

CASE 5786: TEXACO INC. FOR A
WATERFLOOB PROJECT, LEA COUNTY,
NEW MEXICO

CASE 110.

5786

Application,

Transcripts,

Small Exhibits

ETC.

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

June 30, 1978

Texaco Inc.
Drawer 728
Hobbs, New Mexico 88240

Attention: Mr. J. V. Gannon

Gentlemen:

As authorized in Order No. R-5317, approval is granted to increase injection pressures to 900 psi in the Texaco "BZ" Langlie Mattix Waterflood Project.

Step rate tests which you conducted indicate pressures can be increased to 900 psi without fracturing.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

C
O
P
Y



PETROLEUM PRODUCTS

JUN 27 1978

June 26, 1978

TEXACO INC.
DRAWER 728
HOBBS, NEW MEXICO 88240

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

TEXACO "BZ" LANGLIE-MATTIX
WATERFLOOD PROJECT

Case No. 5786
Order No. R-5317

Gentlemen:

In accordance with paragraph (3) of NMOCC Order No. R-5317, Texaco Inc. respectfully requests administrative approval to increase the maximum well-head injection pressure from 700 psi to 900 psi in the Texaco "BZ" Langlie Mattix Waterflood Project.

Step-rate tests were recently conducted on New Mexico "BZ" State (NCT-8) Wells No. 2 and 7. The fracture pressure for the Langlie-Mattix formation was determined to be 2420 psi and 2455 psi respectively at the midpoint of the perforations, corresponding to well head pressures of 990 psi and 1014 psi, respectively, at injection rates of 1530 BWPD and 1980 BWPD, respectively.

The procedure for conducting these step-rate tests was as follows:

1. A bottom hole pressure bomb was installed in the well at or near the midpoint of the perforations.
2. Injection was shut in to allow the bottom hole pressure to approach formation pressure.
3. Injection was resumed with surface and bottom hole pressures at various injection rates recorded. Injection was held constant at each rate for 25 minutes. The pressure at the end of each 25-minute period was used in determining the fracture pressure.

A copy of the chronological data and a graphical presentation of the pressures vs. injection rates are attached. The fracture rate and pressure was determined by extrapolation of the linear rate vs. pressure relationship above and below the fracture pressure to their intersection. The intersection of the two lines is interpreted as the fracture rate and pressure.

This is recycled paper

OIL CONSERVATION DIVISION


PAGE 2

JUNE 26, 1978

A plat of the Texaco "BZ" Ianglie-Mattix Waterflood Project and a performance curve for the project are attached. The performance curve shows that the project is definitely responding to waterflooding. Injection at maximum permissible rates will provide high operating efficiency, ensure that all pay zones are properly flooded, and maximize recovery of reserves from this project.

The requested 900 psi pressure limit will provide a margin of safety below the measured fracture pressure. Your early consideration will be appreciated.

Yours very truly,


J. V. Gannon
District Superintendent

WRH:las

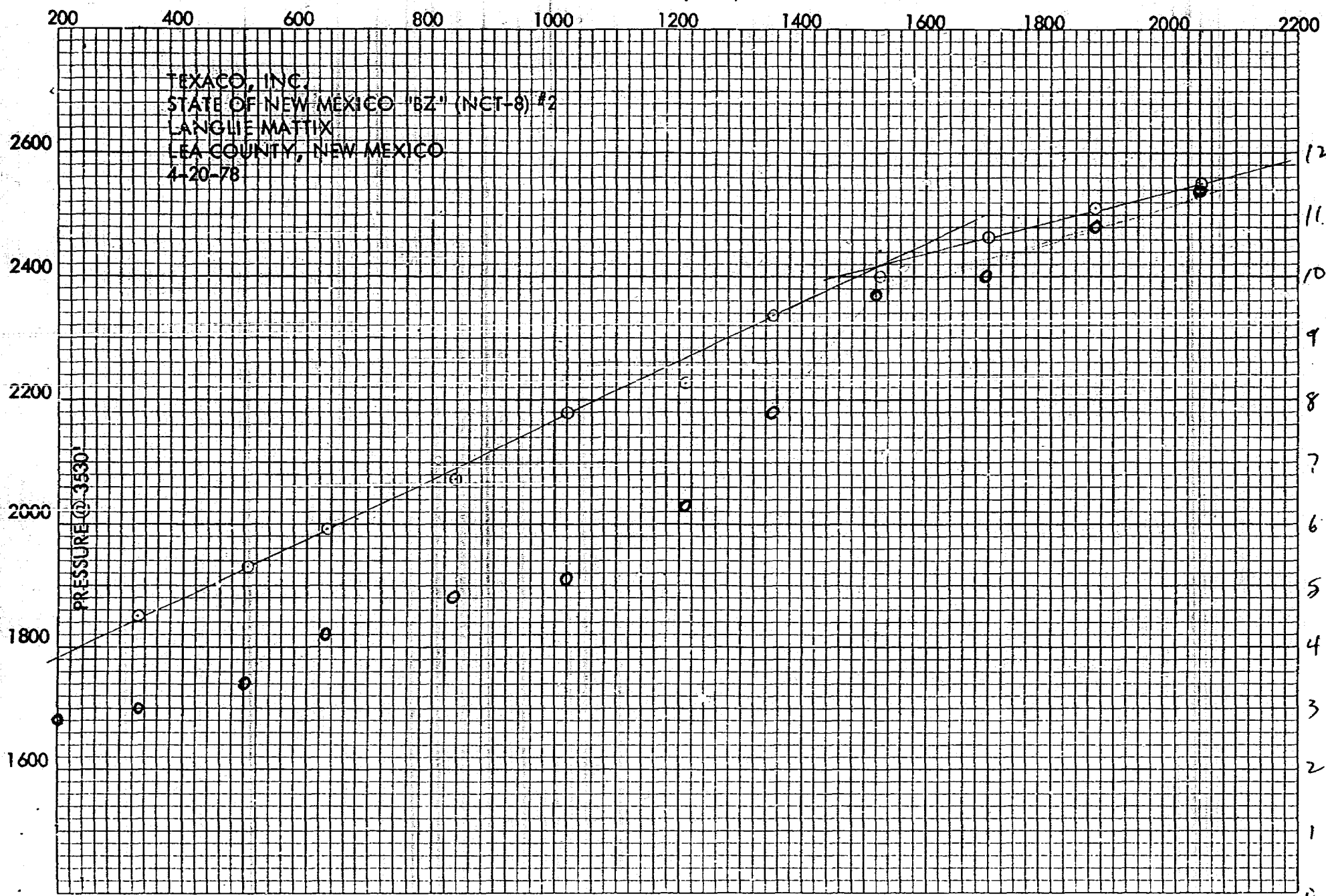
Attachments

NO. 341-10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH

DIETZGEN CORPORATION
MADE IN U.S.A.

Bbls. of Water Per Day Injection Rate

TEXACO, INC.
STATE OF NEW MEXICO "BZ" (NCT-8) #2
LANGUE MATTIX
LEA COUNTY, NEW MEXICO
4-20-78



O 3-2325-
O 3-2078

TOM HANSEN COMPANY, INC.

P. O. Box 6745
Odessa, Texas

COMPANY Texaco, Inc. FIELD Langlie Mattix LEASE State of New Mexico "BZ" (NCT-8) WELL 2

DATE 4-20-78 COUNTY Lea STATE New Mexico FORMATION _____

Bomb No. 37535

CHRONOLOGICAL DATA

Date	Time	RATE NUMBER	Elapsed Time Hrs.-Min.	Water BWPD	Oil BOPD	Gas MCFD	G.O.R. SCF/B	Tbg. Press.	BHP @ R. D.	BHP @ Mid Perfs 3530'
4-20-78		0		0				280		1797
		1		331				300		1852
		2		504				340		1930
		3		633.6				420		1992
		4		835.2				480		2072
		5		1019.5				510		2129
		6		1209.6				630		2227
		7		1353.6				780		2338
		8		1526.4				970		2400
		9		1699				1000		2462
		10		1872				1080		2511
		11		2045				1140		2552

Each Injection Rate was 25 minutes of Constant Volume

LO 3-2000
LQ 3-2078

TOM HANSEN COMPANY, INC.

Page 1 of 3

P. O. Box 6745
Odessa, Texas

COMPANY Texaco, Inc. FIELD Langlie - Mattix LEASE State of New Mexico "BZ" (NCT-8) WELL 7

DATE 6-6-78 thru 6-7-78 COUNTY Lea STATE New Mexico FORMATION _____

Bomb No. 37535

CHRONOLOGICAL DATA

Date	Time	Well Status	Elapsed Time Hrs.-Min.	$\frac{T + \Delta T}{\Delta T}$	Water BWPD	Gas MCFD	G.O.R. SCF/B	Tbg. Press.	BHP @ R. D. 3400'	BHP @ Mid Perfs. 3540'
6-6-78	08:00	On Location Injecting								
	09:40	Arrived @ RD	00 - 00					705	2121	2182
	10:00		00 - 20						2099	2160
	10:00	Resumed Injection	00 - 00							
	10:06		00 - 06						2141	2202
	10:15		00 - 15						2205	2266
	10:30		00 - 30						2245	2306
	11:00		01 - 00						2278	2339
	12:00		02 - 00						2298	2359
	13:00		03 - 00						2307	2368
	14:00		04 - 00						2311	2372
	14:00	Stopped Injection	00 - 00							
	14:06		00 - 06						2269	2330
	14:15		00 - 15						2232	2293
	14:30		00 - 30						2189	2250
	15:00		01 - 00						2123	2184
	16:00		02 - 00						2043	2104
	17:00		03 - 00						1990	2051
	18:00		04 - 00						1946	2007
	19:00		05 - 00						1906	1967
	20:00		06 - 00						1873	1934
	21:00		07 - 00						1839	1900
	22:00		08 - 00						1815	1876
	23:00		09 - 00						1788	1849
	24:00		10 - 00						1764	1825

Continued on Page 2

TOM HANSEN COMPANY, INC.

Page 2 of 2

P. O. Box 6745
Odessa, TexasCOMPANY Texaco, Inc. FIELD Langlie - Mattix LEASE State of New Mexico "BZ" (NCT-8) WELL 7DATE 6-6-78 thru 6-7-78 COUNTY Lea STATE New Mexico FORMATION _____Bomb No. 37535

CHRONOLOGICAL DATA

Date	Time	Well Status	Elapsed Time Hrs.-Min.	$\frac{T + \Delta T}{\Delta T}$	Water BWPD	Gas MCFD	G.O.R. SCF/B	Tbg. Press.	BHP @ R. D. 3400'	BHP @ Mid Perfs 3540'
6-7-78	01:00		11 - 00						1742	1803
	02:00		12 - 00						1720	1781
	03:00		13 - 00						1700	1761
	04:00		14 - 00						1682	1743
	05:00		15 - 00						1662	1723
	06:00		16 - 00						1644	1705
	07:00		17 - 00						1627	1688
	08:00		18 - 00						1611	1672
	09:00		19 - 00						1596	1657
	09:45		19 - 45					115	1584	1645
	09:45	Started Injection	00 - 00							
	10:00		00 - 15		360			205	1684	1745
	10:15		00 - 30		360			240	1722	1783
	10:15	Changed Rate	00 - 00							
	10:30		00 - 15		720			340	1810	1871
	10:45		00 - 30		720			385	1846	1907
	10:45	Changed Rate	00 - 00							
	11:00		00 - 15		1080			500	1950	2011
	11:15		00 - 30		1080			550	1997	2058
	11:15	Changed Rate	00 - 00							
	11:30		00 - 15		1440			700	2114	2175
	11:45		00 - 30		1440			765	2176	2237
	11:45	Changed Rate	00 - 00							
	12:00		00 - 15		1800			885	2265	2326
	12:15		00 - 30		1800			940	2320	2381

Continued on Page 3

TOM HANSEN COMPANY, INC.

Page 3 of 3

P. O. Box 6745
Odessa, Texas

COMPANY Texaco, Inc. FIELD Langlie - Mattix LEASE State of New Mexico "BZ" (NCT-8) WELL 7

