



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

GARREY DARRUTHERS
DIRECTOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

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

RE: Proposed:

MC _____
DHC _____
NSL _____
NSP _____
SWD _____
WFX _____
PMX X

Gentlemen:

I have examined the application for the:

Permian Plateau Co. - Permian Plateau #1 - 415 ft. - 21.1.25
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☒ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no
- II. Operator: PHILLIPS PETROLEUM COMPANY
Address: 4001 PENBROOK AVENUE
Contact party: L. M. SANDERS Phone: (915) 368-1488
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☒ yes ☐ no
If yes, give the Division order number authorizing the project R-3181, R-3181A & R-3181B.
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification
- I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- Name: W. J. MUELLER Title: PRINCIPAL RESERVOIR ENGINEER
Signature: [Signature] Date: 8/31/90
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. JANUARY 4, 1967, CASE NO. 3509, APPLICATION FOR PRESSURE MAINTENANCE PROJECT, AMENDED AUG. 27, 1969 CASE NO. 4194 & OCT. 12, 1983 CASE NO. 7974
- DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

Compatibility
Study
Wac Abo
Sawate
Fresh water

3 UNICHEM INTL HOBBS NM P07

Unichem International

707 North Leech

P.O. Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM

Date : 07-30-1990

Location: VAC ABO PRODUCED WATER (on 07-27-1990)

Specific Gravity:

Total Dissolved Solids:

pH:

IONIC STRENGTH:

Sample 1

1.051

71215

7.28

1.342

CATIONS:

		<u>me/liter</u>	<u>mg/liter</u>
Calcium	(Ca ⁺⁺)	104	2080
Magnesium	(Mg ⁺⁺)	76.0	923
Sodium	(Na ⁺)	1040	23800
Iron (total)	(Fe ⁺⁺)	0.021	0.600
Barium	(Ba ⁺⁺)	0.001	0.100

ANIONS:

Bicarbonate	(HCO ₃ ⁻¹)	17.8	1090
Carbonate	(CO ₃ ⁻²)	0	0
Hydroxide	(OH ⁻¹)	0	0
Sulfate	(SO ₄ ⁻²)	69.2	3330
Chloride	(Cl ⁻¹)	1130	40000

SCALING INDEX (positive value indicates scale)

Temperature
86°F 30°C

Calcium	Calcium
Carbonate	Sulfate
0.95	-9.5

JUL 30 '90 12:37 UNICHEM INTL HOBBS NM P02

Unichem International

707 North Leech

P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM

Date : 07-30-1990

Location: ~~WYOGSAU EPS 121~~ 7-16-1990 10:28 AM (on 07-27-1990)

Specific Gravity:	Sample 1
Total Dissolved Solids:	1.001
pH:	2045
IONIC STRENGTH:	7.03
	0.043

CATIONS:

		<u>me/liter</u>	<u>mg/liter</u>
Calcium	(Ca ⁺²)	4.80	96.0
Magnesium	(Mg ⁺²)	10.4	126
Sodium	(Na ⁺¹)	19.4	445
Iron (total)	(Fe ⁺²)	0.018	0.500
Barium	(Ba ⁺²)	0.012	0.800

ANIONS:

Bicarbonate	(HCO ₃ ⁻¹)	5.60	342
Carbonate	(CO ₃ ⁻²)	0	0
Hydroxide	(OH ⁻¹)	0	0
Sulfate	(SO ₄ ⁻²)	0.750	36.0
Chloride	(Cl ⁻¹)	28.2	1000

SCALING INDEX (positive value indicates scale)

Temperature
86°F 30°C

<u>Calcium</u>	<u>Calcium</u>
<u>Carbonate</u>	<u>Sulfate</u>
-0.09	-17

JUL 30 '90 12:39 UNICHEM INTL HOBBS NM P60

Unichem International

707 North Leech

P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM
Date : 07-30-1990
Location: ~~XXXXXXXXXX~~ (on 07-27-1990)

