

CASE 3956: Application of YATES
PETROLEUM CORP. FOR SALT WATER
DISPOSAL, EDDY COUNTY, N. M.

Case Number

3956

Application

Transcripts.

Small Exhibits

ETC.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

October 30, 1984

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 208R
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Yates Petroleum Corporation
207 South 4th Street
Artesia, New Mexico 88210

Re: SWD Injection Permit
Federal AK No. 1
Unit I, Sec. 3,
T-19-S, R-25-E,
Eddy County, N.M.

3956

Gentlemen:

In an effort to update our files regarding Salt Water Disposal Permits, we are requesting some information on the above-mentioned well. Our records show that your company was issued a SWD Injection Permit No. R-3599 by us on November 26, 1968. Our records also show that since that time, this well has not been used for salt water disposal. Since a great deal of time has passed since your injection permit was granted, we assume that it is no longer your intention to use this well for water disposal purposes.

We are requesting information on the present status of this well, and whether or not your company intends to utilize this well for water disposal purposes at this time or in the near future. We would appreciate a response to this letter within thirty days. If we have not had a written response within that period of time, the injection permit granted by us will be rescinded.

Thank you for your cooperation in this matter.

Sincerely,

David Catanach

DAVID CATANACH
Petroleum Engineer

DC/dr

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 20, 1968

IN THE MATTER OF:

Application of Yates Petroleum
Corporation for salt water disposal,
Eddy County, New Mexico.

Case No. 3956

BEFORE: ELVIS A. UTZ

TRANSCRIPT OF HEARING

MR. UTZ: Case 3956.

MR. HATCH: Application of Yates Petroleum Corporation
for salt water disposal, Eddy County, New Mexico.

MR. UTZ: Let the record show that the same witness
will testify as sworn in the previous case.

(Applicant's Exhibits 1 through 5
marked for identification.)

* * * * *

PAUL G. WHITE, called as a witness, having been previously
duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. LOSEE:

Q You are the Paul White of Artesia, New Mexico, and
the Production Superintendent for Yates Petroleum Corporation
whose qualifications have previously been accepted by the
Commission, are you not?

A Yes, that's correct.

Q Please refer to what has been marked as Exhibit 1,
being the plat of the proposed disposal well.

A The plat shows the Federal AK Well, which is presently
a Wolfcamp producer, located in Section 3, Township 19 South,
Range 25 East.

Q What other production is found in the area within
two miles of this well?

A There's no other Wolfcamp production within an area of two miles of this well. There is some San Andres and Yeso Oil production within two miles of this well.

Q And that's the only other production, is Yeso and San Andres?

A Yes, sir, that is correct.

Q This plat also shows the location of the offset wells and operators?

A Yes, sir.

Q Please refer to what has been marked as Exhibit 2, being the diagrammatic sketch of the proposed completion of this salt water disposal well, and explain what is shown by it.

A This diagrammatic sketch shows the well mechanics and shows 8 and 5/8ths-inch surface casing at 1172 with cement circulated to the surface. It shows production casing 4 and 1/2-inch at 5826, top of cement 3960 by temperature survey; shows the Wolfcamp perforations presently producing 5740 to 5752 on the pump and then shows the proposed change in mechanics for salt water disposal, a bridge plug at 5710 with cement on top of the bridging plug, the Abo perforations 4411 to 4464, these are proposed for the salt water disposal. The packer set at 4350 and 2 and 3/8ths-inch internally coated tubing to the surface.

Q Now, you propose to shut off the Wolfcamp zone?

A Yes, sir, that's correct.

Q With this bridge plug. Your surface casing of 8 and 5/8ths set at 1172, is that below the fresh water zone that is present in the area?

A Yes, that's correct, it's at least 100 feet below any Artesian aquifer.

Q Please refer to what has been marked as Exhibit 3, being a xerox copy of the portion of the log into which the produced water is proposed to be injected, and point out the depths at which the perforations will exist.

A This is a small section of strip log taken from the Master Log, showing the Abo zone which is proposed to be perforated from 4411 to 4464.

Q Please refer to what has been marked as Exhibit 4, being the drillstem test of the Abo proposed injection and explain what were the results of the test.

A The reason for the presentation of this exhibit is to show the Commission that the Abo zone is quite porous; that from its hydrostatic final closed-in pressure, would take the water on gravity and to show, thirdly that there was no commercial oil production in the Abo section.

Q How far is the closest Abo production approximately,

in miles, Mr. White?

A This would be somewhat of a guess, ten miles.

Q Now, from what oil zones is the produced water coming which you propose to dispose of in this well?

A We propose to inject some Yeso and San Andres water, produced water in and around this area into this Abo zone.

Q And they are from other leases that Yates Petroleum Corporation operates in the area?

A Yes, that is correct.

Q What volumes of water do you anticipate would be injected into this salt water disposal well?

A We carried this as varying amounts for reasons which will be brought out in a case to follow this one, and we could not justifiably pin down an amount of water unless we talk about 500 barrels per day maximum.

Q Will this water be injected under pressure or gravity?

A From the drillstem test and the porosity and permeability of the Abo zone, it should gravity.

Q Do you have an opinion as to whether the disposal of the produced water in the manner you propose in this application, creates any danger to the fresh water, oil or gas reservoirs in this area?

A No, sir, I see no reason why it should injure any other production or any fresh waters in the area.

Q You earlier testified that the Wolfcamp would be plugged off; what is the present rate of production on that Wolfcamp?

A Presently we produce approximately 4 barrels of oil per day and two barrels of water per day which is uneconomical to pump from 5700 feet.

Q Do you know what the cumulative recovery from the Wolfcamp from that well has been, approximately?

A Yes, sir, I can give you that. The cumulative recovery is 19,000 barrels from the Wolfcamp.

Q Now, Exhibit 5 is your data sheet which actually contains the information to which you have testified?

A Yes, sir.

Q Were Exhibits 1 through 5 prepared by you or under your direction?

A Yes, sir, they were prepared by me.

MR. LOSEE: We move to introduce Exhibits 1 through 5, Mr. Examiner.

MR. UTZ: Without objections, Exhibits 1 through 5 will be entered into the record in this case.

(Whereupon, Exhibits 1 through 5 offered and admitted in evidence.)

CROSS EXAMINATION

BY MR. UTZ:

Q What about the annulus in this well, do you propose to fill it?

A Yes, sir, on this particular well, we will fill the annulus with inhibited fluid.

Q Will you have a gauge at the surface?

A Yes, sir.

Q Between the top of the cement on the 4 and 1/2 and the base of the 8 and 5/8ths, what do you have in this area in the way of production of water?

A Sir, there's some Yeso production within three-quarters of a mile, I would say, approximately three-quarters of a mile. There is some Yeso production in this interval, oil and water.

