Case No.

210

Application, Transcript,
Small Exhibits, Etc.

BEFORE THE

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

PROCEEDINGS

The following matter came on for consideration before a hearing of the Oil Conservation Commission of the State of New Mexico, pursuant to legal notice, at Santa Fe, New Mexico, on February 7, 1950, at 10:00 A. M.

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

The State of New Mexico by its Oil Conservation Commission hereby gives notice, pursuant to law and the Rules of said Commission promulgated thereunder, of the following public hearing to be held February 7, 1950, beginning at 10:00 o'clock a.m. on that day in the City of Santa Fe, New Mexico, in the Capitol Building (Hall of Representatives).

STATE OF NEW MEXICO TO:

All named parties in the following cases, and notice to the public:

Case 210

In the matter of the application of General American Oil Company of Texas for an order granting permission to drill seventeen unorthodox "five spot" line locations on leases within the boundaries of the Grayburg Cooperative and Unit Area in Township 17 South, Ranges 29 and 30 East, N.M.P.M. in the Grayburg-Jackson Pool of Eddy County, New Mexico.

Case 211

In the matter of the application of Worth Drilling Company, Inc. for permission to drill three unorthodox locations: No. 8-A, 1345 feet north of the south line and 1295 feet east of the west line (SW/4) section 12; No. 9-A, 1345' north of the south line and 2615 feet east of the west line (SW/4) section 12; and No.10-A, 25 feet north of the south line and 2615 feet east of the west line (SW/4) section 12, all in Township 18 South, Range 31 East, N.M.P.M., upon the A. C. Taylor "A" lease in the North Shugart pool, Eddy County, New Mexico.

Given under the seal of the Oil Conservation Commission of New Mexico at Santa Fe, New Mexico, on January 20, 1950.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

/s/ R. R. Spurrier
/t/ R. R. SPURRIER, SECRETARY

SEAL

BEFORE:

Guy Shepard, Chairman
Don G. McCormick, Attorney
George Graham, Attorney
R. R. Spurrier, Secretary

REGISTER:

Elvis A. Utz
Santa Fe, New Mexico
For the New Mexico Oil Conservation Commission

Frank C. Barnes
Santa Fe, New Mexico
For the New Mexico Oil Conservation Commission

Phillip Dunleavy
Santa Fe, New Mexico
For the Attorney General, State of New Mexico

Jack M. Campbell
Roswell, New Mexico
For Atwood, Malone & Campbell

Justin Newman
Artesia, New Mexico
For the New Mexico Oil Conservation Commission

John E. Cochran, Jr.
Artesia, New Mexico
For General American Oil Company of Texas

Roy O. Yarbrough
Hobbs, New Mexico
For the New Mexico Oil Conservation Commission

E. E. Kinney
Artesia, New Mexico
For the New Mexico Bureau of Mines

R. J. Heard
Artesia, New Mexico
For General American Oil Company of Texas

R. F. Miller
Artesia, New Mexico
For General American Oil Company of Texas

W. B. Macey
Artesia, New Mexico
For American Republics Corporation

Jack R. Huffmyer
Artesia, New Mexico
For American Republics Corporation

W. C. Williamson
Houston, Texas
For American Republics Corporation

N. W. Krouskop
Loco Hills, New Mexico
For General American Oil Company of Texas

Roy Charlesworth
Kermit, Texas
For Worth Drilling Company, Inc.

E. J. McCurdy, Jr.
Fort Worth, Texas
For himself

Wm. D. Morris
Fort Worth, Texas
For Worth Drilling Co., Inc.
Whaley Co., Inc.
J. C. Maxwell

Foster Morrell
Roswell, New Mexico
For the U. S. Geological Survey

Haynie E. Edwards
Fort Worth, Texas
For E. J. McCurdy

Glenn Staley
Hobbs, New Mexico
For Lea County Operators

Ford Bradish
Fort Worth, Texas
Consulting Geologist

Clarence E. Hinkle
Roswell, New Mexico
For Hervey, Dow & Hinkle

CHAIRMAN SHEPARD: The meeting will please come to order. Mr. Graham hasn't arrived, so I will read the first case myself.

(Notice of publication of Case No. 210 was read by Chairman Shepard.)

