

Conservation 12
NSL

EXHIBIT 9
 INITIAL PLAN OF DEVELOPMENT
 APPLICATION OF ANADARKO PRODUCTION COMPANY TO THE
 NEW MEXICO OIL CONSERVATION COMMISSION FOR AUTHORITY
 TO INJECT WATER INTO THE GRAYBURG AND JACKSON RESERVOIRS
 PROPOSED BALLARD GSA UNIT
 LOCO HILLS GSA FIELD
 EDDY COUNTY, NEW MEXICO

BEFORE EXAMINER UTZ
 OIL CONSERVATION COMMISSION
Anadarko EXHIBIT NO. 9
 CASE NO. 4911-4912
 Submitted by Paul Juchter
 Hearing Date 2-28-73

INITIAL STAGE OF DEVELOPMENT

1. DRILL AND COMPLETE 4 NEW GRAYBURG INJECTION WELLS AS FOLLOWS:

TRACT	WELL	LOCATION	S-T-R	REMARKS
<u>8</u>	<u>5</u>	20' FNL & 1500' FEL	<u>5-18S-29E</u>	REPLACEMENT WELL FOR DEPSCO SCHULER #1, WHICH WILL BE PLUGGED.
<u>13</u>	<u>3</u>	20' FNL & 1200' FNL	<u>5-18S-29E</u>	
<u>23</u>	<u>1</u>	WITHIN 330' OF EXISTING WELL LOCATED	<u>5-18S-29E</u>	
<u>25</u>	<u>3</u>	2310' FSL & 990' FNL	<u>5-18S-29E</u>	REPLACEMENT WELL FOR TEXAS AMERICAN YATES #3, WHICH WILL BE PLUGGED.
		WITHIN 330' OF EXISTING WELL LOCATED		
		1980' FSL & 1980' FEL		

2. CONVERT 4 EXISTING WELLS TO JACKSON WATER INJECTION WELLS AS FOLLOWS:

TRACT	WELL	LOCATION	S-T-R	REMARKS
<u>5</u>	<u>3</u>	330' FSL & 2310' FEL	<u>8-18S-29E</u>	PREVIOUSLY ANADARKO FEDERAL #3.
<u>5</u>	<u>8</u>	2310' FSL & 1980' FEL	<u>8-18S-29E</u>	PREVIOUSLY ANADARKO FEDERAL #8.
<u>14</u>	<u>3</u>	990' FSL & 990' FNL	<u>8-18S-29E</u>	PREVIOUSLY ANADARKO BALLARD "B" #3.
<u>21</u>	<u>1</u>	2310' FSL & 990' FNL	<u>8-18S-29E</u>	PREVIOUSLY ANADARKO BALLARD "C" #1.

3. CONVERT 2 EXISTING WELLS TO GRAYBURG AND JACKSON INJECTION WELLS AS FOLLOWS:

TRACT	WELL	LOCATION	S-T-R	REMARKS
<u>5</u>	<u>6</u>	990' FNL & 2310' FEL	<u>8-18S-29E</u>	PREVIOUSLY ANADARKO FEDERAL #6. (JACKSON INJECTION WILL PROBABLY NOT BE ACTIVE INITIALLY.)
<u>12</u>	<u>2</u>	990' FNL & 990' FNL	<u>8-18S-29E</u>	PREVIOUSLY TEXAS AMERICAN BALLARD "B" #2. (JACKSON INJECTION WILL PROBABLY NOT PROVE FEASIBLE.)

4. WORKOVER ANADARKO BALLARD #2 (TRACT 15, WELL 2) FOR PRODUCTION.

5. PLUG ANADARKO BALLARD "B" #1 (TRACT 14, WELL 1) WHICH IS NOT REQUIRED, AND TWO REPLACED WELLS - DEPSCO SCHULER #1 AND TEXAS AMERICAN YATES #3.

6. INSTALL INJECTION PLANT AND A WATER INJECTION SYSTEM TO PROVIDE 400 BWPD TO EACH OF 10 ZONES, OR A TOTAL INITIAL RATE OF 4,000 BWPD.

SECOND STAGE OF DEVELOPMENT (13 TO 20 MONTHS AFTER INITIAL INJECTION) 1/

1. DRILL NEW GRAYBURG-JACKSON WELL (TRACT 15, WELL 6) AT APPROXIMATELY 1980' FNL & 1980' FWL OF SECTION 8-18S-29E AND COMPLETE FOR PRODUCTION.
2. WORKOVER 2 PRODUCING WELLS AND SIDETRACK AROUND JUNK IN HOLE - TEXAS AMERICAN MILLER #2 (TRACT 9, WELL 2) AND ANADARKO TRAVIS "A" #1 (TRACT 6, WELL 1). PLACE BACK ON PRODUCTION.
3. FRACTURE 2 PRODUCING WELLS - THOMPSON MILLER "A" #1 (TRACT 11, WELL 1) AND TEXAS AMERICAN YATES #1 (TRACT 25, WELL 1).
4. MAKE ADDITIONAL PERFORATIONS IN 2 PRODUCING WELLS - DEPSCO DUNN "C" #1 (TRACT 2, WELL 1) AND DEPSCO SCHULER #2 (TRACT 23, WELL 2).
5. MAKE ADDITIONAL PERFORATIONS AND FRACTURE 1 PRODUCING WELL - ANADARKO FEDERAL 11 #12 (TRACT 5, WELL 12).
6. CLEAN OUT AND DO MINOR WORK ON 13 PRODUCING WELLS.
7. CONSOLIDATE TANK BATTERIES, AND GATHERING LINES, INSTALL LACT UNIT.
8. INSTALL LARGER PUMPING EQUIPMENT AS REQUIRED.

THIRD STAGE OF DEVELOPMENT - EXPANSION OF INJECTION (19 - 26 MONTHS AFTER INITIAL INJECTION STAGE)

1. DRILL AND COMPLETE 6 NEW GRAYBURG INJECTION WELLS AS FOLLOWS:

TRACT	WELL	LOCATION	S-T-R	REMARKS
6	18	1980' FSL & 1980' FEL	6-18S-29E	
7	3	660' FNL & 1980' FEL	17-18S-29E	
10	2	WITHIN 330' OF EXISTING WELL LOCATED	4-18S-29E	REPLACEMENT WELL FOR THOMPSON MILLER #2-X.
20	12	990' FNL & 380' FWL	17-18S-29E	LOCATION APPROXIMATE DUE TO NEARBY HIGHWAY
21	2	660' FNL & 660' FWL	8-18S-29E	
26	1	1980' FSL & 660' FWL WITHIN 330' OF EXISTING WELL LOCATED 2310' FSL & 330' FWL	4-18S-29E	REPLACEMENT WELL FOR THOMPSON MURDOCK #1.

2. DRILL NEW GRAYBURG & JACKSON INJECTION WELL (TRACT 5, WELL 13) LOCATED 1320' FSL & 20' FEL, SECTION 8-18S-29E.

15 L



3. CONVERT 5 EXISTING WELLS TO GRAYBURG INJECTION AS FOLLOWS:

TRACT	WELL	LOCATION	S-T-R	REMARKS
1	6	990' FNL & 330' FWL	7-18S-29E	PREVIOUSLY DEPCCO DUNN "A" #6.
2	3	660' FNL & 1980' FEL	7-18S-29E	PREVIOUSLY DEPCCO DUNN "C" #3.
5	4	1650' FSL & 2310' FEL	8-18S-29E	PREVIOUSLY ANADARKO FEDERAL 11 #4.
17	3	660' FNL & 1980' FEL	6-18S-29E	PREVIOUSLY THOMPSON MILLER "B" #3.
22	4	990' FNL & 330' FWL	9-18S-29E	PREVIOUSLY ANADARKO LANGFORD #4. WELL WILL BE DEEPEMED TO PREMIER.

4. CONVERT 1 EXISTING WELL TO JACKSON INJECTION - ANADARKO FEDERAL 11 #10 (TRACT 5, WELL 10) LOCATED 990' FNL & 990' FWL, SECTION 8-18S-29
5. PLUG WELLS REPLACED BY NEW WELLS - THOMPSON MILLER #2-X AND THOMPSON MURDOCK #1.
6. ENLARGE WATER PLANT AND FACILITIES TO PROVIDE 400 BWPD TO EACH OF 25 ZONES, OR A TOTAL OF 10,000 BWPD.

FOURTH STAGE OF DEVELOPMENT (30 - 40 MONTHS AFTER INITIAL INJECTION) 1/

1. DRILL 2 NEW GRAYBURG & JACKSON WELLS AND COMPLETE FOR PRODUCTION AS FOLLOWS:

TRACT	WELL	LOCATION	S-T-R	REMARKS
5	14	APPROXIMATELY 800' FSL & 1400' FEL	8-18S-29E	THIS WELL MAY NOT BE REQUIRED.
14	6	20' FSL & 1650' FWL	8-18S-29E	

2. DRILL 1 NEW GRAYBURG WELL AND COMPLETE FOR PRODUCTION - TRACT 24 WELL 1, LOCATED 660' FSL & 990' FEL, SECTION 5-18S-29E.
3. MAKE ADDITIONAL GRAYBURG PERFORATIONS AND FRAC 3 WELLS - THOMPSON MILLER "A" #2 (TRACT 11, WELL 2), ANADARKO FEDERAL 11 #7 (TRACT 5, WELL 7) AND THE ANADARKO FEDERAL 11 #9 (TRACT 5, WELL 9).
4. RECOMPLETE AND FRACTURE 1 JACKSON PRODUCING WELL IN GRAYBURG & JACKSON (COMMINGLED) - BASSETT & BIRNEY DUNN #1 (TRACT 19, WELL 1).
5. DEEPEN 2 GRAYBURG PRODUCING WELLS THROUGH THE PREMIER FORMATION AND FRACTURE - THOMPSON TRAVIS #2 (TRACT 7, WELL 2) AND THOMPSON R. TRAVIS #1 (TRACT 7A, WELL 1).
6. RESTORE 2 TEMPORARILY ABANDONED GRAYBURG WELLS TO PRODUCTION AND FRAC IF REQUIRED - ANADARKO TRAVIS "B" #3 (TRACT 14, WELL 3) AND THOMPSON TRAVIS #1 (TRACT 7, WELL 1).
7. CLEAN OUT AND MINOR WORK ON 8 PRODUCERS.
8. ADD LARGER PUMPING EQUIPMENT AS REQUIRED.

1/ PRODUCING WELL WORK SUBJECT TO REVISION AS DICTATED BY FLOOD PERFORMANCE AND ADDITIONAL DATA OBTAINED DURING DEVELOPMENT.

