LAW OFFICES OF
CAMPBELL & RUSSELL
J. P. WHITE BUILDING - P. O. ~~BOX 366~~ DRAWER 640
ROSWELL, NEW MEXICO

JACK M. CAMPBELL
JOHN F. RUSSELL

TELEPHONES
MAIN 2-4641
MAIN 2-4642

November 27, 1961

Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

ATTN: Mr. Dick Morris

Dear Mr. Morris:

We transmit herewith in triplicate the application of Zapata Petroleum Corporation covering the hearing which has been scheduled for December 11.

Very truly yours,

CAMPBELL & RUSSELL

John F. Russell

JFR:np

Enclosures

November 30, 1961

Mr. John F. Russell
Attorney at Law
Roswell, N. M.

Dear Mr. Russell:

Receipt of your letter under date of November 27, 1961 transmitting a copy of the application of the Zapata Petroleum Corporation for a water flood project is hereby acknowledged. In view of the fact that none of the exhibits which accompanied the original application were submitted to this office, it will not be possible for us to make our recommendations to the Commission at this time. If you care to submit copies of the exhibits, they will be carefully studied and recommendations made to the Commission forthwith; and if not, I will endeavor to attend the hearing when it is set down and appraise the situation from the testimony given there.

Yours truly,

S. E. Reynolds
State Engineer

By:
Frank E. Irby
Chief
Water Rights Division

FEI/ma
cc-Mr. A. L. Porter, Jr.

Letter mailed 12-1-61

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

COPY

January 4, 1962

Mr. Jack Campbell
Box 766
Roswell, New Mexico

Dear Mr. Campbell:

Enclosed herewith is Commission Order No. R-2157, entered in Case No. 2458, approving the Zapata Petroleum Corporation Maljamar Water Flood Project.

According to our calculations, when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 462 barrels per day. This is based upon the assumption that the wells on each of the 40-acre tracts in the waterflood project area are completed in and producing from the Maljamar (Grayburg-San Andres) Pool.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate District proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

COPY

additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

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

ALP/og
Encls.

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

December 7, 1961

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, N. M.

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Zapata Petroleum Corporation submitted through Campbell and Russell on November 27, 1961 seeking authority to commence the injection of water into the Grayburg and San Andres formations in Sections 17 and 20, Township 17 South, Range 33 East in the Maljamar Field. The Zapata Corporation has responded to my letter of November 30th addressed to their attorney concerning this matter. The information submitted by the corporation indicates that injection will be through tubing and beneath the packer, thereby eliminating pressure on the casing. A casing and cementing record on each string of casing in each well has been submitted, as well as other requested information.

After study of the information submitted, I have reached the conclusion that the injection in the proposed manner would not constitute a threat of contamination to any fresh waters which may exist in the area. Therefore, this office offers no objection to the granting of the application.

Yours truly,

S. E. Reynolds
State Engineer

By: Frank E. Irby
Frank E. Irby
Chief
Water Rights Division

FEI/ma
cc-Campbell & Russell
Zapata Petroleum Corp.

ZAPATA PETROLEUM CORPORATION
ESTIMATED RESERVOIR AND RECOVERY DATA
WESTERN STATE LEASE
MALJAMAR FIELD
LEA COUNTY, NEW MEXICO

Grayburg - San Andres

	Barrels Per Acre-Foot
Total pore space for 11.5% porosity	892.2
Connate water saturation (35%)	312.3
Original oil saturation (65%)	579.9
Formation volume factor (1.2)	
Original STO in place	483.2
Primary oil produced to 12-1-61	35.8
Remaining primary oil	15.0
Waterflood oil reserves	51.7
Residual oil after waterflooding (42.8% of pore space)	380.7

Primary Reserves

Area	640 acres
Average net pay	32 ft.
Primary acre-feet	20,520
Cumulative 12-1-61	734,099 BO
Remaining primary reserves	307,905 BO
Ultimate primary reserves	1,042,004 BO