MR. COCHRAN: My name is John E. Cochran, Jr., Artesia, New Mexico, representing General American Oil Co. of Texas. Our witness is Norman W. Krouskop.

If the Commission please, some fourteen months ago Grayburg Oil Company of New Mexico and Western Production Company, Inc., were granted twenty-eight unorthodox "five spot" locations to be drilled on these leases within the boundaries of the Grayburg Cooperative and Unit Agreement. A number of these wells have been drilled. Since that time the General American Oil Company of Texas has acquired by purchase all property comprising what is known as the Grayburg Cooperative and Unit Area situated in Eddy County, State of New Mexico, formerly owned by Grayburg Oil Company of New Mexico and Western Production Company, Inc. It is the aim of General American Oil Company of Texas to continue the "five spot" drilling program commenced by Grayburg Oil Company of New Mexico, and that is the purpose of this application.

NORMAN W. KROUSKOP, having been first duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. COCHRAN:

Q. Will you state your name?

A. Norman W. Krouskop.

Q. Mr. Krouskop, you were formerly employed by Grayburg Oil Company of New Mexico?

A. Yes, sir.

Q. By whom are you employed now?

A. The General American Oil Company of Texas.

Q. In what capacity?

A. Assistant Field Superintendent.

Q. You are a geologist?

A. Yes, sir.

Q. You have testified before this Commission before?

A. Yes, sir.

Q. Mr. Krouskop, as Assistant Superintendent of General American Oil Company of Texas and as geologist, you are thoroughly familiar with the oil property of the Grayburg Cooperative and Unit Area?

A. Yes, sir.

Q. You have had a number of years experience in this area?

A. Yes, sir, since August 1939.

Q. When did General American Oil Company of Texas take over this property, Mr. Krouskop?

A. They acquired ownership on December 1, 1949.

Q. The leases involved in this application are described in detail in the application which was filed?

A. Yes, sir.

Q. Mr. Krouskop, how many wells have been drilled on leases within the Grayburg Cooperative and Unit Area from inception of production to date?

A. Ninety-nine have been drilled from the Grayburg-Jackson Pay, five of which have been converted to gas injection wells in connection with repressuring projects.

Q. Are all these wells producing from the same zone? The productive wells?

A. All except one--one is producing from the sub-Grayburg, locally known as the Grayburg Keely Zone.

Q. Are any wells being drilled on the property at the present time?

A. Two are drilling at the present time.

Q. Mr. Krouskop, is it your opinion in this particular area that one well in the center of each forty-acre legal subdivision is insufficient to obtain all recoverable oil under any forty-acre tract?

A. That is my opinion. One well will not adequately drain in this reservoir.

Q. Is it your opinion, Mr. Krouskop, that the drilling of "five spot" wells would be in the interest of conservation and prevention of waste?

A. Yes, sir.

Q. Is it your opinion that greater ultimate recovery of oil will be obtained by drilling "five spot" locations?

A. Yes, it will.

Q. Now, Grayburg Oil Company of New Mexico and Western Production Company were formerly granted a permit to drill 28 unorthodox locations in this area?

A. That is correct.

Q. How many of these wells have been drilled to date?

A. To date fifteen wells have been completed, commercially productive oil wells.

Q. What is your opinion as to the results of the "five spot" drilling so far?

A. All fifteen wells completed to date have been entirely satisfactory. I believe the results we have obtained from these wells further substantiates our original claim that one

well to each forty-acre legal subdivision would not adequately drain the oil in this area.

Q. In drilling wells so far has there been any noticeable effect in the drilling of wells or ability of offset wells to produce?

A. We have no apparent effect on the capacity of offset wells to produce, that is, no decline in their production other than normal.

Q. What has been the approximate cost of drilling the unorthodox wells so far?

A. We only have complete cost on the first thirteen wells drilled, and the first thirteen wells were drilled with a cost of approximately $300,000.00.

Q. Now, in this application General American Oil Company of Texas asks that it be permitted to drill seventeen unorthodox "five spot" staggered line wells?