DATE 6-6-78 thru 6-7-78 COUNTY Lea STATE New Mexico FORMATION _____

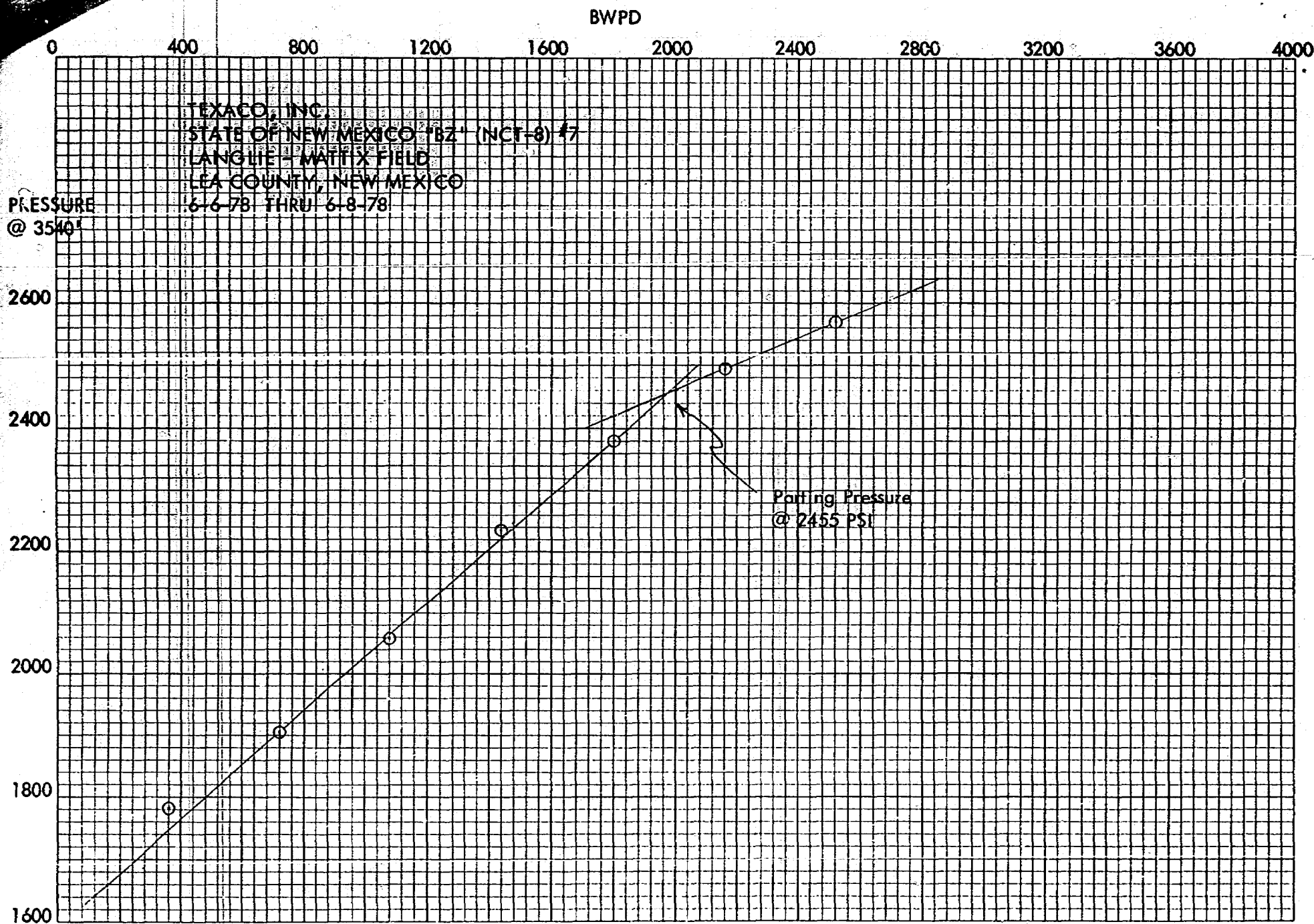
Bomb No. 37535

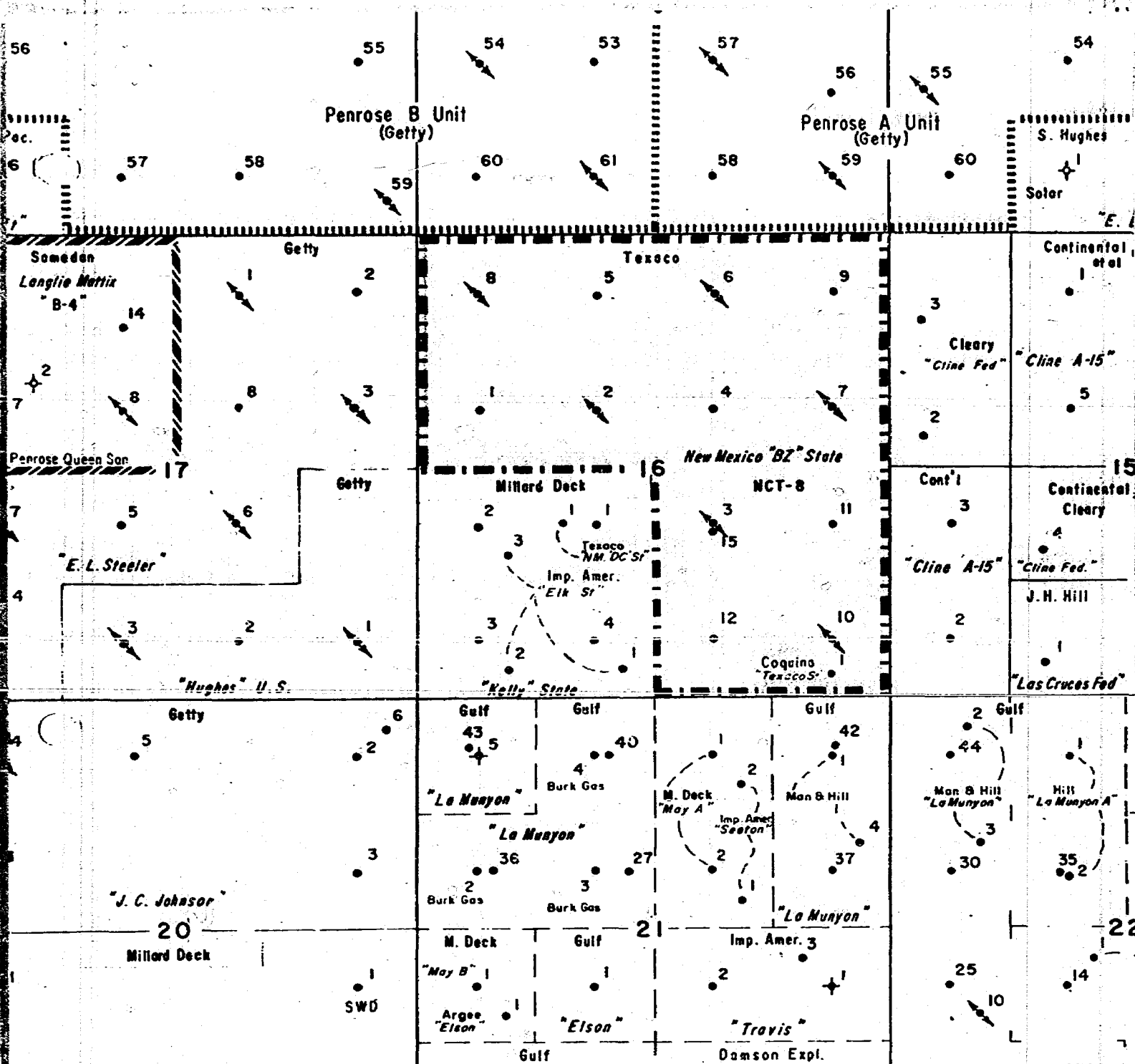
CHRONOLOGICAL DATA

Date	Time	Well Status	Elapsed Time Hrs.-Min.	$\frac{T + \Delta T}{\Delta T}$	Water BWPD	Gas MCFD	G.O.R. SCF/B	Tbg. Press.	BHP @ R. D. 3400'	BHP @ Mid Perfs 3540'
6-7-78	12:15	Changed Rate	00 - 00							
	12:30		00 - 15		2160			1035	2389	2450
	12:45		00 - 30		2160			1075	2433	2494
	12:45	Changed Rate	00 - 00							
	13:00		00 - 15		2520			1180	2473	2534
	13:15		00 - 30		2520			1215	2511	2572
	13:15	Stopped Injection	00 - 00							
	13:21		00 - 06						2336	2397
	13:30		00 - 15						2316	2377
	13:45		00 - 30						2218	2279
	14:00		00 - 45						2147	2208
	14:15		01 - 00						2094	2155
	14:33		01 - 18						2041	2102

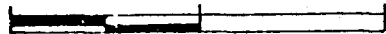
NO. 341-10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH

DIETZGEN CORPORATION
MADE IN U.S.A.





Scale: 0 1500' 3000'



Rev. 6-27-77

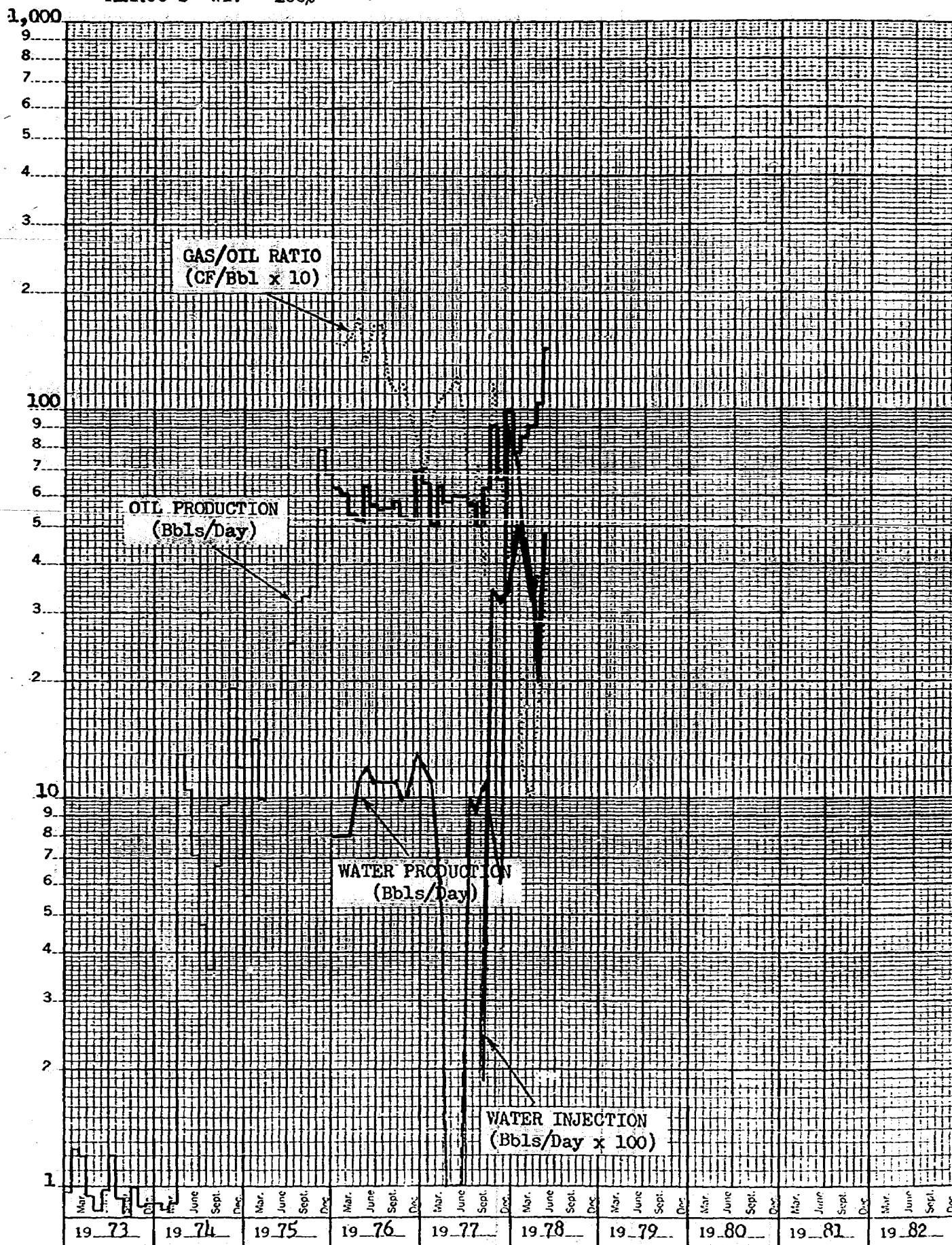
TEXACO Inc.
HOBBS DISTRICT

T-23-S, R-37-E

NEW MEXICO "BZ" STATE (NCT-8)
LANGLIE-MATTIX FIELD
LEA COUNTY, NEW MEXICO

DATE 7-30-76 DRAWN BY CRC

TEXACO'S WI: 100%



OPERATOR: TEXACO Inc.
EFFECTIVE DATE: 1-1-76

NEW MEXICO "BZ" ST. NCT-8 COOP.
LANGLIE MATTIX FIELD

[illegible]

LEA COUNTY, NEW MEXICO

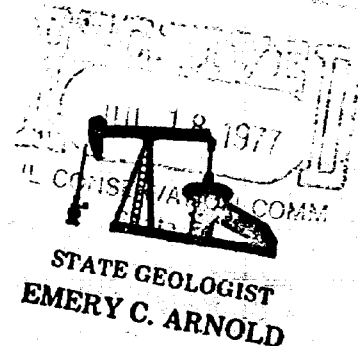


DIRECTOR
JOE D. RAMEY

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 1980 - HOBBS

88240
LAND COMMISSIONER
PHIL R. LUCERO
July 15, 1977



Coquina Oil Corporation
P. O. Drawer 2960
Midland, Texas 79702

Attention Mr. J. C. Solari

Re: Texaco State Well No. 1-P
Section 16, T-23-S, R-37-E
Lea County, New Mexico

*Copy 5/18/77
GPO*

Gentlemen:

Please refer to our letter of June 21, 1977, in which permission was granted to defer workover or abandonment of the subject well until further notification from this office.

We have been advised by Texaco Inc. That injection will commence into their New Mexico "BZ" State Well No. 10 in approximately one month. You are therefore directed to repair or plug and abandon the subject well prior to that time.

Please notify this office as to your intent in this regard by filing Commission Form C-103 outlining your proposed program of work, and indicating when the work will commence.

Yours very truly,

OIL CONSERVATION COMMISSION

Jerry Sexton
Supervisor, District 1

/mc
cc-Mr. Joe D. Ramey, Director
Oil Conservation Commission
Santa Fe, New Mexico



COQUINA OIL CORPORATION

P. O. DRAWER 2960
MIDLAND, TEXAS 79702

June 14, 1977

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

Re: Texaco State Well
No. 1-P, Section 16
T23S R37E, Lea Co.
New Mexico

Attention: Mr. Joe D. Ramey

Gentlemen:

Please reference our subject letter of May 13, 1977 indicating our plans to cement off the Langlie Mattix zone in reply to your letter of May 5, 1977.

Due to the marginal status of our well, we have experienced reticence on the part of some of our partners to approve monies for workover in lieu of plugging and abandoning the well with casing recovery.

As discussed with Mr. Runyon in your Hobbs office, Texaco's District Engineer in Hobbs, Mr. Sprague, advised yesterday that Texaco will probably not initiate water injection into the Langlie Mattix zone until late this year or early 1978.

We, therefore, request permission to defer workover or abandonment of our subject well to coincide with initiation of water injection into Texaco's proposed injection well No. 10, New Mexico "BZ" State.

Yours very truly,

COQUINA OIL CORPORATION

J. C. Solari

J. C. Solari
Manager of Production

JCS:kyr

cc: Mr. Jerry Sexton, Hobbs NMOCC

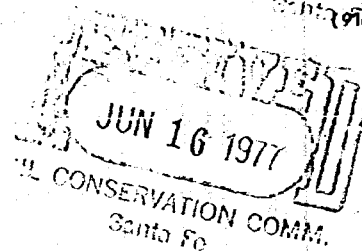
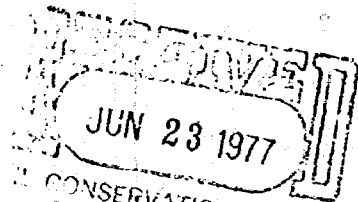
Jerry:
would have no objection
to this. Suggest you check
with Texaco & confirm start-
up time.

Let me know.

JCR

6-20-77 doe: TEXACO IS HOPING FOR A START UP
IN LATE AUG. OR EARLY SEPT. OF THIS YEAR.
I TALKED TO MR SPRAGUE MENTIONED ABOVE
HE WILL GIVE ME A CALL ABOUT 1 MO. BEFORE
START UP IF YOU WANT TO HANDLE IT THIS WAY.

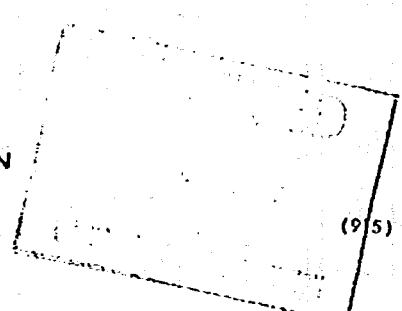
Jerry



Call Jerry
File in 5796
to



COQUINA OIL CORPORATION
P. O. DRAWER 2960
MIDLAND, TEXAS 79702
May 13, 1977



(915) 682-6271

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

Attention: Mr. Joe D. Ramey

Re: Texaco State Well
No. 1-P, Section 16
T235, R37E Lea County
New Mexico

Gentlemen:

Kindly reference your subject letter of May 5, 1977
requesting plans to cement off Langlie Mattix zone
as required by Rule 107(a).

This matter was discussed by telephone with your Mr. Jerry
Sexton in Hobbs on May 11, 1977 and we have prepared and
are sending the attached workover proposal and AFE to our
working interest partners for approval.

We plan to proceed with remedial work as soon as we have
necessary partner approvals.

Please advise if you have any questions.

Yours very truly,

COQUINA OIL CORPORATION

J. C. Solari
Manager of Production

JCS:kyr

attachment

cc: Mr. Jerry Sexton
NMOCC Hobbs, N.M.



COQUINA OIL CORPORATION

P. O. DRAWER 2960
MIDLAND, TEXAS 79702
May 13, 1977

(915) 682-6271

TO: ALL WORKING INTEREST OWNERS

SUBJECT: TEXACO STATE #1 (Coquina Oil, Operator)
Teague (Blaine) Field
Lea County, New Mexico

WORKOVER & AFE PROPOSAL
To Cement Off Langlie Mattix

Please find attached copies of letters from NMOCC which require sealing off the Langlie Mattix zone (3400-3600 ft.) with cement outside the 5½" oil string in subject well. This action has been prompted by Texaco's approved water-flood of the Langlie Mattix. Our records reflect that the 5½" oil string was cemented with top of cement up to only 4211 ft. by temperature survey.

We have attached a copy of our proposed procedure to cement across the Langlie Mattix and return the well to production from the Blaine zone. We estimate that this required workover will cost \$9,000 and pay-out in 3.6 months based on the current 9 BOPD stripper production. Failure to perform this work will force pipeline severance and premature abandonment.

Please indicate your approval of this AFE in the space provided below and return a copy to Coquina. Your early response would preclude shut-in of well.

Yours very truly,

COQUINA OIL CORPORATION

J. C. Solari
Manager of Production

JCS:kyr
enclosure

ACCEPTED AND AGREED TO AFE FOR \$9,000
this _____ day of _____, 1977.

COMPANY _____
EXECUTED BY _____

TEXACO STATE #1
Teague (Blinebry) Field
Lea County, New Mexico

COQUINA OIL CORPORATION, Operator

Recommended procedure to protect Langlie Mattix (Queen)
pays 3400-3600' deep, behind 5½" casing as per NMOCC
requirement:

1. MI Doubles Unit and pull rods, pump, tubing and anchor, and install BOPE.
2. Run retrievable BP and set at 4300'±. Load hole with fluid, spot 3 sax sand on RBP and test casing to 1000 psi.
3. Perf 4 holes at 3800'± and set wireline cement retainer at 3400'± ft.
4. Run tubing to retainer, establish circulation thru perfs and up 8 5/8 x 5 1/2 annulus. Pressure tubing-casing annulus to prevent collapse. Cement with sufficient trinity litewate to bring top of cement above 3100'. From caliper, the open hole was about 8 3/4 to 9" diameter. NMOCC to witness. If no circulation, pressure tbg-casing annulus to prevent collapse then squeeze perfs.
5. Pull tbg. and run temp survey to locate top cement. If top cement not above 3300', perf near top cmt, set retainer and squeeze.
6. Drill out retainer and cement. Test squeeze holes to 1000 psi. Pull tubing. Retrieve RBP.
7. Run anchor, tubing, pump and rods and return to production. Note: Consider acid stimulation of Blinebry if scale or damage warrant.

ESTIMATED COST - TOTAL \$9,000

Pulling Unit(3-4 days)	\$2,500
Reverse Unit & Equip.(2 days)	1,000
Ret. BP	750
Perf & Cmt. Rtr.	2,000
Cement & Truck	2,000
Misc.	750

Est. Payout 3.6 mos. Basis: 9 BOPD @\$14/bbl. & 30 MCFPD @\$0.83/MCF
and \$22 daily operating costs.

sid morrish reporting service

General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

Page 1

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 13, 1976

EXAMINER HEARING

IN THE MATTER OF:

Application of Texaco, Inc. for a
waterflood project, Lea County,
New Mexico.

CASE
5786

BEFORE: Richard L. Stamets, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil
Conservation Commission:

Lynn Teschendorf
Law Clerk for the Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant:

William Booker Kelly, Esq.
WHITE, KOCH, KELLY & MCCARTHY
Attorneys at Law
220 Otero Street
Santa Fe, New Mexico

sid morrish reporting service
General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

I N D E X

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<u>DON CRAIG</u>	
Direct Examination by Mr. Kelly	3
Cross Examination by Mr. Ramey	15
Cross Examination by Mr. Stamets	16

EXHIBIT INDEX

	<u>Offered</u>	<u>Admitted</u>
Texaco's Exhibit One, Plat	4	14
Texaco's Exhibit Two, Plat	5	14
Texaco's Exhibit Three, Log	6	14
Texaco's Exhibit Four, Structure Map	7	14
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Texaco's Exhibit Seven, Diagrammatic Sketch	10	14
Texaco's Exhibit Eight, Bradenhead Survey	10	14
Texaco's Exhibit Nine, Table	11	14

1 MR. STAMETS: We will call next Case 5786.

2 MS. TESCHENDORF: Case 5786, application of
3 Texaco, Incorporated for a waterflood project, Lea County,
4 New Mexico.

5 MR. KELLY: Booker Kelly of White, Koch, Kelly and
6 McCarthy, Santa Fe, appearing on behalf of the applicant and
7 we have one witness and ask that he be sworn.

8 MR. STAMETS: Will you stand and be sworn, please?

9 (THEREUPON, the witness was duly sworn.

10
11 DON CRAIG

12 called as a witness, having been first duly sworn, was
13 examined and testified as follows:

14
15 DIRECT EXAMINATION

16 BY MR. KELLY:

17 Q Would you state your name, by whom you are employed
18 and in what position?

19 A My name is Don Craig, I'm employed by Texaco,
20 Incorporated and I'm currently acting as District Production
21 Engineer for the Hobbs District.

