

CASE 5191: Appli. of MURPHY
MINERALS FOR A WATERFLOOD PROJECT,
EDDY COUNTY, NEW MEXICO.

CASE No.

5191

Application,

Transcripts,

Small Exhibits

ETC.

EXAMINER HEARING

Case No.
5191

TRANSCRIPT OF HEARING

Fred Watson, Esq.
Watson & Watson
Artesia, New Mexico

THE NYE REPORTING SERVICE
STATE-WIDE DEPOSITION NOTARIES
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CASE 5191

Page..... 2

I N D E X

BERT H. MURPHY

PAGE

Direct Examination by Mr. Watson
Cross Examination by Mr. Stamets

3
10

E X H I B I T S

Marked

Admitted

Applicant's Exhibits Nos.
1 through 5

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10

MURPHY-DIRECT

CASE 5191

Page.....3

MR. STAMETS: We call the next case, Case 5191.

MR. CARR: Case 5191. Application of Murphy Minerals Corporation for a waterflood project, Eddy County, New Mexico.

MR. WATSON: I'm Fred Watson of Watson & Watson, Attorneys, Artesia, New Mexico. I have one witness, Mr. Bert H. Murphy.

(Witness sworn.)

BERT H. MURPHY

called as a witness, having been first duly sworn, was examined and testified as follows:

MR. WATSON: May I have just a moment to stamp these things?

MR. STAMETS: Yes.

DIRECT EXAMINATION

BY MR. WATSON:

Q Mr. Murphy, will you please state your education for the record?

A Yes. I have a Bachelor of Science Degree in Petroleum Engineering from Stanford University, 1950, and did graduate work in Reservoir Engineering, or Oil Property Evaluation, at the University of Southern California.

MURPHY-DIRECT

CASE 5191

Page.....4

Q What is your occupation then?

A I'm an oil producer, an independent oil producer.

Q Have you been in the oil business essentially since your graduation from college?

A Yes, I have.

Q Have you ever had occasion to work on any type of waterflood projects?

A Yes. I was project Engineer and Superintendent for a water plug for Signal Oil and Gas Company in Ward County in 1950 and '51, and Chief Engineer and Manager of operations for F. Kirk Johnson on 32 water plugs in four states from 1954 until '57 when I became an independent. After that time I conducted some 12 or 15 water plugs in various parts of the country.

A All right, sir.

MR. WATSON: Are the Witness' qualifications acceptable?

MR. STAMETS: Yes. There are just a couple of things I would like to check that I missed. Mr. Murphy's first name?

MR. MURPHY: Bert, B-E-R-T, middle initial H.

MR. STAMETS: And your date of graduation, BS?

MR. MURPHY: 1950. I'm also a professional

engineer in the State of Texas.

MR. STAMETS: The Witness is qualified.

BY MR. WATSON:

Q You are, of course, President of Murphy Minerals Corporation, which is the Applicant in this Case?

A Yes.

Q I hand you what has been marked as Exhibit No. 1 in this Case and I'll ask you to identify that please for the record.

A This is a map showing the location Square Lake Field of the lease in question and the proposed injection wells are circled in red.

Q In other words, the Application seeks authority to convert the Gissler No. 2 and 4 Wells to injection wells?

A That's correct.

Q And the lease itself is the East half of the Northeast quarter of Section 11 and the West half of the Northwest quarter of Section 12, all in Township 17 South, Range 30 East, is that correct?

A Right.

Q This is a Federal lease and Murphy Minerals Corporation is the operator of that lease?

A That is correct.

Q Now then, all right. Referring to what has been marked as Exhibit No. 2, what does that depict?

A This is tabular data showing well completions on the lease, at this time all four producing wells; it shows that the wells were completed in 1946 through 1954 and that they produced from Permian Formations to a maximum depth of 3286 feet. They were completed open hole with 7-inch and 8-inch casing being set to -- in some wells -- to 2400 feet to 2800 feet in other wells.

Q Is that Exhibit keyed so as to show the producing sands?

A Yes, it is.

Q What does it show as to these wells, where they are producing.

A It shows that the wells produce from the Metex, Premier, and Lovington.

Q And those are the zones that the Application requests be flooded?

A That's right.

Q All right, sir. Now, referring to Applicant's Exhibit No. 3, will you please tell the Examiner what that represents?

A Yes, this Exhibit is production data on a monthly basis by well and by lease for the years 1972 and 1973, and also shows a cumulative production from the property of 181,217 barrels. It shows that in December of 1973 that the four wells produced 190 barrels of oil or a little over a barrel and a half per well per day.

Q In other words, the current production is what you would call racing the economic limit?

A Yes, that's right. It's stripper production and ready, in our opinion, for secondary recovery operations.

Q All right, sir. Then referring -- I believe that was No. 3 wasn't it -- referring to Exhibit No. 4, that is what?

A Exhibit 4 is a schematic view of our planned conversion of the Gissler "B" No. 2 to injection status; it shows that we plan to set 4½ inch liners from up in the 8-5/8ths inch long-string to the total depth and cement the liner in place and then perforate and stimulate the Metex, Premiere and Lubbington sands for injection into them.

Q All right, sir. Exhibit 5 is a similar schematic is it not?

A Yes, the same for the Well No. 4.

Q Is there down-dip in the formation of some kind?

A As a structure --

Q (Interrupting) Yes.

A We don't feel that structure is particularly significant. These are actually stratigraphic tracts for the most part and there is structure that dips off the east and south.

Q Let me ask you this, now, are these schematics, do they show a conversion similar to the other injection wells in this field?

A Yes. Many of the operators are using a similar type of conversion, notably Anadarko, which off-sets us to the north.

Q I see. They off-set you to the north and that's the same kind of conversion that they're using?

A That's right.

Q What's going to be the source of water for the flood if the Application is granted?

A We have a Lease-Line Cooperative Agreement in effect with Anadarko to the north and with Windfdr to the west. Anadarko has agreed to furnish us water from their injection system; it will be a mixture of fresh water and produced saline water. They have agreed also to take our

MURPHY-DIRECT

CASE 5191

Page.....9.....

produced water and dispose of it.

Q I see. In other words you have no problem on obtaining the water?

A No problem.

Q The Application, of course, says that the anticipated volume and pressure will be approximately 400 barrels per well per day at 1800 PSI?

A That is correct.

Q All right, sir. Now, Mr. Murphy, if this Application is granted, what, in your opinion, will be the effect on correlative rights?

A The correlative rights will be fully protected. It's an accepted lease-line cooperative plan wherein off-set operators are converting injection wells on a five-spot pattern with our injection wells so as to protect correlative rights.

Q I see. Well, if this Application is granted will it, in your opinion, result in the recovery of oil which might not otherwise be recovered?

A Yes, it will. We expect to recover a new amount of oil approximately equal to the amount that has been produced on primary and even in excess of that.

Q I see. These Exhibits, Nos. 1 through 5, were

MURPHY-DIRECT
CROSS

CASE 5191
Page 10

these prepared by you or under your supervision?

A They were prepared under my supervision.

Q You are fully familiar with them?

A Yes.

MR. WATSON: We move the introduction of Exhibits
1 through 5.

MR. STAMETS: They will be so admitted.

(Whereupon, Applicant's Exhibits
Nos. 1 through 5 were admitted into
evidence.)

MR. WATSON: That is the Applicant's direct case.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Murphy, I take it from what you've said that
there are actual waterfloods adjacent to the lease here
in question?

