

# GENERAL CORRESPONDENCE



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STATE OF NEW MEXICO



ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

POST OFFICE BOX 2088

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO 87504

(505) 827-5800

GARREY CARRUTHERS

## <u>MEMORANDUM</u>

- TO: BILL LEMAY, Director Oil Conservation Division
- FROM: DAVID G. BOYER, Environmental Bureau Chief
- SUBJECT: WATER ANALYSIS OF BARBER OIL, DISPOSAL WELL, C-20-20S-30E

DATE: AUGUST 22, 1990

On July 3, 1990, the Artesia District office obtained several water samples at and in the vicinity of the above well. The samples were taken to determine if water pooling near the well was more characteristic of the injection water or water from a nearby potash wastewater pond. These results were received back from the State laboratory today.

Based on a review of available information, potash wastewater is eliminated as the source of the surface pool. Analysis of the attached data, especially sodium/potassium ratios, shows that the water in the surface pool was more characteristic of the injection well rather than the potash pond. For example the weight ratio of sodium to potassium in the potash pond was 3.3. The ratio of sodium to potassium in the surface pool and injection well were 33.3 and 44.7, respectively. Since potash waste contains large amounts of potassium impurities whereas oilfield brine contains more sodium, the relative scarcity of potassium in the surface pool indicates its source was not the potash pond. Additionally, the total dissolved solids concentration of the pool was about two-thirds of the potash pond, but about four times that of the injection well. Sodium, potassium and chloride concentrations in the surface pool were also about three to four times the levels in the injection well, indicating the effect of evaporation on the pooled water.

Attachments

cc: M. Williams, OCD Artesia Office

BARBER OIL, INC. 111 West Mermod Post Office Box 1658 CARLSBAD, NEW MEXICO 88220 (505) 887-2566

OIL CONSERVATION DIVISION RECEIVED

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January 10, 1994

Mr. William J. LeMay, Director Oil Conservation Division P. O. Box 2088 Santa Fe, NM 87504-2088

Re: Barber Oil, Inc. Stovall-Wood #5 Salt Water Disposal Well Unit C, Section 20, T20S, R30E Eddy County, New Mexico

Dear Mr. LeMay:

Due to recent actions taken by the Oil Conservation Division concerning the above captioned well and after much consideration of alternative solutions to the disposal of produced water from the Barber field this company has decided to place this property and three others for sale. The financial burden placed upon this company by the decision to "shut-in" the Barber field has placed severe limits on what we can do to solve the problem of water disposal from this property. As a result, a sale of all properties operated by Barber in New Mexico is currently underway.

Mr. LeMay, would it be possible to obtain a letter from your office stating that you would be willing to work with the new operator to find a logical and reasonable solution to the disposal problem at Barber? You might even suggest some solutions in your letter that would be acceptable to the State of New Mexico. This letter might be of some help in disposing of the properties.

Also, would it be possible to obtain an extension of the time period for plugging the above captioned well. In the Order, we were given 60 days or about the 8th of February, 1994. Could we have an extension to June 8, 1994 in order to give the new operator time to take over operations prior to plugging the well?

Thank you for considering these requests.

Sincerel chael D. Мi darringe President

BARBER OIL, INC. 111 West Mermod Post Office Box 1658 CARLSBAD, NEW MEXICO 88220 (505) 887-2566

April 16, 1992

Snyder Ranches P. O. Box 2158 Hobbs, WM 88241

Opp

NATIONA

Attn: Larry C. Squires President

Dear Mr. Squires:

We are in receipt of your letter dated April 10, 1992 in which you make a number of allegations, some of which are true, some are misleading and some are blatantly false. A number of the issues raised are not relevant to this company and we will not address those issues. We would care to take issue with the relevant allegations.

You have alledged that this company operated an injection well and disposed of large amounts of water "in a well with no casing at 20 feet below the surface." You further state "This was discovered because a lake was created in our corralls from the saturation of the shallow underground aquifer in the area. The OCD tested the water and found it <u>not to be naturally occuring water</u> and suggested it came from the disposal well or potash lake or more likely from both. This disposal well has been used for a number of years without the NMOCD knowledge or proper approval." (my emphasis)

First of all, we have never injected into a well with no casing. We have not injected water into the surface zone at twenty feet. We did not "create" the lake that now invades your corralls and almost completely surrounds one of our wells. We discovered about a year ago that the well casing had a hole in it at approximately 36 feet. The reason we discovered the hole is because the surface waters were invading our injection well and competing with our disposal water to enter a lower injection zone. This lower zone takes water on a vacuum and we use no pumps or other pressure to force the water into the zone. Because the surface waters were draining into our injection well, we began to experience difficulties in disposing of our produced water. As per instructions form the Oil Conservation Division and with their advice and consent we proceeded to completely rework the casing in the well. We have subsequently run two strings of casing, cemented to the surface in both cases. Inside this double string we ran tubing and filled the annulus with packer fluid. I should mention that we performed ten seperate cement jobs in order to seal off the upper surface water zone. The cost of completing this project exceeded \$90,000.

BARBER OIL, INC. 111 West Mermod Post Office Box 1658 CARLSBAD, NEW MEXICO 88220 (505) 887-2566

Snyder Ranches April 16, 1992 Page 2

We also ran new flow lines, called Fas-Line, which is impervious to corrosion around the lake to prevent any potential leak into the lake. This project cost something over \$6,500. In addition, we have had to build a raised road bed into our Stovall-Wood #3 well and completely rebuild the pad because of the rising lake level. This project cost approximately \$7,000.

Mr. Squires, it is our studied opinion that two things have occured to raise the level of the lake. One, we have had one of the wettest years on record in terms of rainfall and this lake sets in a natural drainage area for the surrounding area. Over the past fifty years or so we have had our lease flooded on several occasions as a result of this drainage. It had nothing to do with the potash mine operations or the disposal of anyone's produced water. Secondly, when we cemented off the surface water zone we have most likely eliminated one of the methods for the lake to drain itself. The leaching of water in our disposal well along with the natural evaporation that occurs in this area would normally control the level of the lake. You now have only evaporation aiding you.

You should be aware of several other matters. This oil and gas lease is in an R-3221 area established on May 1, 1967 by the Oil Conservation Commission and later amended to exempt certain areas (including the areas where Barber now operates) from certain requirements concerning the disposal of produced water. We have for a number of years reported to both the OCD and the Bureau of Land Management, the existence of this well, the purpose of the well and the approximate amount of water being injected into the well. We have not operated this well without the approval, permission or knowledge of the proper authorities.

You should also be aware that we too have experienced some problems related to the mining oeprations in the area. We have an appreciation for the economic impact of the potash mines and we have learned to live with them. We have also enjoyed a good relationship with the ranchers in the area, that is, until you came along. We would care to have a productive and profitable relationship with your firm.

Mr. Squires, we would be pleased to meet with you on May 7th at the Federal Building here in Carlsbad if your intent is to reach a reasonable and economically feasible solution to your problems. If your intent is to "bash" the Potash Industry and the Oil and Gas Industry we will not attend.

Respect fall P/resident

LARRY C. SQUIRES President

E. See

SNYDER RANCHES OIL CONSERV

P. O. BOX 2158 HOBBS, NEW MEXICO 88241

Telephone (505) 393-7544

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RECE VED

-UN DIVISION

APRIL 10, 1992

TO WHOM IT MAY CONCERN:

OUR RANCH LOCATED WITHIN NASH DRAW, 15 MILES EAST OF CARLSBAD, NM, HAS BEEN COMPLETLY DESTROYED BY THE PERSISTENT AND CONTINUOUS DISCHARGE OF BRINE WATER FORM THE POTASH INDUSTRY AND OIL & GAS INDUSTRY.

OUR WATER WELLS ARE POLLUTED AND DESTROYED (MOST RECENT ABANDON WELL -CHIMMEY WELL) LOCATED S6 T20 R30. NOXIOUS PLANTS HAVE INVADED ARE PASTURES WITH (SALT CEDER, GOLDEN ROD) DEVASTATINGLY RESULTS. GOLDEN ROD IS VERY POISONOUS, WE HAVE HAD 20 COWS DIE WITHIN THE LAST 6 MONTHS. THE DISCHARGE PONDS CREATES AN IDEAL ENVIRONMENT FOR ENVASION OF GOLDEN ROD IN THE WET LANDS CREATED BY THESE WATERS. THESE PLANTS THRIVE IN HIGHLY ALKALINE SALTY SOILS. GOOD GRASSES ARE DESTROYED BY THE HIGH CONCENTRATION OF SALT, MAKING ROOM FOR THE INVADING NOXIOUS PLANTS AND WEEDS.

IT WAS DISCOVERED RECENTLY THAT A DISPOSAL WELL OPERATED BY BARBER OIL CO WAS DISHARGING LARGE AMOUNTS OF PRODUCED OIL FIELD WATER IN A WELL WITH NO CASING AT 20 FEET BELOW THE SURFACE.

THIS WAS DISCOVERED BECAUSE A LAKE WAS CREATED IN OUR CORRALLS FROM THE SATURATION OF THE SHALLOW UNDERGROUND AQUIFER IN THE AREA. THE OCD TESTED THE WATER AND FOUND IT NOT TO BE NATURALLY OCCURING WATER AND SUGGESTED IT PROBABLY CAME FROM THE DISPOSAL WELL OR POTASH LAKE OR MORE LIKELY FROM BOTH. THIS DISPOSAL WELL HAS BEEN USED FOR A NUMBER OF YEARS WITHOUT THE NMOCD KNOWLEDGE OR PROPER APPROVAL.

THIS LAKE AND ASSOCIATED WET LANDS IS ON OUR FEE PROPERTIES AND HAS MADE OUR CORRALLS & PROPERTY COMPLETLY USELESS.

IT IS ALSO OUR UNDERSTANDING THAT EPA HAS DECLARED THIS AREA AS "WATERS OF U.S." AND THAT ANY DISCHARED INTO THESE WATERS IS PROHIBITIVE WITHOUT AN NPDES PERMIT.

OUR RANCH NEEDS TO BE SPRAYED AND THE WASTE AREAS FENCED OFF TO STOP ANY FURTHER DAMAGE. THE LAKES NEED TO BE DRAINED AND LAND RESTORED TO ITS ORIGINAL CONDITION.

IN THE PAST THE POTASH INDUSTRY HAS ALWAYS BEEN VERY COOPERATIVE TO FURNISH WATER TO US WHEN A WATER WELL WAS POLLUTED AND DESTROYED BY THE SURFACE IMPOUNDMENT OF BRINE WATER.

WE ARE VERY CONCERNED ABOUT THE LONGEVITY OF THIS ARRAINGEMENT AND WHAT HAPPENEDS TO OUR WATER SUPPLY WHEN IT IS NO LONGER COMMERCIALLY FEASABLE TO MINE POTASH IN THE CARLSBAD AREA. WE ARE AFRAID OUR RANCH WILL BE OF NO VALUE WHEN THIS OCCURS.

THE APPRAISED VALUE OF OUR PROPERTY (WHICH INCLUDES BLM GRAZING PERMIT, FEE PROPERTY - HOUSES, BARNS, CORRALS, FENSES, WATER WELLS & STATE GRASING LEASE) IS \$1000.00 PER AU X 1100 AU OR \$1,100,000.00.

LARRY C. SQUIRES President P. O. BOX 2158 HOBBS, NEW MEXICO 88241

Telephone (505) 393-7544

A RANCH WITHOUT WATER AND COVERED BY POISONOUS PLANTS AND THOUSANDS OF ACRES OF WASTE LAND CREATED BY SURFACE AND SUBSURFACE BRINE WATER IS VALUELESS. IT IS OUR OPINON THAT THIS INDUSTRIAL POLLUTION HAS SEVERLY AFFECTED US. WHAT CAN WE DO TO STOP THIS SITUATION? I WOULD LIKE TO MEET WITH ALL OF THE COMPANIES AND REGULATORY AGENCIES WITH THE RESPONSIBLILITY OF PROTECTING THE ENVIROMENT AND NEW MEXICO'S NATURAL RESOURCES. I AM PROPOSING A MEETING WITH ALL AFFECTED PARTIES ON 5-07-92 IN THE CARLSBAD FEDERAL BLDG. CONFERENCE ROOM AT 1:30 PM. PLEASE ADVISE ME IF YOU OR YOUR REPRESENTIVE CAN ATTEND SUCH A MEETING. YOU CAN REACH ME AT (505)-393-7544. THANK YOU.

