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Attorneys at Law
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Post Office Box 2265
Santa Fe, New Mexico 87504-2265

Jason Kellahin
W. Thomas Kellahin
Karen Aubrey

Telephone 982-4285
Area Code 505

RECEIVED

SEP 24 1984

OIL CONSERVATION DIVISION

September 21, 1984

Mr. Richard L. Stamets
Acting Director
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

"Hand Delivered"

Re: Anadarko Production Company
Injection Well Applications
in the Square Lake Field
Eddy County, New Mexico

CASE 8329

Dear Mr. Stamets:

On behalf of Anadarko Production Company, I would appreciate you setting the enclosed applications for the Examiner Hearing now set for October 17, 1984:

(a) Anadarko Production Company seeks the expansion of its Federal "Q" Lease Waterflood Project, Eddy County, New Mexico, previously approved by Division Order R-4049 for the addition of two injector wells for the injection of water openhole into the Grayburg and San Andres formations, to-wit:

Federal "R" No. 3 Well, 330' FNL and 330' FWL Section 10, T17S, R30E, and

Federal "R" No. 8 Well, 1980' FNL and 660' FEL Section 10, T17S, R30E.

(b) Anadarko Production Company seeks the expansion of its Burnham GSA Unit Waterflood Project, Eddy County, New Mexico, previously approved by Division Order R-4610 for the addition of the following injector well for injection of water openhole, into the Grayburg and San Andres formations, to-wit:

Burnham GSA TR 6 No. 1 Well, 1980'FSL and 1980' FWL, Section 2, R17S, R30E.

Please find enclosed the Division Order C-108 with attachments for the three wells.

Very truly yours,

W. Thomas Kellahin

WTK:ca
Enc.

cc: Mr. Dan Kernaghan
Anadarko Production Company
P. O. Box 2497
Midland, Texas 79702

Mr. L. A. Clements - W/Enc.
Supervisor
Oil Conservation Division
P. O. Drawer DD
Artesia, New Mexico 88210

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

Case 8379

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Anadarko Production Company

Address: P. O. Box 2497, Midland, Texas 79702

Contact party: D. G. Kernaghan Phone: 915/682-1666

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? [X] yes [ ] no
If yes, give the Division order number authorizing the project R 4610 and R 4049.

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: D. G. Kernaghan Title Division Operations Manager

Signature: D. G. Kernaghan Date: September 12, 1984

* 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.

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

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;

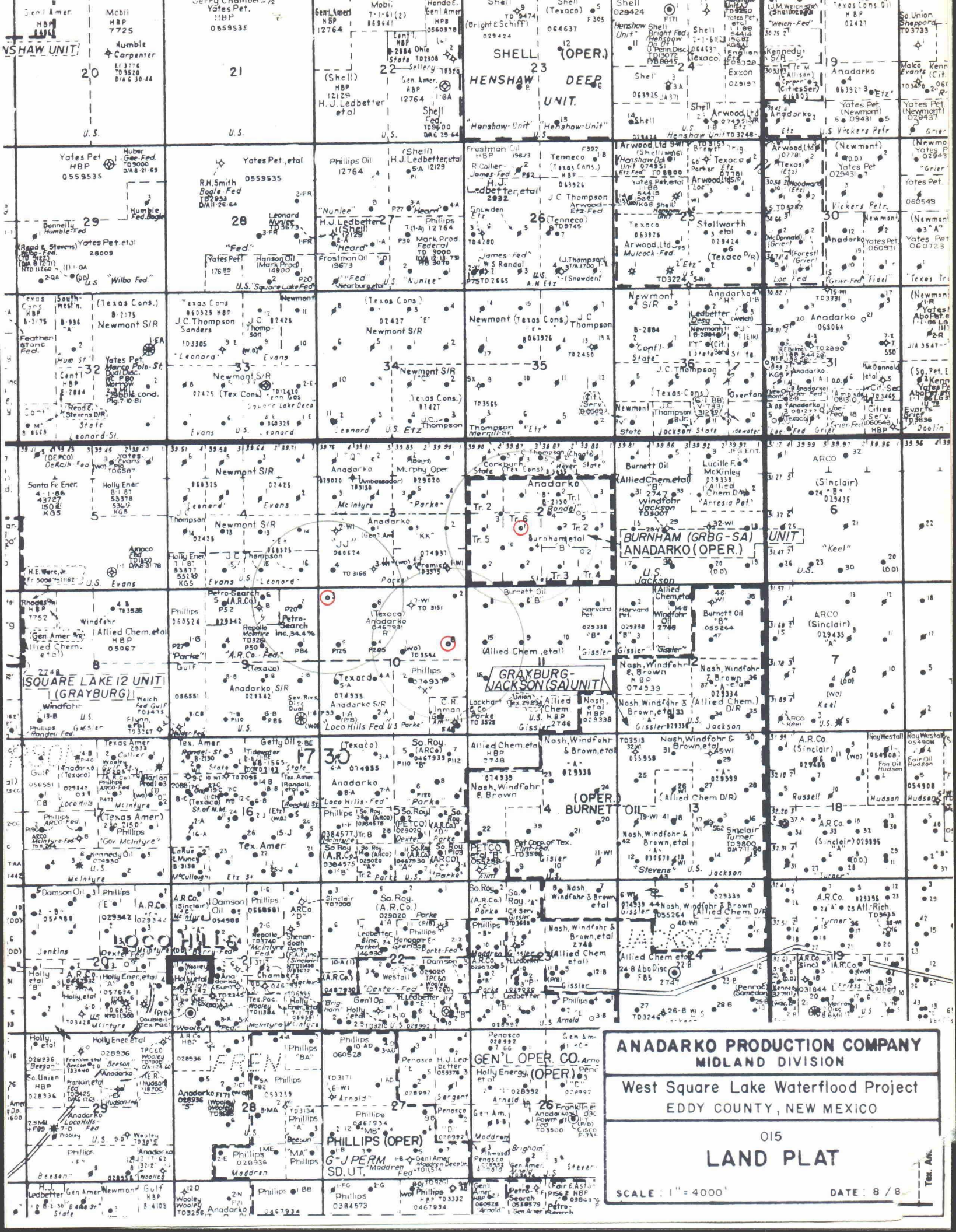
(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(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.