EXHIBIT 5
 RECENT AVERAGE PRODUCTION RATES
 APPLICATION OF ANADARKO PRODUCTION COMPANY TO THE
 NEW MEXICO OIL CONSERVATION COMMISSION FOR AUTHORITY
 TO INJECT WATER INTO THE GRAYBURG AND JACKSON RESERVOIRS

OPERATOR	LEASE	TRACT	NUMBER OF PRODUCING WELLS AS OF 9/72	APPROXIMATE CURRENT PRODUCTION (BBL/MO.) 1/	APPROXIMATE AVG. WELL PROD. RATE (BOPD)
ANADARKO	BALLARD	15 & 21	4	320	2.7
ANADARKO	BALLARD "B"	14	3	530	5.9
ANADARKO	DUNN	4	0	0	0.0
ANADARKO	FEDERAL 11	5	7	700	3.3
ANADARKO	LANGFORD	22	0	0	0.0
ANADARKO	JEFFERS	18	0	0	0.0
ANADARKO	TRAVIS "A"	6	3	165	1.8
ANADARKO	TRAVIS "D"	20	1	40	1.3
BASSETT-BIRNEY	DUNN "C"	3 & 19	1	63	2.1
DEPCO	DUNN "A"	7-18-29	3	135	1.5
DEPCO	DUNN "C"	7-18-29	2	140	2.3
DEPCO	BANNER MILLER	5-18-29	2	380	6.3
DEPCO	BAY MILLER	5-18-29	1	90	3.0
DEPCO	SCHULER	5-18-29	2	120	2.0
DEPCO	TRAVIS	18-18-29	1	25	0.8
DEPCO	063808	17-18-29	0	0	0.0
TEXAS AMERICAN	BALLARD "B"	8-18-29	1	55	1.8
TEXAS AMERICAN	MILLER-FEDERAL	5-18-29	1	110	3.7
TEXAS AMERICAN	YATES	5-18-29	3	175	1.9
TEXAS AMERICAN	YATES (S/2 SE)	5-18-29	0	0	0.0
TEXAS AMERICAN	YATES (NE SW)	5-18-29	0	0	0.0
THOMPSON	MILLER	4&5-18-29	1	100	3.3
THOMPSON	MILLER "A"	6-18-29	2	70	1.2
THOMPSON	MILLER "B"	6-18-29	1	22	0.7
THOMPSON	MURDOCK	4-18-29	1	11	0.4
THOMPSON	TRAVIS-FEDERAL	17-18-29	1	17	0.6
THOMPSON	R. TRAVIS	17-18-29	1	520	17.3
TOTAL			42	3,788	3.0



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON, D.C. 20242

Anadarko Production Company
2 Greenway Plaza East
Suite 410
Houston, Texas 77046

JUL 24 1972

Attention: Mr. C. W. Stumhoffer

Gentlemen:

Your application of June 6 filed with the Area Oil and Gas Supervisor, Roswell, New Mexico, requests the designation of the Ballard Grayburg San Andres unit area embracing 2,580.59 acres, more or less, of Federal and fee lands in Eddy County, New Mexico, as logically subject to operation under the unitization provisions of the Mineral Leasing Act, as amended.

Unitization is for the purpose of conducting secondary recovery operations by waterflooding and will be limited to the stratigraphic interval in the Grayburg and San Andres formations as defined by section 2(f) of the unit agreement. You estimate that secondary recovery operations will result in the additional recovery of 2,693,000 barrels of oil.

The proposed unit area has been developed by 64 wells that have been completed in the formations to be unitized. Participation in unitized substances for each qualified tract will be in one phase as defined by section 13 of the proposed unit agreement.

The land outlined on your plat marked "Exhibit A to Unit Agreement, Ballard Grayburg San Andres Unit, Loco Hills Grayburg San Andres Field, Eddy County, New Mexico," is acceptable as a logical unit area for secondary recovery operations. We hereby concur in the Supervisor's recommendation that the proposed basis for allocating unitized production be accepted. Your proposed form of unit agreement, which modifies the standard form to the extent necessary to cover conditions incidental to secondary recovery operations in a producing unit, will be acceptable if further modified in accordance with the marked form returned herewith. The remaining copies of the proposed form of unit agreement are being retained for distribution to the appropriate offices of the Geological Survey.

BEFORE EXAMINER UTZ OIL CONSERVATION COMMISSION <u>Anadarko</u> EXHIBIT NO. <u>2</u> CASE NO. <u>4911-4912</u> Submitted by <u>Paul Tucker</u> Hearing Date <u>2-28-73</u>

EXHIBIT 2

U.S.G.S. PRELIMINARY APPROVAL
(PAGE 1, PAGE 2)

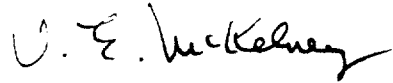
APPLICATION OF ANADARKO PRODUCTION COMPANY TO NEW MEXICO OIL CONSERVATION COMMISSION
FOR AUTHORITY TO INJECT WATER INTO THE GRAYBURG AND JACKSON RESERVOIRS.

BALLARD GRAYBURG SAN ANDRES UNIT, LOCO HILLS FIELD, EDDY COUNTY, NEW MEXICO

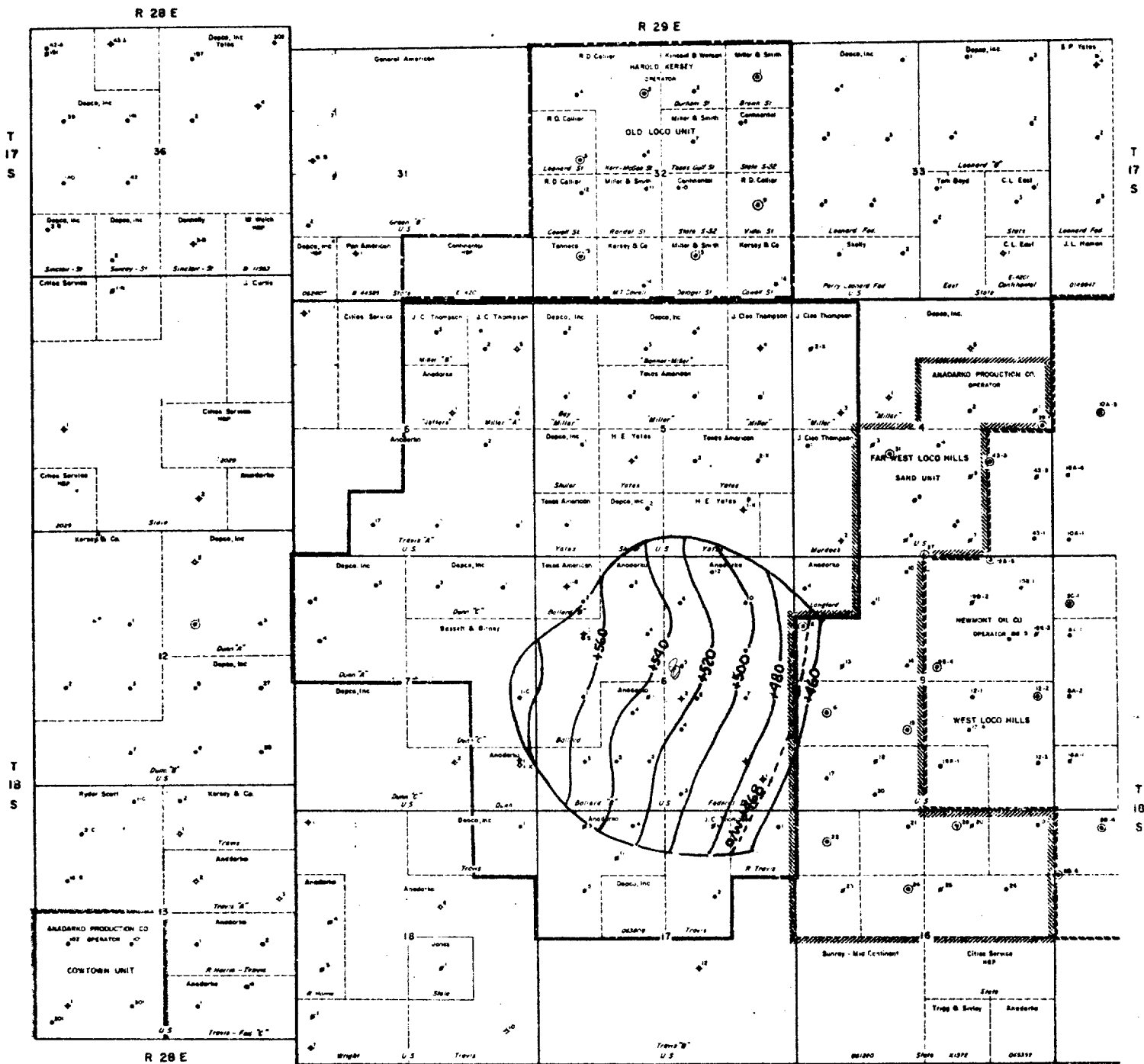
In the absence of any type of land requiring special provisions or any objections not now apparent, a duly executed agreement conformed to the marked copy will be approved if submitted in approvable status within a reasonable period of time. However, the right is reserved to deny approval of any executed agreement that, in our opinion, does not have the full commitment of sufficient lands to afford effective control of secondary recovery operations.

Please include the latest status of all acreage when the executed agreement is submitted for final approval. The format of the sample exhibits attached to the 1968 reprint of the standard form should be followed closely in the preparation of exhibits A and B.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "C. E. McKelvey".