A Yes, that's correct. The Anadarko has had flood
in there for several years and Windfohr has agreed to
commencing floods at the time that we commence, so the
institute from these two floods will simply complete the
waterflood pattern in this area.

Q Yes, that's correct. As to your injection wells,
how do you propose to check for leaks in the injection

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tubing there; load the annulus, install some sort of leak detection device?

A Yes, we'll check it periodically. We'll probably keep a pressure gauge on the annulus or put it on periodically and check to see if we have leaks. Probably at some point in the future in the flood we'll run some flow tests in the well to see where fluid is going into the formation that we wish it to.

Q So, if you would install a gauge or periodically put a gauge on these wells, you would report that to the Commission?

A Yes, we would. We'll be packed off in the annulus so we could tell from pressure increase.

Q The annulus would be loaded with some sort of inhibited fluid?

A Yes.

Q You would have, I presume, a pumper working in the area every day?

A Yes. We have now and he will continue.

Q Would he report any leakage or pressure increase in these wells directly to the Commission as well as yourself?

A We've not so instructed him but we could if that's

your wish.

Q And would he also report the leakage of any water from around any producing well or oil from around any producing well or from any plugs from any abandoned wells in the area?

A He would normally, of course, report it to our Field Engineer or me and I in turn can report it or we can have it reported directly as you would like.

Q Either event, I think that would be fine.


MR. STAMETS: Any other questions of this Witness? He may be excused. Anything further in this Case? We will take the case under advisement.

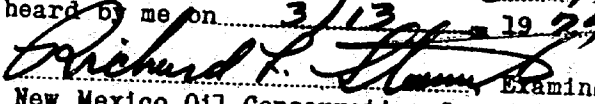
MR. WATSON: May I ask one questions?

(Whereupon, a discussion was held off the record.)

STATE OF NEW MEXICO)
COUNTY OF SANTA FE) SS.

I, RICHARD L. NYE, Court Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.


RICHARD L. NYE, Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5191 heard by me on 3/13/74 1974

New Mexico Oil Conservation Commission



OIL CONSERVATION COMMISSION

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

March 18, 1974

I. R. TRUJILLO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMILLO
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

Mr. Fred Watson
Watson & Watson
Attorneys at Law
Post Office Drawer E
Artesia, New Mexico 88210

Re: CASE NO. 5191
ORDER NO. R-4752
Applicant:
Murphy Minerals Corp.

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.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC	<u>X</u>
Artesia OCC	<u>X</u>
Aztec OCC	<u> </u>

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. 5191
Order No. R-4752

APPLICATION OF MURPHY MINERALS
CORPORATION 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 March 13, 1974, at Santa Fe, New Mexico, before Examiner, Richard L. Stamets.

NOW, on this 15th day of March, 1974, 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, Murphy Minerals Corporation, seeks authority to institute a waterflood project on its Gissler Lease, Square Lake Pool, by the injection of water into the Grayburg-San Andres formation through two injection wells in Sections 11 and 12, 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 interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

-2-

Case No. 5191
Order No. R-4752

(6) 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, Murphy Minerals Corporation, is hereby authorized to institute a waterflood project on its Gissler Lease, Square Lake Pool, by the injection of water into the Grayburg-San Andres formation through the following-described wells in Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico:

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT</u>	<u>SECTION</u>
Gissler	2	D	12
Gissler	4	H	11

(2) That injection into each of said wells shall be through internally plastic coated tubing, set in a packer which shall be located as near as practicable to the uppermost perforation; 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.

(3) 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.

(4) That the subject waterflood project is hereby designated the Murphy Gissler Square Lake Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(5) 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.

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

-3-

Case No. 5191
Order No. R-4752

DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


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

ALEX J. ARMISTO, Member

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

S E A L

dr/

Docket No. 6-74

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 13, 1974

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 Daniel S. Nutter, Alternate Examiner:

- ALLOWABLE:**
- (1) Consideration of the allowable production of gas for April, 1974, from seventeen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico;
 - (2) Consideration of the allowable production of gas from five prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for April, 1974.

CASE 5179: Application of HNG Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Dogie Draw Unit Area comprising 5,122 acres, more or less of State, Federal, and fee lands in Township 26 South, Range 36 East, Lea County, New Mexico.

CASE 5180: Application of Amoco Production Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Rock Lake Unit Area comprising 5760 acres, more or less, of State and fee lands in Township 22 South, Range 35 East, Lea County, New Mexico.

CASE 5181: Application of Amoco Production Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Trail Canyon Unit Area comprising 5758 acres, more or less, of State, Federal and fee lands in Township 24 South, Range 23 East, Eddy County, New Mexico.

CASE 5182: Application of Perry R. Bass for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the W/2 of Section 15, Township 21 South, Range 27 East, adjacent to the Burton Flats Field, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location in the W/2 of said Section 15. 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 a charge for risk involved in drilling said well.

- CASE 5183:** Application of Amini Oil Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the North Vacuum Abo Pool rules, authority to drill its Pennzoil State Well No. 2 at an unorthodox location for said pool 1780 feet from the South line and 460 feet from the West line of Section 36, Township 16 South, Range 34 East, Lea County, New Mexico.
- CASE 5184:** Application of Mountain States Petroleum Corporation for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the Buffalo Valley-Pennsylvanian Pool rules, approval for an unorthodox gas well location for a well to be drilled at a point 990 feet from the South and West lines of Section 36, Township 14 South, Range 27 East, Chaves County, New Mexico.
- CASE 5185:** Application of Rice Engineering & Operating, 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 Abo formation in the open-hole and perforated interval from 8442 feet to 9150 feet in its Abo SWD Well No. 2 located in Unit C of Section 2, Township 17 South, Range 36 East, Lovington Abo Pool, Lea County, New Mexico.
- CASE 5186:** Application of Amerada Hess Corporation for an unorthodox oil well location and two non-standard oil proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the Bagley Siluro-Devonian Pool rules, the formation of two non-standard proration units in Section 35, Township 11 South, Range 33 East, Lea County, New Mexico, the first being a 40-acre unit comprising the NW/4 SE/4 to be dedicated to applicant's State BTM Well No. 2, and the second being an 80-acre unit comprising the SE/4 SW/4 and the SW/4 SE/4 to be dedicated to applicant's State BTM Well No. 1, proposed to be drilled at an unorthodox location for said pool 660 feet from the South line and 1900 feet from the East line of said Section 35.
- CASE 5187:** Application of Inexco Oil Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying Section 17, Township 21 South, Range 26 East, Eddy County, New Mexico, adjacent to the Catclaw Draw-Morrow Gas Pool, to be dedicated to a well to be drilled at a standard location for said pool. 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 a charge for risk involved in drilling said well.

