Received 9-21-93

ANADARKO PETROLEUM CORPORATION • 1300 INDEPENDENCE PLAZA • P. O. BOX 2497 • MIDLAND, TEXAS 79702 • (915) 682-1666 • FAX (915) 682-9371

OIL CONSERVATION DIVISION
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Anadarko

September 3, 1993

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

Attn: William J. LeMay

Re: Application (Form C-108)
Water Injection Wells
Bennett Federal No. 3
Bennett Federal No. 5
Lea County, New Mexico

Gentlemen:

Attached is an application to convert the Bennett Federal No. 3 and No. 5 to water injection wells. These two conversions would expand an existing waterflood which was initiated with the conversion of the Cavalcade "21" Federal No. 1 (Case #9972, Order #R-9240).

Very truly yours,

George R. S. Buehler

George R. S. Buehler
Staff Production Engineer

GRSB/jad
Attachment

gb-nmocd.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [X] yes [ ] no

II. Operator: ANADARKO PETROLEUM CORPORATION

Address: P O DRAWER 130, ARTESIA, NM 88210

Contact party: Mr. Jerry E. Buckles Phone: 505/677-2411

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. Cacvacade Queen Pressure Maintenance Project

IV. Is this an expansion of an existing project? [X] yes [ ] no Case No. 9972
If yes, give the Division order number authorizing the project Order No. R-9240.

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: George R. S. Buehler Title Staff Production Engineer

Signature: George R S Buehler Date: September 3, 1993

* 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. item X submitted at completion of wells to NMOCD.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division

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

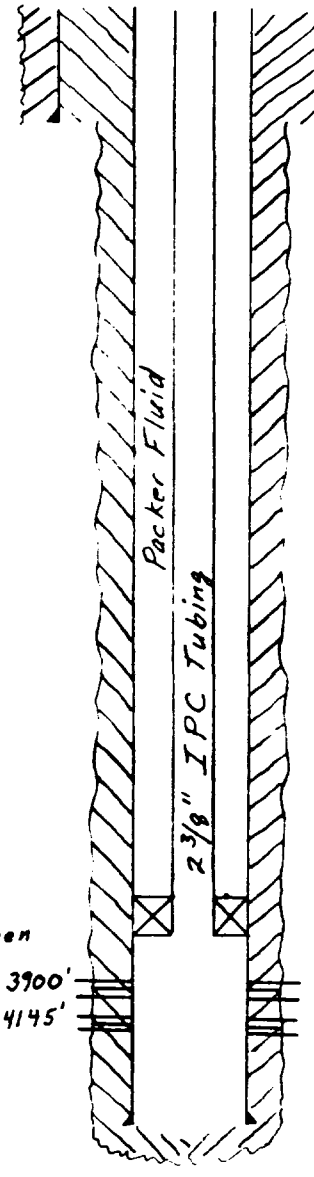
(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

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.

III A

WELL DATA SHEET



12 ¼" Hole

28 jts 8 5/8" 24# K-55
@ 1203' w/ 500 sxs "C" w/
4% gel + 200 sxs "C"
(Cmt Circ - 150 sxs)

7 7/8" Hole

104 jts 5 ½" 15.5# K-55
@ 4295' w/ 1100 sxs "C"
w/ 8% gel + 200 sxs "C"
(240% excess - calc
should of circ)

3872' - 3900'
A w/ 1400 gal + 56 B.S.
F w/ 30,000# 20/40 +
17,500# 10/20

4117' - 4145'
A w/ 5000 gal + 48 B.S.

2-3/8" EUE 4.7# IPC
Packer Watson 5-1/2"
plastic coated Lok-Set
@ 3841'

BENNETT FEDERAL NO. 3
(formerly Federal "Q" No. 3)
API #30-025-28149
Unit Letter N
330' FSL & 2310' FWL
Section 22, Township 18 South,
Range 32 East
Lea County, New Mexico

III B
Bennett Federal No. 3

1) Producing Formation: Queen & Penrose
Querecho Plains Queen
(Associated) Pool

2) Injection Interval: 3872' to 3900' 1 SPF
4117' to 4145' 1 SPF

3) The Bennett Federal No. 3 (formerly Federal "Q" No. 3) was originally drilled by Petroleum Corporation of Texas March 5, 1983 and completed as a FLOWING OIL WELL.

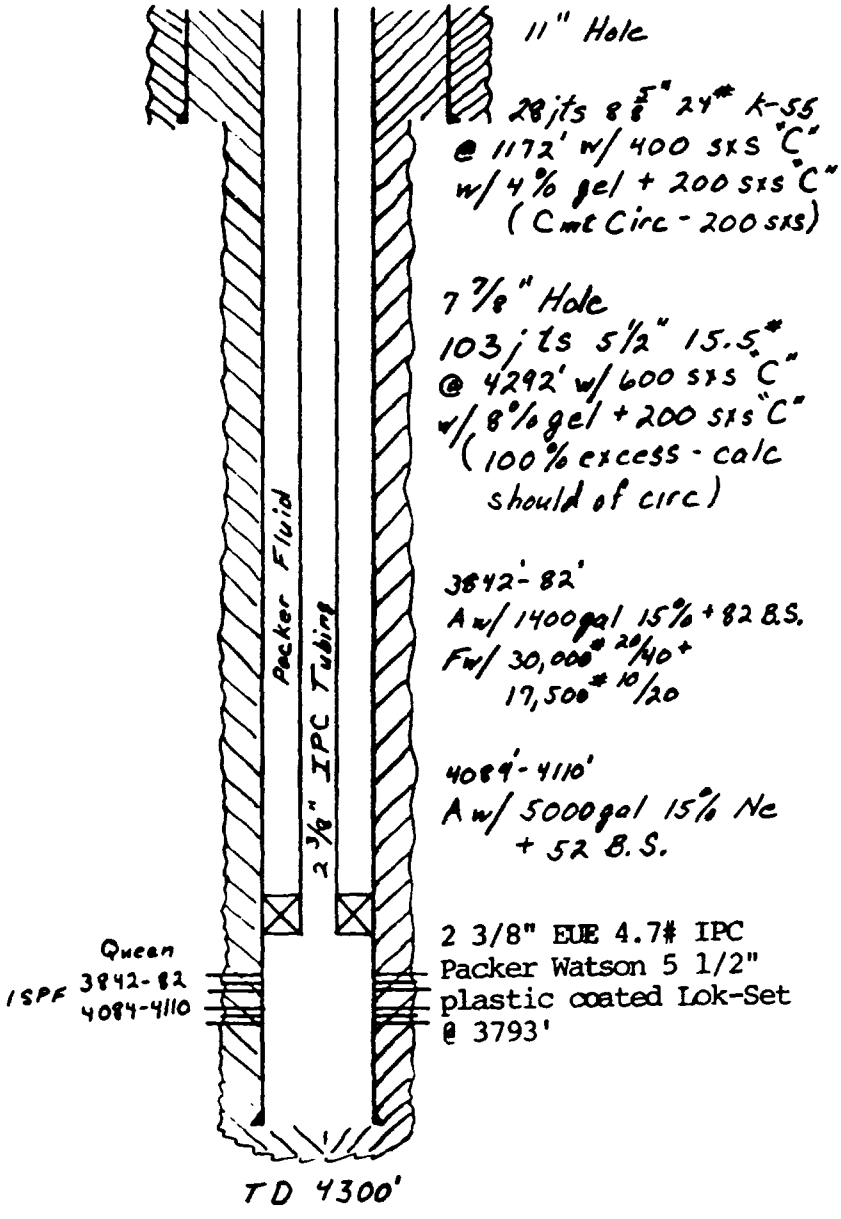
4) Abandoned Perforations: None

5) Producing Zone above Queen & Penrose: None
Producing Zone below Queen & Penrose: Bone Springs @ 8396'.

grsb-offset4.

