

CASE 5032: Application of ANADARKO
PRODUCTION FOR A WATERFLOOD
PROJECT, EDDY COUNTY, NEW MEXICO.

CASE No.

5032

Application,

Transcripts,

Small Exhibits

ETC.

dearnley, meier & associates

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
CONFERENCE ROOM, STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

July 25, 1973

EXAMINER HEARING

IN THE MATTER OF:

Application of Anadarko
Production Company for a
waterflood project, Eddy,
County, New Mexico.

Case No. 5032

BEFORE: Richard L. Stamets,
Examiner.

TRANSCRIPT OF HEARING

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1 MR. STAMETS: The hearing will come to order,
2 please. We will call next Case 5032: Application of
3 Anadarko Production Company for a waterflood project, Eddy
4 County, New Mexico.

5 MR. KELLAHIN: Tom Kellahin, of Kellahin and Fox,
6 Santa Fe, appearing on behalf of the Applicant, Anadarko
7 Production Company. I have one witness to be sworn.

8 MR. STAMETS: Are there any other appearances in
9 this case?

10 (No response)

11 * * * *

12 DANIEL KERNAGHAN,
13 was called as a witness, and after being duly sworn according
14 to law, testified as follows:

15 DIRECT EXAMINATION

16 BY MR. KELLAHIN:

17 Q Will you please state your name, by whom you are employed,
18 and in what capacity?

19 A Daniel Kernaghan, and I am employed by Anadarko Production
20 Company as a division evaluation engineer.

21 Q Have you previously testified before the Commission?

22 A No.

23 Q Will you state briefly your educational and employment
24 background?

25 A I graduated from the Colorado School of Mines with a

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1 degree in petroleum engineering in 1957. Since that
2 time, I have worked as a petroleum engineer for Atlantic
3 Refining Company, Sinclair Oil Company, and Anadarko.

4 Q Are you familiar with the Burnham Grayburg-San Andres
5 unit?

6 A Yes.

7 Q Have you made a study of the feasibility of a waterflood
8 project for this unit?

9 A Yes, sir.

10 MR. KELLAHIN: Are the witness's qualifications
11 acceptable?

12 MR. STAMETS: Yes.

13 Q (By Mr. Kellahin) Will you state briefly what Anadarko
14 seeks by way of this application?

15 A Anadarko seeks authority to institute a waterflood
16 project in its Burnham GSA Unit Area by the injection
17 of water into the Grayburg-San Andres formation through
18 six wells in Section 2, Township 17 South, Range 30
19 East, Square Lake Pool, Eddy County, New Mexico.

20 These six wells are colored-- circled and colored
21 in red on Exhibit One. Our unit is outlined in green
22 on this exhibit. This is one hundred percent Anadarko
23 working interest, and all State acreage.

24 Q This is New Mexico State land?

25 A Yes.

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1 Q Will you please refer to what has been marked as
2 Applicant's Exhibit Two and identify it, please, and
3 state what information it contains?

4 A This is a map of the area that shows a little clearer
5 the surrounding injection projects than does Exhibit One.
6 The injection wells are marked with a circle and an
7 arrow. You can see that we are bounded on the west by
8 Anadarko's Federal "KK" Project and further to the west
9 by our Federal "Q" and Federal "JJ". We are bounded
10 in the southwest by our Federal "R".

11 All of these are approved projects, and are active
12 at this time. Immediately to the north is an abandoned
13 hole on the J. C. Thompson lease.

14 Q Of your six proposed injection wells, are these all
15 former production wells?

16 A Yes.

17 Q What formation are they producing from?

18 A From the Grayburg and San Andres.

19 Q What is your proposed injection formation?

20 A The Grayburg and Lovington zones.

21 Q Will you please refer to what has been marked as
22 Applicant's Exhibit Three-A through Three-F, and let's
23 take Three-A first, and will you describe in general
24 terms what information this exhibit contains?

25 A These exhibits contain the current or proposed completions

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- 1 of our injection wells.
- 2 Q Are all these schematics identical?
- 3 A No, they are not. They vary somewhat from well to well.
- 4 In five of the six cases, there is a liner running
- 5 essentially through the zones perforated.
- 6 Q Do all of the schematics reflect the perforations that
- 7 presently exist in each well?
- 8 A Yes.
- 9 Q Is the data contained on each schematic indicative of
- 10 the proposed manner in which each particular injection
- 11 well will be completed?
- 12 A Yes.
- 13 Q Does each schematic show the size of the tubing and the
- 14 setting depth and the amount of cement to be used?
- 15 A Yes.
- 16 Q Do all the schematics indicate a pressure gauge at the
- 17 surface?
- 18 A They do.
- 19 Q Do all the schematics show the setting for the packer
- 20 and the depth for the packer?
- 21 A They show either the current setting or how they will
- 22 be set.
- 23 Q And will all of the annulus of each injection well be
- 24 filled with inert liquid?
- 25 A Yes.

1 Q Do you intend to use coated tubing or plastic-lined
2 tubing?

3 A No, we don't. This plan is also serving the other
4 projects to the west, and we are inhibiting this water.

5 Q Will the means of protection from corrosion be adequate
6 in the offsetting waterflood projects?

7 A Yes. If this runs into problems, we will take alternate
8 steps.

9 Q In the event you discover some problems with your casing,
10 what, in that event, do you intend to do?

11 A We will run plastic-coated tubing. It is the general
12 practice in most of our flood projects to use plastic-
13 coated tubing.

14 Q Will you please refer to what has been marked as
15 Applicant's Exhibit Four-A through Four-F and identify
16 what this exhibit is?

17 A These are sections of the logs of the injection wells
18 showing the pay intervals and the area above.

19 Q The perforations are not on the logs?

20 A No, they are not on the logs. They are schematics. The
21 zones are identified in a general fashion on the logs,
22 the pay zones.

23 Q What has been the primary recovery for the unit area
24 up to this time?

25 A About 640,000 barrels.

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1 Q What do you anticipate will be the secondary recovery
2 by way of waterflood?

3 A About 500,000 barrels.

4 Q Let's refer now to Exhibits Five-A through Five-J. On
5 these, have you supplied some production data for the
6 unit?

7 A Exhibits Five-A through Five-J are graphs of the wells
8 or the groups of wells within the unit. The exhibits
9 contain production history, yearly production since
10 inception.

11 Q What is your current rate of production on each of your
12 proposed injection wells?

13 A The current rate of production from each of the injection
14 wells?

15 Q Yes, sir.

16 A Do you want the total?

17 Q Yes.

18 A One-one is making about 4 barrels a day. One-three is
19 making about 15. Two-two is shut in, and is completed
20 as an injection well already. Four-one is making about
21 5 barrels a day. Five-one is shut in, and is currently
22 completed as an injection well. Four-two is shut in.
23 These wells have all been recently stimulated and field
24 work has been completed with the exception of running
25 the injection tubing into the three wells that are

1 producing. But all of the wells have had liner work
2 done on them, and they have been stimulated and cleaned
3 out, and production is up considerably from what it was
4 last year.

5 Q In your opinion, Mr. Kernaghan, has production declined
6 to such a point that your recommendation would be the
7 institution of secondary recovery by waterflood?

8 A Yes, it is. Most of the wells are shut in, and the
9 majority of them were shut in prior to the time we did
10 this work.

11 Q Will this proposed waterflood result in recovery of
12 oil which would otherwise not be recovered?

13 A Yes.

14 Q Would waterflood adversely affect the correlative rights
15 of others?

16 A No, I don't believe it will. We have been negotiating
17 for cooperation along our lease lines, and we are close
18 to that point.

19 Q Please refer to Exhibit Six, and identify this, please.

20 A Exhibit Six is our water contract with Double Eagle
21 covering the water supply for the project.

22 Q What is your anticipated volume of injected water?

23 A About 2,400 barrels, or 400 barrels a day per well.

24 Q Do you anticipate injecting the water under pressure?

25 A Yes, under 1800 to 200 pounds of pressure.

1 Q What do you anticipate the life of this particular
2 project will be?

3 A The life of this project will be approximately eight
4 to ten years.

5 Q Do you anticipate the re-injection of any produced water?

6 A Yes, we do. We are currently commingling the produced
7 water and injecting a mixture.

8 Q Were Exhibits One through Six either prepared by you
9 directly or compiled under your direction and supervision?

10 A Yes, they were.

11 MR. KELLAHIN: We move for the introduction of
12 Applicant's Exhibits One through Six, and all their parts.

13 MR. STAMETS: Without objection, Applicant's Exhibits
14 One through Six will be admitted into evidence.

15 (Whereupon Applicant's Exhibits One through Six
16 were admitted in evidence.)

17 MR. KELLAHIN: I have no further questions on
18 direct examination.

19 * * * *

20 CROSS EXAMINATION

21 BY MR. STAMETS:

22 Q Mr. Kernaghan, is it your opinion that all of the
23 injection wells will be sufficiently cased and cemented
24 to adequately protect the formations from the 1800 to
25 200 pound injection pressure?

1 A Yes, sir. I feel that we have gone to quite a bit of
2 pains here to get them protected. We even pulled the
3 liner on one well and replaced it with a longer liner
4 at considerable expense.

5 All the wells have the new liner within them, with
6 the exception of one well that had casing all the way
7 into the Lovington anyway.

8 Q Have you personally been to the oil field in this area
9 and inspected any of Anadarko's installations in the
10 area?

11 A I've been there, but I'm not an authority on that.

12 Q So you couldn't tell me whether Anadarko is using
13 pressure gauges on injection wells, and whether these
14 pressure gauges are working?

15 A No, sir.

16 Q You have had experience with pressure gauges on injection
17 wells for a long period of time, have you not?

18 A Yes, sir.

19 Q In your experience, have you found that these gauges
20 continue to operate satisfactorily over long periods
21 of time?

22 A Not if they are left on the well.

23 Q Does Anadarko use a pressure gauge that is portable?

24 A It is my understanding that we do. This would be, I
25 feel, a generally accepted practice of good operations.

1 Q Do you know how often Anadarko's policy is for their
2 pumpers to take pressure on the annulur space in these
3 wells?

4 A No, I don't.

5 Q Would you furnish that information to the Examiner?

6 A Yes, I will. Would a letter from our superintendent
7 be satisfactory?

8 Q Yes. In your opinion, is there a more foolproof, easy-
9 to-see, attention-attracting method of determining
10 leakage in the annulur space?

11 A If the well heads are above ground, if the head is
12 visible, the space can be left open through a nipple,
13 and water flow would show up in that manner.

14 Q Would such a flow be a tremendous volume in a short
15 period of time, or would you expect just a slow leakage
16 to occur?

17 A I would anticipate significant volume.

18 Q So you would be pumping out quite a volume of water?

19 A Yes, although the wells are visited every day.

20 Q So there would be problems in leaving the annulur space
21 open as well?

22 A In some cases, there would be.

23 Q Do you suppose there would be any reasonable way to
24 rig a well so that if a leak occurred in the annulur
25 space that injection would be shut off to that well?

1 A I don't think it would be an insurmountable task to
2 require a valve of some sort that would be actuated
3 by pressure at the surface. However, I am not an
4 authority on the expense of such a device.

5 Q You you have any information to furnish the Commission
6 along that line, it would be certainly appreciated at
7 the same time you supply the information on your actual
8 field policy.

9 A Yes, we will be glad to do that.

10 Q I understand from your testimony that there is a central
11 plant you intend to use that is already in operation?

12 A That's right.

13 MR. STAMETS: Are there any questions of this witness?

14 (No response)

15 MR. STAMETS: If not, the witness may be excused.

16 (Witness excused.)

