

CASE 4479: Application of EASTLAND
FOR NEW POOL, ASSIGNMENT OF DIS-
COVERY ALLOWABLE AND POOL RULES.

Case. Number.

4479

Application,
Transcripts.

Sm all Exhibts.

ETC.

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 6, 1971

EXAMINER HEARING

IN THE MATTER OF:

Application of Eastland Oil Company)
for the creation of a new pool, as)
assignment of discovery allowable, and)
special pool rules, Eddy County, New)
Mexico. Applicant, in the above-styled)
cause, seeks creation of a new pool for)
the production of oil from the Grayburg)
and San Andres formations for its Arco)
Federal Well No. 1, located in the North-)
west quarter, Northwest quarter of Section)
5, Township 18 South, Range 31 East, Eddy)
County, New Mexico, and for the assign-)
ment of an oil discovery allowable to)
said well. Applicant further seeks the)
adoption of special pool rules to provide)
for a limiting gas-oil ratio of 5,000 to one.)

Case
No.
4479

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

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I N D E X

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GEORGE D. NEAL

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E X H I B I T S

	<u>Marked</u>	<u>Offered and Admitted</u>
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1 MR. NUTTER: This is Case No. 4479.

2 MR. HATCH: This is the application of Eastland
 3 Oil Company for the creation of a new pool, assignment of
 4 discovery allowable, and special pool rules, Eddy County,
 5 New Mexico.

6 MR. KELLAHIN: I am Jason Kellahin, Kellahin
 7 and Fox, Santa Fe, New Mexico, appearing for the appli-
 8 cant. We have one witness that I would like to have
 9 sworn, Mr. Neal.

10 (Whereupon, a discussion was
 11 held off the record, and Exhibits
 12 Nos. 1 through 8 were marked for
 13 identification.)

14 GEORGE D. NEAL

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

17 DIRECT EXAMINATION

18 BY MR. KELLAHIN:

19 Q By whom are you employed and in what position,
 20 Mr. Neal?

21 A I am employed by the Eastland Oil Company as
 22 a Vice President.

23 Q Have you ever testified before the Oil Conser-
 24 vation Commission and made your qualifications a matter
 25 of record?

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1 A I have.

2 MR. KELLAHIN: Are his qualifications accepted?

3 MR. NUTTER: They are.

4 BY MR. KELLAHIN:

5 Q Mr. Neal, you are familiar with the application
 6 of the Eastland Oil Company, which is Case No. 4479?

7 A I am.

8 Q Briefly, what is proposed by the Applicant in
 9 this case?

10 A They are requesting creation of a new pool
 11 from Grayburg and San Andres, and the application is
 12 for discovery allowable and for a discovery well in
 13 its Arco Federal Well No. 1, and special field rules
 14 for a gas-oil ratio of 5,000-to-one.

15 Q Now, referring to what has been marked as
 16 Applicant's Exhibit No. 1, would you identify that
 17 Exhibit?

18 A This is a request for the creation of a new
 19 pool, which in acreage, is described as the north half
 20 of the Northwest quarter of Section 5, and the north half
 21 of the North quarter of Section 5, and the north half and
 22 the North quarter, the Northwest quarter of Section 6,
 23 Section 5, Township 18 South, Range 31, Eddy County, New
 24 Mexico.

25 Q Is that acreage on which you have a well presently

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1 drilled?

2 A Yes.

3 Q There are two wells in there at the present time,
 4 is that correct?

5 A That is right, three producing wells on the pool.

6 Q Thre producing wells. Now, referring to what has
 7 been marked as Applicant's Exhibit No. 2, would you identi-
 8 fy that Exhibit?

9 A That is an application for assignment of a dis-
 10 covery allowable for a new pool, and it further designat s
 11 that the production of oil will be from the Grayburg and
 12 San Andres formations for its Arco Federal Well No. 1,
 13 would be the potential.

14 Q Would you give the location of the Arco Federal
 15 No. 1?

16 A Section 6, North line, 8/10 from the west line
 17 of Section 5, Township 18, Range 31 East.

18 Q What is the closest producing well to the same
 19 formation?

20 A Jackson-Grayburg, approximately one mile north.

21 Q Now, referring to what has been marked as Exhibit
 22 No. 3, would you identify that Exhibit?

23 A Exhibit 3 is a location platt of the general area
 24 centered on the discovery location of the Arco Federal No.1
 25 in Section 5. The pool limits of the Jackson-Grayburg are

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1 marked to the North, and the pool limits of the Shugart
 2 Pool to the South. The acreage described in the applica-
 3 tion is colored in yellow, and the two wells that have
 4 been completed since discovery of the well in Section 6
 5 are indicated, as well as the one presently drilled, which
 6 is presently known as Allied Federal No. 2 in Section 6.

7 Q The discovery well is marked by an arrow?

8 A That is correct.

9 Q Are there any drill holes shown on that exhibit
 10 which would indicate separation from adjacent pools?

11 A Yes, three drill holes between the discovery
 12 well and the Grayburg-Jackson Pool to the north, and
 13 Section 31, the Shugart-Stagner, No. 1, and this penetra-
 14 ted the Grayburg and San Andres, and in Section 32, the
 15 Hanson-Gulf State penetrated both the Grayburg and the
 16 San Andres, and also in Section 32 the Ashmun-Simon
 17 No. 1, it penetrated the Grayburg and San Andres, and
 18 they have all been completed as dry holes. In the south
 19 we have drilled the Arco Federal No. 2, which is the
 20 offset discovery well. It was dry in both the Grayburg
 21 and San Andres, and in one location south of the discovery
 22 well.

23 Q Are there any dry holes to the south between
 24 there and the Shugart?

25 A We have drilled older wells, the Cochran No. 1

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1 in Section 5 and penetrated the Grayburg and San Andres,
 2 and the Patton Wells are also in Section 5 and it pene-
 3 trated the Grayburg and San Andres, and further on the
 4 boarder of the Shugart-Haskins No. 5 was dry.