III A

WELL DATA SHEET



BENNETT FEDERAL NO. 5
(formerly Federal "Q" No. 5)
API #30-025-28190
Unit Letter L
2310' FSL & 660' FWL
Section 22, Township 18 South,
Range 32 East
Lea County, New Mexico

III B
Bennett Federal No. 5

1) Producing Formation: Queen & Penrose
Querecho Plains Queen
(Associated)

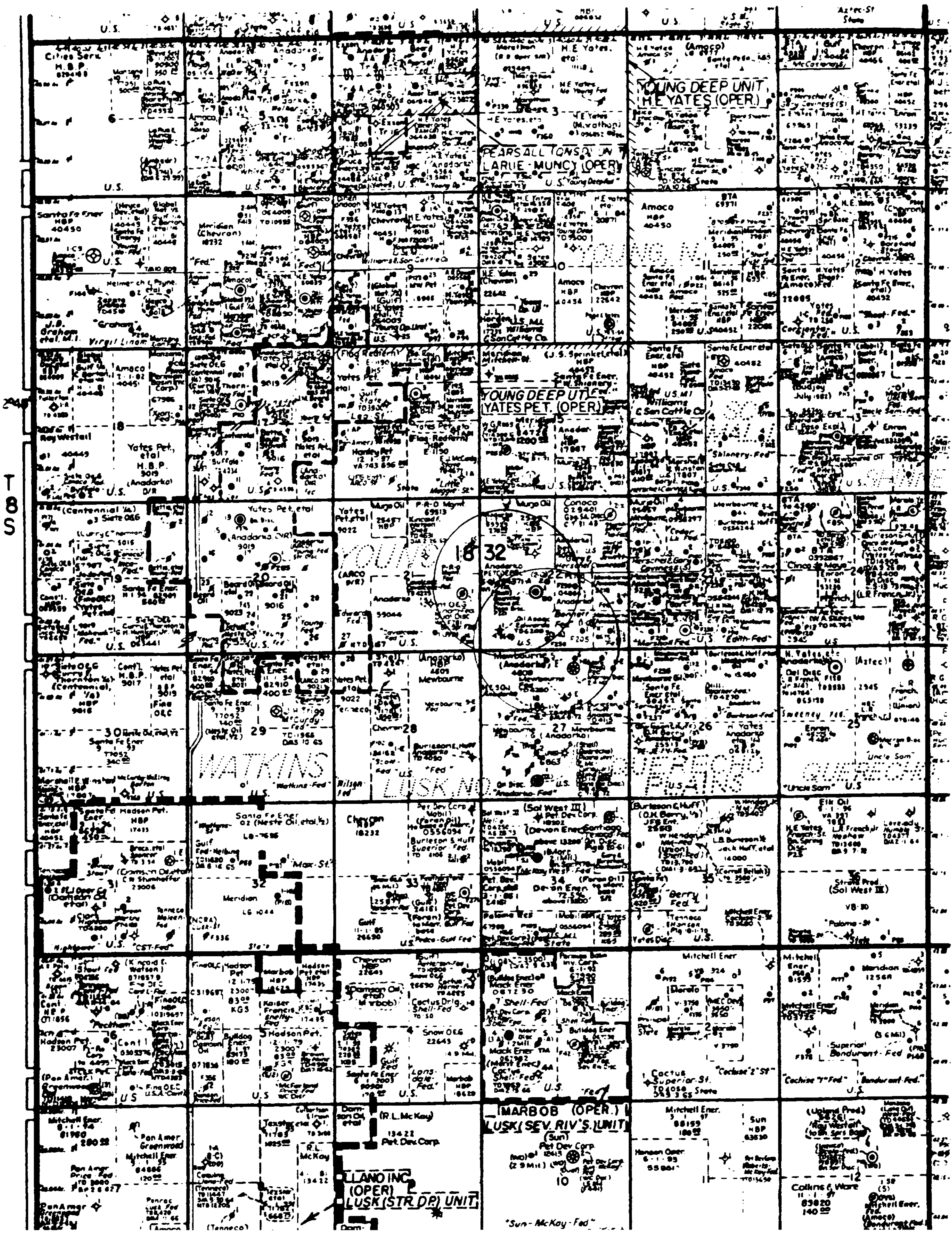
2) Injection Interval: 3842' to 3882' 1 SPF
4084' to 4110' 1 SPF

3) The Bennett Federal No. 5 (formerly Federal "Q" No. 5) was originally drilled by Petroleum Corporation of Texas April 30, 1983 and completed as a PUMPING OIL WELL.

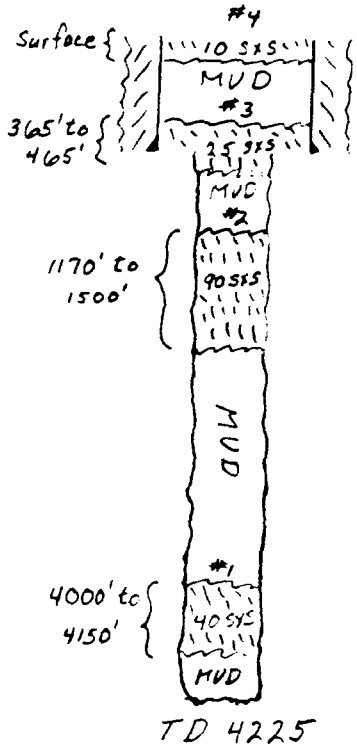
4) Abandoned Perforations: None

5) Producing Zone above Queen & Penrose: None
Producing Zone below Queen & Penrose: Bone Springs @ 8396'.

grsb-offset5.


T 8 S
YOUNG DEEP UNIT
H.E. YATES (OPER.)
PEARSALL TONSAUN
LARUE - MUNCY (OPER)
YOUNG DEEP UT
YATES PET. (OPER)
WATKINS
LUSK, NO.
IMARBOB (OPER.)
LUSK (SEV. RIV'S.) UNIT
LLANO INC.
(OPER)
LUSK (STR. DP.) UNIT

Plugged Well



8 5/8' @ 415' w/ 250 SXS (cmt circ - 80 SXS)