ANADARKO PRODUCTION COMPANY
MIDLAND DIVISION
West Square Lake Waterflood Project
EDDY COUNTY, NEW MEXICO
015
LAND PLAT
SCALE : 1" = 4000'
DATE : 8 / 8
SHELL
HENSHAW
DEEP
UNIT.
(OPER.)
SQUARE LAKE 12 UNIT
(GRAYBURG)
GRAYBURG-
JACKSON (SA) UNIT
BURNHAM (GRBG-SA)
ANADARKO (OPER.)
UNIT
LOCO HILLS
(OPER.)
BURNET
OIL
PHILLIPS (OPER)
G-J PERM
SD. U.T.
GEN'L OPER. CO.
(OPER.)
PETCO
Yates Pet
HBP
0559535
Humble
Carpenter
7725
Mobil
HBP
Shell
Fed.
TD9600
Texaco
Exxon
Arwood, Ltd
Anadarko
Stallworth
Newmont S/R
Texas Cons.
Texas Cons Oil
HBP
02427
So. Union
Sheppard
TD3733
Yates Pet
(Newmont)
029437
Grier
Huber
Gee-Fed.
TD9000
D/A8-21-69
Humble
Fed. Bogle
Donnelly
Humble-Fed
Yates Pet. etal
28009
Wilbo Fed.
Leonard
Nunley
TD3673
"Fed."
Yates Pet.
Hanson Oil
(Mark Prod)
14900
Square Lake Fed
R.H. Smith
Bogle-Fed
TD2993
D/A11-26-64
0559535
Phillips Oil
12764
H.J. Ledbetter, etal
12129
"Nunlee"
"Hearn"
Phillips
T(1-A) 12764
Mark Prod
Federal
30-0
Frostman Oil
HBP
19673
R. Collier
James-Fed
P52
Temeco
(Texas Cons.)
HBP
063926
J.C. Thompson
Arwood-Etz-Fed
H.J.
Ledbetter, etal
2932
Snowden
Etz
TD4200
James-Fed
W.S. Randal
P75 TD2665
(J. Thompson)
3/A 3700
(Snowden)
A.N. Etz
Arwood, Ltd
(Shell) WHG
Henshaw Dpl
Unit 074951
Etz Fed
TD 8900
Yates Pet. etal
544.15
Texaco
063925
Arwood, Ltd
Mulcock-Fed
Etz
TD3224
Arwood, Ltd
07781
(Texas)
(Etz)
Yates Pet
029431
Vickers Petr.
(Newmont)
Yates Pet
060971
Texas Cons.
HBP
B-2175
Newmont S/R
Feather
Stone
Fed.
Hum St.
Yates Pet.
Marco Polo-St.
Dual Disc.
WC PBD
Morrow
2.3 MI
Yates
Cont'l
HBP
B-2884
Read & Stevens D/R
Leonard-St.
Texas Cons
060325 HBP
J.C. Thompson
Sanders
TD3305
"Leonard"
Thomp-
son
Evans
Newmont
Newmont S/R
02425
(Tex Cons)
Square Lake Deep
Evans
Leonard
Texas Cons.)
02427
"E"
Newmont S/R
Newmont (Texas Cons.)
063926
J.C. Thompson
TD2450
Thompson
Merrill-Sr.
"Etz"
Texas Cons.)
01427
J.C.
Thompson
Newmont
S/R
B-2884
"Cont'l"
State
Ledbetter
Desig
Newmont
B-2884
(Cit.
Serv.
Jackson
State
Anadarko
068064