SINCERELY YOURS, LARRY SQUIRES PRESIDENT

CC:

MARVIN WATTS, EDDY POTASH RALPH CROSSER, HORIZON POTASH DICK HEINEN, WESTERN AG - MINERAL CO MIKE GARRINGER, BARBER OIL CO BILL LEMAY, OCD - SANTA FE, NM BARRY BIRCH, NM ENVIRONMENT DEPART DIANNE RATKEY, WATER ENFORCEMENT EPA REGION VI DALLAS, TX JIM BACA, NM STATE LAND COMMISSION DICK MANUS, AREA MANAGER BLM, CARLSBAD, NM DON ASHBY, RAMGE DEPT BLM, CARLSBAD, NM KENNETH SMITH, AREA RANCHER BUD EPPERS, AREA RANCHER J.W NEAL, ATTORNEY, HOBBS NM MIKE COMEAU, ATTORNEY, SANTA FE, NM TIM KELLY, GEOHYDROLOGY ASSOCIATES, INC., ALB.,NM

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(4/7/92 Jarry Squires, Snyder Hanches Called about Barber Duposal well. Said he has some concerns as before. He would like a letter from OCD informing him as to what is being done, amous of water being disposed and water analysis report. Larry Squer 393-7544 P.O. Box 2158 V1-13-36 12001 8144 Holilis, NM 8821

allas. you to Ser ants to Wednesd arou X42 from lange 11:30 lou R

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7. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any propose			

Began work on February 18, 1991. OCD requested removal of 6" PVC pipe. Removed pipe and well wall collapsed. Called Star Tool, T.R. Well Service, Bull Rogers, Halliburton and others. Rigged up drill collars and drilled to 244' with 7-5/8 bit and set cement plug. Next day tagged plug and pulled out. Pumped five cement plugs. Tagged cement at 57'. Set another plug and pulled out. Tagged cement at 40'. Pumped cement to surface. Rigged up Star Tool to drill plug. Reached 104'. Circulated hole. Tried to run 7" casing inside old 8-5/8 and cemented well bore. Casing stuck. Pulled out and circulated with 3" tubing and set another cement plug. Started drilling and lost circulation. Pumed 200 sax of class C cement, waited and drilled out. Lost circulation. Pumed another plug and waited. Started drilling and got circulation. Ran 7" casing inside old 8-5/8" and cemented well bore. 26# 7" set 114' and circulated cement to surface. Drilled to 255' and lost circulation, most likely now below old 8-5/8 and into the Rustler formation. Ran 114' of  $5\frac{1}{2}$ " 17# N-80 LT&C casing and set on  $5\frac{1}{2}$ " X 7" packer and filled annulus with packer fluid. Rigged up well head and injection lines. Put back on injection.

Work finished on about 3/7/91 at a cost of approximately \$90,000.

3. I hereby certify ther Are ViArmation above is true and complete	to the best of my knowledge and belief.	·
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CHED / Martin Duay	ritePresident	DATE 3/31/91
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	TITLE	DA76

STATE OF NEW MEXICO



ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS

### <u>MEMORANDUM</u>

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

TO: BILL LEMAY, Director Oil Conservation Division

FROM: DAVID G. BOYER, Environmental Bureau Chief

SUBJECT: WATER ANALYSIS OF BARBER OIL, DISPOSAL WELL, C-20-20S-30E

DATE: AUGUST 22, 1990

On July 3, 1990, the Artesia District office obtained several water samples at and in the vicinity of the above well. The samples were taken to determine if water pooling near the well was more characteristic of the injection water or water from a nearby potash wastewater pond. These results were received back from the State laboratory today.

Based on a review of available information, potash wastewater is eliminated as the source of the surface pool. Analysis of the attached data, especially sodium/potassium ratios, shows that the water in the surface pool was more characteristic of the injection well rather than the potash pond. For example the weight ratio of sodium to potassium in the potash pond was 3.3. The ratio of sodium to potassium in the surface pool and injection well were 33.3 and 44.7, respectively. Since potash waste contains large amounts of potassium impurities whereas oilfield brine contains more sodium, the relative scarcity of potassium in the surface pool indicates its source was not the potash pond. Additionally, the total dissolved solids concentration of the pool was about two-thirds of the potash pond, but about four times that of the injection well. Sodium, potassium and chloride concentrations in the surface pool were also about three to four times the levels in the injection well, indicating the effect of evaporation on the pooled water.