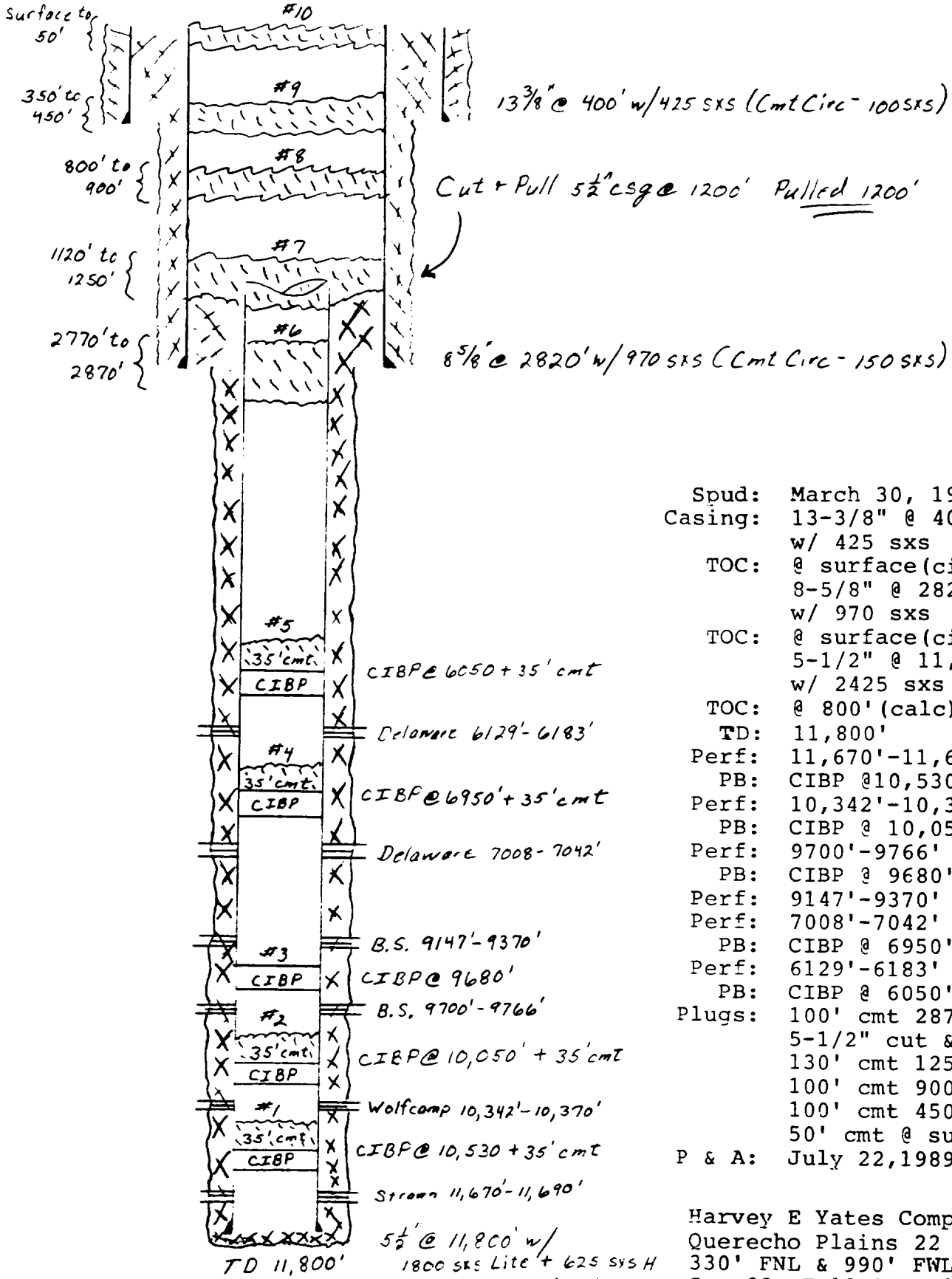
Spud: October 14, 1985
Casing: 8-5/8" @ 415'
w/ 250 sxs
TOC: @ surface(circ-80 sxs)
TD: 4225'

Plugs: 40 sxs @ 4150'
90 sxs @ 1500'
25 sxs @ 465'
10 sxs @ surface

D & A

Cavalcade Oil Corporation
Cavalcade"21" Federal No 5
1650' FSL & 1800' FEL
Sec 21, T 18 S, R 32 E

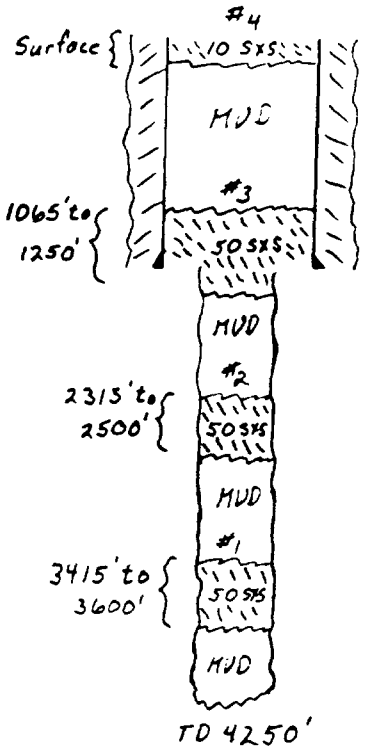
Plugged Well



Spud:	March 30, 1988
Casing:	13-3/8" @ 400'
	w/ 425 sxs
TOC:	@ surface(circ-100 sxs)
	8-5/8" @ 2820'
	w/ 970 sxs
TOC:	@ surface(circ-150 sxs)
	5-1/2" @ 11,800'
	w/ 2425 sxs
TOC:	@ 800'(calc)
TD:	11,800'
Perf:	11,670'-11,690'
PB:	CIBP @10,530' w/ 35' cmt
Perf:	10,342'-10,370'
PB:	CIBP @ 10,050 w/ 35' cmt
Perf:	9700'-9766'
PB:	CIBP @ 9680'
Perf:	9147'-9370'
Perf:	7008'-7042'
PB:	CIBP @ 6950' w/ 35' cmt
Perf:	6129'-6183'
PB:	CIBP @ 6050' w/ 35' cmt
Plugs:	100' cmt 2870'-2770'
	5-1/2" cut & pull @ 1200'
	130' cmt 1250'-1120'
	100' cmt 900'-800'
	100' cmt 450'-350'
	50' cmt @ surfce
P & A:	July 22,1989

Harvey E Yates Company
Querecho Plains 22 Fed No 1
330' FNL & 990' FWL
Sec 22, T 18 S, R 32 E

Plugged Well



8 5/8" @ 1220' w/ 500 sxs (Cmt Circ - 35 sxs)