Specific Gravity:	Sample 1
Total Dissolved Solids:	1.001
pH:	1099
IONIC STRENGTH:	7.08
	0.027

<u>CATIONS:</u>		<u>me/liter</u>	<u>mg/liter</u>
Calcium	(Ca ⁺²)	3.07	61.3
Magnesium	(Mg ⁺²)	11.7	143
Sodium	(Na ⁺¹)	4.29	98.5
Iron (total)	(Fe ⁺²)	0.100	2.80
Barium	(Ba ⁺²)	0.003	0.200

<u>ANIONS:</u>			
Bicarbonate	(HCO ₃ ⁻¹)	4.40	268
Carbonate	(CO ₃ ⁻²)	0	0
Hydroxide	(OH ⁻¹)	0	0
Sulfate	(SO ₄ ⁻²)	0.583	28.0
Chloride	(Cl ⁻¹)	14.1	500

SCALING INDEX (positive value indicates scale)

Temperature
86°F 30°C

Calcium	Calcium
Carbonate	Sulfate
-0.27	-18

JUL 30 '90 12:38 UNICHEM INTL HOBBS NM P05

Unichem International

707 North Leech

P.O. Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM

Date : 07-30-1990

Location: ~~SANTA FE~~ (on 07-27-1990)

Specific Gravity:

Total Dissolved Solids:

pH:

IONIC STRENGTH:

Sample 1.

1.115

160621

7.71

2.881

CATIONS:

		me/liter	mg/liter
Calcium	(Ca ⁺²)	124	2480
Magnesium	(Mg ⁺²)	64.0	778
Sodium	(Na ⁺¹)	2560	58900
Iron (total)	(Fe ⁺²)	0.075	2.10
Barium	(Ba ⁺²)	0.004	0.300

ANIONS:

Bicarbonate	(HCO ₃ ⁻¹)	6.80	415
Carbonate	(CO ₃ ⁻²)	0	0
Hydroxide	(OH ⁻¹)	0	0
Sulfate	(SO ₄ ⁻²)	63.5	3050
Chloride	(Cl ⁻¹)	2680	95000

SCALING INDEX (positive value indicates scale)

Temperature
86°F 30°C

Calcium	Calcium
Carbonate	Sulfate
1.3	-21

JUL 30 '90 12:38 UNICHEM INTL HOBBS NM P06

Unichem International

707 North Leech

P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM

Date : 07-30-1990

Location: ~~COMPATIBILITY~~ (on 07-30-1990)

Specific Gravity:	Sample 1
Total Dissolved Solids:	1.036
pH:	50373
IONIC STRENGTH:	7.22
	0.950

<u>CATIONS:</u>		<u>me/liter</u>	<u>mg/liter</u>
Calcium	(Ca ²⁺)	72.9	1460
Magnesium	(Mg ²⁺)	56.0	680
Sodium	(Na ⁺)	731	16800
Iron (total)	(Fe ²⁺)	0.046	1.30
Barium	(Ba ²⁺)	0.002	0.133

<u>ANIONS:</u>			
Bicarbonate	(HCO ₃ ⁻)	13.5	826
Carbonate	(CO ₃ ⁻²)	0	0
Hydroxide	(OH ⁻)	0	0
Sulfate	(SO ₄ ⁻²)	47.9	2300
Chloride	(Cl ⁻)	798	28300

<u>DISSOLVED GASES</u>		
Carbon Dioxide	(CO ₂)	0
Hydrogen Sulfide	(H ₂ S)	0
Oxygen	(O ₂)	0

SCALING INDEX (positive value indicates scale)

<u>Temperature</u>	<u>Calcium</u>	<u>Calcium</u>
86°F	<u>Carbonate</u>	<u>Sulfate</u>
30°C	0.56	-24

Comments:

VAC ABO PRODUCED WATER 68%

SANTA FE 17 1%

EVGSAU SUPPLY WELL 2721-SO4 31%

JUL 30 '90 12:37 UNICHEM INTL HOBBS NM P04

Unichem International

707 North Leech

P.O.Box 1499

Hobbs, New Mexico 88240

Company : PHILLIPS PETROLEUM

Date : 07-30-1990

Location: ~~COMPATIBILITY~~ (on 07-27-1990)

Specific Gravity:

Total Dissolved Solids:

pH:

IONIC STRENGTH:

Sample 1

1.036

50667

7.21

0.955

CATIONS:

		me/liter	mg/liter
Calcium	(Ca ⁺⁺)	73.4	1470
Magnesium	(Mg ⁺⁺)	55.5	675
Sodium	(Na ⁺)	736	16900
Iron (total)	(Fe ⁺⁺)	0.021	0.584
Barium	(Ba ⁺⁺)	0.005	0.319

ANIONS:

Bicarbonate	(HCO ₃ ⁻¹)	13.9	848
Carbonate	(CO ₃ ⁻²)	0	0
Hydroxide	(OH ⁻¹)	0	0
Sulfate	(SO ₄ ⁻²)	47.9	2300
Chloride	(Cl ⁻¹)	803	28500

DISSOLVED GASES

Carbon Dioxide	(CO ₂)		0
Hydrogen Sulfide	(H ₂ S)		0
Oxygen	(O ₂)		0

SCALING INDEX (positive value indicates scale)

Temperature
86°F 30°C

Calcium	Calcium
Carbonate	Sulfate
0.55	-24

Comments:

68% VAC ABO PRODUCED WATER 1% SANTA FE

17 31% SPS WATER SUPPLY 28

PHILLIPS PETROLEUM COMPANY

VACUUM ABO PRESSURE MAINTENANCE PROJECT

Typical Conversion to Injection Procedure For
Tract 6, Well No. 72; Tract 13, Well No. 12; Tract 13, Well No. 15

1. Move in completion unit, circulation unit, and drill string.
2. Attach blowout prevention equipment and pull downhole production equipment out of well.
3. Drill out cement plugs to original PTD of well. Circulate hole clean.
4. Selectivity perforate the Abo Reef formation with deep penetrating DML charges at 2 JSPF.
5. Acidize perforations with 10,000 to 17,500 gallons of a 90/10 mixture of 28% Fe HCl acid and xylene.
6. Swab back load.
7. Run in and set injection packer assembly with 2-3/8" internally plastic coated tubing at a point less than 100' above top perforation.
8. Displace tubing-casing annulus with inhibited brine.
9. Move out completion unit and all other workover equipment and commence injection.

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Don Teer

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period

of _____

One weeks.
Beginning with the issue dated

July 27, 1990
and ending with the issue dated

July 27, 1990

[Signature]

Business Manager
Sworn and subscribed to before

me this 31 day of

July, 1990

Rhonda Copeland
Notary Public.

My Commission expires _____

July 24, 1991
(Seal)

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

44 LEGAL NOTICE
July 27, 1990

Notice is hereby given of the application of Phillips Petroleum Company, Attention: K. Am, Manager, Permian Basin Region, 4001 Penbrook St., Odessa, Texas 79762, telephone (915) 367-1324 to the Oil Conservation Division, New Mexico Energy and Minerals Department, for approval of the following injection wells for the purpose of water injection.

Well Nos.: Tract 6, Well No. 72; Tract 13, Well No. 12, Tract 13, Well No. 15.
Unit Name: Vacuum Abo Unit.

Location: Township 17 and 18 South, Range 35 East, Lea County, New Mexico.

The injection formation is Abo Reef at an approximate depth between 8600-9000 feet below the surface of the ground. Expected maximum injection rate is 5000 barrels per day per well and expected maximum injection pressure is 1500 pounds per square inch.

