

ANADARKO PRODUCTION COMPANY

3109 WINTHROP AVENUE P. O. BOX 9317 FORT WORTH, TEXAS 76107

CABLE ADDRESS: ANADARK

RECEIVED

November 12, 1965

NOV 16 1965

O. E. C.
REGIONAL OFFICE

New Mexico Oil Conservation Commission,
Drawer DD,
Artesia, New Mexico.

Re: Grayburg-Jackson Unit (R-2323)
Eddy County, New Mexico

Gentlemen:

In accordance with Rule 701 (B) and 701 (E), please find the following information in support of our request to obtain administrative approval to convert Well No. 5-1 to water injection status on the Grayburg-Jackson Unit (R-2323):

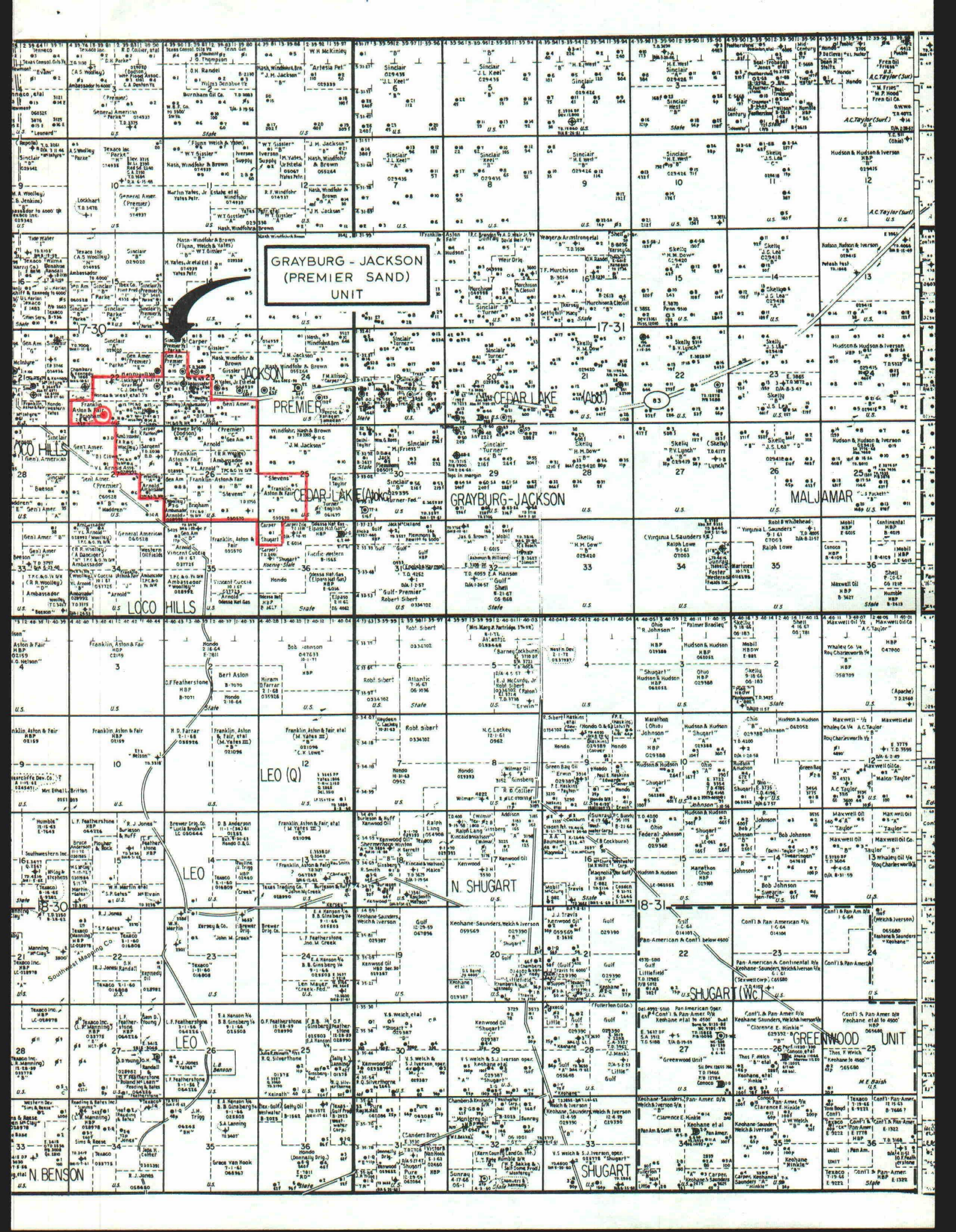
1. Plat showing proposed injection wells and location of all other wells within a two mile radius.
2. No logs on the proposed injection wells are available.
3. Plat showing unit boundaries, current injection wells and proposed injection wells.
4. A diagrammatic sketch of the proposed injection well casing programs.
5. Waterflood application data sheet showing all pertinent information.
6. Copy of a letter to the State Engineer transmitting a copy of the application requesting his approval.
7. Copy of letter to the offset operator requesting waivers of no objection and indicating that a copy of the application was transmitted to them.
8. State Form C-116 showing wells responding to waterflood.