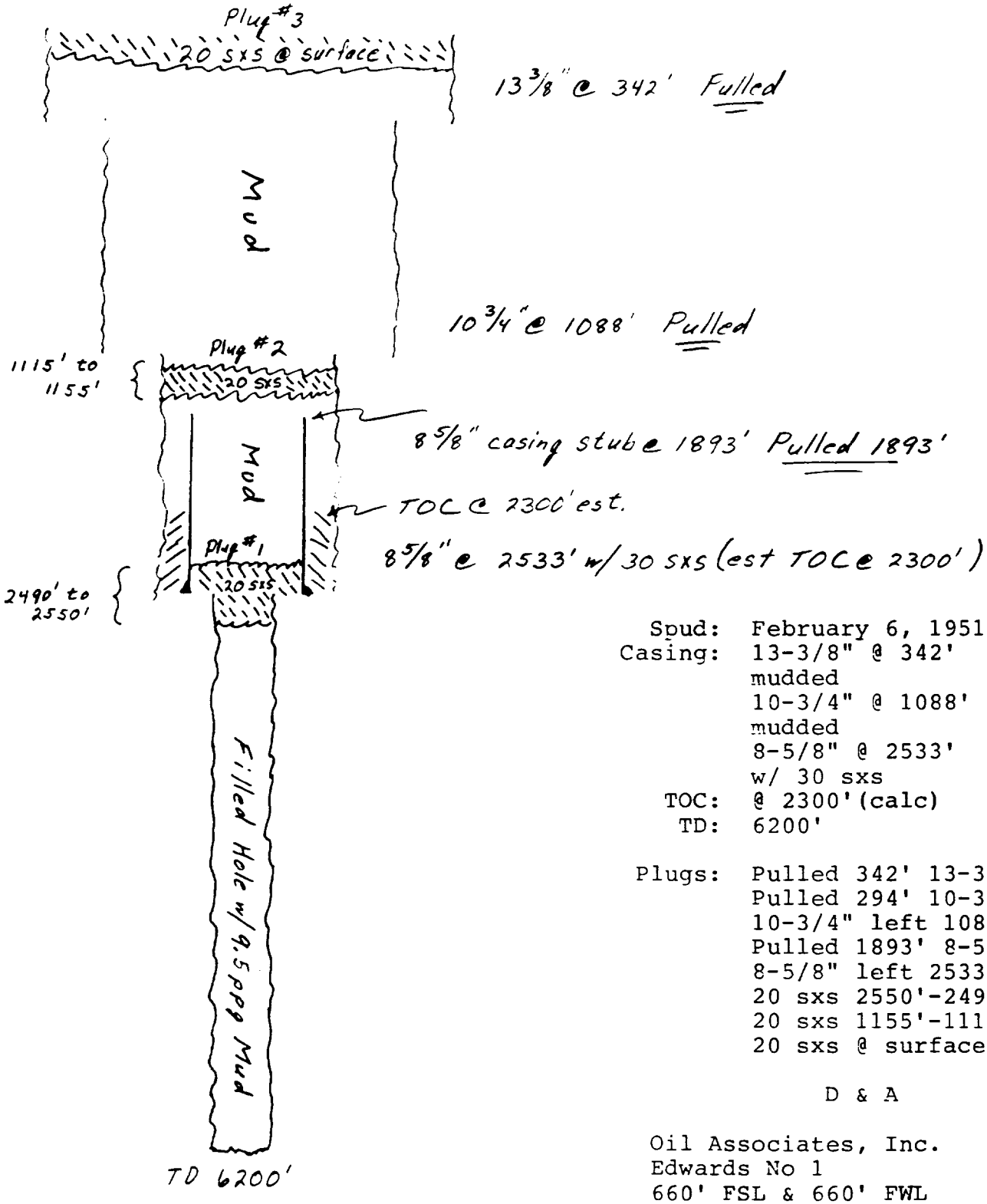
Spud: July 17, 1978
Casing: 8-5/8" @ 1220'
w/ 500 sxs
TOC: @ surface(circ-35sxs)
TD: 4250'

Plugs: 50 sxs @ 3600'
50 sxs @ 2500'
50 sxs @ 1250'
10 sxs @ surface

D & A

Mewbourne Oil Company
Federal "E" No 4
1650' FNL & 2310' FEL
Sec 27, T 18 S, R 32 E

Plugged Well



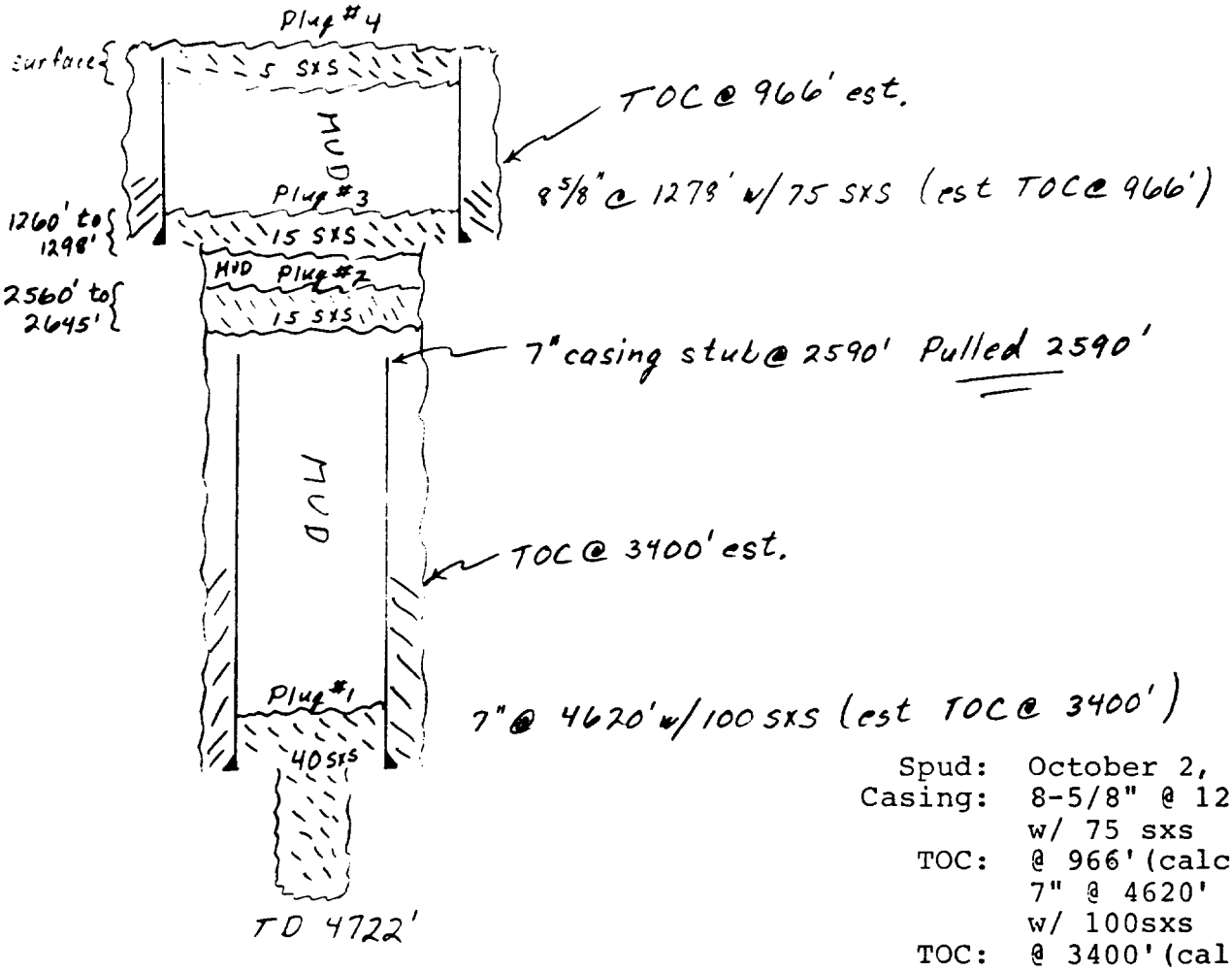
Spud: February 6, 1951
Casing: 13-3/8" @ 342'
mudded
10-3/4" @ 1088'
mudded
8-5/8" @ 2533'
w/ 30 sxs
TOC: @ 2300'(calc)
TD: 6200'

Plugs: Pulled 342' 13-3/8"(all)
Pulled 294' 10-3/4"
10-3/4" left 1088'-294'
Pulled 1893' 8-5/8"
8-5/8" left 2533'-1893'
20 sxs 2550'-2490'
20 sxs 1155'-1115'
20 sxs @ surface