Q With the plastic-coated tubing and the inert fluid in the annulus you feel that you can protect that production very well with this installation?

A Yes, sir, I do.

Q How salty is the water in this area?

A Well, the San Andres water which we'll bring over, will have a higher degree of salinity than the Yeso water. The Yeso water, if my memory serves me correctly, will run

around 40,000 parts per million, and the San Andres water can run as high as 100,000 parts per million.

MR. UTZ: Any other questions of the witness?
He may be excused.

(Witness excused.)

MR. UTZ: The case will be taken under advisement.

I N D E X

WITNESS		PAGE
<u>PAUL G. WHITE</u>		
Direct Examination by Mr. Losee		2
Cross Examination by Mr. Utz		7
<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's 1 through 5	2	6

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my hand this 2nd day of December, 1968.

Ada Dearnley
 ADA DEARNLEY

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 395-6, heard by me on 11-20-68, 19.....

Paul G. White, Examiner
 New Mexico Oil Conservation Commission

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

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

P. O. BOX 2088
SANTA FE

November 26, 1968

Mr. A. J. Losee
Attorney at Law
Post Office Box 239
Artesia, New Mexico 88210

Re: Case No. 3956
Order No. R-3599
Applicant:
Yates Petroleum Co.

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC x

Aztec OCC

Other State Engineer Office

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3956
Order No. R-3599

APPLICATION OF YATES PETROLEUM
CORPORATION FOR SALT WATER DISPOSAL,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 8:30 a.m. on November 20, 1968, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 26th day of November, 1968, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Yates Petroleum Corporation, is the owner and operator of the Federal AK Well No. 1, located in Unit I of Section 3, Township 19 South, Range 25 East, NMPM, Penasco-Wolfcamp Pool, Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Abo formation, with injection into the perforated interval from approximately 4411 feet to 4464 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer set at approximately 4350 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should

-2-

CASE No. 3956
Order No. R-3599

be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(5) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

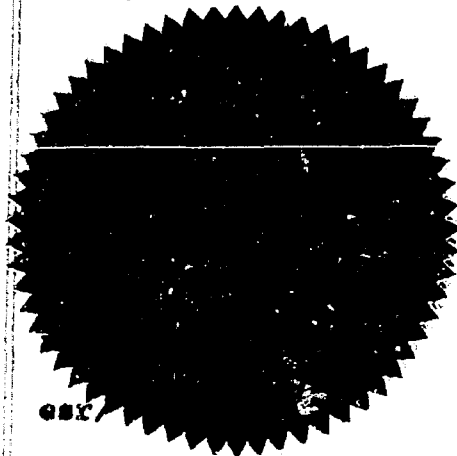
(1) That the applicant, Yates Petroleum Corporation, is hereby authorized to utilize its Federal AK Well No. 1, located in Unit I of Section 3, Township 19 South, Range 25 East, NMPM, Penasco-Wolfcamp Pool, Eddy County, New Mexico, to dispose of produced salt water into the Abo formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4350 feet, with injection into the perforated interval from approximately 4411 feet to 4464 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

David F. Cargo
DAVID F. CARGO, Chairman

Guyton B. Hays
GUYTON B. HAYS, Member

A. L. Porter, Jr.
A. L. PORTER, JR., Member & Secretary

3956

11-20-68

11-21-68

Grant Yates Pk. permission to
convert check D ed. A Kth 1-D-3-
195-25E to a SW D well. Injection
shall be thru ~~Plastic coated~~ tubing
^{set at approx 4350}
under a packer and into ~~the~~
abo from three perforations @ 4411-4464.
The 4 1/2 x 2 3/8 Annulus shall be
filled with inert fluid with
gauge at the surface.

Shuttl. W

- CASE 3953 continued: 3418 feet to 3429 feet in the Bernice Dinnin A Well No. 2 located in Unit J of Section 23, Township 20 South, Range 33 East, Teas Yates-Seven Rivers Pool, Lea County, New Mexico.
- CASE 3954: Application of C. E. Long, Jr., for a non-standard gas proration unit and an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an 80-acre non-standard gas proration unit comprising the S/2 SW/4 of Section 32, Township 21 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to his Shell-State Well No. 1 at an unorthodox location for said pool 660 feet from the South line and 2310 feet from the West line of said Section 32.
- CASE 3955: Application of Yates Drilling Company for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Pennsylvanian formation in the perforated interval from approximately 9640 feet to 9660 feet in its Lillie M. Yates Well No. 4 located in Unit D of Section 31, Township 8 South, Range 37 East, Allison Pennsylvanian Pool, Roosevelt County, New Mexico.
- CASE 3956: Application of Yates Petroleum Corporation for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Abo formation in the perforated interval from approximately 4411 feet to 4464 feet in its Federal AK Well No. 1 located in Unit I of Section 3, Township 19 South, Range 25 East, Penasco-Wolfcamp Pool, Eddy County, New Mexico.
- CASE 3957: Application of Yates Petroleum Corporation for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the interval from approximately 1260 feet to 1410 feet in its A. V. Gissler Well No. 2 located in Unit B of Section 23, Township 17 South, Range 25 East, Eagle Creek-San Andres Pool, Eddy County, New Mexico.
- CASE 3958: Application of Yates Petroleum Corporation for a dual completion and salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete three wells in Section 8, Township 19 South, Range 25 East, and Section 25, Township 18 South, Range 25 East, Penasco Draw-San Andres Yeso Pool, Eddy County, New Mexico, in such a manner as to permit the production of oil from the San Andres formation and the disposal of produced salt water

EXHIBIT 3

BE	CLERK EXAMINER UTZ
OIL	EXAMINATION
"	EXAMINATION NO. 3
CASE NO.	3956

4133
- 826

3
826
97

4100

4200

4300

4400

4500

4600

1/160 Gr. Sh. 4264

41412	41339
350	3502
915	-837
4339	(-837)

ABO CARD

4425
3502
-923

417 (-915)

OS 41-4411-4464 Good initial
diminished twice in the
1/2 30' FST 1878 FET
Roe 369 SWC 341 +3840 S

FC's & AB's
FC's & AB's
FC's & AB's

FC's & AB's

AB's

4600
3502
-1098

Possible
O-U. Contact
@ 4300 (-109)

