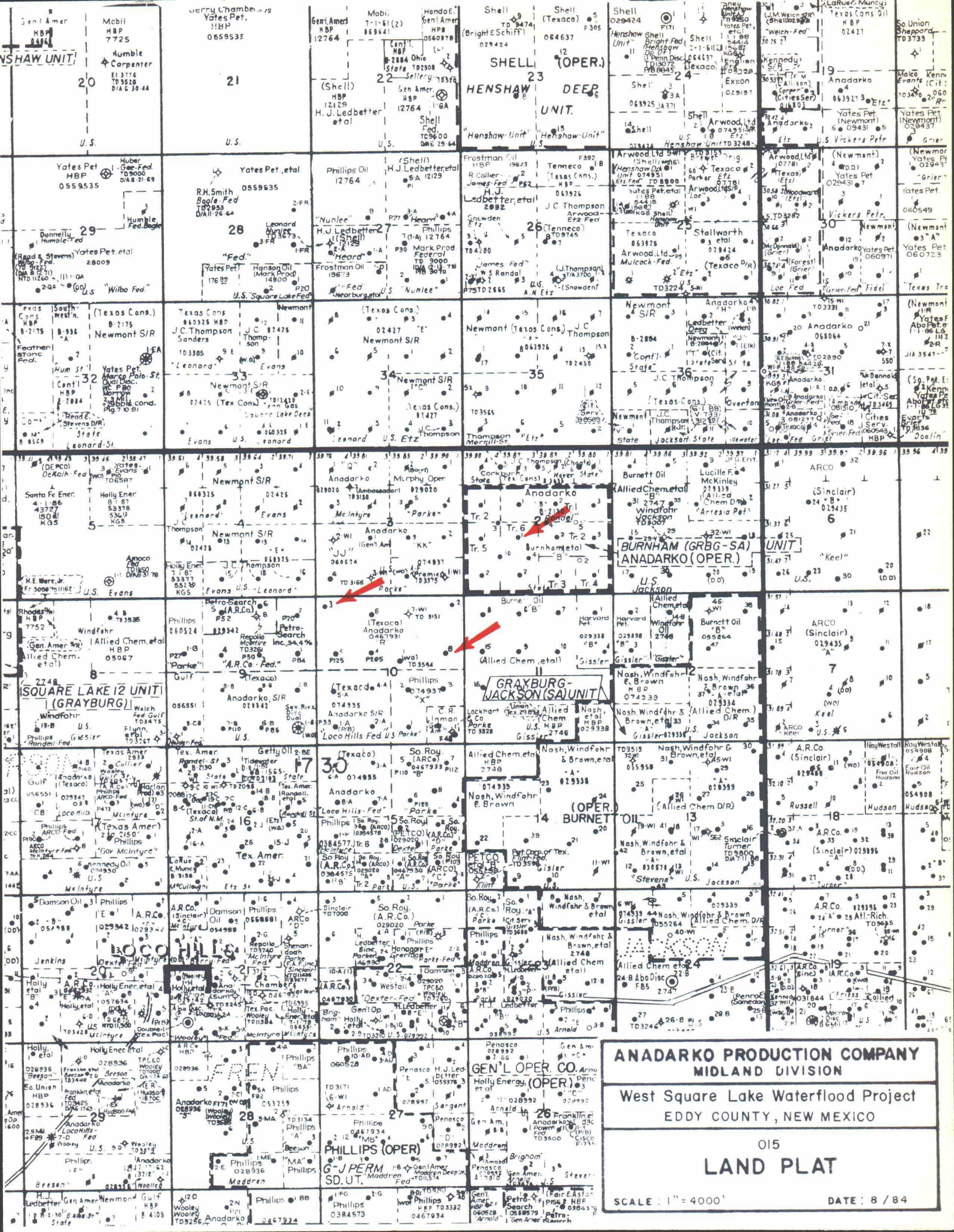
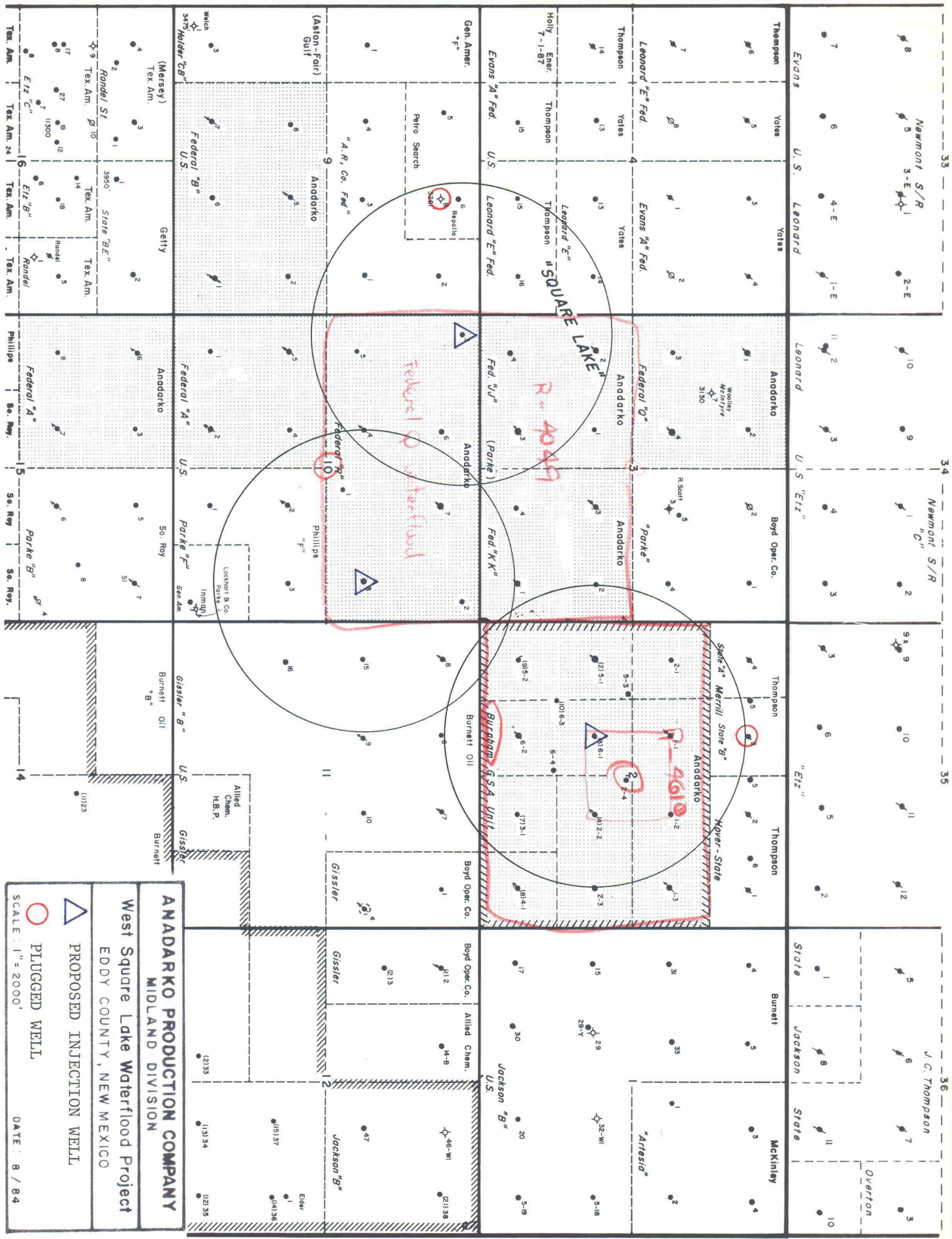






ANADARKO PRODUCTION COMPANY
MIDLAND DIVISION

West Square Lake Waterflood Project
EDDY COUNTY, NEW MEXICO

PROPOSED INJECTION WELL

PLUGGED WELL

SCALE: 1" = 2000'
DATE: 8 / 84

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING.