Interested parties must file objections or request

Received

AUG 01 1990

P.B.R. Regulatory Section

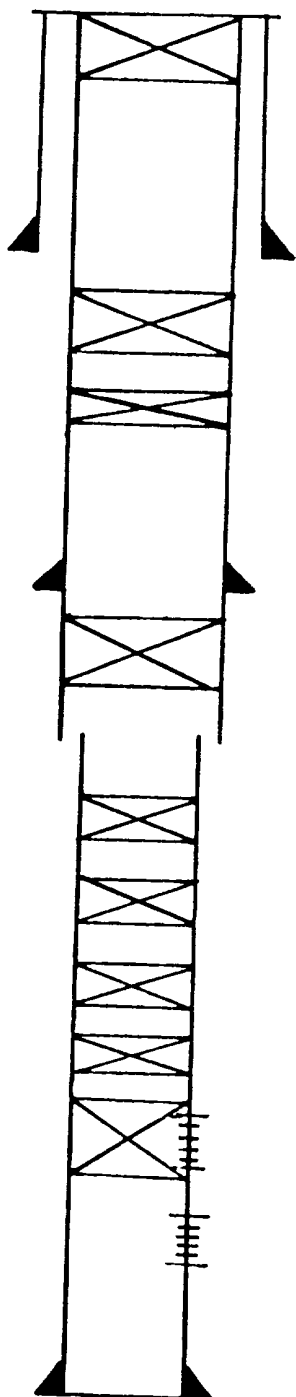
for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico, 87501 within fifteen days of this publication.

PHILLIPS PETROLEUM COMPANY
VACUUM ABO PRESSURE MAINTENANCE PROJECT

Data on Proposed Operation

1. Average water injection shall be 1000 BPD per well. Maximum daily water injection should not exceed 4000 BPD per well.
2. The system is closed.
3. The average injection pressure is anticipated to be 1000 psig. The maximum injection pressure should not exceed 1600 psig (0.2 psi/ft X 8000').
4. Analyses and compatability tests are attached.

AMOCO PRODUCTION STATE "CV" NO. 4
UNIT L, SEC. 25, T-17-S, R-35-E
LEA COUNTY, NEW MEXICO



Surface - 325 sx. cmt. plug

17 1/2" hole
13 3/8" csg. @ 355'. Cmt'd w/350 sx.
TOC circ.

1785' - 10 sx. cmt. plug
1798' - cmt. ret., 130 sx. cmt. plug
2850' - 30 sx. cmt. plug

12 1/4" hole
8 5/8" csg. @ 3375'. Cmt'd w/250 sx.
TOC @ 300'

3356' - 10 sx. cmt. plug
3422' - 50 sx. cmt. plug

4 1/2" csg/ shot and pulled @ 3824'

3876' - 50 sx. cmt. plug

5000' - 81 sx. cmt. plug

6240' - 21 sx. cmt. plug

Set BP @ 8650' and capped w/3 sx. cmt.

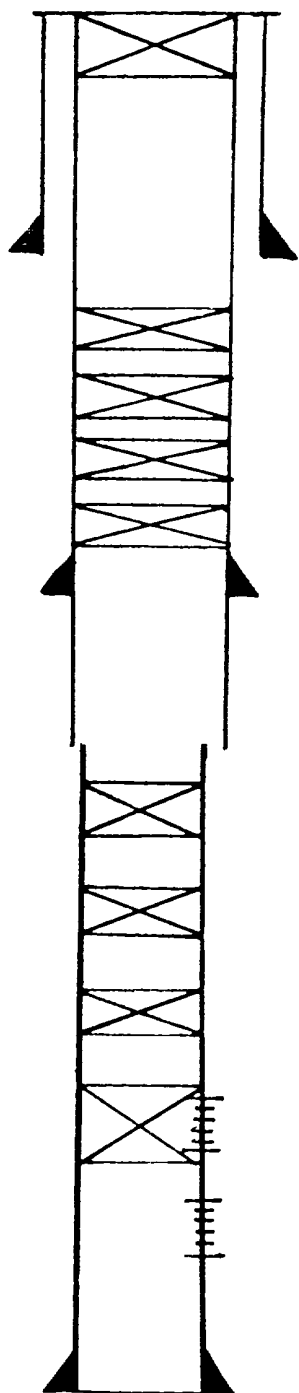
Perfs: 8746'-8797'
8818'-8828'

Sqzd. perfs and plugged back w/30 sx. cmt.