DIAGRAMMATIC SKETCH
PROPOSED SWD WELL
YATES PETROLEUM CORP.
FEDERAL AK NO. 1

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 3956

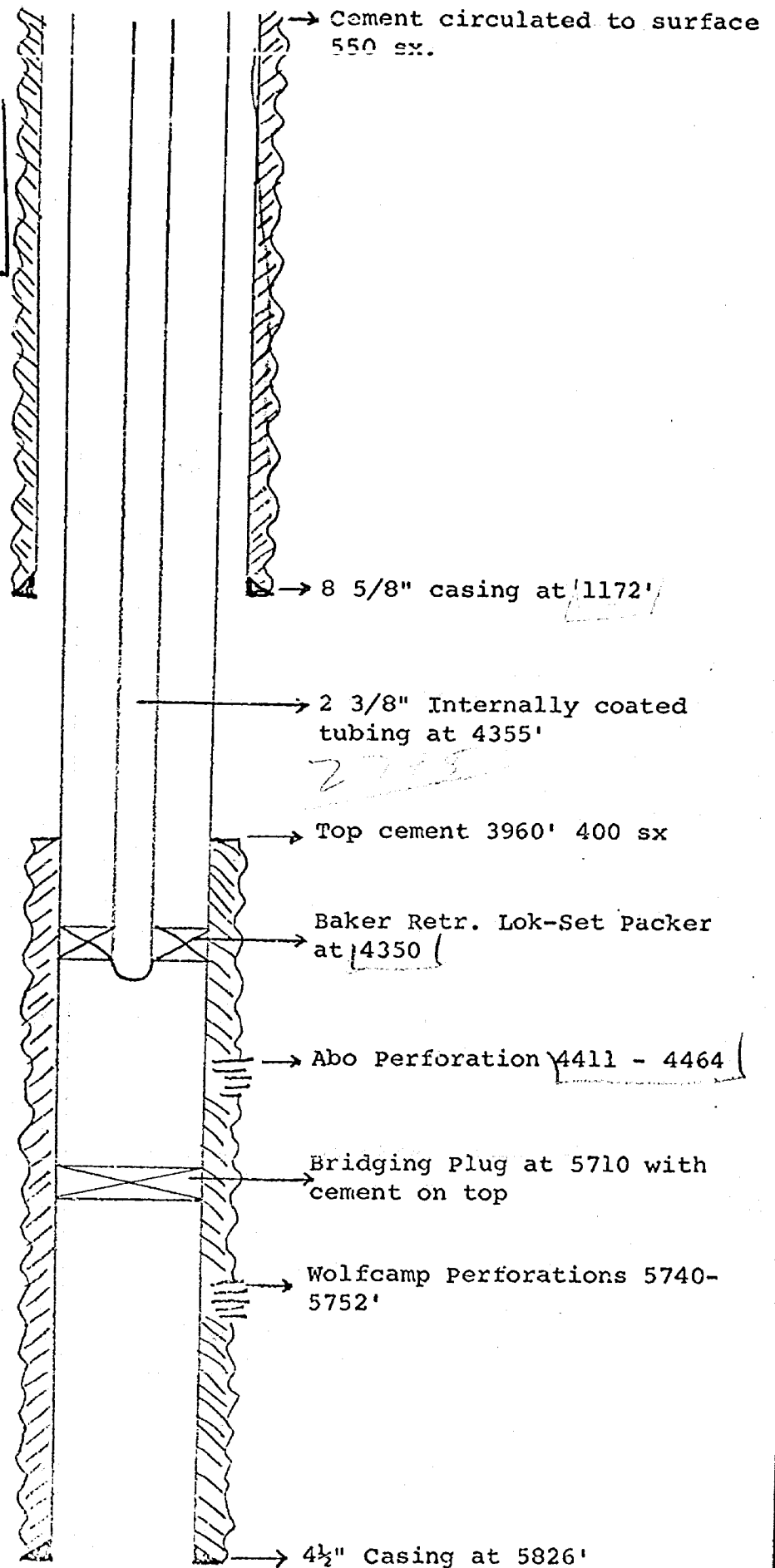


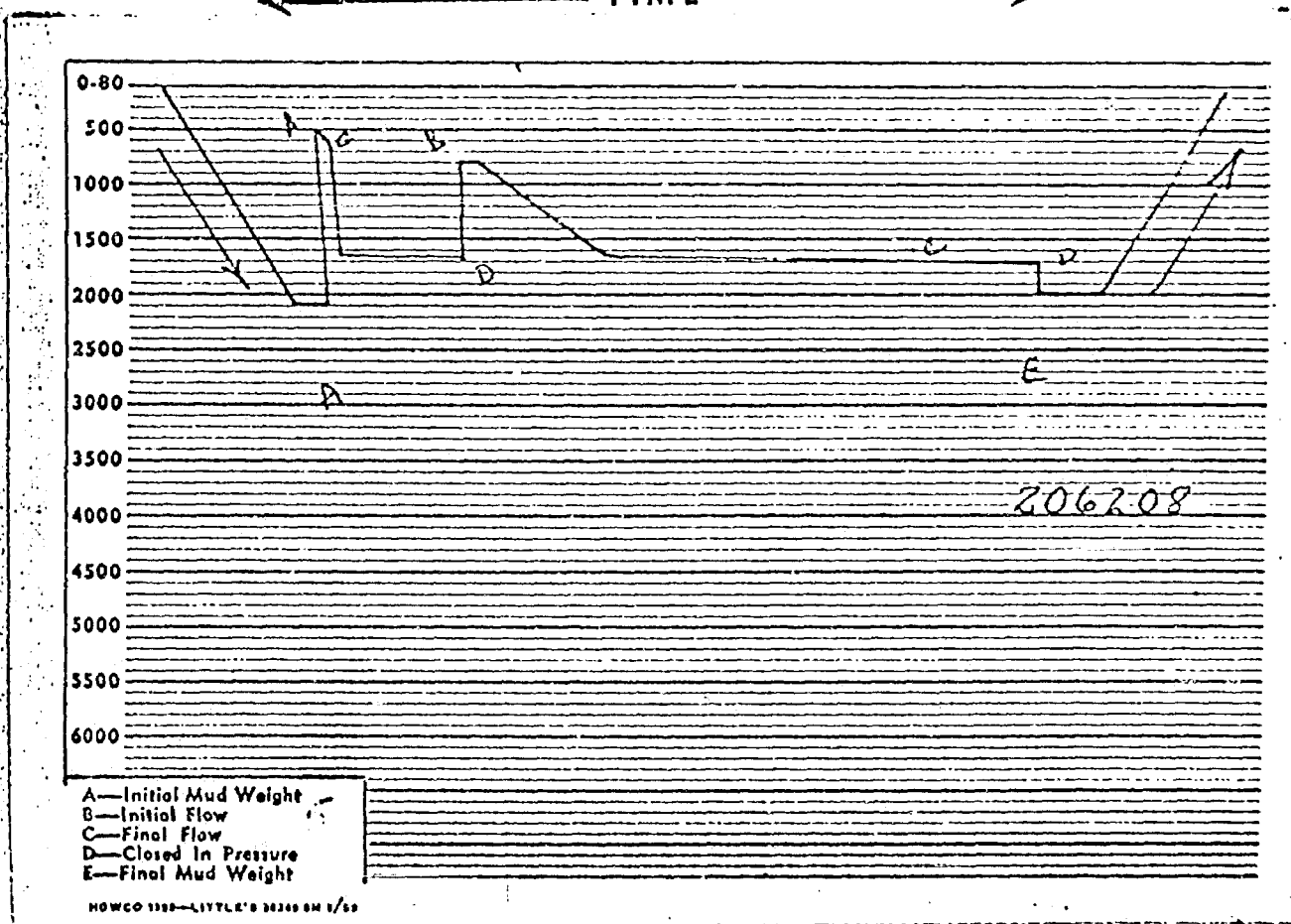
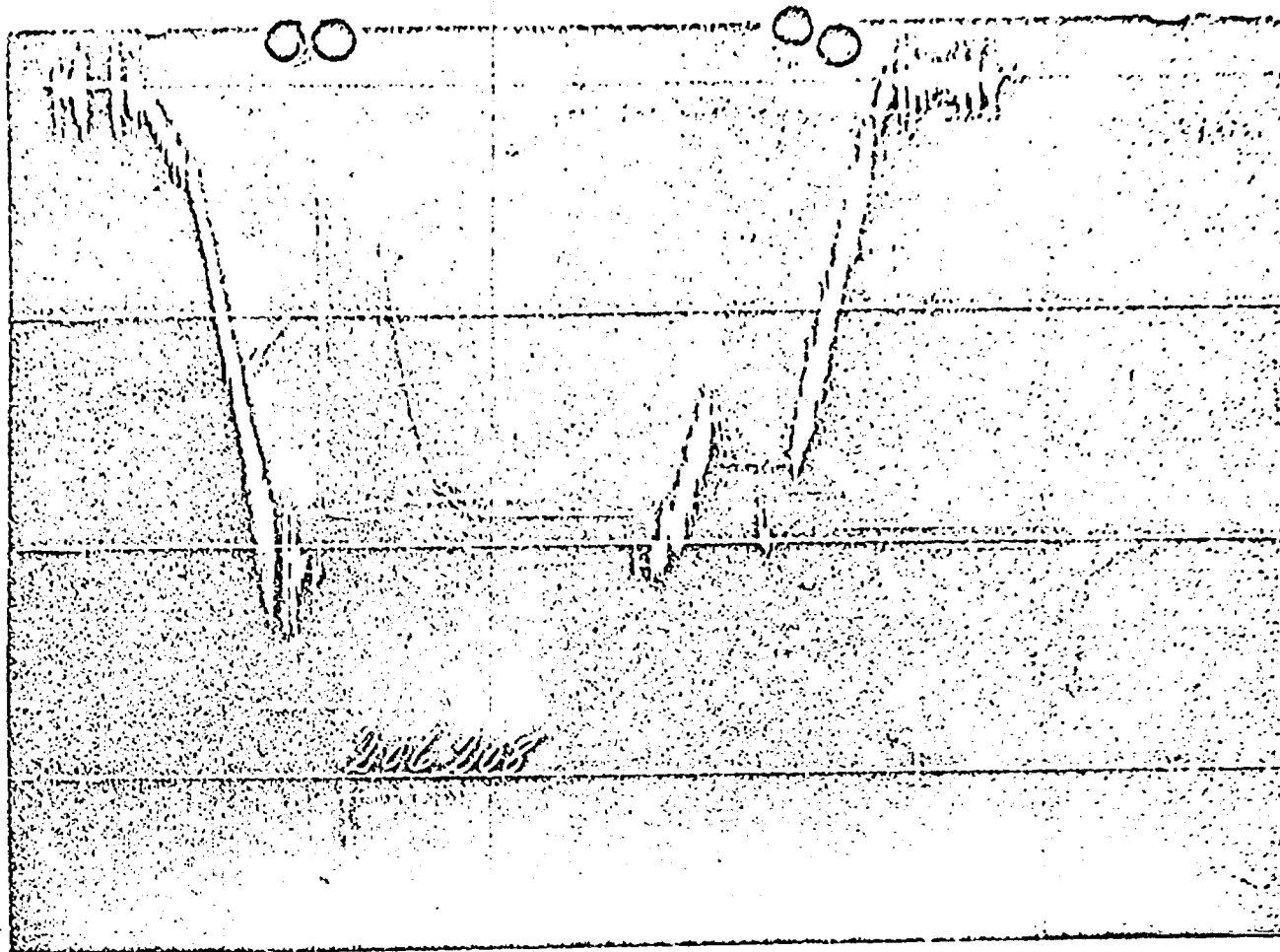
EXHIBIT 2
DATE 10-28-68

Initial Closed In Time 35 Minutes		Date 5-2-60	
Tool Open 1st 2nd 120 Minutes		Ticket No. 206208	
Final Closed In Time 30 Minutes		HOWCO DISTRICT HORES, NEW MEXICO	
Depth Top Gauge 4454 Ft. Blanked Off NO		Kind of Job OPEN HOLE	
BT. P.R.D. No 35 12 Hr. Clock		CONTRACTOR LEE DRILLING COMPANY	
Pressure Readings Field Office Corrected		HOLE & TOOL DATA	
Initial Hydro Mud Pressure 2110 2112		Elevation 3502' D.B. Top Packer Depth 4409'	
Initial Closed in Pres. 1878 1875		Total Depth 4464' Bottom Packer Depth 4411'	
Initial Flow Pres. 715 472-600		Casing or Hole Size 7 7/8" Size & Type Wall Packer 6 3/4" E.S.W.P.	
Final Flow Pres. 1878 620-1874		Liner or Rathole Size 7 7/8" Size Bottom Choke 5/8"	
Final Closed in Pres. 1878 1874		Casing Perforations Top Bottom Size Surface Choke 5/8"	
Final Hydro Mud Pressure 2110 2107		Interval Tested 4411'-4464' ID & Length Air Chamber -	
