

CASE 3386: Application of SUNRAY
for a dual completion and salt
water disposal, Lea County.

ASE No.
3386

Application,
Transcripts,
All Exhibits
ETC.

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. 3386
Order No. R-3052

APPLICATION OF SUNRAY DX OIL COMPANY
FOR A DUAL COMPLETION AND SALT WATER
DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 23, 1966,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 1st day of April, 1966, 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, Sunray DX Oil Company, seeks autho-
rity to complete its New Mexico State "AO" Well No. 1, located in
Unit M of Section 16, Township 10 South, Range 34 East, NMPM, Lea
County, New Mexico, as a dual completion (conventional) to produce
oil from the Simanola-Pennsylvanian Pool through the 5 1/2-inch
casing by means of a hydraulic casing pump and to dispose of
produced salt water down the annulus between the 8 5/8-inch inter-
mediate casing string and the 5 1/2-inch production casing string
into the San Andres and Glorieta formations, with injection into
the open hole interval between the 8 5/8-inch casing shoe at 4100
feet and the top of the cement at 9390 feet.

(3) That the produced salt water should be continuously
treated prior to injection to prevent casing corrosion.

-2-

CASE No. 3386

Order No. R-3052

(4) That approval of the dual completion and salt water disposal as set out above will prevent the drilling of unnecessary wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

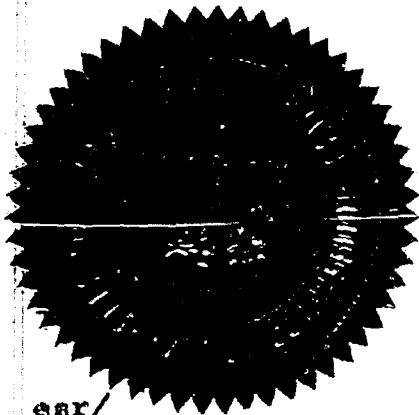
(1) That the applicant, Sunray DX Oil Company, is hereby authorized to complete its New Mexico State "AO" Well No. 1, located in Unit M of Section 16, Township 10 South, Range 34 East, NMPM, Lea County, New Mexico, as a dual completion (conventional) to produce oil from the Simanola-Pennsylvanian Pool through the 5 1/2-inch casing by means of a hydraulic casing pump and to dispose of produced salt water down the annulus between the 8 5/8-inch intermediate casing string and the 5 1/2-inch production casing string into the San Andres and Glorieta formations, with injection into the open hole interval between the 8 5/8-inch casing shoe at 4100 feet and the top of the cement at 9390 feet;

PROVIDED HOWEVER, that the produced salt water shall be continuously treated prior to injection to prevent casing corrosion.

PROVIDED FURTHER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

(2) 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

Jack M. Campbell
JACK M. CAMPBELL, Chairman

Guyton B. Hays
GUYTON B. HAYS, Member

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

esr/

-2-

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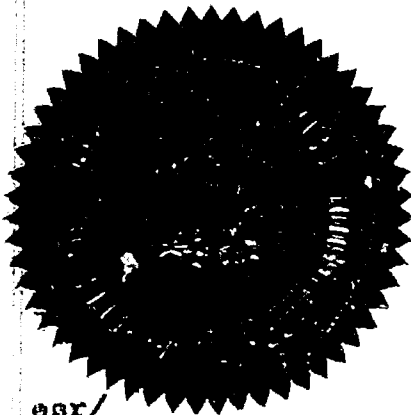
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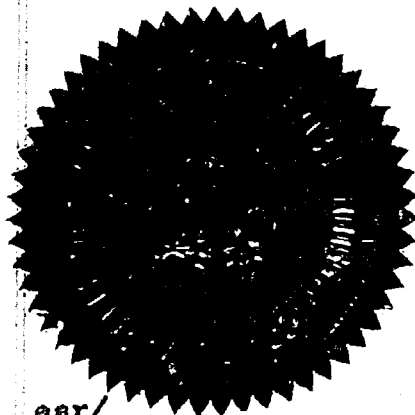
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A. L. Porter, Jr.
A. L. PORTER, Jr., Member & Secretary

ear/

GOVERNOR
JACK M. CAMPBELL
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

April 1, 1966

Mr. Charles White
White, Gilbert, Koch & Kelly
Attorneys at Law
Post Office Box 787
Santa Fe, New Mexico

Re: Case No. 3386
Order No. R-3052
Applicant:

SUNRAY DX OIL COMPANY

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

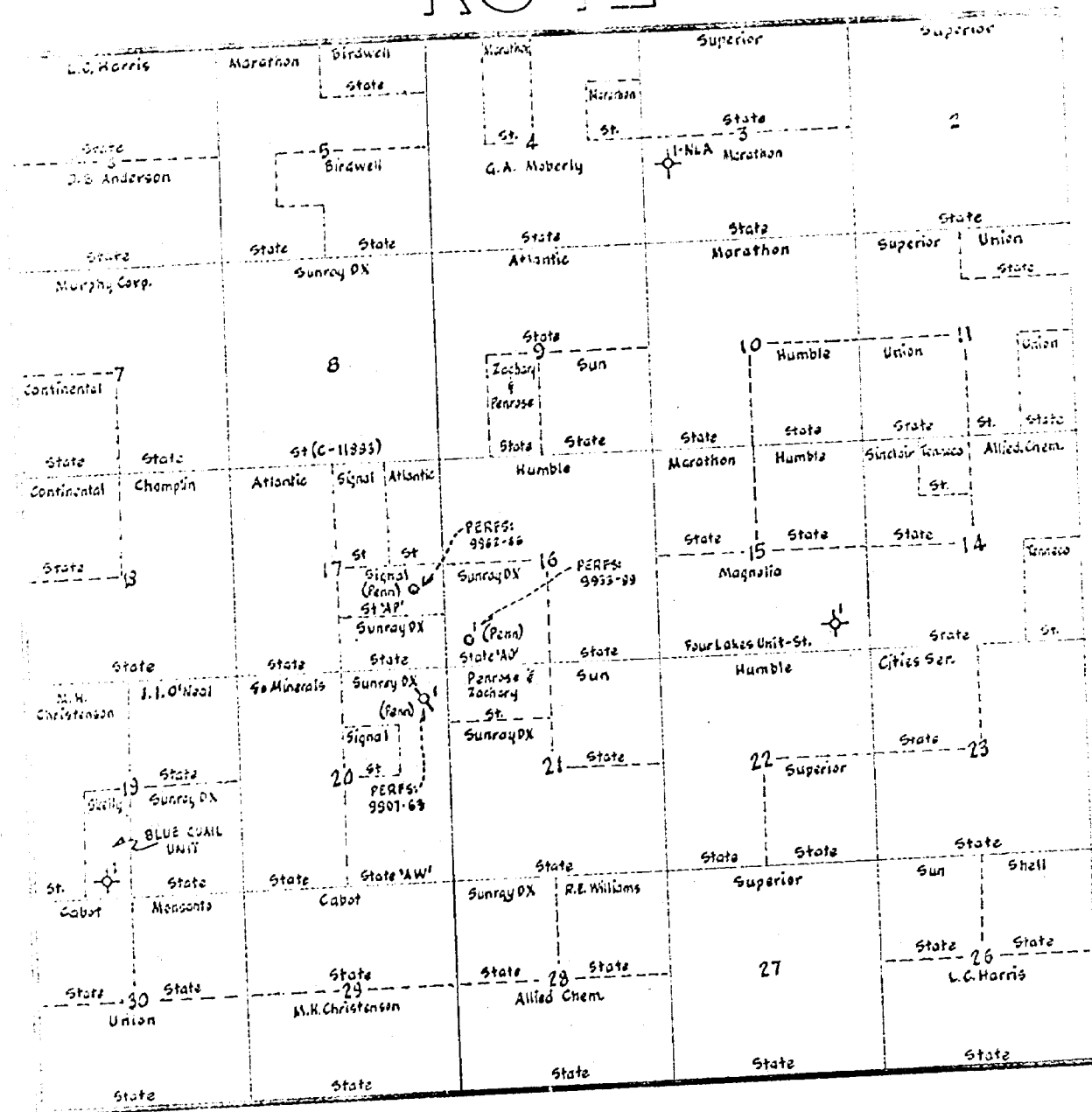
ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC

Other Mr. Frank Irby

105



- PRODUCING WELL
- ✕ TEMPORARILY ABANDONED
- ✚ PLUGGED & ABANDONED

Sunray DX Oil Co.
SCALE: 1" = 4000'
Lea County, New Mexico

OPERATORS & LESSORS
- ADDRESSEE LIST -
SILVERLA FIELD AREA
T-10-S - R-31-S
Lea County, New Mexico

Allied Chemicals Corp.
% Union Texas Petroleum
P. O. Box 196
Midland, Texas

D. B. Anderson
410 East College
Roswell, New Mexico

Atlantic Refining Co.
P. O. Box 1978
Roswell, New Mexico

Birdwell Oil Co.
Security Nat'l Bk. Bldg.
Roswell, New Mexico

Cabot Corporation
P. O. Box 4395
Midland, Texas

Cities Service Oil Co.
Cities Service Building
Bartlesville, Oklahoma

Champlin Oil & Refining Co.
P. O. Box 1797
Midland, Texas

M. H. Christensen
1116 Petr. Life Bldg.
Midland, Texas

Continental Oil Co.
P. O. Box 160
Hobbs, New Mexico

L. C. Harris
P. O. Box 1711
Roswell, New Mexico

Humble Oil & Refining
P. O. Box 1650
Hobbs, New Mexico

Marathon Oil Co.
P. O. Box 2107
Hobbs, New Mexico

G. A. Moberly
P. O. Box 629
Midland, Texas

Monsanto Chemical Co.
Drawer 1829
Midland, Texas

Murphy Oil Corp.
Murphy Building
El Dorado, Arkansas

J. I. O'Neal
410 West Ohio
Midland, Texas

Pan American Petr. Corp.
P. O. Box 68
Hobbs, New Mexico

Shell Oil Co.
P. O. Box 1509
Midland, Texas

Signal Oil & Gas Co.
509 West Texas
Midland, Texas

Sinclair Oil & Gas Co.
P. O. Box 1920
Hobbs, New Mexico

Skelly Oil Co.
P. O. Box 730
Hobbs, New Mexico

Southern Minerals Corp.
P. O. Box 1816
Midland, Texas

Sun Oil Company
P. O. Box 2880
Dallas, Texas

Sunray Oil Co.
P. O. Box 1416
Roswell, New Mexico

Superior Oil Co.
P. O. Box 1900
Midland, Texas

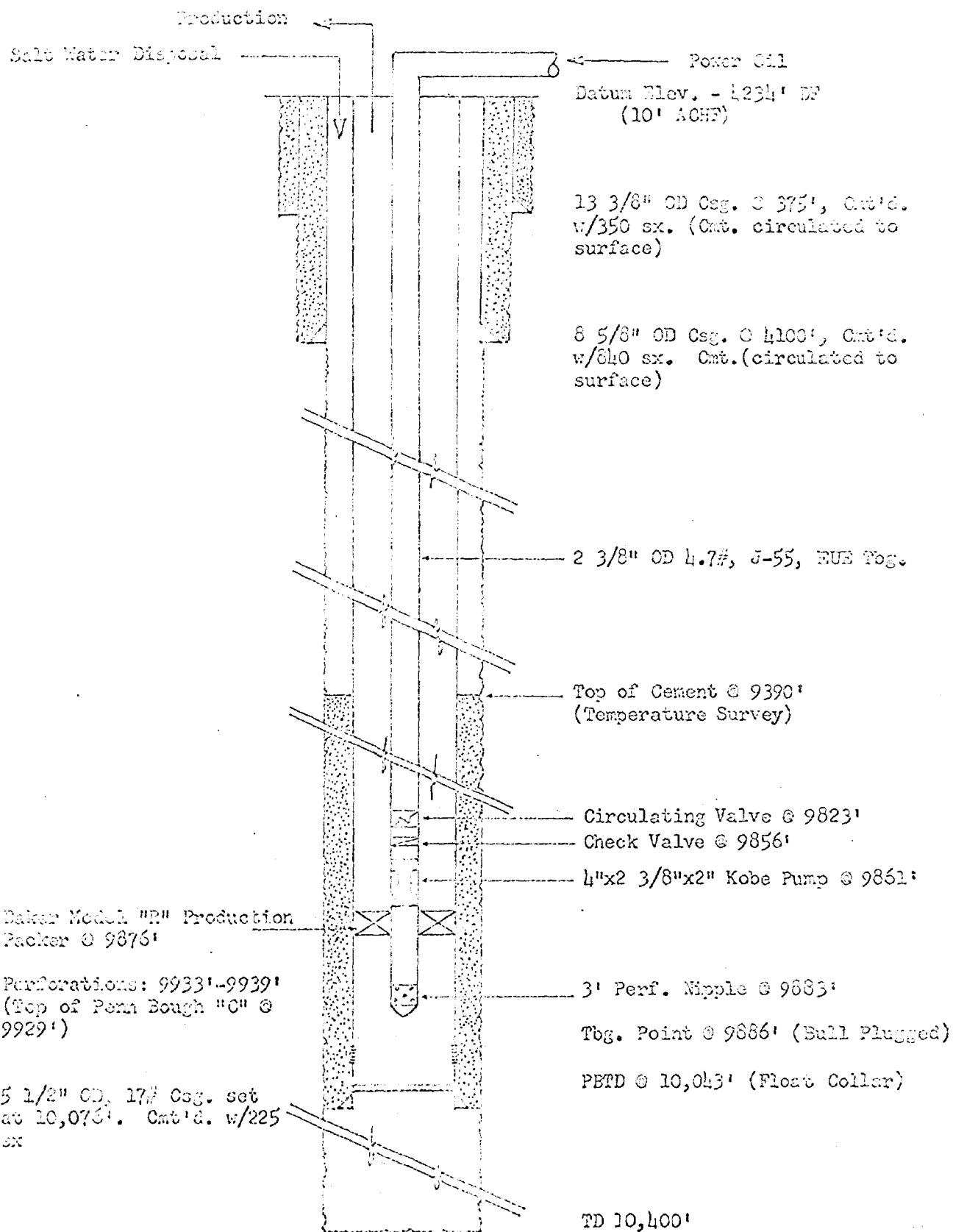
Tenneco Oil Co.
201 W. Wall Bldg., 4th Floor
Midland, Texas