- CASE 5188: Application of Continental Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Drinkard and Blinebry production in the wellbore of its Lockhart B-1 Well No. 8 located in Unit II of Section 1, Township 22 South, Range 36 East, Lea County, New Mexico.
- CASE 5189: Application of Craig Folsom for an unorthodox oil well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well proposed to be drilled at a point 1340 feet from the South line and 1300 feet from the East line of Section 12, Township 13 South, Range 31 East, Caprock-Queen Pool, Chaves County, New Mexico.
- CASE 5190: Application of Union Oil Company of California for pool creation and special rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Morrow gas pool for its Pipeline Deep Unit Well No. 1 located in Unit J of Section 17, Township 19 South, Range 34 East, Lea County, New Mexico, and for the promulgation of special rules therefor including a provision for 640-acre spacing.
- CASE 5191: Application of Murphy Minerals Corporation for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water through two wells into the Grayburg-San Andres formation on its Gissler "B" lease in Sections 11 and 12, Township 17 South, Range 30 East, Square Lake Pool, Eddy County, New Mexico.
- CASE 5192: In the matter of the application of the Oil Conservation Commission of New Mexico upon its own motion for the extension of the following pools in Lea County:
- Antelope Ridge-Morrow Gas Pool
 - EK Yates-Seven Rivers-Queen Pool
 - House-San Andres Pool
 - Humble City-Atoka Pool
 - North Shoe Bar-Wolfcamp Pool
 - Tres Papalotes-Pennsylvanian Pool
 - Wantz-Granite Wash Pool
- CASE 5124: (Continued from the February 13, 1974 Examiner Hearing)

Application of Belco Petroleum Corporation for compulsory pooling and an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the S/2 of Section 30, Township 20 South, Range 33 East, South Salt Lake-Morrow Gas Pool, Lea County, New Mexico, to be dedicated to a well to be drilled at an unorthodox location 660 feet from the South line and 1300 feet from the East line of said Section 30. 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 a charge for risk involved in drilling said well.

CASE 5140: (Continued from the February 13, 1974, Examiner Hearing)

Application of Pierce & Dehlinger for compulsory pooling, Vada-Pennsylvanian Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Vada-Pennsylvanian Pool underlying the NW/4 of Section 24, Township 9 South, Range 33 East, Lea County, New Mexico, to be dedicated to the King Resources Sheridan Well No. 1-A located in Unit C of said Section 24. Also to be considered is designation of the applicant as operator of the NW/4 of said Section 24 and the well located thereon, provision for allocation of actual operating costs and charges for supervision, and allocation of costs for reworking said well including a 200% charge attributable to any non-consenting working interest owner's pro rata share of said workover costs, for the risk involved in said workover.

CASE 4956: (Reopened) (Continued from the February 13, 1974, Examiner Hearing)

Application of Pierce & Dehlinger for a determination of well costs, Lea County, New Mexico. Applicant, as operator of the Sheridan Well No. 1 located in Unit M of Section 13, Township 9 South, Range 33 East, Lea County, New Mexico, to which well is dedicated the SW/4 of said Section 13, all mineral interests in the Vada-Pennsylvanian Pool thereunder having been pooled by Commission Order No. R-4560, seeks the determination of reasonable well costs attributable to applicant and to King Resources, including, but not limited to, the costs of reworking and placing said Sheridan Well No. 1 back on production and attorneys fees in connection therewith. Applicant further seeks an order assessing, as a charge for the risk involved in the reworking of the well, 120% of the pro rata share of the reasonable well costs attributable to the working interest of King Resources.

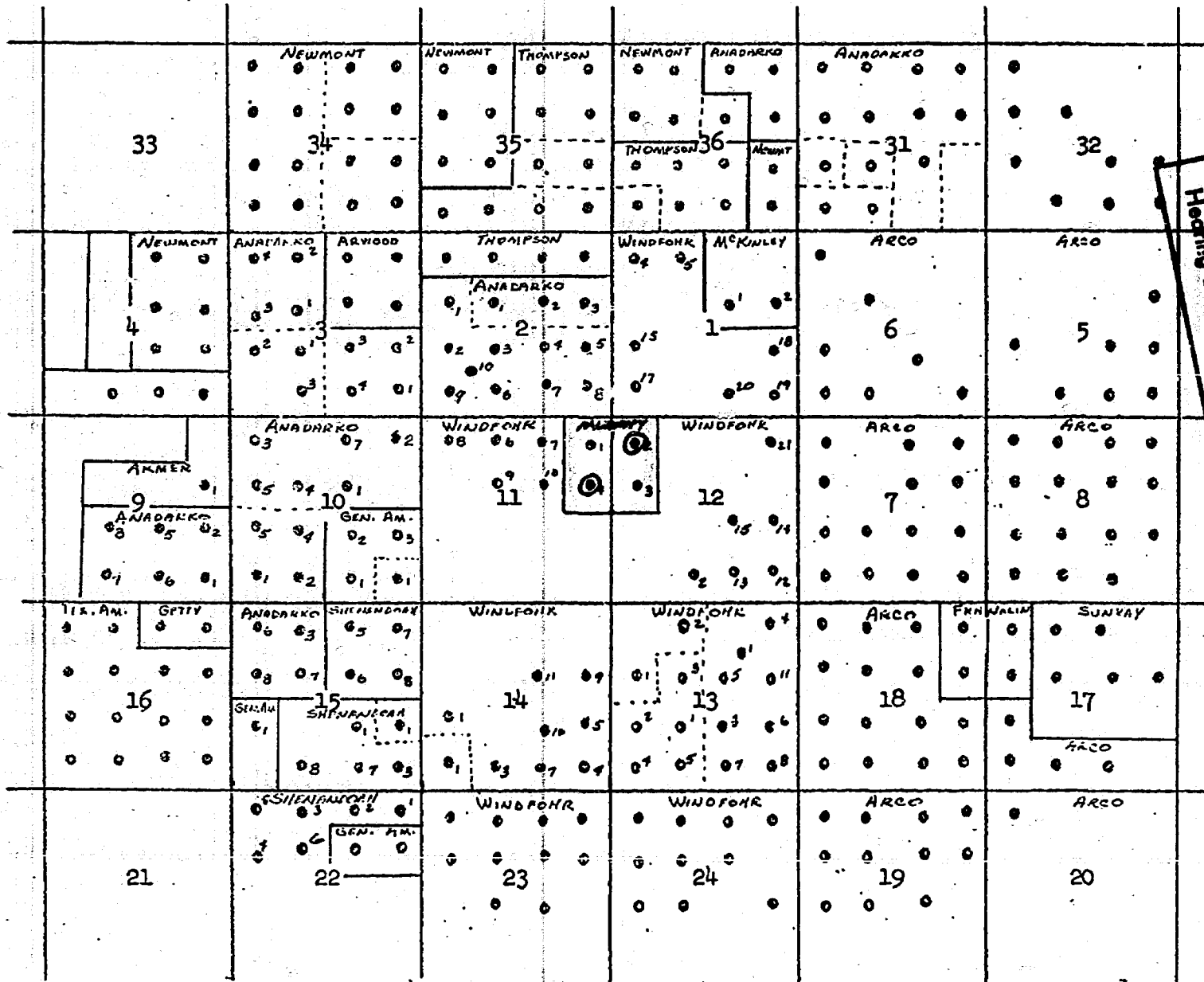
EDDY COUNTY, NEW MEXICO

RGE. 30 E

RGE. 31 E

TWP. 16 S

TWP. 17 S



BEFORE EXAMINER'S
OIL CONSERVATION COMMISSION
CASE NO. 5191
Submitted by _____
Hearing Date _____