A. That is correct.

Q. The exact measurements are as shown in the application?

A. Yes, sir.

Q. On the map which is before the Commission now, do you have a copy of that?

A. I have a copy of the base map, yes, sir.

Q. The proposed locations are shown on this map in blue?

A. That is correct.

Q. Large circles?

A. Yes, sir.

Q. How near would any of those proposed locations come to the outermost boundary of any lease line?

A. In each instance they wouldn't be nearer than 25 feet to the outermost lease boundary lines.

Q. In each case the offset lease is owned by General American Oil Company of Texas?

A. That is correct.

Q. Now, Mr. Krouskop, all the leases involved are Federal leases?

A. That is correct.

Q. What is the situation with respect to royalty upon different leases upon which the locations of the proposed wells payble to the United States government?

A. The government royalty rate is the same for all leases. The minimum is 12½ per cent.

Q. There is none proposed on government leases where the royalty is 5 per cent?

A. No, the closest 5 per cent leases to any proposed unorthodox--there is at least one legal 40-acre subdivision between the well and the 5 per cent lease.

Q What is the situation as to overriding royalty interests in the drilling of proposed locations? Will overriding royalty interests be affected adversely?

A. Yes, two leases, Burch C which is colored in pink, and Keely C which is colored in black carry a 5 per cent overriding royalty, which is owned by two different overriding royalty holders.

Q. What steps have General American Oil Company of Texas taken to have this plan approved?

A. We have received in writing a statement from each agreeing to and approving the whole plan as proposed as far as spacing program and as far as proposed drilling program would be concerned.

Q. Now, in the case of the proposed locations, how many

locations are proposed on land on which there is overriding royalty?

A. Eight of the locations have no overriding royalty.

Q. How many proposed locations on leases that do have?

A. Nine.

Q. Now, because of the fact that these are "five spot" line locations, it was necessary to obtain approval of the U. S. Geological Survey?

A. That is correct.

Q. That approval was obtained?

A. Yes, sir.

MR. COCHRAN: If the Commission please, I offer in evidence a letter from Mr. Foster Morrell, Supervisor of the U. S. Geological Survey, addressed to me, dated January 31, 1950, approving the proposed spacing plan.

CHAIRMAN SHEPARD: It will be accepted.

Q. Mr. Krouskop, if the Commission grants permission to drill these seventeen unorthodox "five spot" locations,,as they are drilled how do you propose to produce with reference to allowables?

A. We would intend to produce in accord with the Commission's Order No. 802.

Q. What did Commission's Order No. 802 provide substantially?

A. Order 802 provides for the unitization of certain tracts within Grayburg Cooperative and Unit Area for proration purposes. Total daily allowable for each of these tracts or proration units is fixed by the Commission as number of developed 40-acre units within such unitized tract times maximum daily 40-acre allowable. This proration unit allowable to be produced from all wells located upon the specific

unit and from all wells hereafter drilled upon the unit. The order also provides that no well within any area may produce in excess of State daily top allowable.

Q. In other words, in this application General American Oil Company of Texas doesn't request any additional allowable?

A. No.

Q. I believe that is all.

MR. McCORMICK: You state in your opinion one well to a 40-acre legal subdivision would not adequately drain all recoverable oil under that 40 acres. On what facts do you base that opinion?

A. Well, I would like to refer to Order No. 791. When written Order 791 was issued, extensive testimony was presented showing that the results of drilling of "five spots" has in no way affected the ability of offset wells to produce, shows no interconnection as far as oil is concerned. Also on old Burch A lease, colored yellow on the map, the majority of those wells were drilled some ten to twenty years ago. Take one half section, consisting of south half of the north half and north half of the south half--5 Burch, 23A, 24A, and 25 A--according to all available information this is a more permeable part of our reservoir than that particular half section that I described. It has to date produced 6,340 barrels per acre, which is well above the average for this unit. Bottom hole pressures on the tract have declined to a point where most are on artificial lift or are about to be placed on artificial lift. Unorthodox wells completed to date are good wells and are producing on a commercial basis. Those wells have produced 26 barrels per well per day since we completed the first well last March. This may

seem like a very small well. The fact that the decline has been very little indicates there is a quantity of oil left.

MR. McCORMICK: What type reservoir is it?

A. Solution gas type reservoir, most inefficient drive known.

MR. McCORMICK: Do the wells produce water?

A. Two wells on the extreme south side of the property produced a little water as so many do. There is no indication of water encroachment.

MR. McCORMICK: In what way will this program prevent waste?

A. It will prevent waste in that it will recover a quantity of oil that would not be recovered otherwise, and it also gives us a more even spacing plan. This helps us get available gas to the best effect.