Depth Center Gauge 4458 Ft. Blanked Off YES		Formation Tested A70 ID & Length Drill Collars 50' x 2 1/2"	
BT. P.R.D. No 3446 Hr. Clock		Est. Gauge Depth Temp. Actual 100 F° Size Drill Pipe 4 1/2" API F.H.	
Pressure Readings Field Office Corrected		MUD DATA Weight 9.0 Viscosity 38	
Initial Hydro Mud Pressure		All depths measured from ROTARY TABLE No. Folders Reproduced 5	
Initial Closed in Pres.		REMARKS: Opened tool for 4 minute first flow.	
Initial Flow Pres.		Closed tool for 35 minute initial closed in	
Final Flow Pres.		pressure. Re-opened tool with strong blow -	
Final Closed in Pres.		decreased and died in 90 minutes.	
Final Hydro Mud Pressure			
Depth Bottom Gauge Ft. Blanked Off			
BT. P.R.D. No Hr. Clock			
Pressure Readings Field Office Corrected			
Initial Hydro Mud Pressure			
Initial Closed in Pres.		Recovered 360 Feet of Sulphur Water Cut Drilling Mud	
Initial Flow Pres.		Recovered 3840 Feet of Sulphur Water	
Final Flow Pres.		Recovered Feet of	
Final Closed in Pres.		Recovered Feet of	
Final Hydro Mud Pressure		Witnessed By JIM TWEEDY	
Amount-Type of Cushion None		Tester MAC McCANN	

HOWCO No. 1295 R L.