Director



LEGEND

- Oil Well
- ⊕ Plugged & Abandoned
- ⊖ Temporarily Abandoned
- ◇ Dry & Abandoned
- ⊗ Water Injection Well
- Anadarko Operated - Current Waterflood Unit
- Anadarko Operated - Far West Loco Hills
- Newmont Operated - West Loco Hills
- Kersey Operated - Old Loco Unit
- Proposed Unit Boundary - Ballard Grayburg - San Andres Unit
- Anadarko Production Co. Acreage

PROPOSED BALLARD GRAYBURG - SAN ANDRES UNIT
 LOCO HILLS FIELD
 EDDY COUNTY, NEW MEXICO
SCHEMATIC STRUCTURE MAP
 JACKSON ZONE
 0 500 1000 2000 3000 4000
 FEET
 SCALE - 1" = 1000'

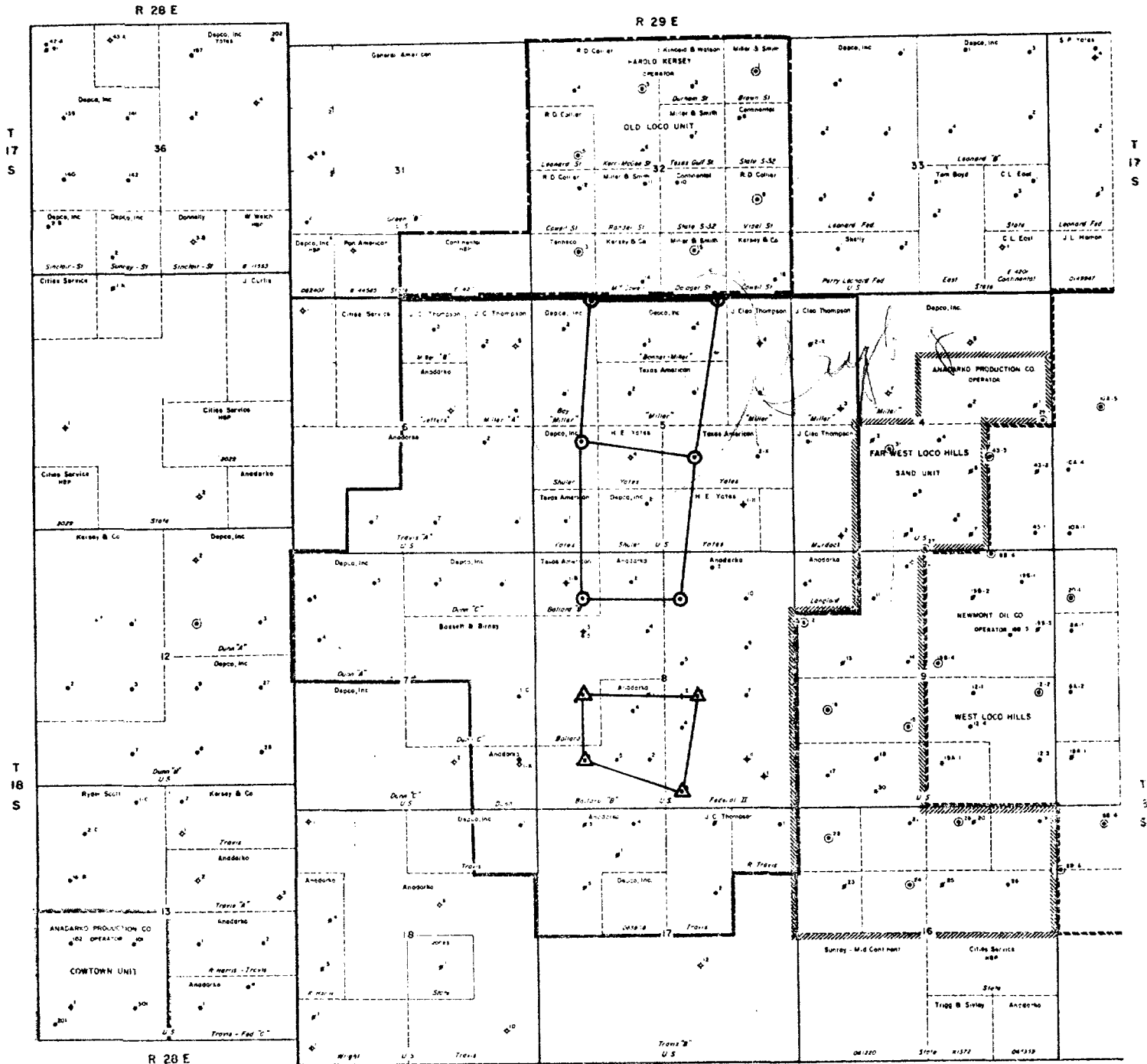
BEFORE EXAMINER UTZ
 OIL CONSERVATION COMMISSION
Anadarko EXHIBIT NO. 8
 CASE NO. 4911-4912
 Submitted by *Paul Tucker*
 Hearing Date *2-28-73*

EXHIBIT 8

JACKSON ZONE - PRODUCTIVE LIMITS AND SCHEMATIC STRUCTURE

APPLICATION OF ANADARKO PRODUCTION COMPANY TO NEW MEXICO OIL CONSERVATION COMMISSION FOR AUTHORITY TO INJECT WATER INTO THE GRAYBURG AND JACKSON RESERVOIRS.

BALLARD GRAYBURG SAN ANDRES UNIT, LOCO HILLS FIELD, EDDY COUNTY, NEW MEXICO



LEGEND

- Oil Well
- ◆ Plugged & Abandoned
- ⊕ Temporarily Abandoned
- ⊖ Dry & Abandoned
- ⊙ Water Injection Well
- ⊙ Anadarko Operated - Comtown Waterflood Unit
- ⊙ Anadarko Operated - Far West Loco Hills
- ⊙ Newmont Operated - West Loco Hills
- ⊙ Kersey Operated - Old Loco Unit
- ⊙ Proposed Unit Boundary - Ballard Grayburg - San Andres Unit
- Anadarko Production Co. Acreage

- ⊙ - GRAYBURG INJECTION WELL
- ⊙ - JACKSON INJECTION WELL

PROPOSED BALLARD GRAYBURG - SAN ANDRES UNIT
 LOCO HILLS FIELD
 EDDY COUNTY, NEW MEXICO

**INJECTION PATTERN
 INITIAL PHASE**

0 500 1000 2000 3000 4000
 FEET

**BEFORE EXAMINER UTZ
 OIL CONSERVATION COMMISSION**

anadarko FID BIT NO. 10

CASE NO. 4911-4912

Submitted by Paul Jucker

Hearing Date 2-28-77

EXHIBIT 10

INJECTION PATTERN - INITIAL PHASE

APPLICATION OF ANADARKO PRODUCTION COMPANY TO NEW MEXICO OIL CONSERVATION COMMISSION
 FOR AUTHORITY TO INJECT WATER INTO THE GRAYBURG AND JACKSON RESERVOIRS.

BALLARD GRAYBURG SAN ANDRES UNIT, LOCO HILLS FIELD, EDDY COUNTY, NEW MEXICO

DEWELL DIVISION OF THE DOW CHEMICAL COMPANY

WATER ANALYSIS REPORT

TO: ANADARKO PRODUCTION COMPANY
 P.O. BOX 67
 LOCO HILLS, NEW MEXICO 88255

LABORATORY NO.: HEBRS
 DATE: 12-13-72

WELL NAME + NO.: ARWOOD LTD DEPTH: 0 FT
 FIELD: SQ. LAKE FERRATION: FRESH
 COUNTY: EDDY STATE: NEW MEXICO
 SAMPLE PT.: PLANT SAMPLE ID: FRESH WATER

DISSOLVED SOLIDS

OTHER PROPERTIES

CATIONS	MG/L	MEQ/L		
SODIUM, NA	156	6	PH =	7.50
CALCIUM, CA	80	3	SP GR =	1.000
MAGNESIUM, MG	46	4	RESISTIVITY =	0.0000

ANIONS

CHLORIDES, CL	263	7
SULFATES, SO4	230	4
BICARBONATES, HCO3	122	1

THE CALCIUM CARBONATE STABILITY INDEX = 1.91348

THE CALCIUM SULFATE STABILITY INDEX IS -22.20

A NEGATIVE NUMBER INDICATES THE SCALE IN SOLUTION DOES NOT EXCEED THE SATURATION VALUE AND SHOULD NOT PRECIPITATE.

REMARKS AND RECOMMENDATIONS:

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
ANADARKO	EXHIBIT NO. 12
CASE NO. 4911-4912	
Submitted by Paul Jucker	
Hearing Date 2-28-73	

JACK SARTT

EXHIBIT 12

WATER ANALYSIS - ARWOOD, LTD.

APPLICATION OF ANADARKO PRODUCTION COMPANY TO NEW MEXICO OIL CONSERVATION COMMISSION FOR AUTHORITY TO INJECT WATER INTO THE GRAYBURG AND JACKSON RESERVOIRS.

BALLARD GRAYBURG SAN ANDRES UNIT, LOCO HILLS FIELD, EDDY COUNTY, NEW MEXICO

DEWELL DIVISION OF THE DEW CHEMICAL COMPANY

WATER ANALYSIS REPORT

TO: ANADARKO PRODUCTION COMPANY
 P.O. BOX 67
 LOCO HILLS, NEW MEXICO 88255

LABORATORY NO.: HWBBS
 DATE: 12-13-72

WELL NAME + NO.: DOUBLE EAGLE DEPTH: 0 FT
 FIELD: SR. LAKE FORMATION: FRESH
 COUNTY: EDDY STATE: NEW MEXICO
 SAMPLE PT.: PLANT SAMPLE ID: FRESH WATER

DISSOLVED SOLIDS

OTHER PROPERTIES

CATIONS	MG/L	MEQ/L
SODIUM, NA	72	3
CALCIUM, CA	100	4
MAGNESIUM, MG	36	3

PH = 7.85
 SP GR = 1.000
 RESISTIVITY = .0000

ANIONS

CHLORIDES, CL	177	4
SULFATES, SO4	200	4
BICARBONATES, HCO3	122	1

THE CALCIUM CARBONATE STABILITY INDEX = 1.68109

THE CALCIUM SULFATE STABILITY INDEX IS -21.39

A NEGATIVE NUMBER INDICATES THE SCALE IN SOLUTION DOES NOT EXCEED THE SATURATION VALUE AND SHOULD NOT PRECIPITATE.

REMARKS AND RECOMMENDATIONS:

JACK SARFF

BEFORE EXAMINER UTZ OIL CONSERVATION COMMISSION <i>Anadarko</i> EXHIBIT NO. 13 CASE NO. 4911-4912 Submitted by <i>Paul Incker</i> Hearing Date 2-28-73