22 Q Have you previously qualified as an expert witness
23 in that field before the Commission?

24 A Yes, sir, I have.

25 Q Referring to what has been marked as Exhibit Number

sid morrish reporting service

General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

sid morrish reporting service
General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

1 One, the plat of the area, would you briefly state what
2 Texaco seeks by this application?

3 A This is a plat prepared by Texaco showing a two mile
4 area around the proposed waterflood we are trying to have
5 approved. The area in yellow is the area we propose to
6 flood. It counts for four hundred and eighty acres in this
7 Section 16 and this waterflood will be done in conjunction
8 with our offset operators, the current operating floods to
9 the north of us and two proposed floods to the east of us.

10 On this map the larger dashed area around the lease
11 is an area that covers a half-a-mile from any injection well
12 in the lease.

13 Down in the bottom we have also noted the deeper
14 producing horizons in this area. This legend will give you
15 this. We have Teague Blinbry, Teague Simpson, Imperial-
16 Tubb-Drinkard and Jalmat gas wells as well as Langlie-Mattix
17 wells in this area and we do propose to flood the Langlie-
18 Mattix Seven Rivers Queen formations.

19 Q Exhibit Number One is designed to meet the proposed
20 Federal regulations that have been discussed here this
21 morning, is that right?

22 A Yes, it is.

23 Q Generally is your flood program designed to meet
24 those proposed regulations?

25 A Yes, sir, they are.

sid morrish reporting service
General Court Reporting Service
 825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
 Phone (505) 982-9212

1 Q All right, go on to Exhibit Number Two then and
 2 explain that to the Commission.

3 A Exhibit Number Two is an exhibit covering the
 4 immediate area of the flood, the New Mexico "BZ" State, Tract
 5 Eight that we will be flooding. It also shows the two
 6 proposed injection wells to the east of us which we hopefully
 7 will be cooperating with, one of them operated by Cleary
 8 Petroleum and the other operated by Continental Oil Company.

9 As you can see the proposed pattern is an eighty-acre
 10 five-spot and it is compatible with the present floods already
 11 operating in the area. We will have six injection wells and
 12 six producing wells in addition to we will operate an injection
 13 well on the Continental Kline A-15 lease.

14 Q And you are assuming that Continental will be coming
 15 into the Commission shortly for approval?

16 A Yes, sir, we have papers out to them for a
 17 cooperative waterflood with this and we assume that they will
 18 come into the Commission and request a waterflood on that
 19 particular property.

20 Q When were the twelve wells in this project drilled?

21 A Well, actually there is thirteen but the twelve wells
 22 that we are particularly concerned with are Langlie-Mattix
 23 wells and they were drilled in the late 1950's. They were
 24 all single completions and the largest majority of them
 25 utilized four-and-a-half casing as production string.

1 Q All right, what is the present production figures on
2 these wells?

3 A All of these wells are considered to be in the
4 stripper stage with the exception of No. 6 and No. 9 and these
5 two wells are making thirty barrels a day each and we feel
6 like that this production increase is coming from the secondary
7 response that we are receiving from the North Penrose Skelly
8 A and B waterfloods.

9 Q Do you have an exhibit that shows that the production
10 increased following the Skelly flood, is that correct?

11 A Yes, we do.

12 Q So, in your opinion, all of the wells are in the
13 advanced stage of depletion as far as primary recovery?

14 A Yes, they are.

15 Q Are you asking as part of this application for
16 administrative approval to switch your injection wells and
17 production wells?

18 A Yes, sir, we are. Insofar as the operation is
19 right now this pattern will be an acceptable one but if
20 unforeseen circumstances occur we would like to request this
21 approval.

22 Q All right, now, going on to Exhibit Number Three,
23 the log, would you locate the well that that log is from?

24 A Okay, this is a type log drawn on Well No. 7 which
25 is located on the Exhibit Number Two and for want of a better

sid morish reporting service
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1 term and in the lower part of the right-hand corner of Exhibit
 2 Number Seven, it will be an injection well and this type log
 3 simply indicates that the area we intend to flood is the
 4 Langlie-Mattix Seven Rivers Queen at an average depth of about
 5 thirty-four hundred and fifty feet. The subsea depth of
 6 this pay is a hundred and thirty-one feet and this section is
 7 approximately two hundred and thirty foot thick.

8 Q Exhibit Number Four is a structure map, is that
 9 correct?

10 A Yes, sir, it is. This is a structure map contoured
 11 on the top of the Queen interval that shows this structure to
 12 be an anticlinal stratigraphic trap. This reservoir is now
 13 producing under a solution gas drive with an expansion, also
 14 an expansion fluid. It is in an advanced stage of depletion.
 15 All of the wells are considered to be in the stripper stage.

16 We calculated our ultimate recoverable primary
 17 reserves to be three hundred and seventy-three thousand, two
 18 hundred and these primary reserves have already been exceeded
 19 so we feel like the reserves we are getting now are secondary
 20 reserves that we are recovering from No. 6 and No. 9.

21 Q All right, now, turn to Exhibit Number Five, a
 22 performance curve.

23 A Exhibit Number Five is a performance curve showing
 24 the past performance and the predicted performance of the
 25 "BZ" Tract Eight waterflood. As you can see, previous to

1 March of 1974 the unit area was operating near its economic
2 limit when we started receiving secondary response in the
3 north line of producers on the "BZ" lease and we attributed
4 this directly to the waterflood operated by Skelly in the
5 north.

6 We calculated our recoverable secondary reserves to
7 be three hundred and forty-five thousand, three hundred
8 barrels of oil. Prior to 1974 water production from this lease
9 was negligible and water production only started occurring
10 on the lease when we received secondary response in this
11 north line of producers.

12 Q Okay, what is your anticipated injection rates and
13 pressure rates?

14 A We propose to inject a minimum of five hundred
15 barrels of water a day per well and we anticipate our initial
16 injection pressure to be at six hundred pounds or below. We
17 also propose that as fill up occurs in this unit, we will
18 perform periodic step rate tests to determine the fracture
19 gradient of this formation and we would like to request that
20 administrative procedure be set up to effect the necessary
21 changes to increase our injection based upon these step rate
22 tests.

23 Q And you will keep your injection rates under the
24 fracture pressure?

25 A Yes, sir, we will.

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Page 9

1 Q And where is the location of your water?

2 A We will obtain non-potable water from the Skelly
3 Jal water system and also we will reinject the produced
4 waters that become available.

5 Q All right, let's turn to Exhibit Number Six then
6 in conjunction with Exhibit Seven and explain that to the
7 Examiner?

8 A Exhibit Number Six is a tabulation of all of the
9 pertinent casing data in lieu of the diagrammatic sketches.
10 We felt this would be easier to present to you but we do have
11 the diagrammatic sketches of all the producers and injection
12 wells if you desire.

13 As you can see, all of the surface casing on all
14 of the wells was circulated. Most of these casings that were
15 in the Texaco "BZ" lease were set on an average depth of
16 a thousand and eighty-four feet and these were all circulated.

17 On our production casings all of the tops have been
18 identified with the exception of four wells and these are
19 at the top of the list, No. 2 and No. 3, that will be used
20 for injection wells and we calculated a cement top of eight
21 hundred and forty-four feet and on No. 3 we calculated the
22 cement top to be circulated, based upon volume.

23 Also on our Wells No. 1 and No. 4, here again we
24 calculated the cement tops and these calculated to be two
25 thousand and seventy-eight on No. 1 and thirteen hundred and

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1 ninety feet on No. 4. Now, these wells are calculated volume
2 because we really don't have a good handle on where the cement
3 top is located at. Before injection does commence we propose
4 to run cement bond logs on the wells to determine where the
5 cement top is located and if the cement is not tied into the
6 surface casing we propose to perforate above the cement top
7 and tie the production casing into the surface string.

8 Q Okay, now, your typical sketch, being Exhibit Number
9 Seven, do you plan to have inhibited fluid in the annulus?

10 A Yes, we do. Exhibit Number Seven is a typical
11 injection well. We propose to inject through two-and-three-
12 eighths plastic-coated tubing and under a packer. The annulus
13 will be loaded with an inhibited fluid between the injection
14 tubing and the casing annulus. Also we will supply pressure
15 gauges to monitor any pressure that might occur on the
16 annulus and these pressure gauges will be tested periodically
17 to determine their accuracy and they will also be read
18 periodically to determine that no pressure occurs between
19 the tubing and casing annulus.

20 Q In your opinion will the installation that you have
21 proposed prevent fluids from migrating?

22 A Yes, sir.

23 Q All right, now, Exhibit Number Eight, explain that?

24 A Exhibit Number Eight is a Bradenhead survey that
25 we conducted on our lease to determine if any water flows

1 existed in our area or two of the wells that we also operate
2 in this immediate vicinity and as you can see, only two wells
3 had pressure on the Bradenhead. No. 2 had two hundred and
4 ninety pounds and No. 15 had two hundred pounds. No. 2, we
5 bled it down in forty minutes, it was all gas. We recovered
6 no fluid at all and in the thirty minute shut in the pressure
7 was zero. On No. 15, here again it bled down in ten minutes.
8 It was gas with no fluid and a thirty minute shut in was

9 zero. And I might also add that this gas pressure is a
10 naturally occurring thing in this area. It was even in
11 existence when the wells were drilled.

12 Q Would the significance of these tests mean that
13 your wells are not the source of any migratory water?

14 A Insofar as we can tell. We have no pressure on the
15 Bradenhead.

16 Q All right, now, going to Exhibit Number Nine,
17 explain these multiple pages?

18 A Okay, in Exhibit -- we will be referring back to
19 Exhibit Number One in conjunction with Number Nine. Exhibit
20 Number Nine is a table prepared by us, containing all of the
21 wells within the half mile square area that we have around
22 the Texaco "BZ" lease and all of this information was gathered
23 from Commission records and we calculated all cement volumes
24 at a hundred percent fill up and according to our survey of
25 this particular list we determined that only one well in the

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1 immediate vicinity of the waterflood doesn't have cement across
2 the proposed injection interval.

3 Q Locate that well for the Examiner.

4 A That well is the Coquina Texaco State No. 1 and it
5 is located to the south of our No. 10 on the "BZ" lease.

6 Q What is the status of that well, who owns it and
7 what is its present status?

8 A Presently it is a Langlie Teague Blinebry -- excuse
9 me, Teague Blinebry completion operated by Coquina.

10 Q In your opinion is this well a potential hazard
11 for successful flooding?

12 A Yes, it is.

13 MR. KELLY: Mr. Examiner, I bring out to the
14 Commission that as I understand the Rule 106, that would be
15 an obligation on the part of the operator to have that well
16 properly cemented. I think that even under the existing
17 situation it is in violation and would pose a danger as far as
18 the Skelly flood because response is already being received
19 into this area.

20 MR. STAMETS: Just for purposes of identification,
21 this is the Coquina well which is located on the last page of
22 Exhibit Nine?

23 A Yes, sir, it is.

24 MR. STAMETS: And that is in Unit letter "P" of
25 Section 16 that is in question here today?

1 A Yes, sir, it is just the one to the south of our
2 No. 10.

3 Q (Mr. Kelly continuing.) Texaco has no control over
4 that well?

5 A No, sir, we don't. I might also add that here again
6 Texaco operates two producing horizons in this immediate
7 area and let me identify these for you too. The Texaco
8 New Mexico "DC" State No. 1 is located in the northeast
9 quarter of the southwest quarter of Section 16 and the other
10 well is the New Mexico "BZ" State No. 15 which is located just
11 due east of that, south and just south of our No. 3, it's a
12 twin to our No. 3 in the New Mexico "BZ" State lease.

13 And here again we identified all pertinent cementing
14 data, again on the last page, refer to the last page of that
15 exhibit. I identified the cement tops and everything. Here
16 again the cement tops were calculated. Again we propose to
17 run cement bond logs across these to determine where the
18 cement is. If the cement top is located below the salt
19 section in this case, we propose to tie the production string
20 back to the surface string or completely isolate the salt
21 section above and below to prevent migration of fluids from
22 the Langlie-Mattix flood.

23 Q All right, in your opinion would the granting of
24 this application allow you to recover oil that would otherwise
25 be left in place, thereby causing waste?

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1 A. Yes, we do.

2 Q And is the program that you have developed here
3 before the Examiner, in your opinion, sufficient to protect
4 fresh water in the area and prevent migration of this injection
5 fluid into other zones?

6 A. Yes, sir.

7 Q Do you see that there is any danger to correlative
8 rights of any other operators?

9 A. No, sir.

10 Q Were Exhibits One through Nine prepared by you or
11 under your supervision?

12 A. Yes, they were.

13 MR. KELLY: At this time Texaco would ask that
14 Exhibits One through Nine be admitted into evidence.

15 MR. STAMETS: Exhibits One through Nine will be
16 admitted.

17 (THEREUPON, Texaco's Exhibits One through
18 Nine were admitted into evidence.)

19 Q (Mr. Kelly continuing.) Now, in addition, are you
20 asking in this application for a project allowable that could
21 be produced from any of your wells?

22 A. Yes, we would ask that a project allowable be
23 assigned to this so that all of the wells could be allowed to
24 produce at capacity.

25 MR. KELLY: We have nothing further on direct,

1 Mr. Examiner.

2 MR. STAMETS: Okay. Are there any questions of
3 this witness.
4

5 CROSS EXAMINATION

6 BY MR. RAMEY:

7 Q Mr. Craig, I assume that you perused the records of
8 all of these wells pretty thoroughly on this "BZ" State lease.
9 Did you run across any indication while you were drilling wells
10 on this lease that you had a natural flow of salt water anywhere?

11 A Well, insofar as the records, no, I was not able to
12 find this. Now, some of our old timers, I'm sure you are
13 familiar with Guy Blevins, he mentioned that when we were
14 drilling these we did have a naturally occurring salt water
15 flow at the time these particular wells were drilled but
16 insofar as our records, no, I do not find anything.

17 Q You didn't find anything in the records? Would you
18 be willing to run a cement bond log on the New Mexico "BZ"
19 State No. 1 to establish the cement top on that?

20 A Yes, sir, we will on both of those. That will not
21 only protect our casings from waterflood but to prevent
22 migration of fluids that might occur from the Langlie-Mattix
23 and since we only have the calculated cement top, yes, we will
24 run cement bond logs on these two wells and also tie the
25 production string back to the surface casing.

1 Q Are you aware that Skelly has run some step rate
2 tests on some wells in this area and determined a fracture
3 pressure of thirteen, fifty to fourteen hundred pounds?

4 A No, sir, I'm not.

5 Q Do you think you could operate a waterflood at
6 less than thirteen, fifty pounds?

7 A Well, I'm sure we could if we had to.

8 MR. RAMEY: Thank you.

9
10 CROSS EXAMINATION

11 BY MR. STAMETS:

12 Q From Exhibit Number Nine, you indicated that you
13 calculated these cement tops at one hundred percent of fill up.
14 Based on your experience in there, what would be a realistic
15 figure?

16 A It's hard to say. We are used to using between sixty
17 and seventy percent.

18 Q Did you go through and calculate any of these
19 cement tops on that basis?

20 A No, sir, I didn't.

21 Q On page two of this exhibit, we have the Continental
22 Kline A-15 No. 1 and I believe you indicate there that you
23 don't know what the cement top is on that well?

24 A Yes, sir.

25 Q That well is at least one location away from your

1 waterflood project?

2 A. Right.

3 Q. Do you see that as a real hazard?

4 A. No, sir, not really because of the cementing manner
5 that Continental employed in their other wells that they have
6 drilled in that area, it has been a satisfactory cementing
7 program and we feel like because of the cementing program they
8 had they probably wouldn't change it for this one well.

9 Q. Now, Well No. 2, the immediate next well, if I read
10 this right they have nine-and-five-eighths casing set at
11 thirty-four, twenty-eight with a calculated cement top at nine,
12 forty?

13 A. I'm off somewhere here.

14 Q. Okay, it's the Kline A-15 No. 2 and it is shown as
15 intermediate casing.

16 A. Okay, that's right.

17 Q. And I presume this was a deeper hole?

18 A. Yes, sir. And I think it has been plugged back.
19 Right down here at the bottom where these three stars are,
20 this is a carry forward from these three stars, indicating
21 what the production casing was set at and how it was handled.
22 We just ran out of room in typing that so we noted it on down
23 at the bottom.

24 Q. Okay. So that well did have another couple of strings
25 in it and appears to be adequately cemented.

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1 Now, you are proposing Well No. 10 in the southeast-
2 southeast of Section 16 as an injection well, is that correct?

3 A. Yes, sir, I believe that's right.

4 Q And this is located immediately north of the Coquina
5 well that you indicated would have a problem?

6 A Well, yes, sir, it might have a problem based on
7 our cement calculations.

8 Q You are not proposing, are you, to commence injection
9 in that well until the Coquina well has been prepared?

10 A I don't see how we could but here again this is the
11 area, according to the way we interpret this state-wide rule,
12 that this area should have been covered with cement to begin
13 with.

14 Q Would it cause any difficulty if you injected into
15 that No. 10 Well strictly by gravity before the well would be
16 repaired?

17 A If that's the way we could get our flood started
18 off, that's the way we would accept. As far as recoverable
19 reserves and fill up I don't know whether we would really have
20 any significant effect on increasing production around this
21 well by gravity feeding it. Of course, we are going to have
22 a period there where it's going to take the water on a vacuum
23 anyway, so insofar as this time period, no, it would not
24 significantly affect the flood. Now, when pressure starts
25 occurring, yes, it will affect the efficiency of our flood if

1 this particular well is not correct.