EXHIBIT 4

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
EXHIBIT NO. 4	
CASE NO. 3956	



Each Horizontal Line Equal to 1000 p.s.i.

Company PAN AMERICAN PETROLEUM CORPORATION 5-2-60

	Time	PSI	
Initial Hydro Mud Pressure		2112	Ticket No. 206208
1st Initial Flow		472	
1st Final Flow	4 Minutes	620	
Initial Closed In Pressure	35 Minutes	1875	Lease FEDERAL YATES
2nd Initial Flow		684	Well No. 1 Test No. 1
2nd Final Flow	120 Minutes	1874	BT No. 35 Depth 4454'
Final Closed In Pressure	30 Minutes	1874	12 Hr. Clock No. 862
Final Hydro Mud Pressure		2101	Temperature Corrected to Actual 100 ° F

	1st Flow Pressure		Initial CIP		2nd Flow Pressure		Final CIP	
	Time Defl. .000"	PSI Temp. Corr.	Time Defl. .000"	PSI Temp. Corr.	Time Defl. .000"	PSI Temp. Corr.	Time Defl. .000"	PSI Temp. Corr.
P0	.000	472	.000	620	.000	684	.000	1874
P1	.012	620	.0234	1855	.100	1303	.213	1874
P2			.0468	1868	.200	1670		
P3			.0702	1871	.300	1826		
P4			.0936	1872	.400	1867		
P5			.117	1873	.500	1872		
P6			.1404	1874	.600	1873		
P7			.1638	1874	.700	1873		
P8			.1872	1874	.800	1874		
P9			.2106	1874				
P10			.234	1875				
	Minute Intervals		3.5	Minute Intervals	15	Minute Intervals	Minute Intervals	

Remarks:

YATES PETROLEUM CORPORATION
PERTINENT DATA SHEET

1. Produced salt water will be injected into the Abo Formation from (4411-4464).
2. The produced water to be injected is produced from the Yeso and San Andres oil wells in the area, it is requested that other isolated produced water can be injected into the Abo.
3. The volume of water injected will vary as conditions dictate.
4. The Wolfcamp perms which are to be plugged off presently produce approximately 4 BOPD and 2 BWPD.
5. Formation pressures indicate that produced water will gravity into the Abo. There are no commercial Abo producers in the area of the well.

EXHIBIT 5

DATE 10-28-68

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	<u>5</u>
CASE NO.	<u>3956</u>



YATES BUILDING - 207 SOUTH 4TH ST.
ARTESIA, NEW MEXICO - 88210

*Call
395P*

S. P. YATES
PRESIDENT
HARVEY E. YATES
VICE PRESIDENT
MARTIN YATES, III
VICE PRESIDENT
JOHN A. YATES
VICE PRESIDENT
HUGH W. PARRY
SEC. - TREAS.

October 15, 1968

State of New Mexico
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attn: Secretary Director, Mr. A. L. Porter Jr.

Re: Conversion of (1) Wolfcamp
Producer to Salt Water Dis-
posal Well

Dear Sir:

The Yates Petroleum Corporation respectfully requests that the New Mexico Oil Conservation Commission set for hearing as soon as possible a case for the conversion of the following well:

Federal AK No. 1 Unit I Sec. 3-T19S-R25E Eddy Co.

The Yates Petroleum Corporation seeks authority to convert the subject well from a Wolfcamp Oil Producer to an Abo salt water disposal well.

This application is accompanied by (1) plat of area (2) diagrammatic sketch of proposed conversion (3) log on well (4) DST in Abo Zone (5) pertinent data sheet.

Copies of this application and all exhibits pertaining thereto have been sent to all offset operators and the USGS.

Sincerely,

Paul G. White

Paul G. White

PGW/gs

cc: District NMOCC
Atlantic Richfield
Sinclair Oil Co.