SQUARE LAKE AND GRAYBURG JACKSON FIELD AREA.
GRAYBURG & SAN ANDRES FORMATIONS

Lands in Application ☐
Proposed injection wells ☒

BEFORE EXAMINER STAMETS OIL CONSERVATION COMMISSION

EXHIBIT NO. 2

CASE NO. 5191

Submitted by _____

Hearing Date _____

SQUARE LAKE PROJECT WELL COMPLETION DATA

LEASE AND WELL NO.	LOCATION	COMPLETION DATE	1" P. (Zone) #	SURFACE CASINO	CASINO	ORIG. T. D.	ORIGINAL STIMULATION	SUBSEQUENT WORK
BURMAN No. 1	E-2-17-30	8-22-43	200 (5.6) N	0 1/4 @ 550 w/50	7" @ 2415 w/100	2960	NONE	1933: DEEPENED TO 3060'; SHOT 320 qts. 2916-3060
No. 2	1-2-17-30	10-29-43	250 (5.6) N	0 1/4 @ 560 w/50	7" @ 2415 w/100	2933	NONE	1946: DEEPENED TO 3220'; SHOT 550 qts. 2920-3220
No. 3	1-2-17-30	4-22-44	75 (5.6) N		7" @ 2435 w/100	2950	NONE	1946: DEEPENED TO 3185'; SHOT 400 qts. 2935-3131
No. 4	K-2-17-30	3-5-44	200 (5.6) N	0 5/8 @ 585 w/50	7" @ 2428 w/100	2964	NONE	1948: DEEPENED TO 3075'; SHOT 240 qts. 2920-3040 5 1/2" @ 2457 w/75 sx
No. 5	1-2-17-30	10-2-44	100 (5.6) AS	0 5/8 @ 582 w/50	7" @ 2422 w/50	3061	SHOT 120 qts. 3020-61	1951: DEEPENED TO 3250'; FRAC 10MG & 10MH below 5 1/2" @ 3000 w/50 sx
No. 6	M-2-17-30	12-18-44	120 (5.6) N	0 5/8 @ 560 w/50	7" @ 2415 w/50	2959	NONE	1947: DEEPENED TO 3200'; SHOT 550 qts. 2944-3200
No. 7	0-2-17-30	3-16-45	100 (5.6) AS	0 1/4 @ 550 w/50	7" @ 2435 w/50	3077	SHOT 250 qts. 2925-3055	1955: DEEPENED TO 3212'; FRAC 15 MG & 15 MH below 5 1/2" @ 3130 w/100 sx
No. 8	P-2-17-30	5-8-45	100 (5.6) AS	0 1/4 @ 550 w/50	7" @ 2435 w/50	3091	SHOT 100 qts. 2940-65	1954: DEEPENED TO 3224'; FRAC 10 MG & 10 MH below 5 1/2" @ 3120 w/100 sx
No. 9	M-2-17-30	11-16-45	100 (5.6) AS	0 5/8 @ 550 w/50	7" @ 2405 w/100	3075	SHOT 270 qts.	1956: REFRAC LOVINGTON 20 MG & 20 MH; 1957: REFRAC 2945-3000
No. 10	K-2-17-30	10-3-54	100 (0) AF	0 5/8 @ 500 w/25	5 1/2" @ 3130 w/100	3211	FRAC below 5 1/2"	FRAC 7 MH & 10 MG; 1958: REFRAC LOVINGTON 19 MH & 33 MG; 1959: 3035-51; FRAC 13 MG & 15 MH; PERM. 2960-761; 2935-571; 2935-43
RANDOL No. 1	F-2-17-30	3-26-45	100 (5.6) AS	0 1/4 @ 592 w/50	7" @ 2537 w/100	3045	SHOT 180 qts. 2943-3045	1951: DEEPENED TO 3201 SHOT 110 qts. 3175-3201
No. 2	G-2-17-30	6-10-45	110 (5.6) AS	0 1/4 @ 560 w/50	7" @ 2445 w/100	3083	SHOT 400 qts. 2920-3078	1954: DEEPENED TO 3104 FRAC UNDER 5 1/2 @ 2795
No. 3	M-2-17-30	1-4-44	43 (5.6) AS	0 1/4 @ 545 w/50	7" @ 2403 w/100	3070	SHOT 490 qts. 2908-3070	1954: DEEPENED TO 3101 FRAC UNDER PACKER @ 3120
GILLES No. 1	A-1-17-30	3-10-46	65 (5.6) AS	10" @ 703 w/50	7" @ 2840 w/100	3065	SHOT 100 qts. 3015-46 & 100 qts. 2930-55	
No. 2	D-12-17-30	8-18-47	60 (5.6,8) AS	10" @ 681 w/50	8" @ 2400 w/100	3286	SHOT 100 qts. 3050-761	
No. 3	E-12-17-30	6-15-53	25 N	10" @ 655 w/50	7" @ 2891 w/40	3238	FRAC (PROD. INCREASE TO 56 R/B)	
No. 4	H-11-17-30	5-6-54	40 N	10" @ 530 w/50	7" @ 2800 w/100	3225	FRAC (PROD. INCREASE TO 60 C/B)	
JACKSON No. 4-8	D-1-17-30	7-7-42	68		7" @ 3697	3448		
No. 5-8	C-1-17-30	12-22-42	25		5 1/2" @ 2813	3170		
No. 15-8	L-1-17-30	3-5-45				3004		1957: FRAC 2838-3055 w/50 MG & 22 MH
No. 17-8	M-1-17-30	11-1-56	202 (8) AF	0 5/8 @ 561 w/50	5 1/2" @ 3219 w/100	3219	PEAR 3104-94	
WILKINSON No. 6-8	G-1-17-30	7-12-45	150 (5.6) AS	0 1/4 @ 552 w/50	5 1/2" @ 2832 w/100	3048	SHOT 300 qts. 2934-3048	
No. 7-8	B-1-17-30	1-25-46	150 (5.6) AS	0 1/4 @ 566 w/50	5 1/2" @ 2592 w/100	3062	SHOT 330 qts. 2930-3062	
No. 8-8	D-1-17-30	9-25-46	40 (5.6) AS	0 1/4 @ 550 w/50	5 1/2" @ 2800 w/100	3286	PH 3050, SHOT 400 qts. 2500-3050	
No. 9-8	F-1-17-30	12-15-47	100 (5.6) AS	0 1/4 @ 530 w/50	5 1/2" @ 2808 w/100	3082	SHOT 150 qts. 2108-3020	
No. 10-8	G-1-17-30	5-15-48	35 (5.6) AS	0 1/4 @ 500 w/50	5 1/2" @ 2800 w/100	3267	PH 3175, SHOT 450 qts. 2992-3175	