TD2390
Anadarko
TD3331
Yates
Abo Pet. e
1-1-86 Lg.
JIA 3547
Santa Fe Ener.
4-1-86
43727
1500
KGS
5
Holly Ener
8-1-87
53378
536
KGS
Amoco
Fed
TD1150
D/A8-31-78
H.E. Ware, Jr.
Fr Sooner Trail 182
Evans
Leonard
Newmont S/R
060325
02425
Evans
Holly Ener
7-1-87
53377
552
KGS
J.C. Thompson
060325
Evans
Leonard
Anadarko
029020
Murphy Oper
029020
TD3138
Ambassador
"JJ"
060524
074931
Premier
TD3375
TD 3166
Parke
Burnett Oil
(Allied Chem, etal)
"B"
2747
Windfohr
Jackson
TD9007
Lucille F.
McKinley
029339
(Allied
Chem D/R)
"Artesia Pet"
U.S.
Jackson
ARCO
(Sinclair)
029435
6
Keel
Rhodes
HBP
7752
Windfohr
Allied Chem. etal
HBP
05067
(Gen. Amer. Sys.
Allied Chem. etal)
Petro-Search
(A.R.Co)
P52
Repollo
McIntyre
TD3260
"A.R.Co.-Fed."
Petro-
Search
Inc. 34.4%
P50
P20
P84
Gulf
Anadarko, S/R
029342
056551
Sev. Rivs.
Disc
Dual
Phillips
Rondel-Fed
Gressler
Flynn,
Fed
TD3267
Phillips
060524
(Texaco)
Anadarko
046793
P125
P205
(WO)
TD3544
Burnett Oil
"B"
029338
"B"
Gissler
Harvard
Pet.
Nash, Windfohr
& Brown
HBP
074939
Nash, Windfohr &
Brown, etal
Gissler
Allied Chem, etal)
GRAYBURG-
JACKSON (SA) UNIT
Union Tex. 29.8%
Allied
Chem
HBP
2746
Lockhart
& Co
Parke
TD 3528
Nash,
etal
HBP
029338
Gissler
U.S.
Jackson
(Allied
Chem, etal)
HBP
2748
Windfohr
Oil
2748
Burnett Oil
055264
Nash, Windfohr
& Brown
074939
Nash, Windfohr &
Brown, etal
Gissler
029338
Nash, Windfohr
& Brown
029334
(Allied Chem.)
D/R
ARCO
(Sinclair)
029435
"A"
7
Keel
Texas Amer.
2933
Collier
Wooley
TD3103
Getty Oil
Tidewater
Fed
TD3565
Texas Amer.
Randall, etal
Gulf
056551
029342
Loco Hills
McIntyre
Texas Amer.
2150
Phillips
"Gov. McIntyre"
Kennedy Oil
074930
McIntyre
Tex. Amer.
Rondel-St.
State
Anadarko
(Texaco)
St. of N.M.
Etz
Tex. Amer.
Randall, etal
LaRue
E. Munds
B-3198
McCullough
Etz St
(Texaco)
074935
Anadarko
Loco Hills-Fed
Phillips
So. Roy.
(ARCo)
0467933
P110
"B"
P112
Parke
P120
So. Roy.
(A.R.Co)
029020
"A"
Parke
Dexter
So. Roy.
(ARCO)
0467930
"C"
Parke
So. Roy.
(A.R.Co)
0384577
Jr. B
Penrose