17 MR. STAMETS: Do you have anything further to offer
18 in this case?

19 MR. KELLAHIN: Nothing further.

20 MR. STAMETS: Are there any other appearances or
21 any statements in Case 5032?

22 (No response)

23 MR. STAMETS: The case will be taken under advisement.

24 * * * *

25

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1 STATE OF NEW MEXICO)
2) ss
3 COUNTY OF BERNALILLO)

4 I, RICHARD E. McCORMICK, a Certified Shorthand
5 Reporter, in and for the County of Bernalillo, State of New
6 Mexico, do hereby certify that the foregoing and attached
7 Transcript of Hearing before the New Mexico Oil Conservation
8 Commission was reported by me; and that the same is a true
9 and correct record of the said proceedings to the best of
10 my knowledge, skill and ability.

Richard E. McCormick
CERTIFIED SHORTHAND REPORTER

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22 I do hereby certify that the foregoing is a true and correct
23 copy of the transcript of the hearing of Case No. 5032
24 held by me on July 25, 1973.
25 *Richard E. McCormick*, Executive Secretary
New Mexico Oil Conservation Commission

I N D E XWITNESSPAGE

DANIEL KERNAGHAN

Direct Examination by Mr. Kellahin

3

Cross Examination by Mr. Stamets

10

E X H I B I T SEXHIBITADMITTEDOFFERED

Applicant's #1

Map

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4

Applicant's #2

Map

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Applicant's #3A-F

Schematics

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Applicant's #4A-F

Sections of logs

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Applicant's #5A-J

Production history

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8

Applicant's #6

Water contract

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9

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OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

I. R. TRUJILLO
CHAIRMAN
LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER
STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

August 27, 1973

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: CASE NO. 5032

ORDER NO. R-4610

Applicant:

Anadarko Production

Dear Sir:

Enclosed herewith are two copies of the above-referenced
Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other State Engineer Office

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 5032
Order No. R-4610

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

ORDER OF THE COMMISSION

BY THE COMMISSION:

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

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

FINDS:

- (1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.
- (2) That the applicant, Anadarko Production Company, seeks
authority to institute a waterflood project in the Burnham GSA
Unit Area, Square Lake Pool, by the injection of water into the
Grayburg-San Andres formation through six injection wells in
Section 2, Township 17 South, Range 30 East, NMPM, Eddy County,
New Mexico.
- (3) That the wells in the project area are in an advanced
state of depletion and should properly be classified as "stripper"
wells.
- (4) That the proposed waterflood project should result in
the recovery of otherwise unrecoverable oil, thereby preventing
waste.
- (5) That the operator should take all steps necessary to
ensure that the injected water enters only the proposed injection
zones and is not permitted to escape to other formations or onto
the surface from injection, production, or plugged and abandoned
wells.

-2-

Case No. 5032
Order No. R-4610

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

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

IT IS THEREFORE ORDERED:

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

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

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

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

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

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

-3-

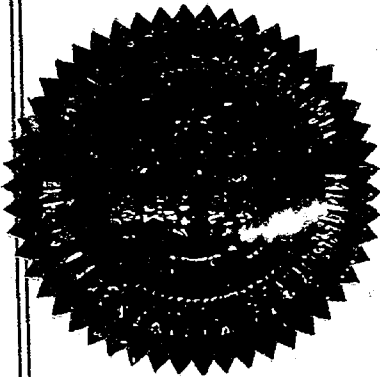
Case No. 5032
Order No. R-4610

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

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



I. R. Trujillo
I. R. TRUJILLO, Chairman

Alex J. Armijo
ALEX J. ARMIJO, Member

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

S E A L

dr/

GENERAL OFFICE
P. O. BOX 9317
FORT WORTH, TEXAS 76107

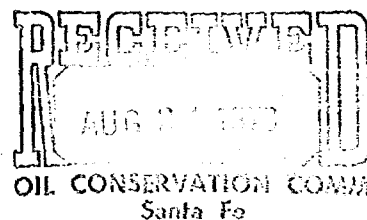


ANADARKO PRODUCTION COMPANY

TWO GREENWAY PLAZA EAST, SUITE 410, HOUSTON, TEXAS 77046, (713) 626-7610

August 20, 1973

Mr. R. L. Stamets
Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501



Dear Mr. Stamets:

This letter is written in answer to a question posed by you during a hearing on July 25, 1973. The hearing on Case No. 5032 concerned Anadarko Production Company's application for a waterflood project in Eddy County, New Mexico. It is my understanding that you inquired as to Anadarko's method of monitoring for tubing leaks on injection wells, and how we propose to monitor for such leaks in the proposed waterflood project. In both cases it is our policy to leave the valve on the casing-tubing annulus slightly open; thereby if the tubing develops a leak, a small amount of water will run out around the wellhead and would be immediately seen by the pumper on his daily rounds to each well. If such flow is detected, the pumper opens the valve fully and checks for the rate at maximum flow and reports the leak immediately to his supervisor.

We feel this is a safe and foolproof method of monitoring for tubing leaks as there are no gauges to go bad and the evidence of the tubing leak is immediately found upon the pumper's checking the well. By leaving the valve only partially open, there is not enough water flow to cause any damage as evidenced by the fact that we have never had any damage or a damage claim resulting from this monitoring method.

It is my recommendation that the Oil Conservation Commission continue to accept this method of monitoring for tubing leaks on injection wells.

Yours very truly,

J. L. Hamilton
Division Production Engineer

JLH/aw

*It would appear that this would fit
Order 4 R4610 as an attention attracting
leak detection device.*

DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 25, 1973

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Richard L. Stamets, Examiner, or Elvis A. Utz, Alternate Examiner:

CASE 5028: Application of Great Basins Petroleum for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Antebellum Unit Area comprising 3840 acres, more or less, of State and Federal lands in Township 23 South, Range 34 East, Lea County, New Mexico.

CASE 5029: Application of Amoco Production Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Old Indian Draw Unit Area comprising 3,128 acres, more or less, of Federal and fee lands in Township 22 South, Range 28 East, Eddy County, New Mexico.

CASE 5030: Application of Yates Drilling Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Artesia Metex Unit Area comprising 2,000 acres, more or less, of State lands in Township 18 South, Ranges 27 and 28 East, Eddy County, New Mexico.

CASE 5031: Application of Yates Drilling Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Artesia Metex Unit Area by the injection of water into the Grayburg formation through 14 wells located in Sections 24, 25, 26, 35, and 36 of Township 18 South, Range 27 East, and Sections 19 and 30 of Township 18 South, Range 28 East, Eddy County, New Mexico.

Applicant further seeks an administrative procedure whereby the locations of said wells can be changed without further notice and hearing.

CASE 5032: Application of Anadarko Production Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Burnham GSA Unit Area by the injection of water into the Grayburg-San Andres formation through six wells in Section 2, Township 17 South, Range 30 East, Square Lake Pool, Eddy County, New Mexico.

CASE 5033: Application of Continental Oil Company for a special gas-oil ratio limit or in the alternative, a lease casinghead gas allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of the special pool rules for the Bell Lake-Bone Spring Pool to provide a gas-oil ratio limit of 5000 to 1 or in the alternative to provide for lease casinghead gas allowable in said pool.

- CASE 5034: Application of Mark Production Company for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Red Lake-Pennsylvanian Pool, Eddy County, New Mexico, including a provision for 320-acre drilling and proration units. In the absence of objection, this pool will be placed on 320-acre spacing rather than the present 160-acre spacing.
- CASE 5035: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates-Seven Rivers formation in the open-hole interval from 3373 feet to 3731 feet in its B. V. Lynch "A" Fed Well No. 1 and from 3712 feet to 3734 feet in its Well No. 10 located in Units J and C, respectively, Section 34, Township 20 South, Range 34 East, Lynch Yates-Seven Rivers Pool, Lea County, New Mexico.
- CASE 5036: Application of The Wil-Mc Oil Corporation for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the San Andres formation in the perforated interval from 4208 feet to 4282 feet in its Champlin State Well No. 1 located in Unit M of Section 3, Township 8 South, Range 33 East, Chaveroo-San Andres Pool, Chaves County, New Mexico.
- CASE 5037: Application of David Fasken for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying Section 31, Township 20 South, Range 25 East, Indian Basin-Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to a well to be drilled in Unit J of said Section 31. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and up to 200 percent charge for risk involved in drilling said well.
- CASE 5038: Application of Twinlakes Oil Company for a dual completion and salt water disposal exception, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its O'Brien "C" Well No. 3 located in Unit K of Section 1, Township 9 South, Range 28 East, Chaves County, New Mexico, as a dual completion (tubingless) to produce oil from the Twin Lakes-San Andres Pool and gas from an undesignated Cisco gas pool through parallel strings of 2 7/8" casing cemented in a common wellbore. Said well was formerly dually completed for San Andres production and Devonian salt water disposal pursuant to Order No. R-4497. Applicant further seeks the amendment of Order No. R-3636 which authorized, as an exception to Order R-3221, the disposal of Devonian and San Andres water production in unlined surface pits; applicant seeks authority to also dispose of water produced from the aforesaid Cisco gas pool in said pits.

Examiner Hearing - Wednesday - July 25, 1973

Docket No. 20-73
-3-

CASE 5039: Southeastern nomenclature case calling for an order for the abolishment and extension of certain pools in Lea County, New Mexico.

(a) Abolish the East Brunson-Granite Wash Pool in Lea County, New Mexico, described as:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM

Section 13: W/2

Section 24: W/2 and SE/4

Section 25: NW/4

TOWNSHIP 22 SOUTH, RANGE 38 EAST, NMPM

Section 19: SW/4

(b) Extend the Wantz-Granite Wash Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM

Section 13: W/2

Section 24: W/2 and SE/4

Section 25: NW/4

TOWNSHIP 22 SOUTH, RANGE 38 EAST, NMPM

Section 19: SW/4

(c) Abolish the North Lynch Yates-Seven Rivers Pool in Lea County, New Mexico, described as:

TOWNSHIP 20 SOUTH, RANGE 34 EAST, NMPM

Section 17: SW/4

Section 18: E/2

Section 19: NE/4

Section 20: NW/4

(d) Extend the Teas Yates-Seven Rivers Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 34 EAST, NMPM

Section 17: SW/4

Section 18: E/2, SW/4, and E/2 NW/4

Section 19: NE/4

Section 20: NW/4

(e) Extend the Antelope Ridge-Atoka Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 34 EAST, NMPM

Section 2: N/2

Section 3: N/2

(f) Extend the Eunice-Monument Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM

Section 7: NW/4

Examiner Hearing - Wednesday - July 25, 1973

Docket No. 20-73

-4-

(g) Extend the Justis-Blinebry Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM
Section 12: N/2

(h) Extend the Maljamar Grayburg-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 33 EAST, NMPM
Section 35: NW/4

(i) Extend the West Sawyer-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM
Section 23: E/2 SW/4

TOWNSHIP 10 SOUTH, RANGE 37 EAST, NMPM
Section 5: NW/4
Section 6: N/2 and SE/4

(j) Extend the Triple X-Delaware Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 32 EAST, NMPM
Section 1: SE/4

(k) Extend the North Vacuum-Abo Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM
Section 17: SW/4
Section 18: SE/4
Section 21: NW/4

