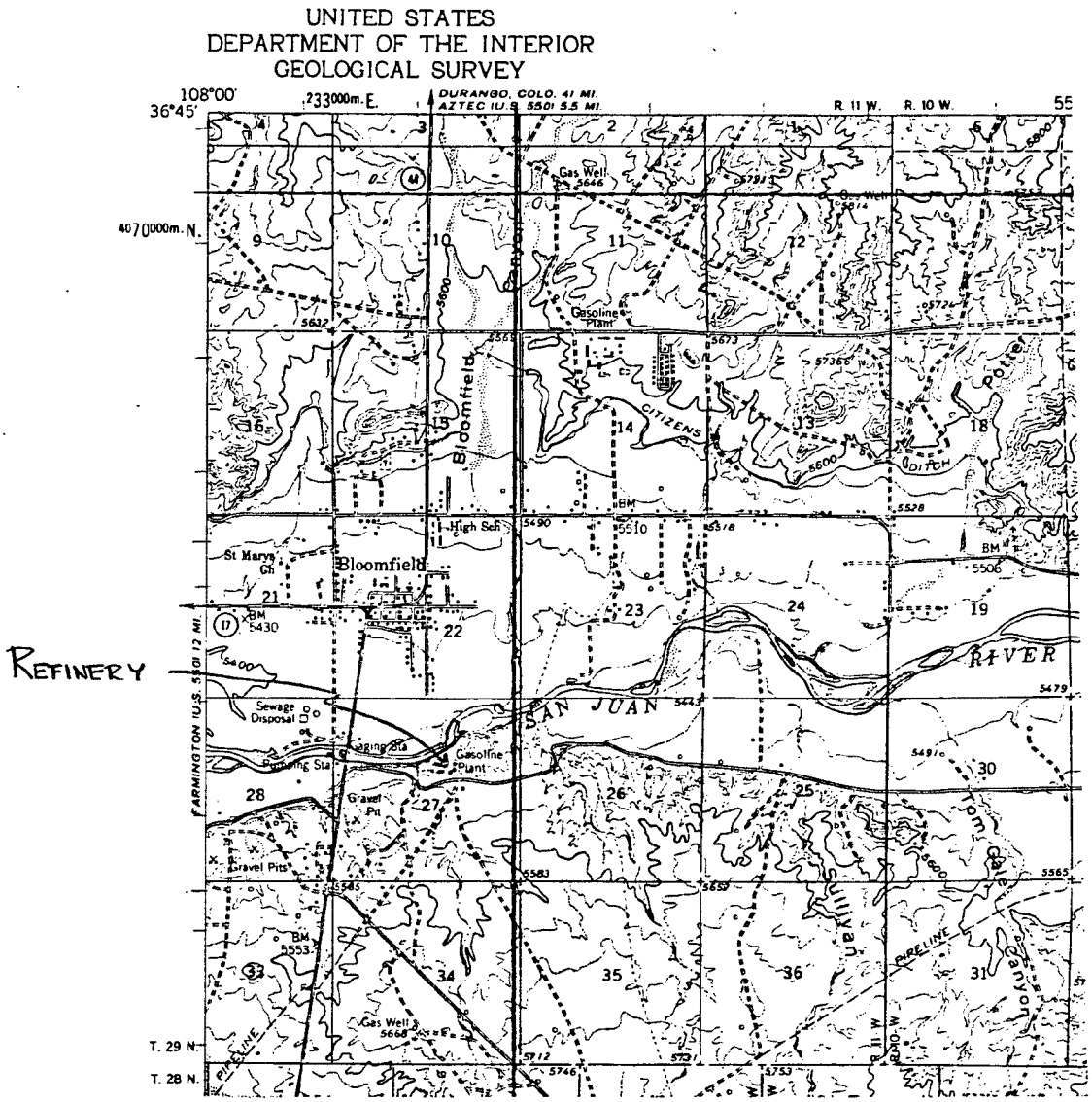

Figure 1. Map showing the location of the Plateau refinery near Bloomfield, New Mexico.