2 Q Did you contact Coquina about repairing this well?

3 A No, sir, we did not.

4 MR. RAMEY: You are basing your conclusion that
5 Coquina should repair the well on the fact that the Hobbs
6 office has already stated that cement should cover any
7 producing horizon?

8 A Yes, sir.

9 MR. STAMETS: Any other questions of this witness?

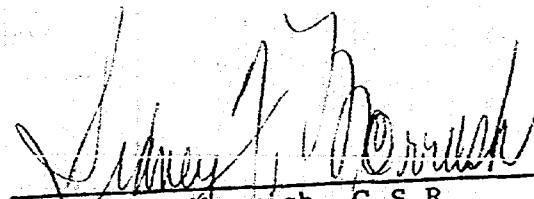
10 He may be excused.

11 (THEREUPON, the witness was excused.)

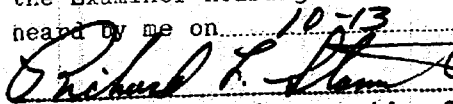
12 MR. STAMETS: Anything further in this case? We
13 will take the case under advisement.

REPORTER'S CERTIFICATE

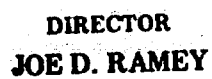
1
2 I, SIDNEY F. MORRISH, a Certified Shorthand Reporter,
3 do hereby certify that the foregoing and attached Transcript
4 of Hearing before the New Mexico Oil Conservation Commission
5 was reported by me, and the same is a true and correct record
6 of the said proceedings to the best of my knowledge, skill and
7 ability.

8
9 
10 Sidney F. Morrish, C.S.R.

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11
12
13 I do hereby certify that the foregoing is
14 a complete record of the proceedings in
the Examiner hearing of Case No. 5786,
15 heard by me on 10-13, 19 76.

16 Richard L. Stem, Examiner
New Mexico Oil Conservation Commission

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22
23
24
25



STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

LAND COMMISSIONER
PHIL R. LUCERO
November 5, 1976



**STATE GEOLOGIST
EMERY C. ARNOLD**

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

Applicant:

Texaco Inc.

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/ fd

Copy of order also sent to:

Hobbs OCC _____ x
 Artesia OCC _____ x
 Aztec OCC _____

Other

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. 5786
Order No. R-5317

APPLICATION OF TEXACO INC. FOR A
WATERFLOOD PROJECT, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 13, 1976, at Santa Fe, New Mexico, before Examiner, Richard L. Stamets.

NOW, on this 4th day of November, 1976, 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, Texaco Inc., seeks authority to institute a waterflood project on its New Mexico "BZ" State Lease, Langlie-Mattix Pool, by the injection of water into the Seven Rivers-Queen formation through six injection wells in Units B, D, F, H, J, and P of Section 16, Township 23 South, Range 37 East, NMPM, Lea County, New Mexico.
- (3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "Stripper" wells.
- (4) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.
- (5) That the evidence presented indicates that the Coquina Oil Corporation Texaco State Well No. 1 in Unit P and the Imperial-American Management Company Elk State No. 2 in Unit M, both in said Section 16, are not cemented through the Langlie Mattix producing interval.

-2-

Case No. 5786
Order No. R-5317

(6) That the annular space between the casing and the hole in the wells described in Finding No. (5) above could serve as an avenue of water migration from the Langlie Mattix zone to other zones or to the surface.

(7) That to prevent such migration of water from the Langlie Mattix zone, the wells described in Finding No. (5) above should be cemented in accordance with Rule 107(a), Commission Rules and Regulations, before injection by pressure greater than hydrostatic should take place through offsetting project injection wells.

(8) That the applicant proposes to run cement bond logs on its following listed wells and to recement any such well not adequately cemented across and above the Langlie Mattix zone:

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT</u>	<u>SECTION</u>	<u>TOWNSHIP</u>	<u>RANGE</u>
N.M. "BZ" State NCT-8	2	F	16	23S	37E
N.M. "BZ" State NCT-8	3	J	16	23S	37E
N.M. "BZ" State NCT-8	15	J	16	23S	37E
N.M. "DC" State	1	K	16	23S	37E

(9) That the wells within the project should be equipped to facilitate periodic testing of the annular space between strings of production and surface casing.

(10) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(11) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Texaco Inc., is hereby authorized to institute a waterflood project on its New Mexico "BZ" State Lease, Langlie-Mattix Pool, by the injection of water into the Seven Rivers-Queen formation through the following-described wells, all in Section 16, Township 23 South, Range 37 East, NMPM, Lea County, New Mexico:

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT LETTER</u>
New Mexico "BZ" State	2	F
New Mexico "BZ" State	3	J
New Mexico "BZ" State	6	B
New Mexico "BZ" State	8	D
New Mexico "BZ" State	7	H
New Mexico "BZ" State	10	P

-3-

Case No. 5786
Order No. R-5317

(2) That injection into each of said wells should be through internally coated tubing, set in a packer which shall be located as near as practicable to the uppermost perforation; that the casing-tubing annulus of each injection well shall be tested for leaks, be loaded with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device, and that the injection wells or system shall be equipped in such a manner as to limit wellhead pressure to no more than 700 psi.

(3) That the Secretary-Director of the Commission may administratively authorize a pressure limitation in excess of 700 psi upon a showing by the operator that such higher pressure will not result in fracturing of the confining strata.

(4) That the wells within the project area shall be equipped with risers or in another acceptable manner such as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

(5) That before the New Mexico "BZ" State NCT-8 Wells No. 2 in Unit F and 3 in Unit J of said Section 16 may be converted to injection, the operator shall cause cement bond logs to be run on such wells and shall further cause any such well found to be inadequately cemented across and above the Langlie-Mattix zone to be recemented therethrough.

(6) That within 6 months after initiation of injection within the project the operator shall cause cement bond logs to be run on its New Mexico "BZ" State NCT-8 Well No. 15 in Unit J and its New Mexico "DC" State Well No. 1 in Unit K of said Section 16 and shall further cause any such well found to be inadequately cemented through the Langlie-Mattix zone to be recemented therethrough.

(7) That the operator shall notify the Commission's Hobbs district office of the date and time of operations required by Order (5) and (6) of this Order so that the Commission may at its option witness such operations.

(8) That prior to initiation of injection under pressure greater than hydrostatic pressure into injection wells within the project directly or diagonally offsetting the Coquina Oil Corporation Texaco State Well No. 1 in Unit P and Imperial-American Management Co. Elk State Well No. 2 in Unit M of said Section 16, such wells must be cemented through and above the Langlie-Mattix zone to a depth sufficient to prevent the upward migration of fluids through the casing-hole annulus in such wells.

-4-

Case No. 5786
Order No. R-5317

(9) That the operator shall immediately notify the supervisor of the Commission's Hobbs district office of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from around any producing well, the leakage of water or oil from any plugged and abandoned well within the project area or any other evidence of fluid migration from the injection zone, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

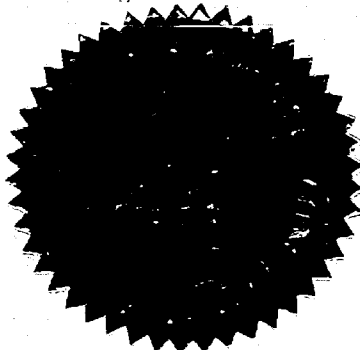
(10) That the subject waterflood project is hereby designated the Texaco "BZ" Langlie-Mattix Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(11) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(12) 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



PHIL R. LUCERO, Chairman

Emery C. Arnold
EMERY C. ARNOLD, Member

Joe D. Ramey
JOE D. RAMEY, Member & Secretary

S E A L

jr/

Memo

From

JERRY SEXTON
District Supervisor

To *DICK*

*I AGREE THE COQUINA
WELL SHOULD BE RECOMMENDED*

*THE IMP. AM WELLS
SECTION 1 & 2, SKELLY
HUGHES FED #1, ARE
PROBABLY OKAY. I BASED THIS
ON COQUINA'S WELL IN WHICH THEY
HAD A 89% FILLUP ON THE
LONG STRING.*

*THE IMPERIAL AM. ELK ST
WELL SHOULD PROBABLY
HAVE A BOND LOG RUN ON
IT.*

Memo

From

R. L. STAMETS

Technical

Support Chief

To Jerry

Re Case 5786

Texaco knows that the
Coguina, Texaco State 1P 16-23-37
is not adequately cemented and
they want us to require
Coguina to squeeze or circulate
cement before they start their
water flood. Also in looking
at Texaco's exhibits I
question whether the 4 wells
I marked in red are adequately
cemented. Texaco's calculations
are based on 100% fill up
while their testimony was
that they would only expect
60%.

At the hearing Texaco said

Memo

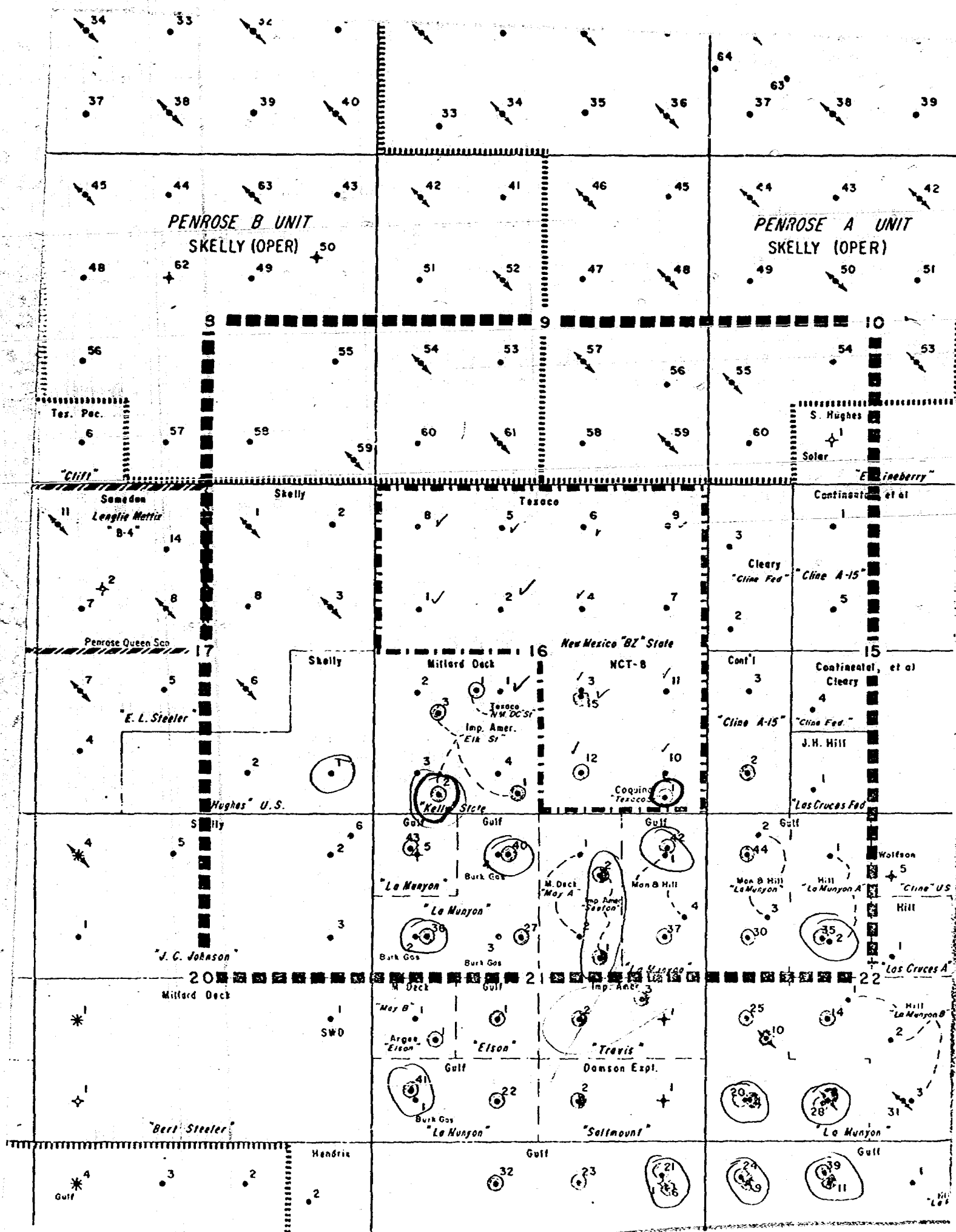
From

R. L. STAMETS
Technical
Support Chief

To

They would run bond logs on
all injection wells with
calculated cement tops
and the BZ State NCT 8 #15
and DC State #1.

Any comments?



WELL NAME AND NUMBER

SURFACE CASING

INTERMEDIATE CASING

PRODUCTION CASING

TOTAL
DEPTH

INTERVAL

Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement
-----------	-----------	----------	-----------	--------	------------

Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement
-----------	-----------	----------	-----------	--------	------------

Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement
-----------	-----------	----------	-----------	--------	------------

La Hanyon (Cont.)

(P & A) 5-D

17-1/4	13-3/8	36	53	100	Cmt circ*
--------	--------	----	----	-----	-----------

11	8-5/8	28	1121	400	
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7-7/8	5-1/2	14	3535	125	2600 *
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3709

3535-3661

Plugging Method:

Set CISP @ 3500' w/48' cmt to 3452'. Perf 5 1/2" 2600'. Set cmt retainer @ 2495'. Squeeze 50 sx cmt w/4 sx cmt on top retainer. Perf 5 1/2" csg @ 1170'. Set retainer @ 1082'. Circ 50 sx cmt inside and outside 5 1/2" csg below retainer, 45 sx on top retainer, 6 sx from 55' to surface.

HILL

La Hanyon

1-A	8-5/8	24	297	175	Circ.
4-H	13-3/4	10-3/4	32.75	330	225 Cmt circ*

7-7/8	5-1/2	14	3660	275	1600 *
7-7/8	5-1/2	14	3565	300	1315 *

3820

3464-3530

H. DECK

May "A"

1-B	12-1/2	8-5/8	24	240	200 Circ.
2-G	12	9-5/8		265	200 Circ.

7-7/8	5-1/2	14	3610	400	610 *
8-3/4	7	20	3710	400	250 *

3610

3404-3570

IMP. AER.

Seaton

1-G	12-3/4	9-5/8	36	1053	400 Circ.
2-B	13-3/4	10-3/4	40.5	800	575 Circ.

8-3/4	7	26	6400	425	2725 *
9-7/8	7-5/8	33.7	6400	625	2620 *

6400

5345-5880

BLK GAS

La Hanyon

2-E	11	8-5/8	28	315	400 Cmt circ*
3-F	11	8-5/8	28	301	325 Cmt circ*
4-C	11	8-5/8	28	305	300 Cmt circ*

7-7/8	5-1/2	14	3606	500	1356 *
7-7/8	5-1/2	14	3570	500	1320 *
7-7/8	5-1/2	14	3619	500	1370 *

3618

3382-3528

SEC. 16 -23-37

MILLARD DECK

Kelly St.

1-K	11	8-5/8	24	257	200 Circ.
2-L	11	8-5/8	24	255	200 Circ.
3-M	13-3/4	10-3/4	32.75	1107	400 Cmt circ*
4-N	12-1/2	8-5/8	24	240	200 Cmt circ*

(Well whipstocked by old 5 1/2" csg @ 1900')

7-7/8	5-1/2	14	3675	400	675 *
7-7/8	5-1/2	14	3616	400	615 *
8-3/4	7	20	3627	600	Cmt circ *
7-7/8	5-1/2	14	3625	400	652 *

3675

3508-3604

IMP. AER.

E1x St.

1-N	12-1/4	9-5/8	32.3	1050	450 Circ.
2-M	12-3/4	9-5/8	36	1035	400 Cmt circ*
3-L	13-3/4	10-3/4	40	797	550 Circ.

8-3/4	7	26	7357	550	2340 **
8-3/4	5-1/2	15.5	6160	530	3010 *
9-1/4	7-5/8	29.7	6092	680	Cmt circ *

7357

5388-5887

4770 + 65%
3177 3/4 500 gal
2983

WELL NAME AND NUMBER	SURFACE CASING						INTERMEDIATE CASING						PRODUCTION CASING						TOTAL DEPTH	INTERVAL
	Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement	Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement	Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement		
SEC. 10 -23-37																				
NEAR																				
S. Hughes 1-N (P & A 9-9-69)	13-3/4	10-3/4	40.5	810	400	Circ.							9-7/8	7-5/8	33.7	6650	550	3320. *	3620 PB 6652	3594-3572
Plugging Method:	25 sx cmt 3620-3520' 7-5/8" csg @ 3045' 25 sx cmt 3095-2995' 25 sx cmt 2600-2550' 35 sx cmt 840-760' 10' plug @ surface.																			