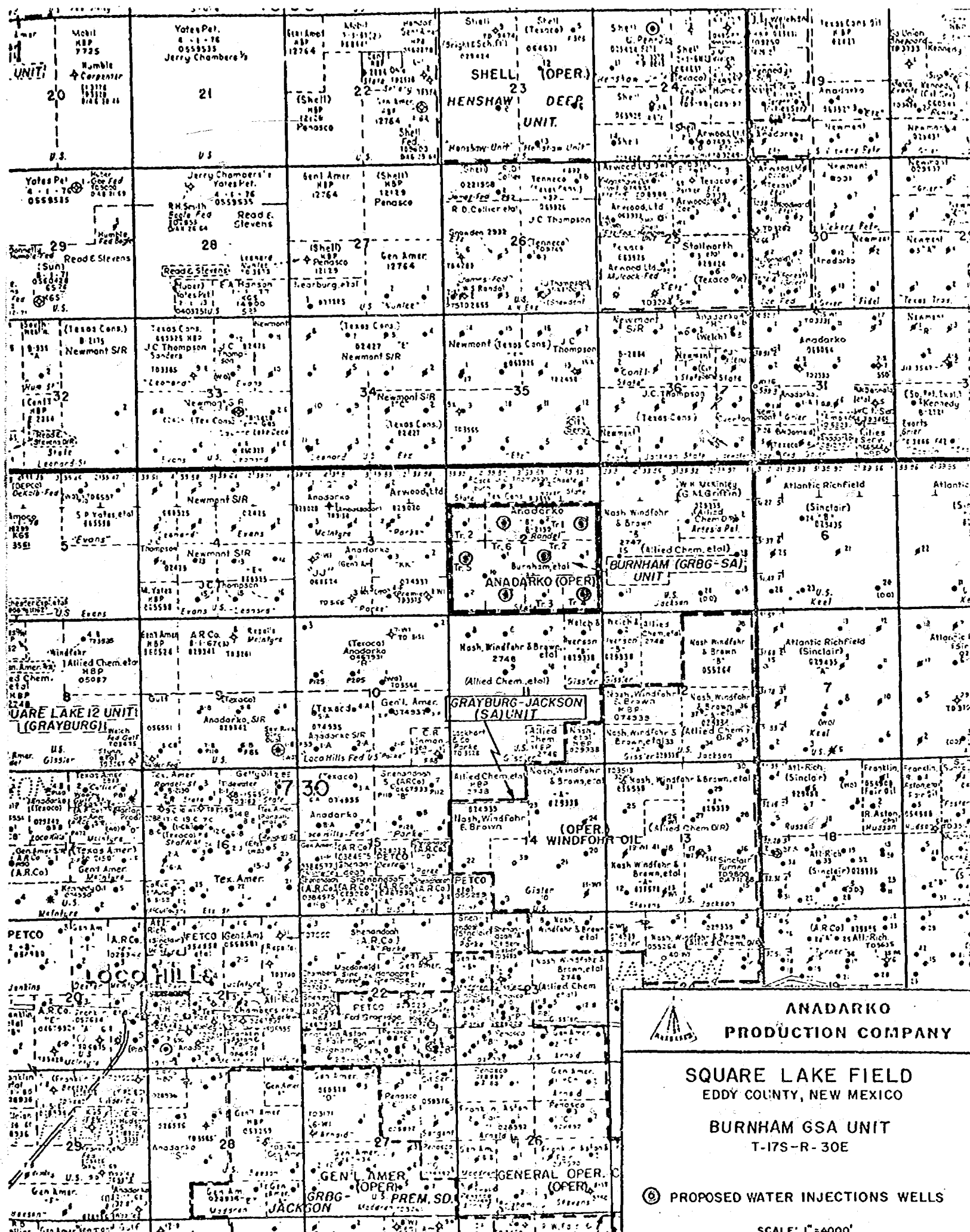
Docket No. 21-73

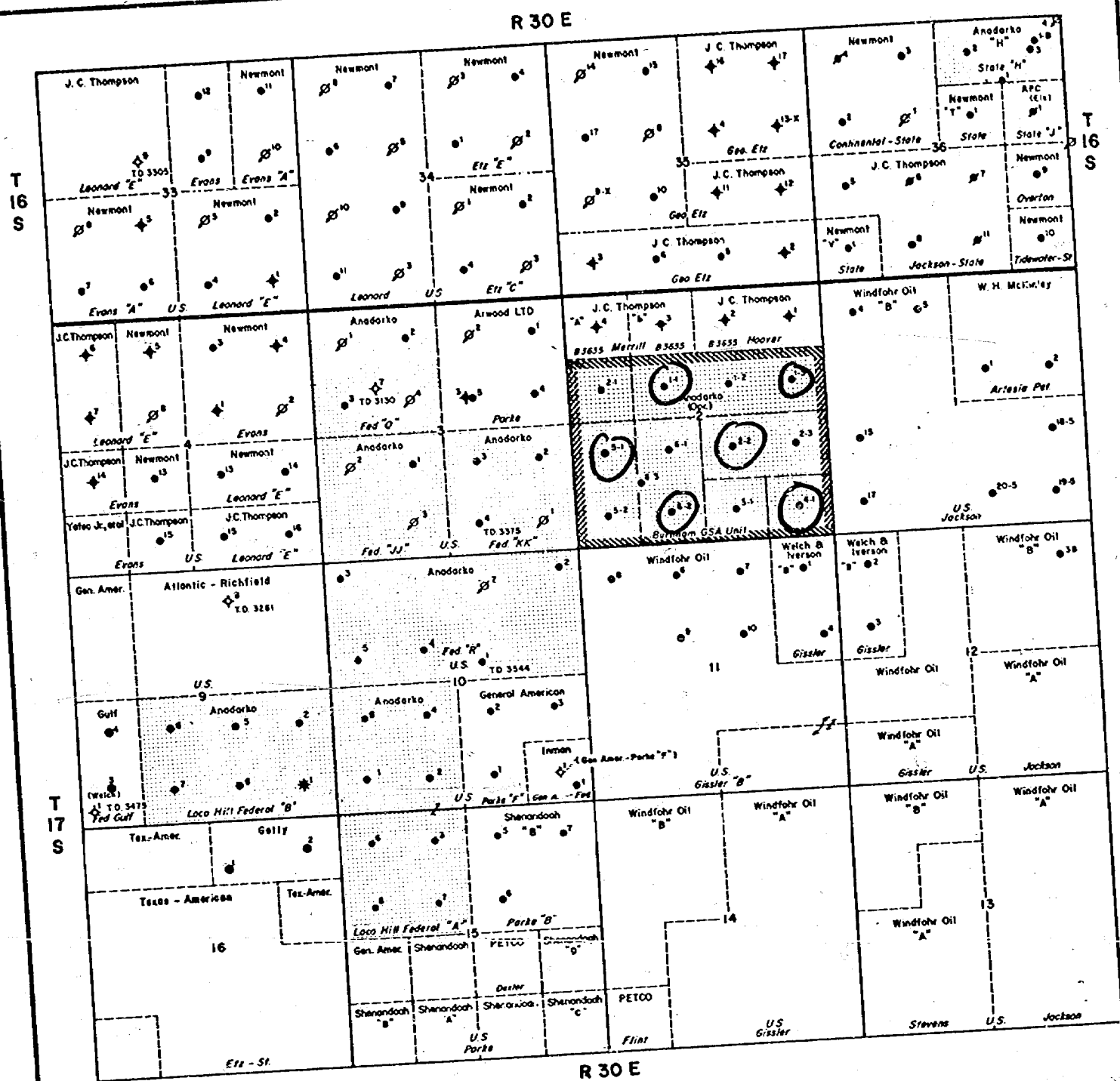
DOCKET: REGULAR HEARING - TUESDAY - AUGUST 7, 1973

OIL CONSERVATION COMMISSION - 9 A.M. - MORGAN HALL, STATE LAND OFFICE
BUILDING - SANTA FE, NEW MEXICO

CASE 5007: (Continued from the June 28, 1973, Regular Hearing)

Application of Belco Petroleum Corporation for a drilling permit in the Potash-Oil Area, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its proposed Felmont Federal Well No. 1 to test the Morrow formation adjacent to the South Salt Lake-Morrow Gas Pool at a location 660 feet from the North line and 1980 feet from the East line of Section 25, Township 20 South, Range 32 East, NMPM, Lea County, New Mexico, said location being within the boundaries of the Potash-Oil Area as defined by Commission Order No. R-111-A, and having been objected to by the owners of potash leases in the area.





LEGEND

- Oil Well
- ◆ Plugged & Abandoned
- ✕ Temporarily Abandoned
- ◇ Dry & Abandoned
- Water Injection Well
- ⊙ Proposed WIW
- ⊙ Proposed Producing Well
- ⊙ Proposed Conversion
- ⊙ Producing Well to WIW
- ▨ Anadarko Acreage



**ANADARKO
PRODUCTION COMPANY**

WEST SQUARE LAKE
EDDY COUNTY, NEW MEXICO
FLOOD NO. 49

PROPOSED WATER INJECTION WELLS

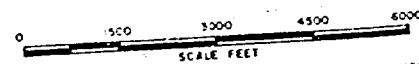


EXHIBIT 1

BURNHAM G.S.A UNIT WELL NO. 1-1

SE/4 - NW/4 SECTION 2, T17S - R-30E

ELEV. 3768 GL.

Pressure Monitor

8 5/8" OD surface casing
set at 592'

7" OD casing set at 2436'

2 3/8" OD tubing set on
tension packer at 2800' approx.

4 1/2" OD, 10.5#, J-55 liner set
2375-3196 w/200 sx
expanding cement.

Water injection down tubing into
S.A. & Grayburg perforations ARO
400 BWPD

PERFS.

T.D. 3211

3196

3120

3066

3028

2994

2988

2970

2898

2852

2816

LOCO HILLS SANDS

METEX SANDS

UPPER PREMIER

LOWER PREMIER

LOVINGTON SANDS

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION

Anadarko EXHIBIT NO. 3-A

CASE NO. 5032

Submitted by KERNAGHAN

Hearing Date 25 July 73

ANADARKO PRODUCTION COMPANY

DIAGRAMMATIC SKETCH
OF
WATER INJECTION WELL COMPLETION

BURNHAM G.S.A UNIT
SECTION 2 - T17S - R-30E

SQUARE LAKE FIELD
EDDY COUNTY, NEW MEXICO

BURNHAM G.S.A UNIT WELL NO. 1-3

SE/4-NE/4 SECTION 2-T17S-R-30E

ELEV. 3755 G.L.

Pressure Monitor

8 5/8" OD surface casing
set at 571'

7" OD casing set at 2445'

2 3/8" OD tubing set on
tension packer at 2800' approx.

4 1/2" OD liner set 2391-3196
w/400 sx expanding cement

Water injection down tubing into S.A. &
Grayburg perforations ARO
400 BHPD

PERFS.

2910-18

3008-18

3168-76

PBTD 3194'

2391

2445

2801

2835

2877

2950

2969

2974

3005

3035

3112

LOCO HILLS SANDS

METEX SANDS

UPPER PREMIER

LOWER PREMIER

LOVINGTON SANDS

Anadarko

3-B

5032

Kernaghan

Heading Date 26 July 73

ANADARKO PRODUCTION COMPANY

DIAGRAMMATIC SKETCH
OF
WATER INJECTION WELL COMPLETION

BURNHAM G.S.A UNIT
SECTION 2-T17S-R-30E

SQUARE LAKE FIELD
EDDY COUNTY, NEW MEXICO

BURNHAM G.S.A UNIT WELL NO. 2-2

NW/4 - SE/4 SECTION 2 - T17S - R-30E

ELEV. 3758 G.L.