D & A

Oil Associates, Inc.
Edwards No 1
660' FSL & 660' FWL
Sec 22, T 18 S, R 32 E

Plugged Well



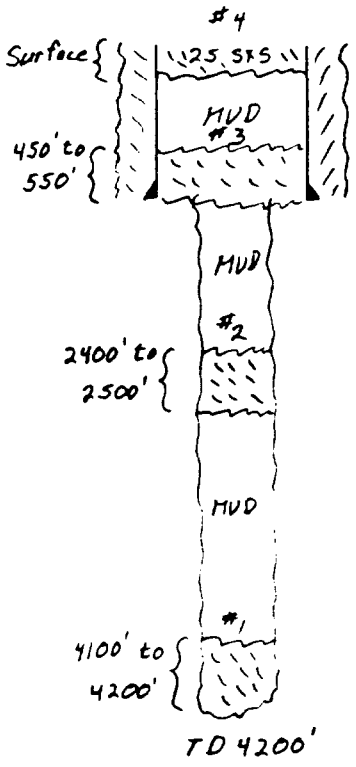
Spud: October 2, 1944
Casing: 8-5/8" @ 1278'
w/ 75 sxs
TOC: @ 966'(calc)
7" @ 4620'
w/ 100sxs
TOC: @ 3400'(calc)
TD: 4722'

Plugs: Pulled 2590' 7"
7" left 4620'-2590'
15 sxs 2560'-2645'
15 sxs 1298'-1260'
5 sxs @ surface

D & A: March 6, 1945

Maljamar Oil Company
Cheesman No 3
1980' FNL & 1980' FWL
Sec 22, T18 S, R32 E

Plugged WEll



8 5/8" @ 550' w/ 400 sxs (Cmt Circ)

Spud: March 30, 1972
Casing: 8-5/8" @ 550'
w/ 400 sxs
TOC: @ surface
TD: 4200'

Plugs: 100' cmt 4200'-4100'
100' cmt 2500'-2400'
100' cmt 550'-450'
25 sxs @ surface

D & A: April 9, 1972

H & S Oil Company
Anadarko No 1Y
1980' FNL & 1995' FWL
Sec 27, T 18 S, R 32 E

WELL/OPERATOR	WELL STATUS	CASING @ DEPTH / SACKS	TOC	SPUD	LOCATION	TD	ZONE	COMPLETION
Cavalcade "21" Federal #1 Anadarko	WIW	8-5/8" @ 420' w/ 250 sxs 4-1/2" @ 4221' w/ 1425 sxs	Surface Surface	10/04/85	400' FSL & 660' FEL Sec 21-18S-32E	4225	Queen	4096'-4102' 4108'-4130'
Cavalcade "21" Federal #3 Anadarko	TA'ed	13-3/8" @ 753' w/ 750 sxs 8-5/8" @ 3465' w/ 1700 sxs 5-1/2" @ 10,787' w/ 400 sxs Squeeze Job Squeeze Job Squeeze Job	Surface Surface 8300' by TS 6635' 3772' Surface	9/16/65	1980' FSL & 660' FEL Sec 21-18S-32E	12,873'	None	7-7/8" OH 10,787'-11,747' 5-1/2" @ 10,787' Perf 10,502'-10,712' Sqz w/ 300sxs Perf 8708'-8716' Sqz w/ 100 sxs Drillout w/ 4-3/4" 7-7/8" OH 10,787'-11,747' 4-3/4" OH 11,747'-12,873' Plug 25 sxs @12,244' Plug 25sxs @ 11,927' Plug 50 sxs @ 10,887' Sqz 5442'-3772' Sqz 1348'- Surface CO PBTD 10,052' Circ Treated Water
Federal "21C" #1 P-R-O Management, Inc	TA'ed	13-3/8" @ 411' w/ 420 sxs 8-5/8" @ 4445' w/ 1515 sxs 5-1/2" @ 11,920' w/ 1175 sxs	Surface Surface 6270'	12/31/85	1650' FNL & 330' FEL Sec 21-18S-32E	11,942	None	Perf 11,760'-11,775' Perf 11,610-11,630' Perf 11,715-11,725' CIBP @ 11,595' + 30' cmt Perf 11,510'-11,535' CIBP @ 11,490' + 39' cmt Perf 11,420'-11,436' Perf 11,458'-11,462' CIBP @ 10,600' CIBP @ 9500' + 32' cmt Sqz Perfs 9460'-9461' 4SPI Cmt Ret @ 9450' Perf 9340'-9360' CIBP @ 9150' Perf 9018'-9038' Perf 8609'-8614' Perf 8733'-8746' CIBP @ 8550' + 5 sxs cmt Cut 5-1/2' csg @ 5971' Pull 5971' 5-1/2" csg 50 sxs 5831'-5971' 50 sxs 4527'-4712' 50 sxs 4437'-4487' 25 sxs 4340'-4393'

WELL/OPERATOR	WELL STATUS	CASING @ DEPTH / SACKS	TOC	SPUD	LOCATION	TD	ZONE	COMPLETION PBTD 4340'
Cavalcade "21" Federal #5 Pet. Corp. of Texas	D & A	see sketch		10/14/85	1650'FSL & 1800' FEL Sec 21–18S–32E	4225'		
Quercho Plains Unit #1 Anadarko	Oil	13–3/8" @ 734' w/ 750 sxs 9–5/8" @ 4539' w/ 1150 sxs 7" @ 13,755' w/ 900 sxs	Surface Surface 9900' by TS	7/10/56	1980' FSL & 1980' FWL Sec 22–18S–32E	14,217'	Strawn	OH 13,755'–14,217' CIBP @ 13,730 Perf est 12,530'–12,644' Pkr w/ blanking plug @ 12,419' RBP @ 11,909' Perf 11,578'–11,586' Perf 11,595'–11,625' Perf 11,640'–11,660
Federal "J" #1 Anadarko	Oil	8–5/8" @ 1204' w/ 650 sxs 5–1/2" @ 4298' w/ 950 sxs	Surface Surface	2/13/83	2180' FSL & 1980' FEL Sec 22–18S–32E	4300'	Queen	Perf 3868'–3902' Perf 4112'–4136'
Bennett Federal #4 Anadarko	Oil	8–5/8" @ 1200' w/ 700 sxs 5–1/2" @ 4300' w/ 1300 sxs	Surface Surface	4/21/83	660" FSL & 710" FWL Sec 22–18S–32E	4300'	Queen	Perf 3846'–3880' Perf 4088'–4130'
Bennett Federal #2 Anadarko	Oil	8–5/8" @ 1203' w/ 800 sxs 5–1/2" @ 4292' w/ 1150 sxs	Surface Surface	2/23/83	2310' FSL & 2310' FWL Sec 22–18S–32E	4300'	Queen	Perf 3866'–3901' Perf 4110'–4131'
Bennett Federal #1 Anadarko	Oil	8–5/8" @ 1202' w/ 600 sxs 5–1/2" @ 4291' w/ 725 sxs	est Surface est Surface	12/18/82	660'FSL & 1650' FEL Sec 22–18S–32E	4300'	Queen	Perf 3872'–3908' Perf 4110'–4138'
Federal "H" #2 Mewbourne	Oil	13–3/8" @ 440' w/ 400 sxs 8–5/8" @ 4472' w/ 2100 sxs 5–1/2" @ 8960' w/ 1700 sxs	Surface Surface Surface	2/18/86	330' FSL & 330' FEL Sec 22–18S–32E	8960'	B.S.	Perf 8396'–8412' Perf 8426'–8460'
Federal "H" #1 Mewbourne	Oil	8–5/8" @ 1196' w/ 600 sxs 4–1/2" @ 4290' w/ 900 sxs	est Surface Surface	8/31/82	660' FSL& 660' FEL Sec 22–18S–32E	4300'	Queen	Perf 3888'–3892' Perf 3896'–3902' Perf 3912'–3914' Perf 3920'–3924'
Querecho Plains "22" Federal #1 Harvey E Yates	P & A	see sketch		3/30/88	330' FNL & 990' FWL Sec 22–18S–32E	11,800'		
Cheesman #3 Maljamar	D & A	see sketch		10/02/44	1980' FNL & 1980' FWL Sec 22–18S–32E	4720'		
Edwards #1 Oil Assoc., Inc	D & A	see sketch		2/06/51	660' FSL & 660' FWL Sec 22–18S–32E	6200'		

