

PURVIS OPERATING CO.

One Fasken Center, Suite 960

P. O. Box 11006

Midland, Texas 79702

Phone (915) 682-7346

Fax (915) 683-9584

October 13, 1994

Oil Conservation Division

P.O. Box 2088

Sante Fe, New Mexico 87504-2088

Re: **Application For Authorization To Inject**

Lea "AV" State #4

Gladiola Field

Lea County, New Mexico

Gentlemen:

Enclosed please find Form C-108 regarding the above subject matter.

Yours very truly

PURVIS OPERATING CO.

Tracie R. Green
Tracie R. Green

TG

Enclosures

Case 11172

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: PURVIS OPERATING CO.
Address: P.O. BOX 11006, MIDLAND, TEXAS 79702-8006
Contact party: J.H. (JIM) PURVIS Phone: (915) 682-7346
- 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 _____
- 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: J.H. PURVIS Title: PRESIDENT
Signature: *J.H. Purvis* Date: 09/30/94
- * 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.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

VI. Table of wells (13) within area of review and schematics of P & A wells (10) are attached.

VII. Data on proposed operation:

1. Average Rate – 3000 BWPD (Initially, est. 1500 BWPD)
Maximum Rate – 6000 BWPD
2. Closed system
3. Average Injection pressure – vacuum
Maximum injection pressure – vacuum
4. Water Sources: Gladiola Wolfcamp and Devonian produced water
5. N/A

VIII. Proposed injection zone is a Wolfcamp age limestone at approx. depth of 9400', which has a gross thickness of about 650'. Fresh water in this area is the Ogallala from near surface to a depth of some 300'.

IX. Proposed stimulation is 4000 gals. of 15% HCl Acid.

X. Logs have been filed with OCD.

XI. Chemical analyses (3) of fresh water wells are attached.

XII. Applicant attests that examination of all available geologic and engineering data indicates that no hydrologic connection exists between the proposed injection interval and overlying fresh water zones.

XIII. Proof of Notice in an area newspaper and to lease operators within one-half mile are attached.

PURVIS OPERATING CO.

LEA "AV" STATE #4 WELL

Gladiola Field

Lea County, New Mexico

APPLICATION FOR AUTHORIZATION TO INJECT

MAIL LIST

1. Oil Conservation Division
P.O. Box 2088
Sante Fe, New Mexico 87504-2088
2. Oil Conservation Division
P.O. Box 1980
✓ Hobbs, New Mexico 88241-1980

SURFACE OWNER

3. Commissioner of Public Lands
New Mexico State Land Office
P.O. Box 1148
Sante Fe, New Mexico 87504-1148
CERT #P 764 696 115

SURFACE TENANT

4. Clinton Houston
P.O. Box 245
Tatum, New Mexico 88267

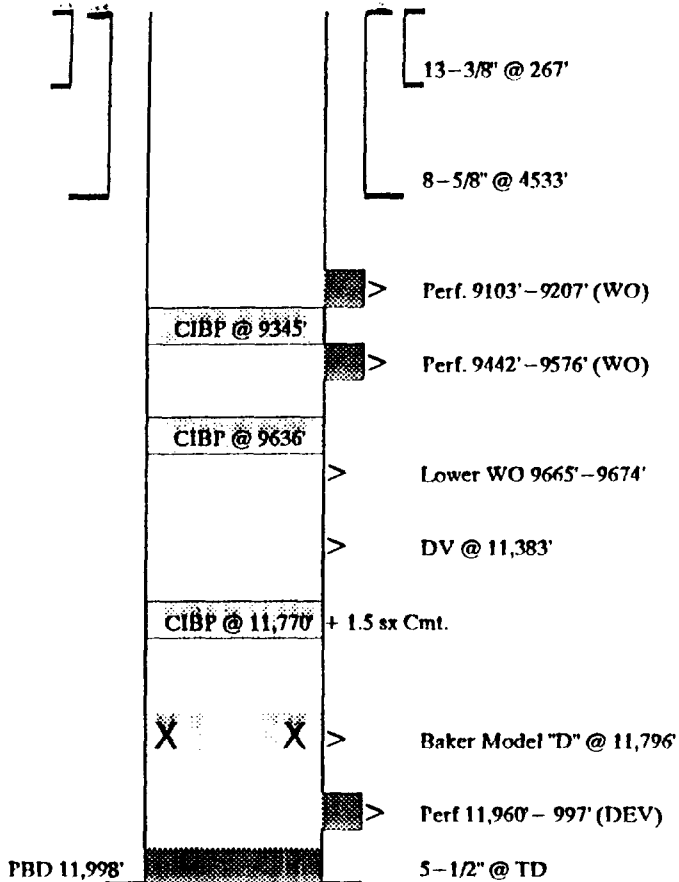
LEASEHOLD OPERATORS WITHIN AREA OF REVIEW

5. E/2 OF E/2, SEC. 24, T12S, R37E,
Barbara Fasken
303 W. Wall Street, Suite 1900
Midland, Texas 79701
CERT #P 764 696 116
6. NE/4 OF SEC. 19, T12S, R38E
Elk Oil Company
P.O. Box 310
Roswell, New Mexico 88202
CERT #P 764 696 117
7. NE/4 OF SW/4, SEC. 19, T12S, R38E
Yates Petroleum Corporation
105 So. 4th Street
Artesia, New Mexico 88210
CERT #P 764 696 118
8. S/2 OF SW/4, SEC. 18, T12S, R38E
SE/4, SEC. 19, T12S, R38E
NW/4 OF SW/4, SEC. 19, T12S, R38E
S/2 OF SW/4, SEC. 19, T12S, R38E
UNLEASED

INJECTION WELL DATA SHEET

PURVIS OPERATING CO.	LEA "AV" STATE	LEA COUNTY, N.M.
OPERATOR	LEASE	
4	1980' FNL & FWL	12S
WELL NO.	FOOTAGE LOCATION	RANGE
	SECTION	
	19	38E

SCHEMATIC



TABULAR DATA

SURFACE CASING

Size 13-3/8" Cemented with 400 sx.
TOC @ surface as determined by circulation
Hole size 17-1/4"

INTERMEDIATE CASING

Size 8-5/8"
TOC @ surface as Cemented with 1940sx
Hole size 11"

LONG STRING

Size 5-1/2" Cemented with 1600 sx.
TOC 4550' as determined by Temp-Survey
Hole size 7-7/8"

Total Depth - 12,000'

Injection Interval (proposed): perforated
9103' to 9674'

Tubing size 2-7/8" lined with plastic set in a Baker/Elder lockset (nickel plated internally and externally) packer at 9060'

NOTE:

CIBP @ 9345' & 9636' to be removed and lower Wolfcamp (WO) to be perforated 9665'-9674'. This zone is no longer open in this area and was used for water disposal by Amoco Production Co. in the Gladiola Wolfcamp/Devonian System between 1961 and 1971 (Commission Order No. R-2019, dated 7/13/61). The other perforated intervals (9103'-9576') are either tight and all water or depleted, having been shut-in since 8/90 and are not expected to take much, if any, water in this gravity system.