5 Q Have you prepared a structure map of this area?

6 A Yes, we have.

7 Q It is Exhibit No. 4?

8 A Correct. It shows the contours on the top of
 9 the Grayburg formation. It indicates the lower relief
 10 anticline structure on the west access, and it does indi-
 11 cate the structural separation, especially from the Arco
 12 Federal No. 2 which we drilled as it was extremely low,
 13 and the Arco Federal No. 1, the three producing wells in
 14 this, produced pools which are higher than the wells in
 15 the dry holes to the north.

16 Q Now, would you describe this particular pool;
 17 is it a stratographic development?

18 A It indicates that some structural development,
 19 especially, are probably stratographic to the north.
 20 There is a low relief.

21 Q Is its structural development so far as the
 22 development to the south is concerned?

23 A I believe that is correct, yes.

24 Q Do you have anything else to add in connection
 25 with that exhibit?

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1 A I believe we have already pointed out the dry
 2 holes that separate it, and that would be all.

3 Q What is the development to the north of the
 4 proposed pool?

5 A Both of these dry holes, the Hanson Well and
 6 the Stagner were dry in the Grayburg and San Andres
 7 formation because of lack of permeability, so it would
 8 indicate some stratographic separation there.

9 Q Permeability separation?

10 A Right.

11 Q In your opinion, is this pool in any way
 12 connected with the Grayburg-Jackson Pool?

13 A No, it is not.

14 Q You have further information in connection with
 15 that to give later, do you not?

16 A Yes.

17 Q Now, referring to Exhibit No. 5, would you
 18 identify that?

19 A Exhibit No. 5--correction--that is marked on
 20 Exhibit 4--it starts through the closest production in
 21 Jackson-Grayburg pool and extends to the discovery well
 22 and into the Shugart Pool. It is Mobil Well No.1, and
 23 that was a producer in the Jackson-Grayburg, which is
 24 presently an injection well in a unit in the Grayburg-
 25 Jackson Pool. The Tamarac No. 1 is not offset to this

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1 mobil. It extends through the Hanson-Gulf-State dry
 2 hole, and through the discovery well of the Arco Federal
 3 No. 1 indicating a structural relief down into the Arco
 4 Federal No. 2, and across to the Cochoran dry hole, and
 5 then into the Haskins Well in the Shugart Pool.

6 Q Is there any other information shown on that
 7 Exhibit that you want to point out at this time?

8 A I noted that they tested the Arco Federal No.1,
 9 they tested it both in the Grayburg and the San Andres,
 10 which is shown across Section 6. It was tested into
 11 the San Andres and had a production from both zones.

12 Q Has the Grayburg been consolidated into the
 13 one pool in this area?

14 A It is common production in the Grayburg-Jackson,
 15 and also the Shugart Pool.

16 Q In your opinion, is there effective separation
 17 between the Grayburg and San Andres formation?

18 A No, there is not. It is a hard point to correlate,
 19 to get a true separation between the Grayburg and the San
 20 Andres. I don't believe there is any effective separation.

21 Q In your opinion, should there be a consolidation
 22 for one production and from one common source of supply?

23 A I believe there should be, yes.

24 Q Now, referring to what has been marked Exhibit
 25 No. 6, would you identify that exhibit?

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1 A Exhibit 6 is a neutron gamma ray log of the Arco
 2 Federal No. 1 discovery well with the top formation marked
 3 at the Grayburg-San Andres, and the perforations are com-
 4 pleted in the Grayburg, which is marked as producing from
 5 3 zones, producing in the San Andres, the Section that was
 6 tested in the San Andres is indicated, but it is presently
 7 separated from the Graburg by a bridge plug. It is not
 8 producing from the San Andres at the present time.

9 Q Isn't the upper San Andres open in the well
 10 bore, is it not?

11 A It is not open at the present time; it is separated
 12 by a bridge plug.

13 Q Now, referring to what has been marked as Exhibit
 14 No. 7, would you identify that Exhibit?

15 A Exhibit 7 is a list of reservoir data from the
 16 proposed pool. It indicates 21 feet of Grayburg in the
 17 sand with a 14-per cent porosity, and 38 per cent water
 18 saturation, and six feet of San Andres lime, and 39 per cent
 19 water saturation, and it has an original pressure measured
 20 in the Arco Federal No. 1 of eleven hundred and thirty-six
 21 pounds, and 3462 feet measured on August 29th. The liter-
 22 ature gives the estimated original Grayburg-Jackson Pool
 23 thirteen hundred, however this field was drilled in 1929
 24 and that is not a completely accurate figure, but it does
 25 show that the pressure has not been reduced from drainage

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1 into the Jackson-Grayburg.

2 Q Do you know what the present pressure in the
 3 Jackson-Grayburg Pool is?

4 A One is a given estimate.

5 Q The present pressure?

6 A It is in the order of three or four hundred;
 7 it is being flooded.

8 Q In your opinion, does this indicate that there
 9 is no communication between your well and the Jackson-
 10 Grayburg Pool?

11 A I think it does, yes.

12 Q There has been production from the Grayburg-
 13 Jackson for a period of many years, isn't that correct?

14 A It was discovered in 1929; it has been producing
 15 for some 40 years.

16 Q Now, referring to what has been marked as Exhibit
 17 No. 8, would you identify that exhibit?

18 A Exhibit No. 8 is the most recent production test
 19 on the three producing wells in the pool and the Arco Federal
 20 No. 1. On December 19th this flowed 86 barrels of water.
 21 The gas-oil ratio was 28/50, and the Arco Federal No. 1
 22 flowed 55 barrels, and 6 barrels of water; the gas-oil
 23 ratio was 33/70. The Allied Federal recent completion test,
 24 and it flowed 8.2 barrels in some 24 hours with a gas-oil
 25 ratio of 38/80. Also listed there are two tests on two other

1 wells, the Arco Federal No. 1 and the Allied Federal No. 1,
 2 which is strictly a swabbing test. That indicates a prob-
 3 able production of oil in the San Andres.