So. Roy.
(A.R.Co)
0384575
Tr. 2
Park
U.S.
Nash, Windfohr
& Brown, etal
"A"
029338
Nash, Windfohr
E. Brown
(OPER.)
14
BURNET
OIL
PETCO
etal "B"
055258
Flint
Part Opr. of Tex.
TD3500
Gissler
U.S.
Nash, Windfohr & Brown, etal
"A"
029339
(Allied Chem D/R)
13
Nash, Windfohr &
Brown, etal
Stevens
U.S.
Jackson
Sinclair
Turner
TD9800
DA 7-11-86
A.R.Co
(Sinclair)
029895
Russell
Hudson
Damson Oil
Phillips
A.R.Co.
029342
Jenkins
Dexter-Fed
LOCO HILLS
(OPER.)
Holly
"B"
Holly Ener, etal
"A"
057634
Holly, etal
McIntyre
Repollo
TD3740
"McIntyre
Fed"
Shenan-
doah
Parke
(P.A. Inc.)
Chambers
Tex. Pac.
Wooley
TD11384
Double-I
(Tex Pac)
Sinclair
TD7000
So. Roy.
(A.R.Co.)
029020
Parke
Ledbetter
Sinc. Parke
Honagar E.
Greenlee
Parke-Fed
Damson
Westall
TPC60
Wooley
TD7260
"Dexter-Fed"
Brigham
Gen'l Op.
Holly
TD3210
U.S.
028992
H. Ledbetter
Penasco
028992
Gen'l Amer
Oper. Co.
Holly Energy, (OPER.)
Arnold
Penasco
H.J. Led-
better
059376
Sargent
Penasco
Maddren
Brigham
Amoco
Stevens
Gen Amer
Oper Co
Petro-
Search
0588579
Fair E. Astor
PSS & HBP
0384573
Petro-
Search
Gen Amer
Search
Holly, etal
Holly Ener, etal
028936
Franklin, etal
Beeson
TD3440
So. Union
HBP
028936
Franklin, etal
Fed
TD3425
DA6-17-63
Anadarko
Loco Hills-
Fed
Wooley
TD3812
Phillips
"EN"
Anadarko
(Wooley)
028936
"S"
Phillips
"BA"
053229
Phillips
"A"
TD3134
Disc
Beeson
Phillips
028936
Maddren
"MA"
Phillips
Phillips
10-AD
060528
3-AU
TD3171
6-WI
Arnold
Phillips
0467934
"MB"
PHILLIPS (OPER)
G-J PERM
SD. U.T.
Maddren
Gen'l Amer
Beeson
TD11,514
Penasco
028992
GEN'L OPER. CO.
Holly Energy, (OPER.)
Arnold
Penasco
Penc
Franklin
Anadarko
Pawn
Fed
TD3500
Cisco
Amoco
Fed
Gen Am.
Maddren
Brigham
Amoco
Gen Amer
Oper Co
Stevens
Ledbetter
Gen Amer
Newmont
Gulf
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Wooley
TD3256
Anadarko
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Phillips
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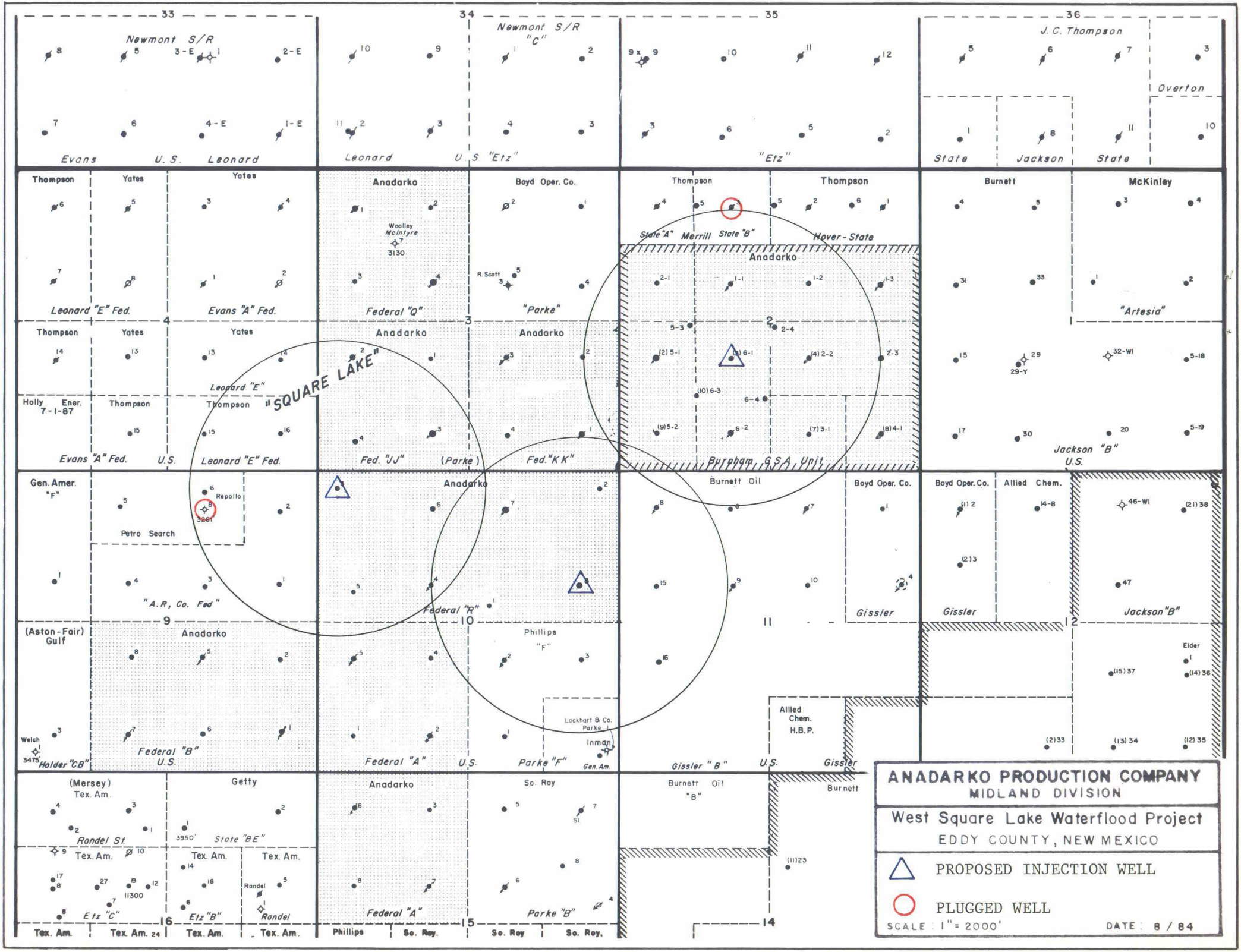
TD3332
0467934
Tex. Amer.