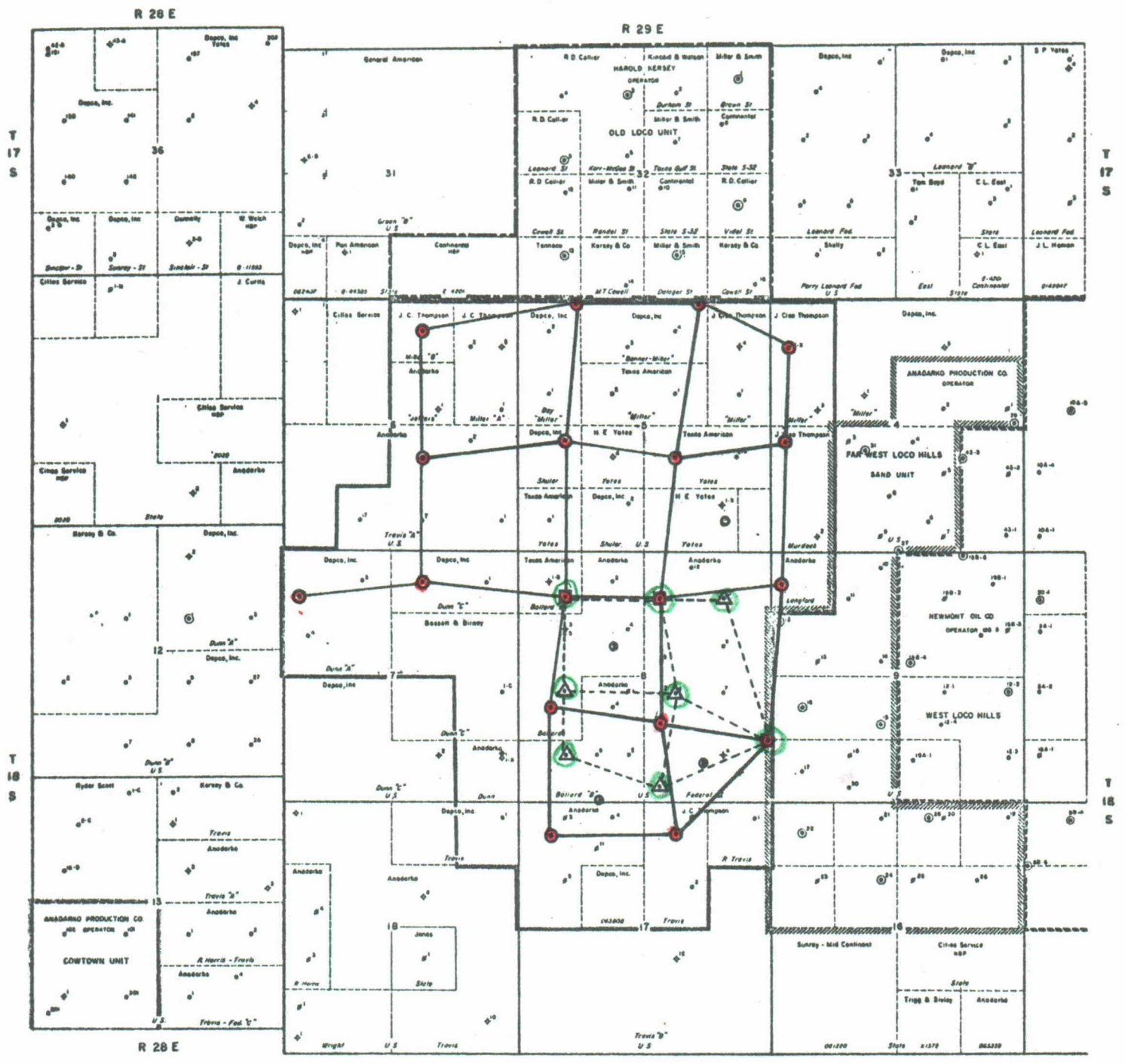
EXHIBIT 13

WATER ANALYSIS - DOUBLE EAGLE WATER COMPANY

APPLICATION OF ANADARKO PRODUCTION COMPANY TO NEW MEXICO OIL CONSERVATION COMMISSION FOR AUTHORITY TO INJECT WATER INTO THE GRAYBURG AND JACKSON RESERVOIRS.

BALLARD GRAYBURG SAN ANDRES UNIT, LOCO HILLS FIELD, EDDY COUNTY, NEW MEXICO

113352



LEGEND

- Old Well
- ⊕ Plugged & Abandoned
- ⊖ Temporarily Abandoned
- ⊘ Dry & Abandoned
- ⊙ Water Injection Well
- ⊙ Anadarko Operated - Contour Waterflood Unit
- ⊙ Anadarko Operated - Far West LoCo Hills
- ⊙ Newmont Operated - West LoCo Hills
- ⊙ Hersey Operated - Old LoCo Unit
- ⊙ Proposed Unit Boundary - Ballard Grayburg - San Andres Unit
- Anadarko Production Co. Acreage

- ⊙ Grayburg Injection Well
- ⊙ Jackson Injection Well
- ⊙ Dual Grayburg-Jackson Inj. Well
- ⊙ New Grayburg Producing Well Location
- ⊙ New Grayburg-Jackson Producing Well Location

PROPOSED BALLARD GRAYBURG - SAN ANDRES UNIT
 LOCO HILLS FIELD
 EDDY COUNTY, NEW MEXICO
INJECTION PATTERN
FULLY DEVELOPED

0 100 200 300 400
 FEET
 SCALE

15 GB inj wells
 5 Jackson
 20 total inj wells
 3 dual GB/Jackson wells

BEFORE EXAMINER UTZ
 OIL CONSERVATION COMMISSION
 Anadarko EXHIBIT NO. 11
 CASE NO. 4911-4912
 Submitted by Paul Tucker
 Hearing Date 2-28-73

EXHIBIT 11

INJECTION PATTERN - FULL DEVELOPMENT

APPLICATION OF ANADARKO PRODUCTION COMPANY TO NEW MEXICO OIL CONSERVATION COMMISSION FOR AUTHORITY TO INJECT WATER INTO THE GRAYBURG AND JACKSON RESERVOIRS.

BALLARD GRAYBURG SAN ANDRES UNIT, LOCO HILLS FIELD, EDDY COUNTY, NEW MEXICO

100,000

10,000

1,000

100

MONTHLY OIL PRODUCTION - BARRELS

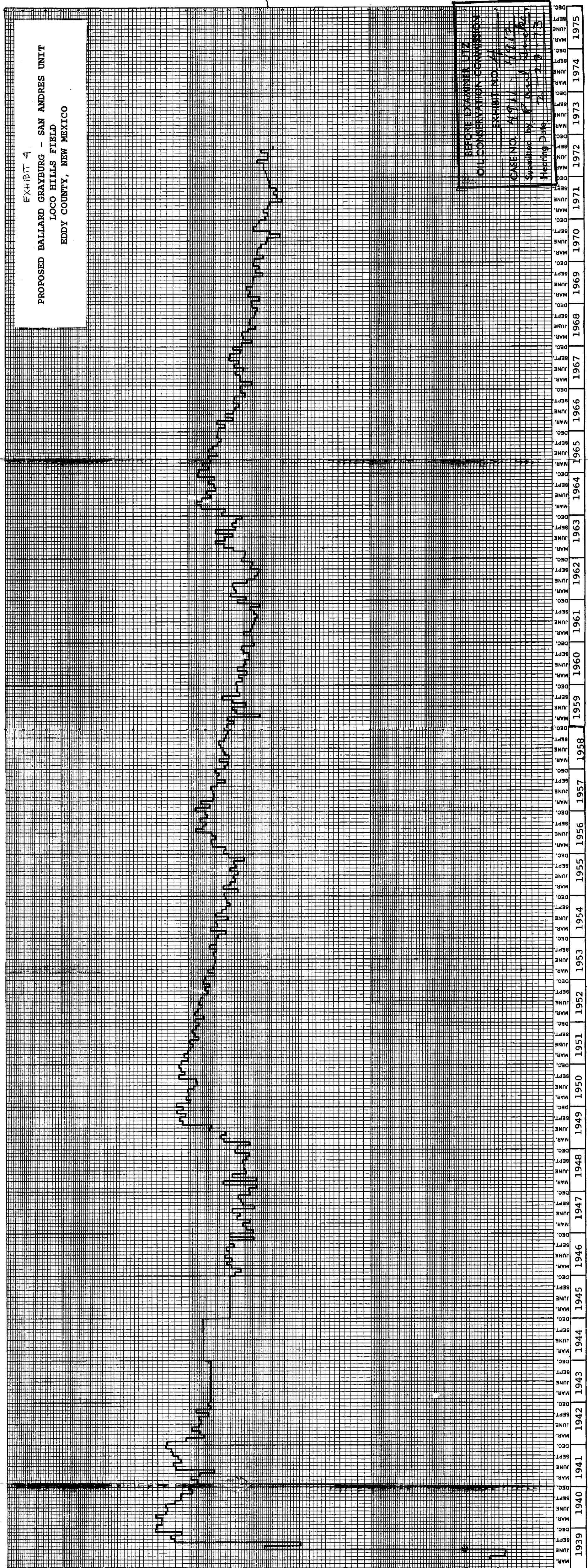
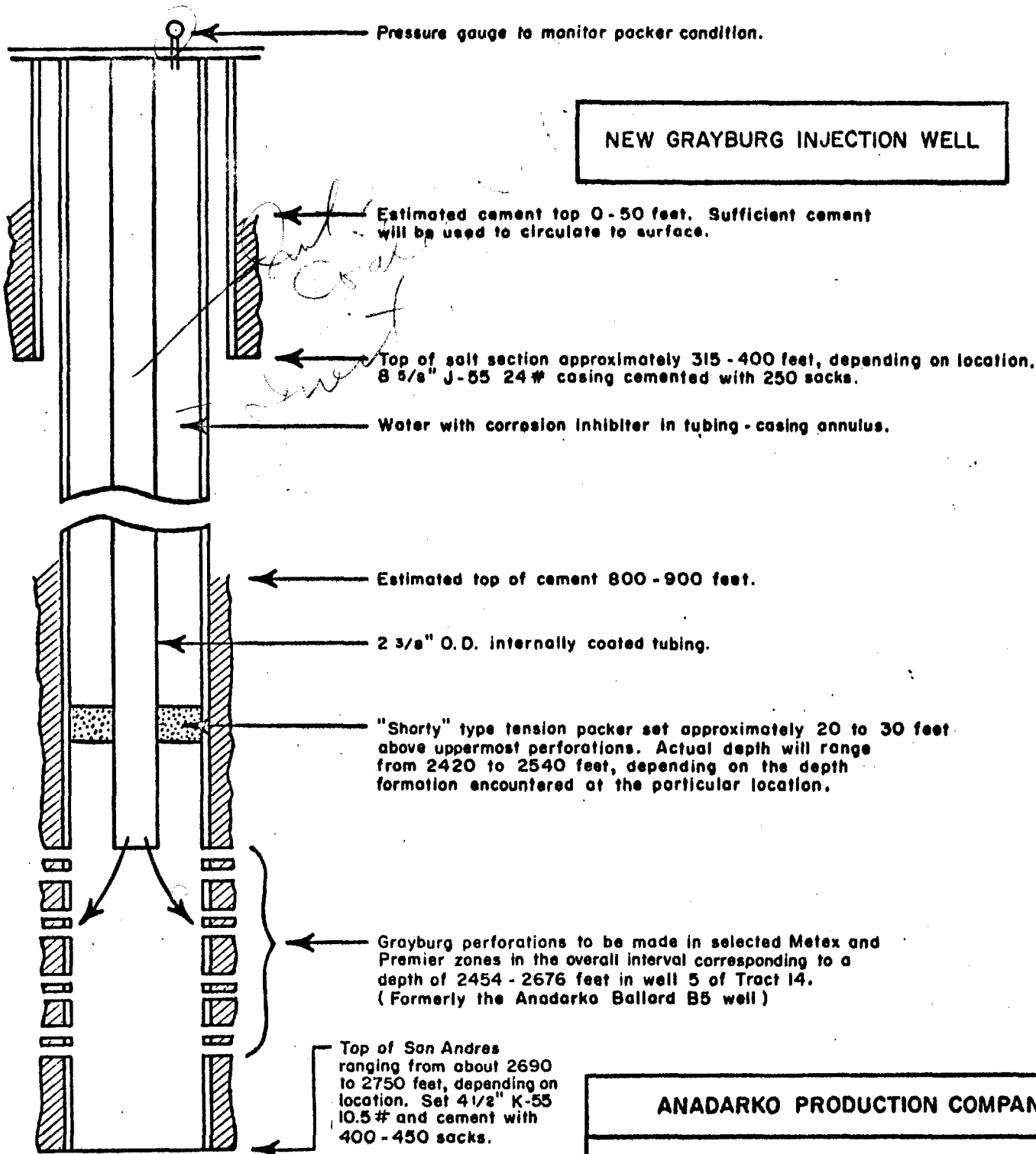