Union Oil Co. of California
Union Oil Bldg.
619 West Texas
Midland, Texas

R. E. Williams
P. O. Box 1737
Midland, Texas

Zachary and Penrose
% Penrose Prod. Co.
411 Gulf Bldg.
Midland, Texas

SHAW-WALKER OIL COMPANY
 Completion Information
 New Mexico State Well No. 1
 660' ADL & 660' PSL Section 16-T108-2311
 Lea County, New Mexico



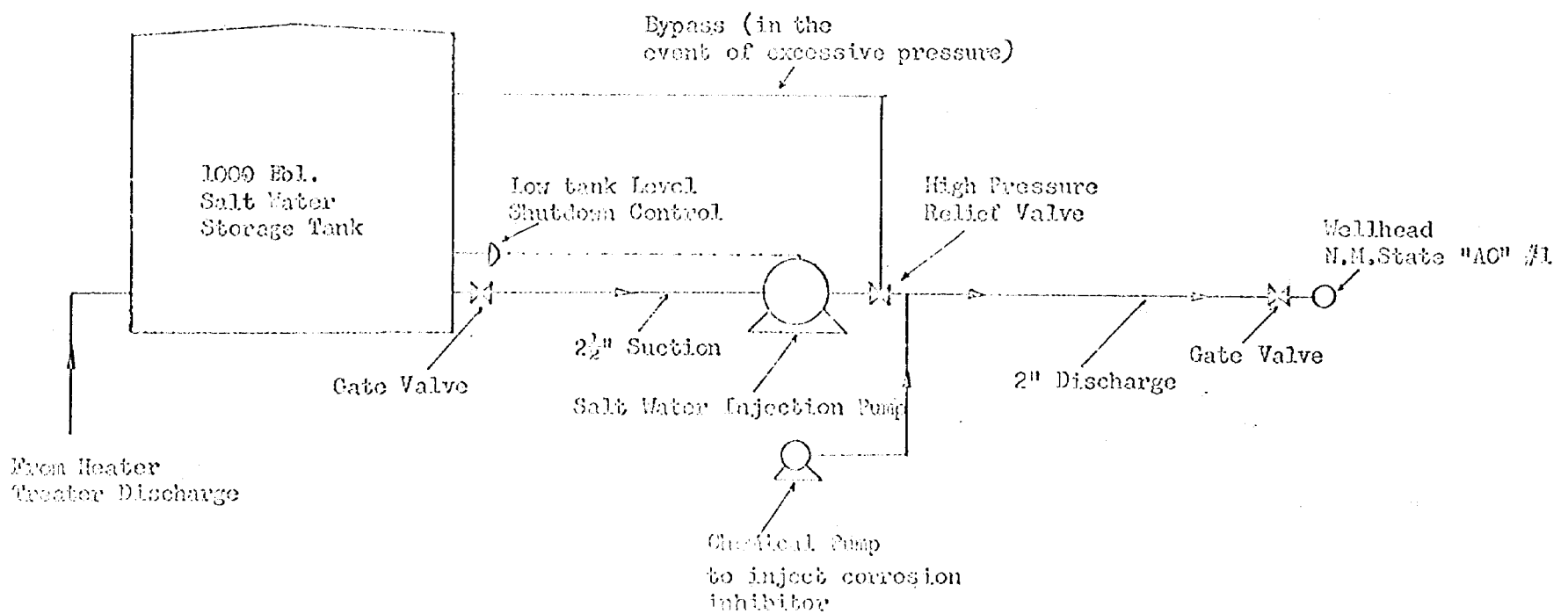
SUNRAY OIL COMPANY

Diagrammatic Sketch of Surface Installation
for
Salt Water Disposal

Sinamola Field

New Mexico State "AO" #1

Lea County, New Mexico



PRODUCTION INFORMATION
New Mexico State "10" No. 1
660' FSL & 660' FWL, Section 16-T10S-R34E
Lea County, New Mexico

<u>Year</u>	<u>Month</u>	<u>Gross Monthly Oil Prod.-Bbls</u>	<u>Monthly Water Prod.-Bbls.</u>	<u>Gross Cumulative Oil Prod.-Bbls.</u>	<u>Cumulative Water Prod.-Bbls.</u>
1963	October	142	0	142	0
	November	4,490	90	4,932	90
	December	4,588	90	9,520	180
1964	January	4,440	180	13,960	360
	February	4,168	150	18,128	510
	March	5,739	200	23,867	710
	April	5,104	200	28,971	910
	May	5,562	210	34,533	1,120
	June	5,255	210	39,788	1,330
	July	5,434	250	45,222	1,580
	August	5,533	250	50,810	1,830
	September	5,440	250	56,250	2,080
	October	5,419	250	61,669	2,330
	November	5,498	1,728	67,167	4,058
	December	5,661	1,800	72,828	5,858
1965	January	5,823	1,400	78,651	7,258
	February	5,468	1,200	84,119	8,458
	March	5,490	1,300	89,609	9,758
	April	5,630	1,000	95,239	10,758
	May	5,646	1,000	100,935	11,758
	June	5,286	1,000	106,519	12,758
	July	5,534	1,000	112,103	13,758
	August	4,398	10,000	116,501	23,758
	September	1,303	1,200	117,804	24,958
	October	3,701	21,700	121,505	46,658
	November	2,057	17,500	123,562	64,158
	December	1,149	11,200	124,711	75,358
1966	January	1,273	13,000	125,984	91,358

INTER-OFFICE CORRESPONDENCE

Date: January 17, 1966

Subject: RM63-DX8
Water Disposal Zones
SDX #1 State "AO"
Sec. 16, T-10-S, R-34-E
Lea County, New Mexico

To: Mr. B. F. Brawley

cc: Mr. T. A. Clote
Mr. P. J. Beaver
Mr. E. V. Stine

Following are porous intervals suitable for water disposal purposes:

INTERVAL	FORMATION	NET FOOTAGE	AVERAGE POROSITY	LITHOLOGY
6860-6840'	Glorieta	24	6%	sandstone
6748-6764'	Glorieta	16	8%	limestone
6652-6664'	Glorieta	12	8%	sandstone
6570-6584'	Glorieta	14	8%	sandstone
6486-6497'	Glorieta	11	8.5%	sandstone
6322-6362'	Glorieta	27	5%	sandstone
6307-6318'	Glorieta	7	8%	limestone
5302-5311'	San Andres	9	7.5%	limestone
4796-4828'	San Andres	24	6%	limestone
4683-4694'	San Andres	11	6%	dolomite
4148-4178'	San Andres	15	12%	sandstone

Louis J. Soter

L. J. Soter
District Exploitation Geologist

LJS:prm

CASING INSTALLATION

New Mexico State "AC" No. 1

660' FSL and 660' FHL, Section 16-TLOS-R3HE

Lea County, New Mexico

SURFACE CASING

<u>Interval - ft.</u>	<u>Size, O.D.</u>	<u>Weight #/ft</u>	<u>Grade-Cond.</u>	<u>Coupling</u>
0-375'	13 3/8"	48	J-55-New	ST&C