ANADARKO PRODUCTION COMPANY
MIDLAND DIVISION

West Square Lake Waterflood Project
EDDY COUNTY, NEW MEXICO

△ PROPOSED INJECTION WELL

○ PLUGGED WELL

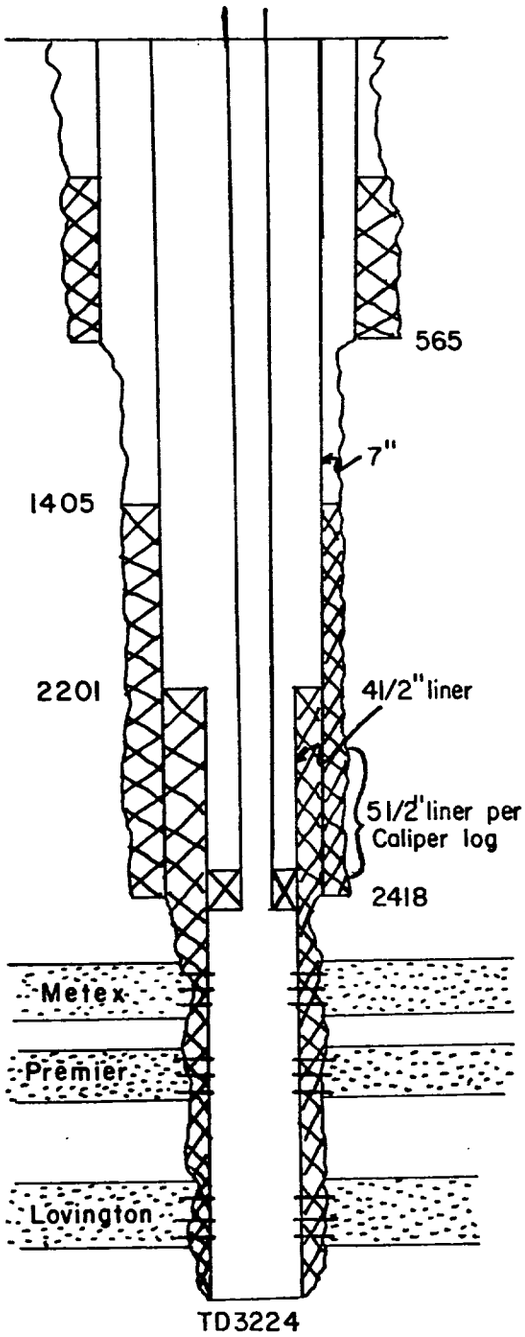
SCALE : 1" = 2000'

DATE : 8 / 84

Anadarko Production Company	Burnham GB-SA Unit	Tract 6 #1
OPERATOR	LEASE	WELL NO.

1980' FSL & 1980' FWL	2	17S	30E
FOOTAGE LOCATION	SECTION	TOWNSHIP	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 (material) set in a SL arrow tension packer at about 2870 feet.

Other Data

1. Name of the injection formation Grayburg-San Andres
2. Name of field or Pool (if applicable) Square Lake
3. Is this a new well drilled for injection? _____ Yes X No
   If no, for what purpose was the well originally drilled Production
4. 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
5. Give the depth of and name of any overlying and/or underlying oil or gas zones (pools) in this area. NONE

Dresser Atlas

BHC Acoustilog®

NO.

COMPANY ANADARKO PRODUCTION COMPANY

WELL BURNHAM NO. 6-1

FIELD SQUARE LAKE

COUNTY EDDY STATE NEW MEXICO

LOCATION: 1980'FSL & 1980'FWL

SEC 2 TWP 17-S RGE 30-E

Other Services: DUAL CALIPER

nent Datum GROUND LEVEL Elev. 3744

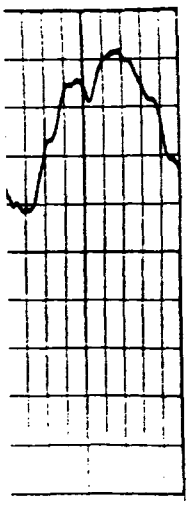
easured from G. L. 0 Ft. Above Permanent Datum

g Measured from G. L.

Elevations: KB ____ DF ____ GL 3744

	9-23-72			
lo.	ONE			
—Driller	3199			
—Logger	3196			
n Logged Interval	3194			
ogged Interval	SURFACE			
—Driller	7" @ 2400	5½ @ 2257-2390 @		@
—Logger	?	2257-2390		
e	4 3/4"			
Fluid in Hole	WATER			
ity and Viscosity				
nd Fluid Loss	cc	cc	cc	cc
e of Sample				
Meas. Temp.	@ °F	@ °F	@ °F	@ °F
@ Meas. Temp.	@ °F	@ °F	@ °F	@ °F
@ Meas. Temp.	@ °F	@ °F	@ °F	@ °F
e of Rmf and Rmc				
@ BHT	@ °F	@ °F	@ °F	@ °F
ince Circ.				
Rec. Temp. Deg. F.	°F	°F	°F	°F
No. and Location	6028 HOBBS			
led By	MC ATEE			
ssed By	MR. BRYANT			

FOLD HERE



Dresser Atlas

BHC Acousti

FILE NO.