3
8349 8380
CASE No. 4409
Order No. R-4049

APPLICATION OF ANADARKO PRODUCTION
COMPANY FOR TWO WATERFLOOD EXPANSIONS,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:30 a.m. on August 19, 1970,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 2nd day of November, 1970, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Anadarko Production Company, seeks
permission to expand the waterflood operation it is presently
conducting on its Federal "Q" Lease, Section 3, Township 17 South,
Range 30 East, NMPM, Square Lake Pool, Eddy County, New Mexico,
by the conversion to water injection of three wells in Units J,
L, and P of said Section 3 on its Federal "JJ" and Federal "KK"
Leases.

(3) That the applicant further seeks an administrative
procedure whereby it may further expand its waterflood opera-
tions to permit the institution of a waterflood project on
its "R" Lease in Section 10 of said Township and Range, if and
when an injection well is completed on said lease.

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

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

(6) That the subject application should be approved and the projects should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations; provided however, that the showing of well response as required by Rule 701 E-5 should not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

IT IS THEREFORE ORDERED:

(1) That the applicant, Anadarko Production Company, is hereby authorized to institute the following additional waterflood projects in the Square Lake Pool by the injection of water into the Grayburg and San Andres formations through the following-described wells in Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico:

Anadarko Square Lake JJ Waterflood Project

Injection Well:

Anadarko Federal "JJ" Well No. 2, (to be drilled), Unit L, Section 3

Anadarko Square Lake KK Waterflood Project

Injection Wells:

Anadarko Federal "KK" Well No. 1, (to be drilled), Unit P, Section 3

Anadarko Federal "KK" Well No. 3, Unit J, Section 3

(2) That the Secretary-Director of the Commission may approve the institution of an additional Square Lake waterflood

-3-

CASE No. 4409

Order No. R-4049

project on the applicant's "R" Lease located in Section 10, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, upon the completion of a water injection well for said pool on said lease.

(3) That the above-described waterflood projects shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve expansion of the above-described waterflood projects to include such additional injection wells in the areas of said projects as may be necessary to complete efficient injection patterns and that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

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

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

ALEX J. ARMIJO, Member

A. L. PORTER, Jr., Member & Secretary

S E A L

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

4
8379 + 8380
CASE NO. 5032
Order No. R-4610

APPLICATION OF ANADARKO PRODUCTION
COMPANY FOR A WATERFLOOD PROJECT,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on July 25, 1973,
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 24th day of August, 1973, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Anadarko Production Company, seeks
authority to institute a waterflood project in the Burnham GSA
Unit Area, Square Lake Pool, by the injection of water into the
Grayburg-San Andres formation through six injection wells in
Section 2, Township 17 South, Range 30 East, NMPM, Eddy County,
New Mexico.

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

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

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

Case No. 5032
Order No. R-4610

(6) That the applicant proposes to treat the water to be injected to minimize corrosion.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Anadarko Production Company, is hereby authorized to institute a waterflood project in the Burnham GSA Unit Area, Square Lake Pool, by the injection of water into the Grayburg-San Andres formation through the following-described wells in Section 2, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico:

Tract 1	-	Well No. 1	-	Unit F
Tract 1	-	Well No. 3	-	Unit H
Tract 2	-	Well No. 2	-	Unit J
Tract 4	-	Well No. 1	-	Unit P
Tract 5	-	Well No. 1	-	Unit L
Tract 6	-	Well No. 2	-	Unit N

(2) That prior to initial injection of water into any of said injection wells, the operator shall obtain the approval of the supervisor of the Commission's Artesia district office as to the casing and cementing of said well.

(3) That injection of treated water into each of said wells shall be through tubing, set in a packer which shall be located as near as practicable to the uppermost perforation, or in the case of open-hole completions, as near as practicable to the casing-shoe; that the casing-tubing annulus of each injection well shall be loaded with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

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

(5) That the subject waterflood project is hereby designated the Anadarko Burnham GSA Unit Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

-3-

Case No. 5032
Order No. R-4610

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

(7) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

A. L. PORTER, Jr., Member & Secretary

S E A L

dr/

PROPOSED OPERATING DATA

Anadarko - Burnham GSA TR 6 No.1

Anadarko - Federal "R" No.3

Anadarko - Federal "R" No.8

Square Lake Field, Eddy County, New Mexico

- Average Injection Volume - 250 BWPD/well
- Injection Pressure - Within limits determined by NMOCD to be safe. (0.2 psi/gal)
- Type of System - Closed
- Water Source - Produced water plus fresh makeup water
- Injection Zones - Grayburg sands - 2700-3000'
Very fine to fine grained, sub-rounded,
Sub-arkosic w/dolomitic cement.
Lovington sand (San Andres), 3000'-3150'
same as Grayburg w/poorer sorting and
more clay.
- Fresh Water Sources - Rustler, surface to 500'.
- Water Analyses - Attached
- Stimulation - Additional stimulation will consist of
small to medium sized acid jobs.

8379 + 8380



Compensated A
MAR

FILE NO.

COMPANY ANADARKO

WELL FEDERAL "R" NO. 3

FIELD SQUARE LAKE

COUNTY EDDY STATE NE

LOCATION: 330' FN EW

SEC 10 TWP 17-S RGE 30E

Permanent Datum G L Elev. 3700

Log Measured from G L, 0 Ft. Above Permanent Datum

Drilling Measured from KB

Date 3/22/77

Run No. ONE

Type Log N/E N

Depth-Driller 2982

Depth-Logger 2978

Bottom Logged Interval 2976

Top Logged Interval 970

Type Fluid in Hole WATER

Salinity Ppm Cl. —

Density Lb./Gal. —

Level —

Max. Rec. Temp. Deg. F —

Ocr. Rig Time —

Equip. No. and Location 6124 Hobbs

Recorded By JACKSON

Witnessed By Buckles-English

Run Bore Hole Record Casing Record

No. Bit From To Size Wgt. From

1 5 1/2 500

4 1/2

FILE COPY

DO NOT REMOVE

ADD ANY MATERIAL

FOLDER



Compensated Neutron GAMMA RAY

COMPANY ANADARKO PRODUCTION COMPANY

WELL FEDERAL "R" NO. 8

FIELD SQUARE LAKE

COUNTY EDDY STATE NEW MEXICO

LOCATION:

1980' FNL & 660' FEL

Other Services

EC 10 TWP 17-S RGE 30-E

GROUND LEVEL Elev. 3729

Elevations:

G. L. 0 Ft. Above Permanent Datum

KB 3737

G. L.

DF
GL 3729

9-18-76

ONE

CN/GR

3200 KB

3163

3161

1160

WATER

-

-

-

86

3 HOURS

6124 HOBBS

MEADOWS

ENGLISH

2600

Record

Casing Record

To	Size	Wgt.	From	To
480	8 5/8"	24	SURF.	473 KB
3200	4 1/2"	10.5	SURF.	3200 KB



BHC
Acoustilog

FILE NO.