MR. COCHRAN: Mr. Krouskop, would the fact that in drilling of "five spot" locations that it didn't affect the ability of any offset wells to produce, would that indicate if "five spot" locations were not drilled that there is probably oil in that area that would never be recovered?

A. It would indicate to me at least a greater part would never be. Here is the point. This is a gas solution reservoir drive, the most inefficient drive there is. As the oil and gas move toward a well bore, there is a lot of slippage. If it stands in center of the 160 and has to move clear across 40 acres to a well bore, there would be a lot more slippage than if it only had to move across 20 acres to a well bore. In the spacing program outlined, that oil certainly has less distance to travel to a "five spot" well than if it had to travel clear across to our orthodox locations.

MR. McCORMICK: Isn't it a fact in the lower part of G5, according to November proration schedule, you are now producing 4530 barrels from four wells on that tract, and the

No. 9 well is an input well?

A. Yes, sir.

MR. McCORMICK: Now, you propose to drill Well No. 22. If that is a top allowable well, you would then be producing in the neighborhood of 5800 barrels from that 160 acres, would you not?

A. That is correct if we produce that well at top allowable; depends in part on the gas-oil ratio.

MR. McCORMICK: That would be 750 barrels more than is ordinarily top allowable for 160 acres in absence of this order?

A. That is correct. I can't see that the proration plan is any different from the proration plan now in effect in Eunice Monument. In checking the proration schedule in Monument there are some 69 barrels a day out of one bore.

MR. McCORMICK: That is on transferred allowable.

A. It is still coming out of one bore--take 160, get the same results, shown producing out of less wells.

MR. McCORMICK: In Eunice Monument if they transfer allowable from one well to another, they still produce only the allowable for 40.

A. Some transfer allowable; some higher bottom hole pressure; give him bottom hole pressure 47, 50,51 a day with no transfer where regular allowable is 42 barrels a day, the same condition exists over there as far as the producing in excess of over top allowable out of same 160.

MR. McCORMICK: You will now if the application is granted, you will now have six wells on most of the 160-acre tracts, will you not? Or on a number of them?

A. Yes.

MR. McCORMICK: You are not limited to four?

A. No, we are not.

MR. McCORMICK: On that particular unit?

A. No, sir.

MR. McCORMICK: That is just on other units?

A. Yes, seems to consider this as a whole--one well to practically 20 acres inside here, couldn't say 6 wells to 160 acres for all practical purposes. We are 25 feet inside the line, that would place it on the 160-acre tract.

MR. McCORMICK: Is it your opinion one well will drain only 20 acres?

A. That we don't know yet, we can tell more about that in about five years.

MR. SPURRIER: In order to clear the record, see if you both agree. Actually according to the chart to each 160 acres there are only about four and a half wells?

A. That is about right.

MR. SPURRIER: You disagree with that?

MR. McCORMICK: It looks like six wells.

MR. SPURRIER: Some are so close, it is confusing. I want the record to show approximately how many wells you can charge to that 160. What is your figure, Mr. Krouskop?

A. Well, seems to me you almost have to take this Keely 44C into acoount, too.. It is probably over on west half of Section 26 there.

MR. McCORMICK: You have six wells already in the Unit?

A. Yes.

MR. McCORMICK: Then you will have six wells in the next 160 of G5?

A. Yes.

Mr. McCORMICK: You will have five wells on next 160 north of W3?

A. Yes, well, yes, of course two of those being included in lower half of W3.

MR. McCORMICK: The more wells you have the more oil you will get?

A. I think more oil generally. We can't produce top allowable, can't in any one unit--that is, any one well in excess, or any one proration unit in excess of allowable fixed by Commission with number developed. Forty-acre units times the daily allowable. For example in Section 25, this unit W4, norm for February 25 barrels. None produce 42 or 43 barrels; drill more on that unit--number per maximum total allowed to take out of that unit. In 26 nominated for February actually only 12 producing at top allowable, other 14 cut back because we have these additional wells on the unit.

MR. McCORMICK: As to what a plan like this will do. It is implied that what is reasonable here will be reasonable in other pools?