4 Q Would it be economically feasible to develop in
 5 the San Andres formation a separate reservoir?

6 A No, it would not. From what we have tested in the
 7 two wells, that would not be economical to drill in the
 8 San Andres alone.

9 Q That is, then, your reason for recommending that
 10 it be treated as one pool?

11 A It is.

12 Q In connection with your Application, you have
 13 asked for a gas-oil ratio of 5,000-to-one. Why is this
 14 necessary, Mr. Neal?

15 A It is needed because of the production tests in
 16 this well are producing an average oil-gas ratio of 3500
 17 to one at the present time. It is a typical completion
 18 type at which they operate these gas-oil ratios. They
 19 will increase as the wells are capable of making their
 20 allowables and all the gases to be utilized in lifting
 21 the fluid from the well, and eventually will be sold so
 22 that there will be no waste, and we feel that it would
 23 be an unnecessary penalty to produce with State-wide
 24 permissible ratio of 2000 to one. We have a contract
 25 with the Continental Oil Company to purchase the gas

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1 from this pool. They have staked these lines, and in
 2 the process of connecting--in the meantime, we have re-
 3 stricted the flow on these wells to try and conserve the
 4 gas, but we hope that by January 15th, that the gas will
 5 be connected to all three batteries.

6 Q Some of your wells are shut in at the present
 7 time?

8 A Yes. The Allied Federal No. 1 has been shut
 9 in for approximately two months.

10 Q However, when do you anticipate that you will
 11 get gas?

12 A January 15th has been given by Continental as
 13 being the completion date.

14 Q You have applied for discovery allowable. Will
 15 the Arco Federal No. 1 be capable of making the discovery
 16 allowable?

17 A It will. It is capable of making the top allowable,
 18 and also there is additional production that will make the
 19 discovery allowable.

20 Q Will you make the discovery allowable if the gas-
 21 oil ratio is set at 2000 to one?

22 A Yes. The allowable would be reduced if it was
 23 set at 2000 to one.

24 Q Would the allowable have to be adjusted?

25 A Well, it would make a top allowable possible for

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1 if a higher gas-oil ratio was permitted.

2 Q To some of your testimony, Mr. Neal, in your
 3 opinion this is a separate reservoir?

4 A We believe it is a separate reservoir, and that
 5 there is horizontal separation between the discovery well
 6 and the nearest similar production. We think we have a
 7 new source of supply, as has been indicated.

8 Q So you have asked for a designation of Grayburg-
 9 San Andres production?

10 A We have asked for this, yes. We did use the
 11 name "Grayburg-San Andres Pool" and we have made a re-
 12 quest for the name for simplification as it might be better
 13 to drop the San Andres, and we thought that we would call
 14 it strictly "Grayburg" and avoid a long name.

15 Q Were Exhibits 1 through 8 prepared by you and
 16 under your supervision?

17 A Yes, they were.

18 MR. KELLAHIN: I offer these exhibits in evidence
 19 Numbers 1 through 8, inclusive.

20 MR. NUTTER: Exhibits 1 through 8 will be ad-
 21 mitted into evidence.

22 MR. KELLAHIN: Thank you. That is all we have
 23 on direct examination.

24 CROSS EXAMINATION

25 BY MR. NUTTER:

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1 Q I see that you have Form Number CO-1 on file here,
2 and that is for the Arco Federal No. 1, which has a poten-
3 tial of 98.6 barrels. Back in August, I think it was?

4 A That is correct.

5 Q Now, in December, the tests indicated that the
6 well had fallen 86.6 barrels. Do you know how that would
7 have happened?

8 A I misunderstood you. That is not capacity.

9 Q It is not?

10 A No, sir.

11 Q What is the maximum capacity of the well?

12 A I would say in the order of 150 to 175 barrels,
13 although it has not been tested at that rate since it was
14 completed.

15 Q I noticed, also, on this cross examination, that
16 this well indicates that it had a GOR of 1870 when it was
17 originally completed?

18 A Potentially, yes, the same potential as on the
19 form.

20 Q You got a gas-oil GOR of 1860 when the original
21 was completed?

22 A On the potential, yes. It is the same potential
23 on the form.

24 Q You got a gas-oil GOR, and that has gone from
25 8,000 on that well from 1800 to 2800?

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1 A That is correct.

2 MR. NUTTER: Are there any further questions of
3 the witness? You may be excused.

4 (Whereupon, the witness was excused.)

5 MR. NUTTER: Do you have anything further, Mr.
6 Kellahin?

7 MR. KELLAHIN: Nothing at all, Mr. Nutter.

8 MR. NUTTER: If there isn't anything further on
9 Case No. 4479, we will take it under advisement.

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1 STATE OF NEW MEXICO)
) SS
 2 COUNTY OF SANTA FE)
 3

4 I, RICHARD L. NYE, Court Reporter, do hereby certify
 5 that the foregoing and attached Transcript of Hearing
 6 before the New Mexico Oil Conservation Commission was
 7 reported by me, and the same is a true and correct record
 8 of the said proceedings, to the best of my knowledge,
 9 skill and ability.
 10

11 
 12 RICHARD L. NYE, Court Reporter
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I do hereby certify that the foregoing is
 a true and correct record of the proceedings
 of the hearing of Case No. 4479
 of the New Mexico Oil Conservation Commission
 held on 1/16/72

 New Mexico Oil Conservation Commission

THE EASTLAND OIL COMPANY

704 WESTERN UNITED LIFE BUILDING
MIDLAND, TEXAS 79701
TELEPHONE: 683-2398 563-0343



803 CONTINENTAL LIFE BUILDING
FORT WORTH, TEXAS 76102
TELEPHONE: 332-2539

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704 Western United Life Building
Midland, Texas 79701

August 26, 1970

RECEIVED

AUG 28 1970

E. E. C.
ARTESIA, OFFICE

The Oil Conservation Commission
State of New Mexico
Drawer DD
Artesia, New Mexico

Gentlemen:

Under separate cover we have filed Form C-104, Request for Allowable, on our recently completed ARCO-Federal #1. This well is located 660' FNL and 810' FWL, Section 5, T-18-S, R-31-E, Eddy County, New Mexico.