#### Attachments

cc: M. Williams, OCD Artesia Office

5       Facility Name:       Barbers       Bisposa/Well       6       County:       7       City:       8       Sta         9       Sample       Location:				_		
SCIENTIFIC LABORATORY DIVISION       SLD No.	ĩ					
SCIENTIFIC LABORATORY DURSION         700 CAMINO DE SALLD, All BUOLERALE, MM B7106         Water Chemistry Section - Telephone: (505) 841-25255         Request 111	WATER CHEMISTRY ANALYTIC	AL REQUEST FORM	Λ		, <u>1</u>	
Wester Chemistry Section - Telephone: (50) 841-2855       Request III III III III III IIII IIII IIII I				SU	NO.	
2]Uerr       2]O       3] Request       Nequest						
Code et:		الاستعيارة فالمحمد عبرت وتفريش ويعرب				(N°1° or 77,
Name:       Barbs bispos       Well       Well </td <td>Code #: -18-12-12-13-15</td> <td></td> <td></td> <td></td> <td>کا :# ebo</td> <td>Coordinator)</td>	Code #: -18-12-12-13-15				کا :# ebo	Coordinator)
Location:	SFacility Barbers Di	'sposal well	6 County:	24	ity: 	8 State
By:       Detr. (V) (C) KE       On:       Detr. (V)					<u>L_1_1_1</u>	
11]Codes:       12       Latitude (DDMMSS)         13]Report       14] Phone #:       2 Digit Mode         13]Report       14       Phone #:       10         13]Report       15       Sample Purpose:       15         13]Report       15       Sample Purpose:       15         14]Phone #:       15       Sample Purpose:       15         15       Sample Source:       16       Field       Special       Control Custody         11]Sample Source:       18       Field Ness/       Special       Control Custody         12       Sample Source:       18       Field Ness/       Special       Control Custody         12       Sample Source:       19       Field Ness/       Special       Control Custody         13       Sample Source:       19       Field Ness/       Special       Control Custody         13       Sample Source:       19       Field Ness/       Special       Control Custody       Resource         13       Baroli Alinto Alinto Alinto Alinto Alinto Alinto Ali	By: Darrell in	المجاذبة المجاري كالتكريب والمترك والم		107/03 A	1: 133 Time: 24 hr. d	hrs.
Submitter         WSS #         Organization         Congulation         Conduction           To:         David G. Boyer         [4] Phone #:         [5]         Sampling Mormation:           Mew         Mex Addression         Sample Proces:         Compare         [6]           P. O. Box 2088         Conservation Division         Sample Purpose:         Compare         Compare           [6] Field         Santa Fe, New Mexico 87504-2088         Contention         Choin of Custody         Choin of Custody           [7] Sample Source:         Conductivity:         unhos @         C. Temperature:         C. Choin of Custody           [7] Sample Source:         [1]         Sample fill         Choin of Custody           [7] Sample Source:         [7] Sampl			<u> </u>			500 hm.
13] Report       www.exico.011       Conservation Division       Sampling Information:         Mew Mexico.011       Conservation Division       Bampling Information:       Sampling Information:         P. 0. Box 2038       Conservation Division       Bampling Purpose:       Conservation:       Conservation:         Cy, Suri Zer       Santa Fe, New Mexico.087504-2088       Conductivity:       Conductivity:       Conductivity:       Pow Proportional Conservation:       Conservation: <td></td> <td></td> <td>anization</td> <td></td> <td>XMMSS)</td> <td>2 Digit ID (il needed)</td>			anization		XMMSS)	2 Digit ID (il needed)
Advisor       15       Complexence       Com		14 Phone #:	27-5812			
P. O. Box 2038       Compliance Complision Complision Complision Complision Compliance Compliance Compl	Address		27-3812		F Grab	lon:
Santa Fe, New Mexico       87504-2088       Creation of Custody       District of Custody         19       Field       Conductivity:       umbox @       C. Temperature:       Temperature:       Temperature:       C. Temperature:       C. Temperature:       C. Temperature:       C. Temperature:       C. Temperatu		rvation Division		Sample Purpose:	]- Composite	Composite Jime Period)
Date: Pft:	•	87504-2088		Monitoring	- Equal Aliquot Semple Split w/P	ermittee
17] Sample Source:       18] Field Notes/       R 30/F         - Stream       X-Well; Depth:	16 Field Date: pH: Conductivity:	umhos @ °C. '	Temperature:	Chiorine     C. Residual:	ma/l, Flow:	
□ Stream       □ Spring       □ Cation       UNIT C       □ Cation		18 Field	Notes/			REDE
□ Drain       □ Distribution         □ Pool       □ Point-of-Entry         □ WWTP       □ Other         □ Wastewater,       □ Other         □ His form accompanies a single sample consisting of       □ WPF         - 1 liter cubtainers (1 quart)       □ WPF         - 4 liter cubtainers (1 quart)       □ WPF         - 4 liter cubtainers (1 gallon)       □ WPF         □ G630 SDWA Group II (Nitrate as N)       □ (650) SWOB NPS Anion. Cation, Group +         □ (650) SDWA Complete Secondary       □ (869) SWOB NPS Anion. Cation, Physical + TSS         □ (650) SDWA Complete Secondary       □ (867) Major Anions & Cations         Cations:       Strates and Waste Water:         □ - Color       □ - Color         □ - Color<	Stream 🛛 🔄 -Well; Depth:	Sami		6.10	TODE	DICE
□-Pool       □-Point-of-Entry       WWTP       □-Other:       WWTP       WTP       □-Other:       WTP       WTP       WTP       WTP       UP       C.C.T.Brash Mox5714       C.C.T.Brash Mox5714         19 Sample Type:       □-Other       □-WTP       WTP       WTP       WTP       WTP       C.C.T.Brash Mox5714         Wastewater,       □-Other       □-WTP       WTP       WTP       WTP       WTP       C.C.T.Brash Mox5714		- he	caror	Te	<del>زد <i>س</i>ه ۲ ز</del>	COTE
19       Sample Type:       ✓-Water,       □-Soil,       □-Food,       20       Preservation:       ✓         □       Wastewater,       □-Other       □       Wiff Water Not Preserved; Not Filtered       ○       ○         1       Iter cubitainers (1 quart)       □       Were Preserved with Suffur Acid (PCSO4); Filtered       □       ○	-Pool -Point-of-Entry		UN UN	IIC I		-10
□-Wastewater,       □-Other		X	2 Tiler Se	mple/cu	LIBAS MC	S/ IMP
This form accompanies a single sample consisting of:			WNF Water Not Pr	reserved; Filtered	ding in the second seco	ant
- 1 liter cubitainers (1 quart)       □       WPN       Water Preserved with Suifuric Acid; Not Filtered         - 4 liter cubitainers (1 gallon)       □       WNR       Water Not Preserved in Fleid; Presse Add H2SO4 at Lab         -       □       -       □       -       -         21       Analyses Requested:       Please check the appropriate box(es) below to indicate the type of analyses required.         0       -       □       (859) SWQB SS Anion - Cation Group +         0       -       (859) SWQB NPS Anion, Cation, Physical + TSS         0       (861) SDWA Group II (Nitrate as N)       □       (868) SWQB NPS Anion, Cation, Physical + TSS         0       (860) SDWA Complete Secondary       V       (867) Major Anions & Cations         Cations:       ★       Physical Parameters:       Surface and Waste Water:         0       -       Color       -       -         2       -       Color       -       -         2       -       Color       -       -         2       -       -       Color       -       -         3       -       Color       -       -       -         4       -       -       -       -       -       -		e consisting of:	WNIN Water Not Proce		H2SOA) Filtered	
Interform       Interform         21       Analyses Requested:       Please check the appropriate box(es) below to indicate the type of analyses required.         Group Analyses:       Image: Callon (as Ca)       Image: Callon (as Ca)         Image: Callon (as Ca)       Image: Callon (as Ca)       Image: Callon (as Ca)         Image: Callon (as Ca)       Image: Callon (as Ca)       Image: Callon (as Ca)         Image: Callon (as Ca)       Image: Callon (as Ca)       Image: Callon (as Ca)         Image: Callon (as Ca)       Image: Callon (as Ca)       Image: Callon (as Ca)         Image: Callon (as Ca)       Image: Callon (as Ca)       Image: Callon (as Ca)         Image: Callon (as Ca)       Image: Callon (as Ca)       Image: Callon (as Ca)         Image: Callon (as Ca)       Image: Callon (as Ca)       Image: Callon (as Ca)         Image: Callon (as Ca)       Image: Callon (as Ca)       Image: Callon (as Ca)         Image: Callon (as Ca)       Image: Callon (as Callon (as Ca))       Image: Callon (as Callon (a			WPN Water Prese	rved with Sulfuric Acid;	Not Filtered	
21       Analyses Requested:       Please check the appropriate box(es) below to indicate the type of analyses required.         Gtoup Analyses:			WhiL Water Not P ICE Water load		Add H2SO4 at Lab	·
Group Analyzes:       - (859) SWOB SS Anion - Cation Group +         - (854) SDWA Group II (Nitrate as N)       - (868) SWOB NPS Anion, Cation, Physical + TSS         - (861) SDWA Group III (Fluoride)       - (869) SWOB NPS Anion, Cation, Physical + TSS         - (860) SDWA Complete Secondary       - (867) Major Anions & Cations         Cations:       Physical Parameters:       - Surface and Waste Water:         - (860) SDWA Complete Secondary       - Color       - Biological Oxygen Demand         - Calcium (as Ca)       - Color       - Odor         - Nagnesium (as K)       - Odor       - Otal Suspended Solids         - Sodium (as Na)       - PH - Lab       - Otal Organic Carbon         - Sodium (as Na)       - Sufface and Waste Water:       - Color         - Total Hardness (as CaCO3)       - Sufface Ints       - Color         - Total Hardness (as CaCO3)       - Turbidity       - Nitrate + Nitrite (as N)         - Sufface and (as R)       - Total Dissolved Solids       - Ammonia (as N)         - Cabonate (as HCO3)       - Turbidity       - Ammonia (as N)       - Ammonia (as N)         - Fluoride (as C1)       - Color       - Total Kjeldahi (as N)       - Othophosphate (as P)         - Fluoride (as C1)       - Color       - Total Phosphorus (as P)       - Total Phosphorus (as P)		<u> </u>	Other			
□- (854) SDWA Group II (Nitrate as N)       □ (868) SWOB NPS Anion, Cation, Physical + TSS         □- (861) SDWA Group III (Fluoride)       □ (869) SWOB Nutrient Analysis Group +         □- (860) SDWA Complete Secondary       □ (867) Major Anions & Cations         Cations:       ★         Physical Parameters:       □ - Color         □- Color       □ - Biological Oxygen Demand         □- Votassium (as Kg)       □ - Color         □- Sodium (as Na)       □ - Color         □- Sodium (as Na)       □ - Codo         □- Sodium (as Na)       □ - Codo         □- Total Pisorike @ 28 Cq       □ - Total Suspended Solids         □- Total Pisorike @ 28 Cq       □ - Total Oxygen Demand         □- Sodium (as Na)       □ - Loc b         □- Sodium (as Na)       □ - Loc b         □- Total Pisorike @ 28 Cq       □ - Total Organic Carbon         □- Suffactantis       □ - Cotal Organic Carbon         Anions:       ∞ - Total Dissolved Solids       Nutrients:         ○- Carbonate (as HCO3)       0ther:       □ - Nitrate + Nitrite (as N)         □- Carbonate (as CO3)       □	21 Analyses Requested: Please ch	ack the appropriate box(e:	s) below to indicat	te the type of analy	ses required.	
□- (861) SDWA Group III (Fluoride)       □- (869) SWQB Nutrient Analysis Group +         □- (860) SDWA Complete Secondary       V: (867) Major Anions & Cations         Cations:       Physical Parameters:       □- Color         □- Calcium (as Ca)       □- Color       □- Biological Oxygen Demand         V: Agnesium (as Mg)       □- Color       □- Total Suspended Solids         V: Potassium (as K)       □- Odor       □- Total Organic Carbon         V: Sodium (as Na)       0- PH - Loch       □- Total Organic Carbon         Sodium (as Na)       0- Surfactants       □- Color         V: Total Hardness (as CaCO3)       □- Turbidity       □- Nitrate + Nitrite (as N)         Strate tants       □- Color       □- Nitrate + Nitrite (as N)         Q: Carbonate (as CO3)       0- Turbidity       □- Nitrate + Nitrite (as N)         Q: Carbonate (as CO3)       □			(859) SWQB SS A	nion - Cation Group	<b>)</b> +	1
☐- (860) SDWA Complete Secondary       ☐ (867) Major Anions & Cations         Cations:       Betwical Parameters:       ☐ Biological Oxygen Demand         ☐ - Color       ☐ Biological Oxygen Demand       ☐ Total Suspended Solids         ☐ - Potassium (as K)       ☐ Odor       ☐ Total Suspended Solids         ☐ - Sodium (as Na)       ☐ Odor       ☐ Total Organic Carbon         ☐ - Total Hardness (as CaCO3)       ☐ - Surfactants       ☐ - Cyanide         ☐ - Statinity (as CaCO3)       ☐ - Total Dissolved Solids       ☐ - Nitrate + Nitrite (as N)         ☐ - Chloride (as CO3)       ☐ - Total Kjeldahl (as N)       ☐ - Nitrate + Nitrite (as N)         ☐ - Chloride (as CO3)       ☐ - Chloride (as SO4)       ☐ - Total Phosphorus (as P)						
Cations:       Physical Parameters:       Surface and Waste Water:         Y - Calcium (as Ca)       - Color       - Biological Oxygen Demand         Y - Potassium (as Mg)       Y - Conductance Alicromitos € 25 G       - Total Suspended Solids         Y - Potassium (as K)       - Odor       - Total Organic Carbon         Y - Sodium (as Na)       Y - Potassium (as Na)       - Total Dissolved Solids         Y - Total Hardness (as CaCO3)       - Surfactantis       - Cyanide         Y - Alkalinity (as CaCO3)       - Turbidity       - Nutrients:         Y - Bicarbonate (as HCO3)       Other:       - Ammonia (as N)         Y - Carbonate (as CO3)		Secondary M-	(867) Major Anion	is & Cations	· ·	
Y - Magnesium (as Mg)       Y - Conductance alicomhos @ 28 G       Image: - Total Suspended Solids         Y - Potassium (as Na)       Image: - Odor       Image: - Total Organic Carbon         Y - Total Hardness (as CaCO3)       Image: - Surfactants       Image: - Total Organic Carbon         Y - Alkalinity (as CaCO3)       Image: - Total Dissolved Solids       Image: - Total Organic Carbon         Y - Alkalinity (as CaCO3)       Image: - Total Dissolved Solids       Image: - Total Organic Carbon         Y - Alkalinity (as CaCO3)       Image: - Total Dissolved Solids       Image: - Total Organic Carbon         Y - Alkalinity (as CaCO3)       Image: - Total Dissolved Solids       Image: - Total Organic Carbon         Y - Alkalinity (as CaCO3)       Image: - Total Dissolved Solids       Image: - Total Organic Carbon         Y - Alkalinity (as CaCO3)       Image: - Total Dissolved Solids       Image: - Total Organic Carbon         Y - Alkalinity (as CaCO3)       Image: - Total Dissolved Solids       Image: - Total Organic Carbon         Y - Carbonate (as CO3)       Image: - Total Organic Carbon       Image: - Total Alkalinity (as N)         Y - Carbonate (as CO3)       Image: - Total Kjeldahl (as N)       Image: - Total Kjeldahl (as N)         Y - Fluoride (as F)       Image: - Total Phosphorus (as P)       Image: - Total Phosphorus (as P)         Y - Ion Charge Balance       Image: - Total Phosphorus (as P)	<u>Catlons:</u>			Surface and	Waste Water:	••••••
X-Sodium (as Na)       X-pH - La U       Intervention         Total Hardness (as CaCO3)       Intervention       Intervention         Anions:       X-Total Dissolved Solids       Intervention         X-Alkainity (as CaCO3)       Intervention       Intervention         X-Bicarbonate (as HCO3)       Intervention       Intervention         X-Carbonate (as CO3)       Intervention       Intervention         X-Chloride (as CI)       Intervention       Intervention         X-Sulfate (as SO4)       Intervention       Intervention         X-Sulfate (as SO4)       Intervention       Intervention         X-Ion Charge Balance       Intervention       Intervention	Y - Calcium (as Ca)			Biological	Oxygen Deman	d
X-Sodium (as Na)       X-pH - La U       Intervention         Total Hardness (as CaCO3)       Intervention       Intervention         Anions:       X-Total Dissolved Solids       Intervention         X-Alkainity (as CaCO3)       Intervention       Intervention         X-Bicarbonate (as HCO3)       Intervention       Intervention         X-Carbonate (as CO3)       Intervention       Intervention         X-Chloride (as CI)       Intervention       Intervention         X-Sulfate (as SO4)       Intervention       Intervention         X-Sulfate (as SO4)       Intervention       Intervention         X-Ion Charge Balance       Intervention       Intervention	V- Potassium (as Mg)		romhos @ 25 C)		Dended Solids Ownen Deman	,l
Fotal Hardness (as CaCO3)	Xi- Sodium (as Na)				nic Carbon	·
Ahlons:       X- Total Dissolved Solids       Nutrients:         X- Alkainity (as CaCO3)       I- Turbidity       I- Nitrate + Nitrite (as N)         X- Bicarbonate (as HCO3)       Other:       I- Ammonia (as N)         X- Carbonate (as CO3)       II- Total Kjeldahl (as N)       II- Total Kjeldahl (as N)         X- Chloride (as CI)       II- Fluoride (as F)       II- Orthophosphate (as P)         X- Sulfate (as SO4)       II- II- Total Phosphorus (as P)	Total Hardness (as CaCO3)	Surfactants		Cyanide	······································	
StAlkalinity (as CaCO3)       - Turbidity       - Nitrate + Nitrite (as N)         StBicarbonate (as HCO3)       Other:       - Ammonia (as N)         C-Carbonate (as CO3)	Anione	Total Discoved S	iolids	Nutrionte		
Con Charge Balance	Alkalinity (as CaCO3)				NRITRE (as N)	
Vi- Ion Charge Balance	V)- Carbonate (as CO3)			U- Animonia	(as N) Iahl (as N)	]
Con Charge Balance	T - Chloride (as Cl)		· · ·	- Nitrite (as	N)	
Con Charge Balance	- Fluoride (as F)			- Orthopho	sphate (as P)	
Con Charge Balance	X-Sulfate (as SO4)			- Total Pho	sphorus (as P)	l
Remarks:		_			A	
	Remarks:					

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STATE OF NEW MEXICO

HEALTH AND ENVIRONMENT DEPARTMENT

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(I) Submitter 260

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud, NE Albuquerque, NM 87106 [505]-841-2500 WATER CHEMISTRY SECTION [505]-841-2555

August 16, 1990

Request ID No. 007162

# ANALYTICAL REPORT

SLD Accession No. WC-90-2418

From:

To: D. Boyer NM Oil Consv. Div. State Land Office Bldg. P.O. Box 2088 Santa Fe, NM 87504-2088 Water Chemistry Section Scientific Laboratory Div. 700 Camino de Salud, NE Albuquerque, NM 87106