6
8376480

COMPANY ANADARKO PRODUCTION COMPA

WELL BURNHAM NO. 6-1

FIELD SQUARE LAKE

COUNTY EDDY STATE NEW MI

LOCATION:

1980' FSL & 1980' FWL

Off
DUAL

SEC 2 TWP 17-S RGE 30-E

Permanent Datum GROUND LEVEL Elev. 3744

Log Measured from G. L. 0 Ft. Above Permanent Datum

Drilling Measured from G. L.

El
KB
DF
GL

Date	9-23-72			
Run No.	ONE			
Depth—Driller	3199			
Depth—Logger	3196			
Bottom Logged Interval	3194			
Top Logged Interval	SURFACE			
Casing—Driller	7" @ 2400	5 1/2 @ 2257	2390 @	
Casing—Logger	?	2257	2390	
Bit Size	4 3/4"			
Type Fluid in Hole	WATER			
Density and Viscosity				
pH and Fluid Loss		cc	cc	cc
Source of Sample				
Rm @ Meas. Temp.	@ °F	@ °F	@ °F	
Rmf @ Meas. Temp.	@ °F	@ °F	@ °F	
Rmc @ Meas. Temp.	@ °F	@ °F	@ °F	
Source of Rmf and Rmc				
Rm @ BHT	@ °F	@ °F	@ °F	
Time Since Circ.				
Max. Rec. Temp. Deg. F.	°F	°F	°F	
Equip. No. and Location	6028 HOBBS			
Recorded By	MC ATEE			
Witnessed By	MR. BRYANT			

OPERATOR, LEASE AND WELL	LOCATION	COMPLETION DATE	TOTAL DEPTH	STATUS	CASING AND CEMENT DATA	COMPLETION DATA
Anadarko Federal JJ No.2	1980'FS & 660'FWL L-3-17S-30E	11/16/70	3111	Active WIW	8-5/8" @ 400' w/200 sx 4-1/2" @ 3100' w/250 sx	Perfs 2846-50, 72-78, 2940-46, 3074-84 Treated w/1000 gal mud acid
Anadarko Federal JJ No.3	660'FS & 1980'FWL N-3-17S-30E	2/7/73	3166	Active WIW	8-5/8" @ 459' w/250 sx 4-1/2" @ 3163' w/450 sx	Perfs 2820-26, 56-68, 76-82, 92-96, 2958-68 Treated w/ 1500 gal 15% HCL
Anadarko Federal JJ No.4	660'FS & 560'FWL M-3-17S-30E	10/12/77	3140	Producing	8-5/8" @ 509' w/300 sx 4-1/2" @ 3139' w/400 sx	Perfs 2796-2806, 2830-38, 52-60, 64-72, 2930-38, 2944-52 Fraced w/46,500 gal & 46,500# SD
Anadarko Federal R No.3	330' FN&WL D-3-17S-30E	2/6/57	2985	Producing	8-5/8" @ 510' w/75 sx 5-1/2" @ 2873' w/100 sx 4-1/2" liner 2859-2985' w/40 sx	Perfs 2782-90, 2814-52, 2916-36 Fraced w/93,000 gal acid & water & 88,000# SD
Anadarko Federal R No.5	2140'FN & 620'FWL E-3-17S-30E	6/9/72	2954	Producing	8-5/8" @ 494' w/150 sx 5-1/2" @ 2959' w/450 sx	Perfs 2761-66, 2802-10, 21-26, 35-40, 2904-09, 14-18 Fraced w/140,000 gal & 140,000# SD
Anadarko Federal R No.6	660'FN & 1980'FWL C-3-17S-30E	3/15/77	3195	Producing	8-5/8" @ 509' w/200 sx 4-1/2" @ 3188' w/450 sx	Perfs 2778-88, 2830-36, 64-77, 86-91, 2902-08, 70-78, 84-88 Fraced w/70,000 gal & 84,000# SD
Petro Search Arco Fed. No.1	1980'FN & 660'FEL H-9-17S-30E	10/24/73	3505	Producing	8-5/8" @ 463' w/100 sx 4-1/2" @ 3495' w/350 sx	Perfs 3024-32 Fraced w/32,000 gal & 22,000# SD
Petro Search Arco Fed. No.2	660' FN&EL A-9-17S-30E	3/8/74	3100	Producing	8-5/8" @ 473' w/100 sx 4-1/2" @ 2973' w/500 sx	Perfs 2789-2896 Fraced w/ 70,000 gal & 78,000# SD
Petro Search Arco Fed. No.6	330'FN & 1980'FEL B-9-17S-30E	1/24/75	3100	Producing	8-5/8" @ 492' w/100 sx 4-1/2" @ 3099' w/500 sx	Perfs 2717-25, 98-2810, 32-38, 2902-10, 3032-36, 38-43 Fraced w/130,000 gal & 136,000# SD
Repollo Oil Co. McIntyre No.8-D	660'FN & 1980'FEL B-9-17S-30E	9/17/46	3261	P&A	10-3/4" @ 602' w/100 sx-pulled 495' 7" @ 2764' w/125 sx-pulled 1835'	Plugged and abandoned 9/12/46. Plugs @ 2768, 1835, 602, 495 & 495
Yates Leonard E No.14	1980'FS & 660'FEL I-4-17S-30E	4/22/46	3121	Producing	10-3/4" @ 490' w/50 sx 7" @ 2790' w/100 sx	

BEFORE EXAMINER CUNTANIA

64L2960-312YALICAL DIVISION

EXHIBIT NO. 7

CASE NO. 8379-80

OPERATOR, LEASE AND WELL	LOCATION	COMPLETION DATE	TOTAL DEPTH	STATUS	CASING AND CEMENT DATA		COMPLETION DATA
Yates Leonard E No.15	660'FS & 1980'FEL O-4-17S-30E	5/15/46	3076	Producing	10" @ 495' w/50 sx		OH 2750-3076
					5-1/2" @ 2750' w/100 sx		
Yates Leonard E No.16	660' FS&EL P-4-17S-30E	5/16/46	3125	Producing	8-5/8" @ 490' w/50 sx		OH 2750-3125
					5-1/2" @ 2750' w/100 sx		