Perfs: 8864'-8877'
Sqzd. w/150 sx.

7 7/8" hole
4 1/2" csg. @ 8898'. Cmt'd w/1200 sx.
TOC @ 3890'

AMOCO PRODUCTION STATE "CV" NO. 5
UNIT F, SEC. 25, T-17-S, R-35-E
LEA COUNTY, NEW MEXICO



Surface - 12 sx. cmt. plug
124' - 35 sx. cmt. plug
340' - 165 sx. cmt. plug

17 1/2" hole
13 3/8" csg. @ 355'. Cmt'd w/350 sx.
TOC circ.

1535' - 35 sx. cmt. plug

2002' - 20 sx. cmt. plug

2898' - 20 sx. cmt. plug

3115' - cmt. ret., 200 sx. cmt. plug

12 1/4" hole
8 5/8" csg. @ 3375'. Cmt'd w/250 sx.
TOC @ 370'

4 1/2" csg. cut and pulled @ 3563'

3625' - 35 sx. cmt. plug

5200' - 65 sx. cmt. plug

Set CIBP @ 8635' and capped w/2 sx. cmt.

Perfs 8667-8753'
Sqzd. and plugged back w/30 sx. cmt.

Perfs 8873' - 8889'

7 7/8" hole
4 1/2" csg. @ 8894'. Cmt'd w/1200 sx.

VACUUM ABO UNIT PRESSURE MAINTINANCE AREA

LEA COUNTY, NEW MEXICO

TABULATION OF ABO WELLBORE PENETRATIONS

T.S.---TEMPERATURE SURVEY; CIRC.--CIRCULATED; CALC.--CALCULATED

OPERATOR LEASE & WELL NO.	LOCATION U S I R	WELL TYPE	SURFACE CASING			INTERMEDIATE CASING			PRODUCTION CASING			PRODUCING DEPTH FT	TOTAL DEPTH FT	DATE DRLD	REMARKS	
			CASING SIZE IN	DEPTH SET FT	SX CEMENT FT	TOP CEMENT FT	CASING SIZE IN	DEPTH SET FT	SX CEMENT FT	TOP CEMENT FT	CASING SIZE IN					DEPTH SET FT
PHILLIPS PETROLEUM VACUUM ABO UNIT																
4-5	A 26 17 35	P	10-3/4"	330'	450	Circ.	7-5/8"	3596'	2290	Circ.	5-1/2"	9100'	8674'-8854' ABO	9100'	9/62	
4-6	B 26 17 35	WI	10-3/4"	353'	450	Circ.	7-5/8"	3600'	2460	Circ.	5-1/2"	9085'	8586'-8850' ABO	9085'	9/62	
5-1	J 26 17 35	P	13-3/8"	339'	300	Circ.	8-5/8"	3133'	300	1203' CALC	4-1/2"	9103'	8520'-8556' ABO	8564' P8TD	5/62	
5-2	O 26 17 35	WI	13-3/8"	322'	325	Circ.	8-5/8"	3150'	300	1195' CALC	4-1/2"	8990'	8660'-8676' ABO	8681' P8TD	6/62	
6-57	N 33 17 35	P	13-3/8"	320'	350	Circ.	8-5/8"	3300'	400	2300' TS	5-1/2"	8993'	8612'-8854' ABO	8960' PTD	3/61	
6-69	K 26 17 35	P	13-3/8"	309'	350	Circ.	8-5/8"	3358'	400	2500' TS	5-1/2"	9099'	8416'-8469' ABO	8485' PTD	6/62	
6-70	G 26 17 35	P	13-3/8"	333'	350	Circ.	8-5/8"	3343'	400	2500' TS	5-1/2"	9032'	8578'-8648' ABO	8660' P8TD	7/62	
6-71	H 26 17 35	P	13-3/8"	356'	350	Circ.	8-5/8"	3365'	400	2800' TS	5-1/2"	9100'	8494'-8896' ABO	9033' P8TD	8/62	
6-72	I 26 17 35	P	13-3/8"	310'	350	Circ.	8-5/8"	3321'	400	2300' TS	5-1/2"	9087'	8696'-8766' ABO	8743' P8TD	9/62	
6-75	D 25 17 35	P	13-3/8"	332'	350	Circ.	8-5/8"	3400'	400	2300' TS	5-1/2"	9000'	8692'-8902' ABO	8962' P8TD	11/62	
6-76	F 26 17 35	P	13-3/8"	323'	350	Circ.	9-5/8"	3295'	750	1100' TS	5-1/2"	9058'	8556'-8901' ABO	9018' PTD	4/63	
11-5	O 33 17 35	P	13-3/8"	318'	300	Circ.	8-5/8"	3166'	950	Circ.	5-1/2"	9003'	Surface 8682'-8730' ABO	8735' PTD	2/61	