Re: A water, Nonpres/No sample submitted to this laboratory on July 17, 1990

#### DEMOGRAPHIC DATA

C	OLLECTION	LOCATION
<i>On:</i> 3-Jul-90 <i>At:</i> 13:30 hrs.	By: Moo In/Near: Eddy County	

**ANALYTICAL RESULTS** 

Analysis	Value	<u>D. Lmt.</u>	<u>Units</u>				
calcium	1560.00		mG/L				
magnesium	450.00		mG/L				
potassium	300.00		mG/L				
sodium	13425.00		mG/L				
hardness	5750.00		mG/L				
bicarbonate	485.00		mG/L				
carbonate	0.00		mG/L				
chloride	22300.00		mG/L				
sulfate	4050.00		mG/L				
conductance	47872.00		mG/L				
Н	7.40		mG/L				
total diss resid	41400.00		mG/L				
			•				

**Reviewed By:** Barbara Dobie 08/13/90

Analyst, Water Chemistry Section

'90 AUG 22 AM 10 49

REGE VED

<b>۴</b> ,7			ION BA	LANCE WOR	RKSHEET			
•		CATIONS  Meq	PPM	Det Limit	Analyte	ANIONS  Meq	PPM	Det Limit
	Ca Mg Na K	77.8443 36.9610 583.9495 7.6726	1560 450 13425 300	<5.0   <0.3   <5.0   <5.0	HCO3 SO4 Cl	7.9482 84.3750 629.0550	485 4050 22300	<0.1 <5.0 <5.0
	Mn Fe	0.0000 0.0000	0 0		NO3 CO3 NH3 PO4	$0.0000 \\ 0.0000 \\ 0.0000 \\ 0.0000 \\ 0.0000$	0 0 0 0	
	SUMS	+ 706.4275	15735	,	sums +	721.3782	26835	
	Total	Dissolved	Solids =	41400		Sticker#	7162	
		Ion Bala	nce =	97.92747		WC# Date out	2418	

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## 90 AUG 22 AM 10 49

REDEVED

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WATER CHEMISTRY ANALYTICAL REQUES	ST FORM	
SCIENTIFIC LABORATORY DIVISION		SLD No.
700 CAMINO DE SALUD, ALBUQUERQUE, NM 8	37106	Date
Water Chemistry Section - Telephone: (505) 841	2555 December 2555	Received:
2 User 70326 3 Red Code ≢: 13 12 12 12 12 13 10 10		7161-B Code #: Coordinator)
Stacility Surface POBL at Re	Rber's well ( of	Eddy 7 City: 8 State
9 Sample		
DCollected By: MRRELL MODRE	2 On: 90	107103 At: 1300 hrs.
First ILiaisi1		(YY/MM/DD) Time: 24 hr. clock 3:00 pm + 1500 hr.
		12 Latitude (DDMMSS)
Submitter WSS #	Organization	Longitude (DDDMMSS) (1 needed
	Phone #: (505) 827-5812	
Address		Sampling Information:           15         - Grab           Sample Purpose:         - Composite
New Mexico Oil Conservation Div P. O. Box 2088	/151011	Sample Purpose: Composite Composite
City, State Zip	20	- Check - Equal Aliquot - Monitoring - Sample Split w/Permittee
Santa Fe, New Mexico 87504-208 16 Field Data: PH: , Conductivity: umhos@	°C, Temperature:	Chlorine C, Besidual: mg/l, Flow:
7 Sample Source:	18 Field Notes/	
-Stream -Well; Depth:	Sample #:	REAL
-Lake -Spring -Drain -Distribution	Localion	, Sec 20, Jabs, Kart
	NNIT (	
	#12 LJ7CA-500	ple/Cations MOST Imparte
19 Sample Type: X-Water, -Soil, -Food,	20 Preservation:	reserved; Filtered and serve in the serve
-Wastewater,  -Other This form accompanies a sincle sample consisting o	- NNIN Weter Not F	reserved; Not Filtered wed with Sulfuric Acid (H2SO4); Filtered
1 liter cubitainers (1 quart)		nved with Sulfuric Add (F2SO4); Fillered
- 4 liter cubitainers (1 gallon)	- Whi. Water Not F	reserved in Field; Please Add H2SO4 at Lab
	- Other	
21 Analyses Requested: Please check the approp	riate box(es) below to indica	te the type of analyses required.
Group Analyses:	🕞 (859) SWQB SS /	Anion - Cation Group +
- (854) SDWA Group II (Nitrate as N)		Anlon, Cation, Physical + TSS
□- (861) SDWA Group III (Fluoride) □- (860) SDWA Complete Secondary	(869) SWUB NUT	ient Analysis Group +
	Parameters:	Surface and Waste Water:
X - Calcium (as Ca)		Biological Oxygen Demand
Magnesium (as Mg)     Mg. Condu		Ordel Suspended Solids     Orden Domand
XI- Potassium (as K) Sodium (as Na)	~h	Chemical Oxygen Demand     Total Organic Carbon
⊠: Sodium (as Na)		Ovanide
Anions: N- Total	Dissolved Solids	Nutrients:
- Alkalinity (as CaCO3)		- Nitrate + Nitrite (as N)
X1- Bicarbonate (as HCO3)       Other:         X2- Carbonate (as CO3)		
- Fluoride (as F)		- Orthophosphate (as P)
X - Sulfate (as SO4)	······································	- Total Phosphorus (as P)
2 - Ion Charge Balance		
Remarks:		

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STATE OF NEW MEXICO

HEALTH AND INVIRONMENT DEPARTMENT

<u>Distribution</u>

(X) SLD Files

(\_\_) User 70320

(I) Submitter 260

#### SCIENTIFIC LABORATORY DIVISION

From:

700 Camino de Salud, NE Albuquerque, NM 87106 [505]-841-2500 WATER CHEMISTRY SECTION [506]-841-2555

August 16, 1990

x

Request ID No. 007161 ANALYTICAL REPORT SLD Accession No. WC-90-2417

To: D. Boyer NM Oil Consv. Div. State Land Office Bldg. P.O. Box 2088 Santa Fe, NM 87504-2088 Water Chemistry Section Scientific Laboratory Div. 700 Camino de Salud, NE Albuquerque, NM 87106

LOCATION

Re: A water, Nonpres/No sample submitted to this laboratory on July 17, 1990

#### DEMOGRAPHIC DATA

 COLLECTION

 On: 3-Jul-90
 By: Moo . . .

 At: 13:00 hrs.
 In/Near: Eddy County

#### ANALYTICAL RESULTS

Analysis	Value	<u>D. Lmt.</u>	Units
calcium	19400.00		mG/L
magnesium	2740.00		mG/L
potassium	800.00		mG/L
sodium	26650.00		mG/L
hardness	60000.00		mG/L
bicarbonate	82.00		mG/L
carbonate	0.00		mG/L
chloride	89000.00		mG/L
sulfate	1542.00		mG/L
conductance	>100000.00		mG/L
рН	6.98		mG/L
total diss resid	179000.00		mG/L

**Reviewed By:** 

Barbara Dobie 08/13/

Analyst, Water Chemistry Section

90 AUG 22 AM 10 49

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я,		ION BA	LANCE WOR	KSHEET			
	CATIONS  Meq	PPM	Det Limit	Analyte	ANIONS  Meq	PPM	Det Limit
Ca	968.0639	19400	<5.0	нсоз	1.3438	82	<0.1
Mg	225.0513	2740	<0.3	SO4	32.1250	1542	<5.0
Na	1.1592E3	26650	<5.0 j	Cl	2.5106E3	89000	<5.0
К	20.4604	800	<5.0				
Mn	0.0000	0		NO3	0.0000	0	
Fe	0.0000	0	į	CO3	0.0000	0	
			İ	NH 3	0.0000	0	
			İ	PO4	0.0000	0	
	+		I	+			
SUMS	2.3728E3	49590		SUMS	2.5440E3	90624	
Tota	al Dissolved	Solids =	179000				
					Sticker#	7161	
	Ion Balan	ce =	93.26774		WC#	2417	
					Date out	_	