• ZONE 5 (METER)
ZONE 6 (PREMIER)
ZONE 8 (LOVINGTON)
N = NATURAL
AS = AFTER SHOT
AF = AFTER FRAC

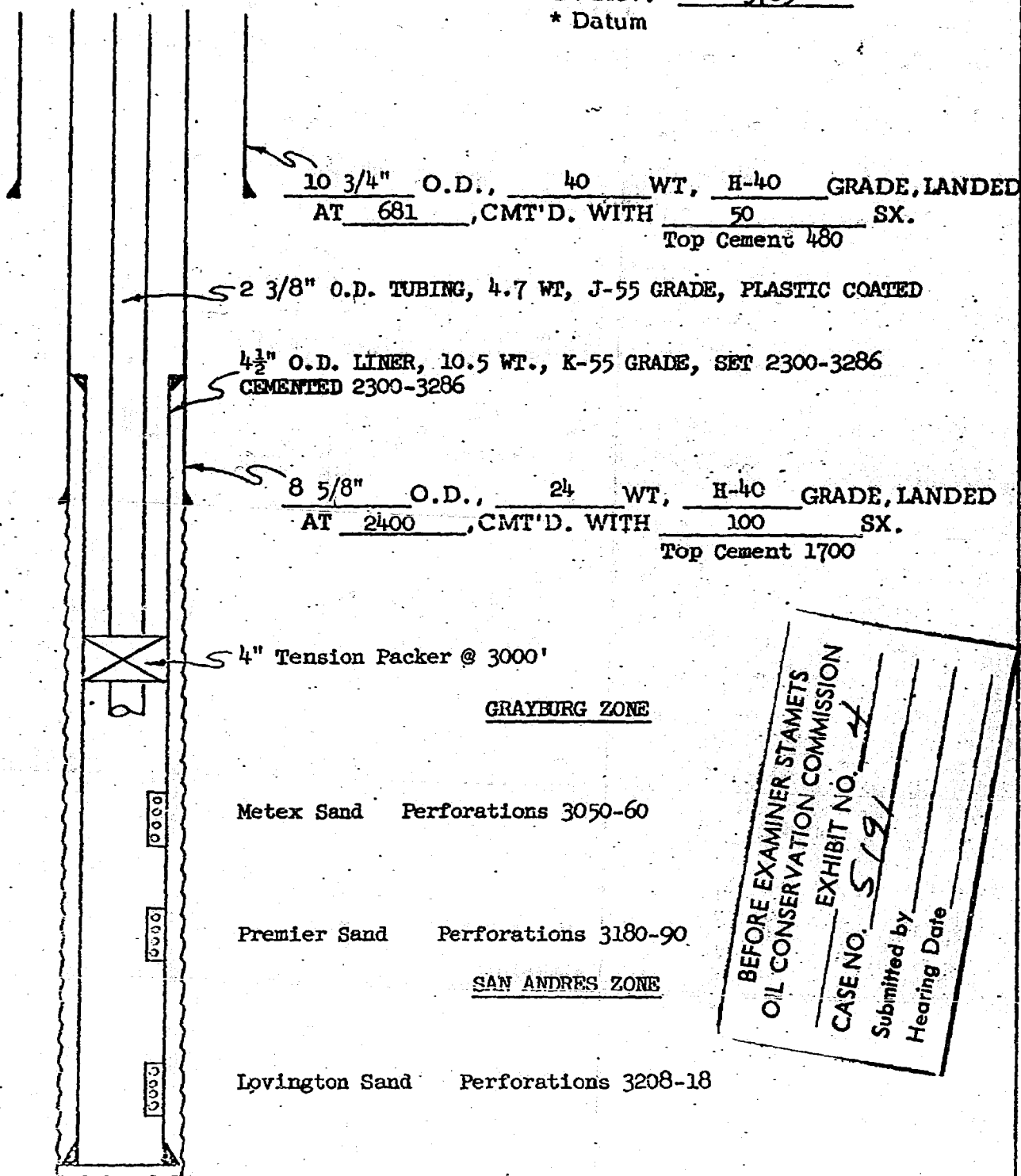
EXHIBIT NO. 6

MURPHY MINERALS CORP.
GIBBLE B LEASE - PRODUCTION DATA

		Well #1	#2	#3	#4	LEASE TOTAL	
1	1972						
2	JAN	76	76	76	76	304	
3	FEB	62	62	62	62	248	
4	MAR	70	71	71	71	283	
5	APR	71	72	72	72	287	
6	MAY	38	38	39	39	154	
7	JUNE	20	21	21	21	83	
8	JULY	30	30	30	31	121	
9	AUG.	21	20	20	20	81	
10	SEPT	31	32	32	32	127	
11	OCT	40	39	39	39	157	
12	NOV	41	41	42	42	166	
13	DEC	45	45	46	46	182	
14							
15	1972 TOTAL	515	517	520	522	2074	
16							
17	1-1-73 CUMULATIVE	53986	65264	34107	25218	178575	
18							
19	1973						
20	JAN	66	67	67	67	267	
21	FEB	59	59	59	60	237	
22	MAR	88	88	88	88	351	
23	APR	92	92	93	93	370	
24	MAY	53	53	53	52	211	
25	JUNE	64	64	63	64	255	
26	JULY	51	51	51	51	204	
27	AUG	27	27	27	28	109	
28	SEPT	38	38	38	39	153	
29	OCT	35	36	36	36	143	
30	NOV	37	38	38	38	151	
31	DEC	47	47	48	48	190	
32							
33	1973 TOTAL	657	660	661	664	2642	
34							
35	1-1-74 CUMULATIVE	54643	65924	34768	25882	181217	
36							
37							
38							
39							
40							

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 5191
Submitted by _____
Hearing Date _____