DOCKET MAILED

Date 11-7-68

Penasco-Wolfcamp

Case 39TB

DIAGRAMMATIC SKETCH
PROPOSED SWD WELL
YATES PETROLEUM CORP.
FEDERAL AK NO. 1

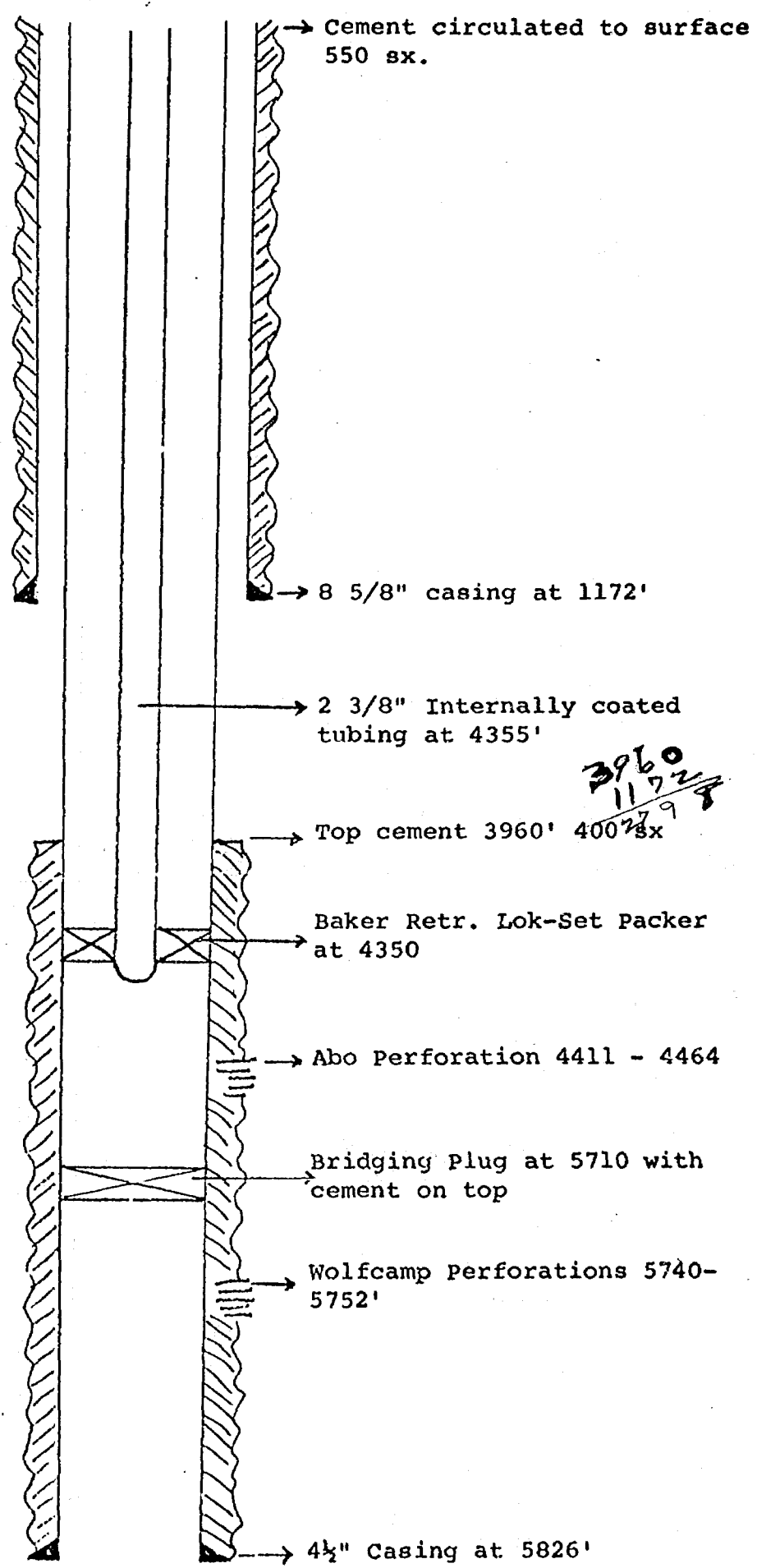
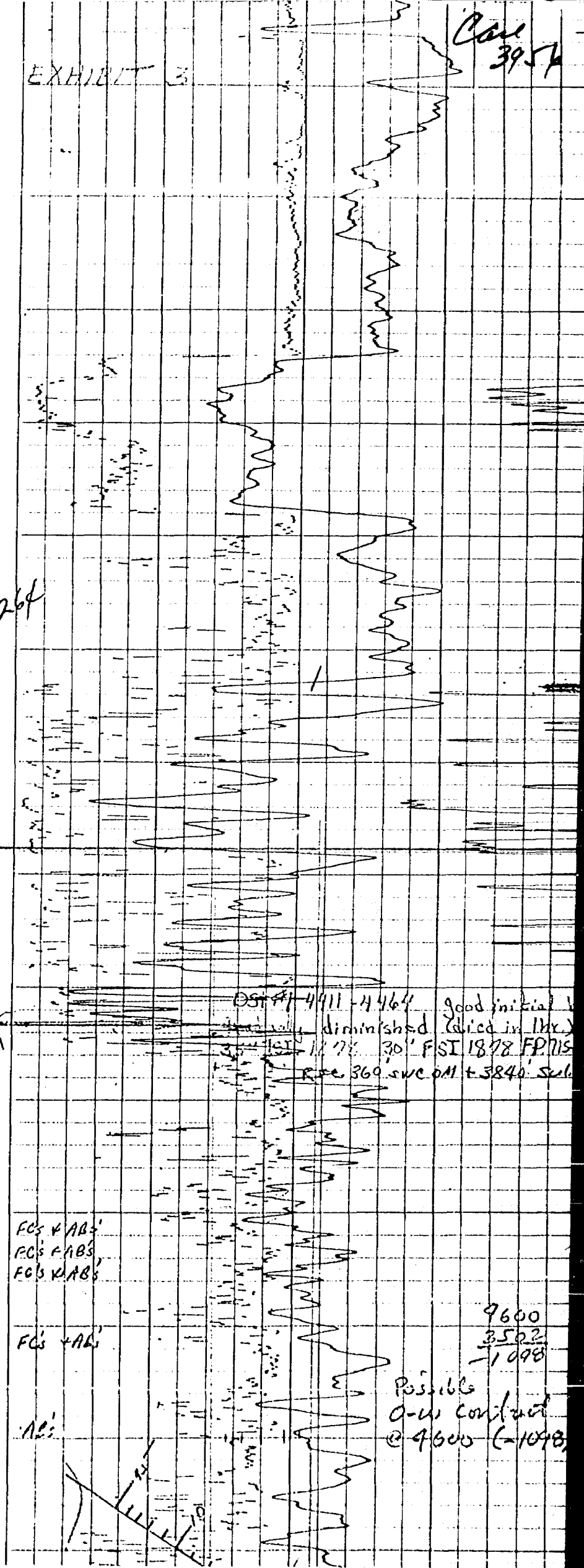
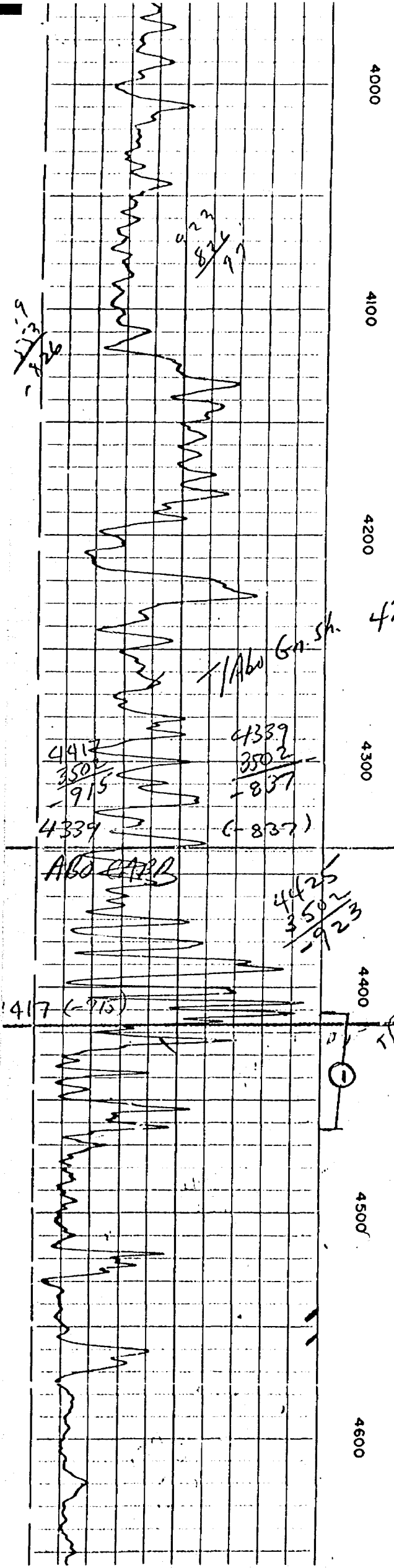