OTHER DATA:

1. Name of the Injection formation: WOLFCAMP

2. Name of Field or Pool: GLADIOLA

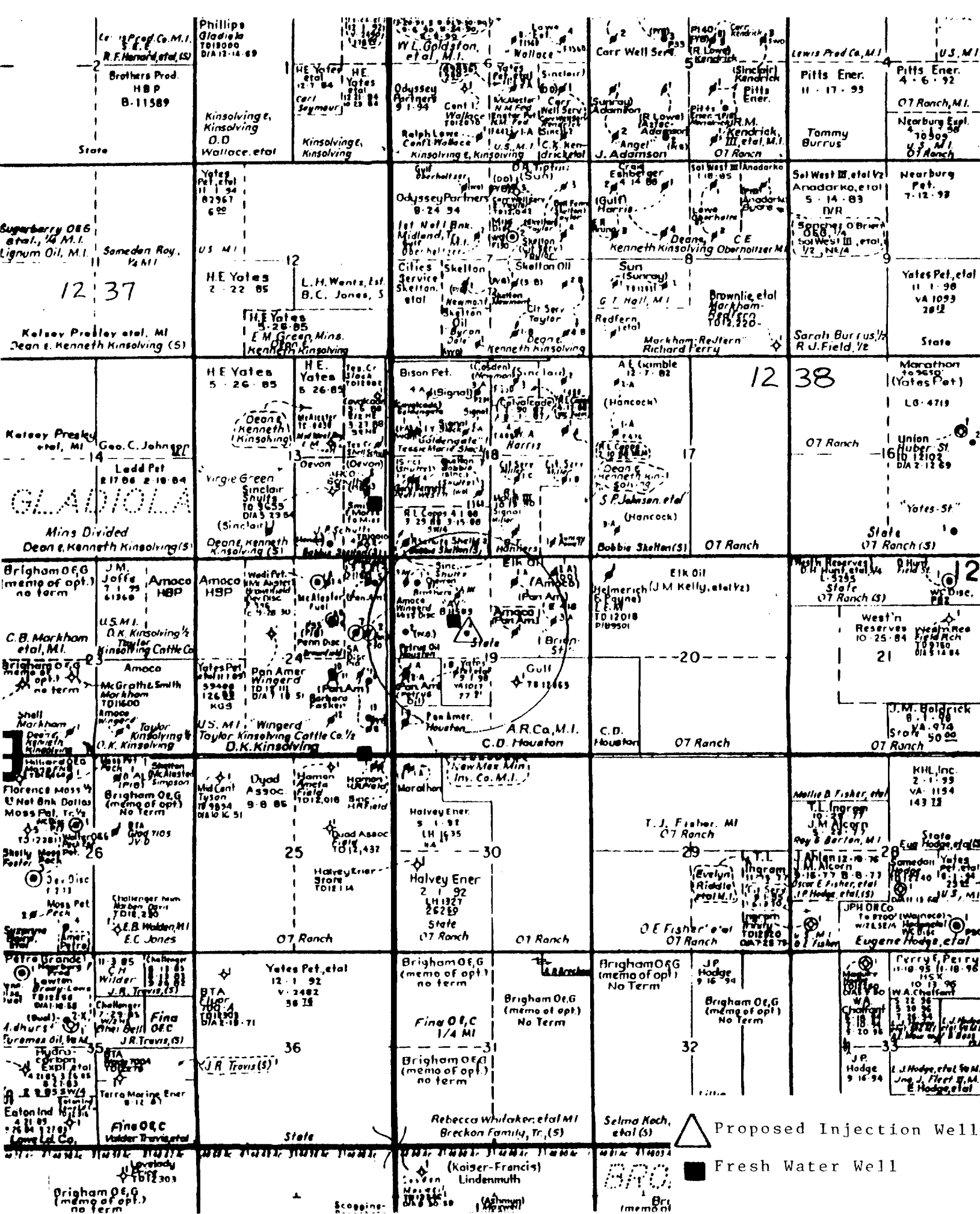
3. Is this a new well drilled for injection? NO

If no, for what purpose was the well originally drilled? GLADIOLA (DEVONIAN) 9/57 AND 11/71 PLUGGED - BACK TO GLADIOLA (WOLFCAMP)

4. Has the well ever been perforated in any other zone? List all such perforated intervals and give plugging detail:

DEVONIAN PERFORATED 11,960' - 11,997', BELOW BRIDGE PLUGS AT 11,770' AND 9636'.

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area: MISSISSIPPIAN @ DEPTH OF ABOUT 11,100'



PURVIS OPERATING CO.

*Lea "AV" State #4 Well
Gladiola Field
Lea County, New Mexico*

APPLICATION FOR AUTHORITY TO INJECT

WELLS (13) WITHIN AREA OF REVIEW

1. **Atlantic Richfield Co. #2, Rosa Shults** Oil
Unit N, 330' FSL & 2310' FWL, S18, T12S, R38E
Compl. 08/10/57 TD - 11,950'
Open hole 11,935' - TD (Devonian)

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/4	13-3/8	303	350
12-1/4	9-5/8	4,524	2,456
8-3/4	7	11,935	1,520

P & A 4/28/69

Schematic Attached

2. **Pan American Petroleum Corp. #1 State "A"** Oil
Unit B, 660' FNL & 1980' FEL, S19, T12S, R38E
Compl. 08/31/56 TD - 11,970'
Perf. 11,910' - 11,950' (Devonian)
OWWO: 06/19/59 Sqz. 11,910' - 950', DO to 11,930', Perf. 11,910' - 920'
(Devonian)

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/4	13-3/8	349	300
12-1/4	8-5/8	4,979	700
7-7/8	5-1/2	11,965	1,050