Waterflood Reserves

Area	631 acres
Average net pay	32 ft.
Waterflood acre-feet	20,192
Waterflood recovery per acre-foot	51.7
Ultimate waterflood reserves	1,043,926 BO

EXHIBIT 2

ZAPATA PETROLEUM CORPORATION
CASING RECORD
PROPOSED INJECTION WELLS
WESTERN STATE LEASE
MALJAMAR FIELD
LEA COUNTY, NEW MEXICO

WELL	KDB	TOTAL	HOLE	PERFORATED	SURFACE CASING			PRODUCTION CASING		
NO.	ELEV.	DEPTH	SIZE	INTERVALS	SIZE	DEPTH	SXS.CEMENT	SIZE	DEPTH	SX.CEMENT
6	4216'	4450'	8-3/4"	4198-4208' 4258-4270' 4288-4302' 4304-4316' 4339-4375'	10-3/4"	277'	Circ.	7"	4450'	2500
8	4223'	4500'	8-3/4"	4198-4216' 4302-4310' 4334-4354' 4372-4416' 4432-4460'	10-3/4"	297'	Circ.	7"	4497'	2000
15	4218'	4472'	7-7/8"	4203-4218' 4238-4250' 4326-4348' 4364-4396'	9-5/8"	279'	Circ.	5-1/2"	4470'	2500

ZAPATA PETROLEUM CORPORATION
PRODUCTION DATA
WESTERN STATE LEASE
MALJAMAR FIELD
LEA COUNTY, NEW MEXICO

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 2426

	1953	1954	1955
Jan.		1,720	1,024
Feb.		1,697	977
Mar.	363	1,789	1,098
Apr.	581	1,942	776
May	430	2,139	894
June	589	1,779	3,479
July	850	1,344	5,858
Aug.	1,786	1,565	7,246
Sept.	2,006	1,703	6,958
Oct.	2,176	1,814	7,820
Nov.	2,089	2,004	9,892
Dec.	2,226	1,500	9,437

	1956	1957	1958
Jan.	10,292	16,412	10,359
Feb.	9,437	13,635	9,032
Mar.	12,242	15,068	10,143
Apr.	13,138	13,924	9,306
May	14,631	14,128	6,870
June	15,494	12,268	6,756
July	15,320	12,474	7,827
Aug.	15,517	11,495	7,747
Sept.	15,453	10,610	7,821
Oct.	15,730	10,897	7,115
Nov.	15,195	10,316	9,507
Dec.	16,113	10,420	9,406

	1959	1960	1961
Jan.	9,213	5,737	7,620
Feb.	6,716	5,163	6,118
Mar.	7,205	5,786	6,143
Apr.	7,032	4,501	5,680
May	6,952	5,267	5,737
June	6,554	4,310	5,512
July	6,395	8,899	6,206
Aug.	6,616	9,536	5,555
Sept.	6,333	7,000	4,713
Oct.	6,993	7,678	4,652
Nov.	5,777	6,837	4,969
Dec.	6,089	6,465	

Cumulative production 12-1-61 - 734,099

ZAPATA PETROLEUM CORPORATION
WELL TEST
WESTERN STATE LEASE
MALJAMAR FIELD
LEA COUNTY, NEW MEXICO

Well No.	Date	Producing Status	Oil Prod.	Water Prod.	GOR
1-X	10-15-61	Pump	25.0	0	3430
2	10-29-61	Flow	20.5	0	4810
3	11-1-61	Flow	4.5	0	6550
4	12-2-61	Pump	10.5	0	4950
5	10-25-61	Pump	10.0	0	4810
6	11-26-61	Flow	5.0	0	5200
7	11-8-61	Pump	7.0	0	5920
8	11-24-61	Pump	8.0	0	4110
9	11-12-61	Pump	6.5	1.0	2460
10	10-19-61	Flow	4.0	0	3310
11	11-30-61	Pump	4.5	0	4940
12	11-20-61	Pump	5.0	0	5250
13	11-4-61	Pump	6.0	0	4880
14	11-14-61	Flow	4.0	0	7240
15	11-28-61	Pump	10.5	0	8510
16	12-4-61	Flow	34.5	0	3490