EXHIBIT 2
DATE 10-28-68

Case 3957

EXHIBIT 3



Case 39-54

Initial Closed In Time 35 Minutes				Date 5-2-60	
Tool Open Flow Period 1st 120 Minutes				TICKET No. 206208	
Final Closed In Time 30 Minutes				HOWCO DISTRICT HOBBS, NEW MEXICO	
Depth Top Gauge 4454 Ft.		Blanked Off NO		Kind of Job OPEN HOLE	
BT. P.R.D. No 35		12 Hr. Clock		CONTRACTOR LEE DRILLING COMPANY	
Pressure Readings Field		Office Corrected		HOLE & TOOL DATA	
Initial Hydro Mud Pressure 2140		2112		Elevation 3502' D.B. Top Packer Depth 4409'	
Initial Closed In Pres. 1878		1875		Total Depth 4464' Bottom Packer Depth 4411'	
Initial Flow Pres. 715		472-604		Casing or Hole Size 7 7/8" Size & Type Wall Packer 6 3/4" E.S.W.P	
Final Flow Pres. 1878		620-1874		Liner or Rathole Size 7 7/8" Size Bottom Choke 5/8"	
Final Closed In Pres. 1878		1874		Casing Perforations Top Bottom Size Surface Choke 5/8"	
Final Hydro Mud Pressure 2140		2103		Interval Tested 4411'-4464' ID & Length Air Chamber -	
Depth Center Gauge 4458 Ft.		Blanked Off YES		Formation Tested ATO ID & Length Drill Collars 40' x 2 1/2"	
BT. P.R.D. No 3446		Hr. Clock		Est. Gauge Depth Temp. Actual 100 F° Size Drill Pipe 4 1/2" API F.H.	
Pressure Readings Field		Office Corrected		MUD DATA Weight 9.0 Viscosity 38	
Initial Hydro Mud Pressure				All depths measured from ROTARY TABLE No...Folders Reproduced 5	
Initial Closed In Pres.				REMARKS: Opened tool for 4 minute first flow.	
Initial Flow Pres.				Closed tool for 35 minute initial closed in	
Final Flow Pres.				pressure. Re-opened tool with strong blow -	
Final Closed In Pres.				decreased and died in 90 minutes.	
Final Hydro Mud Pressure					
Depth Bottom Gauge Ft.		Blanked Off			
BT. P.R.D. No		Hr. Clock			
Pressure Readings Field		Office Corrected			
Initial Hydro Mud Pressure					
Initial Closed In Pres.				Recovered 360 Feet of Sulphur Water Cut Drilling Mud	
Initial Flow Pres.				Recovered 3840 Feet of Sulphur Water	
Final Flow Pres.				Recovered Feet of	
Final Closed In Pres.				Recovered Feet of	
Final Hydro Mud Pressure				Witnessed By JIM TWEDDY	
Amount-Type of Cushion None				Tester MAC McCANN	

LOCATION Sec. 3-10S-25E

FIELD WILDCAT

COUNTY Eddy

STATE NEW MEXICO

GENERAL NOTES

LEASE NAME

WELL NO. 1

TEST NO. 1

PAN AMERICAN PETROLEUM CORPORATION

LEASE OWNER

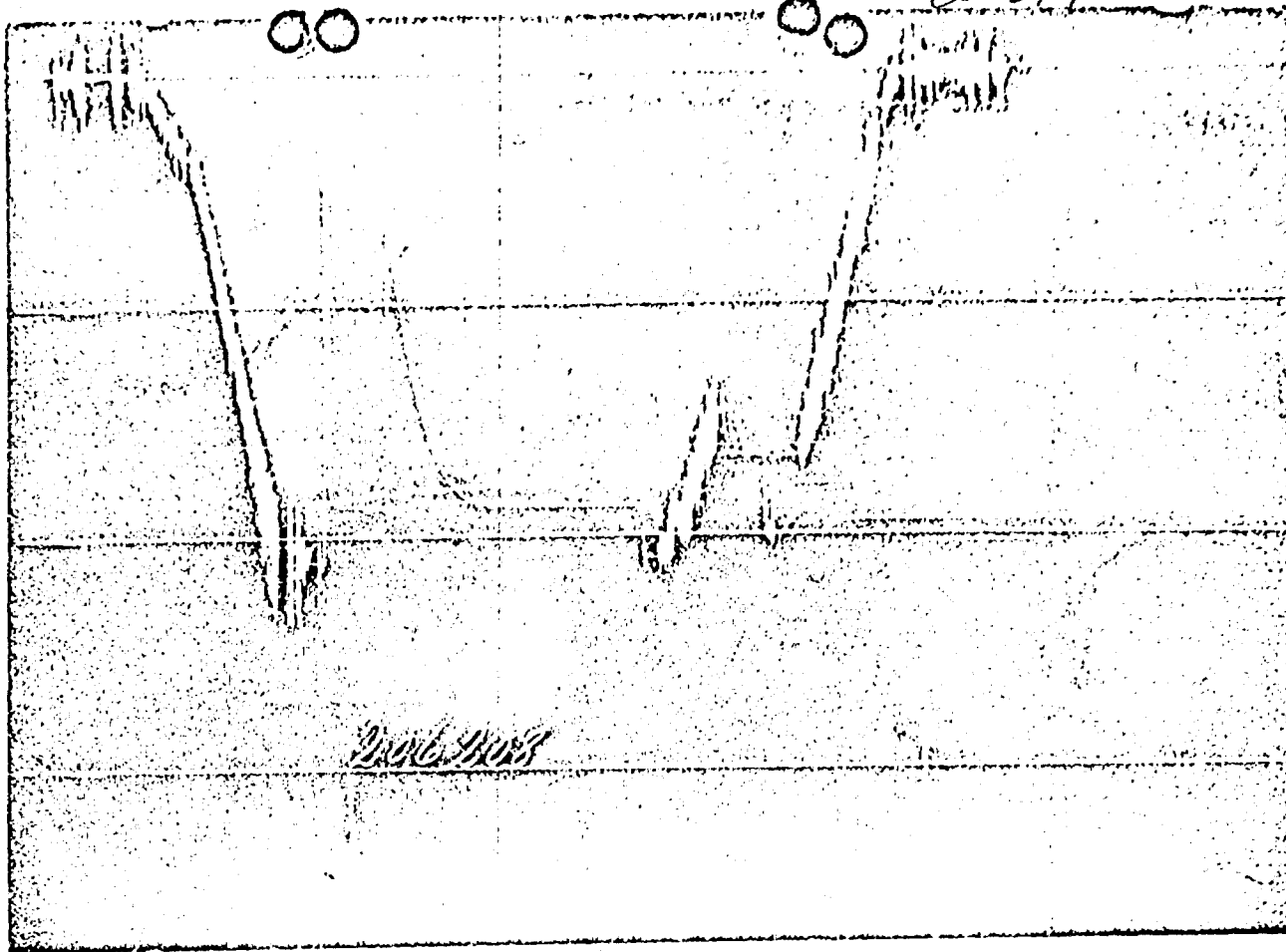
HOBBS, NEW MEXICO

OWNER'S DISTRICT

HOWCO No. 1295 R L.