INTERMEDIATE CASING

<u>Interval - ft.</u>	<u>Size, O.D.</u>	<u>Weight #/ft</u>	<u>Grade-Cond.</u>	<u>Coupling</u>	<u>Interval Yield Mill Hydrostatic test-psig (Spang)</u>
0-2491'	8 5/8"	24	J-55-New	ST&C	2700
2491'-4100'	8 5/8"	32	J-55-New	ST&C	3000

PRODUCTION CASING

<u>Interval - ft.</u>	<u>Size, O.D.</u>	<u>Weight #/ft</u>	<u>Grade-Cond.</u>	<u>Coupling</u>	<u>Design Factor 1 1/8 Collapse-psig (Spang)</u>
0-4825'	5 1/2"	17	J-55-New	LT&C	4500
4825'-5967'	5 1/2"	17	J-55-New	ST&C	4500
5967'-10,076'	5 1/2"	17	J-55-New	LT&C	5890

- ☐ TUBING REPORT
☒ CASING REPORT
☐ LINER REPORT

SUNRAY MID-CONTINENT OIL COMPANY

DATE

DISTRICT

LEASE

WELL NUMBER

1003 B

New Mexico State

AC

SHOW IN ORDER FROM TOP TO BOTTOM-MEAS. THREADS OFF						ON HAND		RUN IN WELL		EXCESS	
SIZE	WEIGHT	GRADE	THREAD	COUPLING	MAKE	NO. JTS	FOOTAGE	NO. JTS	FOOTAGE	NO. JTS	FOOTAGE
8 5/8	24	J-55	S&P	ST&C		81	2490.55	81	2490.55		
8 5/8	32	J-55	S&P	ST&C		82	2599.04	51	1612.41	31	986.63

TD	DRILL PIPE	LOG	EQUIPMENT RUN AS FOLLOWS (TOP TO BOTTOM) (MEASUREMENT - THREADS - OFF)			
	4100		DATE RUN	NO. OF JOINTS	LENGTH	DEPTH TO ITEMS
PRTD	DRILL PIPE	GAMMA-RAY	Top of Casing Tubing or Liner	<input checked="" type="checkbox"/> ABOVE <input type="checkbox"/> BELOW	DATUM POINT	
						400
HOLE SIZE	AT TOTAL DEPTH		8 5/8 24" J-55 ST&C CSg	81	2490.55	2486.55
	ABOVE REDUCTION POINT		8 5/8 32" J-55 ST&C CSg	50	1580.15	4066.70
	DEPTH OF REDUCTION POINT		Baker insert float valve			
ELEVATION	DATUM POINT (GRD-KB-DF)		8 5/8 32" J-55 ST&C CSg	1	32.26	4098.96
	DATUM POINT ELEVATION		Baker LWD Guide Shoe		1.85	4100.81
	DISTANCE TOP OF TUBING HEAD FLANGE OR CASINGHEAD FLANGE ABOVE OR BELOW DATUM POINT:					
	FEET					
CASING-HEAD	SIZE					
	SERVICE PRESSURE					
PROD. PERFS.	ELECTRIC LOG					
	GAMMA RAY					
WEIGHT ON SLIPS						
TYPE OF TUBING BOTTOM						
TYPE OF TUBING HANGER						
COUPLINGS TESTED TO						
TORQUE						
THREAD LUBRICANT						
TOTALS						
LESS: COLLAPSE OF PACKER OR WEIGHT ON PACKER						
CASING POINT, TUBING POINT OR BOTTOM OF LINER						

CEMENTING RECORD	CEMENT	MAKE INCEC	KIND Bulk	NUMBER OF SACKS 740	NUMBER SACKS TREATED 740
		4090 P&C D			
		WEIGHT OF MIX			
			2% P&C	WORK DONE BY Halliburton	
	CEMENTING TIME	MIXING 42 mins	STARTING PLUG IN 2 mins	DISPLACING 24 mins	TOTAL 68 mins
	PUMP PRESSURES	INITIAL	TO PLACE CEMENT 900 #	AFTER PLUG HIT 1800 #	RELEASED TO 0 "
	TOP OF CEMENT IN ANNULUS	CALCULATED	MEASURED	PER CENT OR NO. OF SACKS CIRCULATED 75 SX	
	CASING EQUIPMENT	NO. OF SCRATCHERS	SPACING AND INTERVAL	NO. OF CENTRALIZERS	SPACING AND INTERVAL

REMARKS INDICATE HOW RUN ETC.

Run in 67 100 SK INCEC Neat

SIGNED

Jimmy Banger

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 3/23/66

CASE NO. 3386

HEARING DATE 9am 3/23
DSN @ SF

My recommendations for an order in the above numbered case(s) are as follows:

Enter an order authorizing
Surrey Oil Company to
complete its New Mexico State RO
Well No 1 located in Unit M of Sec
16-T10S-R34E in such a manner
as to permit the production of oil
from the Simacala Penn Pool
through the ^{5 1/2 inch} casing by means of a
hydraulic casing pump and to dispose
of produced salt water down the annulus
between the 8 5/8 inch intermediate casing
string and the 5 1/2 inch production ~~the casing~~
string, injection being into the ^{San Andres & Alamosa} open hole interval
between the 8 5/8 inch casing shoe at 4100 feet
and the top of the cement at 9390. Provide
that operator shall continuously treat the salt
water being disposed of with a corrosion
inhibitor.

Staff Member

[Signature]

WHITE, GILBERT, KOCH & KELLY
(GILBERT, WHITE AND GILBERT)

ATTORNEYS AND COUNSELORS AT LAW

LINCOLN BUILDING

SANTA FE, NEW MEXICO

CARL H. GILBERT (1891-1963)

L. C. WHITE

WILLIAM W. GILBERT

SUMNER S. KOCH

WILLIAM BOOKER KELLY

JOHN F. MCCARTHY, JR.

CLARK OFFICE 000

MAR 3 AM 10:33

March 2, 1966

POST OFFICE BOX 787

TELEPHONE 982-4301

(AREA CODE 505)

New Mexico Oil Conservation Commission
State Capitol
Santa Fe, New Mexico

Case 3386

Gentlemen:

Sunray DX Oil Company informally makes application for permission to dispose of produced water from its New Mexico State "AO" Well No. 1 and its New Mexico State "AW" Well No. 1 located in Lea County, New Mexico, all as more fully set forth in the enclosed attachments. It will be appreciated if this matter can be set for hearing before an examiner on March 23, 1966.

In accordance with Rule 701, we have forwarded a copy of this letter together with attachments to the State Engineer, P. O. Box 1079, Santa Fe, New Mexico.

Very truly yours,

L. C. White

L. C. WHITE

LCW:d

CC: Mr. Frank E. Irby, State Engineer
P. O. Box 1079, Santa Fe, N. M.