EXHIBIT 4
 PROPOSED BALLARD GRAYBURG - SAN ANDRES UNIT
 LOCO HILLS FIELD
 EDDY COUNTY, NEW MEXICO

BEFORE EXAMINER UNIT
 OIL CONSERVATION COMMISSION
 EXHIBIT NO. 4
 CASE NO. 1911 - 1975
 Submitted by *W. A. ...*
 Hearing Date *7-27-75*

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 MAR. 1971
 JUN. 1971
 SEPT. 1971
 DEC. 1971
 MAR. 1972
 JUN. 1972
 SEPT. 1972
 DEC. 1972
 MAR. 1973
 JUN. 1973
 SEPT. 1973
 DEC. 1973
 MAR. 1974
 JUN. 1974
 SEPT. 1974
 DEC. 1974
 MAR. 1975
 JUN. 1975
 SEPT. 1975
 DEC. 1975



WELLS TO WHICH SKETCH APPLIES

TRACT	WELL	LOCATION	S - T - R	REMARKS
6	18	1980' FSL & 1980' FEL	6-18S-29E	
7	3	660' FNL & 1980' FEL	17-18S-29E	
8	5	20' FNL & 1500' FEL	5-18S-29E	UNORTHODOX LOCATION
10	2	WITHIN 330' OF EXISTING WELL LOCATED 990' FNL & 380' FWL	4-18S-29E	REPLACEMENT WELL FOR J.C. THOMPSON MILLER 2X
13	3	20' FNL & 1200' FWL	5-18S-29E	UNORTHODOX LOCATION
20	12	APPROXIMATELY 680' FNL & 660' FWL	17-18S-29E	LOCATION APPROXIMATE DUE TO NEARBY HIGHWAY
21	2	1980' FSL & 660' FWL	8-18S-29E	
23	1	WITHIN 330' OF EXISTING WELL LOCATED 2310' FSL & 990' FWL	5-18S-29E	REPLACEMENT WELL FOR DE. P. CO. SCHULER NO. 1
25	3	WITHIN 330' OF EXISTING WELL LOCATED 1980' FSL & 1980' FEL	5-18S-29E	REPLACEMENT WELL FOR TEXAS AMERICAN YATES #3
26	1	WITHIN 330' OF EXISTING WELL LOCATED 2310' FSL & 330' FWL	4-18S-29E	REPLACEMENT WELL FOR THOMPSON MURDOCK #1

ANADARKO PRODUCTION COMPANY

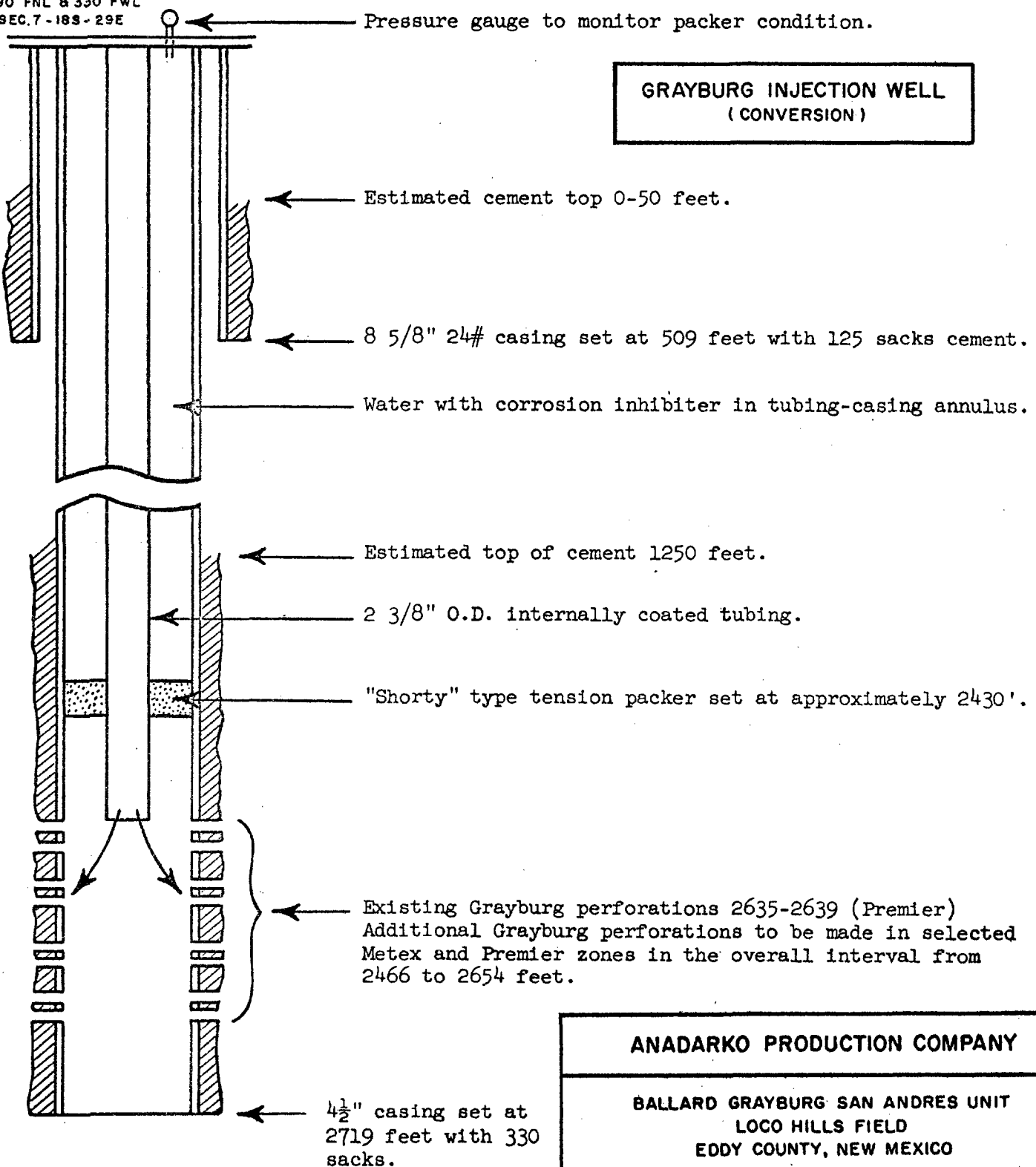
**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

EXHIBIT 14
DIAGRAMMATIC SKETCH OF INJECTION WELL

**TYPICAL NEW GRAYBURG ZONE INJECTION WELL
(SEE LIST OF WELLS TO WHICH SKETCH APPLIES AT LEFT)**

Application of Anadarko Production Company to New Mexico Oil Conservation Commission for authority to inject water into the Grayburg and Jackson reservoirs.

990' FNL & 330' FWL
SEC. 7 - 18S - 29E



**GRAYBURG INJECTION WELL
(CONVERSION)**

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

EXHIBIT 15
DIAGRAMMATIC SKETCH OF INJECTION WELL

**TRACT I WELL 6
(FORMERLY DEPCO, DUNN A6)**

Application of Anadarko Production Company to
New Mexico Oil Conservation Commission for
authority to inject water into the Grayburg
and Jackson reservoirs.

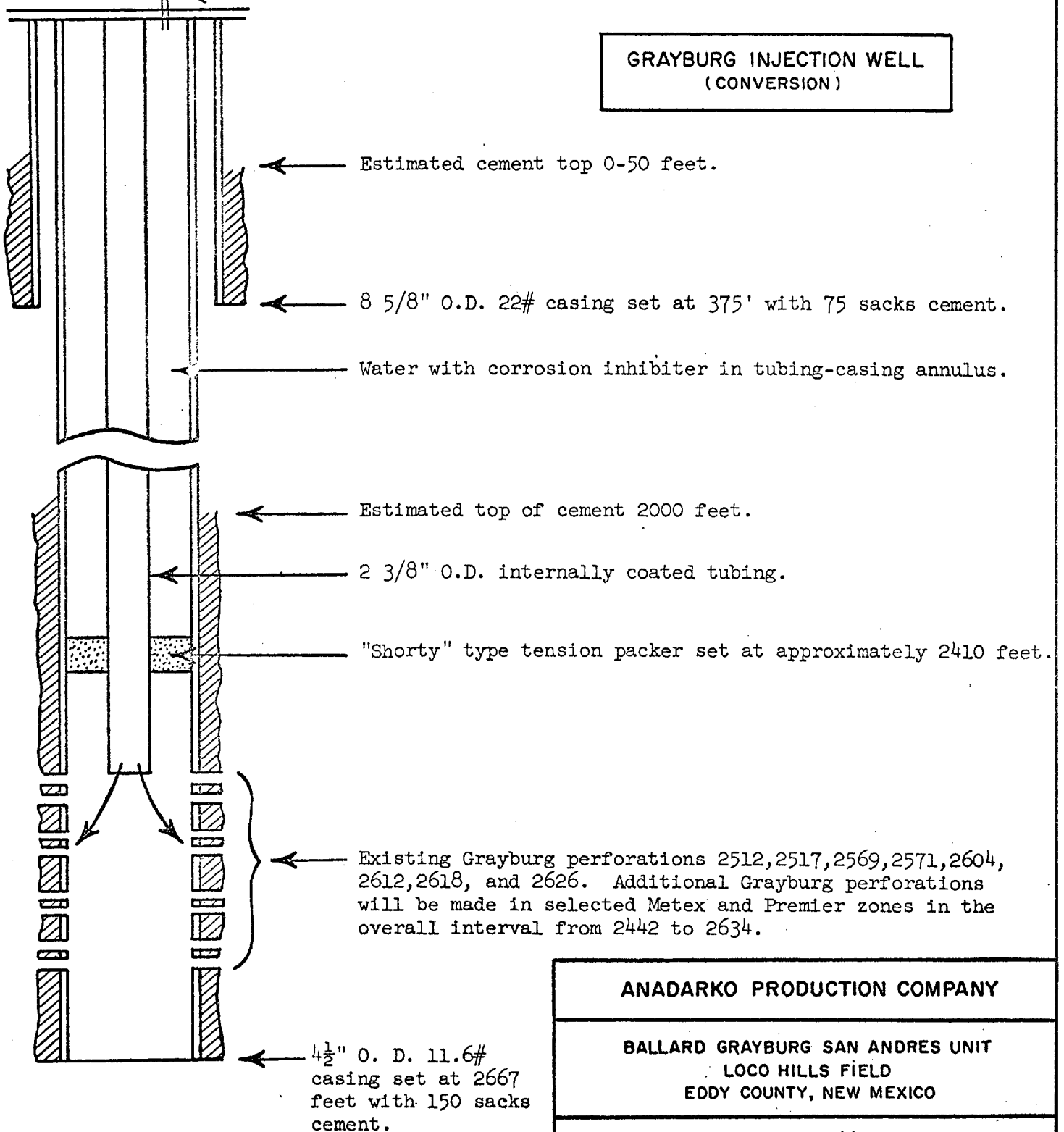
P. T. FT. WORTH, TEXAS JAN., 1973

Note: Well is officially classified to be in the Artesia Field.