A. I believe Order 791 plainly stated that this was not to set a precedent. Each individual case in the future stands on its own merits. If we have a reservoir that takes 20-acre spacing to get oil, we feel that provision should be made where we have a little control over withdrawal of oil. This is an exception to the general rules, of course. So is Eunice Monument and Hobbs Maljamar Cooperative Unit Agreement. They are all exceptions.

MR. McCORMICK: If any offset operator seeks similar approval of a similar plan, you would agree that they were entitled to do the same?

A. Absolutely. We have no objections whatever. We feel this is what it is going to take to get oil.

MR. McCORMICK: What are the mechanics of making your nominations each month for each well?

A. We have one man that does nothing but that--wells, gas-oil ratios and production. There is a constant flow of tests coming into the office, and of course we nominate each well on that basis. On basis of potential tests which show, of course, top allowable wells. If they produce there at reasonable gas-oil ratios, they are nominated top allowable wells. Of course top allowable units are gradually being cut back as wells are drilled until maximum is reached.

MR. McCORMICK: Is this information filed in the proration office in Hobbs?

A. Yes, sir. From month to month as any wells need adjusting, we either cut back or work them over so they are capable of making more, making the adjustment either way.

MR. McCORMICK: Generally, what is the tankage situation down there?

A. Most tank batteries are manifolded whereby they can test any individual well flowing into the battery. Those batteries which are not manifolded, individual test tanks on skids move from battery to battery from well to well to obtain individual well tests. Tests are taken at least twice a year, on many wells at more frequent intervals.

MR. McCORMICK: You actually determine each month just how much oil each individual well is making?

A. We don't quite get around each month accurately; at least twice a year on most wells, probably three times. I believe the Commission requires a gas-oil ratio test once a year.

MR. McCORMICK: When you report the amount of oil from each well each month, what is the basis for those figures?

A. It is based on our per well nominations. In other words, as close to what the well is producing as it is possible to make them.

MR. McCORMICK: For instance you say Well No. 15 is producing 600 barrels, how do you know exactly the amount of oil this well is producing?

A. Just on the basis of individual tests which is common practice over most of tests.

MR. McCORMICK: You don't actually measure separately the oil from that well?

A. Not every day, it would require a prohibitive amount of tankage to do that on any property.

MR. McCORMICK: How accurate do you think the reports are of actual production from individual wells.

A. I would say as accurate as any other operators in the State outside of those which use individual meters. As we take tests, there is a normal decline--that is a hard question to answer. Probably within 10 per cent, maybe a little closer than that--marginal, leveled out, they aren't declining too fast.

MR. McCORMICK: Are you sure top wells aren't producing more than allowable?

A. Quite sure. Tests are set on the beam, you know within a few barrels what they are producing. Wells don't vary unless they paraffin up and decrease flow. I believe the overall average is fairly close. If you will notice our nominations and record pipeline runs, we do make an effort to make a breakdown. You won't see a whole battery where

you have four or five wells with all wells shown as producing exactly the same, unless on top allowable wells over which we have a little more control.

MR. SPURRIER: At the risk of seeming dogmatic, let's get back to my question. I think the witness was interrupted, would you care to figure out about how many wells, let's say on the south 160 of G5 that you could charge to that 160 acres?

A. I don't think this is set up on proration units. All wells should be charged to the whole unit.

MR. SPURRIER: Well, figure out the whole unit.

A. You will find nineteen, no twenty-two wells.

MR. SPURRIER: How many acres?

A. 480 acres.

MR. SPURRIER: What does that average out per well?

A. About 25 acres per well.

MR. SPURRIER: Would that be pretty close to seven wells per 160 acres; seven and one-third exactly.

A. This into 160 and a little less than half, isn't it six and five tenths?

MR. SPURRIER: Well, you said 480 acres, 22 wells.

A. I am sorry. I figured 19 wells.

MR. McCORMICK: One other question, suppose you have a lease covering four sections, which contains many federal leases. If you found that the pool covered all those four sections, would you under similar circumstances recommend that all four of those sections be placed into one unitized proration unit?

A. That would be the ideal way to produce. On any property if the unit is large you can produce more efficiently. This

is in effect at Eunice Monument--transfer high gas-oil allowables to other wells, thereby increasing production, I think that is the way to produce an oil pool

CHAIRMAN SHEPARD: Do you have any questions, Mr. Staley?

MR. STALEY: No.