*Booked mailed
to L. C. White
3/11/66*

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 23, 1966

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or
Elvis A. Utz, Alternate Examiner:

CASE 3385: Application of Sinclair Oil & Gas Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a non-standard gas proration unit comprising the S/2 of Section 19, Township 23 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, said unit to be dedicated to applicant's E. L. Steeler Wells Nos. 1, 2, and 3 located in Units P, K, and L, respectively, of said Section 19. Applicant further seeks authority to produce the allowable assigned to said unit from any of the aforesaid wells in any proportion.

CASE 3386: Application of Sunray DX Oil Company for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its New Mexico State "AO" Well No. 1 located in Unit M of Section 16, Township 10 South, Range 34 East, Simanola Pennsylvanian Pool, Lea County, New Mexico, in such a manner as to produce oil from the Pennsylvanian formation through perforations from 9933 feet to 9939 feet and to dispose of produced salt water into the San Andres and Glorieta formations through the annulus between the 8 5/8 and the 5 1/2 inch casing to the interval from 4100 feet to 9390 feet.

CASE 3387: Application of Charles B. Read for a dual completion and down-hole commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of his Bogle Farms Well No. 1 located in Unit L of Section 13, Township 16 South, Range 31 East, Eddy County, New Mexico, in such a manner as to produce gas from an approximate depth of 3300 feet, West Mesa-Queen Gas Pool, and to produce oil from an approximate depth of 3600 feet, Bunker Hill-Queen Oil Pool, separating the zones by means of a packer and pressure-operated gas entry valve, utilizing said gas to gas lift the oil.

CASE 3388: Application of Charles B. Read for special rules for the Llano-Pennsylvanian Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Llano-Pennsylvanian Pool, Lea County, New Mexico, including a provision for 160-acre proration units.

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
March 23, 1966

EXAMINER HEARING

IN THE MATTER OF:

Application of Sunray DX Oil Company for a
dual completion and salt water disposal,
Lea County, New Mexico.

Case No. 3386

BEFORE:

Daniel S. Nutter, Chief Engineer

TRANSCRIPT OF HEARING



MR. WHITE: If the Examiner please, Charles White appearing on behalf of the applicant and we have one witness to be sworn.

MR. DURRETT: Application of Sunray DX Oil Company for a dual completion and salt water disposal, Lea County, New Mexico.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1 through 7 marked for identification.)

B. F. BRAWLEY, a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WHITE:

Q Will you state your name for the record?

A B. F. Brawley.

Q By whom are you employed and in what capacity?

A Sunray DX Oil Company, District Engineer of the Roswell District.

Q Are you familiar with the subject application and if so what does Sunray seek?

A Sunray seeks to install a salt water disposal system in their New Mexico State "AO" Number 1, which would consist of an annular disposal between 8 5/8" immediate casing and 5 1/2" production string to the top of the cement to an open

hole interval.

Q Have you previously testified before the Commission?

A No.

Q Would you mind stating your professional qualifications?

A A 1956 graduate from the University of Oklahoma from the School of Petroleum Engineering; been employed with Sunray DX in various engineering capacities since graduation until my present job.

MR. WHITE: Are the witness's qualifications acceptable?

MR. NUTTER: They are acceptable.

Q (By Mr. White) Would you refer to what has been marked as Exhibit 1 and explain that exhibit?

A Exhibit 1 is a plat near and around the New Mexico State "AO" Number 1, showing the leases and leasees. The well shown in Section 16 is the New Mexico State "AO" Number 1 in which the annular disposal is salt. In Section 20 is the Sunray DX New Mexico State "AW" Number 1 which is temporarily abandoned. We propose to install lift equipment on this well and dispose of the water from the "AO" into there, and from the "AW" into the annular space of the "AO". Also shown are the perforations into the Pennsylvanian and the dry holes surrounding.

Q Does it show a list of the operators?

A Yes, sir, in the area.

Q Would you give the production history of your "AO"

Well Number 1 and in so doing refer to Exhibit Number 2?

A Exhibit Number 2 is a tabulation of production history of the "AO" Number 1 since completion, through January of 1966. It has produced a cumulative total of 13,000 barrels, I'm sorry, 125,984 barrels of oil, and 91,358 barrels of water. Production for January was 1,273 barrels of oil and 13,000 barrels of water.

Q What is the history of your State "AW" Number 1?

A The "AW" 1 was completed in May of 1965 in the Pennsylvanian, and swabbed with 5 percent oil and 5 percent water at that time. And we felt like we could not economically produce this well with those volumes, particularly in the anticipation of high water production.

Q Its present status is what?

A Temporarily abandoned; the tubing is out of the hole. We propose to run a down-hole hydraulic pump in a similar situation that is existing on the "AO" Number 1.

Q How do you propose the salt water may be produced?

A Discharged from a heated treater and transported from the line. The salt water tank will be located on the "AO" battery.

Q Would you explain Exhibit Number 3, the diagrammatic sketch of the down-hole equipment?

A Exhibit 3 is a diagrammatic sketch of the completion of "AO" Number 1; shows tubing run with a down-hole hydraulic pump; installed a production packer at 9876; power oil is pumped down the tubing and actuates the pump. Both the surface and intermediate pipe were cemented to the surface, intermediate pipe being at 4100 feet and the 5 1/2 inch pipe was cemented to the top of the cement to 9390' which was determined by the temperature survey.

Q Now, refer to your surface completion as shown on Exhibit 4?

A Exhibit Number 4 is a surface installation proposed, and this will be each of the heated treater, and this will discharge water into the tank; from there into an injection pump; and from there to the well head of the "AO" and down the annulus. Note there's a chemical pump installed on the down-side of the pump. A corrosion inhibitor will be injected to protect the inside of the 5/8 inch casing.

Q Would you explain your intervals of water disposal as shown on Exhibit 5?

A Exhibit 5 as prepared by the District Exploitation Geologist where water would be most likely be injected into,

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and he has prepared a list of the formations and reservoir properties and the lithology of each, and from this analysis, we assume that it would be most likely that water would enter the San Andres Zone with some of it probably going to Glorieta.

Q This also shows your reservoir characteristics?

A Yes.

Q Was Exhibit 5 prepared from logs or just from what source?

A Log analysis.

Q Would you care to go into the logs, or is it self-explanatory?

A Exhibit 6 is a copy of the base log ran on the "AO" Number 1, and it merely reiterates what we've said on other exhibits, and it's marked to the various depths of pipe and depths to each of the formations.

Q Was a copy of the application, together with exhibits, furnished the State Engineer's office?

A They were.

Q Did you prepare any other exhibit to submit to the State Engineer?

A Yes, Exhibit Number 7 was submitted to Mr. Frank Irby, who was concerned about the type of cementing jobs performed on the intermediate casing, and this Exhibit 7 is

a copy of the cementing program and shows that the intermediate pipe was centralized and special note is contained in the remarks that the cementing job was detailed in 100 sacks around the base of the 8 5/8 which would insure a good solid cement base and prevent communication with any of the other zones above the base of the 8 5/8.

MR. WHITE: If the Examiner please, I think the correspondence will show the State Engineer shows no objection.

MR. NUTTER: Mr. White, I was looking for something along that nature a moment ago, and it's not in this file. We may have it someplace else around here. I see that you sent a copy of the application in your letter of transmittal of March the 2nd to the State Engineer's office. Do you have a copy of his letter of reply?