P & A 12/21/67

Schematic Attached

3. **Pan American Petroleum Corp. #3 State "A"** Oil
Unit H, 1650' FNL & 990' FEL, S19, T12S, R38E
Compl. 01/07/57 TD - 12,020'
Perf. 12,002' - 12,012' (Devonian)

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/4	13-3/8	315	400
12-1/4	9-5/8	4,610	1625
7-7/8	5-1/2	12,020	150

P & A 11/01/62

Schematic Attached

4. **Amoco Production Co. #1 - 19 State** Oil
Unit G, 1980' FNL & FEL, S19, T12S, R38E
Compl. 10/10/55 TD - 11,970'
Perf. 11,945' - 11,959' (Devonian)

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT SX.
17-1/4	13-3/8	327	280
12-1/4	8-5/8	4,526	650
7-7/8	5-1/2	11,970	1,050

P & A 4/23/68

Schematic Attached

5. **Gulf Oil Corp. #1 Houston** D&A
 Unit J, 1980' FSL & FEL, S19, T12S, R38E
 Compl. 03/04/56 TD - 12,065'
 OWWO: 05/29/61 DD to TD - 12,682', Set 7" @ 12,214', cmt. w/750 sx.,
 open hole 12,214' - TD in Devonian for SWD in Gladiola
 Saltwater Disposal System operated by Rice Engineering &
 Operating Inc. as Gladiola SWD J-19 Well.

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/4	13-3/8	376	400
12-1/4	8-5/8	4,499	1,950
8-3/4	7	12,214	750

P & A 2/07/85 Schematic Attached

6. **Amoco Production Co. #1-19 State "B"** Oil
 Unit K, 2310' FSL & 1650' FWL, S19, T12S, R38E
 Compl. 6/4/57 TD - 11,980'
 Perf. 11,958'-968' (Devonian)

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/4	13-3/8	342	350
11	8-5/8	4,645	650
7-7/8	5-1/2	11,980	1,200

P & A 9/13/71 Schematic Attached

7. **Petrus Oil Company, L.P. #1 Houston "A"** Oil
 Unit L, 2310' FSL & 330' FWL, S19, T12S, R38E
 Compl. 11/17/53 TD - 11,960'
 Open Hole 11,921'-960' (Devonian)
 OWWO: 10/14/58 Perf. 11,874'-890'
 OWWO: 01/06/59 CIBP @ 11,905'
 OWWO: 07/27/59 Cmt. Ret. 11,850', Sqz. 11,874'-890' w/ 200 sx.,
 DO to 11,900', Perf. 11,875'-885' (Devonian)

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/2	13-3/8	324	255
12-3/4	9-5/8	4,514	690
8-3/4	7	11,921	630

P & A 9/26/87 Schematic Attached

8. **Pan American Petroleum Corp. #2 Houston "A"** Oil
 Unit L, 2210' FSL & 330' FWL, S19, T12S, R38E
 Compl. 4/27/54 TD - 9816'
 Perf. 9470'-9536' (Wolfcamp)

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/2	13-3/8	316	325
12-1/4	9-5/8	4,500	600
8-3/4	5-1/2	9,816	185

P & A 12/01/67 Schematic Attached

9. **Barbara Fasken #2 Wingerd** Oil
Unit H, 1980' FNL & 660' FEL, S24, T12S, R37E
Compl. 12/10/51 TD - 11,855' PBD - 11,690'
Perf. 11,777' - 800' (Devonian)
OWWO: 05/09/74 Csg. leaks 5,364', 5,584' 6,110' & 6,440' isolated
w/ Pkr. @ 7,288' on 2-3/8" tbg. @ 7,297'
OWWO: 03/08/83 set CIBP @ 11,725' w/ 35' Cmt., Found Csg. leaks
5,397' - 6,485', Cmt. Ret. 5,203', Sqz. 1,000 sx., DO to 11,678',
Perf. 11,142' - 222' (Mississippian)
OWWO: 10/90 DO Cmt. & CIBP @ 11,725', ran 3-1/2" tbg. w/ Pkr. @
11,034' for SWD into Miss/Dev perfs, 11,142' - 11,800', Dev.
began flowing oil, which is still the case now.

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/2	13-3/8	334	500
12-1/4	9-5/8	4,674	625
8-3/4	7	11,855	935

10. **Purvis Operating Co. #1 Lea "AV" State** Oil
(Formerly Brothers Production Co.)
Unit D, 660' FNL & 660' FWL, S19, T12S, R38E
Compl. 8/05/52 TD - 11,975'
Perf. 11,933' - 971' (Devonian)
OWWO: 09/25/71 PB to 9,702', Perf. 9,414' - 9,588' (Wolfcamp)

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/4	13-3/8	368	500
12-1/4	9-5/8	4,500	1,825
8-3/4	7	11,974	1,350

11. **Gulf Oil Corp. #3 Lea "AV" State** Oil
Unit D, 660' FNL & 330' FWL, S19, T12S, R38E
Compl. 5/20/53 TD - 9,610' PB - 9,506'
Perf. 9,385' - 9,590' (Wolfcamp)
OWWO: 04/28/55 Repaired 7" Csg. leak 6,771' - 6,803' by sqz. w/
130 sx., TOC - 6,310', DO & resumed Wolfcamp production

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/2	13-3/8	369	450
12-1/4	9-5/8	4,519	3,280
8-3/4	7	9,609	275

P & A 6/30/61 Schematic Attached

12. **Gulf Oil Corp. #5 Lea "AV" State** Oil
Unit C, 990' FNL & 1650' FWL, S19, T12S, R38E
Compl. 8/26/57 TD - 11,954'
Perf. 11,902' - 952' (Devonian)

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/4	13-3/8	265	450
12-1/4	8-5/8	4,550	1,840
7-7/8	5-1/2	11,954	1,710