Pressure Monitor

8 5/8" OD surface casing
set at 585'

7" OD casing set at 2438'

2 3/8" OD tubing set on
tension packer at 2800'

5 1/2" liner set at 2467'

4" OD Hydril FJU 34#
J-55 liner 2404-3092 set w/
brown liner hanger & packer.
Cemented w/ 125 sx. expanding
cement. Top cement / 2400'

Water injection down tubing into
Grayburg perforations ARO
400 BWPD

PERFS.

2832-38

2886-90

2922-30

2940-44

2958-62

3026-40

2803

2837

2880

2966

2986

2990

3024

3054

LOCO HILLS SANDS

METEX SANDS

UPPER PREMIER

LOWER PREMIER

LOVINGTON SANDS

OTD 3086'
New T.D 3092

BEFORE EXAMINER STAMPS
OIL CONSERVATION COMMISSION

ANADARKO 3-C
Casing 5032
Subscribed by Kornayhan
Hearing Date 20 July 73

ANADARKO PRODUCTION COMPANY

DIAGRAMMATIC SKETCH
OF
WATER INJECTION WELL COMPLETION

BURNHAM G.S.A UNIT
SECTION 2 - T17S - R-30E

SQUARE LAKE FIELD
EDDY COUNTY, NEW MEXICO

BURNHAM G.S.A UNIT WELL NO 4-1

SE/4-SE/4 SECTION 2-T17S-R-30E

ELEV 3763GL

Pressure Monitor

8 5/8" OD surface casing
set at 550'

7" OD casing set at 2467'

5 1/2" OD casing set
at 3120' (DF)

2 3/8" OD tubing to be on
tension packer at approx. 2800'

Water injection down tubing into
Grayburg B S A interval ARO
400 BWP

2467'

2815'

LOCO HILLS SANDS

2860'

2898'

METEX SANDS

2990'

3008'

UPPER PREMIER

3012'

3047'

LOWER PREMIER

3084'

3116'

3151'

LOVINGTON SANDS

PERFS.

OPEN HOLE
3116 - 3218

T.D. 3218'

ANADARKO PRODUCTION COMPANY

DIAGRAMMATIC SKETCH
OF
WATER INJECTION WELL COMPLETION

BURNHAM G.S.A. UNIT
SECTION 2-T17S-R 30E
SQUARE LAKE FIELD
EDDY COUNTY, NEW MEXICO

Anadarko

3-D
5032
Kernaghan
20 July 73

BURNHAM G.S.A UNIT WELL NO. 5-1
NW/4 SW/4 SECTION 2-T17S-R-30E
ELEV. 3746 G.L.

Pressure Monitor

8 5/8" OD surface casing
set at 560' w/50 sx.

5 1/2" casing set at 2770'

2 3/8" OD tubing set on
tension packer at 2800' approx.

2680

4" O.D. 11.34 # J-55 Hydril
FJ liner set 2680-3260 w/
400 sx expanding cement.

Water injection down tubing into
Grayburg perforations ARO
400 BWPD

PROPOSED
INJECTION
INTERVAL

2790

LOCO HILLS SANDS

2827

2865

METEX SANDS

2941

2964

UPPER PREMIER

2968

3001

LOWER PREMIER

3032

3079

LOVINGTON SANDS

T.D. 3260'

BEFORE EXAMINER STAMPTS
OIL CONSERVATION COMMISSION

Anadarko
CASE NO. 5032
Submitted by KERNAGHAN
Hearing Date 26 July 73

ANADARKO PRODUCTION COMPANY

DIAGRAMMATIC SKETCH
OF
WATER INJECTION WELL COMPLETION

BURNHAM G.S.A UNIT
SECTION 2-T17S-R-30E
SQUARE LAKE FIELD
EDDY COUNTY, NEW MEXICO

BURNHAM G.S.A UNIT WELL NO. 6-2

SE/4-SW/4 SECTION 2-T17S-R-30E

ELEV. 3745 G.L.

Pressure Monitor

8 5/8" OD surface casing
set at 560'

7" OD casing set at 2415'

2 3/8" OD tubing set on
tension packer at 2910'

4 1/2" OD 10,5# J-55 liner set
2334-3187 w/400 sx
expanding cement

Water injection down tubing into S.A.
Grayburg perforations ARO
400 BWP

PERFS.

OPEN HOLE
3187-3208

T.D. 3208'

LOCO HILLS SANDS

METEX SANDS

UPPER PREMIER

LOWER PREMIER

LOVINGTON SANDS

ANADARKO

3-F

5032

Kearney

25 July 73

ANADARKO PRODUCTION COMPANY

DIAGRAMMATIC SKETCH
OF
WATER INJECTION WELL COMPLETION

BURNHAM G.S.A UNIT
SECTION 2-T17S-R-30E
SQUARE LAKE FIELD
EDDY COUNTY, NEW MEXICO

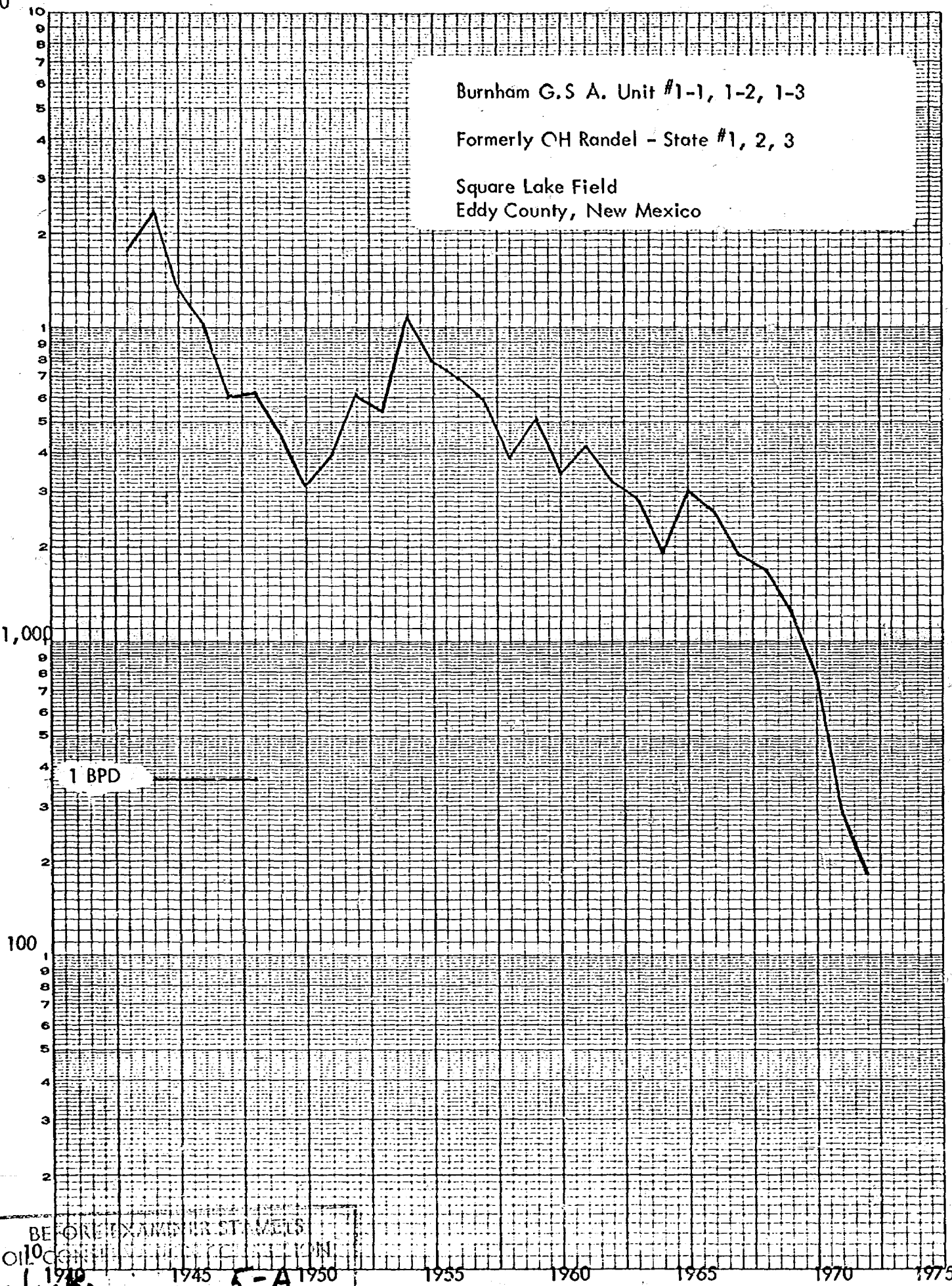
100,000

10,000

EUGENE DIETZEN CO.
MADE IN U.S.A.

NO. 340R-L410 DIETZEN GRAPH PAPER
SEMI-LOGARITHMIC
4 CYCLES X 10 DIVISIONS PER INCH

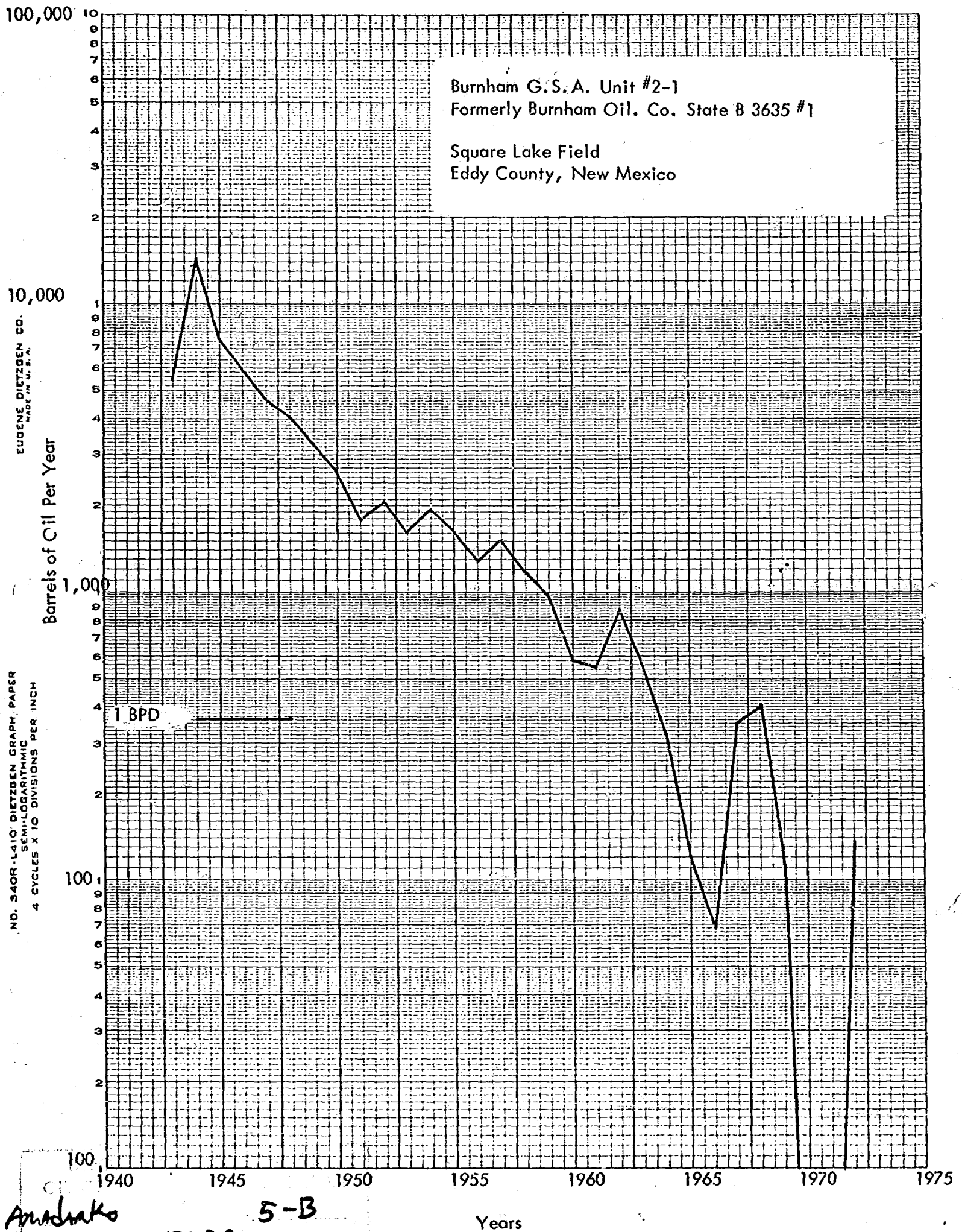
Barrels of Oil Per Year



1 BPD

BEFORE EXAMINER STAMPS
OIL COMPANY
1940 5-A 1950
CASE NO. 5032
Submitted by Keanaghan
Hearing Date 25 July 73