KB Elev. _____
DF Elev. _____
GL Elev. * 3765
* Datum

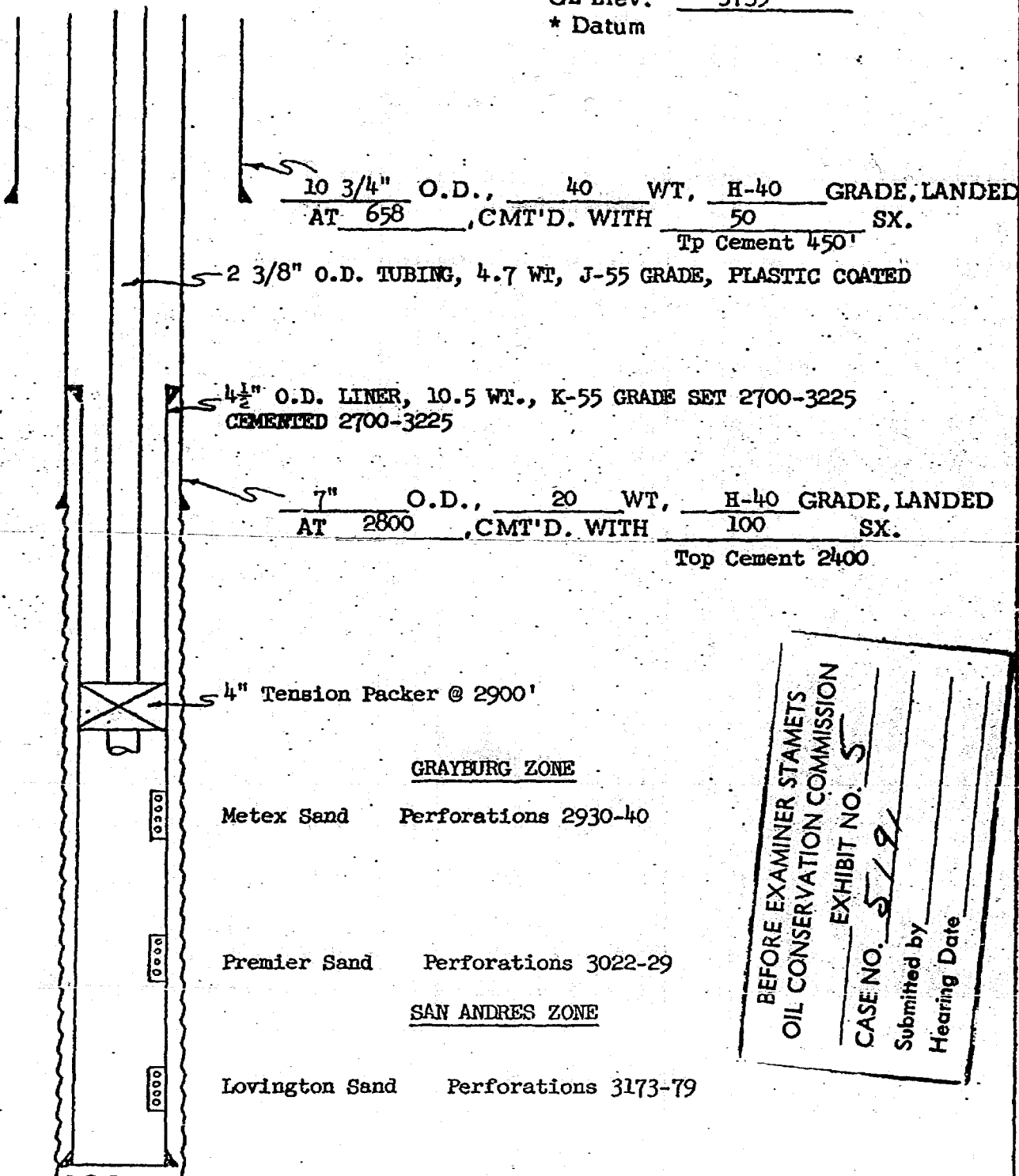


BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
CASE NO. 5191
EXHIBIT NO. 4
Submitted by _____
Hearing Date _____

PBTD 3285
TD 3286

WELL NAME & NO. GISSLER B # 2
FIELD SQUARE LAKE, GRAYBURG SAN ANDRES
COUNTY EDDY STATE NEW MEXICO
LOCATION 660 FHL 660 FWL Unit D
Section 12, Twp. 17 S, Rge. 30 E

KB Elev. _____
DF Elev. _____
GL Elev. * 3739
* Datum



BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 5191
Submitted by _____
Hearing Date _____

PBTD 3224
TD 3225

WELL NAME & NO. GISSLER B #4
FIELD SQUARE LAKE, GRAYBURG SAN ANDRES
COUNTY EDDY STATE NEW MEXICO
LOCATION 1980 FNL 330 FEL Unit H
Section 11, Twp. 17 S, R 30 E

Case No. 5191

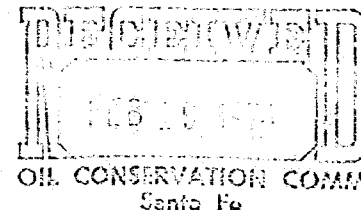
NEIL B. WATSON
FRED A. WATSON

LAW OFFICES
WATSON & WATSON
AMERICAN HOME BUILDING
P. O. DRAWER E
ARTESIA, NEW MEXICO 88210

AREA CODE 505
746-4151 - 746-2201

February 15, 1974

New Mexico Oil Conservation Commission,
State Land Office Building,
Santa Fe, New Mexico 87501.

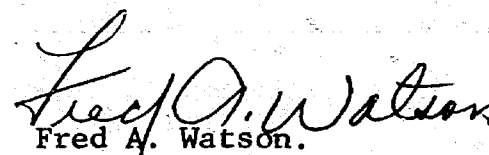


Gentlemen:

Re: Application of Murphy Minerals Corporation for authority to institute a waterflood project by injecting water into the Metex Sand and Premier Sand in the Grayburg Formation and the Lovington Sand in the San Andres Formation in applicant's wells in E $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 11 and W $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 12, Township 17 South, Range 30 East, N.M.P.M., Eddy County, New Mexico.

I herewith enclose the above Application to establish a waterflood project, in triplicate, with all copies being complete with exhibits. Please set this Application for hearing before an Examiner and notify us of the date and time of such hearing.

Very truly yours,


Fred A. Watson.

FAW:js
Enc.

cc: Murphy Minerals Corporation,
P. O. Drawer 2164,
Roswell, New Mexico 88201.

cc: Mr. D. R. Layton,
1506 West Avenue M,
Lovington, New Mexico 88260.

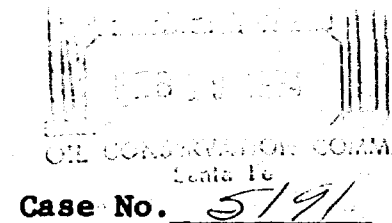
DOCKET MAILED

Date 3-1-74

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

IN RE: APPLICATION OF MURPHY MINERALS CORPORATION FOR AUTHORITY TO INSTITUTE A WATERFLOOD PROJECT BY INJECTING WATER INTO THE METEX SAND AND PREMIER SAND IN THE GRAYBURG FORMATION AND THE LOVINGTON SAND IN THE SAN ANDRES FORMATION IN APPLICANT'S WELLS IN E $\frac{1}{2}$ NE $\frac{1}{4}$ OF SECTION 11 AND W $\frac{1}{2}$ NW $\frac{1}{4}$ OF SECTION 12, TOWNSHIP 17 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.



A P P L I C A T I O N

COMES NOW Murphy Minerals Corporation and hereby makes application for authority to institute a water flood project in E $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 11 and W $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 12, Township 17 South, Range 30 East, N.M.P.M., Eddy County, New Mexico, by the injection of brine water into the Metex Sand and Premier Sand in the Grayburg Formation and the Lovington Sand in the San Andres Formation under said lands and, in support of this application, states:

1. The lands involved in this application, to wit, E $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 11 and W $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 12, Township 17 South, Range 30 East, N.M.P.M., Eddy County, New Mexico, are covered by subsisting United States Oil and Gas Lease LC 029338(b), and applicant, Murphy Minerals Corporation, is the record owner of said Oil and Gas Lease and is the operator of said lease. Applicant seeks an order for authority to institute a waterflood project, which will be a secondary recovery project, because the wells on applicant's lease have been essentially depleted by primary means.

2. That applicant seeks authority for injection of water into the Metex Sand and the Premier Sand in the Grayburg Formation and the Lovington Sand in the San Andres Formation through two of

applicant's wells, being the Gissler "B" No. 2 Well in NW $\frac{1}{4}$ NW $\frac{1}{4}$ of said Section 12 and the Gissler "B" No. 4 Well in SE $\frac{1}{4}$ NE $\frac{1}{4}$ of said Section 11, said two proposed injection wells being indicated by red circles on Exhibit "1", the plat attached to this application.

3. That the formations to be flooded are the Metex Sand and the Premier Sand in the Grayburg Formation and the Lovington Sand in the San Andres Formation, found at the following depths in the proposed injection wells:

Gissler "B" No. 2 Well, NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 12, T. 17 S., R. 30 E., N.M.P.M.

Metex Sand	-	3050 feet to 3060 feet below the surface
Premier Sand	-	3180 feet to 3190 feet below the surface
Lovington Sand	-	3208 feet to 3218 feet below the surface

Gissler "B" No. 4 Well, SE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 11, T. 17 S., R. 30 E., N.M.P.M.

Metex Sand	-	2930 feet to 2940 feet below the surface
Premier Sand	-	3022 feet to 3029 feet below the surface
Lovington Sand	-	3173 feet to 3179 feet below the surface

4. That there are attached to this application and made a part hereof the following exhibits, to wit:

Exhibit "1" is a plat showing the locations of the proposed injection wells circled in red and outlining the lands included in this application in yellow. Said plat also shows other wells within a radius of two miles and other lessees with respect thereto.