Yours very truly,

ANADARKO PRODUCTION COMPANY

E. A. Riley
E. A. Riley

Superintendent
Secondary Recovery Division



R 30 E

LOCO HILLS

ANADARKO

LEGEND-ONLY PREMIER SAND WELLS PLOTTED

- OIL WELL
- ♦ P&A
- ♦ TEMP ABAND
- ♦ DRY & ABAND
- ♦ WATER INJ WELL
- ♦ PROPOSED WTR INJ WELL

ANADARKO PRODUCTION COMPANY

OPERATOR

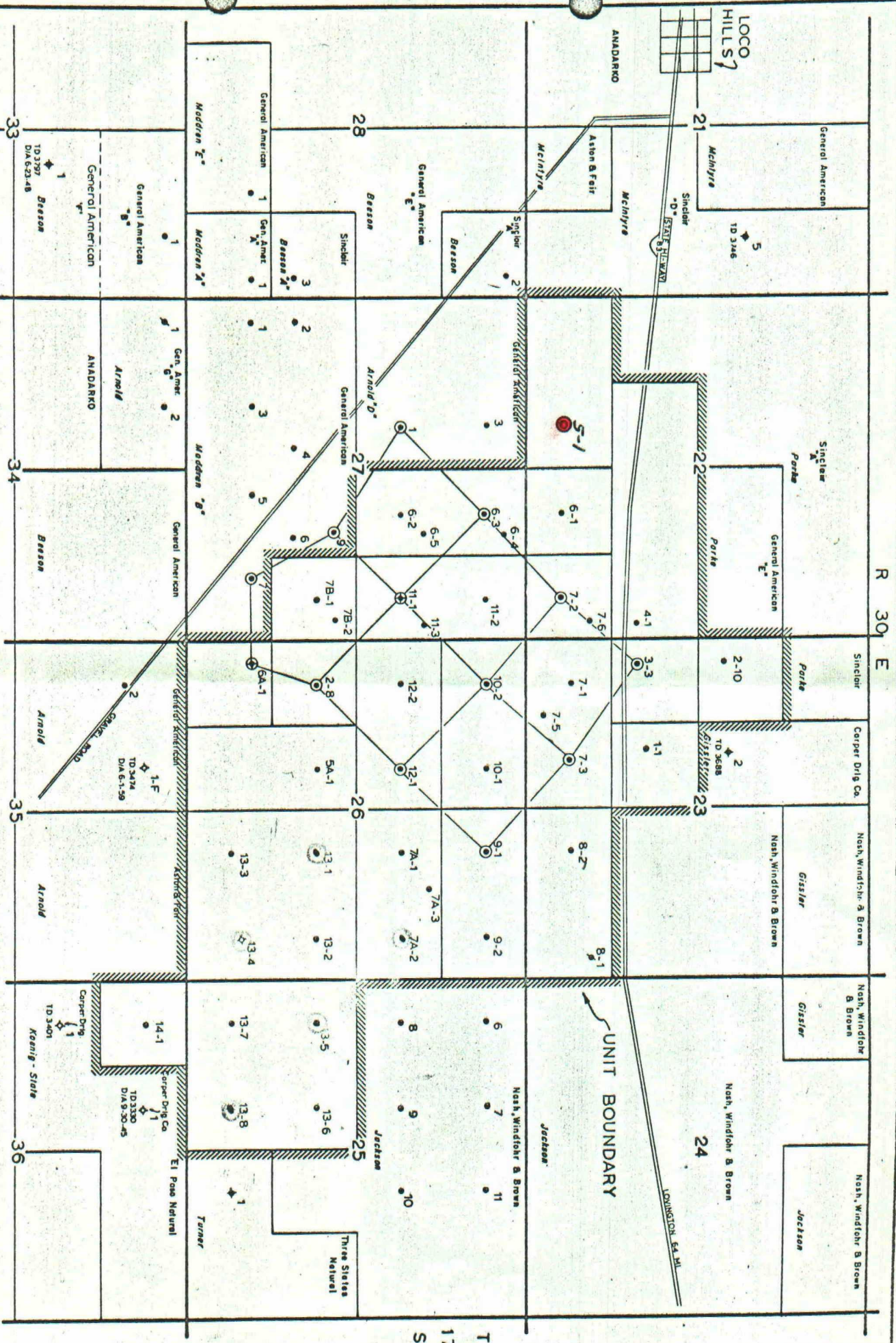
FLOOD NO. 42

GRAYBURG JACKSON UNIT (R-2323)

EDDY CO. NEW MEXICO



CBM	2.24.61
CBM	3.12.63
TR	12.16.63



INJECTION WELL DATA

GRAYBURG-JACKSON UNIT (R-2323)
EDDY COUNTY, NEW MEXICO

comp date 8/19/05

	WELL NO.	5-1					
SURFACE CASING	SIZE	8-5/8"					
	LENGTH	510'					
	SXS. CEMENT	50					
PRODUCTION CASING	SIZE	4-1/2"	NW				
	LENGTH	3,206'					
	SXS. CEMENT	100	TOC 2,000 3,000				
TUBING	SIZE						
	LENGTH						
	PACKER DEPTH						
INJ.	DEPTH	3,168-74'					
	THRU CASING OR TUBING	Casing					

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO INJECT FLUID
INTO A RESERVOIR PRODUCTIVE OF OIL OR GAS

Field Grayburg-Jackson County Eddy District _____
Operator Anadarko Production Company Date November 12, 1965
Address P. O. Box 9317, Fort Worth, Texas
Lease (s) & Number (s) Grayburg-Jackson Unit (R-2323)
Reservoir Premier Discovery Date April, 1930

HAVE ANY INJECTION PERMITS BEEN GRANTED PREVIOUSLY IN THIS RESERVOIR? Yes
IF ANSWER TO ABOVE QUESTION IS "NO", ALL OPERATORS IN THE RESERVOIR MUST BE
NOTIFIED OF THIS APPLICATION, AND COPIES OF NOTIFICATION ATTACHED HERETO.

I. Reservoir and fluid characteristics