OPERATOR, LEASE AND WELL	LOCATION	COMPLETION DATE	TOTAL DEPTH	STATUS	CASING AND CEMENT DATA	COMPLETION DATA
Anadarko Federal KK No.1	660' FS&EL P-3-17S-30E	11/15/70	3200	Active WIW	8-5/8" @ 407' w/200 sx 4-1/2" @ 3185' w/250 sx	Perfs 2910-20, 30-36, 44-50, 3010-16, 3154-66 Treated w/1,000 gal 15% HCL
Anadarko Federal R No.1	2310' FN&EL G-10-17S-30E	6/24/48 Reentered 6/5/72	3584	Producing	8-5/8" @ 496' w/50 sx-404 ft.pulled 7" @ 490' w/150 sx 4-1/2" @ 3317' w/450 sx	Re-entered P&A well, drilled to 3584 & set csg Perfs 2716-20, 32-36, 41-48, 86-91, 2824-32, 44-47, 56-62, 2980-90, 3050-56, 74-78, 84-88, 3206-14 Fraced w/186,000 gal acid & water & 155,000# SD
Anadarko Federal R No.2	330' FN&EL A-10-17S-30E	1/16/56	3246 PB 3075	Producing	8-5/8" @ 527' w/75 sx 7" liner 2238-2336' w/450 sx 5-1/2" @ 3044' w/50 sx	Perfs 2890-2900 Fraced w/400 barrels oil & 10,000# SD OH 3044-3248
Anadarko Federal R No.4	1980' FN&WL F-10-17S-30E	6/8/72	2960	Active WIW	8-5/8" @ 494' w/150 sx 5-1/2" @ 2959' w/450 sx	Perfs 2825-28, 30-36, 46-50, 59-63, 2927-31 Fraced w/ 140,000 gal & 140,000# SD Perfs 2715-18, 32-36, 43-46, 90-94, 2884-88 Treated new perfs w/600 gal 15% HCL
Anadarko Federal R No.7	660'FN & 1980'FEL B-10-17S-30E	2/10/73	3151	Active WIW	8-5/8" @ 476' w/250 sx 4-1/2" @ 3150' w/450 sx	Perfs 2780-84, 88-92, 2836-42, 74-84, 94-98, 2908-12, 26-32 Treated w/1,500 gal 15% HCL
Anadarko Federal R No.8	1980'FN & 660'FEL H-10-17S-30E	11/3/76	3200	Producing	8-5/8" @ 474' w/150 sx 4-1/2" @ 3200' w/350 sx	Perfs 2826-2900, 2965-89, 3090-3120 Fraced w/110,000 gal & 88,500# SD
Burnett Oil Co. Gissler B No.8	660' FN&WL D-11-17S-30E	9/20/46	3266 PB 3057	Active WIW	8-5/8" @ 531' w/50 sx 5-1/2" @ 2800' w/100 sx	OH 2800-3057
Burnett Oil Co. Gissler B No.9	1980' FN&WL F-11-17S-30E	12/15/47	3082	Active WIW	8-5/8" @ 528' 5-1/2" @ 2850'	OH 2850-3082

OPERATOR, LEASE AND WELL	LOCATION	COMPLETION		STATUS	CASING AND CEMENT DATA		COMPLETION DATA
		DATE	TOTAL DEPTH				
Burnett Oil Co. Gissler B No.15	1980'FN & 660'FWL E-11-17S-30E	10/14/77	3190	Producing	8-5/8" @ 431' w/275 sx 4-1/2" @ 3190' w/500 sx		Perfs 2919-21,29,31,79,81,91, 94,98, 3002,4,6,10,13,16,3022, 24, 3128,32,36,40,48,52,56,60 Fraced w/57,000 gal & 59,000# SD
Burnett Oil Co. Gissler B No.16	1980'FN & 660'FWL L-11-17S-30E	6/22/82	3206	Producing	8-5/8" @ 333' w/250 sx 5-1/2" @ 3205' w/800 sx		Perfs 3011-13, 25-27, 29-32, 38-45, 93-3100, 3110-13, 3116-22 Fraced w/29,500 gal & 53,000# SD
Phillips Parke F No.2	1980' FS&EL J-10-17S-30E	4/18/72	3414	Active WIW	8-5/8" @ 421' w/100 sx 4-1/2" @ 3414' w/450 sx		Perfs 2718-22, 41-44, 2832-38, 2930-34, 3082-89, 3218-20, 3296- 3300 Fraced w/115,000 gal & 115,000# SD
Phillips Parke F No.3	1980'FS & 660'FEL I-10-17S-30E	6/10/72	3400 PB 3193	Producing	8-5/8" @ 428' w/100 sx 4-1/2" @ 3199' w/450 sx		Perfs 2737-40, 54-60, 2858-62, 80-84, 2952-57, 3010-14, 3104- 3112 Fraced w/120,000 gal & 120,000# SD

OPERATOR, LEASE AND WELL	LOCATION	COMPLETION DATE	TOTAL DEPTH	STATUS	CASING AND CEMENT DATA	COMPLETION DATA
Anadarko Burnham GB-SA Unit Tract 1 No.1	1980' FN&WL F-2-17S-30E	1/1/43	3211	Active WIW	8-5/8" @ 592' w/50 sx 7" @ 2436' w/150 sx 5-1/2" liner 2400-3045' 4-1/2" liner 2375-3196'	Perfs 2932-40; 3026-34; 3184-92 Fraced w/75,000 gal & 60,000# SD when liner was run
Anadarko Burnham GB-SA Unit Tract 1 No.2	1980' FN&EL G-2-17S-30E	6/30/43	3198	Producing	8-5/8" @ 566' w/50 sx 7" @ 2445' w/100 sx 4-1/2" liner 2352-3198' w/350 sx	Perfs 2804-08; 80-88; 2912-22, 36-40, 46-52, 3014-24, 3170-78 Shot initially, later fraced w/ 25000 gal & 30,000# SD
Anadarko Burnham GB-SA Unit Tract 2 No.1	1980'FN & 660'FWL E-2-17S-30E	8/22/43	3060	Producing	8-5/8" @ 550' w/50 sx 7" @ 2415' w/100 sx 4-1/2" liner 2364-3059' w/200 sx 4-1/2" @ 2360' cmt circ in 7"	Perfs 2912-22, 46-50, 3008-18
Anadarko Burnham GB-SA Unit Tract 2 No.2	1980' FS&EL J-2-17S-30E	2/28/44	3092	Active WIW	8-5/8" @ 585' w/50 sx 7" @ 2438' w/100 sx 5-1/2" liner 2167-2467' w/75 sx 4" liner 2404-3092' w/125 sx	Perfs 2832-38, 86-90, 2922-30, 40-44, 58-62, 3026-40 Treated w/1500 gal 15% HCL
Anadarko Burnham GB-SA Unit Tract 2 No.3	1980'FS & 660'FEL I-2-17S-30E	10/14/44	3230	Producing	8-5/8" @ 582' w/50 sx 7" @ 2422' w/50 sx 4-1/2" liner 2379-3227' w/230 sx	Perfs 2910-14, 44-48, 50-54, 64-68, 3046-50, 54-56, 62-66 3076-80, 3198-3210 Fraced w/ 80,000 gal & 65,000# SD
Anadarko Burnham GB-SA Unit Tract 2 No.4	2630' FS&EL J-2-17S-30E	5/31/84	3245	Producing	8-5/8" @ 490' w/500 sx 5-1/2" @ 3250' w/2700 sx	Perfs 2930,32,34,36,47,63,90, 3028,30,32,54,56, 3182-92 Fraced w/35,000 gal & 38,000# SD
Anadarko Burnham GB-SA Unit Tract 3 No.1	660'FS & 1980'FEL O-2-17S-30E	3/16/45	3212	Producing	8-5/8" @ 560' w/50 sx 7" @ 2435' w/50 sx 5-1/2" @ 3126' w/100 sx	Perfs 2924-44, 3026-46, OH 3126- 3206 Shot initially, Fraced w/15,000 gal & 15,000# SD, Fraced again w/50,000 gal & 40,000# SD
Anadarko Burnham GB-SA Unit Tract 5 No.1	660'FW & 1980'FSL L-2-17S-30E	11/1/43	3220	Active WIW	8-5/8" @ 560' w/50 sx 7" @ 2415' w/100 sx 4" liner 2680-3260 w/400 sx	Perfs 2822-28, 2907-12, 26-30, 42-45, 3004-14, 55-70 Treated w/2,000 gal 15% HCL