SEC. 15 -23-37																				
CONTINENTAL																				
Cline A-15 (SI) 1-C	17-1/2	13-3/8	N.A.	221	250	NO INFORMATION	12-1/4	9-5/8	N.A.	3428	600	940	7			3294		N.A.	3860	3294-3639 OH
2-H	12-1/4	8-5/8	24	372	250	Circ.							6-3/4	4-1/2	9.5	3671	1000	Circ.	3571	3301-3538
(SI) 3-L	11	7-5/8	24	366	200	Circ.							6-3/4	4-1/2	9.5	3700		1160 **	3700	3579-3691

WELL NAME AND NUMBER	SURFACE CASING						INTERMEDIATE CASING						PRODUCTION CASING						TOTAL DEPTH	INTERVAL
	Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement	Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement	Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement		
SEC. 17 -23-37																				
KELLY																				
E. L. Stealer																				
(Inf) 1-B	12-1/2	10-3/4	40	270	150	Cmt circ*							8-3/4	7	24	3386	500	Cmt circ*	3763	3386-3763 OH
2-A	13			255	250	Circ.	12	9-5/8	40/36	3881	2200	Cmt circ*	9-5/8	7	23	Cut & pld 2200' csg. Reran 1955'-7" & tacked csg w/75 sx cmt. Prior cmt top @ approx 2200'.		1890 *	2965-3030	3506-3578
(Inf) 3-H		9-5/8	36	1087	300	Circ.							8	5-1/2	NA	3300	200	2250 *	3727	3300-3570 OH
6-J	11	8-5/8	24	1130	400	Circ.							8	5-1/2	17	3650	200	2250 *	3685	3572-3632
8-G	11	8-5/8	24	1120	400	Circ.							8-3/4	7	20	3450	200	1720 *	3691	3450-3596 OH
Hughes Fed. (Inf) 1-P	12-1/2	10-3/4	45	139	100	Cmt circ*	9-5/8	8-5/8	32	1114	50	460 *	8-3/8	7	22	3560	100	2433 *	6120	3499-3614
2-O	12-1/4	9-5/8	36	368	255	Circ.							6-1/4	4-1/2	9.5	6103	270	2690 *	3693	3457-3609

SEC. 20 -23-37																				
SEELY																				
J. C. Johnson																				
2-A	FILE - N.A.												7-7/8	5" Liner	13	3952	150	Cmt circ*	6957	3555-3793
3-H	10-1/4	8-5/8	28	1066	300	Cmt circ*	8-1/4	7	20	3570	200	1070 *	7-7/8	4-1/2	10.5	6200	804	2400 **	6200	3581-3784
6-A	12-1/4	8-5/8	24	965	300	Circ.														

SEC. 21 -23-37																				
GULF																				
La Mnyon																				
27-F	11	8-5/8	24	890	370	Circ.							7-7/8	5-1/2	15.5	5900	440	2310 **	5900	5394-5783
36-E	11	8-5/8	24	900	350	Circ.							7-7/8	5-1/2	15.5	6289	510	1700 *	6295	5380-5353
37-H	11	8-5/8	24	900	350	Circ.							7-7/8	5-1/2	15.5	5890	440	Cmt circ *	5900	5567-5816
40-C	11	8-5/8	24	922	350	Circ.							7-7/8	5-1/2	15.5	6300	510	Cmt circ *	6300	5550-5832
42-A	11	8-5/8	24	905	350	Circ.							7-7/8	5-1/2	15.5	6330	510	Cmt circ *	6330	5381-5430
43-D	11	8-5/8	24	903	450	Circ.							7-7/8	5-1/2	15.5	5900	440	Cmt circ *	5900	5459-5857

INJECTION WELL DATA

WELL NAME AND NUMBER	SURFACE CASING				INTERMEDIATE CASING				PRODUCTION CASING				TOTAL DEPTH	INJECTION INTERVAL
	Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement		
N.M. BZ State NCT-8 #2	8-5/8	1084'	800 sx	circulated	None				5 1/2	3646'	300 sx	* 844'	3649'	3477-3596
N.M. BZ State NCT-8 #3	8-5/8	1070'	800 sx	circulated	None				5 1/2	3671'	800 sx	*circulated	3671'	3550-3618
N.M. BZ State NCT-8 #6	9-5/8	1097'	600 sx	circulated	None				4 1/2	3660'	800 sx	** 635'	3660'	3490-3508
N.M. BZ State NCT-8 #7	9-5/8	1097'	600 sx	circulated	None				4 1/2	3697'	1300 sx	circulated	3697'	3482-3606
N.M. BZ State NCT-8 #8	9-5/8	1095'	650 sx	circulated	None				4 1/2	3700'	1100 sx	circulated	3700'	3492-3611
N.M. BZ State NCT-8 #10	9-5/8	1075'	600 sx	circulated	None				4 1/2	3655'	1600 sx	circulated	3655'	3502-3566
Cline A-15 #3 (Continental Oil Co.)	8-5/8	372'	250 sx	circulated	None				4 1/2	3671'	1000 sx	circulated	3671'	3301-3538

PRODUCING WELL DATA

WELL NAME AND NUMBER	SURFACE CASING				INTERMEDIATE CASING				PRODUCTION CASING				TOTAL DEPTH	PRODUCING INTERVAL
	Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement		
N.M. BZ State NCT-8 #1	8-5/8	1085'	800 sx	circulated	None				5 1/2	3654'	350 sx	* 2078'	3654'	3538-3588
N.M. BZ State NCT-8 #4	8-5/8	1084'	800 sx	circulated	None				4 1/2	3650'	400 sx	* 1390'	3650'	3526-3578
N.M. BZ State NCT-8 #5	8-5/8	1095'	600 sx	circulated	7"	2460'	400 sx	**1760	4 1/2	3722'	500 sx	circulated	3722'	3530-3682
N.M. BZ State NCT-8 #9	9-5/8	1095'	650 sx	circulated	None				4 1/2	3703'	850 sx	** 400'	3703'	3498-3616
N.M. BZ State NCT-8 #11	9-5/8	1080'	650 sx	circulated					4 1/2	3670'	1800 sx	circulated	3670'	3458-3583
N.M. BZ State NCT-8 #12	9-5/8	1075'	600 sx	circulated	5 1/2	3611'	1400 sx	circ.	3 1/2	6200'	190 sx	* 4350'	6200'	5399-5666

(This Blinbry well will be plugged back to Langlie Mattix.)

- * Calculated Volume
- ** Temperature Survey

Texaco Wells

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 5786
Submitted by TEXACO
Hearing Date 10/13/76

Dockets Nos. 29-76 and 30-76 are tentatively set for hearing on October 27 and November 10, 1976. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 13, 1976

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

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas for November, 1976, from seventeen prorated pools in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico.
- (2) Consideration of the allowable production of gas for November, 1976, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

CASE 5773: (Continued from September 29, 1976, Examiner Hearing)

Application of Yates Petroleum Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the North Millman Unit Area comprising 2,017 acres, more or less, of State lands in Township 19 South, Range 28 East, Eddy County, New Mexico.

CASE 5783: Application of Palmer Oil and Gas Company for an unorthodox gas well location and a non-standard proration unit, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 335.66-acre non-standard proration unit, comprising all of Sections 6 and 7, Township 26 North, Range 2 West, Blanco Mesaverde Pool, Rio Arriba County, New Mexico, to be dedicated to a well to be drilled at an unorthodox location 1850 feet from the South line and 700 feet from the West line of said Section 7.

CASE 5784: Application of Atlantic Richfield Company for four unorthodox locations and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to simultaneously dedicate a previously approved 320-acre Jalmat gas proration unit comprising the NW/4, SW/4 NE/4, E/2 NE/4, NE/4 SE/4 of Section 35, Township 23 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to its John P. Combett Wells Nos. 1, 2, 3, and 4 located at unorthodox locations in Units H, C, A, and E, respectively, of said Section 35.

CASE 5785: Application of Doyle Hartman for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Seven Rivers-Queen formation underlying the NE/4 NE/4, NW/4 NE/4, SW/4 NE/4, and SE/4 NE/4 of Section 19, Township 24 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico, to form four 40-acre proration units to be dedicated to four oil wells to be drilled at standard locations on said tracts. Also to be considered will be the cost of drilling and completing said wells and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the wells and a charge for risk involved in drilling said wells.

CASE 5786: Application of Texaco Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project on its New Mexico "BZ" State Lease, Langlie-Mattix Pool, Lea County, New Mexico, by the injection of water into the Seven Rivers-Queen formation through seven injection wells located in Unit L of Section 15 and Units B, D, F, H, J, and P of Section 16, Township 23 South, Range 37 East.

CASE 5787: Application of Boyd Operating Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Grayburg-Jackson Pool, Eddy County, New Mexico, by the injection of water into the Grayburg-San Andres formation through its Robinson Well No. 8 located in Unit N of Section 25 and its Brinson Wells Nos. 2 and 3 located, respectively, in Units A and G of Section 36, Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks an administrative procedure for expansion of the project by approval of additional injection and production wells at orthodox and unorthodox locations.

CASE 5574: (Reopened)

In the matter of Case 5574 being reopened pursuant to the provisions of Order No. R-5118 which order established a temporary special depth bracket allowable of 750 barrels of oil per day for the Eagle Mesa-Entrada Oil Pool, Sandoval County, New Mexico. All interested parties may appear and show cause why said special depth bracket allowable should not be rescinded.

CASE 5780: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Northwest Production Corporation, Federal Insurance Company, and all other interested parties to appear and show cause why the Blanco 30-12 Well No. 1, located in Unit A of Section 4, Township 30 North, Range 12 West, San Juan County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 5781: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Petroleum Development Corporation, American Employers Insurance Company, and all other interested parties to appear and show cause why the San Luis Federal Well No. 1, located in Unit J of Section 21, Township 18 North, Range 3 West, Sandoval County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 5782: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit U. S. Frigidice, Inc., Fireman's Fund Indemnity Company, and all other interested parties to appear and show cause why the U. S. Frigidice Well No. 1, Clyde Berlier (Kayser), located in Unit A of Section 14, Township 19 North, Range 21 East, Mora County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 5788: Southeastern New Mexico nomenclature case calling for the creation, contraction, extension and abolishment of certain pools in Lea, Eddy, and Roosevelt Counties, New Mexico:

a) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Angell Ranch-Morrow Gas Pool. The discovery well is the Penroc Oil Corporation Wright Federal Well No. 1 located in Unit O of Section 6, Township 20 South, Range 28 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM
Section 6: All

b) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Strawn production and designated as the West Burton Flat-Strawn Gas Pool. The discovery well is the David Fasken El Paso Federal Well No. 3 located in Unit H of Section 1, Township 21 South, Range 26 East, NMPM. Said pool would comprise:

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM
Section 1: Lots 1 through 8

c) CREATE a new pool in Roosevelt County, New Mexico, classified as a gas pool for Canyon production and designated as the North Chaverco-Canyon Gas Pool. The discovery well is the Union Oil Company of California Roberts Well No. 1, located in Unit D of Section 9, Township 7 South, Range 33 East, NMPM. Said pool would comprise:

TOWNSHIP 7 SOUTH, RANGE 33 EAST, NMPM
Section 9: W/2

d) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Foster Ranch-Morrow Gas Pool. The discovery well is the Mark Production Company Foster Well No. 1 located in Unit J of Section 21, Township 20 South, Range 24 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 24 EAST, NMPM
Section 21: E/2

e) CREATE a new pool in Eddy County, New Mexico, classified as an oil pool for Cherry Canyon production and designated as the Nash Draw Cherry-Canyon Pool. The discovery well is the Mesa Petroleum Company Nash Unit Well No. 4 located in Unit A of Section 13, Township 23 South, Range 29 East, NMPM. Said pool would comprise:

TOWNSHIP 23 SOUTH, RANGE 29 EAST, NMPM
Section 13: NE/4

f) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for Strawn production and designated as the Ojo Chiso-Strawn Gas Pool. The discovery well is the American Quasar Petroleum Company of New Mexico Ojo Chiso Unit Well No. 1, located in Unit E of Section 23, Township 22 South, Range 34 East, NMPM. Said pool would comprise:

TOWNSHIP 22 SOUTH, RANGE 34 EAST, NMPM
Section 23: W/2

g) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for Cisco production and designated as the North Vacuum-Cisco Gas Pool. The discovery well is the Marathon Oil

Company State Section 7 Com Well No. 1, located in Unit G of Section 7, Township 17 South, Range 35 East, NMPM. Said pool would comprise:

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM
Section 7: E/2

h) CONTRACT the vertical limits of the Kennitz-Pennsylvanian Pool in Lea County, New Mexico, to the Cisco formation only, redesignating said pool the Kennitz-Cisco Pool and redefining said pool to comprise:

TOWNSHIP 16 SOUTH, RANGE 33 EAST, NMPM
Section 13: N/2 and SE/4

i) CONTRACT the vertical limits of the Sombrero-Pennsylvanian Gas Pool in Lea County, New Mexico, to the Atoka formation only, redesignating said pool the Sombrero-Atoka Gas Pool and redefining said pool to comprise:

TOWNSHIP 16 SOUTH, RANGE 33 EAST, NMPM
Section 12: W/2
Section 13: W/2 and SE/4

j) ABOLISH the East Shugart-Queen Pool in Lea County, New Mexico, described as:

TOWNSHIP 19 SOUTH, RANGE 32 EAST, NMPM
Section 6: NE/4

k) ABOLISH the Watkins-Seven Rivers Pool in Eddy and Lea Counties, New Mexico, described as:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM
Section 36: E/2

TOWNSHIP 18 SOUTH, RANGE 32 EAST, NMPM
Section 31: All

TOWNSHIP 19 SOUTH, RANGE 32 EAST, NMPM
Section 6: N/2

l) EXTEND the vertical limits of the Watkins-Grayburg Pool in Lea County, New Mexico, to include the Yates, Seven Rivers, and Queen formations, redesignating said pool the Watkins Yates-Seven Rivers-Queen-Grayburg Pool and redefining said pool to comprise:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM
Section 31: NW/4 and S/2

TOWNSHIP 19 SOUTH, RANGE 32 EAST, NMPM
Section 6: N/2

m) EXTEND the Blinebry Oil and Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 38 EAST, NMPM
Section 18: SE/4

n) EXTEND the Burton Flat-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM
Section 1: S/2

o) EXTEND the North Burton Flats-Wolfcamp Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM
Section 10: W/2
Section 15: W/2
Section 16: E/2

p) EXTEND the South Carlsbad-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 27 EAST, NMPM
Section 20: E/2

TOWNSHIP 24 SOUTH, RANGE 26 EAST, NMPM
Section 3: W/2

- q) EXTEND the North Lager Draw-Upper Pennsylvanian Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 25 EAST, NMPM
Section 30: SE/4

- r) EXTEND the Dayton-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM
Section 26: SW/4

- s) EXTEND the East Empire Yates-Seven Rivers Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM
Section 27: NE/4 and N/2 NW/4

- t) EXTEND the Hoag Tank-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 24 EAST, NMPM
Section 23: All

- u) EXTEND the Middle Lynch Yates -Seven Rivers Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 34 EAST, NMPM
Section 28: N/2 N/2

- v) EXTEND the Maljamar-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 33 EAST, NMPM
Section 32: W/2

- w) EXTEND the Peterson-Pennsylvanian Associated Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 5 SOUTH, RANGE 33 EAST, NMPM
Section 20: SW/4

- x) EXTEND the Red Lake Queen - Grayburg - San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 27 EAST, NMPM
Section 13: SE/4 SE/4
Section 24: NE/4

- y) EXTEND the Sawyer-San Andres Gas Pool in Lea County, New Mexico, to include therein:

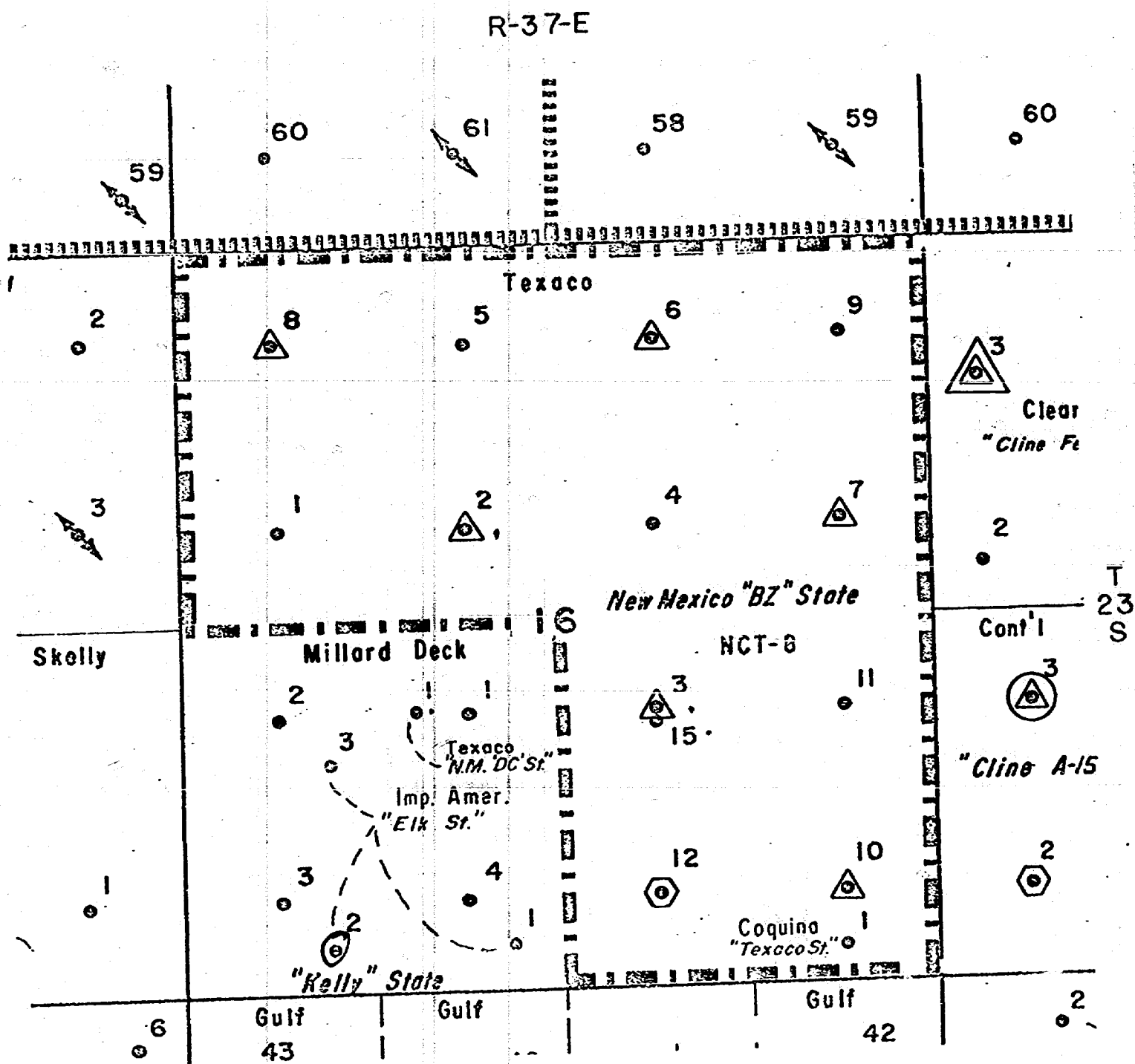
TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM
Section 13: SW/4