Exhibits "2-A" and "2-B" are, respectively, diagrammatic sketches of the proposed injection wells, to wit, the Gissler "B" No. 2 and Gissler "B" No. 4 Wells, showing the proposed manner of equipping said injection wells.

Said proposed injection wells have been producing from the Metex and Premier Sands of the Grayburg Formation and the Lovington Sand of the San Andres Formation. Logs of the proposed injection wells are not available.

5. That the kind of fluid to be injected will be pressured brine water furnished by the offset operator, and the anticipated

volume and pressure will be approximately 400 barrels per well per day at 1800 psi.

6. That applicant is filing this application in accordance with the provisions of Rule 701, and applicant requests an allowable to be assigned, as provided in Rule 701.

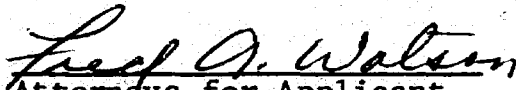
WHEREFORE, applicant requests a hearing before an Examiner and requests authority for said waterflood project and the assignment of an allowable, all pursuant to Rule 701.

MURPHY MINERALS CORPORATION

by


President

WATSON & WATSON


Attorneys for Applicant,
P. O. Drawer E,
Artesia, New Mexico 88210.

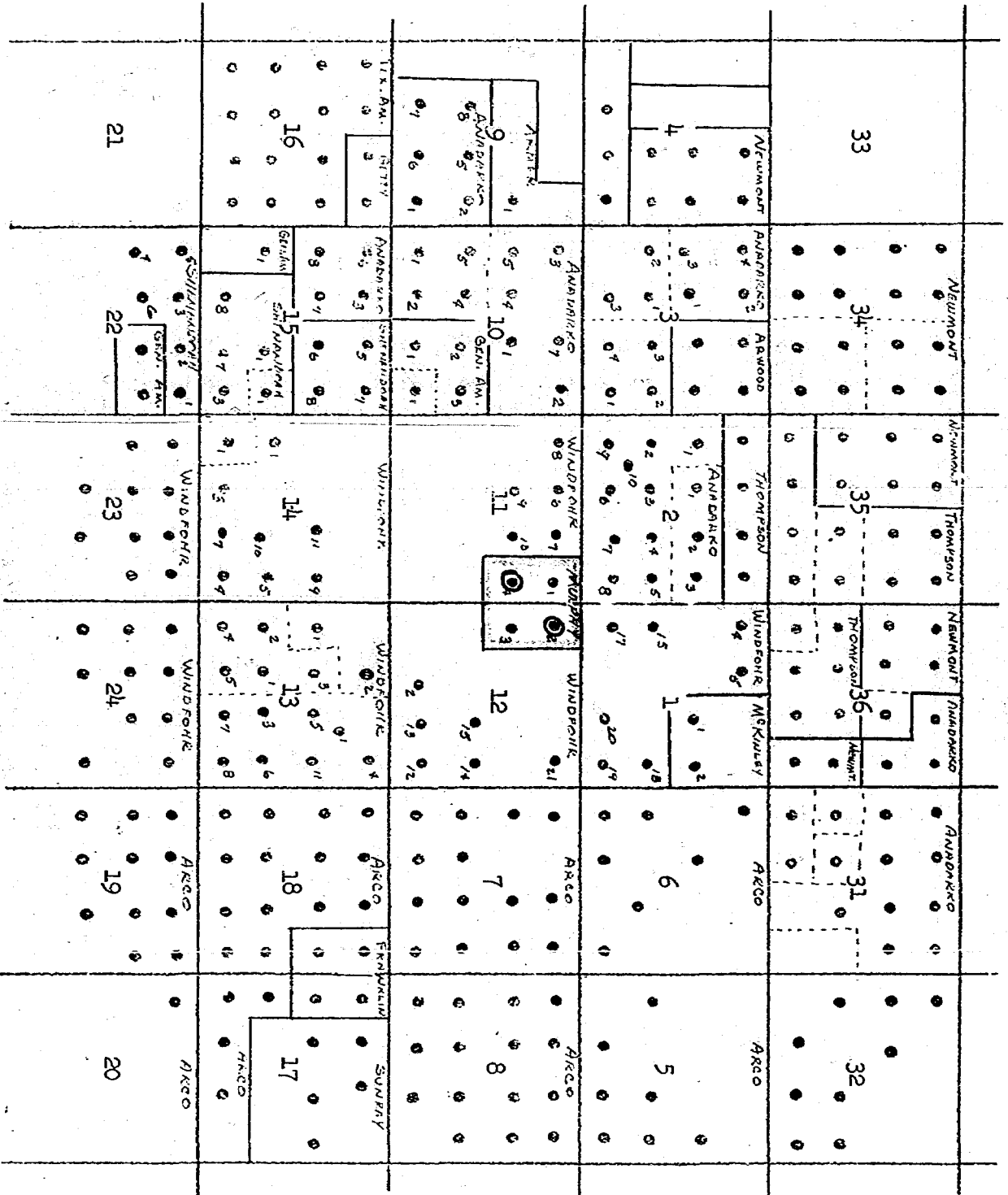
EDDY COUNTY, NEW MEXICO

RGE. 30 E

RGE. 31 E

TWP. 16 S

TWP. 17 S

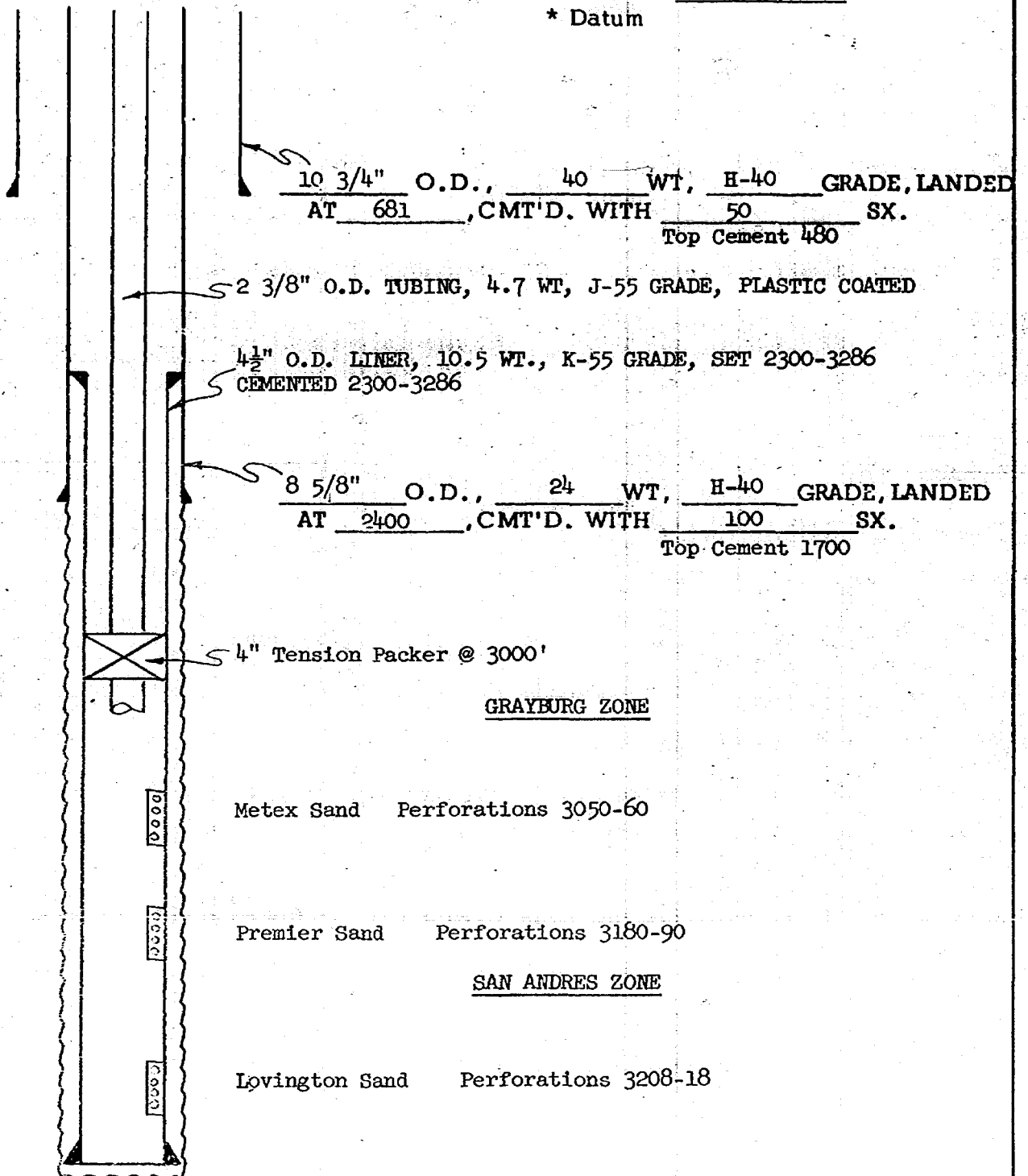


SQUARE LAKE AND GRAYBURG JACKSON FIELD AREA
GRAYBURG & SAN ANDRES FORMATIONS

EXHIBIT "1"

EXHIBIT "2-A"

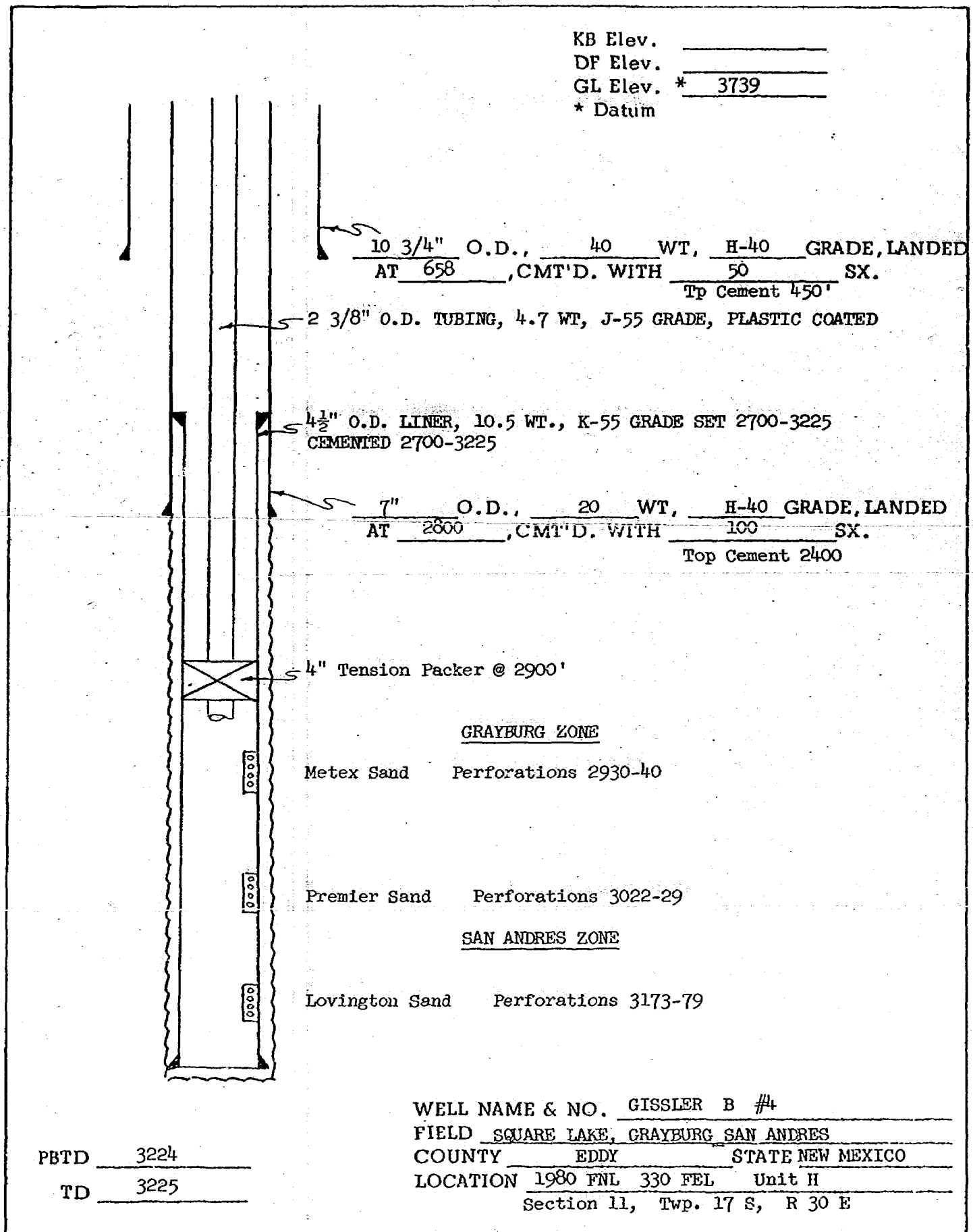
KB Elev. _____
 DF Elev. _____
 GL Elev. * 3765
 * Datum



PBTD 3285
 TD 3286

WELL NAME & NO. GISSLER B # 2
 FIELD SQUARE LAKE, GRAYBURG SAN ANDRES
 COUNTY EDDY STATE NEW MEXICO
 LOCATION 660 FNL 660 FWL Unit D