OPERATOR, LEASE AND WELL	LOCATION	COMPLETION DATA	TOTAL DEPTH	STATUS	CASING AND CEMENT DATA	COMPLETION DATA
Anadarko Burnham GB-SA Unit Tract 5 No.2	660' FS&EL M-2-17S-30E	10/23/45	3200	Producing	8-5/8" @ 560' 7" @ 2406' w/100 sx 4-1/2" liner 2338-3200 w/300 sx	Perfs 2928-34, 46-50, 62-66, 3006-14, 3178-88 Shot initially Fraced w/60,000 gal & 31,000# SD
Anadarko Burnham GB-SA Unit Tract 5 No.3	2630'FS & 1200'FWL L-2-17S-30E	6/4/84	3265	Producing	8-5/8" @ 476' w/500 sx 5-1/2" @ 3272' w/1,000 sx	Perfs 2904-08, 41, 43-45, 70-73, 78,80, 3000-02, 37-42, 3189-3200 Fraced w/41,000 gal & 41,500# SD
Anadarko Burnham GB-SA Unit Tract 6 No.1	1980' FS&WL K-2-17S-30E	4/22/44	3224	Producing	8-5/8" @ 565' w/50 sx 7" @ 2418' w/100 sx 5-1/2" liner 2395-2553 w/35 sx 4-1/2" liner 2201-3222 w/175 sx	Perfs 2924-32, 3026-34, 3182-90 Originally shot later fraced w/ 75,000 gal & 60,000# SD
Anadarko Burnham GB-SA Unit Tract 6 No.2	660'FS & 1980'FWL N-2-17S-30E	12/18/44	3197	Active WIW	8-5/8" @ 560' w/50 sx 7" @ 2450' w/50 sx 4-1/2" liner 2334-3187' w/400 sx	Perfs 2930-40, 54-58, 70-74, 3032-42, 3189-92 Treated w/ 1250 gal 15% HCL
Anadarko Burnham GB-SA Unit Tract 6 No.3	1345' FS&WL K-2-17S-30E	10/3/54	3211	Producing	8-5/8" @ 500' w/25 sx 7" @ 2400' w/40 sx-Prob pulled from 2280 5-1/2" @ 3150' w/100 sx	Perfs 2935-43, 53-57, 66-76, 3036-51; OH 3150-3211 Fraced w/47,000 gal & 34,000# SD
Anadarko Burnham GB-SA Unit Tract 6 No.4	1310'FS & 2630'FWL N-2-17S-30E	5/28/84	3250	Producing	8-5/8" @ 482' w/500 sx 5-1/2" @ 3250' w/950 sx	Perfs 2928-34, 47,62,66,69, 3034- 38, 3176-78, 83-86 Fraced w/ 37,000 gal & 40,000# SD
Anadarko Federal KK No.2	1980'FS & 660'FEL I-3-17S-30E	10/30/43	3050	Producing	10" @ 565' w/50 sx 7" @ 2860' w/75 sx 5-1/2" liner 2781-3049' w/100 sx	Perfs 2910-24, 3012-20 Fraced w/50,000 gal & 40,000# SD
Burnett Oil Co. Gissler B No.6	660'FN & 1980'FWL C-11-17S-30E	7/31/45	3048	Producing	8-5/8" @ 522' 7" @ 2380' 5-1/2" @ 2840'	No perfs given, OH 2840-3048 Shot 2934-3048
J. Cleo Thompson Merrill State No.3	660'FN & 1980'FWL C-2-17S-30E	8/23/42	3060	P&A	8-5/8" @ 580' w/100 sx 7" @ 2390' w/50 sx 369' pulled	P&A 1948 by Texmass Petroleum

Anadarko Production Company
OPERATOR

Federal R
LEASE

3
WELL NO.

330' FNL & 330' FWL
FOOTAGE LOCATION

10
SECTION

17S
TOWNSHIP

30E
RANGE

Schematic

Tabular Data

Surface Casing

Size 8-5/8" Set At 510 Cemented with 75 sxs

TOC feet determined by

Hole Size

Intermediate or Long String

Size 5-1/2" Set At 2873 Cemented with 100 sxs

TOC 1250 feet determined by Calc (Mid salt section)

Hole Size 6-1/4 (max)

Liner

Size 4-1/2" From 2859-2985 Cemented with 40 sxs

TOC 2859 feet determined by Top Liner-cmt circ.

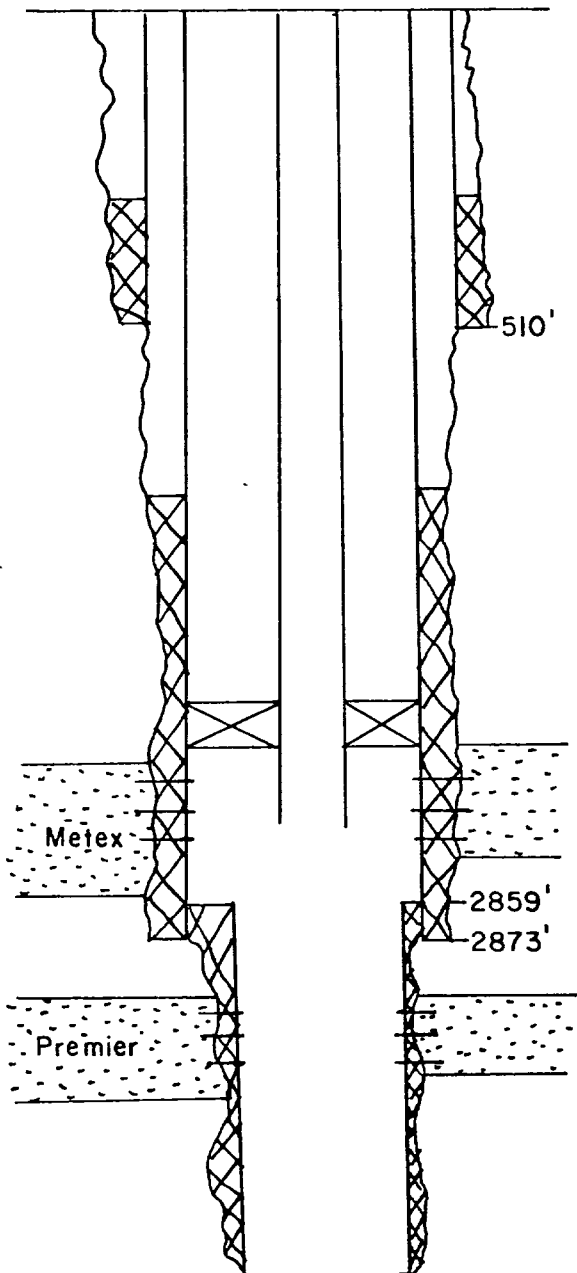
Hole Size 4-3/4"