CHAIRMAN SHEPARD: Mr. Morrell?

MR. MORRELL: No.

CHAIRMAN SHEPARD: Anybody else have anything to say? If not, you may be excused. Do you have any other witnesses?

MR. COCHRAN: That is all.

CHAIRMAN SHEPARD: If there are no objections, the application will be granted. We will take a five minute recess.

(Recess.)

CHAIRMAN SHEPARD: Next case. Will you read the notice of publication, Mr. Graham, please?

(Mr. Graham read notice of publication of Case No. 211.)

MR. HINKLE: Members of the Commission, my name is Clarence Hinkle, Hervey, Dow & Hinkle, Roswell, New Mexico, representing Worth Drilling Company, Inc., Whaley Company, Inc., and J. C. Maxwell in the matter of the application of those parties for permission to drill certain unorthodox well locations or wells. The original application which was filed with the Commission was in the form of three notices of intention to drill three separate wells. After these were filed, the applicant was notified by the Supervisor of the United States Geological Survey that they could not approve the proposed locations for Wells 9-A and 10-A because of the fact that those proposed locations were within 200 feet of the outer boundaries of the lease on which they were proposed to be drilled. As these are federal leases and because of the federal regulation to the effect that no well

could be drilled closer than 200 feet to the outer boundary of the lease line, the Supervisor had no authority to waive that rule without going to the Secretary of the Interior. It would, therefore, be necessary before the wells can be approved to file application to consolidate the two leases or some other sort of form to have the Secretary's approval before the local Supervisor can approve those. We have filed an amended application which eliminates from the original application those two wells, namely, 9A and 10A.

MR. McCORMICK: You are seeking only 8-A?

MR. HINKLE: Only 8-A, which is in approximately the center of the southwest quarter, section 12, range 31 East. I have had identified as Exhibit A, a letter which was written by Mr. Foster Morrell, Supervisor of the United States Geological Survey to Mr. William Morris, Worth Drilling Company, under date of February 3, 1950, after we had furnished him with a copy of the amended application, which has been filed. I want to read a part of it. It says, "No objection is offered by this office to the drilling of well 8-A at the location specified in the amended application or to the unitization of lease Las Cruces 058709(a) for proration and allowable purposes. It is the opinion of this office that the drilling of the additional well on the leasehold should be encouraged to increase the ultimate recovery of oil and gas and to obtain otherwise unrecoverable oil from the North Shugart pool.

"Approval to drill the proposed well No. 8-A at the unorthodox location will be contingent upon (1) the prior approval of such location by the Oil Conservation Commission of the State of New Mexico for proration purposes, and (2)

the filing of a stipulation in triplicate executed by lessees of record wherein they agree that none of the 40-acre tracts comprising the SW¼ section 12 shall be segregated by assignment or otherwise until well No. 8-A has been properly plugged and abandoned."

MR. SHEPARD: It will be accepted.

MR. HINKLE: Before I go into the application, I have had a Plat marked for identification as Exhibit B, which shows the area, sections 1, 12 and 13, township 18 S, range 31 East, Eddy County, New Mexico, and the locations of the Taylor leases. The Commission's Order No. 848, Case No. 200, wherein the Commission approved the drilling of wells which is referred to on the Plat as Wells 7-A and 8-A at unorthodox locations, which are spaced approximately in the center of S½SW¼ of section 12, township 18 South, range 31 East, N.M.P.M. and N½SW¼ of Section 13. With that explanation, I would like to offer this in evidence.

CHAIRMAN SHEPARD: It is accepted.

FORD BRADISH, having been first duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. HINKLE:

Q. State your name, please.

A. Ford Bradish.

Q. What is your residence?

A. Fort Worth, Texas.

Q. What is your occupation?

A. I am consulting geologist and engineer.

Q. You are a graduate of what institution?

A. University of Chicago.

Q. What year?

A. 1917.

Q. How long have you been practicing your profession?

A. Since I came to Texas in 1917.

Q. Have you had any experience in New Mexico?

A. Not before the Commission of New Mexico.

Q. Have you done work as a geologist in New Mexico?

A. Yes, sir.

Q. What has that experience consisted of?

A. Surface work and sub-surface reconnaissance work and valuations and appraisals of property.

Q. Over what period of years has that consisted?

A. Probably, commencing in 1932, I should say was the first, work here.

Q. From time to time since then?

A. Yes, sir.

Q. Are you familiar with the so-called North Shugart pool, the A. C. Taylor lease of the Worth Drilling Company and Whaley Company and J. C. Maxwell, where the well is located? Yes, sir.