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# 90 RUG 22 AM 10 49

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WATER CHEMISTRY ANALYTICAL REQUES	
SCIENTIFIC LABORATORY DIVISION	SLD No.
700 CAMINO DE SALUD, ALBUQUERQUE, NM 87	7106 Date
Water Chemistry Section - Telephone: (505) 841-2	
2 User 70320 3 Requ	
	0.: 1D NO. 00/160-15 CODE #: [1] Coordinator]
S Facility Name: Eddy Patash Mike	6 County: 7 City: 8 State
	Exa of KIMH
Sample V Location:	
By: DRRP/ MIDIOIRE	On: $90/07/03$ At: $1/400$ hrs.
First Lisisit	Date: (YY/MM/DD) Time: 24 hr. clock 3:00 pm = 1500 hr.
11 Codes:	12 Latitude (DOMMSS)
Submitter         WSS #           13 Report         Name         14 P	Organization Longitude (DDDMMSS) (Previous)
To: David G. Boyer	
Address New Mexico Oil Conservation Div:	ision Sample Purpose: Composite Composite
P. O. Box 2088	Compliance - Flow Proportioned
City, State Zip	
Santa Fe, New Mexico 87504-2088	8 Special Chain of Custody
Data: pH:, Conductivity:umhos@	C, Temperature:C, Residual: mg/l, Flow:
17 Sample Source:	18 Field Notes/
-Stream -Lake -Spring -Lake -Spring	From pond of South Side of
	From Porce a Sound State of
	W 1/2 1 · Ted Sur 1/2 1 is more
□-WWTP □-Other:	20 Preservation:
	- WNF Water Not Preserved; Filtered
This form accompanies a single sample consisting of:	Whin Water Not Preserved; Not Filtered
- 1 liter cubitainers (1 quart)	-WPN Water Preserved with Sulfurlo Acid; Not Filtered -WNL Water Not Preserved in Field; Please Add H2SO4 at Lab
4 liter cubitainers (1 gallon)	- ICE Water bod water and water and a set of the set of
	iate box(es) below to indicate the type of analyses required.
Group Analyses: - (854) SDWA Group II (Nitrate as N)	[]- (859) SWQB SS Anion - Cation Group + []- (868) SWQB NPS Anion, Cation, Physical + TSS
- (861) SDWA Group III (Fluoride)	- (869) SWQB Nutrient Analysis Group +
□- (861) SDWA Group III (Fluoride) □- (860) SDWA Complete Secondary	
Cations: K Physical P	(869) SWQB Nutrient Analysis Group +     (867) Major Anions & Cations     Surface and Waste Water:
Cations: X Calcium (as Ca) - (861) SDWA Group III (Fluoride) - (860) SDWA Complete Secondary Physical P - Color	(869) SWQB Nutrient Analysis Group +     (867) Major Anions & Cations <u>Parameters:</u> <u>Surface and Waste Water:</u> Biological Oxygen Demand
☐- (861) SDWA Group III (Fluoride)     ☐- (860) SDWA Complete Secondary      Cations: ¥     Physical P     ☐- Calcium (as Ca)     ☐- Magnesium (as Mg)	(869) SWQB Nutrient Analysis Group +     (867) Major Anions & Cations  Parameters:     Surface and Waste Water:     Biological Oxygen Demand     Ctance Micromhos @ 28 G     Demand
Cations:      (861) SDWA Group III (Fluoride)     Order     (860) SDWA Complete Secondary     Cations:      Physical P     Calcium (as Ca)     Otassium (as Mg)     Sodium (as Na)     XI- pH	(869) SWQB Nutrient Analysis Group +         Set (867) Major Anions & Cations         Parameters:       Surface and Waste Water:         Biological Oxygen Demand         Inctance Allicromhos @ 28 C         Catance Allicromhos @ 2
□- (861) SDWA Group III (Fluoride)         □- (860) SDWA Complete Secondary         Cations:       Y         □- Calcium (as Ca)       □- Color         □- Magnesium (as Mg)       Y- Conduct         □- Potassium (as K)       □- Odor         □- Sodium (as Na)       Y- PH         □- Total Hardness (as CaCO3)       □- Total Directory	Ctance Alicromhos € 25 C Chemical Oxygen Demand Ctance Chemical Oxygen Demand Chemical Oxygen Demand Chemical Oxygen Demand Chemical Oxygen Demand Chemical Oxygen Demand
□- (861) SDWA Group III (Fluoride)         □- (860) SDWA Complete Secondary         Cations:       Physical P         □- Color       □- Color         □- Magnesium (as Mg)       □- Color         □- Potassium (as K)       □- Odor         □- Sodium (as Na)       □- PH         □- Total Hardness (as CaCO3)       □- Total Direct         □- Alkalinity (as CaCO3)       □- Turbidit	☐- (869) SWQB Nutrient Analysis Group +         ☐- (869) SWQB Nutrient Analysis Group +         ☐- (867) Major Anions & Cations         Parameters:       ☐- Biological Oxygen Demand
□- (861) SDWA Group III (Fluoride)         □- (860) SDWA Complete Secondary         Cations:       Y         □- Color       □- Color         □- Magnesium (as Mg)       □- Color         □- Potassium (as Mg)       □- Color         □- Sodium (as Na)       □- Odor         □- Total Hardness (as CaCO3)       □- Surfact         □- Alkalinity (as CaCO3)       □- Turbidit         □- Bicarbonate (as HCO3)       Other:	☐ (869) SWQB Nutrient Analysis Group +         ☐ (869) SWQB Nutrient Analysis Group +         ☐ (867) Major Anions & Cations         Parameters:       ☐ Biological Oxygen Demand
□- (861) SDWA Group III (Fluoride)         □- (860) SDWA Complete Secondary         Cations:       Physical P         □- Color       □- Color         □- Magnesium (as Mg)       □- Color         □- Potassium (as K)       □- Odor         □- Sodium (as Na)       □- PH         □- Total Hardness (as CaCO3)       □- Total Di         □- Alkalinity (as CaCO3)       □- Turbidit         □- Bicarbonate (as HCO3)       Other:	☐ (869) SWQB Nutrient Analysis Group +         ☐ (867) Major Anions & Cations         Parameters:       ☐ Biological Oxygen Demand
□- (861) SDWA Group III (Fluoride)         □- (860) SDWA Complete Secondary         Cations:       Physical P         □- Calcium (as Ca)       □- Color         □- Magnesium (as Mg)       □- Color         □- Potassium (as K)       □- Odor         □- Sodium (as Na)       □- Odor         □- Total Hardness (as CaCO3)       □- Total Di         □- Alkalinity (as CaCO3)       □- Total Di         □- Alkalinity (as CaCO3)       □- Turbidit         □- Carbonate (as HCO3)       □-         □- Chloride (as Cl)       □-         □- Fluoride (as F)       □-	☐ (869) SWQB Nutrient Analysis Group +         ☐ (867) Major Anions & Cations         Parameters:       ☐ Biological Oxygen Demand
□- (861) SDWA Group III (Fluoride)         □- (860) SDWA Complete Secondary         Cations:       Physical P         □- Calcium (as Ca)       □- Color         □- Magnesium (as Mg)       ⊠- Color         □- Magnesium (as K)       □- Odor         □- Sodium (as Na)       □- Odor         □- Total Hardness (as CaCO3)       □- Total Di         □- Total Hardness (as CaCO3)       □- Total Di         □- Alkalinity (as CaCO3)       □- Total Di         □- Carbonate (as HCO3)       □- Turbidit         □- Carbonate (as CO3)       □- Turbidit         □- Chloride (as Cl)       □	☐ (869) SWQB Nutrient Analysis Group +         ☐ (867) Major Anlons & Cations         Parameters:       ☐ Biological Oxygen Demand         ☐ Biological Oxygen Demand       ☐ Total Suspended Solids         ☐ Total Organic Carbon       ☐ Total Organic Carbon         ☐ Solved Solids       ☐ Cyanide         ☐ Nutrients:       ☐ Nutrients:         ☐ Nutrients:       ☐ Nutrients:         ☐ Nutrients:       ☐ Nutrients:         ☐ Nutrients:       ☐ Nutrients:         ☐ Nitrate + Nitrite (as N)       ☐ Nitrate (as N)         ☐ Nitrite (as N)       ☐ Nitrite (as N)
□- (861) SDWA Group III (Fluoride)         □- (860) SDWA Complete Secondary         Cations:       Physical P         □- Calcium (as Ca)       □- Color         □- Magnesium (as Mg)       W- Conduct         □- Potassium (as K)       □- Odor         □- Sodium (as Na)       □- Odor         □- Total Hardness (as CaCO3)       □- Total D         □- Total Hardness (as CaCO3)       □- Total D         □- Alkalinity (as CaCO3)       □- Total D         □- Alkalinity (as CaCO3)       □- Turbidity         □- Carbonate (as HCO3)       □- Turbidity         □- Chloride (as Cl)       □- Turbidity         □- Fluoride (as F)       □- Turbidity         □- Sulfate (as SO4)       □- Turbidity	☐ (869) SWQB Nutrient Analysis Group +         ☐ (867) Major Anions & Cations         Parameters:       ☐ Biological Oxygen Demand
□- (861) SDWA Group III (Fluoride)         □- (860) SDWA Complete Secondary         Cations:       W         □- Calcium (as Ca)       □- Color         □- Magnesium (as Mg)       W- Conduct         □- Potassium (as K)       □- Odor         □- Sodium (as Na)       □- Odor         □- Total Hardness (as CaCO3)       □- Total Di         □- Alkalinity (as CaCO3)       □- Total Di         □- Alkalinity (as CaCO3)       □- Turbidit         □- Carbonate (as HCO3)       □-         □- Chloride (as Cl)       □-         □- Fluoride (as F)       □-         □- Sulfate (as SO4)       □-	☐ (869) SWQB Nutrient Analysis Group +         ☐ (867) Major Anions & Cations         Parameters:       ☐ Biological Oxygen Demand
□- (861) SDWA Group III (Fluoride)         □- (860) SDWA Complete Secondary         Cations:       W         □- Calcium (as Ca)       □- Color         □- Magnesium (as Mg)       W- Conduct         □- Potassium (as K)       □- Odor         □- Sodium (as Na)       □- Odor         □- Total Hardness (as CaCO3)       □- Total D         □- Total Hardness (as CaCO3)       □- Total D         □- Alkalinity (as CaCO3)       □- Total D         □- Carbonate (as HCO3)       □- Turbidit         □- Chloride (as Cl)       □-         □- Fluoride (as F)       □-         □- Sulfate (as SO4)       □-         ∑- Ion Charge Balance       □-	☐ (869) SWQB Nutrient Analysis Group +         ☐ (867) Major Anions & Cations         Parameters:       ☐ Biological Oxygen Demand

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STATE OF NEW MEXICO

HEALTH AND ENVIRONMENT DEPARTMENT

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud, NE Albuquerque, NM 87106 [505]-841-2500 WATER CHEMISTRY SECTION [505]-841-2555

August 16, 1990

Request ID No. 007160

To:

D. Boyer

P.O. Box 2088

Santa Fe, NM

NM Oil Consv. Div.

State Land Office Bldg.

## ANALYTICAL REPORT SLD Accession No. WC-90-2416

<u>Distribution</u>

(\_\_) User 70320 (■) Submitter 260

(🔆) SLD Files

From: Water Chemistry Section Scientific Laboratory Div. 700 Camino de Salud, NE Albuquerque, NM 87106

*Re:* A water, Nonpres/No sample submitted to this laboratory on July 17, 1990

87504-2088

#### DEMOGRAPHIC DATA

COLLECTION		LOCATION
On: 3-Jul-90	<i>By</i> : Moo	
At: 14:00 hrs.	In/Near: Eddy County	

#### ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units
calcium	1800.00		mG/L
magnesium	3760.00		mG/L
potassium	23200.00		mG/L
sodium	76500.00		mG/L
hardness	19900.00		mG/L
bicarbonate	190.00		mG/L
carbonate	0.00		mG/L
chloride	134500.00		mG/L
sulfate	5450.00		mG/L
conductance	>100000.00		mG/L
Hq	7.23		mG/L
total diss resid	266000.00		mG/L

**Reviewed By:** 

Barbara Dobie 08/13/

Analyst, Water Chemistry Section

90 AUG 22 AM 10 49

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19-		-	ION BALANCE WORKSHEET			_		
•		CATIONS  Meq	PPM	Det Limit	Analyte	ANIONS  Meq	PPM	Det Limit
- <b></b> 1	Ca Mg Na K	89.8204 308.8296 3.3275E3 593.3504	1800 3760 76500 23200	<5.0   <0.3   <5.0   <5.0	HCO3 SO4 Cl	3.1137 113.5417 3.7941E3	190 5450 134500	<0.1 <5.0 <5.0
	Mn Fe	0.0000 0.0000	0 0		NO3 CO3 NH3 PO4	$0.0000 \\ 0.0000 \\ 0.0000 \\ 0.0000 \\ 0.0000$	0 0 0	
	SUMS	+ 4.3195E3	105260	ſ	sums +	3.9107E3	140140	
	Total	Dissolved	Solids =	266000		Sticker#	7160	
		Ion Balan	ce =	110.4534		WC# Date out	2416	

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KECENED OIF CONSERN - ON DIVISION

ENERGY AND MINERALS DEPARTMEN		
40. 07 COPIES ACCEIVED	OIL CONSERVATION DIVISION	
DISTRIBUTION	P. O. BOX 2088	Form C-103 - Revised 19-1-79
SANTAFE	SANTA FE, NEW MEXICO 87501	NEVISED 19-1-73
FILE		Sa. Indicute Type of Leuse
U.S.G.S.		State Fee X
LAND OFFICE		5. State Oil & Gas Lease No.
OPERATOR	•	
SUNDRY	NOTICES AND REPORTS ON WELLS	THUNNUN THE
		7. Unit Agreement Name
OIL GAS	Barber	
Name of Operator	8. Farm or Lease Name	
Barber Oil,	Inc. "" 3'90	Stovall-Wood Fee
Address of Operator-		9. Well No.
P. O. Box 16	58 Carlsbad, NM 88221-1658 C	Barber Disposal
Location of Well	<u>, 21,01,01,000,000,000,000,000,000,000,000</u>	10. Field and Pool, or Wildcat
·	80 FEET FROM THE NORTH LINE AND 1580 FEET	Barber
West	20. TOWNSHIP 20S RANGE 30E N	мрм. АННИНИИИИИИИИИ
THE CIAE, SECTION	TOWNSHIP HANGE N	
	15. Elevation (Show whether DF, RT, GR, etc.)	12. County
***************************************		Eddy
	Allay Den Te Isline News (Nei Den	
	ppropriate Box To Indicate Nature of Notice, Report of	
NOTICE OF IN	TENTION TO: SUBSEQU	IENT REPORT OF:
ERFOAM REMEDIAL WORK	PLUG AND ABANDON REMEDIAL WORK	ALTERING CASING X
TEMPORARILY ABANDON	COMMENCE DRILLING OPNS.	PLUG AND ABANDONMENT
PULL OR ALTER CASING	CHANGE PLANS CASING TEST AND CEMENT JOB	
5. State 1.	\h	

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposes work) SEE RULE 1103.