Total Depth 2985

Injection Interval	Zone	Perfs or O.H.
2916-36	Premier	Perfs
2782-90	Metex	Perfs
2814-52		

Completion Date 2/6/57

Rowland Wooley - Parke H #3
Original Operator and Well Name



TD 2985

Tubing Size 2-3/8" lined with Salta Plastic set in a
(material)
4-1/2" SL arrow tension packer at about 2900 feet.

Other Data

- Name of the injection formation Grayburg-San Andres
- Name of field or Pool (if applicable) Square Lake
- Is this a new well drilled for injection? Yes X No
If no, for what purpose was the well originally drilled Production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sack of cement or bridge plug(s) used) No
- Give the depth of and name of any overlying and/or underlying oil or gas zones (pools) in this area. None

Anadarko Production Company
OPERATOR

Federal R
LEASE

8
WELL NO.

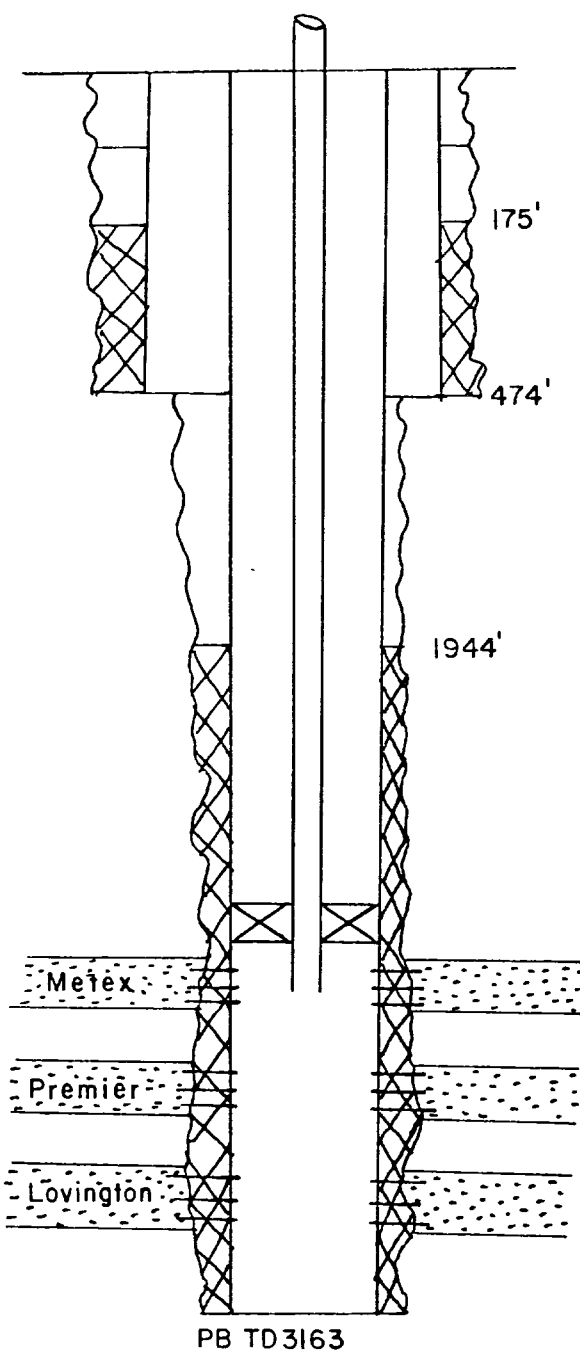
1980' FNL & 660' FEL
FOOTAGE LOCATION

10
SECTION

17S
TOWNSHIP

30E
RANGE

Schematic



Tabular Data

Surface Casing

Size 8-5/8" Set At 474 Cemented with 150 sxs

TOC 175' feet determined by calculation

Hole Size 12-1/4" (Lost circ. @ 190')

Intermediate or Long String

Size 4-1/2" Set At 3200 Cemented with 350 sxs

TOC 1944' feet determined by CBL

Hole Size 7-7/8"

Liner NONE

Size From Cemented with sxs

TOC feet determined by

Hole Size

Total Depth 3163 PBTB

Injection Interval	Zone	Perfs or O.H.
2826-2900	Metex	Perfs
2965-89	Premier	Perfs
3093-3120	Lovington	Perfs

Completion Date 11/24/76

Anadarko
Original Operator and Well Name

Tubing Size 2-3/8" lined with Salta Plastic set in a
(material)

"SL arrow tension packer at about 2800 feet.

Other Data

- Name of the injection formation Grayburg-San Andres
- Name of field or Pool (if applicable) Square Lake
- Is this a new well drilled for injection? Yes X No
If no, for what purpose was the well originally drilled Production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sack of cement or bridge plug(s) used)
Perfs 2648-53; 60-65; 76-80; 86-91; 2714-20; 52-57; 68-77 Squeezed w/400 sxs
- Give the depth of and name of any overlying and/or underlying oil or gas zones (pools) in this area. None

Anadarko Production Company
OPERATOR

Burnham GB-SA Unit
LEASE

Tract 6 #1
WELL NO.