COMPANY ANADARKO PRODUCTION C

WELL BURNHAM NO. 6-1

FIELD SQUARE LAKE

COUNTY EDDY STATE N

LOCATION:
1980'FSL & 1980'FWL

SEC 2 TWP 17-S RGE 30-E

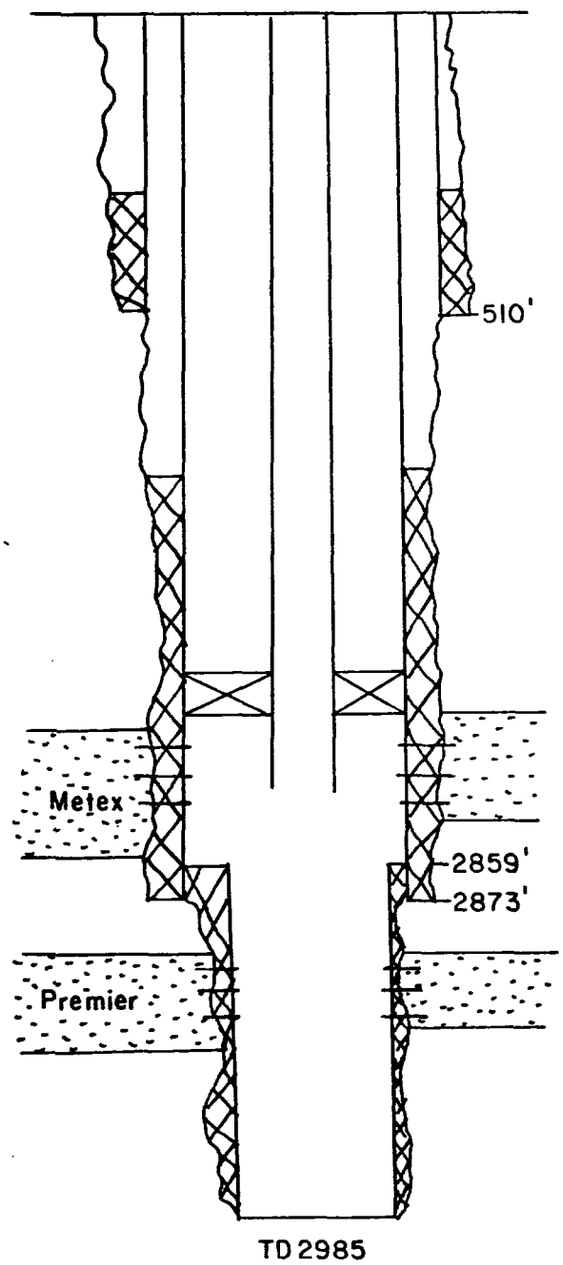
Permanent Datum GROUND LEVEL Elev. 3744
Log Measured from G. L. 0 Ft. Above Permanent Datum
Drilling Measured from G. L.

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	5½ @ 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	
Source of Sample			
Rm @ Meas. Temp.	@ °F	@ °F	@
Rmf @ Meas. Temp.	@ °F	@ °F	@
Rmc @ Meas. Temp.	@ °F	@ °F	@
Source of Rmf and Rmc			
Rm @ BHT	@ °F	@ °F	@
Time Since Circ.			
Max. Rec. Temp. Deg. F.	°F	°F	
Equip. No. and Location	6028 HOBBS		
Recorded By	MC ATEE		
Witnessed By	MR. BRYANT		

Anadarko Production Company	Federal R	3
OPERATOR	LEASE	WELL NO.

330' FNL & 330' FWL	10	17S	30E
FOOTAGE LOCATION	SECTION	TOWNSHIP	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

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

4-1/2" SL arrow tension packer at about 2900 feet.

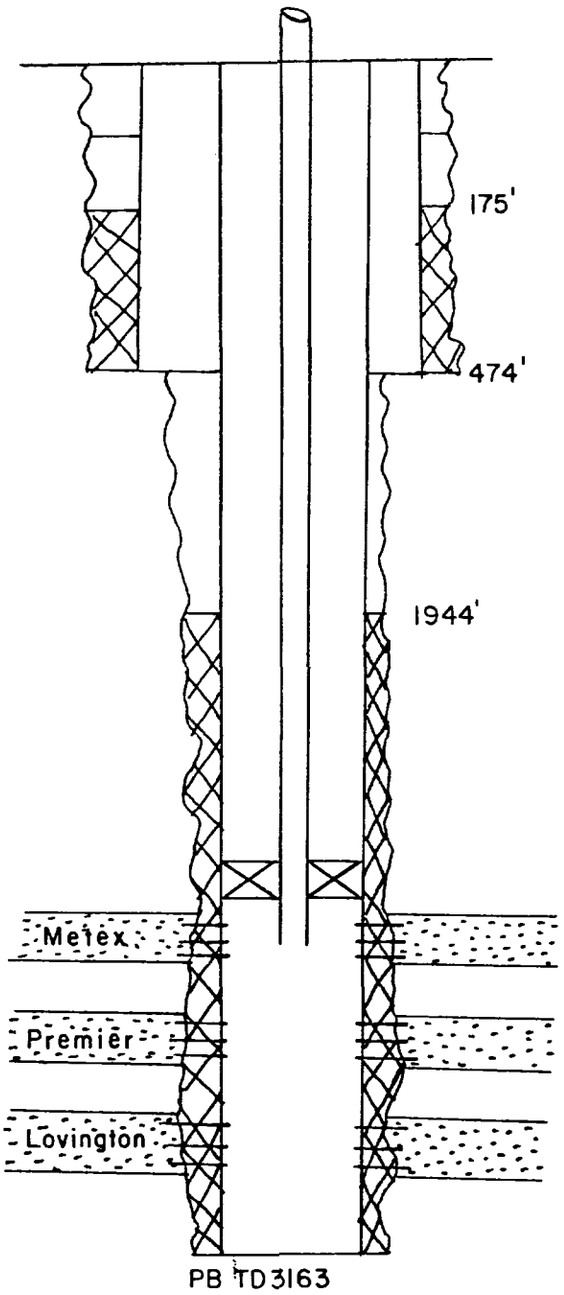
Other Data

1. Name of the injection formation Grayburg-San Andres
2. Name of field or Pool (if applicable) Square Lake
3. Is this a new well drilled for injection? _____ Yes X No
   If no, for what purpose was the well originally drilled Production
4. 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
5. Give the depth of and name of any overlying and/or underlying oil or gas zones (pools) in this area. None

Anadarko PRoduction Company	Federal R	8
OPERATOR	LEASE	WELL NO.

1980' FNL & 660' FEL	10	17S	30E
FOOTAGE LOCATION	SECTION	TOWNSHIP	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 PBTD

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 (material) set in a

'SL arrow tension packer at about 2800 feet.