Years



Amado

5-B

5032

Kernaghan

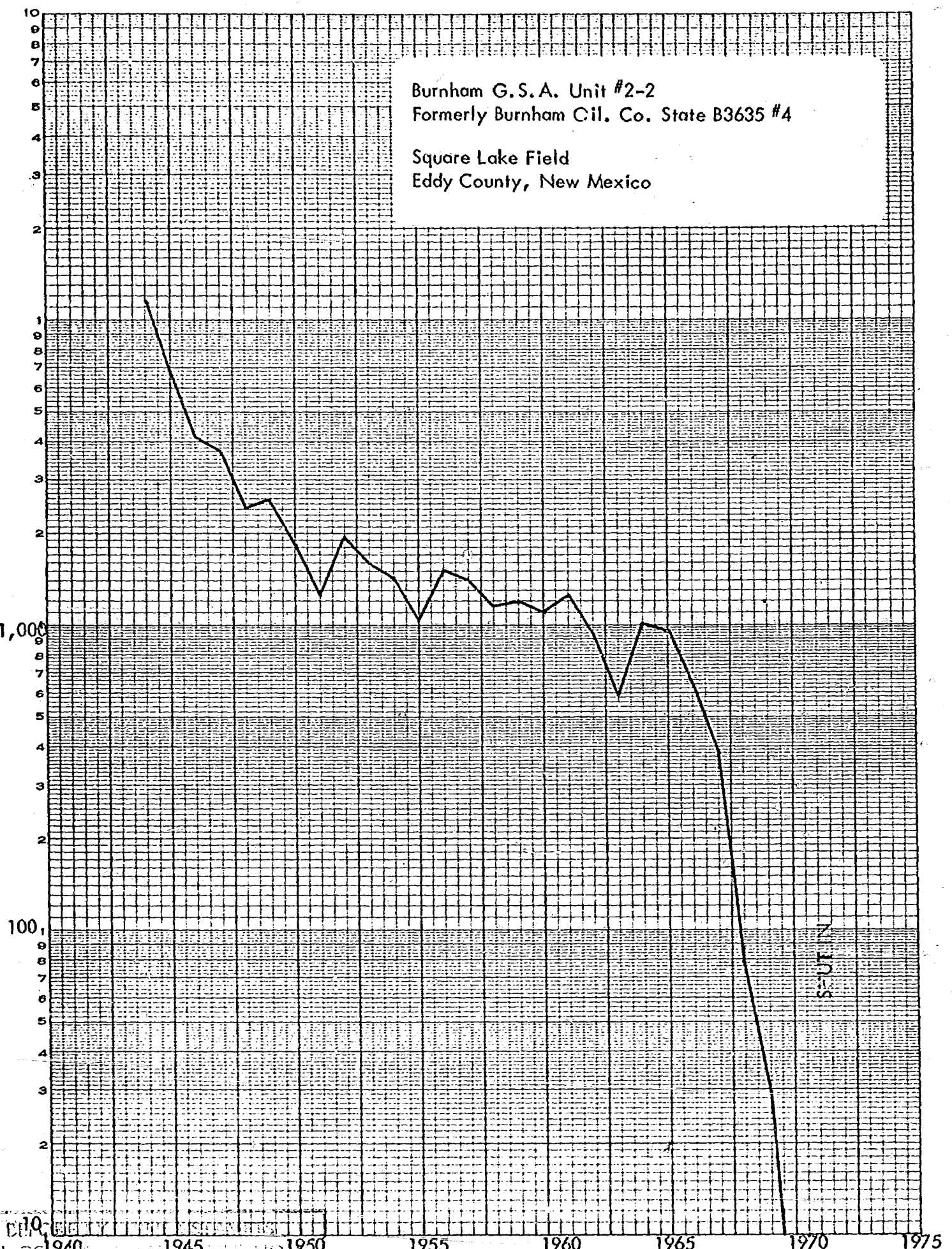
25 July 73

100,000

10,000

EUGENE DIETZGEN CO.
MADE IN U. S. A.

NO. 340R - L410 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
4 CYCLES X 10 DIVISIONS PER INCH
Barrels of Oil Per Year



Oil Co. 1940 1945 1950 1955 1960 1965 1970 1975

Anderson 5-C

CASE NO. 3032

Submitted by Kernaghan

Hearing Date 25 July 73

Years

100,000

10,000

EUGENE DIETZGEN CO.
MADE IN U. S. A.

Barrels of Oil Per Year

NO. 340R-1310 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
4 CYCLES X 10 DIVISIONS PER INCH

1 BPD

SHUT IN

Andrade

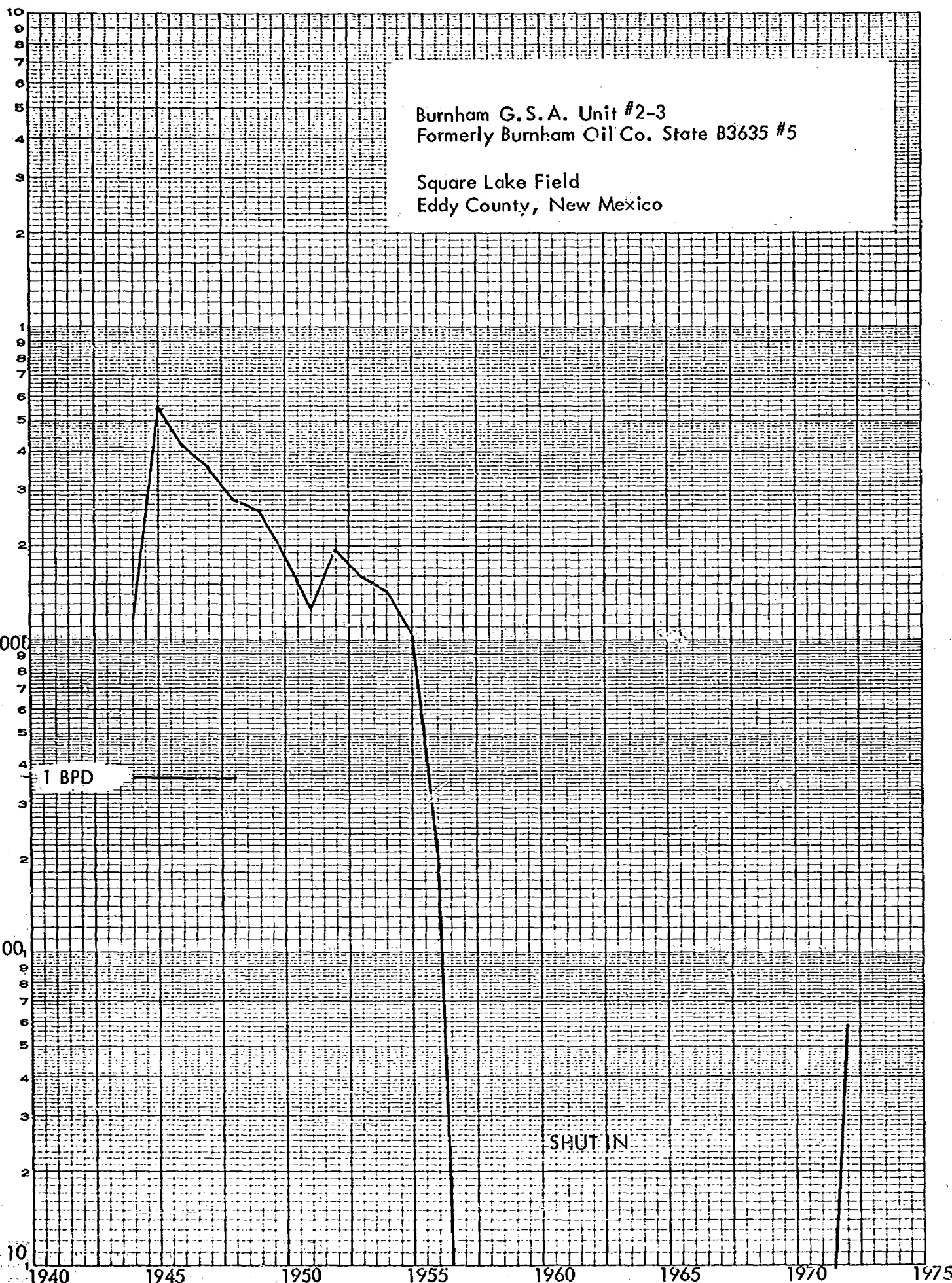
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6032

Kernaghan

26 July 73

Years



100,000

10,000

Barrels of Oil Per Year

NO. 3408-L410 DIETZEN GRAPH PAPER
SEMI-LOGARITHMIC
4 CYCLES X 10 DIVISIONS PER INCH

OIL CO 1940

1945

1950

1955

1960

1965

1970

1975

Burnham G.S.A. Unit #3-1
Formerly Burnham Oil Co. State B3635 #7

Square Lake Field
Eddy County, New Mexico

Amprko

CASE NO.