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 2451

ZAPATA PETROLEUM CORPORATION

CASING RECORD
Proposed Injection Wells
Western State Lease
Maljamar Field - Lea County, New Mexico

Well No.	Location Unit	Location S -T- R	Total Depth	Date Completed	Perforated Intervals	SURFACE CASING Size	Weight	Grade	Depth	Sx. Cement	PRODUCTION CASING Size	Weight	Grade	Depth	Sx. Cement	Top Cement
6	D	20-17-33	4450	7-23-55	4198-4208 4258-4270 4288-4302 4304-4316 4339-4375	10-3/4"	40#	H-40	277	Circ.	7"	23#	J-55	4450	2500	Circ.
8	N	17-17-33	4500	10-25-55	4198-4216 4302-4310 4334-4354 4372-4416 4432-4460	10-3/4"	40#	H-40	297	Circ.	7"	29#	J-55	4497	2000	515'
15	L	17-17-33	4472	3-2-57	4203-4218 4238-4250 4326-4348 4364-4396	9-5/8"	36#	H-40	279	Circ.	5-1/2"	15.5#	J-55	4470	2500	725'

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 7
CASE NO. 2458

ZAPATA PETROLEUM CORPORATION
CASING RECORD
PROPOSED INJECTION WELLS
PHILLIPS STATE B LEASE
MALJAMAR FIELD
LEA COUNTY, NEW MEXICO

WELL NO.	KDB ELEV.	TOTAL DEPTH	HOLE SIZE	PERFORATED INTERVALS	SURFACE CASING			PRODUCTION CASING		
					SIZE	DEPTH	SXS.CEMENT	SIZE	DEPTH	SXS.CEMENT
3	4166'	4421'	7-7/8"	4080-4092' 4113-4128' 4144-4154' 4168-4173' 4180-4190' 4247-4252'	8-5/8"	348'	175 & cir.	5-1/2"	4420'	150
5	4163'	4458'	7-7/8"	4080-4090' 4118-4130' 4172-4180' 4204-4232' 4378-4408'	8-5/8"	354'	175 & cir.	5-1/2"	4457'	150

TREAT-RITE WATER LABORATORIES, INC.
Box 548, Monahans, Texas

RESULT OF WATER ANALYSIS

Laboratory No: M55926
Sample Received: 5-6-59
Results Reported: 5-15-59

To: Mr. Frank Darden
1125 Fort Worth National Bank Bldg.
Fort Worth, Texas

Company: Yucca Water Company Lease: Williams
Eddy County, New Mexico

Source of Sample, and Date Taken:
No. 1: Raw water - taken from water well #1. 5-6-59

CHEMICAL AND PHYSICAL PROPERTIES

Specific Gravity at 60° F.	1.0014
PH When sampled	7.4
PH When received	7.5
Total Alkalinity as $CaCO_3$	150
Supersaturation as $CaCO_3$	-
Undersaturation as $CaCO_3$	2
Total Hardness as $CaCO_3$	165
Calcium as $CaCO_3$	141
Magnesium as $CaCO_3$	24
Sodium and/or potassium	16
Sulfate as SO_4	19
Chloride as Cl	22
Silica as SiO_2	11.6
Iron as Fe	0.12
Manganese as Mn	0
Barium as Ba	None
Turbidity Electric	1.0
Color as Pt	2.3
Dissolved solids at 103° C.	245
Total solids at 103° C.	246
Temperature ° F	66
Carbon Dioxide Calculated	12.5
Dissolved Oxygen Winkler	7.2
Hydrogen Sulphide	None
Residual Chlorine	None
Resistivity OHMS/cc	2,050
Chlorides, as NaCl	37
Total Solids, Calculated	302

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 10
CASE NO. 2458

NOTE: All results reported as parts per million. Divide by 17.1 to convert to grains per gallon.