- z) EXTEND the Shugart Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM
Section 26: NW/4
Section 27: NE/4

- aa) EXTEND the Vacuum-Queen Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM
Section 2: SE/4
Section 3: SE/4



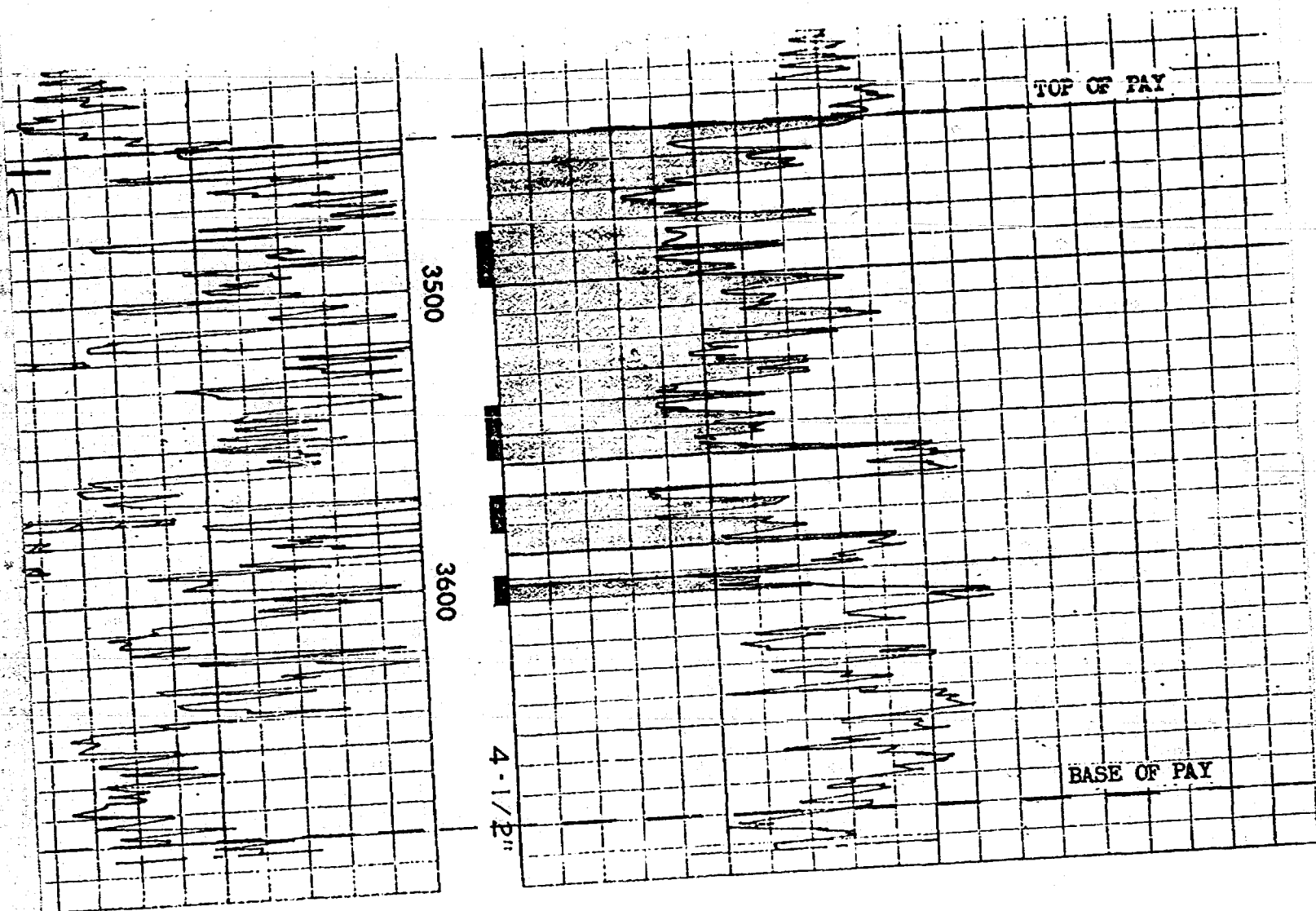
-  TEXACO'S PROPOSED INJECTION WELLS
-  PROPOSED INJECTION WELL (Texaco-Oper.)
-  PROPOSED INJECTION WELL TO BE SUPPLIED PRESSURED WATER BY TEXACO
-  PATTERN WELLS PRESENTLY COMPLETED IN TEAGUE BLINBERRY

TEXACO Inc.
HOBBS DISTRICT

NEW MEXICO "BZ" STATE (NCT-8)
LANGLIE-MATTIX FIELD
LEA COUNTY, NEW MEXICO

DATE 7-30-76 DRAWN BY CRC

TYPE LOG
NEW MEXICO "BZ" NCT-8 COOP
WELL NO. 7

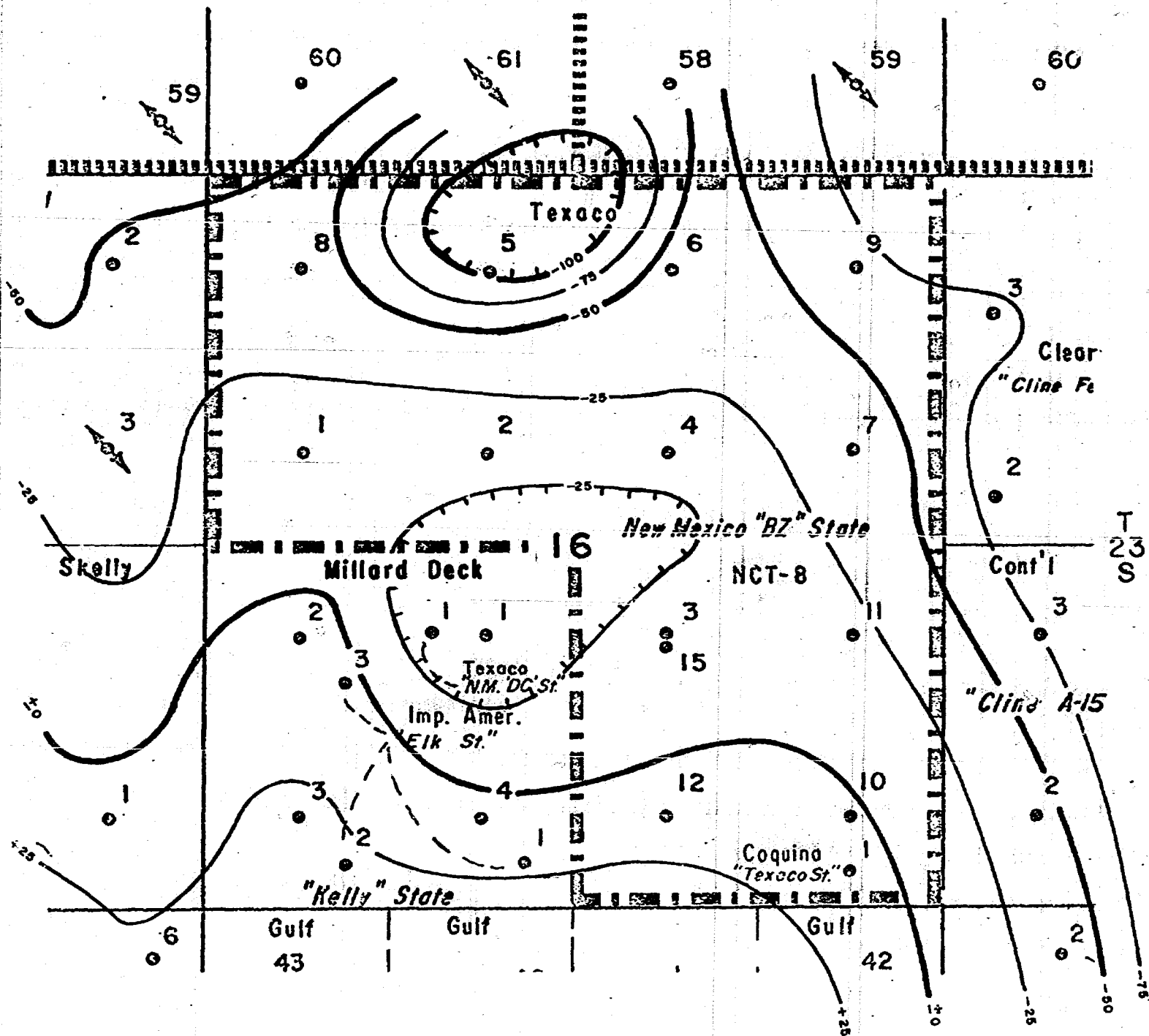


GAMMA RAY

NEUTRON

BEFORE EXAMINER STAMETS
CIVIL COMMISSION
3
CASE NO. 5786
Submitted by Texaco
Hearing Date 10/13/76

R-37-E



BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION

EXHIBIT NO. 4

CASE NO. 5786

Submitted by Texaco

Hearing Date 10/13/76

TEXACO Inc.

HOBBS DISTRICT

STRUCTURE CONTOUR MAP
TOP OF QUEEN FORMATION

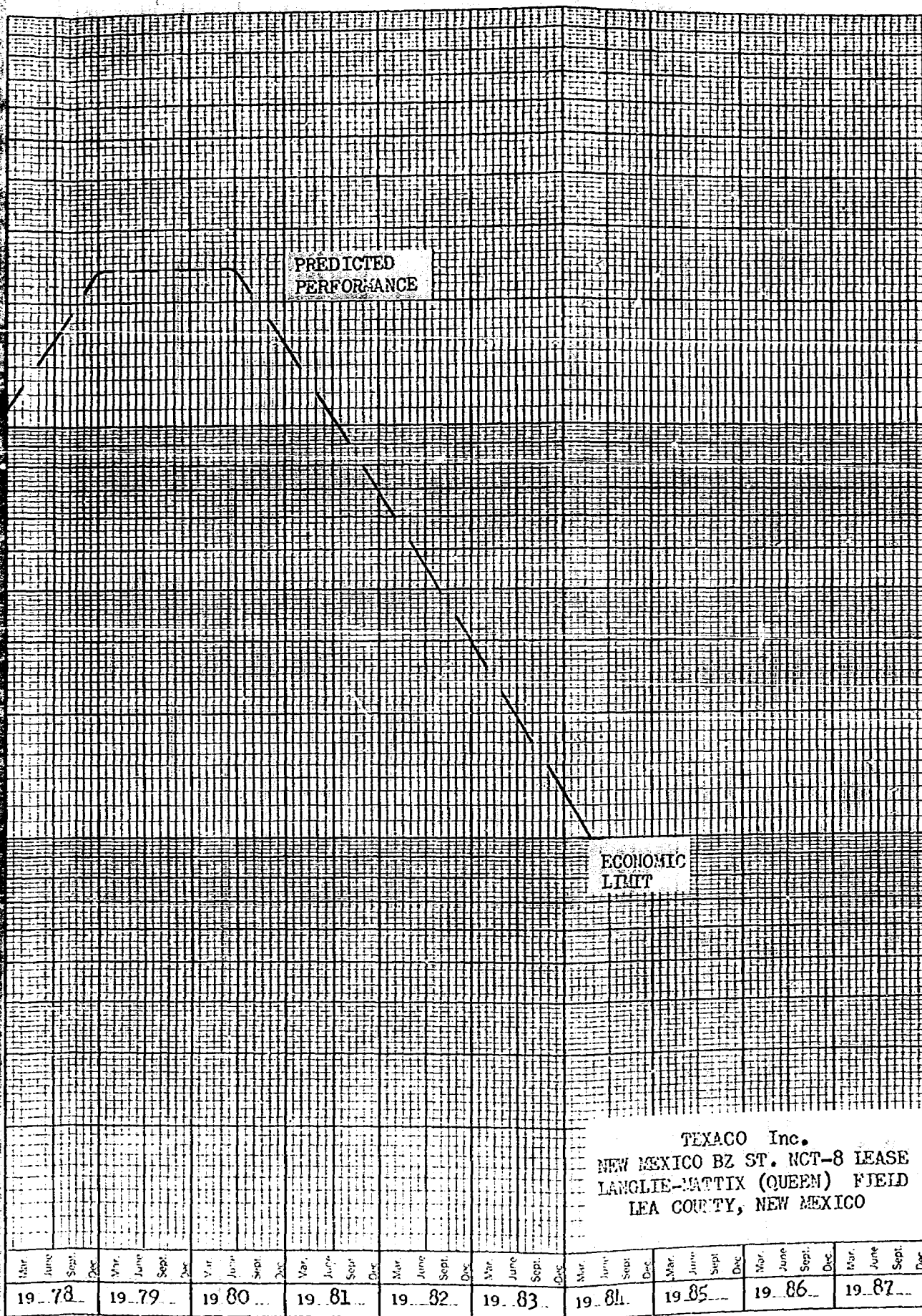
C.I. = 25'

NEW MEXICO "BZ" STATE (NCT-8)

LANGLIE-MATTIX FIELD

LEA COUNTY, NEW MEXICO

DATE 7-30-76 DRAWN BY CRC



TEXACO Inc.
NEW MEXICO BZ ST. NCT-8 LEASE
LANGLIE-MATTIX (QUEEN) FIELD
LEA COUNTY, NEW MEXICO

INJECTION WELL DATA

WELL NAME AND NUMBER	SURFACE CASING				INTERMEDIATE CASING				PRODUCTION CASING			
	Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement
N.M. BZ State NCT-8 #2	8-5/8	1084'	800 sx	circulated	None				5½	3646'	300 sx	* 844'
N.M. BZ State NCT-8 #3	8-5/8	1070'	800 sx	circulated	None				5½	3671'	800 sx	*circulated
N.M. BZ State NCT-8 #6	9-5/8	1097'	600 sx	circulated	None				4½	3660'	800 sx	** 635'
N.M. BZ State NCT-8 #7	9-5/8	1097'	600 sx	circulated	None				4½	3697'	1300 sx	circulated
N.M. BZ State NCT-8 #8	9-5/8	1095'	650 sx	circulated	None				4½	3700'	1100 sx	circulated
N.M. BZ State NCT-8 #10	9-5/8	1075'	600 sx	circulated	None				4½	3655'	1600 sx	circulated
Cline A-15 #3 (Continental Oil Co.)	8-5/8	372'	250 sx	circulated	None				4½	3671'	1000 sx	circulated

PRODUCING WELL DATA

WELL NAME AND NUMBER	SURFACE CASING				INTERMEDIATE CASING				PRODUCTION CASING			
	Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement
N.M. BZ State NCT-8 #1	8-5/8	1085'	800 sx	circulated	None				5½	3654'	350 sx	* 2078'
N.M. BZ State NCT-8 #4	8-5/8	1084'	800 sx	circulated	None				4½	3650'	400 sx	* 1390'
N.M. BZ State NCT-8 #5	8-5/8	1095'	600 sx	circulated	7"	2460'	400 sx	**1760	4½	3722'	500 sx	circulated
N.M. BZ State NCT-8 #9	9-5/8	1095'	650 sx	circulated	None				4½	3703'	850 sx	** 400'
N.M. BZ State NCT-8 #11	9-5/8	1080'	650 sx	circulated					4½	3670'	1800 sx	circulated
N.M. BZ State NCT-8 #12	9-5/8	1075'	600 sx	circulated	5½"	3611'	1400 sx	circ.	3½	6200'	190 sx	* 4350'

(This Blinbry well will be plugged back to Langlie Mattix.)

* Calculated Volume

** Temperature Survey

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION

EXHIBIT NO. 6

CASE NO. 5786

Submitted by Texaco

Hearing Date 10/13/76

INJECTION WELL DATA

SURFACE CASING				INTERMEDIATE CASING				PRODUCTION CASING				TOTAL DEPTH	INJECTION INTERVAL
Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement		
5/8	1084'	800 sx	circulated	None				5½	3646'	300 sx	* 844'	3649'	3477-3596
5/8	1070'	800 sx	circulated	None				5½	3671'	800 sx	*circulated	3671'	3550-3618
5/8	1097'	600 sx	circulated	None				4½	3660'	800 sx	** 635'	3660'	3490-3608
5/8	1097'	600 sx	circulated	None				4½	3697'	1300 sx	circulated	3697'	3482-3606
5/8	1095'	650 sx	circulated	None				4½	3700'	1100 sx	circulated	3700'	3492-3611
5/8	1075'	600 sx	circulated	None				4½	3655'	1600 sx	circulated	3655'	3502-3566
5/8	372'	250 sx	circulated	None				4½	3671'	1000 sx	circulated	3671'	3301-3538

PRODUCING WELL DATA

SURFACE CASING				INTERMEDIATE CASING				PRODUCTION CASING				TOTAL DEPTH	PRODUCING INTERVAL
Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement	Size	Depth	Cement	Top of Cement		
5/8	1085'	800 sx	circulated	None				5½	3654'	350 sx	* 2078'	3654'	3538-3588
5/8	1084'	800 sx	circulated	None				4½	3650'	400 sx	* 1390'	3650'	3526-3578
5/8	1095'	600 sx	circulated	7"	2460'	400 sx	**1760	4½	3722'	500 sx	circulated	3722'	3530-3682
5/8	1095'	650 sx	circulated	None				4½	3703'	850 sx	** 400'	3703'	3498-3616
5/8	1080'	650 sx	circulated					4½	3670'	1800 sx	circulated	3670'	3458-3583
5/8	1075'	600 sx	circulated	5½"	3611'	1400 sx	circ.	3½	6200'	190 sx	* 4350'	6200'	5399-5666

(1 be plugged back to Langlie Mattix.)