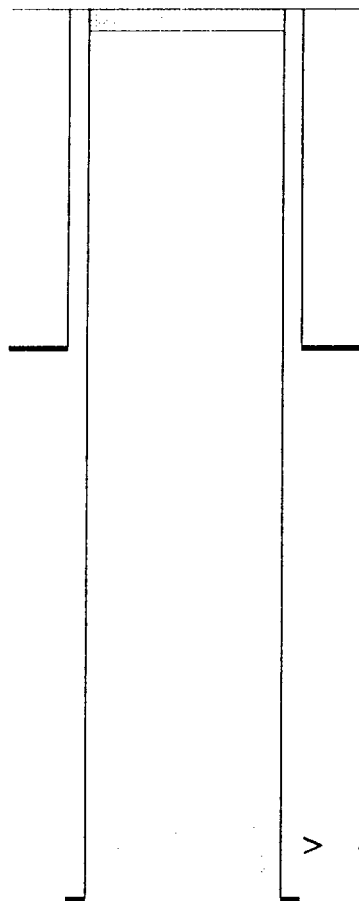
P & A 4/18/77 Schematic Attached

13. **Purvis Operating Co. #2 Lea "AV" State** Oil
 (Formerly Brothers Production Co.)
 Unit E, 330' FWL & 1980' FNL, S19, T12S, R38E
 Compl. 5/02/53 TD – 11,955'
 Open Hole 11,866' – 955' (Devonian)
 OWWO: 10/22/62 CIBP @ 11,800' w/ 2 sx. cmt., perf.
 Mississippian 11,758' – 770', no show of oil or gas,
 CIBP @ 9,645' w/ 2 sx. cmt., PBD – 9635, Perf.
 9,400' – 9,588' (Wolfcamp)

Hole Size, in.	CSG. Size, in.	CSG. Depth, ft.	CMT. SX.
17-1/4	13-3/8	376	500
12-1/4	9-5/8	4,520	2,282
8-3/4	7	11,885	610

FILE0013.WK3

OPERATOR		DATE P&A	
Atlantic Richfield Co.		April 28, 1969	
LEASE	WELL NO.	LOCATION	
Rosa Sults	2	Unit N, Sec. 18, T12S, R38E	

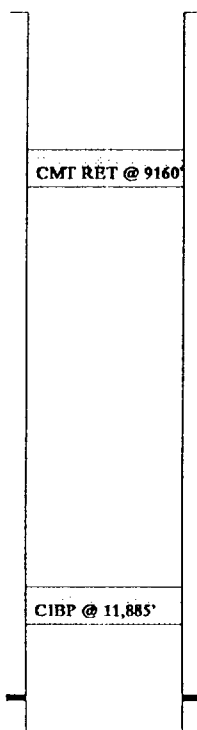


SPOT 10 SX. @ SURFACE IN TOP 9-5/8" & 13-3/8" CSG.

13-3/8" CSG AT 303' WITH 350 SX

> 4350'

9-5/8" CSG. @ 4524' W/ 2456' SX.



SHOT 7" 4560' & SPOT 85 SX. CMT. TO 4350'

CMT RET @ 9160'

& SQ. 60 SX. CMT. (FILLED HOLE WITH HEAVY MUD)

> PF 9200'

> PF 9450'-51'

> 11,875'

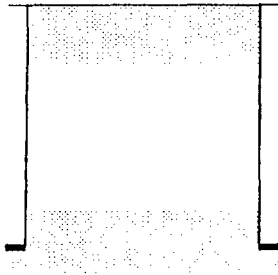
CIBP @ 11,885'

W/ 2 SX. CMT

7" CSG AT 11,935' WITH 1520 SX
OPEN HOLE 11,935' - TD (DEV)

TD - 11,950'

OPERATOR		DATE P&A
Pan American Petroleum Corp.		December 21, 1967
LEASE	WELL NO.	LOCATION
State "A"	1	Unit B, Sec. 19, T12S, R38E

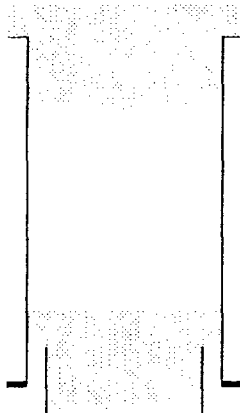


SPOT 10 SX. @ SURFACE

SPOT 25 SX. ACROSS 13-3/8" CSG. SEAT

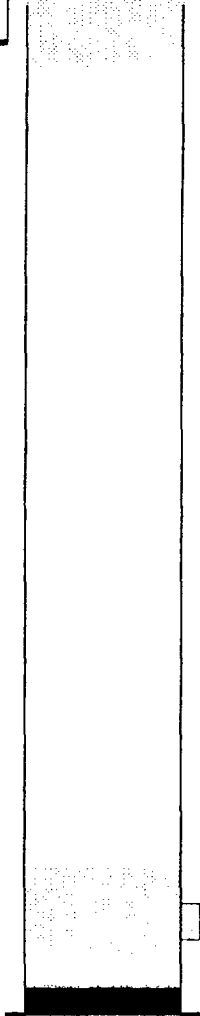
13-3/8" CSG. AT 349' WITH 300 SX.

CUT & PULLED 8-5/8" CSG. @ 1100' & SPOT 25 SX. ACROSS CUT



CUT & PULLED 5-1/2" CSG. @ 4930' & SPOT 25 SX. ACROSS CUT

8-5/8" CSG AT 4979' WITH 700 SX.



SPOT 28 SX. 11,850'-930'

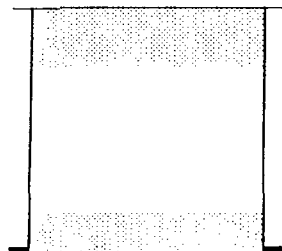
PF 11,910'-920' (DEV)

5-1/2" CSG. @ 11,965' WITH 1050 SX.

TD - 11,970'

PB - 11,930'

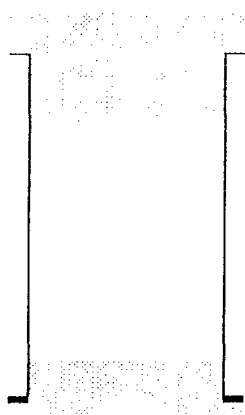
OPERATOR		DATE P&A
Pan American Petroleum Corp.		November 1, 1962
LEASE	WELL NO.	LOCATION
State "A"	3	Unit H, Sec. 19, T12S, R38E



SPOT 10 SX. @ SURFACE

SPOT 25 SX. ACROSS 13-3/8" CSG. SEAT

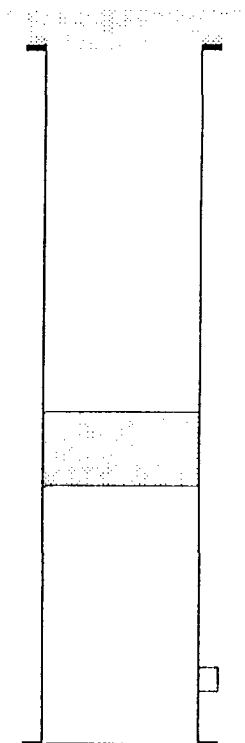
13-3/8" CSG. AT 315' WITH 400 SX.