The nearest comparable production is in the Grayburg-Jackson Pool located approximately one mile to the North. However, several dry holes, drilled through the equivalent producing zone and lying between the ARCO-Federal #1 and this pool, are possible evidence of a new common source of supply.

At the present time, we are studying the geological interpretation of the area. Also, we would like to observe the immediate production performance of the well. Within approximately thirty days, if we are of the opinion that a new pool has been discovered, we respectfully request permission to file the required information for your consideration.

This well first produced new oil from the presently completed zone on August 18, 1970. By this letter, we wish to protect our rights to discovery allowable until such time as formal application is made.

Yours very truly,

THE EASTLAND OIL COMPANY

George D. Neal
George D. Neal

GDN:kjd

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**NEW MEXICO OIL CONSERVATION COMMISSION
REQUEST FOR ALLOWABLE
AND
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS**

Form C-104
Supersedes Old C-104 and C-119
Effective 1-1-65

RECEIVED

AUG 27 1970

**D. C. C.
ARTESIA, OFFICE**

I. OPERATOR
Operator The Eastland Oil Company
Address 704 Western United Life Building, Midland, Texas 79701
Reason(s) for filing (Check proper box)
New Well ☒ Change in Transporter of:
Recompletion ☐ Oil ☐ Dry Gas ☐
Change in Ownership ☐ Casinghead Gas ☐ Condensate ☐
Other (Please explain) _____
If change of ownership give name and address of previous owner _____

II. DESCRIPTION OF WELL AND LEASE

Lease Name ARCO - Federal	Well No. 1	Pool Name, Including Formation Wildcat	Kind of Lease State, Federal or Fee Federal	Lease No. NM 0299468
Location Unit Letter D : 660 Feet From The North Line and 810 Feet From The West Line of Section 5 Township 18 South Range 31 East , NMPM, Eddy County				

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input checked="" type="checkbox"/> or Condensate <input type="checkbox"/> The Permian Corporation	Address (Give address to which approved copy of this form is to be sent) P. O. Box 3119 Midland, Texas 79701
Name of Authorized Transporter of Casinghead Gas <input checked="" type="checkbox"/> or Dry Gas <input type="checkbox"/> Continental Oil Company	Address (Give address to which approved copy of this form is to be sent) P. O. Box 431 Midland, Texas 79701
If well produces oil or liquids, give location of tanks. Unit D Sec. 5 Twp. 18S Rge. 31E	Is gas actually connected? No When _____

If this production is commingled with that from any other lease or pool, give commingling order number: **None**

IV. COMPLETION DATA

Designate Type of Completion - (X)	Oil Well <input checked="" type="checkbox"/>	Gas Well	New Well <input checked="" type="checkbox"/>	Workover	Deepen	Plug Back	Same Res'v.	Diff. Res'v.
Date Spudded 7-28-70	Date Compl. Ready to Prod. 8-18-70	Total Depth 3,684	P.B.T.D. 3,570					
Elevations (DF, RKB, RT, GR, etc.) 3,684 GR. 5,694 KB	Name of Producing Formation Grayburg	Top Oil/Gas Pay 3,410	Tubing Depth 3,536					
Perforations 1 shot each - 0.42" holes 3,410, 3412", 3414", 3416", 3418", 3473", 3475", 3477", 3512", 3514"	Depth Casing Shoe 3,066"		TUBING, CASING, AND CEMENTING RECORD					
HOLE SIZE 11" 7 7/8"	CASING & TUBING SIZE 8 5/8" 4 1/2" 2" EVE	DEPTH SET 712" 3,684" 3536	SACKS CEMENT 350 Class "C", 27 C&C12 250 Incon-Pomix, 27 Gal					

V. TEST DATA AND REQUEST FOR ALLOWABLE OIL WELL (Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours)


Date First New Oil Run To Tanks 8-18-70	Date of Test 8-24-70	Producing Method (Flow, pump, gas lift, etc.) Flow	
Length of Test 24 hrs	Tubing Pressure 805	Casing Pressure 750#	Choke Size 1 1/2"
Actual Prod. During Test	Oil-Bbls. 98.6	Water-Bbls. 32.9	Gcs-MCF 181

GAS WELL

Actual Prod. Test-MCF/D	Length of Test	Bbls. Condensate/MCF	Gravity of Condensate
Testing Method (pilot, back pr.)	Tubing Pressure (shut-in)	Casing Pressure (shut-in)	Choke Size

VI. CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Commission have been complied with and that the information given above is true and complete to the best of my knowledge and belief.


(Signature)

Office Manager
(Title)

August 26, 1970
(Date)

OIL CONSERVATION COMMISSION

APPROVED **AUG 27 1970**, 19_____
BY W. A. Grassett
OIL AND GAS INSPECTOR
TITLE _____

This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allowable on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter, or other such change of condition.

Separate Form C-104 must be filed for each pool in multiply tested wells.