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION

EXHIBIT NO. 6

CASE NO. 5786

Submitted by Texaco

Hearing Date 10/13/76

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION

EXHIBIT NO. 7

CASE NO. 5786

Submitted by Texaco

Hearing Date 10/13/76

Run 2-3/8" plastic
coated tbg. w/pkr.
and set @ 3425'

LANGLIE - MATTIX
Perf: 3482'-3500'
3540'-3558'
3570'-3582'
3597'-3606'

9-5/8" csg. set @ 1097'
w/400 sx 4% gel & 200 sx
reg. cmt. Cmt. circulated
Hole size 12-1/4"

4-1/2" csg. set @ 3697'
w/800 sx 6% gel & 500 sx
4% gel. Cmt. circulated
Hole size 6-1/8"

TD 3697'

TYPICAL INJECTION WELL COMPLETION

TEXACO Inc.
NEW MEXICO "BZ" STATE (NCT-8) NO. 7
LANGLIE-MATTIX FIELD
LEA COUNTY, NEW MEXICO

DRC/CRC 7-26-76

BRADENHEAD PRESSURE TESTS

<u>Well Name & Number</u>	<u>Pressure</u>	<u>REMARKS</u>
N.M. "BZ" NCT-8 No. 1	0#	
2	290#	Bled down in 40 minutes. Gas. No fluid. 30-minute SI - 0.
3	0#	
4	0#	
5	0#	
6	0#	
8	0#	
9	0#	
10	0#	
11	0#	
12	0#	
15	200#	Bled down in 10 minutes. Gas No fluid. 30-minute SI - 0.
N.M. "DC" State No. 1	0#	

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION

EXHIBIT NO. 8

CASE NO. 5786

Submitted by Texaco

Hearing Date 10/13/76

WELL NAME AND NUMBER

SURFACE CASING

INTERMEDIATE CASING

Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement
-----------	-----------	----------	-----------	--------	------------

Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement
-----------	-----------	----------	-----------	--------	------------

Hole Size	Csg. Size
-----------	-----------

SEC. 8 -23-37

SKELLY

Penrose "B" Unit 55-I	11-3/4	9-5/8	40	235	200	Cmt circ*
58-0	12	9-5/8	40	955	450	Cmt circ*
(Inj) 59-P	15	10-3/4	32.75	314	300	Circ.

8-3/4	7
8-3/4	7
7-7/8	5-1/2

SEC. 9 -23-37

SKELLY

Penrose "B" Unit 53-K	11	8-5/8	22.7	370	225	Circ.
(Inj) 54-L	11	8-5/8	22.7	371	225	Circ.
60-M	12-1/4	9-5/8	32.3	1100	325	Circ.
(Inj) 61-N	12-1/4	9-5/8	36	1120	325	Circ.
Penrose "A" Unit 56-I	11	8-5/8	24	374	175	Cmt circ*
(Inj) 57-J	12-1/4	8-5/8	32	375	250	Circ.
58-0	12-1/4	9-5/8	32.3	573	275	Cmt circ*
(Inj) 59-P	11-1/4	8-5/8	32.0	355	208	Cmt circ*

7-7/8	5-1/2
7-7/8	5-1/2
7-7/8	5-1/2
7-7/8	5-1/2
7-7/8	5-1/2
7-7/8	5-1/2
7-7/8	5-1/2
7-7/8	5-1/2
6-3/4	4-1/2
6-3/4	4-1/2

SEC. 10 - 23-37

SKELLY

Penrose "A" Unit 54-K	15		50	129	100	
	10		40	726	-	
(Inj) 55-L	11	8-5/8	24	375	175	Cmt circ*
60-M	11-1/4	8-5/8	24	375	175	Cmt circ*

9-3/4	8-5/8	32	1185	75	320 *
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8-3/8	7
	5-1/2
7-7/8	5-1/2
6-3/4	4-1/2

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION

EXHIBIT NO. 9

CASE NO. 5786

Submitted by Texaco

Hearing Date 10/13/76

INTERMEDIATE CASING

Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement
-----------	-----------	----------	-----------	--------	------------

PRODUCTION CASING

Hole Size	Csg. Size	Csg. Wt.	Depth Set	Sx Cmt	Top Cement
-----------	-----------	----------	-----------	--------	------------

TOTAL
DEPTH

INTERVAL

8-3/4	7	26	3420	150	2120 *	3700	3420-3700 OH
8-3/4	7	23	3410	150	2110 *	3653	3410-3653 OH
7-7/8	5-1/2	15	3634	620	1560 **	3635	3480-3590

7-7/8	5-1/2	14	3660	200	2160 *	3660	3516-3636
7-7/8	5-1/2	14	3645	200	2150 *	3645	3535-3629
7-7/8	5-1/2	14	3670	275	1610 *	3670	3526-3636
7-7/8	5-1/2	14	3700	300	1450 *	3700	3511-3629
7-7/8	5-1/2	14	3664	275	2164 *	3665	3520-3632
7-7/8	5-1/2	14	3642	375	1910 *	3642	3520-3606
6-3/4	4-1/2	9.5	3632	500	1280 *	3634	3483-3600
6-3/4	4-1/2	9.5	3639	400	1285 *	3640	3504-3620

9-3/4 8-5/8 32 1185 75 320 *

8-3/8	7	22	3365	125	1960 *	3608	3544-3601
	5-1/2	Liner	-	No cement			
7-7/8	5-1/2	14	3677	200	2550 *	3679	3520-3615
6-3/4	4-1/2	9.5	3658	300	2245 *	3658	3534-3647

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION

EXHIBIT NO. 9

CASE NO. 5786

Submitted by Texaco

Hearing Date 10/13/76

Case 5786

OFFSET OPERATORS

Imperial American Management Co.
215 Mid-American Building
Midland, Texas 79701

Burk Gas Corp.
c/o Oil Reports & Gas Services, Inc.
P. O. Box 763
Hobbs, New Mexico 88240

J. C. Man Jr. & John H. Hill
c/o Oil Reports & Gas Services, Inc.
P. O. Box 763
Hobbs, New Mexico 88240

Millard Deck
P. O. Box 1047
Eunice, New Mexico 88231

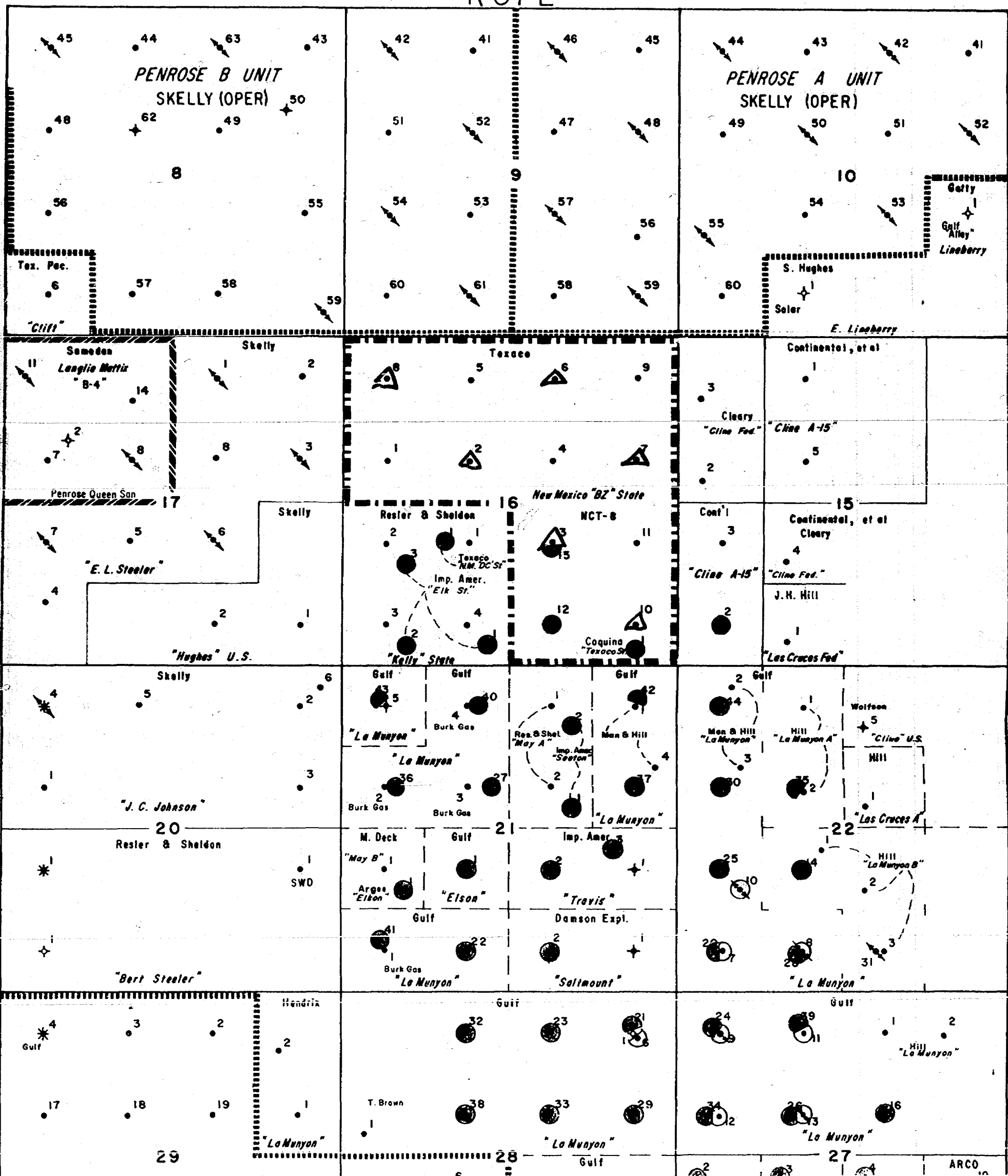
Gulf Oil Corp.
P. O. Box 1150
Midland, Texas 79701

Coquina Oil Corp.
P. O. Drawer 2960
Midland, Texas 79701

Continental Oil Corp.
P. O. Box 460
Hobbs, New Mexico 88240

Cleary Petroleum Corp.
Suite 200, Gihls Towers West
Midland, Texas 79701

R-37-E



"J. C. Johnson"

20

Resler & Sheldon

SWD

"Bert Steeler"

Hendrix

"Le Munyon"

"Le Munyon"

Burk Gas

Burk Gas

N. Deck

Gulf

"May B"

Argos "Eison"

"Eison"

Gulf

Burk Gas

"Le Munyon"

Res. & Shel

"May A"

Imp. Amer

"Seaton"

"Le Munyon"

Imp. Amer

"Travis"

Damson Expl.

"Saltmont"

Men & Hill

"Le Munyon"

Hill

"Le Munyon A"

"Cline" U.S.

Hill

"Las Cruces A"

Hill

"Le Munyon B"

"Le Munyon"

Gulf

Hill

"Le Munyon"

T. Brown

"Le Munyon"

Gulf

"Le Munyon"

Gulf

ARCO

19

2

3

Imp. Amer.

"M. Goins"

LEGEND :



TEAGUE BLINEBRY COMPLETION



TEAGUE SIMPSON COMPLETION



IMPERIAL TUBE-DRINKARD COMPLETION



JALMAT GAS COMPLETION



LANGLIE - MATTIX

TEXACO Inc.
HOBBS DISTRICT

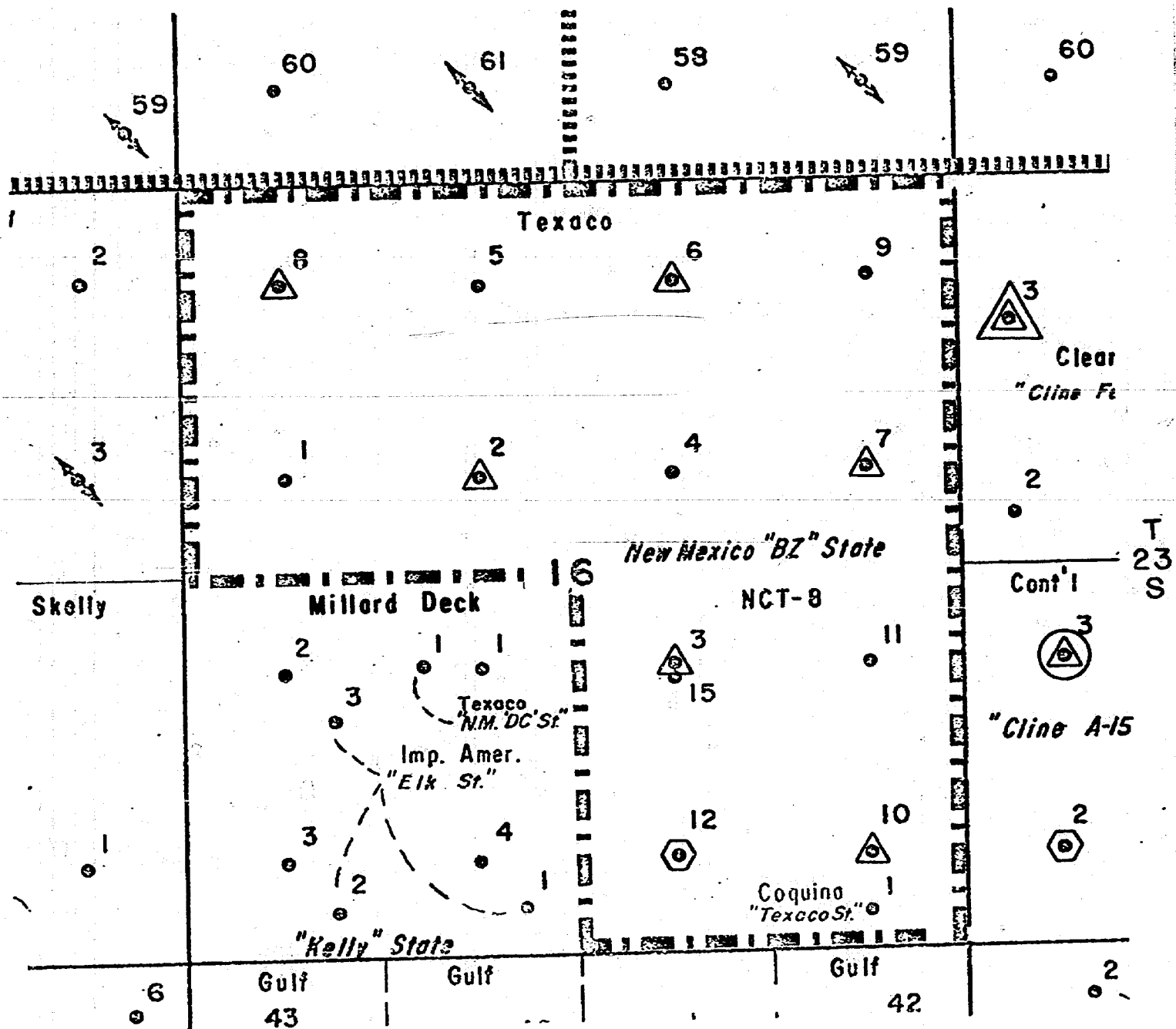
NEW MEXICO "BZ" STATE (NCT-8)
LANGLIE-MATTIX FIELD
LEA COUNTY, NEW MEXICO





DATE 7-30-76 DRAWN BY CAC

Case 5796

Case 5746

R-37-E



-  TEXACO'S PROPOSED INJECTION WELLS
-  PROPOSED INJECTION WELL (Texaco-Oper.)
-  PROPOSED INJECTION WELL TO BE SUPPLIED PRESSURED WATER BY TEXACO
-  PATTERN WELLS PRESENTLY COMPLETED IN TEAGUE BLINERY