Other Data

1. Name of the injection formation Grayburg-San Andres
2. Name of field or Pool (if applicable) Square Lake
3. Is this a new well drilled for injection? ____ Yes X No
   If no, for what purpose was the well originally drilled Production
4. 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
5. Give the depth of and name of any overlying and/or underlying oil or gas zones (pools) in this area. None

Dresser Atlas

Compensated Neutr

MARKED

FILE NO.

COMPANY ANADARKO

WELL FEDERAL "R" NO. 3

FIELD SQUARE LAKE

COUNTY EDDY STATE NEW MEXI

LOCATION: 330' FN & W

Other NOW

SEC 10 TWP 17-S RGE 30E

Permanent Datum GL Elev. 3700 Elevs KB

Log Measured from GL, 0 Ft. Above Permanent Datum DF

Drilling Measured from KB GL 370

Date	3/22/77	
Run No.	ONE	
Type Log	N/FN	
Depth-Driller	2982	
Depth-Logger	2973	
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	—	
Opr. Rig Time	—	
Equip. No. and Location	6124 Hobbs	
Recorded By	JACKSON	
Witnessed By	Buckles-English	

FIELD PRINT

Run No.	Bore Hole Record Bit	From	To	Casing Record Size	Wgt.	From
1				5 1/2		Surf
				4 1/2		

FILE COPY
DO NOT REMOVE OR
ADD ANY MATERIAL TO
FOLDER

Dresser Atlas

Compensated
GAMMA

FILE NO.

COMPANY ANADARKO PRODUCTION

WELL FEDERAL "R" NO. 8

FIELD SQUARE LAKE

COUNTY EDDY STATE

LOCATION:

1980'FNL & 660'FEL

SEC 10 TWP 17-S RGE 30-E

Permanent Datum GROUND LEVEL Elev. 3729

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

Drilling Measured from G. L.

Date	9-18-76	
Run No.	ONE	
Type Log	CN/GR	
Depth-Driller	3200 KB	
Depth-Logger	3163	
Bottom Logged Interval	3161	
Top Logged Interval	1160	
Type Fluid in Hole	WATER	
Salinity Ppm Cl.	-	
Density Lb./Gal.	-	
Level	-	
Max. Rec. Temp. Deg. F	86	
Opr. Rig Time	3 HOURS	
Equip. No. and Location	6124 HOBBS	
Recorded By	MEADOWS	
Witnessed By	ENGLISH	

Run	Bore Hole Record			Casing Re		
No.	Bit	From	To	Size	Wgt.	Fro
1	12 1/4	SURF.	480	8 5/8"	24	SURF
1	7 7/8	480	3200	4 1/2"	10.5	SURF

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

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 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 & surface
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	OH 2790-3121

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 5-1/2" @ 2750' w/100 sx	OH 2750-3076
Yates Leonard E No.16	660' FS&EL P-4-17S-30E	5/16/46	3125	Producing	8-5/8" @ 490' w/50 sx 5-1/2" @ 2750' w/100 sx	OH 2750-3125

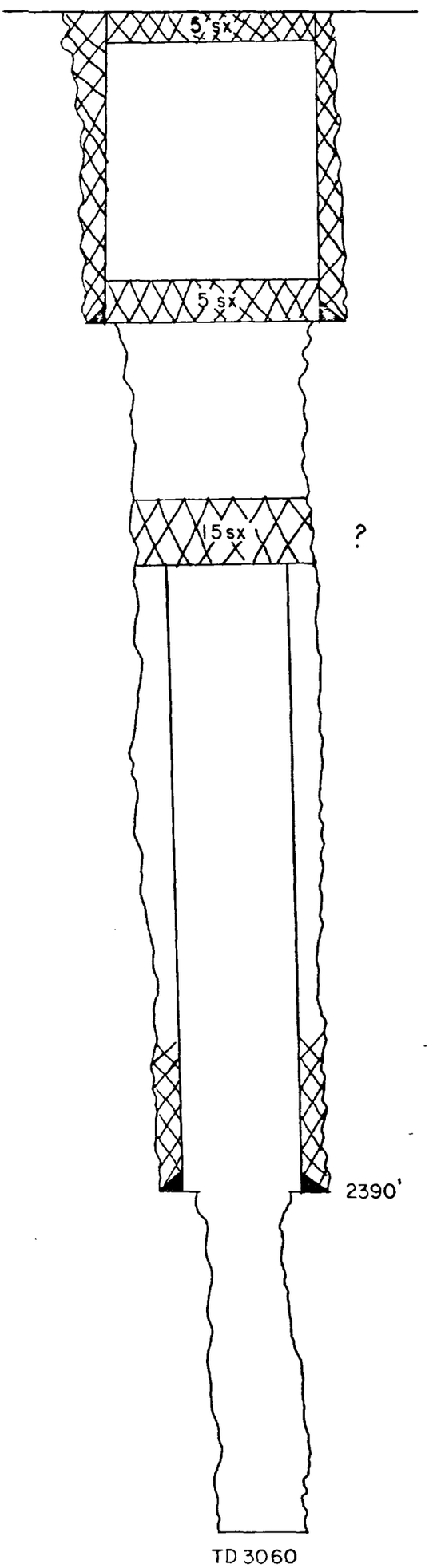
OPERATOR, LEASE AND WELL	LOCATION	COMPLETION DATE	TOTAL DEPTH	STATUS	CASING AND CEMENT DATA	COMPLETION DATA
Anadarko Federal KK No.1	660' FS&EL P-3-17S-30E	11/15/70	3200	Active WIW	8-5/8" @ 407' w/200 sx 4-1/2" @ 3185' w/250 sx	Perfs 2910-20, 30-36, 44-50, 3010-16, 3154-66 Treated w/1,000 gal 15% HCL
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 DATE	TOTAL DEPTH	STATUS	CASING AND CEMENT DATA	COMPLETION DATA
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