1980' FSL & 1980' FWL
FOOTAGE LOCATION

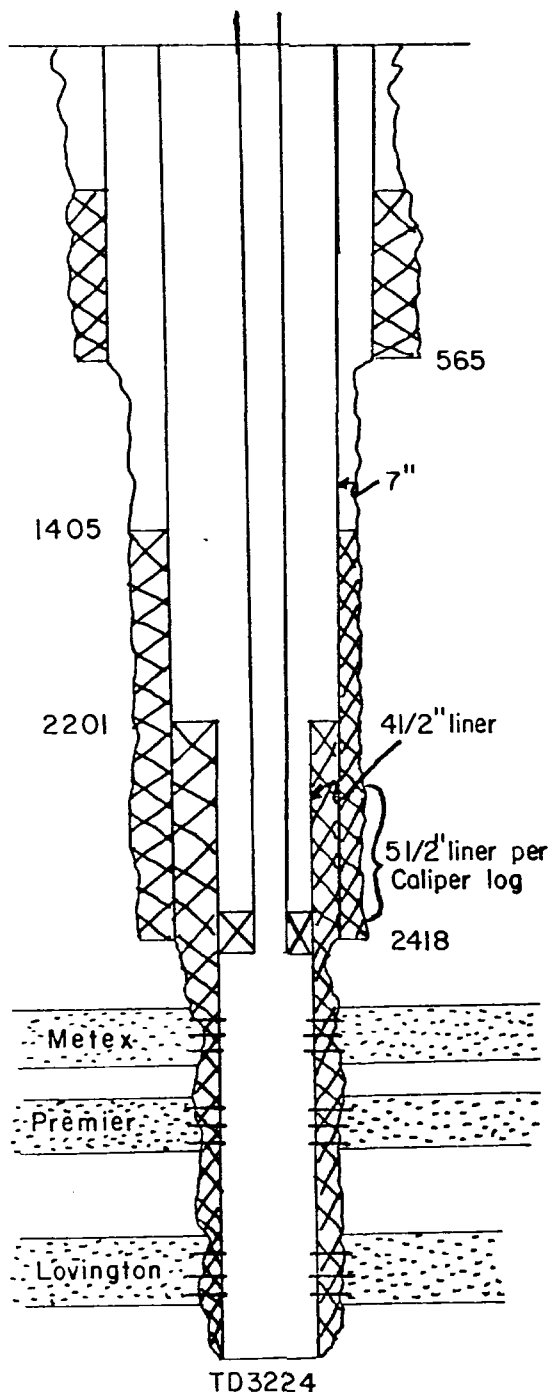
2
SECTION

17S
TOWNSHIP

30E
RANGE

Schematic

Tabular Data



Surface Casing

Size 8-5/8" Set At 565 Cemented with 50 sxs

TOC 270 feet determined by calculation

Hole Size 10"

Intermediate or Long String

Size 7" Set At 2418' Cemented with 100 sxs

TOC 1405 feet determined by Acoustic Log

Hole Size 8"

Liner *

Size 4-1/2" From 2201-3222 Cemented with 175 sxs

TOC 2201 feet determined by circulated to top of liner

Hole Size 5" max

Total Depth 3224

Injection Interval	Zone	Perfs or O.H.
2878-2962	Metex	Perfs
2985-3060	Premier	Perfs
3182-3190	Lovington	Perfs

Completion Date 4/22/44

Burnham Oil Company - State No.3

Original Operator and Well Name

*Also a 5-1/2" liner from 2395-2553 cemented with 35 sxs.
Hole size is 6-1/2" at maximum. 35 sxs should have circulated. Caliper Log shows liner from 2257-2390.

Tubing Size 2-3/8" lined with Salta Plastic set in a
(material)

SL arrow tension packer at about 2870 feet.

Other Data

- Name of the injection formation Grayburg-San Andres
- Name of field or Pool (if applicable) Square Lake
- Is this a new well drilled for injection? Yes X No
If no, for what purpose was the well originally drilled Production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sack of cement or bridge plug(s) used) No
- Give the depth of and name of any overlying and/or underlying oil or gas zones (pools) in this area. NONE

PLUGGED WELL IN AREA OF REVIEW

Repollo Oil Company
OPERATOR

W. D. McIntyre
LEASE

8-D
WELL NO.

660' FNL & 1980' FEL
FOOTAGE LOCATION

9
SECTION

17S
TOWNSHIP

30E
RANGE

Schematic

Completion Date 9/17/46

Plugging Date 9/17/46

Deepest Depth Drilled 3261

Surface Casing

Size 10-3/4" Set At 602 with 100 sxs

Left in Hole 107' (495'-602')

Size Hole Unknown

Intermediate Casing

Size 8-5/8" Set At with No sxs

Left in Hole None

Size Hole

Production Casing

Size 7" Set At 2764 with 125 sxs

Left in Hole 929' (1835-2764)

Size Hole 8" Est.

Liner None

Size From

Cemented with

Size Hole

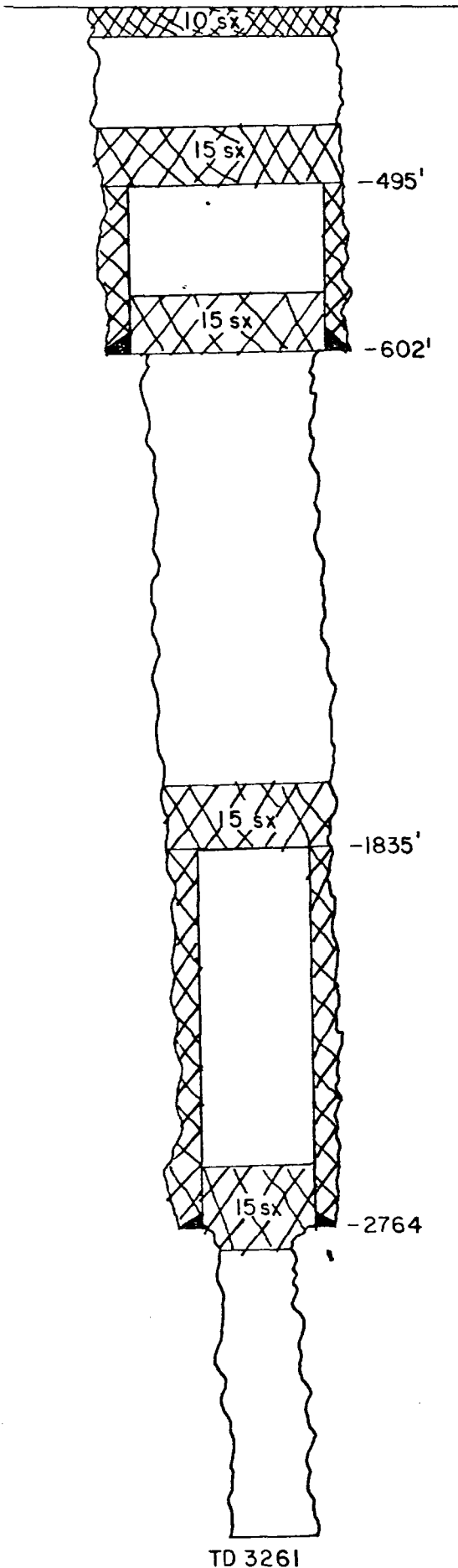
Left in Hole

Cement Plugs

Depth	Amount	At
2768	15 sxs	7" Shoe
1835	15 sxs	Top 7" Stub
602	15 sxs	Bottom 10-3/4"
495	15 sxs	Top 10-3/4" Stu
Surface	10 sxs	Surface