OIL CONSERVATION COMMISSION

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

**GOVERNOR
DAVID F. CARGO
CHAIRMAN**

**LAND COMMISSIONER
ALEX J. ARMJO
MEMBER**

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

January 25, 1971

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

Re: Case No. 4479
Order No. R-4092
Applicant:
Eastland Oil Company

Dear Sir:

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

Very truly yours,

G. L. Parker, Jr.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC x

Astec OCC

Other _____

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. 4479
Order No. R-4092
NOMENCLATURE

APPLICATION OF EASTLAND OIL COMPANY
FOR THE CREATION OF A NEW POOL, ASSIGN-
MENT OF DISCOVERY ALLOWABLE, AND SPECIAL
POOL RULES, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 6, 1971,
at Santa Fe, New Mexico, before Examiner Daniel S. Mutter.

NOW, on this 25th day of January, 1971, 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, Eastland Oil Company, seeks the
creation of a new pool for the production of oil from the Gray-
burg and San Andres formations in Eddy County, New Mexico, and the
assignment of an oil discovery allowable to the discovery well.

(3) That the applicant further seeks the establishment of
a gas-oil ratio limitation of 5000 cubic feet of gas per barrel
of oil produced for the subject well.

(4) That the evidence presently available indicates that
the Eastland Oil Company Arco Federal Well No. 1, located in the

-2-

CASE No. 4479

Order No. R-4092

NW/4 NW/4 of Section 5, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico, having its top perforations at 3410 feet, has discovered a separate common source of supply which should be designated the Power Grayburg-San Andres Pool; that the vertical limits of said pool should be the Grayburg and San Andres formations, and that the horizontal limits of said pool should comprise the following-described lands:

EDDY COUNTY, NEW MEXICO

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM

Section 5: NW/4 NW/4

Section 6: N/2 NE/4 and NE/4 NW/4

(5) That the discovery well for said pool, the aforesaid Eastland Oil Company's Arco Federal Well No. 1, is entitled to and should receive a bonus discovery oil allowable in the amount of 17,050 barrels, based upon the top perforations in said well at 3410 feet, to be assigned over a two-year period.

(6) That the reservoir characteristics of the subject pool presently available justify the establishment of a gas-oil ratio limitation of 3000 cubic feet of gas per barrel of oil.

(7) That the establishment of a special gas-oil ratio limitation of 3000 cubic feet of gas for each barrel of oil will afford to the owner of each property in the subject pool the opportunity to produce his just and equitable share of the oil and gas and will not cause waste nor violate correlative rights, provided the flaring or venting of gas in the pool is prohibited.

(8) That in order to assure the protection of correlative rights, the operator of each well in the Power Grayburg-San Andres Pool should file a new gas-oil ratio test with the Commission's Artesia Office on or before February 1, 1971.

IT IS THEREFORE ORDERED:

(1) That a new pool in Eddy County, New Mexico, classified as an oil pool for the production of oil from the Grayburg and San Andres formations, is hereby created and designated the Power Grayburg-San Andres Pool, with vertical limits comprising the Grayburg and San Andres formations, and horizontal limits

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CASE No. 4479

Order No. R-4092

comprising the following-described area:

EDDY COUNTY, NEW MEXICO
TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPN
Section 5: NW/4 NW/4
Section 6: N/2 NE/4 and NE/4 NW/4

(2) That the discovery well, the aforesaid Eastland Oil Company Arco Federal Well No. 1, is hereby authorized an oil discovery allowable of 17,050 barrels to be assigned to said well at the rate of 24 barrels per day in accordance with Rule 509 of the Commission Rules and Regulations.

(3) That the limiting gas-oil ratio in the Power Grayburg-San Andres Pool shall be 3000 cubic feet of gas for each barrel of oil produced; that each proration unit in the Power Grayburg-San Andres Pool shall produce only that volume of gas equivalent to 3000 multiplied by top unit oil allowable for the pool.

(4) That the operator of each well in the Power Grayburg-San Andres Pool shall file a new gas-oil ratio test with the Commission's Artesia office on or before February 1, 1971, and shall furnish a schedule of test dates to the Commission's Artesia office in order that the tests may be witnessed.

(5) That after the effective date of this order, no gas shall be flared or vented in the Power Grayburg-San Andres Pool more than 60 days after a well begins to produce.

(6) That any operator who desires to obtain an exception to the foregoing provision shall file an application in triplicate with the Commission's Artesia office upon a form designated by the Commission. The district supervisor is hereby authorized to grant such exception whenever the granting of the exception is reasonably necessary to protect correlative rights, prevent waste or prevent undue hardship on the applicant. The district supervisor shall either grant the exception within 10 days after receipt of the application or refer it to the Secretary-Director of the Commission who will advertise the matter for public hearing if a hearing is desired by the applicant.

(7) That the effective date of this order shall be January 27, 1971.