PLUGGED WELL IN AREA OF REVIEW

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

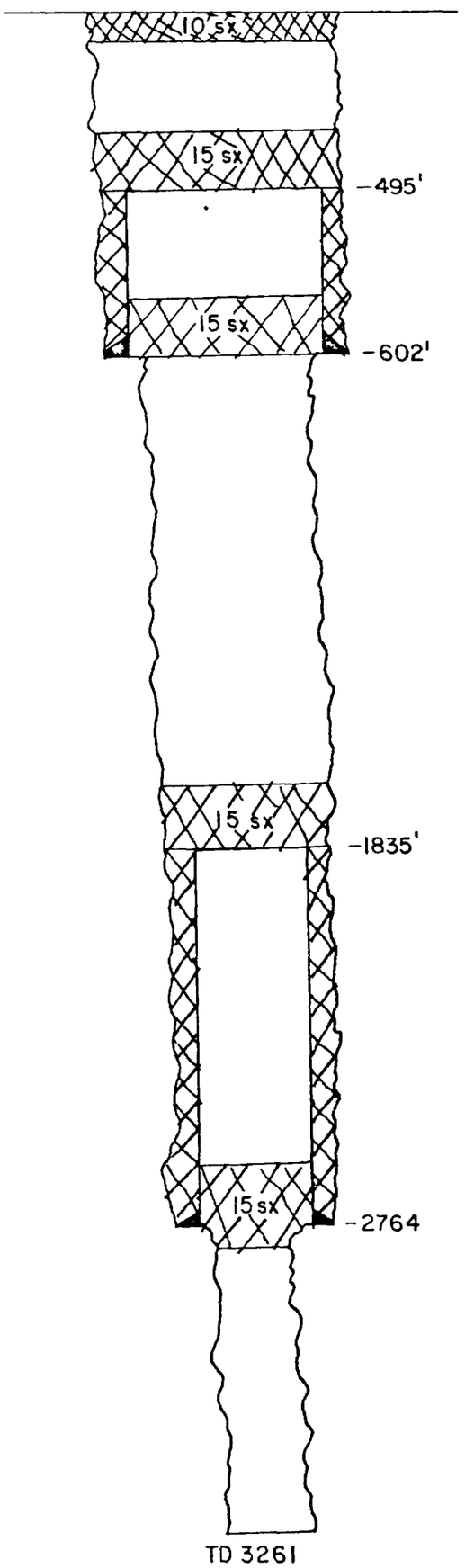
Depth	Name
2900-05 2932-35 2989-93 3026-33	GB-SA

PLUGGED WELL IN AREA OF REVIEW

Repollo Oil Company	W. D. McIntyre	8-D
OPERATOR	LEASE	WELL NO.

660' FNL & 1980' FEL	9	17S	30E
FOOTAGE LOCATION	SECTION	TOWNSHIP	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	

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
P.O. Drawer 130, Artesia, NM 88210

LABORATORY NO. 784482
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". 24-T16S-R36E, 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

Form No. 3

By ___

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
P.O. Drawer 130, Artesia, NM 88210

LABORATORY NO. 784482 (Page 2)
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.

Form No. 3

By
Waylan C. Martin, M.A.

cc: Mr. Dan Kernaghan, Midland

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

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

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

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

ANADARKO PRODUCTION COMPANY 900 BRIERCROFT SAVINGS BUILDING • P.O.BOX 2497 • MIDLAND, TEXAS 79702 • (915) 682-1666

Anadarko

September 13, 1984

Re: Expansion of Anadarko's
Burnham GSA Unit and
Federal "R" Waterflood Projects
Square Lake Field
Eddy County, New Mexico

Gentlemen:

Anadarko Production Company is making application to inject water in the following wells:

Burnham GSA Unit TR.6 No.1	Unit K, Sec.2, T17S, R30E
Federal R No.3	Unit D, Sec.10, T17S, R30E
Federal R No.8	Unit H, Sec.10, T17S, R30E

These wells are in currently active waterflood projects.

A copy of our application and a plat showing the location of the proposed wells is attached. Please contact me at 915-682-1666 if you have any questions.

Yours truly,

D. G. Kernaghan

DGK:gks

J. Cleo Thompson
4500 Republic National Bank Tower
Dallas, Texas 75201

Burnett Oil Company
1500 Interfirst Tower
801 Cherry Street
Ft. Worth, Texas 76102

Boyd Operating Company
Security National Bank
Roswell, New Mexico 88201

Phillips Petroleum
4001 Penbrook
Odessa, Texas 79762

Curtis Inman
Box 2137
Midland, Texas 79702

Petro Search
1010 Lamar, Ste. 1700
Houston, Texas 77002

Yates Petroleum
7700 San Felipe, Ste. 350
Houston, Texas 77063

Minerals Management Service
P. O. Drawer U
304 American Home Security Life Building
Artesia, New Mexico 88210