MR. WHITE: Yes, sir. I have here a copy of a letter from Mr. Frank E. Irby addressed to Mr. Brawley, under date of February 28th; this is subsequent to certain information; "Your letter of February 21, 1966, in reply to mine of February 17th concerning your proposed application to the Oil Conservation Commission, to dispose of produced water of the "AO" Number 1 Well. Although I have not refused the application I do not see any reason for the granting of your application unless something else comes up between now and the hearing". And the application

was subsequently filed and he was furnished a copy of it.
I will be glad to introduce this.

MR. NUTTER: I think it's in the record, Mr. White.

Q (By Mr. White) What you're anticipating is initial volumes?

A 1400 barrels a day, and a maximum of 2,000 barrels a day, which would be out pump limitations; and at the pressure of probably 1500 pounds.

Q In your opinion would the granting of this application prevent premature abandonment and the more efficient recovery of production?

A It would allow more efficient recovery.

Q Were these exhibits prepared by you or under your direction or request?

A They were.

MR. WHITE: We offer Exhibit 1 through 7 into evidence.

(Whereupon, Applicant's Exhibits 1 through 7 offered into evidence.)

MR. NUTTER: If there are no objections, Sunray's Exhibits 1 through 7 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 7 admitted into evidence.)

MR. WHITE: That completes our presentation.

MR. NUTTER: Anyone have any questions of Mr. Brawley?

CROSS-EXAMINATION

BY MR. NUTTER:

Q Mr. Brawley, has any bonding log or other type of log to show the efficiency of the cement job on the 5 1/2 inch pipe been run on this well?

A No, sir, the only thing we have is the temperature survey.

Q Which shows the top?

A Shows the top. No other logs have been run.

Q Now, in the event that the corrosion inhibitor which is being placed in the salt water prior to its disposal, shouldn't provide sufficient protection, and the 5 1/2 inch casings in that interval somewhere along the top of the cement should become corroded and would have a hole, would you be able to detect it?

A Yes, in our surface production.

Q You think the salt water would come into the 5 1/2 inch and you would have an increase in the salt water production, or would it be the oil would go out and be disposed of with the salt water?

A I think the water would be leaked into the casing and it would be pumped under pressure and would show up in



the annulus.

Q You mentioned you would inject at 1400 to 2000 barrels a day at surface pressure?

A That's right.

Q You would have a hydrostatic head?

A Yes. This is well within the limits of the pressure of the capacity of the casing, and the hydrostatic head of 4.34 of PSI per foot. Actually, it gets into the range of 2,000 of surface pressure although we don't anticipate this high a pressure. This is, or course, neglecting any loss that we would have in the surface pressure.

Q In your surface installation you show a high-pressure relief valve there to bypass into the tank, what would it be set at?

A 2,000 pounds; this would protect the casings.

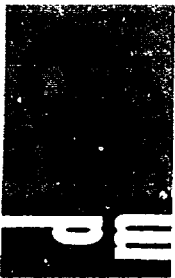
Q What will the power oil injection pressure be?

A About a hundred and seventy-five pounds, I believe, is the existing pressure right now; this might vary with increased volumes of water, which we anticipate.

Q And right now at a hundred and seventy-five pounds you're lifting in the ratio of 10-1 as far as water production over oil?

A Right.

MR. NUTTER: Any other questions? The witness



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PAGE 11

may be excused. Do you have anything further, Mr. White?

MR. WHITE: No, sir.

MR. NUTTER: Anyone have anything to offer in
Case 3376? The Commission will take the case under
advisement and call Case 3387.

I N D E XWITNESSPAGE

B. F. BRAWLEY

Direct Examination by Mr. White

2

Cross-Examination by Mr. Nutter

9

E X H I B I T S

<u>NUMBER</u>	<u>MARKED FOR IDENTIFICATION</u>	<u>OFFERED</u>	<u>ADMITTED</u>
Applt's 1.	2	8	8
Applt's 2.	2	8	8
Applt's 3.	2	8	8
Applt's 4.	2	8	8
Applt's 5.	2	8	8
Applt's 6.	2	8	8
Applt's 7.	2	8	8

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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, BOBBY J. DAVIS, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 2nd day of May, 1966.

Bobby J. Davis
NOTARY PUBLIC

My Commission Expires:

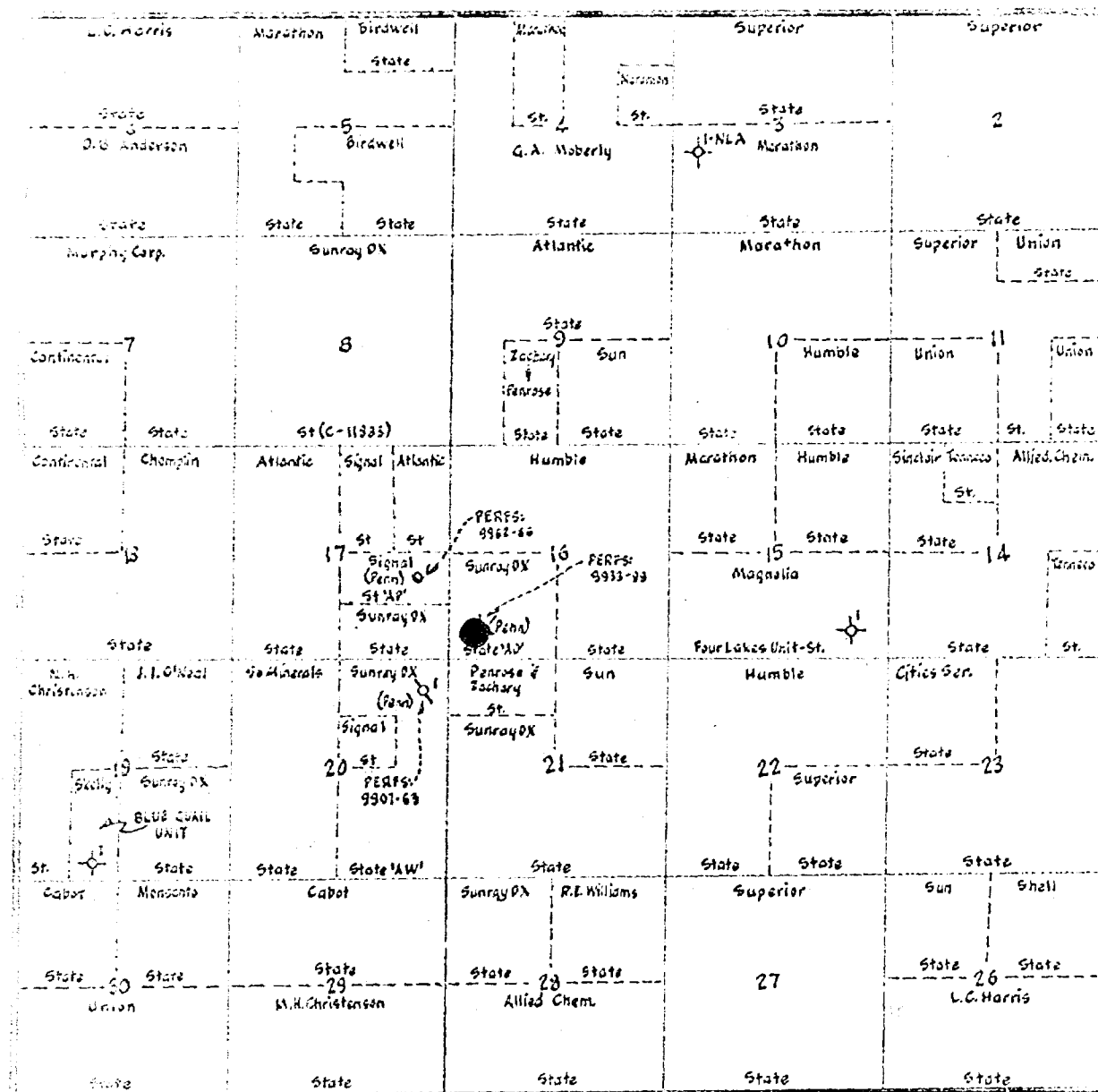
March 13, 1969.