OPERATOR LEASE & WELL NO.	LOCATION U S I R	WELL TYPE	SURFACE CASING				INTERMEDIATE CASING				PRODUCTION CASING				TOTAL DEPTH FT	DATE DRLD	REMARKS
			CASING SIZE IN	DEPTH SET FT	SX CEMENT FT	TOP CEMENT FT	CASING SIZE IN	DEPTH SET FT	SX CEMENT FT	TOP CEMENT FT	CASING SIZE IN	DEPTH SET FT	SX CEMENT FT	TOP CEMENT FT			
11-6	P 33 17 35	P	13-3/8"	297'	275	Circ.	8-5/8"	3133'	1050	Circ.	5-1/2"	9099'	525	Surface CALC	8740' CIBP	4/61	
13-2	E 4 18 35	P	13-3/8"	301'	325	Circ.	8-5/8"	4986'	600	Circ.	5-1/2"	8980'	725	3800' CALC	8907' PTD	10/60	DV Tool @ 7458'
13-3	C 4 18 35	P	13-3/8"	312'	350	Circ.	8-5/8"	3237'	1200	Surface CALC	5-1/2"	8940'	1045	1390' CALC	8940' PTD	10/61	DV Tool @ 6924'
13-4	B 4 18 35	P	13-3/8"	317'	300	Circ.	8-5/8"	3216'	1200	Circ.	5-1/2"	8890'	1045	1658' CALC	8823' PTD	5/61	DV Tool 6883' packer 8555'
13-5	H 5 18 35	P	13-3/8"	304'	350	Circ.	8-5/8"	3276'	1050	Surface CALC	5-1/2"	9100'	575	3265'	9064'	7/62	
13-6	A 4 18 35	P	13-3/8"	322'	350	Circ.	8-5/8"	3263'	1200	Circ. CALC	5-1/2"	9144'	488	3290' TS	8627'-9045' Hydromite plug 8938'-9045' sqzd 100 sx	7/62	
13-8	D 4 18 35	P	13-3/8"	308'	375	Circ.	8-5/8"	3257'	1250	Circ. CALC	5-1/2"	8911'	640	3292' TS	8876' PTD	5/61	
13-11	F 4 18 35	P	13-3/8"	305'	375	Circ.	8-5/8"	3244'	1250	Circ.	5-1/2"	9100'	670	3240' TS	8642'-8730' Hydromite plug CIBP 8740' 8799'-8857' sqzd 150 sx CIBP 8950'&8870'	11/61	
13-12	G 4 18 35	P	13-3/8"	304'	375	Circ.	8-5/8"	3220'	1250	Circ.	5-1/2"	9100'	929	3080' TS	8803'-8884' sqzd 50 sx 8803'-8910' 8929'-9020' sqzd 300 sx BP 8794'	5/61	