Submitted by

Hearing Date

5032

Kearneyham

25 July 73

5-E

Years

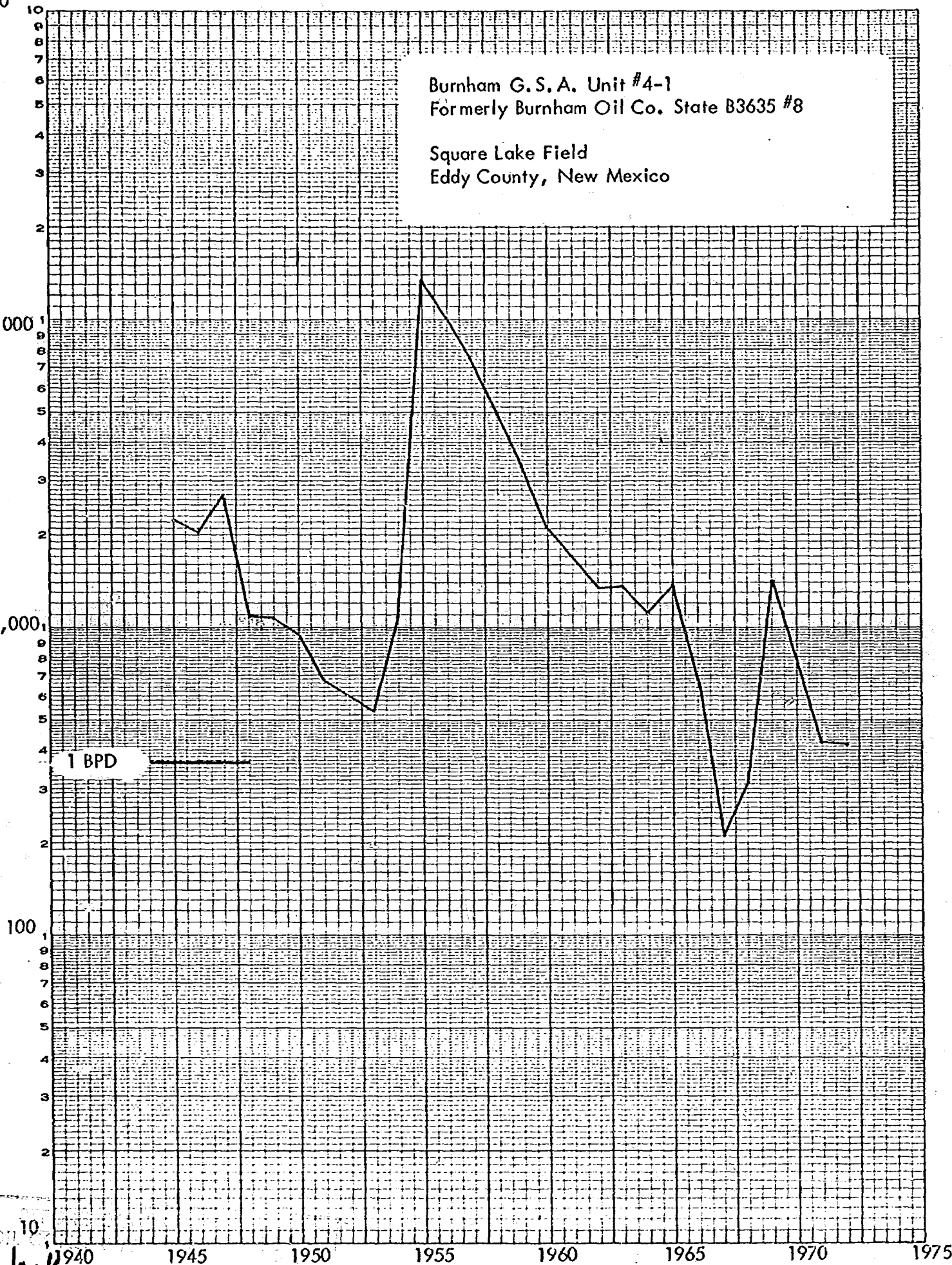
SHUT IN

100,000

EUGENE DIETZGEN CO.
MADE IN U.S.A.

Barrels of Oil Per Year

NO. 340R-1410 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
4 CYCLES X 10 DIVISIONS PER INCH