CUT & PULLED 9-5/8" CSG. @ 1185' & SPOT 20 SX. ACROSS CUT

SPOT 20 SX. ACROSS 9-5/8" CSG. SEAT

9-5/8" CSG. AT 4610' WITH 1625 SX.



CUT & PULLED 5-1/2" CSG. @ 5218'

SPOT 25 SX. CMT. @ 5218'

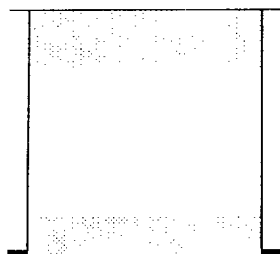
SPOT 40 SX. CMT. 11,000'-300'

PF 12,002-012' (DEV)

5-1/2" CSG. @ 12,020' WITH 150 SX.

TD - 12,020'

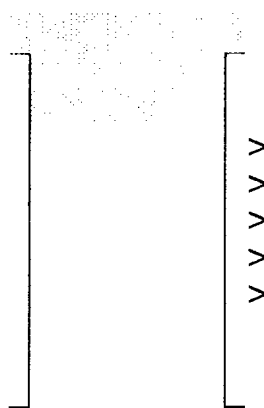
OPERATOR		DATE P&A	
Amoco Production Co.		April 23, 1968	
LEASE	WELL NO.	LOCATION	
State	1-19	Unit G, Sec. 19, T12S, R38E	



SPOT 10 SX. @ SURFACE

SPOT 25 SX. ACROSS 13-3/8" CSG. SEAT

13-3/8" CSG. AT 327' WITH 280 SX.



CUT & PULLED 8-5/8" CSG. @ 1003' & SPOT 20 SX. ACROSS CUT

SHOT @ 1326'

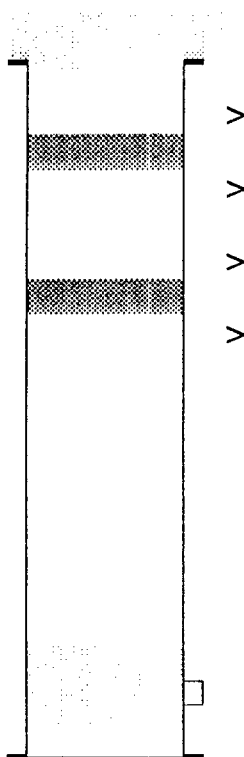
SHOT @ 1600'

SHOT @ 1775'

SHOT @ 1950'

SHOT @ 2145'

8-5/8" CSG. AT 4526' WITH 650 SX.



CUT & PULLED 5-1/2" CSG. @ 5006' & SPOT 20 SX. CMT. ACROSS CUT

SHOT @ 5489'

SPOT 20 SX. 5880'-5940'

SHOT @ 5996'

SHOT @ 7014'

SPOT 20 SX. 7140'-7200'

SHOT @ 8399'

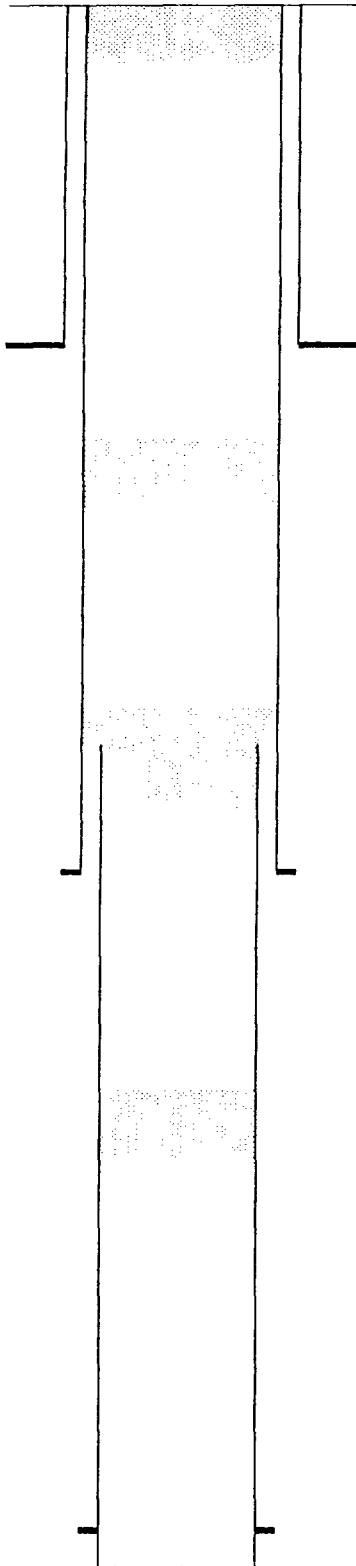
SPOT 15 SX. CMT. ACROSS PERFS.

PF 11,945'-959' (DEV)

5-1/2" CSG. @ 11,970' WITH 1050 SX.

TD - 11,970'

OPERATOR		DATE P&A	
Gulf Oil Corp.		February 7, 1985	
LEASE	WELL NO.	LOCATION	
Houston	1	Unit J, Sec. 19, T12S, R38E	



SPOT 6 SX. @ SURFACE TO 21'

13-3/8" CSG. AT 376' WITH 400 SX.

SPOT 35 SX. CMT. 1920'-2130'

CUT & PULLED 4070' - 7' CSG. & SPOT 25 SX. CMT. 4015'-4165'

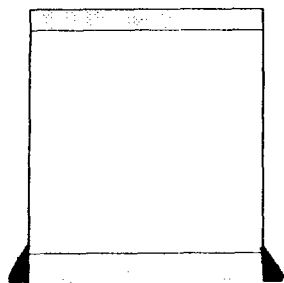
8-5/8" CSG. @ 4499' W/ 1950 SX.