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CASE No. 4479

Order No. R-4092

(8) 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

Bruce King
BRUCE KING, Chairman

Alex J. Arrijo
ALEX J. ARRIJO, Member

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

esr/

- CASE 4478: Application of Refiners Petroleum Corporation for the creation of a new oil pool and special rules therefor, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new pool for the production of oil from the Graneros-Dakota formation for its Cuba-Union Well No. 1 located in Unit A of Section 25, Township 22 North, Range 3 West, Sandoval County, New Mexico, and for the promulgation of special rules therefor, including a provisions for 160-acre spacing units.
- CASE 4479: Application of Eastland Oil Company for the creation of a new pool, assignment of discovery allowable, and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks creation of a new pool for the production of oil from the Grayburg and San Andres formations for its Arco Federal Well No. 1 located in the NW/4 NW/4 of Section 5, Township 18 South, Range 31 East, Eddy County, New Mexico, and for the assignment of an oil discovery allowable to said well. Applicant further seeks the adoption of special pool rules to provide for a limiting gas-oil ratio of 5,000 to one.
- CASE 4480: Application of Coastal States Gas Producing Company for expansion of a unit area, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand the Flying "M" (San Andres) Unit Area, authorized by Order No. R-3220, to include some 879 acres, more or less, of Federal, State and Fee lands in Townships 9 and 10 South, Range 33 East, Flying "M" San Andres Pool, Lea County, New Mexico.
- CASE 4481: Application of Delaware-Apache Corporation for a non-standard proration unit, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks approval for an 80-acre non-standard oil proration unit comprising the SW/4 NE/4 and NW/4 SE/4 of Section 20, Township 8 South, Range 38 East, Bluit-San Andres Associated Pool, Roosevelt County, New Mexico, to be dedicated to a well to be drilled at a standard location in the SW/4 NE/4 of said Section 20.
- CASE 4482: Application of the Petroleum Corporation for the creation of a new pool, special rules therefor, and exceptions to Orders Nos. R-3221 and R-4070, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Strawn oil pool for its Petco State Well No. 1 located in Unit P of Section 26, Township 19 South, Range 29 East, Eddy County, New Mexico, and for the promulgation of special rules therefor, including provisions for 160-acre spacing units and a limiting gas-oil ratio of 4000 cubic feet of gas per barrel of oil. Applicant further seeks exceptions to Orders Nos. R-3221 and R-4070, respectively, to permit the disposal of water produced by said well in an unlined surface pit and to flare gas produced by said well.
- CASE 3709: (Reopened)
In the matter of Case 3709 being reopened pursuant to the provisions of Order No. R-3366-A, which order extended 80-acre spacing units for the Akah Nez-Devonian Oil Pool, San Juan County, New Mexico, for a period of two years. All interested persons may appear and show cause why said pool should not be developed on 40-acre spacing units.

REQUEST FOR THE EXTENSION OF AN EXISTING POOL
OR
THE CREATION OF A NEW POOL

TO: The Oil Conservation Commission
State of New Mexico

Date December 28, 1970

The Eastland Oil Company's NECO - Federal
Name of Operator Name of Lease
1 Located 660 feet from the North line and 510 feet
Well No.
from the West line of 5 18 South 31 East
Section Township Range

is outside the boundaries of any pool producing from the same formation. On the basis of the information submitted here-
with on form C-105, we hereby request that the
pool be extended to include the following described area

or that a new pool be created to include the following described area N/2 NE/4 Sec. 5, N/2 SE/4 and N/2 SW/4
Sec. 6, T-18-S, R-31-E, Eddy County

Suggested name: Power (Grayburg San Andres) Pool

The Eastland Oil Company
Operator

Name of Producing Formation: Grayburg
San Andres

George Dheal
Representative

BEFORE EXAMINER NUTTER
OIL CONSERVATION C
Eastland EXHIBIT NO. 1
CASE NO. 4479

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION FOR DISCOVERY ALLOWABLE AND CREATION OF A NEW POOL

Form C-109
 Adopted 9-1-66

NOTE: This form is to be filed and attachments made in accordance with the provisions of Rule 509.
 If discovery is claimed for more than one zone, separate forms must be filed for each.

Operator The Eastland Oil Company		Address 704 Western United Life Bldg., Midland, TX 79701	
Lease Name ARCO Federal		Well No. 1	County 3ddy
Well Location Unit Letter D ; 660 Feet from The North Line and 810 Feet From the West Line of Section 5 , Township 18 South , Range 31 East , NMPM			
Suggested Pool Names (List in order of preference) 1. Power Grayburg San Andres 2. So. Grayburg Jackson 3. Cedar Lake Grayburg			
Name of Producing Formation Grayburg San Andres		Perforations 3420 - 3514 - 3626 - 3632	Date of Filing Form C-104 8-27-70
Was "Affidavit of Discovery" Previously Filed For This Well in this Pool? Yes		If Yes, Give Date of Filing August 26, 1970	Date Well was Spudded 7-28-70
Total Depth 3,684		Plugged Back Depth 3,570	Depth Casing Shoe 3,684
Tubing Depth 3,526		Elevation (Gr., DF, RKB, RT, etc.) 3,684 GR. 3,694 KB	
Oil Well Potential (Test to be taken only after all load oil has been recovered) 98.6 Bbls. Oil Per Day Based On 98.6 Bbls In 24 Hours; 32.9 Bbls Water Per Day Based On 32.9 Bbls In 24 Hours; Gas Production During Test: 181 MCF; Gas-Oil Ratio: 1860 Method Of Production: Flow Chk. Size 1/2"			

NEAREST PRODUCTION TO THIS DISCOVERY (Includes past and present oil or gas producing areas and zones whether this discovery is based on horizontal or vertical separation):

Pool Name Grayburg Jackson	Name of Producing Formation Grayburg-San Andres	Top of Pay 3534	Bottom of Pay 3699	Currently Producing? Yes
Horizontal Distance and Direction from Subject Discovery Well to the Nearest Well in this Pool 1 mile North		Vertical Distance from Subject Discovery Zone to Producing Interval this Pool No other producing zone		

NEAREST COMPARABLE PRODUCTION (Includes past and present oil or gas production from this pay or formation only):

Pool Name Grayburg Jackson	Top of Pay 3534	Bottom of Pay 3699	Currently Producing? Yes
Horizontal Distance and Direction from Subject Discovery Well to the Nearest Well in this Comparable Pool 1 mile North (Top Grayburg - 3303', top San Andres 3585') Tamarack State NW1 - Sec. 32, T-17-S, R-31-E, Present producing zones: 3534' - 3540'.			