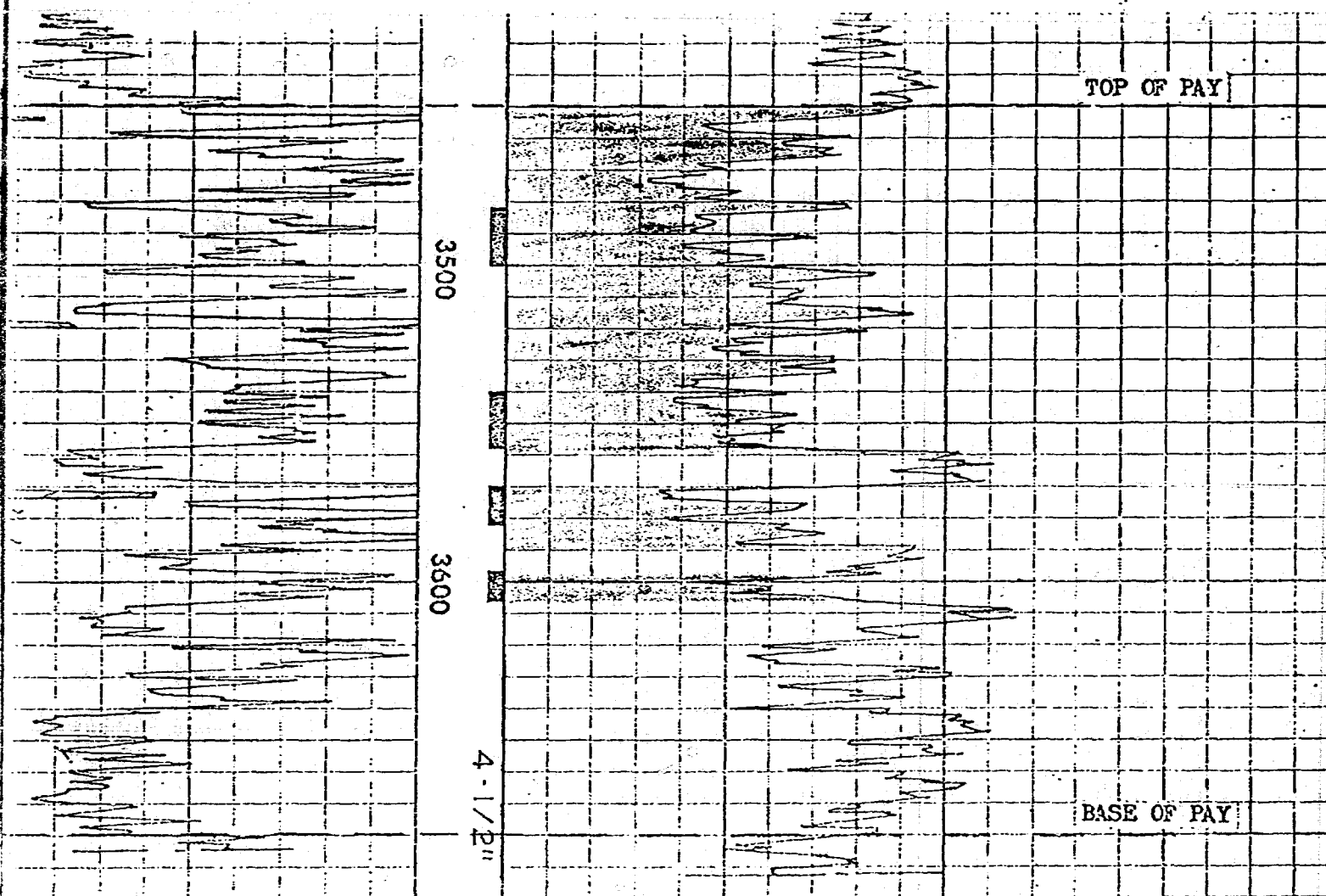
TEXACO Inc.
HOBBBS DISTRICT

NEW MEXICO "BZ" STATE (NCT-8)
LANGLIE-MATTIX FIELD
LEA COUNTY, NEW MEXICO

DATE 7-30-76 DRAWN BY CRC

Case 5746

TYPE LOG
NEW MEXICO "BZ" NCT-8 COOP
WELL NO. 7

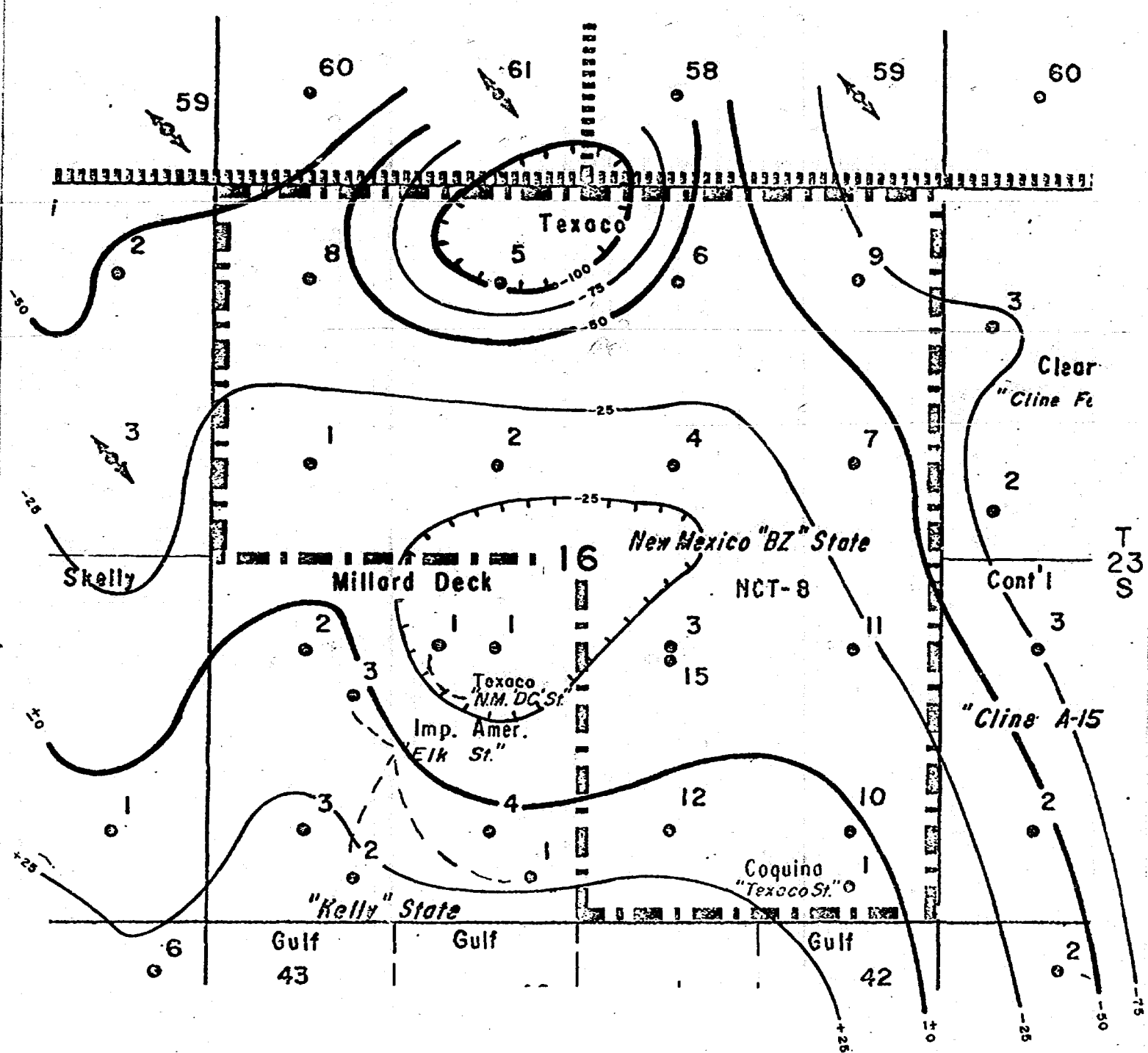


GAMMA RAY

NEUTRON

Case 5786

R-37-E



TEXACO Inc.
HOBBS DISTRICT
STRUCTURE CONTOUR MAP
TOP OF QUEEN FORMATION
C.I. = 25'
NEW MEXICO "BZ" STATE (NCT-8)
LANGLIE-MATTIX FIELD
LEA COUNTY, NEW MEXICO
DATE 7-30-76 DRAWN BY CRC



PETROLEUM PRODUCTS

September 2, 1976

TEXACO INC.
DRAWER 728
HOBBS, NEW MEXICO 88240

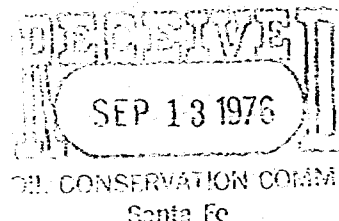
Case 5746

REQUEST FOR HEARING
Cooperative Waterflood

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

ATTENTION: MR. JOE D. RAMEY
SECRETARY-DIRECTOR

Gentlemen:



Texaco Inc. respectfully requests that evidence be considered at an Examiner Hearing in Santa Fe, New Mexico, for an application to initiate waterflood operations on Texaco's New Mexico "BZ" State NCT-8 Lease and to cooperate with offset operators in these waterflood operations.

Texaco's proposed waterflood area is comprised of the W/2 and NE/4 of Section 16, Township 23 South, Range 37 East. This area encompasses the New Mexico "BZ" State NCT-8 Lease which consists of twelve producing wells.

It is planned to implement an 80-acre five-spot flood pattern. This pattern will be developed by cooperative injection with offset operators. Water injection will be into the Langlie Mattix-Seven Rivers Queen formation at an average depth of 3400' to 3600'. Injection will be down plastic-coated tubing with a packer set above the injection interval. Initial injection will be 500 barrels of water per day per well. Injection water will be obtained from Skelly's Jal Water System.

Attached is a plat of the proposed project area, a diagrammatic sketch of a typical injection well and a list of cooperative offset operators as well as other offset operators. Detailed information and exhibits supporting this application will be presented at the hearing.

Case 5786


NMOCC

PAGE 2

SEPTEMBER 2, 1976

A copy of this letter is being forwarded to the Commissioner of Public Lands in Santa Fe, New Mexico, to inform them of Texaco's intention to waterflood the "BZ" lease. A copy of this letter is also being mailed to offset operators.

Very truly yours,

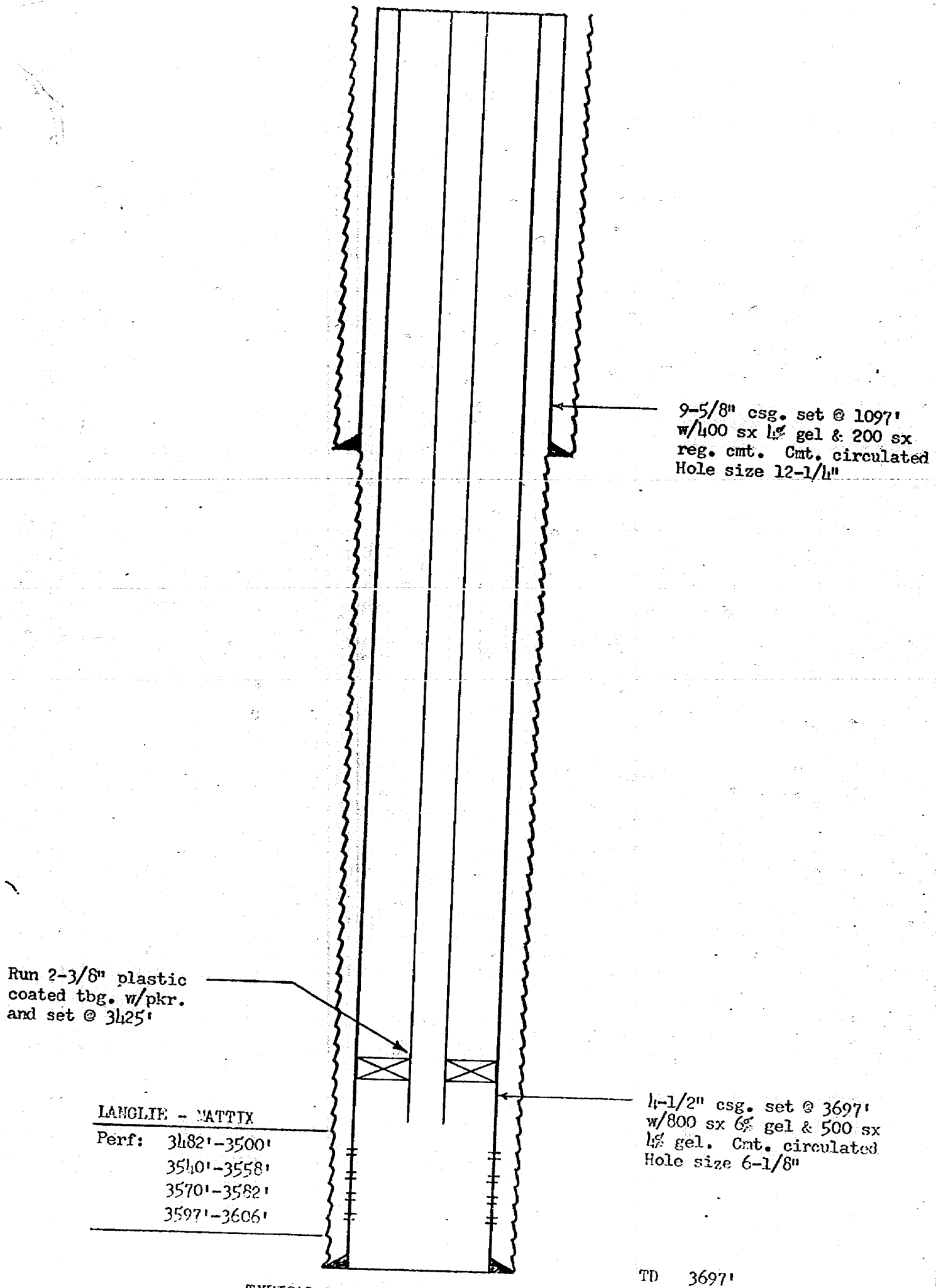

J. V. Gannon
District Superintendent

DRC:las

Attachments

Commissioner of Public Lands
Santa Fe, New Mexico

Offset Operators



TYPICAL INJECTION WELL COMPLETION

TEXACO Inc.
NEW MEXICO "BZ" STATE (NCT-8) NO. 7
LANGLIE-MATTIX FIELD
LEA COUNTY, NEW MEXICO

dr/

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. 5786

Order No. R- 5317

APPLICATION OF TEXACO INC.
FOR A WATERFLOOD PROJECT, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 13
19 76, at Santa Fe, New Mexico, before Examiner, Richard L. Stamets

NOW, on this day of October, 19 76, 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, Texaco Inc.,
seeks authority to institute a waterflood project on its
New Mexico "BZ" State Lease, ~~XXXXXX~~ Langlie-Mattix Pool,

~~XXXXXX~~ by the injection of water into the Seven Rivers-Queen

formation through ^{5/8}~~seven~~ injection wells in ~~XXXXXX~~ Unit 1 of Section 15

~~XXXXXX~~ Units B, D, F, H, J, and P of Section 16,

Township 23 South, Range 37 East, NMPM, Lea

County, New Mexico.

(3) That the wells in the project area are in an advanced
state of depletion and should properly be classified as
"stripper" wells.

(4) That the proposed waterflood project should result
in the recovery of otherwise unrecoverable oil, thereby preventing
waste.

(5) That the evidence presented indicates that the Coquina Oil Corporation Texaco State Well No. 1 in Unit P and the Imperial-American Management Company Elk State No. 2 in Unit M, both in said Section 16, are not cemented through the Langlie Mattix producing interval.

(6) That the annular space between the casing and the hole in the wells described in Finding No. (5) above could serve as an avenue of water migration from the Langlie Mattix zone to other zones or to the surface.

(7) That to prevent such migration of water from the Langlie Mattix zone, the wells described in Finding No. (5) above should be cemented in accordance with Rule 107(a), Commission Rules and Regulations, before injection by pressure greater than hydrostatic should take place through offsetting project injection wells.

(8) That the applicant proposes to run cement bond logs on ^{its} ~~the~~ following listed wells and to recement any such well not adequately cemented across and above the Langlie Mattix zone:

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT</u>	<u>SECTION</u>	<u>TOWNSHIP</u>	<u>RANGE</u>
N.M. "BZ" State NCT-8	2	F	16	23S	37E
N.M. "BZ" State NCT-8	3	J	16	23S	37E
N.M. "BZ" State NCT-8	15	J	16	23S	37E
N.M. "DC" State	1	K	16	23S	37E

(9) That the wells within the project should be equipped to facilitate periodic testing of the annular space between strings ^{of} production and surface casing.

(10) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(11) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Texaco Inc., is hereby authorized to institute a waterflood project on its New Mexico "BZ" State Lease, Langlie-Mattix Pool, by the injection of water into the Seven Rivers-Queen formation through the following-described wells, all in Section 16, Township 23 South, Range 37 East, NMPM, Lea County, New Mexico:

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT LETTER</u>
New Mexico "BZ" State	2	F
New Mexico "BZ" State	3	J
New Mexico "BZ" State	6	B
New Mexico "BZ" State	8	D
New Mexico "BZ" State	7	H
New Mexico "BZ" State	10	P

(2) That injection into each of said wells should be through internally coated tubing, set in a packer which shall be located as near as practicable to the uppermost perforation; that the casing-tubing annulus of each injection well shall be tested for leaks, be loaded with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device, and that the injection wells or system shall be equipped in such a manner as to limit wellhead pressure to no more than 700 psi.

(3) That the Secretary-Director of the Commission may administratively authorize a pressure limitation in excess of 700 psi upon a showing by the operator that such higher pressure will not result in fracturing of the confining strata.

(4) That the wells within the project area shall be equipped with risers or in another acceptable manner such as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

(5) That before the New Mexico 'BZ' State NCT-8 wells No. 2 in Unit F and 3 in Unit J of said Section 16 may be converted to injection, the operator shall cause cement bond logs to be run on such wells and shall further cause any such well found to be inadequately cemented across and above the Langlie-Mattix zone to be recemented therethrough.

(6) That within 6 months after initiation of injection within the project the operator shall cause cement bond logs to be run on its New Mexico 'BZ' State NCT-8 Well No. 15 in Unit J and its New Mexico 'DC' State Well No. 1 in Unit K of said Section 16 and shall further cause any such well found to be inadequately cemented through the Langlie-Mattix zone to be recemented therethrough.

(7) That the operator shall notify the Commission's Hobbs district office of the date and time of operations required by Order (5) and (6) of this Order so that the Commission may at its option witness such operations.

(8) That prior to initiation of injection under pressure greater than hydrostatic pressure into injection wells within the project directly on the property of the operator.

1 The Coguin Oil Corporation Texas State
Well No 1 in unit P and Imperial -
American Management Co. Elk State
Well No 2 in unit M of said
Section 16,

-5-
Case No. 5786
Order No. R-

(9) That the operator shall immediately notify the supervisor of the Commission's Hobbs district office of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from around any producing well, the leakage of water or oil from any plugged and abandoned well within the project area or any other evidence of fluid migration from the injection zone, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(10) That the subject waterflood project is hereby designated the Texaco "BZ" Langlie-Mattix Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(11) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(12) 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.