Producing Zones

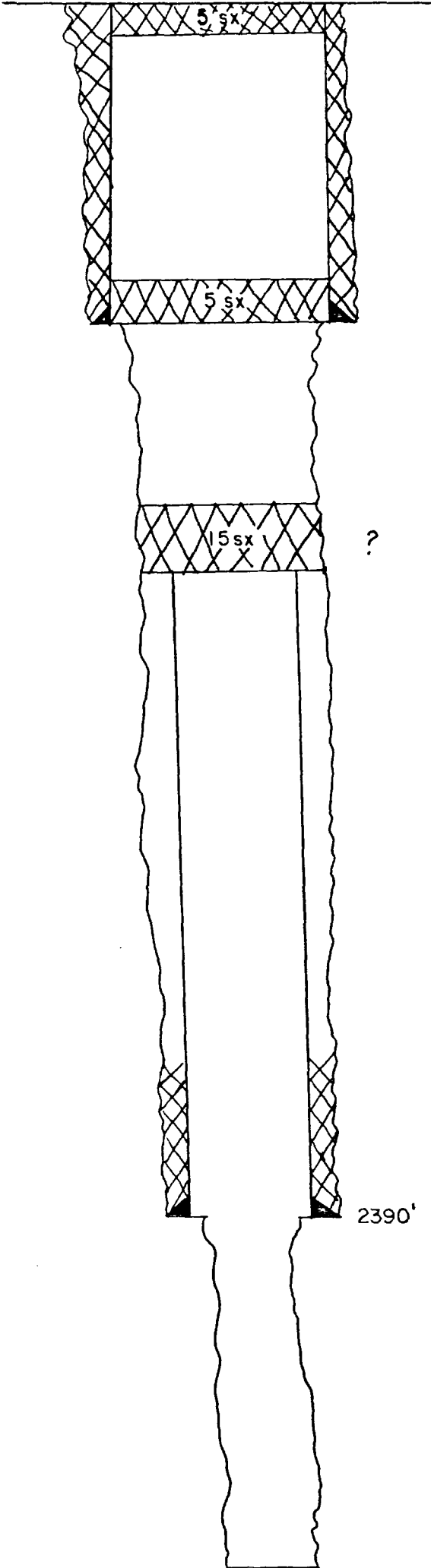
Depth	Name
NONE	



PLUGGED WELL IN AREA OF REVIEW

Texmass Petroleum	Merrill State	3
OPERATOR	LEASE	WELL NO.
660' FNL & 1980' FWL	2	17S
FOOTAGE LOCATION	SECTION	TOWNSHIP
		30E
		RANGE

Schematic



Completion Date 8/23/42

Plugging Date 9/20/48

Deepest Depth Drilled 3060

Surface Casing

Size 8-5/8" Set At 580 with 100 sxs

Left in Hole All

Size Hole Unknown

Intermediate Casing NONE

Size Set At with sxs

Left in Hole

Size Hole

Production Casing

Size 7" Set At 2390 with 50 sxs

Left in Hole 2021' (369-2390)

Size Hole Unknown

Liner NONE

Size From

Cemented with

Size Hole

Left in Hole

Cement Plugs

Depth	Amount	At
369?	15 sxs	Top 7" Stub
580	5 sxs	Bottom 8-5/8"
Surface	5 sxs	

The plugging report shows conflicting information. I believe that the top of the remaining 7" casing is below the base of the surface casing

Producing Zones

Depth	Name
2900-05	
2932-35	
2989-93	GB-SA
3026-33	

P O BOX 1468
MONAHANS, TEXAS 79756
PH 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Anadarko Production Company LABORATORY NO. 784482
P.O. Drawer 130, Artesia, NM 88210 SAMPLE RECEIVED 7-27-84
RESULTS REPORTED 8-7-84

COMPANY Anadarko Production Company LEASE As listed

FIELD OR POOL _____

SECTION _____ BLOCK _____ SURVEY _____ COUNTY _____ STATE _____

SOURCE OF SAMPLE AND DATE TAKEN: _____

- NO. 1 Windmill water - taken @ Unit Letter "B". See 24-T165-836-1A, N.M.
NO. 2 Raw water - taken from West Square Lake Plant.
NO. 3 Produced water - taken from West Square Lake Plant.
NO. 4 Produced water - taken from Burnham lease.

REMARKS: _____

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0033	1.0017	1.0469	1.0403
pH When Sampled				
pH When Received	8.13	7.50	7.74	7.72
Bicarbonate as HCO ₃	124	229	872	775
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	1,680	224	9,800	10,500
Calcium as Ca	496	70	2,520	2,800
Magnesium as Mg	107	12	851	851
Sodium and/or Potassium	225	57	21,328	16,947
Sulfate as SO ₄	1,809	41	3,249	3,508
Chloride as Cl	119	84	36,930	30,538
Iron as Fe	0.12	0.12	0.37	0.12
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	2,892	493	65,750	55,419
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	0.0	75.0	120
Resistivity, ohms/m at 77° F.	2.55	16.00	0.130	0.150
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO ₃	11	0	0	0

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

DATE RECEIVED: _____
LABORATORY NO. 8
CAGE NO. 8379-80

RESULT OF WATER ANALYSES

TO: Anadarko Production Company LABORATORY NO. 784482 (Page 2)
P.O. Drawer 130, Artesia, NM 88210 SAMPLE RECEIVED 7-27-84
RESULTS REPORTED 8-7-84

COMPANY Anadarko Production Company LEASE As listed

FIELD OR POOL _____

SECTION _____ BLOCK _____ SURVEY _____ COUNTY _____ STATE _____

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Produced water - taken from Federal "R" lease.

NO. 2 _____

NO. 3 _____

NO. 4 _____

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES				
	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0444			
pH When Sampled				
pH When Received	7.53			
Bicarbonate as HCO ₃	946			
Supersaturation as CaCO ₃				
Undersaturation as CaCO ₃				
Total Hardness as CaCO ₃	11,100			
Calcium as Ca	3,000			
Magnesium as Mg	875			
Sodium and/or Potassium	19,137			
Sulfate as SO ₄	3,231			
Chloride as Cl	34,444			
Iron as Fe	0.57			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	61,632			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	180			
Resistivity, ohms/m at 77° F.	0.138			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Carbonate, as CO ₃	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.

Martin Water Laboratories, Inc.
WATER CONSULTANTS SINCE 1953
BACTERIAL AND CHEMICAL ANALYSES

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

P.O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 or 563-1040

August 7, 1984

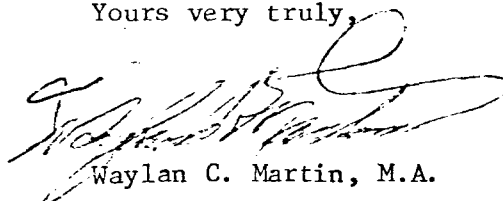
Anadarko Production Company
P.O. Drawer 130
Artesia, NM 88210

Subject: Recommendations relative to analysis #784482 (8-7-84)

Gentlemen:

We are not confident of the objective herein, but we do note that the windmill water has substantially more salts than the West Square Lake plant fresh water. However, the high salt content in the windmill water is almost entirely sulfate that is dominated by calcium sulfate (gypsum). Most of the other salts are sulfates of magnesium and sodium and/or potassium. Therefore, it is obvious that the excessive salts in the windmill water are not originating from any of the produced waters represented herein. Contact us for any additional discussion of this matter.

Yours very truly,



Waylan C. Martin, M.A.

WCM/sn

cc: Mr. Dan Kernaghan, Midland