Is "County Deep" Discovery Allowable Requested for Subject Discovery Well? Yes	If Yes, Give Name, Location, and Depth of Next Deepest Oil Production in this County
--	--

Is the Subject Well Multiple Completion? No	Is Discovery Allowable Requested for other Zone(s)? No	If Yes, Name all Such Formations
---	--	----------------------------------

LIST ALL OPERATORS OWNING LEASES WITHIN ONE MILE OF THIS WELL (Attach additional sheet if necessary)

NAME	ADDRESS
Union Texas Petroleum	1300 Wilco Bldg., Midland, Texas 79701
Canadian Kenwood Company	414 Kennedy Bldg., Tulsa, Okla. 74103
Tamarack Petroleum Co., Inc.	710 Bldg. of SW, Midland, Texas 79701
Atlantic Richfield Company	Box 1610, ARCO Bldg., Midland, Texas 79701
Mobil Oil Company	Box 633, Midland, Texas 79701
Cities Service Oil Company	Box 69, Hobbs, New Mexico 88240
A. Lansdale	P. O. Box 68, Garden Grove, Calif. 92642
Hondo Production Company	Box 779, Pampa, Texas 79065

Attach evidence that all of the above operators have been furnished a copy of this application. Any of said operators who intends to object to the designation of the subject well as a discovery well, eligible to receive a discovery allowable, must notify the appropriate District Office and the Santa Fe Office of the Commission of such intent in writing within ten days after receiving a copy of this application.

Remarks:	BEFORE EXAMINER NOTED	
	Conservation	
	Entered EXHIBIT NO. 2	

CERTIFICATION

I hereby certify that all rules and regulations of the New Mexico Oil Conservation Commission have been complied with with respect to the subject well, and that it is my opinion that a bona fide discovery of a hitherto unknown common source of oil supply has been made in said well. I further certify that the discovery allowable for the subject well, if authorized, will be produced from the subject zone in this well only. Further, that the information given herein and attached hereto is true and complete to the best of my knowledge and belief.

<i>George F. Neal</i>	<i>Pool President</i>	<i>12-31-70</i>
Signature	Position	Date

RESERVOIR DATA

Proposed Power Grayburg San Andres Pool
Eddy County, New Mexico

1. Average Porosity:
Grayburg Sand - 14 percent
San Andres Lime - 9 percent
2. Water Saturations:
Grayburg Sand - 38 percent
San Andres Lime - 30 percent
3. Gas - Oil Contact:
No gas cap present
4. Water - Oil Contact:
Grayburg - +138' ss (ARCO Fed. #2)
San Andres - Not determined.
5. Net Oil Pay Thickness:
Grayburg - 21'
San Andres - 6'
6. Gravity of Oil:
38.6° @ 60° F. (Grayburg)
7. Gravity of Gas:
0.83 (Grayburg)
8. Pressure, Original:
1136 psi measured in ARCO Fed. #1
@ test depth of 3462', 8-29-70
9. Bottom-hole Temp.:
94° F.
10. Source of Reservoir Energy:
Depletion type drive
11. Type of Trap:
Low relief anticline with east-west axis

BEFORE EXAMINER NUTTER

CONSERVATION CLERK

Eastland EXHIBIT NO. 7

CASE NO. 4479

PRODUCTION TESTS

Proposed Power Grayburg San Andres Pool
Eddy County, New Mexico

Grayburg Sand

- ARCO Fed. #1 - Flowed 86.62 bbls. of oil and 8 bbls. water in 24 hours Dec. 19, 1970, 8/64" choke. TP 700 psi, CP 850 psi, Gas volume 246 MCF/day - GOR 2850
- Allied Fed. #1 - Flowed 55.3 bbls. of oil and 6 bbls. water in 24 hours Dec. 22, 1970, 16/64" choke. TP 250 psi, CP 450 psi, Gas volume 186 MCF/day. - GOR 3370
- Kenwood Fed. #1 - Flowed 88.2 bbls. of oil, 2.8 bbls. of water in 24 hours, Dec. 31, 1970, 11/64" choke. TP 275, CP 475, Gas volume 342 MCF/day - GOR 3880

San Andres Lime

- ARCO Fed. #1 - Swabbed 1-1/2 bbls. fluid per hour on 8 hour test - 50 per cent oil after 3,000 gals. acid. Perforations 3626 - 3632 feet (8-16-70)
- Allied Fed. #1 - Swabbed 4.3 bbls. fluid per hour on 8 hour test - 30 per cent oil after 5,000 gals. acid. Perforations 3803 - 3831 feet (10-6-70)

BEFORE EXAMINER NUTTER	
CONSERVATION COMMISSION	
Eastland	EXHIBIT NO. <u>8</u>
CASE NO. <u>4479</u>	

BEFORE THE

OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF EASTLAND OIL COMPANY FOR CREATION
OF A NEW POOL, ASSIGNMENT OF DISCOVERY
ALLOWABLE, AND ADOPTION OF POOL RULES,
EDDY COUNTY, NEW MEXICO.

Case 4479

A P P L I C A T I O N

Comes now Eastland Oil Company and applies to the Oil Conservation Commission of New Mexico for creation of a new oil pool for production of oil from the Grayburg-San Andres formation, in Eddy County, New Mexico, for assignment of a discovery allowable to applicant's Arco Federal Well No. 1, located in the NW/4 NW/4 of Section 5, Township 18 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and for adoption of pool rules to provide for a limiting gas-oil ratio of 5000 to one, and in support thereof would show the Commission:

1. Applicant has completed its Arco Federal well No. 1 for production from the Grayburg formation, which well is producing as a top allowable well with a gas-oil ratio of 3,500 to one; applicant has also completed its Alliet Federal No. 1, located in the NE/4 NE/4 of Section 6, Township 18 South, Range 31 East, for production from the Grayburg formation with a gas-oil ratio of 5,000 to one. Applicant is of the opinion that the San Andres formation is likewise productive, and that the Grayburg and San Andres formations constitute a common source of supply and constitute a new pool, discovered by the Arco Federal Well No. 1. A discovery allowable should be assigned to the Arco Federal

DOCKET MAILED

Date *12-23-70*

Well No. 1, as provided by the Commission rules.