660' FNL & 1980' FEL
SEC. 7 - 18S - 29E

Pressure gauge to monitor packer condition.

**GRAYBURG INJECTION WELL
(CONVERSION)**



ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

**EXHIBIT 16
DIAGRAMMATIC SKETCH OF INJECTION WELL**

**TRACT 2 WELL 3
(FORMERLY DEPCO, DUNN.C3)**

**Application of Anadarko Production Company to
New Mexico Oil Conservation Commission for
authority to inject water into the Grayburg
and Jackson reservoirs.**

330' FSL & 2310' FEL
SEC. 8 - 18S - 29E

Pressure gauge to monitor packer condition.

**GRAYBURG INJECTION WELL
(CONVERSION)**

Estimated top of cement 175 feet or higher.

8 1/4" casing set at 360 feet with 50 sacks.

Water with corrosion inhibitor in tubing-5" casing annulus.

Estimated top of cement 1000 feet.

2 3/8" O.D. internally coated tubing.

7" casing set at 2275 feet with 100 sacks.

5" casing is presently backed off at 2470 feet. Will tie back into this string to surface.

Grayburg shot holes 2486-2516 and 2671-2719. Existing Grayburg perforations at 2490 & 2675 will be squeezed.

Top of cement unknown. Probably in shot holes but may be higher.

"Shorty" type tension packer set at approximately 2850 feet.

5" casing set at 2872 feet with 50 sacks.

Jackson reservoir.

Well possibly is plugged back to 3000 feet.

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

**EXHIBIT 17
DIAGRAMMATIC SKETCH OF INJECTION WELL**

**TRACT 5 WELL 3
(FORMERLY ANADARKO, FEDERAL II 3)**

**Application of Anadarko Production Company to
New Mexico Oil Conservation Commission for
authority to inject water into the Grayburg
and Jackson reservoirs.**

1650' FSL & 2310' FEL
SEC. 8 - 18S - 29E

Pressure gauge to monitor packer condition.

**GRAYBURG INJECTION WELL
(CONVERSION)**

Estimated cement top 100 feet.

8" (I.D.) casing set at 380 feet with 50 sacks.

Water with corrosion inhibitor in tubing-casing annulus.

Estimated top of cement 1500 feet.

2 3/8" O.D. internally coated tubing.

"Shorty" type tension packer at approximately 2440 feet.

Existing Grayburg perforations 2485-2489, 2516-2520, 2654-2666. Grayburg perforations to be made in selected Metex and Premier zones in the overall interval from 2474 to 2700.

Plug back to approximately 2730' with permanent cast iron bridge plug.

7" casing set at 2776' with 100 sacks.

Jackson zone presently open

Present T.D. 3032'

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

**EXHIBIT 18
DIAGRAMMATIC SKETCH OF INJECTION WELL**

**TRACT 5 WELL 4
(FORMERLY ANADARKO, FEDERAL II 4)**

Application of Anadarko Production Company to New Mexico Oil Conservation Commission for authority to inject water into the Grayburg and Jackson reservoirs.

990' FNL & 2310' FEL
SEC. 8 - 183 - 29 E

Pressure gauge to monitor packer condition.

**GRAYBURG & JACKSON INJECTION
WELL USING DOWNHOLE FLOW
REGULATORS (CONVERSION)**

Estimated cement top 100 feet.

8" casing set at 345' with 50 sacks cement.

Water with corrosion inhibitor in tubing - casing annulus.

Cement top estimated to be about 1900 feet.

2 3/8" O.D. internally coated tubing

Tension set packer at approximately 2430 feet

Existing Grayburg perforations 2564 - 2574 and 2640 - 2650.
Grayburg perforations to be made in selected Metex and Premier zones
in the overall interval from 2452 to 2674 feet.

Locked set packer at
approximately 2950 feet

Jackson perforations
2988 - 3000 feet

5 1/2" 14# casing set
at 3033 feet with 180 sacks

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

**EXHIBIT 19
DIAGRAMMATIC SKETCH OF INJECTION WELL**

**TRACT 5 WELL 6
(FORMERLY ANADARKO, FEDERAL II 6)**

Application of Anadarko Production Company to
New Mexico Oil Conservation Commission for
authority to inject water into the Grayburg
and Jackson reservoirs.

P. T.

FT. WORTH, TEXAS

JAN., 1973

990' FNL & 2310' FEL
SEC. 8 - 18S - 29E

Pressure gauge to monitor packer condition.

ALTERNATE

**DUAL GRAYBURG & JACKSON
INJECTION WELL
(CONVERSION)**

Estimated cement top 100 feet.

8" casing set at 345' with 50 sacks cement.

Water with corrosion inhibitor in tubing-casing annulus.

Cement top estimated to be about 1900 feet.

2 1/16" O.D. internally coated tubing.

Dual snap-set tension packer at approximately 2430 feet.

Existing Grayburg perforations 2564-2574 and 2640-2650.
Grayburg Perforations to be made in selected Metex and Premier zones in the overall interval from 2452 to 2674 feet.

Locked set packer at approximately 2950'.

Jackson Perforations 2988-3000 feet.

5 1/2" 14# casing set at 3033' with 130 sacks.

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

EXHIBIT 20

DIAGRAMMATIC SKETCH OF INJECTION WELL

**ALTERNATE METHOD, TRACT 5 WELL 6
(FORMERLY ANADARKO, FEDERAL II 6)**

Application of Anadarko Production Company to New Mexico Oil Conservation Commission for authority to inject water into the Grayburg and Jackson reservoirs.

2310' FSL & 1980' FEL
SEC. 8 - 18S - 29 E

Pressure gauge to monitor packer condition.

**JACKSON INJECTION WELL
(CONVERSION)**

Estimated top of cement 100 feet.

8" casing set at 368 feet with 50 sacks cement.

Water with corrosion inhibitor in tubing - casing annulus.

Estimated top of cement 2450 feet.

2 3/8" O.D. internally coated tubing.

Grayburg (Metex and Premier) perforations at 2580 - 2590 and 2645 - 2675 are presently open. These will be squeezed.

"Shorty" type tension packer at approximately 2975 feet.

Jackson zone perforations at 3003 - 3025 feet.

5 1/2" casing set at 3032 feet with 100 sacks.

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

EXHIBIT 21
DIAGRAMMATIC SKETCH OF INJECTION WELL

**TRACT 5 WELL 8
(FORMERLY ANADARKO, FEDERAL II 8)**

Application of Anadarko Production Company to
New Mexico Oil Conservation Commission for
authority to inject water into the Grayburg
and Jackson reservoirs.

990' FNL & 990' FEL
SEC. 8 - 18S - 29E

Pressure gauge to monitor packer condition.

**GRAYBURG INJECTION WELL
(CONVERSION)**

Estimated cement top 100 feet.

8" (I.D.) casing set at 380 feet with 50 sacks of cement.

Water with corrosion inhibitor in tubing-casing annulus.

Estimated top of cement 800 feet.

2 3/8" O.D. internally coated tubing.

"Shorty" type tension packer at approximately 2800 feet.

Lovington Sand perforations 2830-2840 feet.
Zone very tight-not expected to take water.

Jackson perforations 2950-2960 and 2970-2980 feet.

7" casing cemented
at 2992 feet with
175 sacks.

Jackson open hole section
from 2992 to 3050 feet.

T.D. 3050 feet.

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

**EXHIBIT 22
DIAGRAMMATIC SKETCH OF INJECTION WELL**

**TRACT 5 WELL 10
(FORMERLY ANADARKO, FEDERAL II 10)**

**Application of Anadarko Production Company to
New Mexico Oil Conservation Commission for
authority to inject water into the Grayburg
and Jackson reservoirs.**

1320' FSL & 20' FEL
SEC. 8 - 108 - 29E

Pressure gauge to monitor packer condition.

**GRAYBURG & JACKSON INJECTION
WELL USING DOWNHOLE FLOW
CONTROLLERS (NEW WELL)**

Estimated cement top 0-50 feet. Sufficient cement
will be used to circulate to surface.

Top of salt section at approximately 400 feet.
8 5/8" J-55 24# casing cemented with 250 sacks.

Water with corrosion inhibitor in tubing-casing annulus.

Cement top estimated to be 800 - 900 feet

2 3/8" O.D. internally coated tubing

Tension set packer approximately 20 - 30 feet
above Grayburg perforations. Actual depth
will possibly be about 2530 feet.

Grayburg perforations to be made in selected Metex and Premier zones
in the overall interval corresponding to a depth of 2454 - 2476 feet in
Well 5 of Tract 14. (Formerly Anadarko Ballard 85). Actual depth of
interval probably about 2550 - 2775 feet.

Locked set packer at
approximately 20 - 30 feet
above Jackson perforations,
probably at about 3080 feet.

Jackson perforations to be
made at approximately 3110
to 3140 feet, depending on
depth encountered.

5 1/2" J-55 15.5# casing
at approximately 3180 feet
with 400-450 sacks.

ANADARKO PRODUCTION COMPANY
BALLARD GRAYBURG SAN ANDRES UNIT LOCO HILLS FIELD EDDY COUNTY, NEW MEXICO
EXHIBIT 23
DIAGRAMMATIC SKETCH OF INJECTION WELL
ALTERNATE METHOD, TRACT 5 WELL 13 (1320' FSL & 20' FEL, SEC. 8 - 108 - 29E)
Application of Anadarko Production Company to New Mexico Oil Conservation Commission for authority to inject water into the Grayburg and Jackson reservoirs.
P. T. FT. WORTH, TEXAS JAN., 1973

1320' FSL & 20' FEL
SEC. 8 - 18S - 29E

Pressure gauge to monitor packer condition.