I do hereby certify that the foregoing is
a complete record of the proceedings in
the hearing held at Osoo No. 3386,
heard by me on May 23, 1966.

[Signature] Examiner
New Mexico Oil Conservation Commission

R34E

T-10



LEGEND

- PRODUCING WELL
- ⊗ TEMPORARILY ABANDONED
- ★ PLUGGED ABANDONED

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
SDX EXHIBIT NO. 1
CASE NO. 3386

Case 3386

SIMINOLA FIELD

Sunray DX Oil Co.
SCALE: 1" = 4000'
Lea County, New Mexico

WATSON, NUTTER & COMPANY
New Mexico State "Oil" No. 1
660' FSL & 660' FHL, Section 16-1105-2342
Lea County, New Mexico

Year	Month	Gross Monthly Oil Prod.-Bbls.	Monthly Water Prod.-Bbls.	Gross Cumulative Oil Prod.-Bbls.	Cumulative Water Prod.-Bbls.
1963		112	0	112	0
	October	4,190	90	4,932	90
	November	4,568	90	9,520	180
1964	December				360
			180	13,960	540
	January	4,410	150	18,128	710
	February	4,168	200	23,367	910
	March	5,739	200	28,971	1,120
	April	5,104	210	34,533	1,330
	May	5,562	210	39,788	1,540
	June	5,255	250	45,222	1,790
	July	5,434	250	50,810	2,040
	August	5,588	250	56,250	2,290
	September	5,440	250	61,669	2,540
	October	5,419	1,728	67,167	4,268
1965	November	5,498	1,800	72,828	6,068
	December	5,661			7,858
					7,258
	January	5,823	1,400	78,651	8,458
	February	5,468	1,200	84,119	9,658
	March	5,490	1,300	89,609	10,958
	April	5,680	1,000	95,289	11,958
	May	5,646	1,000	100,935	12,958
	June	5,286	1,000	106,519	13,958
	July	5,584	1,000	112,103	14,958
	August	4,398	10,000	116,501	24,958
	September	1,303	1,200	117,804	46,658
1966	October	3,701	21,700	121,505	64,158
	November	2,057	17,500	123,562	81,158
	December	1,149	11,200	124,711	91,358
1966	January				
		1,273	13,000	125,984	

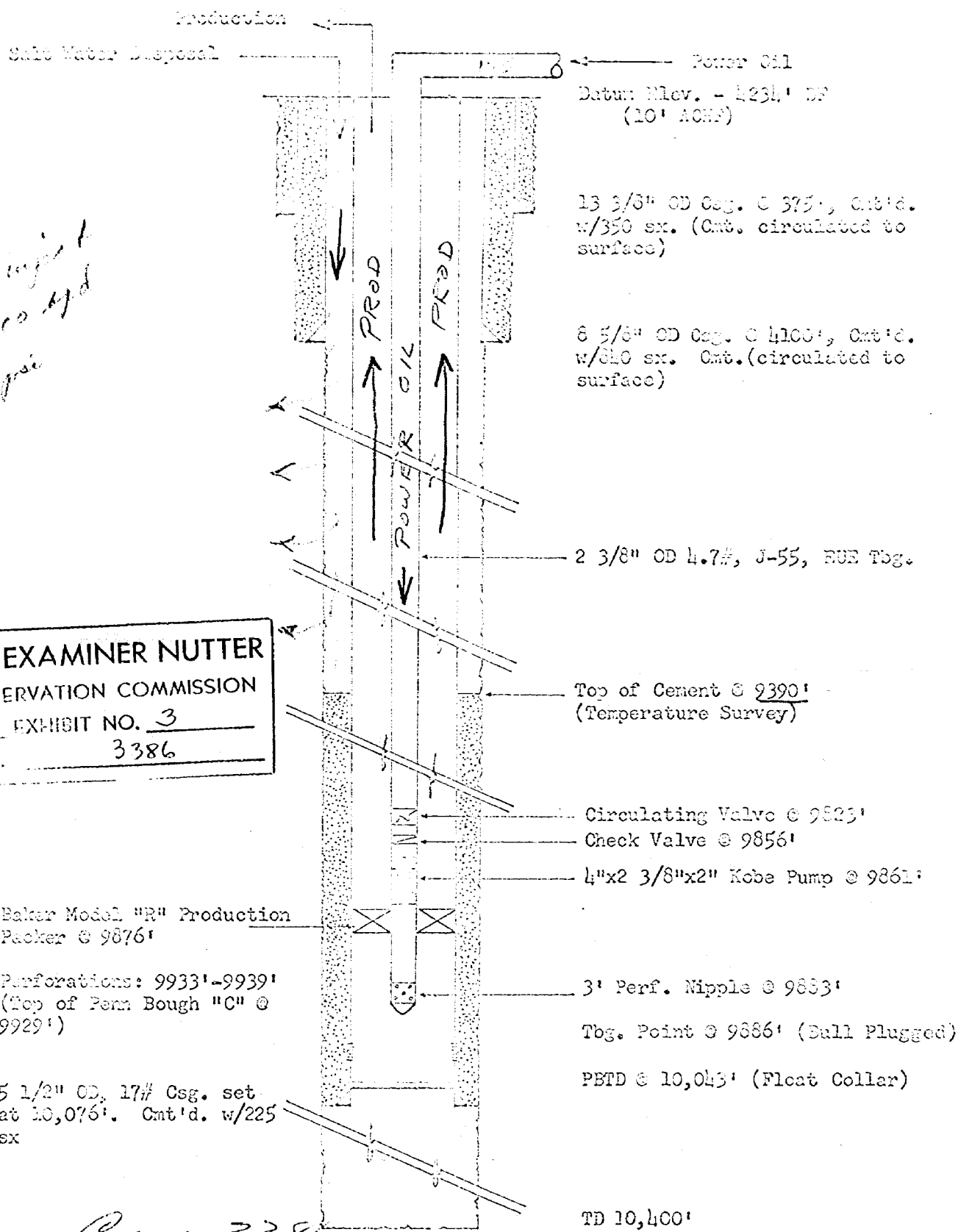
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
SDX EXHIBIT NO. 2
CASE NO. 3386

Case 3386

SECTION OF OIL WELL
 Completion Data Sheet
 No. 100-2000-1400-1300-1300
 100-2000-1400-1300-1300
 New Country, New Mexico