 Section 12, Twp. 17 S, Rge. 30 E

EXHIBIT "2-B"



DRAFT

jr/

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. 5191

Order No. R-4752

APPLICATION OF MURPHY MINERALS CORPORATION
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 March 13, 1974,
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this day of March, 1974, 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, Murphy Minerals Corporation,
seeks authority to institute a waterflood project ^{on its} ~~in the~~ Gissler
Lease Unit Area, Square Lake Pool,
by the injection of water into the Grayburg-San Andres formation
through two injection wells in Sections 11 and 12,
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 interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(6) 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, Murphy Mineral Corporation, is hereby authorized to institute a waterflood project ~~in the~~ ^{on the} Gissler B lease ~~Unit Area~~, Square Lake Pool, by the injection of water into the Grayburg-San Andres formation through the following-described wells in Township 17 ~~North~~, South, Range 30 ~~West~~, East, NMPM, Eddy County, New Mexico:

Gissler B	Well No. 2		
Lease Name	Well No.	Unit	Section
Gissler B	2	D	12
Gissler B	4	H	11

internally plastic coated (2) That injection into each of said wells shall be through ~~cement-lined~~ 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~~ ~~so~~ 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.

(See under) (3) 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.

dance with Rules 704 and 1120 of the Commission Rules and Regulations.

(6) 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.