JUNE, 1990 - This disposal well drilled in approximately 1943 to a depth of 227' to a "cut out section" of the Upper Rustler formation. The bottom of the this formation is approximately 415'. Ran 195' of 8-5/8" casing and set with 25 sax cement. The injection interval was from 195' - 207' or 12' total open hole. Surface water is at approx. 50' and the top of the nearest oil or gas zone is 1420'. In June of 1990 we began experiencing trouble with the well back flowing ver y slight amounts of water (less than 10 bbls) and the wells rate of intake began to decline. We ran a special hand made tool down the well bore and casing and cleaned out what appeared to be a combination of asphaltines, iron sulfide and parafin. We then pumped in 1,000 gallons of acid and flushed with 250 bbls of fresh water. The well improved for a few days and then the problem reappeared. We then cleaned the well bore out to a depth of 115' and ran 128' of plastic schedule 80 6" pipe down the well until we were inside good casing. The last 13' of pipe had to be forced into the casing as the existing pipe was coated with "gunk". We then ran our tool back down the new casing and into the old casing and cleaned out the hole leaving a seal of gunk between the two pipes. The well has been working perfectly since this procedure. We believe the procedure accopmlished two things. First, we successfully shut off all surface water that was previously dumping into the rustler formation. Secondly, we replaced what was probably several joints of badley corroded pipe at the top of the well with new pipe that should last longer than steel pipe.

i a C	)	3	1 1			
18. I hereby certify that the information gove is true and complete to the best of my knowledge and belief.						
m	Procidor	nt.	7/3/90			
SIGNED Wall W	TITLE TIESIUE	DATE DATE				
	<u> </u>		<b> </b>			
	V					
10-1045	TITLE	DATE				

- -

7/2/90 9:10 Called Larry Squires about water in corrals - Larry said boggy around corrals + that Lake had been there about 3 years when they had their last big rain. He said that lake use to dry up after rains, but it does not do it anymore. He feels restain that the potesh prople & Barber Oil Co are causing the problem, by saturating the area with water - larry said one of them was going to pump the water out. Larry has 160 acres of derdad land. Larry knows from a pamper that they are putting water in the ground e about 100

1-2-90 Larry Squires Called in Complaint - Sent DM down 2:00 7-3-90 Sent DM + JR- to Sample wtr + take pictures 7-5-90 JR visited w/ Berber Oil Co 7-6-90 Mw-JR- Jerry Sexton inspected SWD-Ponds 8/90 Roger had simples 8/90 Dave Boyer said samples should-ponds + SwD same wtr Boyer said he told LeMay + he wants to think about what to do

> Darrell Moore talked to State Engineers in Roswell Ken Fresca's Ken said there use to be a domistic well a one of the houses & Barber Trase but he did not know if it was still there or what type water they had

Ken also said that the Stock well (windmill) was @ 90' in 1948 295 Chlorides 3280 Conductivity in May 1989 18980 Chlorides 47631 Conductivity t the Fluid level was a 23'

7/22/00

~~ . . . **.** . .

3/23/90

I consider the the Garanger he said he knew they Needed to make some changes will plan the doubt of or I told him I would get back to him

JR-7/5/90 Barber O.1 Co Flow Line going into lake has been disconnected All water goes directly to disposal from water tanks. Corrals are dry, water is appx. 75 from corral. Talked to David Walker he has seen water in corral + there shop after a large rain. pond has dryed up before but not in the last 10 years Reason for running six inch PUC. They were having trouble disposing of fluid due to ground water going into well. Landed six inch at 128 ft. + cleand out well bore + well is taking appx, 5000 BBLS perday gravity fed. No cattle have been there for 3 years moving cattle in now - No tracks around pond Cattle will not drink pond water - brackish Potash Lake 2 miles North of well Shaft 1/2 mile North of will 

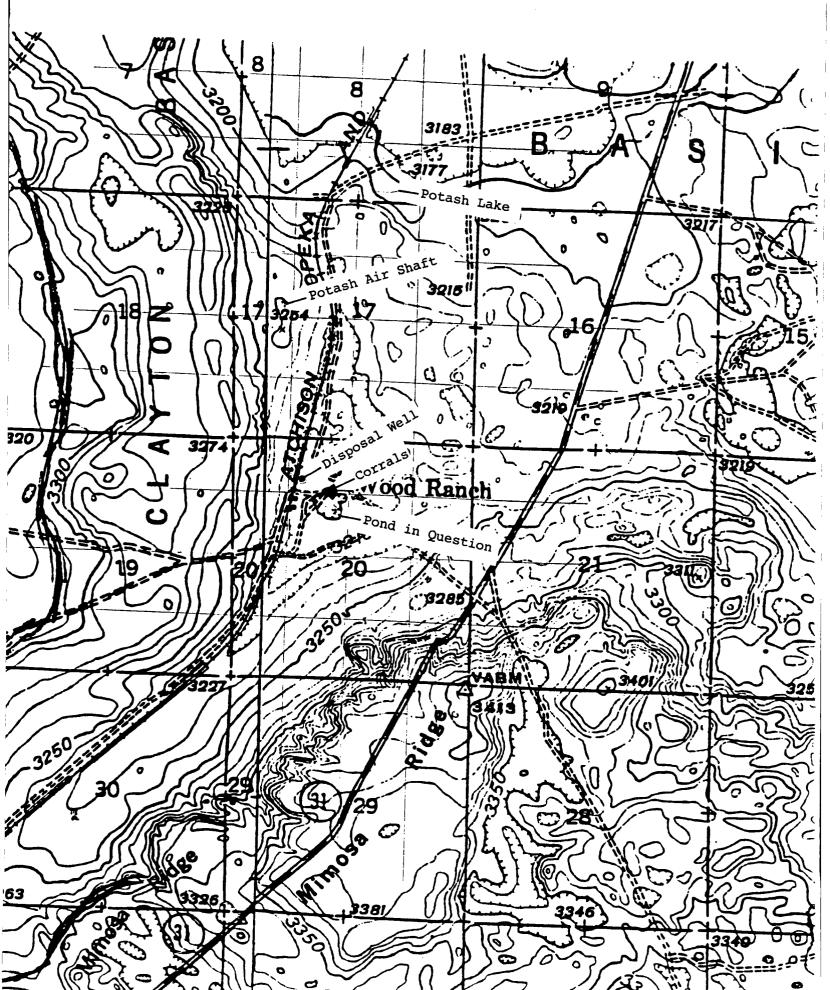
Odessa Nat Gas
Fed Dooley #1
24-20-29
Rustler 200
Tx 408
Bx 995
Yates 1105
Capitan Ret 1594
Delaware 3818

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TELEPHONF MESSAGE DATE: 6-29-90 FON  $\simeq 40$ TIME: 11:25 ). This to the in in the wing add :12 .. 393-7544 CALLER: Larry Squires / Snyder Ranches SUBJECT: Complained of water in corrals. He said it was coming from a Barber Oil Co (Bob Light) well 20-20-30 either Stovallor Colglazier leases. Pumper told him they are disposing water into Russell form at about 10000 about 2 miles straight South of old PCA mine by Ranchhouse Betty Rollins BY:

- T-20S R-30E



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

June 10, 1986

TONEY ANAYA GOVERNOR POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE. NEW MEXICO 87501-2088 (505) 827-5800

Mr. John Novosad Bureau of Land Management P. O. Box 1778 Carlsbad, New Mexico 88220

VE CENTED DY 1.1 17 1966 1 1551A. (7751)

Dear Mr. Novosad:

In response to your telephone request for information on the disposal well status at the Barber Oil Company-Calglazier Lease, Wells 1, 2, 3, Lease LC-029096-C, we provide the following information:

- 1. The Barber disposal well has been in use since 1943.
- 2. While we are assuming that the well was approved for disposal at that time, our records are incomplete in that they do not show approval or disapproval. We are continuing to research the matter.
- 3. The disposal well is located in the area covered by Oil Conservation Commission Order R-3221-B. This order allows for the surface disposal of fluids because either no ground water is present, or ground water has in excess of 10,000 mg/l total dissolved solids.

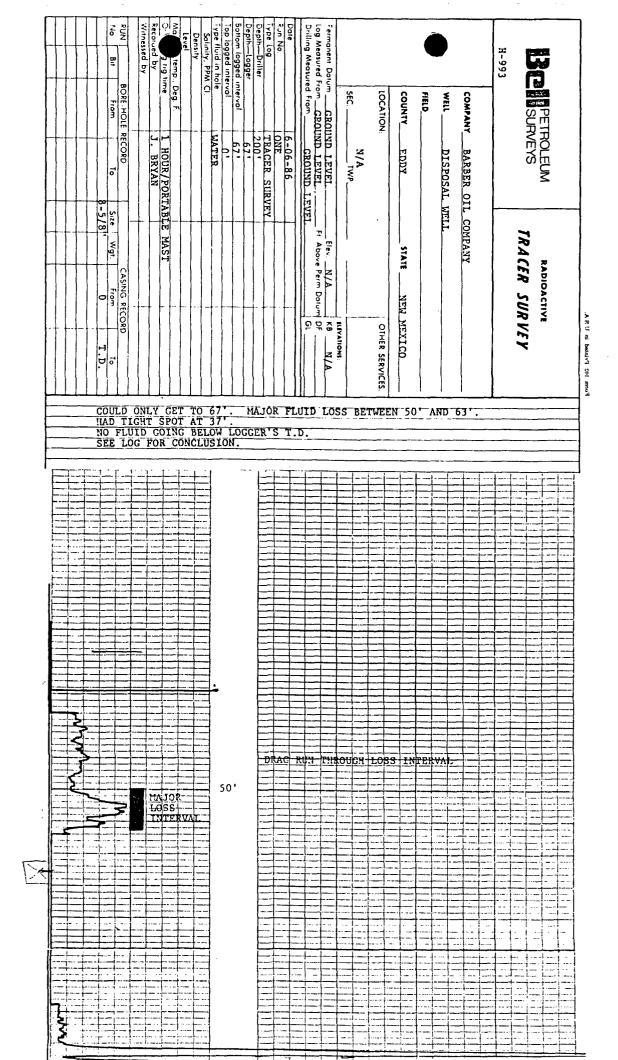
Based on information that no fresh water is located in the area, we believe that continued use of the disposal operation will not cause a hazard to fresh waters. We have requested that Barber submit the results of a survey designed to demonstrate where the water is going in the well. Any further action on this matter is pending the report of that survey.

Sincerely

R. L. STAMETS Director

RLS:DGB:dp .

cc: Les Clements, Artesia District Office « Dave Boyer, Environmental Bureau, OCD



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C-20-20-30

BARBER OIL, INC.

PHONE 887-2566

CARLSBAD, NEW MEXICO

July 11, 1977

United States Department of the Interior Geological Survey Drawer U Artesia, NM 88210 Re: Application for approval of water disposal under NTL-2B, Barber Pool,Federal Oil and Gas Lease LC-029096-C

Attention: Joe Lara

Gentlemen:

Barber Oil, Inc. hereby requests approval for open unlined pits for disposal of produced water under production in the Barber Pool, Sections 17 & 20 of T2OS, R3OE, Eddy County, New Mexico. This pool does have a shallow water injection well located in Unit C of Section 20 which we have used for many years to dispose of produced water. We request approval to continue as we have in the past which has been approved by the Oil Conservation Commission. *Exempt Area* 

As requested by your office in our recent telephone conversation I enclose a plat with the exact location of all wells on the above captioned property and the approximate location of the pits and tank battery on the property.

The average total water per day from all wells is 6051.66 barrels.

There are nine wells on the lease producing from the Yates lime or 7-Rivers at an average depth of 1,440 ft.

It is my understanding that the evaporation rate for Southeastern New Mexico is 72 inches per year. With essentially sand and gyp surface formation we achieve good to excellent perculation in the area.

I submit two copies of this application as requested. Should you need any further information, please so advise.

Very truly yours,

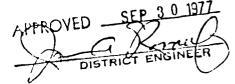
Robert S.

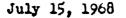
Fresident Rarber Oil, Jnc.

REL:mig

RECEIVED

JUL 1 2 1977 U.S. GEOLOGICAL SURVEY ARTESIA, NEW MEXICO





Estate of W. M. Snider, Box 726, Lovington, New Mexico

Gentlemen:

I enclose one executed copy of form C-108, Application to Disposts of Salt Water by Injection into a Porous Formation, as required by the Oil Conservation Commission. This application is to secure approval by the commission of our disposal well which we have used since 1943 on the Barber lease, Eddy County, New Mexico.