SPOT 100 SX. CMT. 9140'-10,180'

7" CSG. AT 12,214' WITH 750 SX.
OPEN HOLE 12,214' - TD (DEV)

TD - 12,682'

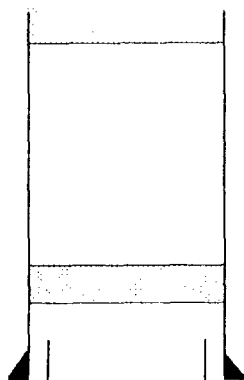
OPERATOR		DATE P&A	
Amoco Production		September 13, 1971	
LEASE	WELL NO.	LOCATION	
State "B"	1-19	Unit K, Sec. 19, T12S, R38E	



SPOT 10 SX @ SURFACE

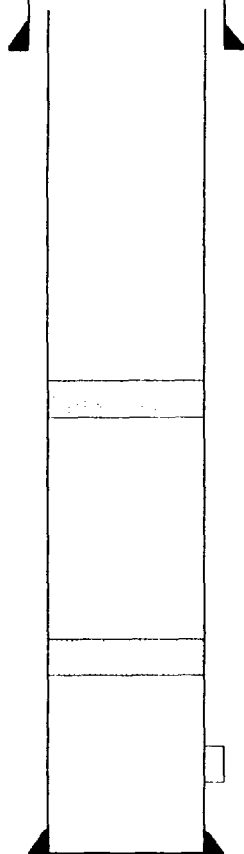
SPOT 50 SX 295'-344'

13-3/8" CSG AT 342' WITH 350 SX



CUT 8-5/8" AND PULLED 980'

SPOT 50 SX 920'-1010'



8-5/8" CSG AT 4645' WITH 650 SX

CUT 5-1/2" AND PULLED 4582'

SPOT 50 SX 4450'-4530'

SPOT 30 SX 8050'-8300'

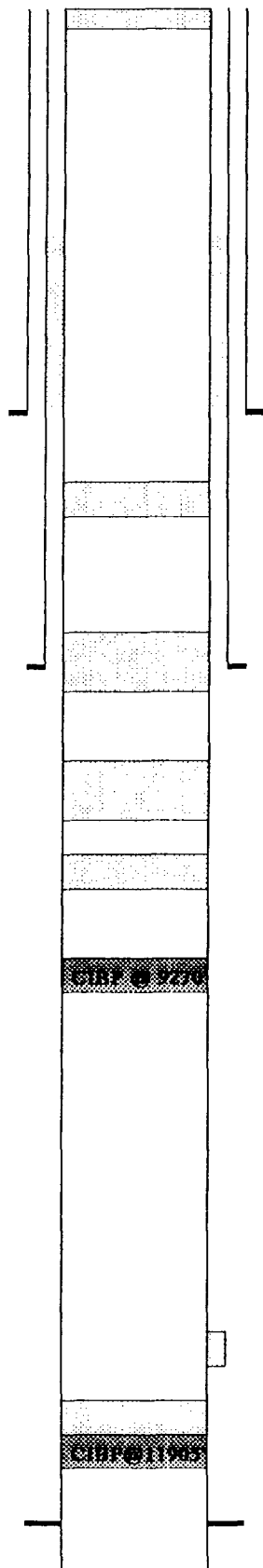
SPOT 50 SX 11500'-11598'

PF 11958'-11968' (DEV)

5-1/2" CSG AT 11,980' WITH 1200 SX

TD - 11980'

OPERATOR		DATE P&A
Petrus Oil Company, L.P.		September 26, 1987
LEASE	WELL NO.	LOCATION
Houston "A"	1	Unit L, Sec. 19, T12S, R38E



SPOT 10 SX @ SURFACE

CIRC 100 SX THRU SQZ HOLES @ 324', TOC 272'
PF 7" @ 324' W/ 4SPF

13-3/8" CSG AT 324' WITH 255 SX

SPOT 25 SX @ 2225'
DV @ 2298' (9-5/8")

SPOT 50 SX 4240' - 4533'

9-5/8" CSG AT 4514' WITH 690 SX
PF 2 SPF @ 4524'

SPOT 100 SX 5709' - 5988'

SPOT 25 SX 6902' - 7002'

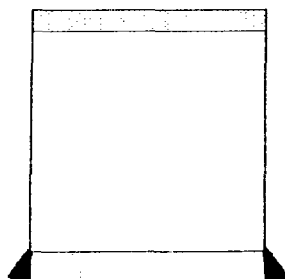
PF 11875' - 11885' (DEV) PBD - 11,900'

PF 11874' - 11890' SQZD (DEV)

OPEN HOLE 11921' - 11960' (DEV)

7" CSG AT 11921' WITH 630 SX

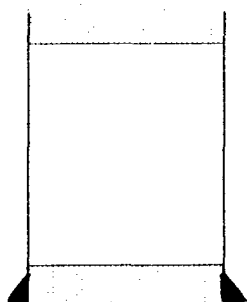
OPERATOR		DATE P&A	
Pan American Petroleum Corp.		December 1, 1967	
LEASE	WELL NO.	LOCATION	
Houston "A"	2	Unit L, Sec. 19, T12S, R38E	



SPOT 10 SX @ SURFACE

SPOT 25 SX IN & OUT OF 13-3/8" CSG

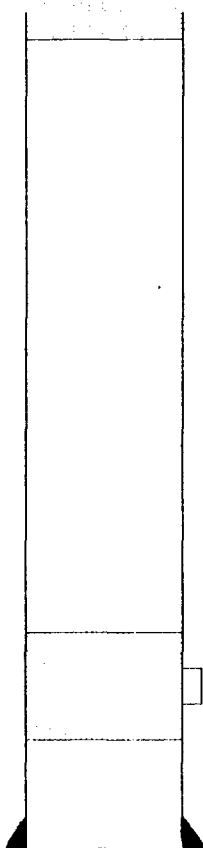
13-3/8" CSG AT 316' WITH 325 SX



CUT 9-5/8" AND PULLED 1220'
SPOT 25 SX IN & OUT OF 9-5/8" STUB

SPOT 20 SX IN & OUT OF 9-5/8" @ 4500'

9-5/8" CSG AT 4500' WITH 600 SX



CUT 5-1/2" AND PULLED 5020'
SPOT 25 SX IN & OUT OF 5-1/2" STUB

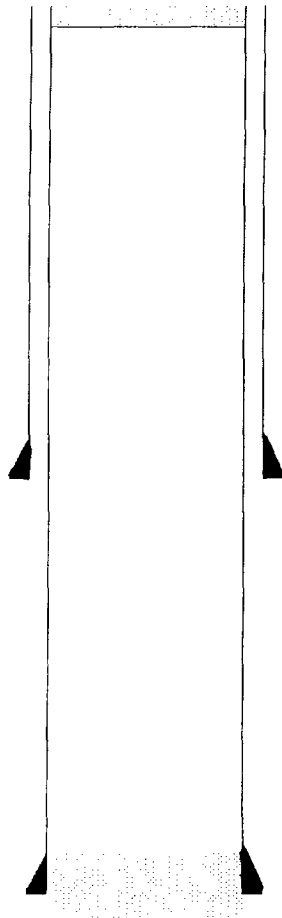
SPOT 15 SX 9460'-9550'