ALTERNATE

**NEW DUAL GRAYBURG & JACKSON
INJECTION WELL**

Estimated cement top 0-50 feet. Sufficient cement will be used to circulate to surface.

Top of salt section at approximately 400 feet. 8 5/8" J-55 24# casing cemented with 250 sacks.

Water with corrosion inhibitor in tubing-casing annulus.

Estimated top of cement 800-900 feet.

2 1/16" O. D. internally coated tubing.

Dual snap-set tension packer approximately 20-30 feet above Grayburg perforations. Actual depth will possibly be about 2530 feet.

Grayburg Perforations to be made in selected Metex and Premier zones in the overall interval corresponding to a depth of 2454 to 2676 feet in well 5 of tract 14. (Formerly the Anadarko Ballard B5). Actual depth of interval probably about 2550-2775 feet.

Locked set packer at approximately 20-30' above Jackson perforations, probably at about 3080 feet.

Jackson perforations to be made at approximately 3110 to 3140 feet, depending on depth encountered.

5 1/2" J-55 15.5# casing at approximately 3180' with 400-450 sacks.

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

EXHIBIT 24

DIAGRAMMATIC SKETCH OF INJECTION WELL

**ALTERNATE METHOD, TRACT 5 WELL 13
(1320' FSL & 20' FEL, SEC. 8 - 18S - 29E)**

Application of Anadarko Production Company to New Mexico Oil Conservation Commission for authority to inject water into the Grayburg and Jackson reservoirs.

990' FNL & 990' FWL
SEC. 8 - 189 - 29 E

Pressure gauge to monitor packer condition.

**GRAYBURG INJECTION WELL
(CONVERSION)**

Estimated cement top 0-50 feet.

8 5/8" casing set at 365 feet with 50 sacks cement.

Water with corrosion inhibitor in tubing-casing annulus.

Estimated cement top about 2200 feet.

2 3/8" O.D. internally coated tubing.

"Shorty" type tension packer at approximately 2420 feet.

Present Grayburg perforations 2453-2455, 2463-2465, 2479-2481, 2492-2494, 2554-2558, 2576-2589, 2618-2632 and 2649-2657. New Grayburg perforations will be made in selected Metex & Premier zones within the overall interval between 2450 and 2664 feet.

Plug back to approximately 2675 feet.

5 1/2" casing at 2697 feet cemented with 75 sacks.

Jackson zone presently open but not considered productive.

Present T.D. 3086'.

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

EXHIBIT 25

DIAGRAMMATIC SKETCH OF INJECTION WELL

**TRACT 12 WELL 2
(FORMERLY TEXAS AMERICAN, BALLARD 82)**

Application of Anadarko Production Company to New Mexico Oil Conservation Commission for authority to inject water into the Grayburg and Jackson reservoirs.

990' FSL & 990' FWL
SEC. 8 - 18S - 29E

Pressure gauge to monitor packer condition.

Cement circulated to surface on 7" string.

**GRAYBURG INJECTION WELL
(CONVERSION)**

Estimated cement top 0-50 feet.

8 5/8" casing set at 330 feet with 50 sacks.

Water with corrosion inhibitor in tubing-5 1/2" casing annulus.

2 3/8 " O.D. internally coated tubing.

7" casing set at 2291 feet with 220 sacks.

Grayburg shot hole 2444-2466.
Grayburg shot hole 2610-2654.

Cement top unknown.
Probably in shot holes.

"Shorty" type
tension packer at
approximately 2880'.

5 1/2" casing set at
2910 feet with 25
sacks.

Jackson reservoir.

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

EXHIBIT 26

DIAGRAMMATIC SKETCH OF INJECTION WELL

TRACT 14 WELL 3

(FORMERLY ANADARKO, BALLARD B3)

Application of Anadarko Production Company to
New Mexico Oil Conservation Commission for
authority to inject water into the Grayburg
and Jackson reservoirs.

T.D. 3036'

P. T.

FT. WORTH, TEXAS

JAN., 1973

660' FNL & 1980' FEL
SEC. 6 - 18S - 29E



Pressure gauge to monitor packer condition.

**GRAYBURG INJECTION WELL
(CONVERSION)**

Estimated top of cement 50 feet.

8 1/4" casing set at 385 feet with 50 sacks.

Water with corrosion inhibitor in tubing-casing annulus.

Estimated top of cement 1200 feet.

2 3/8" O.D. internally coated tubing.

Top of liner at approximately 2350 feet.

7" casing at 2437 with 100 sacks.

"Shorty" type tension packer set at approximately 2480 feet.

Grayburg perforations to be made in selected Metex & Premier zones in the overall interval from 2500 to 2700. Old shot hole from 2555-2572. Fracturing probably required to enable injection.

4 1/2" liner set at approximately 2720 feet and cemented back to the top of the liner.

T.D. 2722

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

**EXHIBIT 27
DIAGRAMMATIC SKETCH OF INJECTION WELL**

**TRACT 17 WELL 3
(FORMERLY THOMPSON, MILLER B3)**

**Application of Anadarko Production Company to
New Mexico Oil Conservation Commission for
authority to inject water into the Grayburg
and Jackson reservoirs.**

P. T.

FT. WORTH, TEXAS

JAN., 1973

2310' FSL & 990' FWL
SEC. 8 - 18S - 29E

Pressure gauge to monitor packer condition.

**GRAYBURG INJECTION WELL
(CONVERSION)**

Estimated cement top 50 feet.

8 3/8" casing set at 345 feet with 50 sacks cement.

Water with corrosion inhibitor in tubing-casing annulus.

Estimated cement top 1000 feet.

2 3/8" O.D. internally coated tubing.

Top of liner not available. Probably no cement behind liner down to some point in the shot hole.

7" casing set at 2302 feet with 100 sacks.

Grayburg shot hole 2430 to 2460 feet.

Cement top unknown - probably in shot hole somewhere.

"Shorty" type tension packer set at approximately 2820 feet.

5 1/2" liner set at 2850' with 35 sacks.

Jackson reservoir.

T.D. 3040

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

EXHIBIT 28

DIAGRAMMATIC SKETCH OF INJECTION WELL

TRACT 21 WELL 1

(FORMERLY ANADARKO, BALLARD C1)

**Application of Anadarko Production Company to
New Mexico Oil Conservation Commission for
authority to inject water into the Grayburg
and Jackson reservoirs.**

P. T.

FT. WORTH, TEXAS

JAN., 1973

990' FNL & 330' FWL
SEC. 9 - 189 - 29E

Pressure gauge to monitor packer condition.

**GRAYBURG INJECTION WELL
DEEPENING & CONVERSION**

Estimated top of cement 150 feet.

8" casing set at 400 feet with 50 sacks.

Water with corrosion inhibitor in tubing-casing annulus.

Estimated cement top 2000 feet.

2 3/8" O.D. internally coated tubing.

"Shorty" type tension packer at approximately 2500 feet.

Present Grayburg (Metex) perforations 2534-2548 and 2559-2565.

Top of liner at approximately 2580 feet.

5 1/2" casing at 2596' with 100 sacks. (Present depth)

Additional Grayburg (Premier) perforations to be made in selected zones in the overall interval from 2565 to 2760 feet.

Deepen to the top of San Andres at approximately 2760 ft. Set 4" Hydril liner and cement back up to the top of the liner.

ANADARKO PRODUCTION COMPANY

**BALLARD GRAYBURG SAN ANDRES UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO**

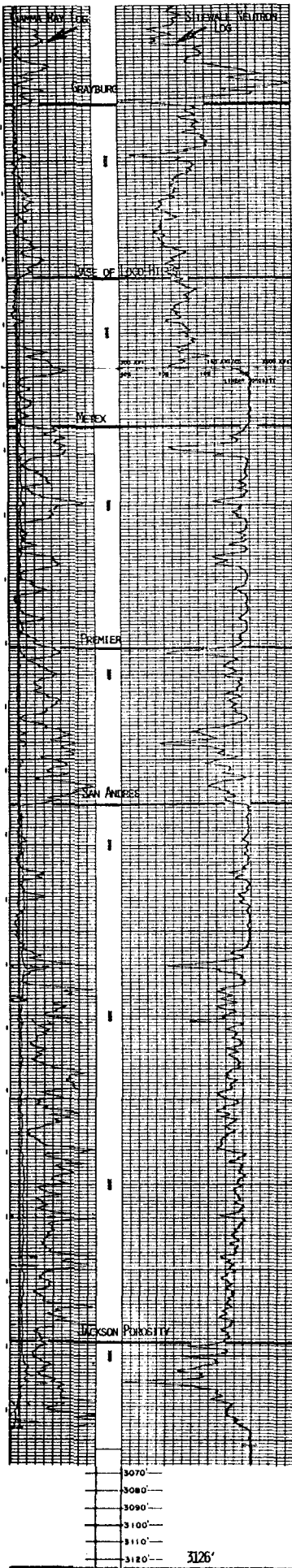
EXHIBIT 29

DIAGRAMMATIC SKETCH OF INJECTION WELL

TRACT 22 WELL 4

(FORMERLY ANADARKO, J.L. LANGFORD 4)

Application of Anadarko Production Company to New Mexico Oil Conservation Commission for authority to inject water into the Grayburg and Jackson reservoirs.



BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

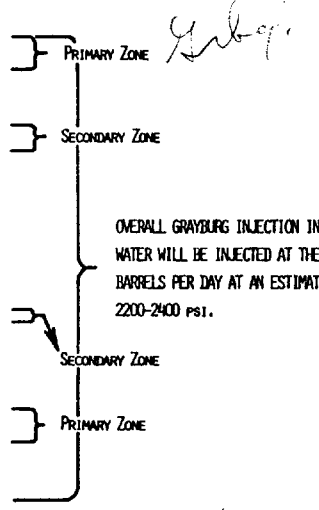
Anadarko EXHIBIT NO. 6

CASE NO. 4911-4912

Submitted by Paul Tucker

Hearing Date 2-28-73

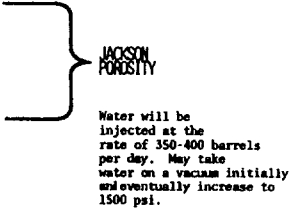
2387' (20' BELOW THE BASE OF THE LOCO HILLS SAND)



NOTE:
PERMISSION IS REQUESTED TO INJECT WATER INTO ANY GRAYBURG ZONE IN THE OVERALL INJECTION INTERVAL. ALTHOUGH THE ZONES INDICATED AS PRIMARY AND SECONDARY ZONES ARE THE MAIN INTERVALS OF INTEREST, OTHER ZONES MAY BE OPEN OR LOCALLY PRODUCTIVE WITHIN THE UNIT.