2. A gas contract has been signed, and a market for produced gas will be available in the immediate future.

3. Production of oil with a limiting GOR of 5,000 to one will not cause any damage to the reservoir, will not cause waste, and is in the interests of conservation and the prevention of waste.

4. Applicant proposes that said pool be designated as the "Power Grayburg-San Andres Pool" or such other name as the Commission may determine.

WHEREFORE applicant prays that this application be set for hearing before the Commission or the Commission's duly appointed examiner, and that after notice and hearing as provided by law, the Commission enter its order granting this application as prayed for.

Respectfully submitted,

EASTLAND OIL COMPANY

By Jason W. Kellahin
KELLAHIN & FOX
P. O. Box 1769
Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT

*OK 1/11/71 to
1/11/71
1/11/71*

DRAFT

GMH/esr

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:

RECORDS CENTER

gm

ALP

CASE No. 4479

Order No. R-4092
NOMENCLATURE

APPLICATION OF EASTLAND OIL COMPANY
FOR THE CREATION OF A NEW POOL, ASSIGN-
MENT OF DISCOVERY ALLOWABLE, AND SPECIAL
POOL RULES, EDDY COUNTY, NEW MEXICO.

1-17-71

dan

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 6, 1971,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of January, 1971, 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, Eastland Oil Company, seeks the
creation of a new pool for the production of oil from the Gray-
burg and San Andres formations in Eddy County, New Mexico, and the
assignment of an oil discovery allowable to the discovery well.

(3) That the applicant further seeks the establishment of
a gas-oil ratio limitation of 5,000 cubic feet of gas per barrel
of oil produced for the subject well.

(4) That the evidence presently available indicates that
the Eastland Oil Company Arco Federal Well No. 1, located in the
NW/4 NW/4 of Section 5, Township 18 South, Range 31 East, NMPM,

Eddy County, New Mexico, having its top perforations at 3410 feet, has discovered a separate common source of supply which should be designated the Power Grayburg-San Andres Pool; that the vertical limits of said pool should be the Grayburg and San Andres formations, ~~as found in the interval from~~ ~~feet to~~ ~~feet on the log of the aforesaid Arco Federal Well No. 1~~, and that the horizontal limits of said pool should comprise the following-described lands:

EDDY COUNTY, NEW MEXICO
TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM

Section 5: NW/4 NW/4
Section 6: N/2 NE/4 and NE/4 NW/4

(5) That the discovery well for said pool, the aforesaid Eastland Oil Company's Arco Federal Well No. 1, is entitled to and should receive a bonus discovery oil allowable in the amount of 17050 barrels, based upon the top perforations in said well at 3410 feet, to be assigned over a two-year period.

(6) That the reservoir characteristics of the subject pool presently available justify the establishment of a gas-oil ratio limitation of 3,000 cubic feet of gas per barrel of oil.

(7) That the establishment of a special gas-oil ratio limitation of 3,000 cubic feet of gas for each barrel of oil will afford to the owner of each property in the subject pool the opportunity to produce his just and equitable share of the oil and gas and will not cause waste nor violate correlative rights, provided the flaring or venting of gas in the pool is prohibited.

(8) That in order to assure the protection of correlative rights, the operator of each well in the Power Grayburg-San Andres Pool should file a new gas-oil ratio

test with the Commission's Artesia Office on or before February 1,
1971.

IT IS THEREFORE ORDERED:

(1) That ~~effective _____, 1971,~~ a new pool in Eddy County, New Mexico, classified as an oil pool for the production of oil from the Grayburg and San Andres formations, is hereby created and designated the Powers Grayburg - San Andres Pool, with vertical limits comprising the Grayburg and San Andres formations, ~~as found in the interval from _____ feet to _____ feet on the log of the Eastland Oil Company Arco Federal Well No. 1, located in the NW/4 SW/4 of Section 5, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico,~~ and horizontal limits comprising the following-described area:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM

Section 5: NW/4 NW/4
Section 6: N/2 NE/4 of NE/4 NW/4

(2) That the discovery well, the aforesaid Eastland Oil Company Arco Federal Well No. 1, is hereby authorized an oil discovery allowable of 17050 barrels to be assigned to said well at the rate of 24 barrels per day in accordance with Rule 509 of the Commission Rules and Regulations.

(3) That, ~~effective _____, 1971,~~ the limiting gas-oil ratio in the Powers Grayburg - San Andres Pool shall be 3000 ~~5,000~~ cubic feet of gas for each barrel of oil produced; that, ~~effective _____, 1971,~~ each proration unit in the Powers Grayburg - San Andres Pool shall produce only that volume of gas equivalent to 3000 ~~5,000~~ multiplied by top unit oil allowable for the pool.

(4) That the operator of each well in the Powers Grayburg - San Andres Pool shall file a new gas-oil ratio test

23
731 | 17050
 1462
 2430
 2193
 237

with the Artesia District Office on or before February 1, 1971, and shall furnish a schedule of test dates to the Commission's Artesia District Office in order that the tests may be witnessed.

after the effective date of this order,
(5) That no gas shall be flared or vented in the Lower

Grayson - the Artesia Pool, more than 60 days after a well begins to produce, or 60 days after the date of issuance of this order, whichever is later. ~~Any operator desiring to obtain an~~

(6) That any operator who desires to obtain an exception to the foregoing provisions shall file an application in triplicate with the ~~appropriate~~ District Office of the Oil Conservation Commission upon a form designated by the Commission. The district supervisors ~~are~~ hereby authorized to grant such exception whenever the granting of the exception is reasonably necessary to protect correlative rights, prevent waste or prevent undue hardship on the applicant. The district supervisor shall either grant the exception within 10 days after receipt of the application or refer it to the Secretary-Director of the Commission who will advertise the matter for public hearing if a hearing is desired by the applicant.

~~shall be set for hearing if the operator so requests.~~

(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.

(1) That the effective date of this order shall be Dec 1, 1971.