PF 9470'-9536' (WO)

5-1/2" CSG AT 9816' WITH 185 SX

TD - 9816'

OPERATOR	DATE P&A	
Gulf Oil Corp.	June 30, 1961	
LEASE	WELL NO.	LOCATION
Lea "AV" State	3	Unit D, Sec. 19, T12S, R38E



SPOT CMT PLUG @ 50'—SURFACE

13—3/8" CSG AT 369' WITH 450 SX

9—5/8" CSG AT 4519' WITH 3280 SX

SPOT CMT PLUG 4450'—4550'

SPOT CMT PLUG 5850'—5950'

SPOT CMT PLUG 6120'—6220'

CUT 7" AND PULLED 6179'

CSG LEAK 6771'—~~6803~~' SQZD W/ 130 SX & TOC 6310'

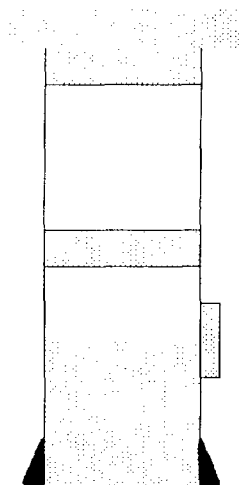
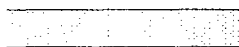
SPOT CMT 9250'—9350'

PF 9385'—9590' (WO)

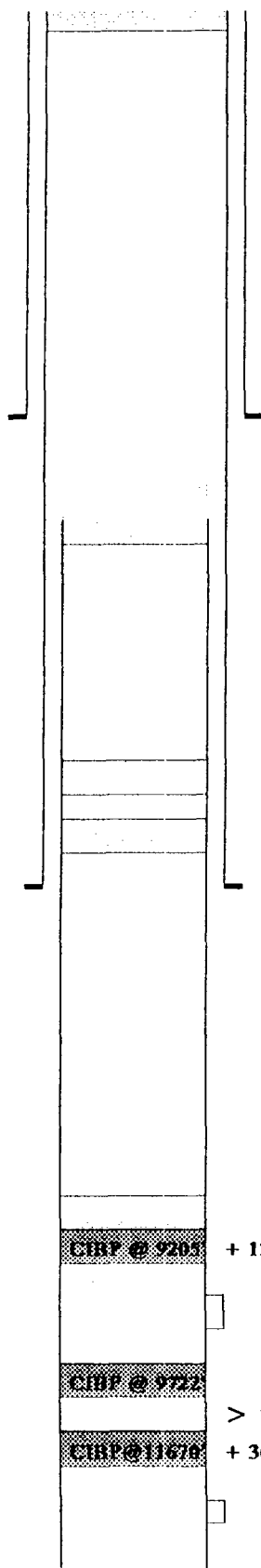
7" CSG AT 9609' WITH 275 SX

PBD — 9506'

TD — 9610'



OPERATOR		DATE P&A	
Gulf Oil Corp.		April 18, 1977	
LEASE	WELL NO.	LOCATION	
Lea "AV" State	5	Unit C, Sec. 19, T12S, R38E	



SPOT 20 SX @ 61' – SURFACE

13–3/8" CSG AT 265' WITH 450 SX

CUT 5–1/2" AND PULLED 2486'
SPOT 75 SX ACROSS 5–1/2" STUB TO 2300'

SPOT 12 SX (109') ACROSS 5–1/2" CSG CUT @ 4295'

SPOT 12 SX (109') ACROSS 5–1/2" CSG CUT @ 4489'

8–5/8" CSG AT 4550' WITH 1840 SX

PF 9396'–9598' (WO)

PF 11,902'–11,952' (DEV)

5–1/2" CSG AT 11954' WITH 1710 SX

TD – 11,954'

RESULT OF WATER ANALYSES

TO: Mr. Carl Brown LABORATORY NO. 893128
303 West Wall Street, Suite 1901 SAMPLE RECEIVED 8-23-93
Midland, TX 79701 RESULTS REPORTED 8-24-93

COMPANY Barbara Fagken LEASE _____
FIELD OR POOL Gladiola
SECTION 13 BLOCK _____ SURVEY T-125&R-37E COUNTY Lee STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from Skelton Ranch House (garden hose). 8-21-93
NO. 2 _____
NO. 3 _____
NO. 4 _____

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0011			
pH When Sampled				
pH When Received	7.40			
Bicarbonate as HCO ₃	244			
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	244			
Calcium as Ca	85			
Magnesium as Mg	8			
Sodium and/or Potassium	64			
Sulfate as SO ₄	104			
Chloride as Cl	54			
Iron as Fe	0.05			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	559			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	0.0			
Resistivity, ohm-cm at 77° F.	15.22			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	0.0			

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

RESULT OF WATER ANALYSES

TO: Mr. Carl Brown LABORATORY NO. 893129
303 West Wall Street, Suite 1901 SAMPLE RECEIVED 8-23-93
Midland, TX 79701 RESULTS REPORTED 8-24-93

COMPANY Barbara Fasken LEASE _____
FIELD OR POOL Gladiola

SECTION 24 BLOCK _____ SURVEY T-125&R-37E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from Bill Green Fresh water well (garden hose). 8-21-93

NO. 2 _____

NO. 3 _____

NO. 4 _____

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F	1.0024			
pH When Sampled				
pH When Received	6.93			
Bicarbonate as HCO ₃	273			
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	720			
Calcium as Ca	220			
Magnesium as Mg	41			
Sodium and/or Potassium	263			
Sulfate as SO ₄	169			
Chloride as Cl	632			
Iron as Fe	0.90			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	1,598			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	0.0			
Resistivity, ohm-cm at 77° F.	3.89			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	0.0			

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

RESULT OF WATER ANALYSES

TO: Mr. Carl Brown LABORATORY NO. 893130
303 West Wall Street, Suite 1901 SAMPLE RECEIVED 8-23-93
Midland, TX 79701 RESULTS REPORTED 8-24-93

COMPANY Barbara Faaken LEASE _____

FIELD OR POOL Gladiala

SECTION 19 BLOCK _____ SURVEY T-125&R-38E COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken @ Houston Ranch House (kitchen faucet). 8-21-93

NO. 2 _____

NO. 3 _____

NO. 4 _____

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0020			
pH When Sampled				
pH When Received	7.32			
Bicarbonate as HCO ₃	220			
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	512			
Calcium as Ca	170			
Magnesium as Mg	21			
Sodium and/or Potassium	91			
Sulfate as SO ₄	132			
Chloride as Cl	278			
Iron as Fe	0.05			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	912			
Temperature °F				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	0.0			
Resistivity, ohm-cm at 77° F	7.20			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	1.0			

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Kathi Bearden

General Manager

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

October 5, 1994

and ending with the issue dated

October 5, 1994

Kathi Bearden
General Manager

Sworn and subscribed to before

me this 7 day of

October, 1994

Charlene Brown

Notary Public.