WELL/OPERATOR	WELL STATUS	CASING @ DEPTH / SACKS	TOC	SPUD	LOCATION	TD	ZONE	COMPLETION
Federal "E" #6 Mewbourne	Oil	8-5/8" @ 1220' w/ 560 sxs 4-1/2" @ 4310' w/ 1050 sxs	Surface Surface	6/30/83	330' FNL & 1980' FEL Sec 27-18S-32E	4310'	Queen & Penrose	Perf 3879'-3885' Perf 3892'-3896' Perf 4135'-4140' Perf 4142'-4154'
Federal "e" #7 Mewbourne	Oil	8-5/8" @ 1208' w/ 560 sxs 4-1/2" @ 4300' w/950 sxs	Surface est Surface	7/08/83	330' FNL & 990' FEL Sec 27-18S-32E	4300'	Queen & Penrose	Perf 3900'-3936' Perf 4151'-4171'
Federal "E" #8 Mewbourne	Oil	8-5/8" @ 1212' w/ 600 sxs 4-1/2" @ 4325' w/ 1000 sxs	Surface Surface	1/12/84	1650' FNL & 660' FEL Sec 27-18S-32E	4325'	Queen & Penrose	Perf 3934'-3968' Perf 4170'-4198'
Federal "E" #12 Mewbourne	Oil	13-3/8" @ 440' w/ 450 sxs 8-5/8" @ 4310' w/1800 sxs 5-1/2" @ 9052' w/ 835 sxs	Surface Surface est 3300'	3/16/86	1980'FNL & 330' FEL Sec 27-18S-32E	9050'	B.S.	Perf 8470'-8486' Perf 8500' & 8532'
Federal "E" #5 Mewbourne	Oil	8-5/8" @ 1210' w/550 sxs 4-1/2" @ 4300' w/ 900 sxs	Surface est 300'	5/09/83	330' FNL & 2310' FWL Sec 27-18S-32E	4300'	Queen & Penrose	Perf 3872'-3876' Perf 3880'-3890' Perf 3898'-3904' Perf 4130'-4136' Perf 4140'-4150'
Federal "E" #11 Mewbourne	WIW	13-3/8" @ 1125' w/ 1120 sxs 8-5/8" @ 4480' w/ 2400 sxs 5-1/2" @ 8972' w/ 1625 sxs	Surface Surface 868'	11/30/85	660' FNL & 530' FEL Sec27-18S-32E	8972'	 B.S.	Perf 8826'-8870' CIBP @ 8800' Perf 8360'-8486'
Federal "E" #13 Mewbourne	Oil	13-3/8" @ 460' w/ 485 sxs 8-5/8" @ 4248' w/ 1500 sxs 5-1/2" @ 9020' w/ 1225 sxs	Surface Surface 2911'	8/12/87	1980' FNL & 1980' FWL Sec 27-18S-32E	9020'	B.S.	Perf 8504'-8534'
Federal "E" #2 Mewbourne	Oil	8-5/8" @ 1151' w/ 600 sxs 4-1/2" @ 4220' w/ 450 sxs	Surface est 2200'	9/20/77	2310'FNL & 1980' FWL Sec 27-18S-32E	4200'	Queen	Perf 3910,11 12, 13, 19, 20, 31, 32, 33, 43, 44' Perf 4040'-4041'
Federal "E" #1 Mewbourne	Oil	13-3/8" @ 650' w/ 650 sxs 9-5/8" @ 4540' w/ 2975 sxs 5-1/2" @ 12,898' w/ 550 sxs	Surface Surface 10,327'	10/31/76	669' FNL & 1980' FEL Sec 27-18S-32E	12,898'	Morrow	Perf 12,625'-12,791'
Anadarko #1Y H & S Oil Co.	D & A	see sketch		3/30/72	1980' FNL & 1995' FWL Sec 27-18S-32E	4200'		
Federal "E" #4 Mewbourne	D & A	see sketch		7/17/78	1650' FNL & 2310' FEL Sec 27-18S-32E	4250'		

VII. 1) Average Injection Rate: 150 BWPD/Well
Maximum Injection Rate: 300 BWPD/Well
2) Type of System: Closed System
3) Average Injection Pressure: 768 psig
Maximum Injection Pressure: 768 psig
4) Water Source: Delaware
Water Analysis: See attached analysis of Delaware by Unichem International
Compatibility Analysis: None - there is currently little or no water produced from the Queen for a compatibility analysis.
5) N/A: Secondary Recovery WIW

IIX. 1) Lithology: Shale, Dolomite & Sand
2) Geological Name: Queen & Penrose
3) Top of Queen & Penrose: 3828'
4) Base of Queen & Penrose: 4145'
5) Queen Thickness: 317 feet (Gross)
90 feet (Net)
6) Drinking Water
a) Name of drinking water zone: Triassic
b) Depth to bottom of drinking water zone: 270 feet
c) Drinking water under injection zone: None

IX. Proposed Stimulation: None

X. Logs & Tests: Have been submitted previously with completion reports.

XI. Chemical Analysis of Fresh Water Within One Mile:
Sec 20, T18S, R32E 270' Cl 253 ppm
Sec 20, T18S, R32E 270' Cl 226 ppm
See attached State Engineer's Report

XII. N/A - Application for WIW

XIII. Proof of Notice
a) Surface & Lease Owner Notifications (attached)
b) Newspaper Notifications (attached)

UNICHEM INTERNATIONAL
P.O. BOX 1499 707 NORTH LEECH STREET
HOBBS, NEW MEXICO 88240

Anadarko Petroleum Corp.
P.O. Drawer 130
Artesia , NM 88210

Report Date: July 1, 1992
Lab In Date: June 30, 1992
Sample Date: May 26, 1992

Dear Jerry Buckles

Listed below please find our water analysis report from PE-JE-AN . Fed #1 :

Specific Gravity:	1.183
Total Dissolved Solids:	255501
PH:	7.00
Ionic Strength:	5.420

			mg/liter
CATIONS:			
	Calcium:	(Ca++)	27360
	Magnesium:	(Mg++)	5249
	Sodium:	(Na+)	62534
	Iron (Total)	(Fe++)	.40
	Barium	(Ba++)	.90
	Manganese:	(Mn++)	.10
	Resistivity:		
ANIONS:			
	Bicarbonate:	(HCO3-)	98
	Carbonate:	(CO3--)	0
	Hydroxide:	(OH-)	0
	Sulfate:	(SO4--)	261
	Chloride:	(Cl-)	160000

GASES:			
	Carbon Dioxide:	(CO2)	******
	Oxygen:	(O2)	*******
	Hydrogen Sulfide:	(H2S)	******

SCALE INDEX (Positive Value Indicates Scale Tendency) * indicates tests were not run.

Temperature		CaCO3 SI	CaSO4 SI
86F	30.0C	2.72	-.88
104F	40.0C	3.43	-1.00
122F	50.0C	4.04	-1.47
140F	60.0C	4.04	-1.43
158F	70.0C	4.04	-1.08
176F	80.0C	4.04	-.54

If you have any questions or require further information, please contact us.