Very truly yours,

Barber Oil Inc. Robert S. Light, Fresident

RSL:pg cc: Oil Conservation Commission

R.L STAMETS FIELD NATE 4=25-68 Barber Disposal will 100 Ft Nich Tanks water from water log. To cement Trough Then Transite pipe (51/2 - 6") to will goes to will below surface. Wellesy corroded & open about ground. Oil drophets in concrete trongs. Bay said thought cry circulated Some water heaks, only & unsandary be hind Vanks Copy to R.L. Strate 4/2

April 19, 1968

N. M. Oil Conservation Commission P. O. Box 2088 Santa Fe, New Mexico 87501

Attention: Mr. A. L. Porter, Jr.

Re: Barber Pool Water Disposal

Dear Pete:

As per your request, I am herein outlining what I know or have been told about the subject matter.

On April 3rd of this year I stopped to see Bob Light in Carlsbad to check on his Russell Pool Flood. While there, he asked me if he would need to do anything to continue to dispose of his Barber Pool water as he has been doing. The Barber Pool was drilled years ago by Neil Wills and was operated by him until recently. The produced water has been dumped down a well into the Rustler Anhydrite for about the last 30 years. Bob said he thought the Barber water was of better quality than the water in the Rustler, but he did not at that time have proof. Further, he stated that the rancher had a stock water well which has been in constant use during this same 30 year period. The well is reportedly located next to one of Barber's Stovall Wood wells. The well is apparently 90 feet deep with one joint of casing in it.

Mr. Light said that if the described system were acceptable he would

April 19, 1968

Mr. A. L. Porter, Jr. N. M. Oil Conservation Commission P. O. Box 2088 Santa Fe, New Mexico 87501

request approval of a similar system in the PCA Pool. I advised him to contact you and to collect as much hard evidence as he could before he saw you.

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I will go by this pool next week if possible and see what I can find out in the field. I will also try to prepare a cross section of the pool showing the oil zone, Rustler zone and the fresh water zone. This information will be forwarded when complete.

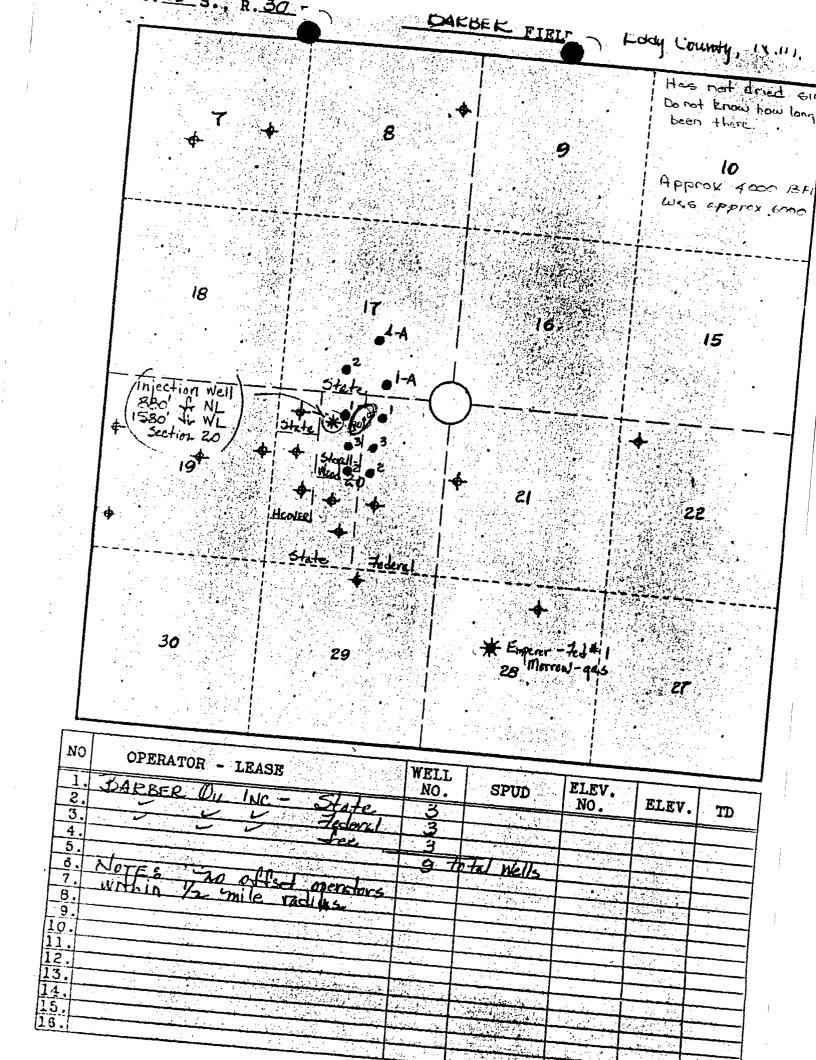
Very truly yours,

OIL CONSERVATION COMMISSION

R. L. STAMETS Geologist

RLS/bh

- 2.



APPLICA			CONSERVATION CONTER BY INJECTION	DININTO A POROUS	Form C-108 Revised 1-1-65 FORMATION
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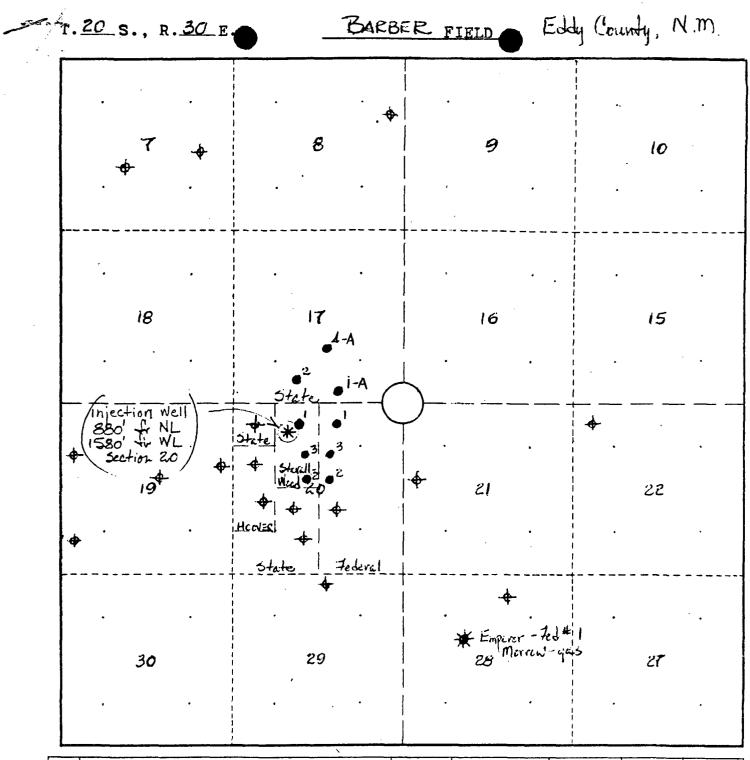


if the applicant so requests. SEE RULE 701.

## APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

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NEW MEXICO OIL CONSERVATION COMMISSION

### APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

BARDER (	Dilley INC.		ADDRESS	at Pier	<b>40 C</b>	arlsbad	I, N. R. 80220
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	the State Engineer,						

UTE: Should waivers from the State Engineer, the surface owher, and all operators within one-half mile of the proposed injection well. not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.



in which water is injected into a producing horizon in sufficient quantities and under sufficient pressure to stimulate the production of oil from other wells in the area, and shall be limited to those areas in which the wells have reached an advanced state of depletion and are regarded as what is commonly referred to as "stripper" wells.

- 2. The project area of a water flood project shall comprise the proration units upon which injection wells are located plus all proration units which directly or diagonally offset the injection tracts and have producing wells completed on them in the same formation; provided however, that additional proration units not directly nor diagonally offsetting an injection tract may be included in the project area if, after notice and hearing, it has been established that such additional units have wells completed thereon which have experienced a substantial response to water injection.
- 3. The maximum allowable assigned to any water flood project area shall be determined by multiplying the number of proration units in the project area times the basic Area Allowable Factor (as determined in subparagraph 4 below) times the appropriate proportional (depth) factor for the pool as set forth in Rule 505 (b). The allowable assigned to any water flood project area in which there are proration units containing more than one well shall be increased by an amount of oil equal to 0.333 times the basic Area Allowable Factor times the proportional (depth) factor for the pool for each such additional well on the proration unit; provided however, that the additional allowable for any such proration unit shall not exceed the basic Area Allowable Factor times the proportional (depth) factor for the pool.

The project area allowable may be produced from any well or wells in the project area in any proportion.

The production from a water flood project area shall be identified as such on the monthly Commission Form C-115.

Each and every well outside a prorated waterflood project area which is producing into common facilities with wells inside a prorated water flood project area shall be tested once each month and the

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### C. Salt Water Disposal Wells

The Secretary-Director of the Oil Conservation Commission shall have authority to grant an exception to the requirements of Rule 701-A for water disposal wells only, without notice and hearing, when the waters to be disposed of are mineralized to such a degree as to be unfit for domestic, stock, irrigation, or other general use, and when said waters are to be disposed of into a formation older than Triassic (Lea County only) which is non-productive of oil or gas within a radius of two miles from the proposed injection well, providing that any water occurring naturally within said disposal formation is mineralized to such a degree as to be unfit for domestic, stock, irrigation, and/or other general use.

To obtain such administrative approval, operator shall submit in TRIPLICATE Commission Form C-108, Application to Dispose of Salt Water by Injection Into a Porous Formation, said application to be filed in accordance with Rule 701-B above. Copies of the application shall also be sent to all offset operators and to the surface owner of the land upon which the well is located.

If no objection is received within 15 days from the date of receipt of the application, and the Secretary-Director is satisfied that all of the above requirements have been complied with, and that the well is to be cased and cemented in such a manner that there will be no danger to oil, gas, or fresh water reservoirs, an administrative order approving the disposal may be issued. In the event that the application is not granted administratively, it shall be set for public hearing, if the operator so requests.

The Commission may dispense with the 15-day waiting period if waivers of objection are received from all offset operators, the surface owner, and the State Engineer.-

#### D. Pressure Maintenance Projects

- Pressure maintenance projects are defined as those projects in which fluids are injected into the producing horizon in an effort to build up and/ or maintain the reservoir pressure in an area which has not reached the advanced or "stripper" state of depletion.
- 2. The project area and the allowable formula for any pressure maintenance project shall be fixed by the Commission on an individual basis after notice and hearing.

E. <u>Water Flood Projects</u>

1. Water flood projects are defined as those projects

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### H - GAS PRORATION AND ALLOCATION

RULE 601. ALLOCATION OF GAS PRODUCTION

When the Commission determines that allocation of gas production in a designated gas pool is necessary to prevent waste, the Commission, after notice and hearing, shall consider the nominations of purchasers from that gas pool and other relevant data, and shall fix the allocable production of that pool, and shall allocate production among the gas wells in the pool delivering to a gas transportation facility upon a reasonable basis and recognizing correlative rights. The Commission shall include in the provation schedule of such pool any gas tell which it finds is being unreasonably discriminated against through denial of access to a gas transportation facility which is reasonably capable of handling the type of gas produced by such well.

RULE 602. PRORATION PERIOD

The proration period shall be at least six months and the pool allowable and allocations thereof shall be made at least 30 days prior to each proration period

RULE 603. ADJUSTMENT OF ALLOWABLES

When the actual market dehand from any allocated gas pool during a proration period is more than or less than the allowable set by the Commission for the pool for the period, the Commission shall adjust the gas provation unit allowables for the pool for the next proration period so that each gas provation unit shall have a reasonable opportunity to produce its fair share of the gas production from the pool and so that correlative rights shall be protected.

RULE 604. GAS PRORATION UNITS

Before issuing a proration schedule for an allocated gas pool, the Commission, after notice and hearing, shall fix the gas proration unit for that pool. RULE 701. INJECTION OF FLUIDS INTO RESERVOIRS

#### A. Permit for Injection Required

The injection of gas, liquefied petroleum gas, air, water, or any other medium into any reservoir for the purpose of maintaining reservoir pressure or for the purpose of secondary recovery or the injection of water into any formation for the purpose of water disposal shall be permitted only by order of the Commission after notice and hearing, unless otherwise provided herein.