My Commission expires
March 15, 1997

(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.

RECEIVED

OCT 10 1994

J. H. PURVIS

LEGAL NOTICE
October 5, 1994
NOTICE OF
APPLICATION
FOR AUTHORIZATION
TO INJECT

Purvis Operating Co., P.O. Box 11006, Midland, Texas, 79702-8006, Phone (915) 682-7346 (J.H. Purvis) has applied to the New Mexico Oil Conservation Division for a permit to reinject produced water into Lea "AV" State Lease well #4 located 1980' FNL & FWL, Sec. 19, T12S, R38E, Lea County. This well is in the Gladiola field and the proposed injection interval is 9103' - 9674' in the Wolfcamp zone. Expected maximum injection rate is 6000 BWPD on a vacuum. Interested parties must file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87504 within 15 days.

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
BARBARA FASKEN
303 W. WALL ST., SUITE 1900
MIDLAND, TEXAS 79701

4a. Article Number
P 764 696 116

4b. Service Type
☐ Registered
☒ Insured
☐ Certified
☐ COD
☐ Express Mail
☐ Return Receipt for Merchandise

7. Date of Delivery
10-4-94

8. Addressee's Address (Only if requested and fee is paid)

5. Signature (Addressee)
W. Fasken

6. Signature (Agent)

PS Form 3811, November 1990 *U.S. GPO: 1991-287-006 DOMESTIC RETURN RECEIPT

P 764 696 116

Certified Mail Receipt
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to
BARBARA FASKEN

Street & No.
303 W. WALL ST.
SUITE #1900

P.O. State & ZIP Code
MIDLAND, TEXAS 79701

Package
\$

Postage
\$

Registered Fee

Special Delivery Fee

Restricted Delivery Fee

Return Receipt Showing to Whom & Date Delivered

Return Receipt Showing to Whom, Date, & Address of Delivery

TOTAL Postage & Fees
\$

Postmark or Date
Mailed
10-3-94

PS Form 3800, June 1990

P 764 696 118

Certified Mail Receipt
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to
YATES PETROLEUM
COMPANY

Street & No.
105 SO. 4TH
STREET

P.O. State & ZIP Code
ARTESIA, NM 88210

Package
\$

Postage
\$

Registered Fee

Special Delivery Fee

Restricted Delivery Fee

Return Receipt Showing to Whom & Date Delivered

Return Receipt Showing to Whom, Date, & Address of Delivery

TOTAL Postage & Fees
\$

Postmark or Date
Mailed
10-3-94

PS Form 3800, June 1990

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
YATES PETROLEUM COMPANY
105 SO. 4TH STREET
ARTESIA, NM 88210

4a. Article Number
P 764 696 118

4b. Service Type
☐ Registered
☒ Insured
☐ Certified
☐ COD
☐ Express Mail
☐ Return Receipt for Merchandise

7. Date of Delivery
OCT 4 1994

8. Addressee's Address (Only if requested and fee is paid)

5. Signature (Addressee)
Cybertha Boyce

6. Signature (Agent)

PS Form 3811, November 1990 *U.S. GPO: 1991-287-006 DOMESTIC RETURN RECEIPT

P 764 696 117

**Certified Mail Receipt**

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to: ELK OIL COMPANY	
Street & Box: P.O. BOX 310	
City, State & ZIP Code: ROSWELL, NM 88202	
Postage:	\$
Postage Due:	
Special Delivery Fee:	
Restricted Delivery Fee:	
Return Receipt Showing to Whom & Date Delivered:	
Return Receipt Showing to Whom Date, & Address of Delivery:	
TOTAL Postage & Fees:	\$
Mailed 10-3-91	

0661 eum 008C Form PS-8

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

I also wish to receive the following services (for an extra fee):

3. Article Addressed to:

ELK OIL COMPANY
P.O. BOX 310
ROSWELL, NM 88202

1. ☐ Addressee's Address fee)
2. ☐ Restricted Delivery
Consult postmaster for fee.

4a. Article Number

P 764 696 117

- 4b. Service Type
☐ Registered
☐ Insured

XX Certified ☐ COD

☐ Express MAIL Return Receipt for Merchandise

7. Date of Delivery

8. Addressee's Address (Only if requested and fee is paid)

5. Signature (Addressee)

6. Signature (Agent)

PS Form 3811, November 1990 * U.S. GPO: 1991-287-006

DOMESTIC RETURN RECEIPT

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date of delivery.

3. Article Addressed to:

COMMISSIONER OF PUBLIC LANDS
NEW MEXICO STATE LAND OFFICE
P.O. BOX 1148
SANTA FE, NM 87504-1148

4a. Article Number

P 764 696 115

- 4b. Service Type
☐ Registered
☐ Insured

XX Certified ☐ COD

☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

8. Addressee's Address (Only if requested and fee is paid)

5. Signature (Addressee)

6. Signature (Agent)

PS Form 3811, December 1991 * U.S. GPO: 1993-352-714

DOMESTIC RETURN RECEIPT

P 764 696 115

**Certified Mail Receipt**

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to: COMMISSIONER OF PUBLIC LANDS	
Street & Box: NEW MEXICO STATE LAND OFFICE	
City, State & ZIP Code: P.O. BOX 1148	
SANTA FE, NM 87504-1148	
Postage:	\$
Certified Fee:	
Special Delivery Fee:	
Restricted Delivery Fee:	
Return Receipt Showing to Whom & Date Delivered:	
Return Receipt Showing to Whom Date, & Address of Delivery:	
TOTAL Postage & Fees:	\$
Postmark or Date: Mailed 10-3-91	

0661 eum 008C Form PS-8