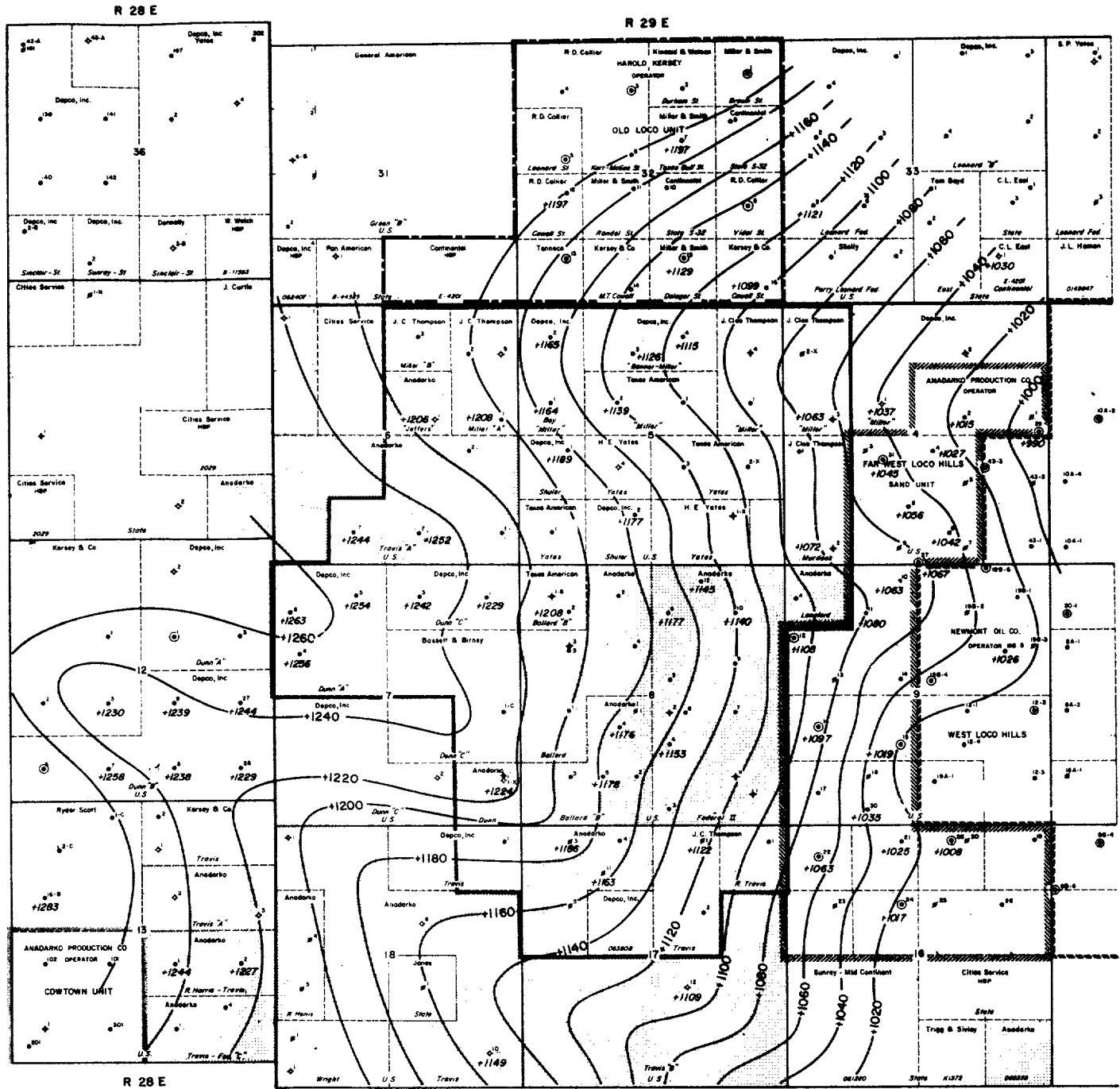
UNITIZED INTERVAL

*Well is Anadarko Ballard #5 (Tract 14, Well 5) which will not be an actual injection well. Used for illustration only.



3070'
3080'
3090'
3100'
3110'
3120' 3126'
(450' BELOW THE TOP OF THE SAN ANDRES)

ANADARKO PRODUCTION COMPANY
BALLARD GRAYBURG SAN ANDRES UNIT LOCO HILLS FIELD EDDY COUNTY, NEW MEXICO
EXHIBIT <u>6</u> TYPE LOG ILLUSTRATING WATER INJECTION INTERVALS
Application of Anadarko Production Company to New Mexico Oil Conservation Commission for authority to inject water into the Grayburg and Jackson reservoirs.
P.T. FT. WORTH, TEXAS JAN., 1973



- LEGEND**
- Oil Well
 - ◆ Plugged & Abandoned
 - ⊠ Temporarily Abandoned
 - ◇ Dry & Abandoned
 - ⊙ Water Injection Well
 - ⊞ Anadarko Operated - Cowtown Waterflood Unit
 - ⊞ Anadarko Operated - Far West Loco Hills
 - ⊞ Newmont Operated - West Loco Hills
 - ⊞ Kersey Operated - Old Loco Unit
 - ⊞ Proposed Unit Boundary - Ballard Grayburg - San Andres Unit
 - ⊞ Anadarko Production Co. Acreage

PROPOSED BALLARD GRAYBURG - SAN ANDRES UNIT
 LOCO HILLS FIELD
 EDDY COUNTY, NEW MEXICO
STRUCTURE MAP
 TOP OF LOCO HILLS ZONE

0 500 1000 2000 3000 4000
 FEET
 SCALE - FEET

BEFORE EXAMINER UTZ
 OIL CONSERVATION COMMISSION

Anadarko EXHIBIT NO. 7

CASE NO. 4911-4912

Submitted by Paul Zucker

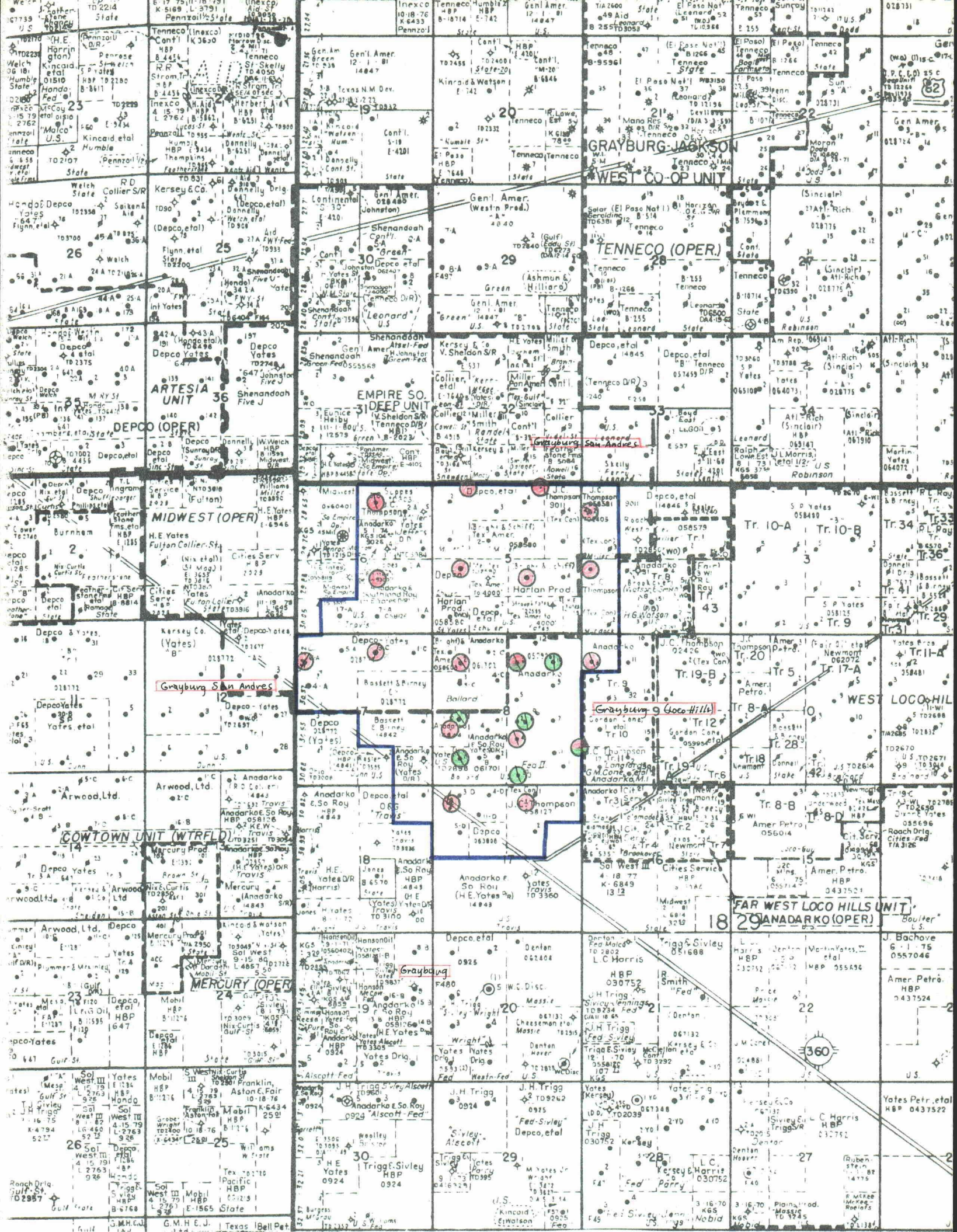
Hearing Date 2-28-73

EXHIBIT 7

STRUCTURE MAP - TOP OF LOCO HILLS SAND

APPLICATION OF ANADARKO PRODUCTION COMPANY TO NEW MEXICO OIL CONSERVATION COMMISSION
 FOR AUTHORITY TO INJECT WATER INTO THE GRAYBURG AND JACKSON RESERVOIRS.

BALLARD GRAYBURG SAN ANDRES UNIT, LOCO HILLS FIELD, EDDY COUNTY, NEW MEXICO



Case 4912

EXHIBIT

LOCATION OF INJECTION WELLS AND OTHER WELLS WITHIN TWO MILES
 APPLICATION OF ANADARKO PRODUCTION COMPANY TO NEW MEXICO OIL CONSERVATION COMMISSION
 FOR AUTHORITY TO INJECT WATER INTO THE GRAYBURG AND JACKSON RESERVOIRS.
 BALLARD GRAYBURG SAN ANDRES UNIT, LOCO HILLS FIELD, EDDY COUNTY, NEW MEXICO

- GRAYBURG INJECTION
- JACKSON INJECTION
- GRAYBURG & JACKSON INJECTION
- Wells to be converted = ①
- new injection wells = 0

SCALE 1" = 4000'