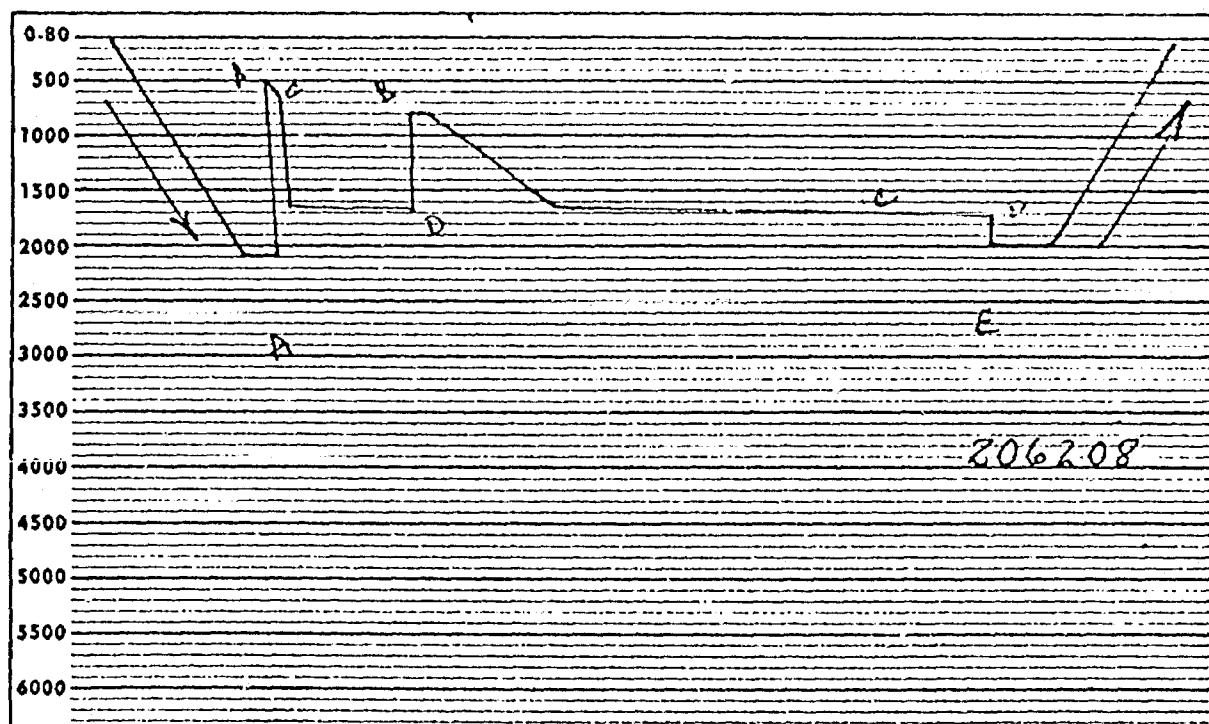
EXHIBIT 4

Case 3956



PRESSURE

TIME



- A—Initial Mud Weight
- B—Initial Flow
- C—Final Flow
- D—Closed In Pressure
- E—Final Mud Weight

HOWCO 1182—LITTLE'S 91340 IN 9/10

Each Horizontal Line Equal to 1000 p.s.i.

2062.08

Company PAN AMERICAN PETROLEUM CORPORATION Date 5-2-60

Initial Hydro Mud Pressure		Time	PSI	Ticket No. 206208
			2112	
1st	Initial Flow		472	
	Final Flow	4 Minutes	620	
Initial Closed In Pressure		35 Minutes	1875	Lease FEDERAL YATES Well No. 1 Test No. 1 BT No. 35 Depth 4454' 12 Hr. Clock No. 862 Temperature Corrected to Actual 100 ° F
2nd	Initial Flow		684	
	Final Flow	120 Minutes	1874	
Final Closed In Pressure		30 Minutes	1874	
Final Hydro Mud Pressure			2101	

	1st Flow Pressure		Initial CIP		2nd Flow Pressure		Final CIP	
	Time Defl. .000"	PSI Temp. Corr.	Time Defl. .000"	PSI Temp. Corr.	Time Defl. .000"	PSI Temp. Corr.	Time Defl. .000"	PSI Temp. Corr.
P0	.000	472	.000	620	.000	684	.000	1874
P1	.012	620	.0234	1855	.100	1303	.213	1874
P2			.0468	1868	.200	1670		
P3			.0702	1871	.300	1826		
P4			.0936	1872	.400	1867		
P5			.117	1873	.500	1872		
P6			.1404	1874	.600	1873		
P7			.1638	1874	.700	1873		
P8			.1872	1874	.800	1874		
P9			.2106	1874				
P10			.234	1875				
	Minute Intervals		3.5	Minute Intervals	15	Minute Intervals	Minute Intervals	

Remarks:

YATES PETROLEUM CORPORATION
PERTINENT DATA SHEET

1. Produced salt water will be injected into the Abo Formation from (4411-4464).
2. The produced water to be injected is produced from the Yeso and San Andres oil wells in the area, it is requested that other isolated produced water can be injected into the Abo.
3. The volume of water injected will vary as conditions dictate.
4. The Wolfcamp perfs which are to be plugged off presently produce approximately 4 BOPD and 2 BWPD.
5. Formation pressures indicate that produced water will gravity into the Abo. There are no commercial Abo producers in the area of the well.

EXHIBIT 5DATE 10-28-68

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3956

Order No. R- 3599

APPLICATION OF YATES PETROLEUM
CORPORATION FOR SALT WATER DISPOSAL,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

8:30

This cause came on for hearing at 8 a.m. on November 20 1968,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this day of November, 1968, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Yates Petroleum Corporation,
is the owner and operator of the Federal AK Well No. 1,
located in Unit I of Section 3, Township 19 South, Range
25 East, NMPM, Penasco-Wolfcamp Pool, Eddy
County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the Abo
formation, with injection into the perforated interval
from approximately 4411 feet to 4464 feet.

(4) That the injection should be accomplished through
2 3/8-inch plastic-lined tubing installed in a packer set at

approximately 4350 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(5) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Yates Petroleum Corporation, is hereby authorized to utilize its Federal AK Well No. 1, located in Unit I of Section 3, Township 19 South, Range 25 East, NMPM, Penasco-Wolfcamp Pool, Eddy County, New Mexico, to dispose of produced salt water into the Abo formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4350 feet, with injection into the perforated interval from approximately 4411 feet to 4464 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DCNE at Santa Fe, New Mexico, on the day and year hereinabove designated.