#### B. Method of Making Application

Application for original authority for the injection of gas, liquefied petroleum gas, air, water, or any other medium into any formation for any reason, including salt water disposal, or for the expansion of any such injection project by the completion or conversion of additional well (s) shall include the following:

- A plat showing the location of the proposed injection well (s) and the <u>location</u> of all other wells within a radius of two miles from said proposed injection well (s) and the <u>formation</u> from which said wells are producing or have produced. The plat shall also indicate the <u>lessees</u>, if any there be, within said two-mile radius.
- The log of the proposed injection well (s) if same is available.
- 3. A diagrammatic sketch of the proposed injection well (s) showing all casing strings, including diameters and setting depths, quantities used and tops of cement, perforated or open hole intervals, tubing strings, including diameters and setting depths, and the type and location of packers, if any.
- 4. Other pertinent information including the name and depth of the zone or formation into which injection will be made, the kind of fluid to be injected, the anticipated volumes to be injected, and the source of said injection fluid.

- 58 -

DAVID F. CARGO Chairman

## Gil Conservation Commission

State of New Mexico

P. O. BOX 2088 SANTA FE

STATE GEOLOGIST A. L. PORTER, JR. SECRETARY - DIRECTOR

LAND COMMISSIONER GUYTON B. HAYS MEMBER

May 21, 1968

Mr. Robert S. Light, President Barber Oil Incorporated 901 West Pierce Carlsbad, New Mexico 88220

Dear Mr. Light:

We are enclosing a copy of Rule 701 which you will follow to file an application for the disposal of salt water in the Basal Rustler formation, with our Santa Fe office. The application is to be filed on Form C-108 which is also enclosed.

Please follow the instructions very carefully so that there will not be any undue delay in processing your application.

trul yours Verv F. PORTER, Jr. Α.

Secretary-Director

ALP/ir Enclosures cc: Mr. Bill Gressett Oil Conservation Commission Drawer DD Artesia, New Mexico DAVID F. CARGO Chairman

State of New Mexico

## Gil Conservation Commission

STATE GEOLOGIST A. L. PORTER, JR. SECRETARY - DIRECTOR

P. O. BOX 2088 Santa fe

April 18, 1968

Mr. Robert S. Light, President Barber Oil, Inc. 901 West Pierce Carlsbad, New Mexico

Dear Mr. Light:

LAND COMMISSIONER

GUYTON B. HAYS

MEMBER

I discussed the problem to which you refer in your letter with Mr. Gressett and Mr. Stamets of the Artesia office yesterday. They will give me a report on what you have at present and what you propose to do in regard to the matter of water disposal, and I will be most happy to notify you in advance of my visit to the Artesia office so that we may discuss the matter.

truly your A. L. PORTER, Jr.

Secretary-Director

ALP/ir

cc: Mr. Bill Gressett



"Chemicals & Service for the Petroleum Industry" BOX 2580 MIDLAND, TEXAS 79702 (915) 683-7132

### API WATER ANALYSIS REPORT FORM

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	Barbe	r						Eddy		NM	
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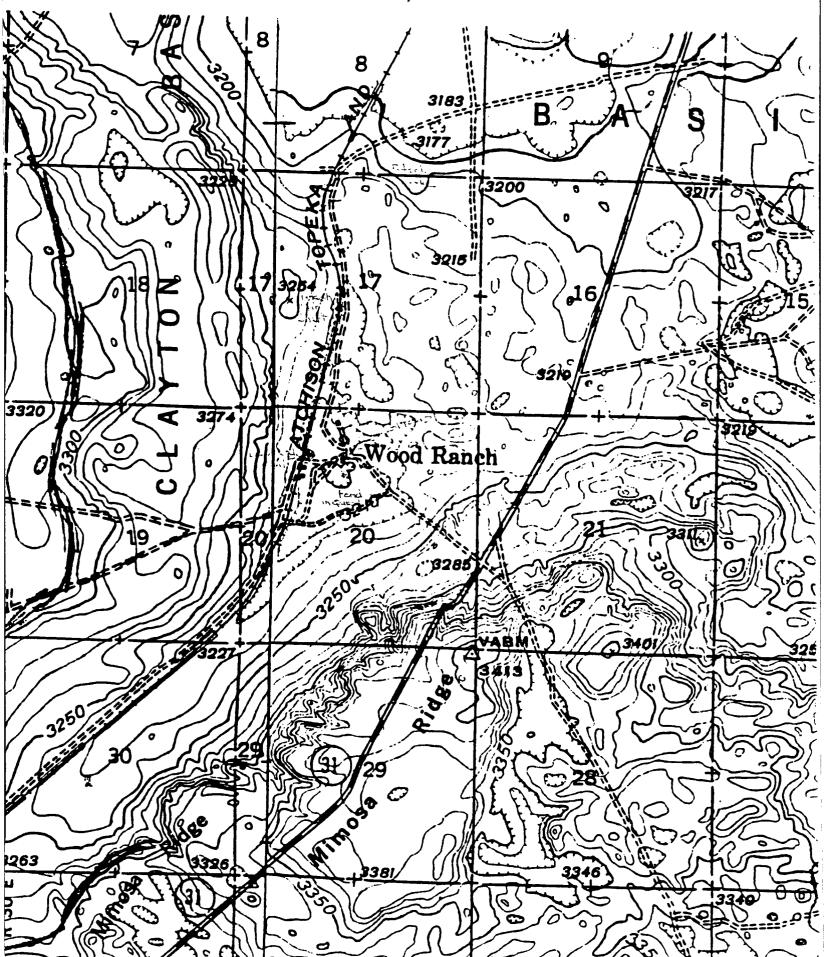
"Chemicals & Service for the Petroleum Industry" BOX 2580 MIDLAND, TEXAS 79702 (915) 683-7132

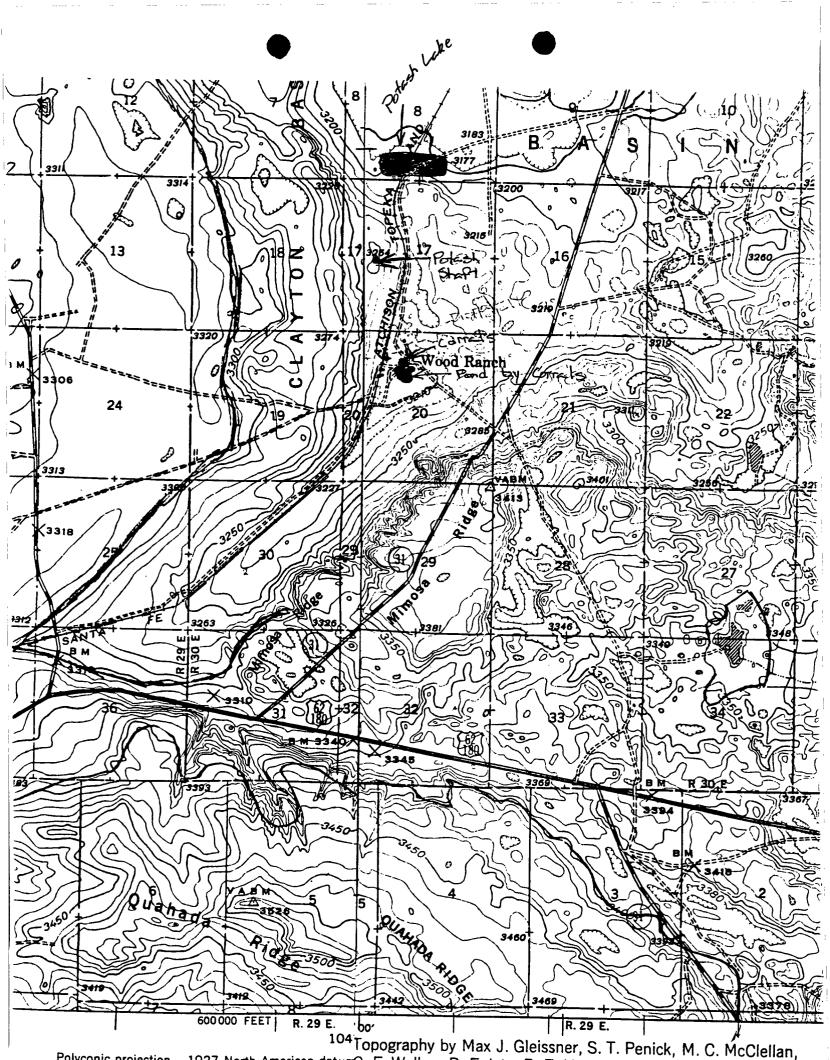
### API WATER ANALYSIS REPORT FORM

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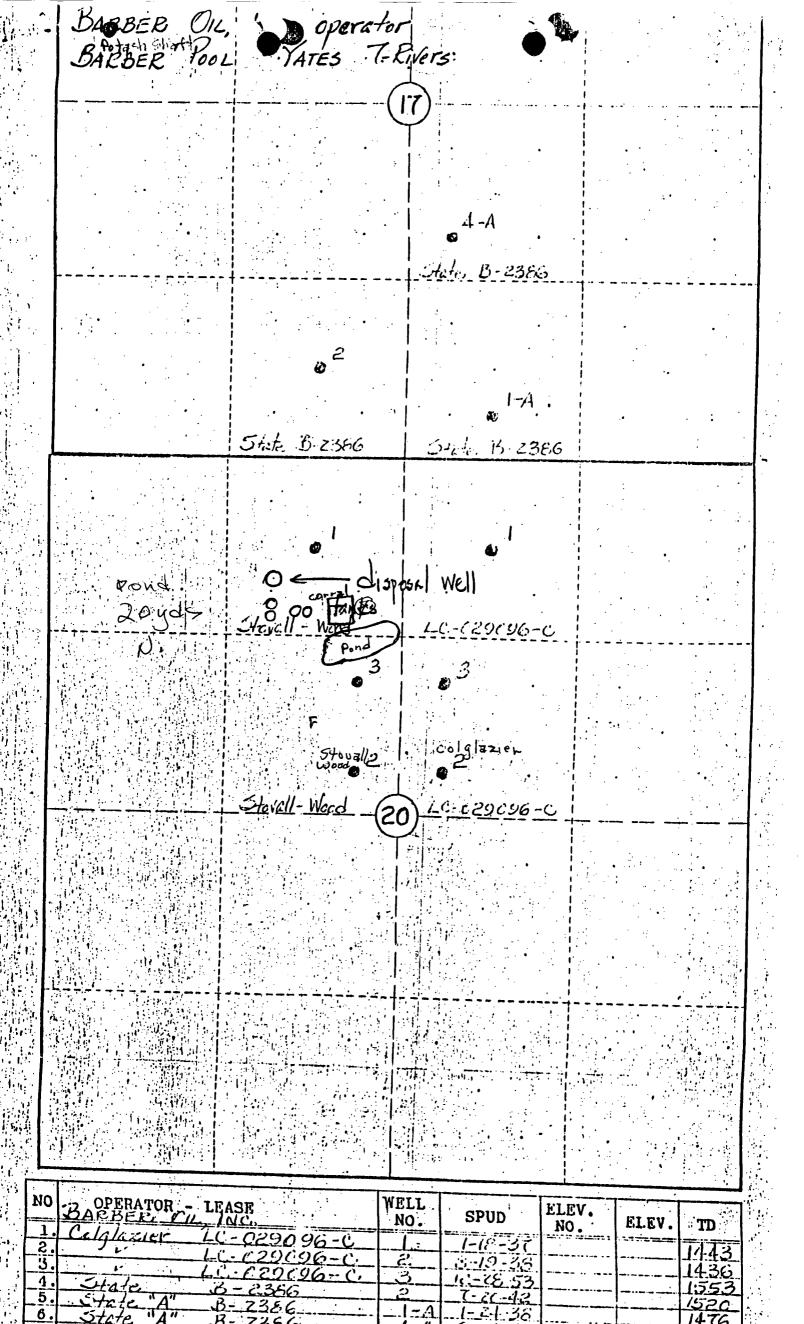
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