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A. Information on entire reservoir

NOV 16 1965

1. Name of formation Grayburg-Jackson - Premier Zone
2. Estimated productive area of entire reservoir Unknown
3. Composition (sand, limestone, dolomite, etc.) Sand
4. Type of structure Stratigraphic Trap
(Include cross-section and structural maps)
5. Subsea depth of oil-water contact None Gas-oil contact None
6. Type drive during primary production Solution Gas
7. Original BHP 1,300 Current BHP 0
8. Was gas cap present originally? No At present? No
9. Ratio of gas cap volume to oil zone volume —
10. Saturation pressure — Formation Volume Factor 1.28

O. C. C.

ARTESIA OFFICE

B. Information on proposed project area

1. Number of productive acres in lease (s) within project area 1,600
2. Average depth to top of pay 3,300
3. Average effective pay thickness (feet) 13
4. Average porosity (%) _____
5. Average horizontal permeability (mds.) 36 Range 5-60
6. Connate water content (% of pore space) 25
7. Gravity of oil (API) 37 Viscosity Est. 1.5 CP

II. Primary Production history

1. Date first well completed on lease (s) April, 1930
2. Oil, gas, water production by months since discovery. (Graphically as well as in tabular form.)
3. Stage of depletion of project area Stripper
4. Number of producing wells on each lease in project area 35
5. Average daily oil production per well at present time 2.2
6. Average gas-oil ratio Nil Water production (%) None
7. Cumulative oil production to date from lease (s) 1,745,000