OPERATOR LEASE & WELL NO.	LOCATION U S I R	WELL TYPE	SURFACE CASING				INTERMEDIATE CASING				PRODUCTION CASING				TOTAL DEPTH FT	DATE DRLD	REMARKS
			CASING SIZE IN	DEPTH SET FT	SX CEMENT FT	TOP CEMENT FT	CASING SIZE IN	DEPTH SET FT	SX CEMENT FT	TOP CEMENT FT	CASING SIZE IN	DEPTH SET FT	SX CEMENT FT	TOP CEMENT FT			
13-13	I 5 18 35	P	13-3/8"	326'	375	Circ.	8-5/8"	3227'	1200	160'	5-1/2"	9099'	679	3200'	9069'	11/61	
									ABO								
13-14	H 4 18 35	WI	13-3/8"	308'	375	Circ.	8-5/8"	3105'	1250	Circ.	5-1/2"	9100'	690	3100' TS	8820' PTD	11/61	8874'-8960' sqzd 125 sx cmt plug 8847'-9056' 8820'-8847' Hydromite
13-15	L 4 18 35	P	13-3/8"	316'	375	Circ.	8-5/8"	3036'	1250	Circ.	5-1/2"	9099'	648	3000' TS	8591' PBTD	11/61	8650'-8710' sqzd 150 sx 8857'-8993' sqzd 150 sx 8750'-9060' cmt plug 8635'-8750' cmt plug
13-16	A 5 18 35	P	13-3/8"	319'	375	Circ.	8-5/8"	3036'	1225	Circ.	5-1/2"	9100'	679	2790' TS	9067' PTD	10/61	
13-18	K 4 18 35	WI	13-3/8"	302'	375	Circ.	8-5/8"	3299'	1350	160' TS	5-1/2"	9099'	679	3250' TS	8920' PBTD	9/61	Abo perfs 8875'-9000' sqzd 250 sx
13-19	P 5 18 35	WI	13-3/8"	313'	375	Circ.	8-5/8"	3310'	1400	420' CALC	5-1/2"	9093'	679	3170' CALC	8841' PBTD	9/61	CIBP at 8850' filled cmt to 8841'
ASHER OIL COMPANY																	
State CV E 25 17 35																	
No. 2																	
		P	13-3/8"	357'	350	Circ.	8-5/8"	3380'	280	1100'	4-1/2"	9000'	1175	Circ.	8855'	8/64	Abo perfs 8887'-8896'

OPERATOR LEASE & WELL NO.	LOCATION U S I R	WELL TYPE	SURFACE CASING			INTERMEDIATE CASING			PRODUCTION CASING			PRODUCING DEPTH FT	TOTAL DEPTH FT	DATE DRLD	REMARKS		
			CASING SIZE IN	DEPTH SET FT	SX CEMENT FT	TOP CEMENT FT	CASING SIZE IN	DEPTH SET FT	SX CEMENT FT	TOP CEMENT FT	CASING SIZE IN					DEPTH SET FT	SX CEMENT FT
AMOCO PRODUCTION																	
State 'CV' L 25 17 35 No. 4		P&A	13-3/8"	355'	350	Circ.	8-5/8"	3375'	250	300'	4-1/2"	8898'	1200	3890'	8746' -8877'	8887'	10/64
State 'CV' F 25 17 35 No. 5		P&A	13-3/8"	353'	350	Circ.	8-5/8"	3375'	250	370'	4-1/2"	8894'	1200	3625'	8667' -8889'	8892'	11/64

RESV:CSUGG:vautab