ANADARKO

Oil

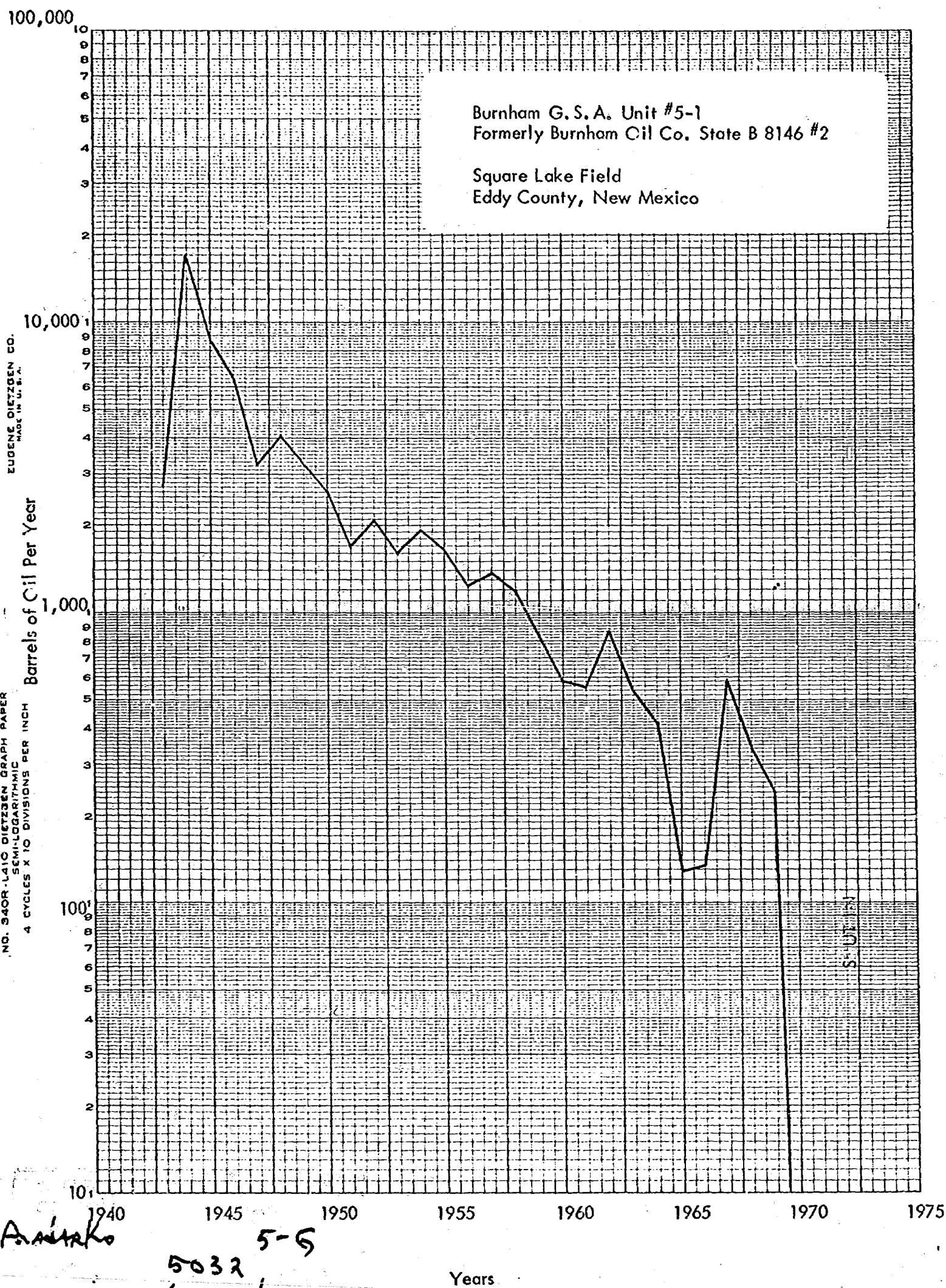
5032

Kernaghan

25 July 73

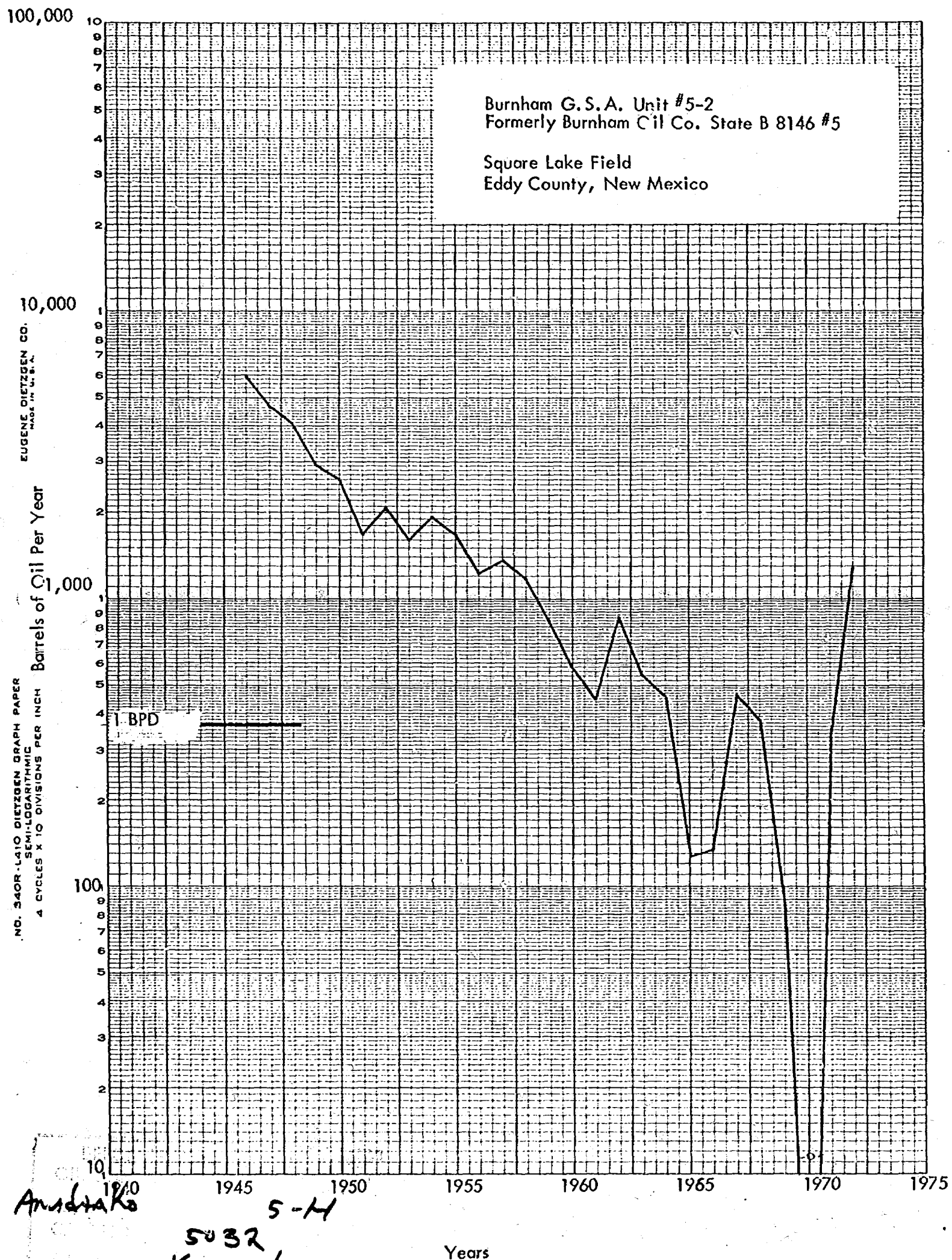
5-F

Years



Amstar

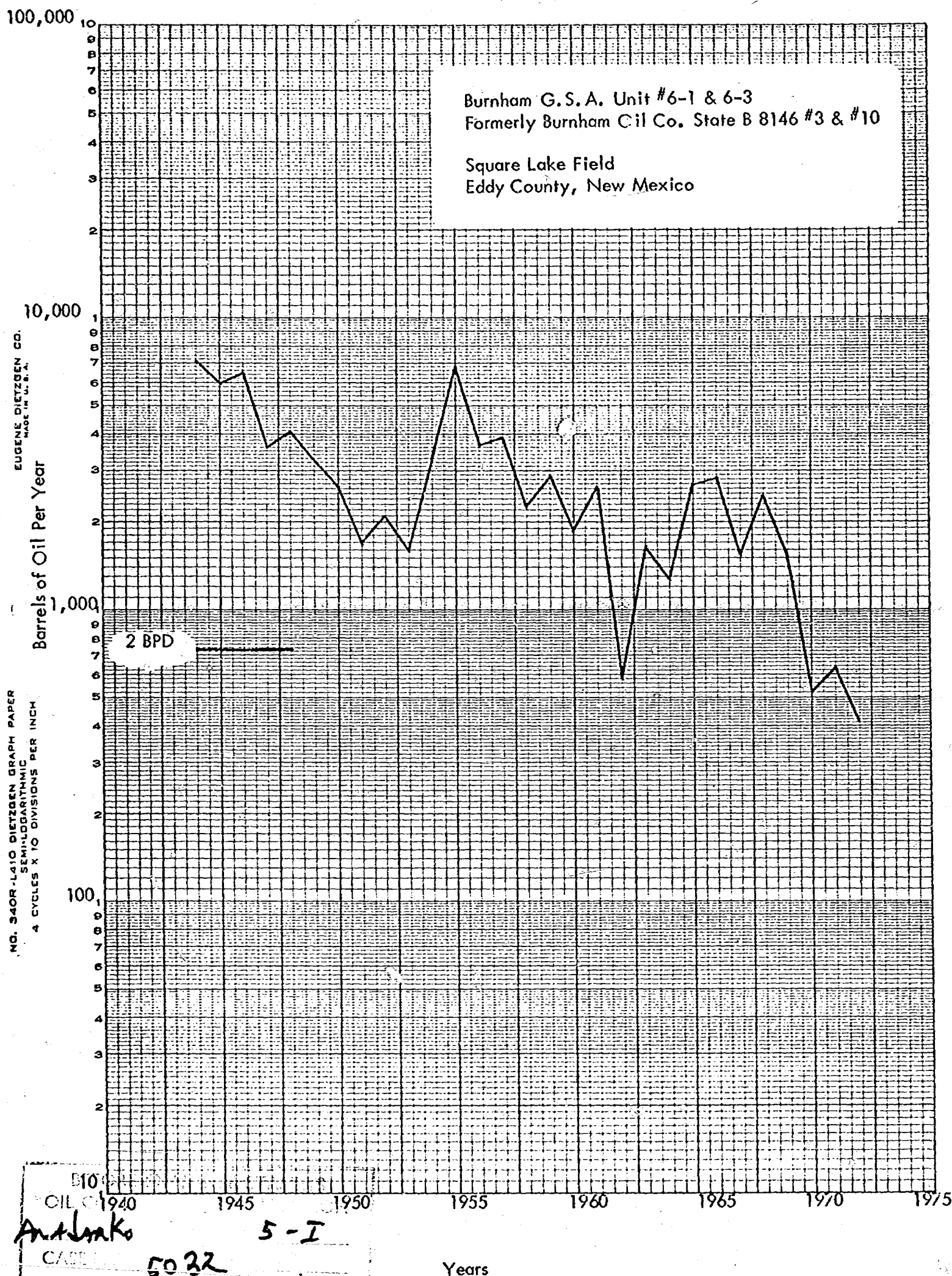
5-5
5032
Kernaghan
25 July 73



Amador

5-14

5032
Kernan
25 July 73



NO. 340R-L410 DIETZEN GRAPH PAPER
EUGENE DIETZEN CO.
MADE IN U.S.A.
4 CYCLES X 10 DIVISIONS PER INCH

Oil 1940 1945 1950 1955 1960 1965 1970 1975

Antelope 5-I

CASE 5032

Sub: 300 Kemighan

Hearing Date 25 July 73

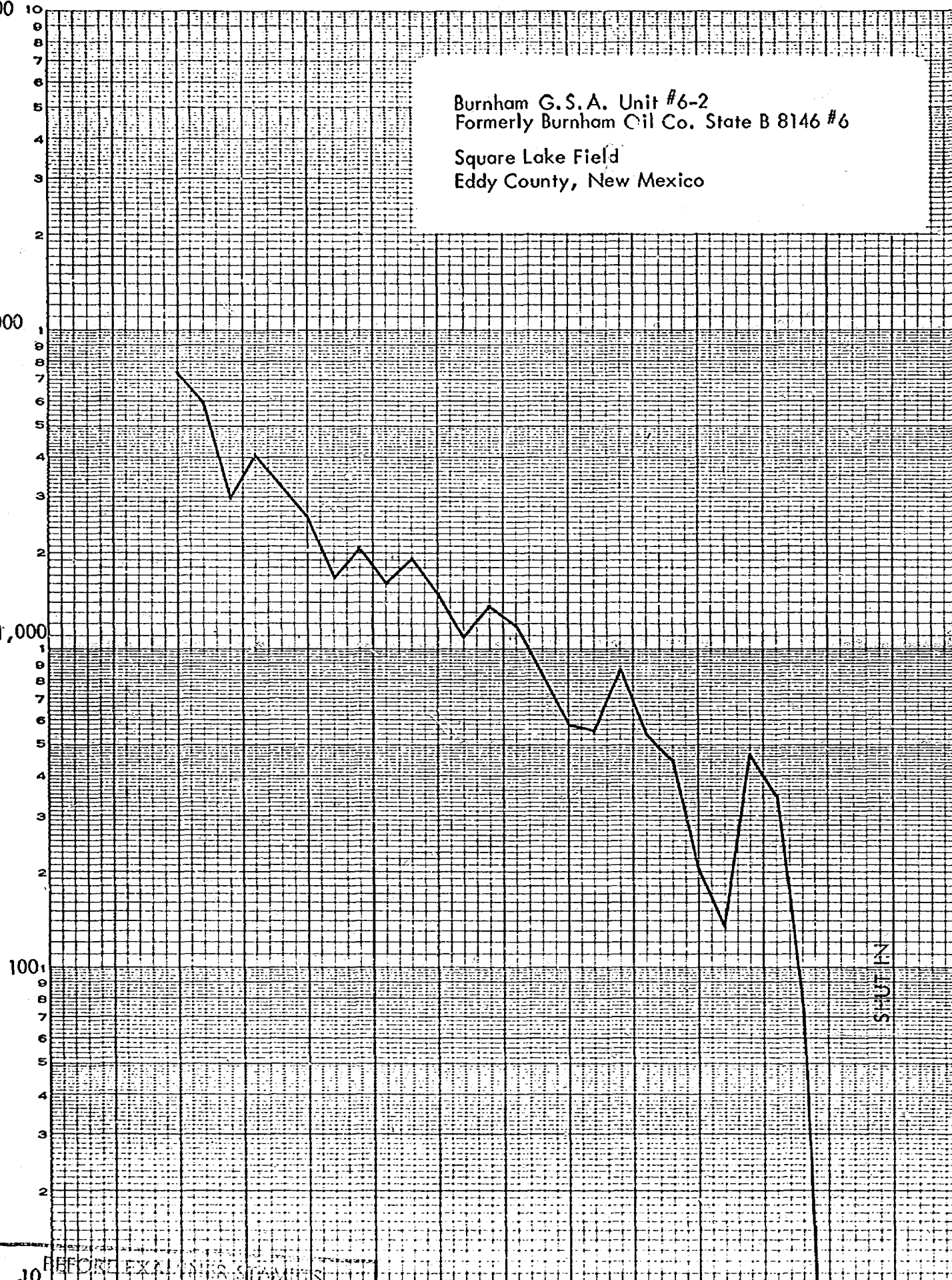
100,000

EUGENE DIETZEN CO.
MADE IN U. S. A.

NO. 340R-1410 DIETZEN GRAPH PAPER
SEMI-LOGARITHMIC
4 CYCLES X 10 DIVISIONS PER INCH

Barrels of Oil Per Year

Burnham G.S.A. Unit #6-2
Formerly Burnham Oil Co. State B 8146 #6
Square Lake Field
Eddy County, New Mexico



RECORD EXAMINER STAMPS

1940	1945	1950
Amulako	5032	5-J
CASE	KORAN	Amulako
Subj:	25	July 73
Hearing		

WATER CONTRACT

This agreement made and entered into as of the 15th day of April, 1970, by and between DOUBLE EAGLE CORPORATION OF NEW MEXICO (N.S.L.), hereinafter referred to as "Seller", and ANADARKO PRODUCTION COMPANY, hereinafter referred to as "Buyer",

BEFORE EXAMINER STAMETS	
OF CONSERVATION COMMISSION	
EXHIBIT NO.	<u>6</u>
CASE NO.	<u>5032</u>
Submitted by	<u>Keenan</u>
Hearing Date	<u>25 July 73</u>

WITNESSETH:

WHEREAS, Buyer desires to purchase water from Seller to use and to make available under injection pressure to others for use in waterflood and other recovery operations on Sections 1, 2, 3, 10 and 11, Township 17 South, Range 30 East, in Eddy County, New Mexico (all of such operations being deemed to be operations of Buyer for purposes of this contract); and

WHEREAS, Seller has available and desires to sell such water to Buyer for such purposes, subject to and upon terms and conditions hereinafter set forth:

NOW, THEREFORE, in consideration of the premises and the mutual covenants and obligations herein set out, it is agreed by and between Seller and Buyer as follows:

ARTICLE I.

Section 1. Buyer agrees that for a period of five (5) years from date hereof, and for as long thereafter as Buyer may elect, Buyer will purchase from Seller all water required by Buyer for the operations above described. Seller agrees to sell and deliver to Buyer such water as Buyer's needs require, said water to be supplied from Seller's water leases and water rights situated in Lea and Eddy Counties, New Mexico, and to consist exclusively of Ogallala water unless otherwise agreed upon by both Buyer and Seller.

Section 2. The quantity of water herein contracted to be purchased by Buyer shall be delivered by Seller in such quantities as may from time to time be requested by Buyer.

Section 3. Buyer is aware of the costs and expenses incurred and to be incurred by Seller in securing a sufficient supply of water for Buyer's needs and transporting the same to the delivery point, and in consideration of such

costs and expense Buyer agrees to purchase exclusively from Seller all water required by Buyer for its operations during the term of this contract, provided Seller is not in default of the terms of this contract.

ARTICLE II.

Price

During the term of this contract Buyer agrees to pay to Seller for all water delivered to Buyer under the terms of this agreement the sum of \$0.0185 per barrel of water delivered (a barrel being defined as 42 U. S. Gallons), such payments to be made on a monthly basis.

ARTICLE III.

Delivery Point

Delivery of water to Buyer by Seller shall be at the following location:

Buyer's plant to be located on the Southwest Quarter of Section 2, Township 17 South, Range 30 East, Eddy County, New Mexico.

Title to such water shall pass from Seller to Buyer at the delivery point.

ARTICLE IV.

Delivery Obligations

Section 1. Seller hereby agrees to construct the necessary facilities to provide water as herein contemplated at the delivery point on or before thirty (30) days from the date of this agreement.

Section 2. Buyer agrees to notify Seller immediately if sufficient water to meet its requirements is not being supplied and Seller agrees that upon receipt of such notice it will promptly remedy such condition.

ARTICLE V.

Metering

Seller shall install at its sole cost and expense a valve and totalizing meter at the delivery point where water covered by this agreement is delivered

into Buyer's system to measure the water so delivered. Buyer may, at its option and expense, install and maintain a check meter or meters downstream from Seller's meter. Buyer shall have the right to inspect Seller's meter in the presence of Seller's representatives. If the accuracy of Seller's meter is questioned, the metering instruments shall be tested and properly adjusted upon the demand of Buyer or Seller, but the measurement shall not be considered inaccurate for accounting purposes unless it is in error by more than five percent (5%). Should any test show an error in excess of five percent (5%) correction shall be made for volumes delivered for one-half of the period elapsed since the last test; but in no event shall the correction be applied for a period in excess of thirty (30) days. In the event any test demanded by Buyer shows an error of more than five percent (5%), the cost of such test shall be borne by the Seller; however, if any error is less than five percent (5%), such cost shall be borne by the Buyer.