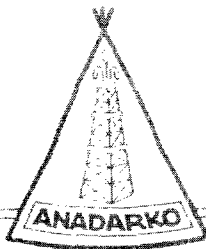
III. Results expected

1. Estimated original oil in place (bbls.) 9,000,000
2. Estimated oil saturation at present time (% of pore space) 50
3. Estimated residual oil saturation at abandonment 30
4. Estimated ultimate additional oil that will be recovered as a direct result of injection (bbls.) 1,750,000

IV. Injection

1. Type of Injection Fluid (water, gas, LPG) Water
2. Source of injected fluid (formation, depths) Commercial Water Supplier
3. Injection pattern and spacing 5 Spot 80 Acres
4. Maximum injection pressure to be used (psi) 1,200
5. Estimated maximum per well rate of injection (bbls.) 500
6. List complete injection well data on reverse side of this sheet.

~~(APPLICANT MUST COMPLY WITH THE INSTRUCTIONS ON REVERSE SIDE HEREOF.)~~



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3109 WINTHROP AVENUE P. O. BOX 9317 FORT WORTH, TEXAS 76107
CABLE ADDRESS: ANARK

November 12, 1965

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O. C. C.
ADJUTANT GENERAL

State Engineer,
Capitol Building,
Santa Fe, New Mexico.

Re: Grayburg-Jackson Unit (R-2323)
Eddy County, New Mexico

Gentlemen:

Attached please find the data necessary as required by Rule 701 (B) to obtain administrative approval to convert unit well no. 5-1 to water injection. A combination of fresh water purchased from the Caprock Water Company and produced water will be injected through casing and perforations.

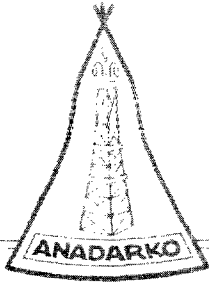
If everything is in order, please notify the Commission that you have no objection to this request.

Yours very truly,

ANADARKO PRODUCTION COMPANY

E. A. Riley
Superintendent
Secondary Recovery Division

BCW:lh
Attch.



ANADARKO PRODUCTION COMPANY

3109 WINTHROP AVENUE P. O. BOX 9317 FORT WORTH, TEXAS 76107

CABLE ADDRESS: ANDARK

November 12, 1965

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General American Oil Company of Texas,
Meadows Building,
Dallas, Texas.

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Attention: Mr. Kent Nicholson

E. G. C.
ARTESIA, OFFICE

Re: Grayburg-Jackson Unit (R-2323)
Eddy County, New Mexico

Gentlemen:

We are requesting permission to convert the Unit Well No. 5-1 to water injection status as specified by Rule 701 (E) Paragraph 5. Administrative approval may be obtained if the offset operators waive any objection to the request; therefore we are requesting that you sign three copies of the attached waiver letter, forward two copies to the New Mexico Oil Conservation Commission and return one copy to us.

A copy of the application data is attached for your files.

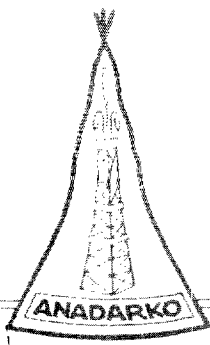
Your early attention to this matter will be greatly appreciated.

Yours very truly,

ANADARKO PRODUCTION COMPANY

E. A. Riley
Superintendent
Secondary Recovery Division

BGW:lh
Attach.



ANADARKO PRODUCTION COMPANY

3109 WINTHROP AVENUE P. O. BOX 9317 FORT WORTH, TEXAS 76107

CABLE ADDRESS: ANDARK

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New Mexico Oil Conservation Commission,
Drawer DD,
Artesia, New Mexico.

NOV 16 1965

O. C. C.
ARTESIA OFFICE

Re: Grayburg-Jackson Unit (R-2323)
Eddy County, New Mexico

Gentlemen:

We have no objection to Anadarko Production Company's
request for administrative approval to convert their Unit Well
No. 5-1 to water injection status.