*44 feet to top of
 1400-2000-1400
 @ 1500 psi*

BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
 SDK EXHIBIT NO. 3
 3386



Case 3386

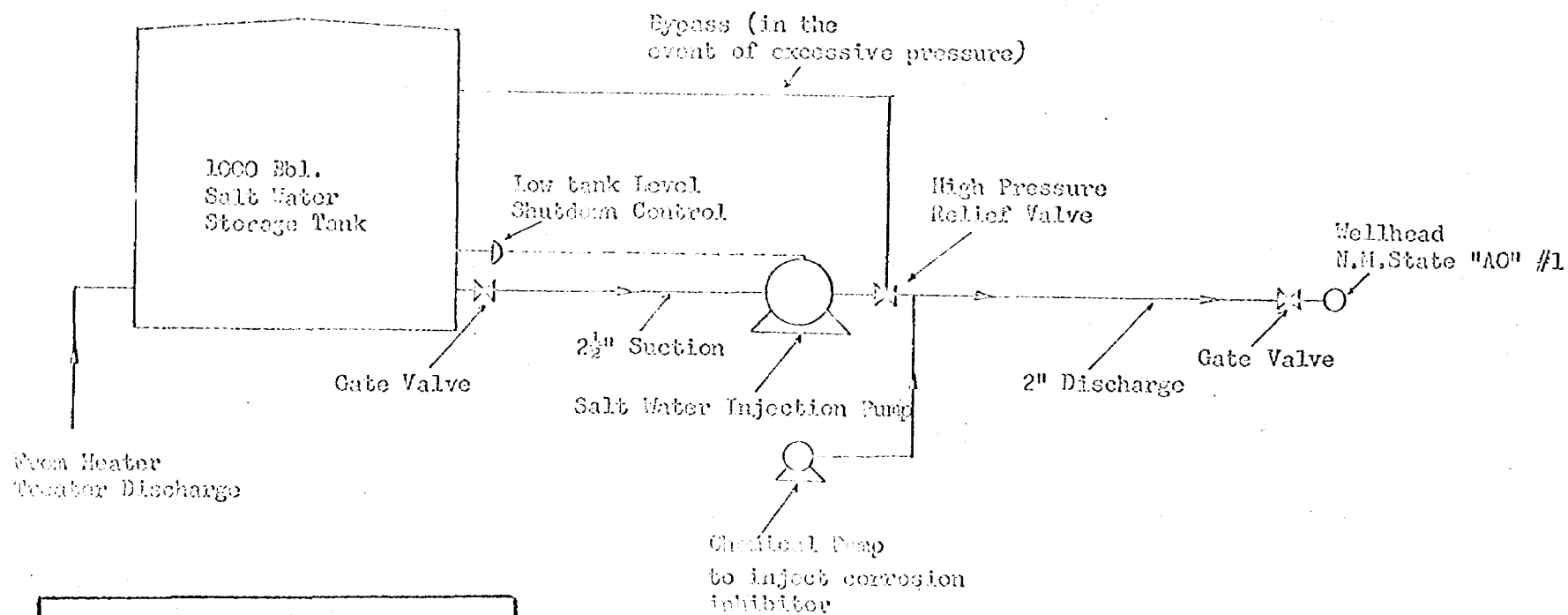
STATE OF OIL CONSERVATION

Diagrammatic Sketch of Surface Installation
for
Salt Water Disposal

Simola Field

New Mexico State "AO" #1

Lea County, New Mexico



BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

SDX EXHIBIT NO. 4

CASE NO. 3386

INTER-OFFICE CORRESPONDENCE

Date January 17, 1966

Subject: RM63-EX3
Water Disposal Zones
SDX #1 State "A0"
Sec. 16, T-10-S, R-34-E
Lea County, New Mexico

To: Mr. B. F. Brawley

cc: Mr. T. A. Clote
Mr. P. J. Beaver
Mr. E. V. Stine

Following are porous intervals suitable for water disposal purposes:

INTERVAL	FORMATION	NET FOOTAGE	AVERAGE POROSITY	LITHOLOGY
6860-6840'	Glorieta	24	6%	sandstone
6748-6764'	Glorieta	16	8%	limestone
6652-6664'	Glorieta	12	8%	sandstone
6570-6584'	Glorieta	14	8%	sandstone
6486-6497'	Glorieta	11	8.5%	sandstone
6322-6362'	Glorieta	27	5%	sandstone
6307-6318'	Glorieta	7	8%	limestone
5302-5311'	San Andres	9	7.5%	limestone
4796-4828'	San Andres	24	6%	limestone
4683-4694'	San Andres	11	6%	dolomite
4148-4178'	San Andres	15	12%	sandstone

Louis J. Soter

L. J. Soter
District Exploitation Geologist

LJS:pmm

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
SDX	EXHIBIT NO. 5
CASE NO.	3386

Case 3386

- 2003 11

Case 3386

References

100

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

... Mexico State.

A. C.

DATE RUN	NO. OF JOINTS	LENGTH	DEPTH TO ITEMS
Top of Casing Tubing or Liner	<input checked="" type="checkbox"/> ABOVE <input type="checkbox"/> BELOW	DATUM POINT	400

DATE	11/1/54	TIME	11:00	BY	W. J. ...
DATUM POINT (GRD KB OF) Baker Ldw Guide Shoe 1.85 4100 S 1					

FEET	<input type="checkbox"/> ABOVE				
	<input type="checkbox"/> BELOW				

RCD. ERF. ANIMA RAY	ELECTRIC LOG	BEFORE EXAMINER NUTTER OIL CONSERVATION COMMISSION
	(Empty space)	(Empty space)

aa	EXHIBIT NO.	7
WEIGHT OF LBS.		

	CASE NO.	3386	
--	----------	------	--

TYPE OF TUBING BOTTOM	

[illegible][illegible]

PSI

TORQUE

THREAD	CANT	TOTALS
--------	------	--------

LESS: COLLAPSE OF PACKER OR
WEIGHT ON PACKER

CASING POINT, TUBING POINT OR BOTTOM OF LINER	132	4100.0
--	-----	--------

NAME AND ADDRESS	KIND	NUMBER OF SACKS	NUMBER SACKS TREATED
11470 D. Road B	Bulk	740	740

CEMENT	WEIGHT OF MIX	CHEMICAL USED	WORK DONE BY
		2% PbO	H. H. H. H. H.

		STARTING PLUG IN	DISPLACING	TOTAL
CEMENTING	MIXING			

TIME	24.2 mins	2 mins	24 mins	38 mins
STATUS	INITIAL	TO PLACE CEMENT	AFTER PLUG HIT	RELEASED TO

700 #	1800 #	6 #
MEASURED	PER CENT OR NO. OF SACKS CIRCULATED	

TOP OF CEMENT IN ANNULUS	75 SX
--------------------------------	-------

CASING EQUIPMENT	NO. OF SCRATCHERS	SPACING AND INTERVAL	NO. OF CENTRALIZERS	SPACING AND INTERVAL
			6	90' from TD 42

MARKS INDICATE HOW R. ETC

Red-on 100 gr inc. a st

SIGNED

James B. ...