Sincerely,

Sharon Wright

Sharon Wright
Laboratory Technician

cc: Charlie Copeland - Artesia
Mike Braswell - Artesia

bc: Joe Hay
Bill Polk

Unichem International

707 North Leech P.O.Box 1499

Hobbs, New Mexico 88240

Company : ANADARKO PETROLEUM CORPORATION
Date : 08-01-1990
Location: BURLESON FEDERAL #3 - (DELAWARE) WELLHEAD (on 07-30-1990)

	Sample 1
Specific Gravity:	1.151
Total Dissolved Solids:	211064
pH:	5.90
IONIC STRENGTH:	4.240

CATIONS:		me/liter	mg/liter
Calcium	(Ca^{+2})	1110	22200
Magnesium	(Mg^{+2})	20.0	243
Sodium	(Na^{+1})	2540	58400
Iron (total)	(Fe^{+2})	3.62	101
Barium	(Ba^{+2})	0.017	1.20
Manganese	(Mn^{+2})	0.254	6.97
ANIONS:			
Bicarbonate	(HCO_3^{-1})	1.000	61.0
Carbonate	(CO_3^{-2})	0	0
Hydroxide	(OH^{-1})	0	0
Sulfate	(SO_4^{-2})	3.12	150
Chloride	(Cl^{-1})	3670	130000

SCALING INDEX (positive value indicates scale)

Temperature		Calcium Carbonate	Calcium Sulfate
86°F	30°C	0.25	-6.8

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

ELUID MARTINEZ
STATE ENGINEER

ROSWELL

DISTRICT II
1900 West Second St.
Roswell, New Mexico 88201
(505) 622-6521

August 31, 1993

George Buehler
Anadarko Petroleum
P. O. Box 2497
Midland, Texas 79702

Dear Mr. Buehler:

Enclosed you will find well information as requested surrounding

Section 22, Township 18 South, Range 38 East, N.M.P.M.

If further information is needed, please let me know.

Sincerely,

Kenneth Fresquez
Field Supervisor

KF/lc

SUR OWNERSHIP	DEPTH	WBF	DATECLLD	CLLR	USE	LOCATION	ESELEV	PT_CLLN	CHLORIDES	CONDUCT	TDS	TEMP	ADD_DATA	CARD_DATE	SOURCE	DPR	[illegible]
MCKEE ROBERT E	240	PRC	60/02/00		SRO	18S.29E.34.32420	3420.00	DP	2160	8560	0	0		482		15-06194	0
MCKEE ROBERT E	240	PRC	86/06/05	SEO	SRO	18S.29E.34.32420	3420.00	DP	19000	47422	0	72		0287		15-06194	0
BIRDWELL ROBERT	250	PRC	60/02/00		SRO	18S.29E.34.33233	3430.00	DP	2210	8600	0	0		482		15-06201	0
WALTERS RANCH	252	TRC	85/04/10	SEO	NOT	18S.30E.22.221223	3434.00	TS@260	40	891	0	0		0485		15-11723	0
WALTERS RANCH	252	TRC	90/09/25	SEO	STK	18S.30E.22.221223	3434.00	TS@250	42	1010	0	0		0191		15-11723	0
WALTERS RANCH	252	TRC	90/09/25	SEO	NOT	18S.30E.22.221223	3434.00	TS@250	42	1010	0	0		0492		15-11723	0
SNYDER RANCH	230	TRC	65/12/09	SEO	DOM	18S.30E.26.414144	3430.00		162	1530	0	69	*			15-06202	0
SNYDER RANCH	230	TRC	27/02/02	USG	STK	18S.30E.26.414144	3430.00	DP	10	0	0	0	X	0685	U	15-06202	0
SNYDER RANCH	230	TRC	80/12/30	CEC	STK	18S.30E.26.414144	3430.00	DP	138	0	0	0	X	1084	P	15-06202	0
SNYDER RANCH	230	TRC	85/04/10	SEO	DOM	18S.30E.26.414144	3430.00	YT	119	1265	0	0		0485		15-06202	0
SNYDER RANCH	230	TRC	90/10/10	SEO	STK	18S.30E.26.414144	3430.00	YT	116	1230	0	0	58	0191			0
SNYDER RANCH	230	TRC	90/10/10	SEO	STK	18S.30E.26.414144	3430.00	YT	116	1230	0	58		0492		15-06202	0
	690	TRS	87/01/26	SEO	SRO	18S.31E.12.231444	3778.00	TS@689	222	1235	0	0		ABDN		15-71003	0
MAXWELL OIL CO	690	TRS	90/	SEO	SRO	18S.31E.12.231444	3778.00	TS@600	505	1960	0	0		0191		15-71003	0
MAXWELL OIL CO	690	TRS	90/09/25	SEO	SRO	18S.31E.12.231444	3778.00	TS@600	505	1960	0	0		0492		15-71003	0
	485	TRC	65/12/08	SEO	DOM	18S.31E.12.314112	3761.00	YT	18	710	0	68					0
MAXWELL OIL CO	520	TRC	65/12/18	SEO	SRO	18S.31E.12.41122	3770.00		24	670	0	69					0
JOHNSON BOB	400	TRC	81/10/14	SEO	NOT	18S.31E.14.22133	3731.00	TS@450	14	1422	0	0		0683		15-11728	0
JOHNSON BOB	400	TRC	85/04/10	SEO	NOT	18S.31E.14.22133	3731.00	TS@398	33	1024	0	0		0485		15-11728	0
JOHNSON BOB	400	TRC	87/01/26	SEO	OWD	18S.31E.14.22133	3731.00	TS@445	17	1520	0	69		ABDN		15-11728	0
JOHNSON BOB	400	TRC	90/09/25	SEO	NOT	18S.31E.14.22133	3731.00	TS@445	17	1000	0	0		0191		15-11728	0
JOHNSON BOB	400	TRC	90/09/25	SEO	NOT	18S.31E.14.22133	3731.00	TS@445	17	1000	0	0		0492		15-11728	0
SOUTHLAND ROYALTY CO	0		87/01/26	SEO	SRO	18S.31E.27.141424	3629.00	YT	38830	92693	0	54		0487			0
LINAM RANCH	0	TRC	65/12/08	SEO	STK	18S.32E.07.44233	3759.00	DP	19	605	0	70				25-13007	0
LINAM RANCH	0	TRC	81/09/24	SEO	STK	18S.32E.07.44233A	3759.00	DP	6	597	0	66		282		25-13007	0
NEWMONT OIL CO	270	TRC	81/09/24	SEO	DOM	18S.32E.20.14411	3740.00	TS@180	253	1205	0	70		282		25-11731	0
NEWMONT OIL CO	270	TRC	81/10/14	SEO	NOT	18S.32E.20.14411	3740.00	TS@202	226	1112	0	0		0683		15-11731	0
WILLIAMS GEORGE	64	QAL	65/12/01	SEO	STK	18S.33E.03.341333	4012.00		27	440	0	66				25-11734	0
WILLIAMS GEORGE	46	QAL	65/12/01	SEO	STK	18S.33E.14.11140	3976.00	DP	33	545	0	64				25-11740	0
	0	TRC	65/12/02	SEO	STK	18S.33E.19.14100	3815.00		80	1320	0	66	*				0
	0	TOG	76/07/02	ONR	STK	18S.33E.27.33311	0.00	DP	680	0	0	0	X	1083	P		0
TEXACO	229	TOG	65/09/15	SEO	MOD	18S.34E.01.113331	4002.00	DP	40	485	0	68					0
TEXACO	229	TOG	76/10/08	SEO	SRO	18S.34E.01.113331	4002.00	DP	303	1324	0	68					0
TEXACO	229	TOG	77/11/17	SEO	NOT	18S.34E.01.113331	4002.00	TS@205	474	1778	0	0		ABDN			0
TEXACO	229	TOG	84/11/20	SEO	SRO	18S.34E.01.113331	4002.00	DP	122	790	0	0		0485			0
TEXACO	229	TOG	84/12/13	SEO	SRO	18S.34E.01.113331	4002.00	DP	132	801	0	0		0285			0
TEXACO	229	TOG	85/02/07	SEO	SRO	18S.34E.01.113331	4002.00	DP	129	767	0	0		0385			0
TEXACO	113	TOG	77/11/17	SEO	MTU	18S.34E.01.12222	3991.00	YT	84	781	0	0				25-11744	0
TEXACO	113	TOG	84/11/27	SEO	MTU	18S.34E.01.12222	3991.00	YT	158	992	0	0		1284		25-11744	0
KERMAC POTASH CO (6-A)	240	TOG	66/01/29	SEO	EXP	18S.34E.01.123442	3993.00	JETTED	29	300	0	0	*				0
KERMAC POTASH CO (7-A)	230	TOG	66/01/29	SEO	EXP	18S.34E.01.12433	3993.00	JETTED	29	535	0	0	*				0
TEXACO	135	TOG	77/11/18	SEO	DOM	18S.34E.01.233212	3991.00	TS135	81	577	0	0		ABDN			0
	0	TOG	65/10/27	SEO	EXP	18S.34E.02.124121	0.00	JETTED	32	0	0	0			P		0
	0	TOG	65/11/04	SEO	EXP	18S.34E.02.124414	0.00	JETTED	34	0	0	0			P		0