Yours very truly,

ANADARKO PRODUCTION COMPANY

E. A. Riley
Superintendent
Secondary Recovery Division

BGW:lh

APPROVED:

General American Oil Company of Texas

By _____

Date _____

**NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS**

C-116
Revised 1-1-65

Operator ANADARKO PRODUCTION COMPANY		Pool GRAYBURG-JACKSON		County EDDY									
Address 3109 WINTHROP AVE., FORT WORTH, TEXAS				TYPE OF TEST - (X)	Scheduled <input type="checkbox"/> Special <input checked="" type="checkbox"/>								
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	Completion <input type="checkbox"/>			GAS - OIL RATIO CU.FT./BBL.
		U	S	T						R	WATER BBLs.	PROD. DURING TEST GRAV. OIL BBLs.	
Grayburg-Jackson Unit (R-2323)	6-4	B	27	17S	30E	5-20-65			24	0	3	Nil	
Grayburg-Jackson Unit (R-2323)	6-4	B	27	17S	30E	6-27-65			24	0	31	Nil	
Grayburg-Jackson Unit (R-2323)	6-4	B	27	17S	30E	7-10-65			24	18	14	Nil	
Grayburg-Jackson Unit (R-2323)	6-4	B	27	17S	30E	8-14-65			24	10	13	Nil	

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**O. C. G.
ARTESIA, OFFICE**

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

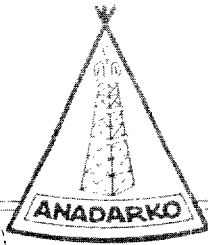
Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

I hereby certify that the above information is true and complete to the best of my knowledge and belief.


(Signature)

Supt. Second Recovery Division
(Title)

November 12, 1965
(Date)



ANADARKO PRODUCTION COMPANY

3109 WINTHROP AVENUE P. O. BOX 9317 FORT WORTH, TEXAS 76107

CABLE ADDRESS: ANARK

November 12, 1965

New Mexico Oil Conservation Commission,
Drawer DD,
Artesia, New Mexico.

Re: Grayburg-Jackson Unit (R-2323)
Eddy County, New Mexico

Gentlemen:

We have no objection to Anadarko Production Company's
request for administrative approval to convert their Unit Well
No. 5-1 to water injection status.

Yours very truly,

ANADARKO PRODUCTION COMPANY

E. A. Riley
Superintendent
Secondary Recovery Division

BCW:lh

APPROVED:

General American Oil Company of Texas

By H. Kent Jackson

Date 11/16/65

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NOV 18 1965

D. C. O.
ARTESIA OFFICE

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

November 18, 1965

C
O
P
Y

Anadarko Production Company
P. O. Box 9317
Fort Worth, Texas 76107

Attention: Mr. E. A. Riley

Gentlemen:

Reference is made to applications requesting administrative approval to convert wells to water injection status in the Grayburg-Jackson and Pearsall Queen Sand Units in accordance with Rule 701. The following information required by Rule 701 (B) (3), has been omitted from the schematic drawings of both applications and is hereby requested:

Tops of cement surrounding surface and production casing - all wells.
Type of packers to be used in Pearsall Unit wells.
Since tubing is not to be used in Grayburg-Jackson well - completion date and whether or not casing was new or used.

Please supply the State Engineer Office with a copy of the above information.

Enclosed is Memo No. 2-65 pertaining to naming of leases and numbering of wells; it would be appreciated if you would comply by designating tracts and well numbers as set out in 2 (B) of the Memo.

Very truly yours,

J. E. KAPTEINA
Engineer

JEK/og



STATE OF NEW MEXICO
STATE ENGINEER OFFICE
SANTA FE

S. E. REYNOLDS
STATE ENGINEER

December 7, 1965

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, NEW MEXICO 87501

Re: Grayburg-Jackson Unit
(R-2323) Eddy County

Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation
Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Anadarko Production Co. which seeks administrative approval to convert well No. 5-1 to water injection (Order R-2323) in their Grayburg-Jackson Unit.

Since this well was completed at a recent date (August 19, 1965) and the production casing is new 4 $\frac{1}{2}$ " OD, 11.60#, J-55 casing, this office offers no objection to the granting of the application.

Very truly yours,

S. E. Reynolds
State Engineer

By:

Frank E. Irby
Frank E. Irby

Chief

Water Rights Division

tmr

cc: Anadarko Production Company
Attn: E. A. Riley

F. H. Hennighausen