ARTICLE VI.

Laws, Regulations and Force Majeure

Section 1. This agreement shall be subject to all valid and applicable laws, orders, rules and regulations of any duly constituted governmental authority.

Section 2. Except for Buyer's obligations to make payments for water delivered hereunder, neither party hereto shall be liable for any failure to perform the terms of this agreement when such failure is due to "force majeure" as hereinafter defined, provided that the party claiming "force majeure" which results in a substantial failure of performance shall give the other prompt written notice thereof. The term "force majeure" as employed in this agreement shall mean acts of God, strikes, lockouts or industrial disturbances, civil disturbances, arrests and restraint from rulers and people, interruptions by government or court orders, present and future valid orders of any regulatory body having jurisdiction, acts of the public enemy, wars, riots, blockades,

insurrections, inability to secure right-of-way, inability to secure labor or materials, including inability to secure materials as a result of allocations promulgated by authorized governmental agencies, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, explosions, breakage or accident to machinery or lines of pipe, freezing of wells or pipe lines, partial or entire failure of water supply, or any other cause, whether of the kind herein enumerated or otherwise, not reasonably within the control of the party claiming "force majeure". Nothing herein contained, however, shall be construed to require either party to settle a labor dispute against its will.

ARTICLE VII.

Use of Water

The water furnished by Seller to Buyer shall be used only for water-flooding and operations conducted on the property above described by Buyer or other operators who contract with Buyer for water to be supplied under injection pressure. *for*

ARTICLE VIII.

Notices

All notices permitted or required to be given under the provisions hereof shall be sent by certified or registered mail, or by Western Union telegram prepaid, addressed to the parties hereto as follows:

Anadarko Production Company
3109 Winthrop Avenue
Fort Worth, Texas 76107

Double Eagle Corporation of New Mexico (N.S.L.)
Post Office Box 2239
Tulsa, Oklahoma 74101

ARTICLE IX.

Miscellaneous

Section 1. Buyer agrees to pay to Seller all sums due for water delivered under this contract to Buyer within twenty (20) days after receipt of Seller's invoice. If payment is not made within thirty (30) days after receipt of Seller's invoice the unpaid balance shall bear interest at the rate

of seven percent (7%) per annum from due date until paid and Seller shall have the right to suspend the delivery of any further water to Buyer until paid in full without liability of any kind.

Section 2. Seller reserves the right to suspend service temporarily to make necessary repairs or improvements to its water system; provided, however, Seller shall notify Buyer of any such interruptions and shall prosecute the work with due diligence and with the least possible delay in service.

Section 3. Buyer agrees to install a throttling valve between Buyer's tank and Seller's meter to prevent damage to Seller's meter.

Section 4. This agreement may be assigned by either party hereto; provided, however, that no assignment or transfer shall relieve either party of its obligations hereunder unless the prior consent of the other party is obtained in writing.

This agreement is binding upon the parties hereto, their personal representatives, successors and assigns.

IN WITNESS WHEREOF, this instrument is executed as of the day and year first above written.

DOUBLE EAGLE CORPORATION OF
NEW MEXICO (NSL)

By: 

J. D. Kenworthy

SELLER

ANADARKO PRODUCTION COMPANY

By: 

BUYER

JASON W. KELLAHIN
ROBERT E. FOX
W. THOMAS KELLAHIN

KELLAHIN AND FOX
ATTORNEYS AT LAW
500 DON GASPAR AVENUE
POST OFFICE BOX 1789
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315
AREA CODE 505

Case 5-032

June 13, 1973

Oil Conservation Commission
of State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Anadarko Production Company
Application for waterflood
project, Square Lake Field,
Eddy County New Mexico

Dear Mr. Porter:

On behalf of Anadarko Production Company, I am
forwarding to you their application for a waterflood
project.

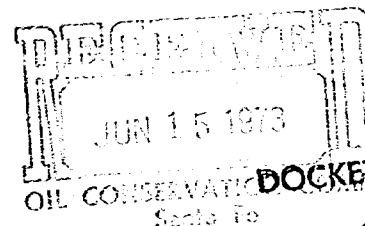
It is their request that this application be
scheduled for hearing at the examiner's hearing to
be held on July 25th, 1973, in Santa Fe, New Mexico.

Very truly yours,

W. Thomas Kellahin
W. Thomas Kellahin

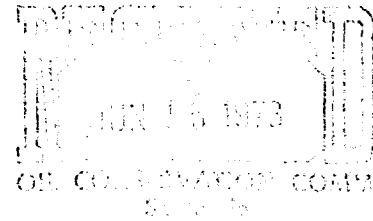
WTK:ks
Enclosure

cc: D. G. Kernaghan



DOCKET MAILED
Date 7-13-73

BEFORE THE
OIL CONSERVATION COMMISSION OF THE
STATE OF NEW MEXICO



IN THE MATTER OF THE APPLICATION
OF ANADARKO PRODUCTION COMPANY
FOR AUTHORITY TO INSTALL AND OPERATE
A WATERFLOOD PROJECT IN ANADARKO'S
BURNHAM GSA UNIT, SQUARE LAKE FIELD,
EDDY COUNTY, NEW MEXICO.

Case 5032

A P P L I C A T I O N

COMES NOW Anadarko Production Company and applies to the Oil Conservation Commission of New Mexico for authority to install and operate a waterflood project in the Anadarko Burnham GSA Unit, Square Lake Field, Eddy County, New Mexico by the conversion of six wells to water injection, for approval of administrative procedures for expansion or modification of said waterflood project, and in support thereof would show:

1. Applicant seeks permission to institute a waterflood project in the Square Lake Field, Eddy County, New Mexico by the injection of water into the Grayburg and San Andres zones.

2. Applicant is the operator of the Burnham GSA Unit embracing lands described as the S/2 N/2 and the S/2 of Section 2, Township 17 South, Range 30 East, N.M.P.M., consisting of 480 acres more or less.

3. Applicant proposes to convert to water injection its wells located in Units F, H, J, L, N, and P, all in Section 2, Township 17 South, Range 30 East, N.M.P.M., as indicated in Exhibit "A", attached hereto.

DOCKET MAILED

Date 7-13-73

4. That the wells in the project area are in an advanced stage of depletion.

5. That the proposed waterflood project will result in the recovery of otherwise unrecoverable oil, thereby preventing waste and the granting of this application will not impair the correlative rights of others.


6. Applicant further requests that administrative procedures be authorized whereby modification or expansion of the project including the drilling of additional injection wells and or producing wells, and the conversion of existing wells to injection at both orthodox and unorthodox locations may be approved without further notice and hearing.

WHEREFORE, applicant respectfully request that this matter be set for hearing before the Commission's duly appointed examiner and that after notice and hearing as required by law, the Commission enter its order approving the application as prayed for.

RESPECTFULLY SUBMITTED:

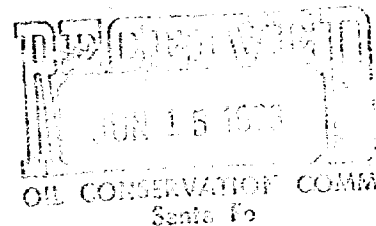
ANADARKO PRODUCTION COMPANY

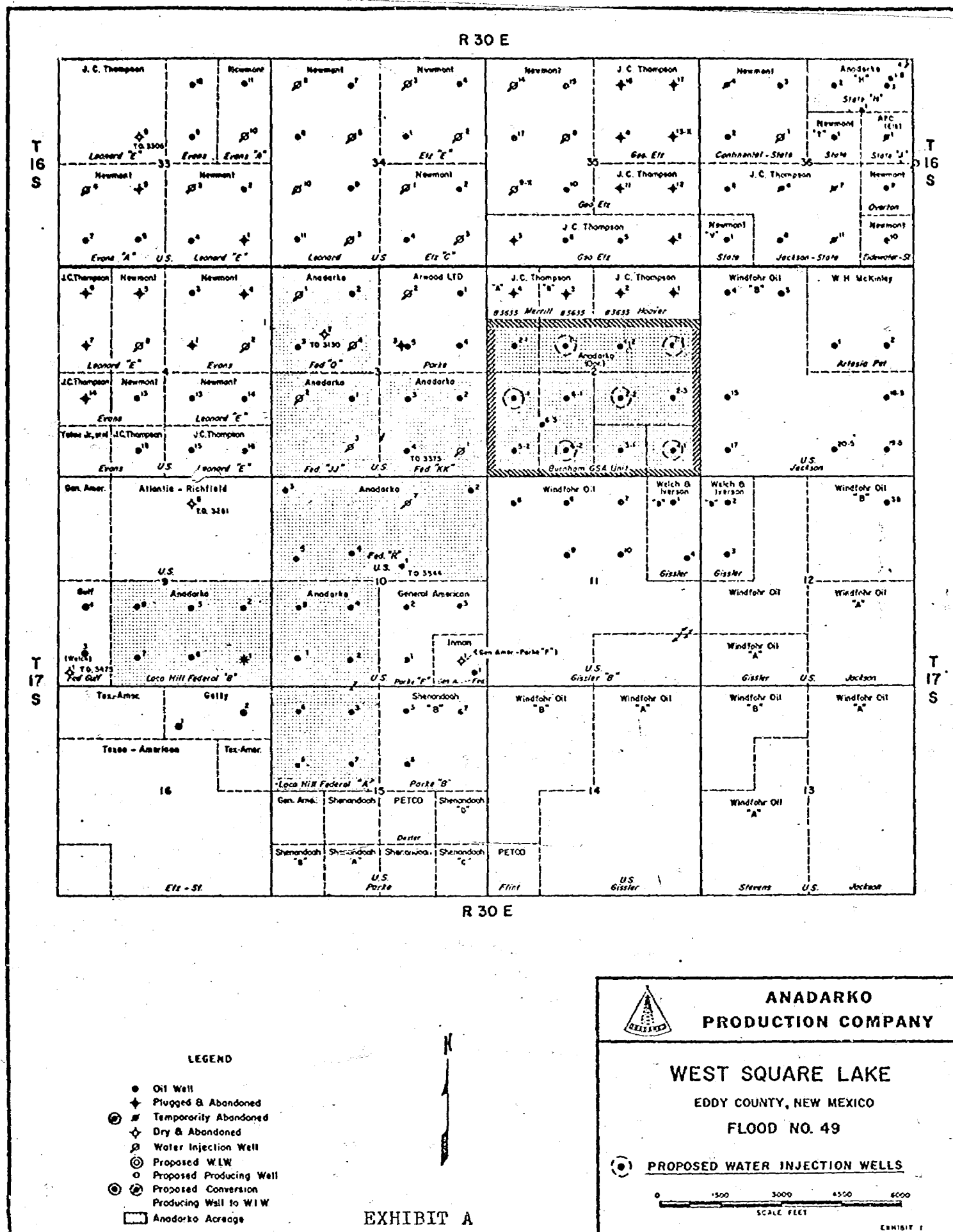
BY


KELLAHIN & FOX
P. O. Box 1769

Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT





DRAFT

dr/

Hold for letter from
Anadarko on inspection and
reporting policy on injection wells

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 5032

Order No. R-4610

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

ORDER OF THE COMMISSION

BY THE COMMISSION:

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

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

FINDS:

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

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

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

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

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

County, New Mexico:

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

Insert (2)(3) & (4) here.

(5) ~~121~~ That the subject waterflood project is hereby designated the ^{Anadarko} ~~Burnham GSA Unit~~ Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(6) ~~131~~ That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

7 ~~141~~ That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

Case No. _____
Order No. _____

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

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

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