SURFACE OWNER

U. S. A.
Carlsbad Resource Area
P. O. Box 1778
Carlsbad, NM 88220

OFFSET OPERATORS

18S-32E

Sec. 21	P-R-O Management Inc. 4400 North Central Expressway Dallas, TX 75231
Sec. 22	Murjo Oil & Royalty Company P. O. Box 121818 Fort Worth, TX 76121-1818
Sec. 27 & 28	Mewbourne Oil Company P. O. Box 7698 Tyler, TX 75711

GRSB
P 143 463 112

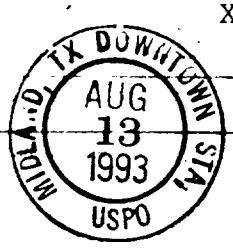
USA/CARLSBAD RESOURCE AREA

P O BOX 1778

CARLSBAD NM 88220

x 1.21
x 1.00

x 1.00



x 3.21

PS Form 3800, Mar. 1988

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
USA
CARLSBAD RESOURCE AREA
P O BOX 1778
CARLSBAD NM 88220

4. Article Number
P 143 463 112

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

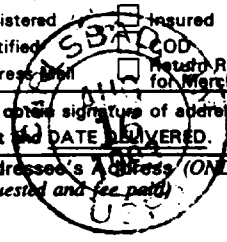
Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Address
X

6. Signature — Agent
X

7. Date of Delivery

8. Addressee's Address *(ONLY if requested and fee paid)*



PS Form 3811, Mar. 1988 ★ U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
MEWBOURNE OIL CO
P O BOX 7698
TYLER TX 75711

4. Article Number
P 143 463 115

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Address
X

6. Signature — Agent
X Maureen Johnson

7. Date of Delivery
5-17-93

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form 3811, Mar. 1988 ★ U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

GRSB
P 143 463 115

RECEIPT FOR CERTIFIED MAIL

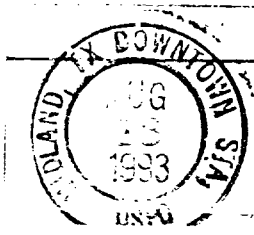
MEWBOURNE OIL CO

P O BOX 7698

TYLER TX 75711

x 1.21
x 1.00

x 1.00



x 3.21

PS Form 3800, Jun

GRSB
P 143 463 114

MURJO OIL & ROYALTY CO
P O BOX 121818
FT WORTH TX 76121-1818

x 1.21
x 1.00

x 1.00

MIDLAND, TX DOWNTOWN STA
AUG 13 1993
USPO

x 3.21

PS Form 3800, Jun

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
MURJO OIL & ROYALTY CO
P O BOX 121818
FT WORTH TX 76121-1818

4. Article Number
P 143 463 114

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Address
X

6. Signature – Agent
X

7. Date of Delivery
8-17-93

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form **3811**, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:
PRO MANAGEMENT INC
9400 N CENTRAL EXPWY
LB 158, STE 1313
DALLAS TX 75231

4. Article Number
P 567 722 881

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Address
X

6. Signature – Agent
X

7. Date of Delivery
8-24-93

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form **3811**, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

GRSB
P-567 722 881

PRO MANAGEMENT INC
9400 N CENT EXPW LB 158
STE 1313
DALLAS TX 75231

x 1.21
x 1.00

x 1.00

MIDLAND, TX DOWNTOWN STA
AUG 24 1993
USPO

x 3.21

PS Form 3800, Jun

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 _____

_____ weeks.

Beginning with the issue dated

August 4, , 19 93

and ending with the issue dated

August 4 , 19 93

Kathi Bearden
General Manager

Sworn and subscribed to before

me this 6 day of

August , 19 93

Charlene Perrin
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.

LEGAL NOTICE
August 4, 1993
NOTICE OF SECONDARY WATER INJECT WELL

Anadarko Petroleum Corporation, P.O. Drawer 130, Artesia, New Mexico 88210, phone 505/677-2411, contact person Mr. Jerry E. Buckles, has made application for a secondary recovery water injection well with the NMOCD. The currently oil producing Bennett Federal No. 3 is located 330 feet from the south line and 2310 feet from the west line of Section 22, Township 18 South, Range 32 East, Lea County, New Mexico. Injection will be into the Queen zone through perforations 3872 feet to 4145 feet. Maximum rate and pressures are anticipated to be 300 BWPD and 774 PSI. Interested parties must file objections or a request for a hearing with the New Mexico Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87504 within fifteen (15) days of this notice.

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 Hoobs, 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 28, 1993
and ending with the issue dated

July 28, 1993

Kathi Bearden
General Manager
Sworn and subscribed to before

me this 2 day of

August, 1993

Charlene Perrin
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.

LEGAL NOTICE
July 28, 1993
NOTICE OF SECONDARY RECOVERY WATER INJECTION WELL

Anadarko Petroleum Corporation, P.O. Drawer 130, Artesia, New Mexico 88210, phone 505/677-2411, contact person Mr Jerry E Buckles, has made application for a secondary recovery water injection well with the NMOCD. The currently shut in Bennett Federal No. 5 is located 2310 feet from the south line and 660 feet from the west line of Section 22, Township 18 South, Range 32 East, Lea County, New Mexico. Injection will be into the Queen zone through perforations 3842 feet to 4110 feet. Maximum rate and pressures are anticipated to be 300 BWPD and 768 PSI. Interested parties must file objections or a request for a hearing with the New Mexico Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87504 within fifteen (15) days of this notice.