Q. In what way are you familiar with that?

A. As consultant and instrumental in making first plans for Worth Drilling Company for the first well, looked at samples, in charge of unit you might say. Geologist for two wells, first three wells, one was a dry hole, and I have been consulted on the area from time to time on this particular lease.

Q. Have you kept in constant touch since the beginning of the development in that area?

A. Yes, sir.

Q. You say you have recommended concerning the location of the No. 1 well?

A. Yes, sir.

Q. Also No. 2 and No. 3 wells?

A. Right.

Q. Have you examined all sample logs of wells which have been drilled on that lease?

A. Yes, sir.

Q. When was the first well drilled on the southwest quarter?

A. I don't remember the month. It was in '39, '38, I believe.

Q. Do you know how much oil has been taken from that well?

A. A little better than 83,000 barrels.

Q. Do you have the figures on how much oil has been taken from the other wells?

A. On No. 2 well, 60,000 barrels, if I am not mistaken. No. 3, in the neighborhood of 19 or 20 thousand more or less--

MR. SPURRIER: Speak up, please.

Q. You say you examined sample logs of these wells, from what formation are they from?

A. So-called red sands.

Q. Approximately what depth?

A. 3600 feet in this lease.

Q. What is your opinion as to the permeability of the red sands wells producing?

A. I would say the permeability was poor in this area.

Q. Have you formed an opinion from tests and from your own knowledge of this area as to whether or not one well located in the center of each forty acre legal subdivision would be sufficient to drain all of the recoverable oil from that tract?

A. I do not think one well would drain forty acres.

Q. Will you state whether or not in your opinion it is necessary to drill these "five spot" wells in this particular area in order to recover all oil which may be economically be recovered?

A. It certainly will result in the recovery of a whole lot more. It won't be all because of the poor conditions.

Q. In your opinion it will result in the recovery of oil that would not otherwise be recovered?

A. Yes, sir.

Q. State whether or not in your opinion the drilling of these wells would infringe on the correlative rights of any adjacent lease owners?

A. I can't see how it would in any way.

Q. State whether or not in your opinion the drilling is in the interest of conservation and prevention of waste?

A. In my opinion, yes, sir.

MR. McCORMICK: Mr. Bradish, your lease covers the SW¼ of section 12 and the N½ ofNW¼ of section 13?

A. Yes, sir.

MR. McCORMICK: That is a 240 acre lease?

A. Yes, sir.

MR. McCORMICK: No, the SE of 12 do you also own that?

A. We recently purchased that.

MR. McCORMICK: The same for the north half of northeast of 13?

A. Right.

MR. McCORMICK: Are there any overriding royalties on any of these leases?

MR. HINKLE: I doubt whether he is familiar with that. If you are familiar with it you can answer.

A. I am. There is no royalty outstanding on original lease.

Q. What well has been most recently completed?

A. No. 7. Of course, that has just been completed.

Q. What kind of well is that?

A. About 60 or 65 barrels. That is an injection well, and will be down in a little while.

Q. If the order is granted, how do you propose to handle the monthly nomination mechanics?

A. These wells which are producing will not be able to make top allowable, and if the new well does, it will get top allowable. We are going to produce in accordance with the ruling of the Commission. I am not too familiar with that.

MR. SPURRIER: Mr. Bradish, do you know whether they intend to cut in cores in drilling new wells?

A. I don't know. The cored one well.

MR. SPURRIER: You will be excused, Mr. Bradish.

WILLIAM D. MORRIS, having been first duly sworn, testified as follows:

DIRECT EXAMINATION BY MR. HINKLE:

Q. What is your name?

A. William D. Morris.

Q. Where do you live?

Fort Worth, Texas.

Q. Are you an officer of the Worth Drilling Company?

A. Yes, sir.

Q. What is your office?

A. I am secretary and run the office.

Q. Are you an officer of the Whaley Company?

A. I am president and manager.

Q. Are you associated with J. C. Maxwell?

A. Yes, sir, I am his manager. I run his business too, subject to his approval, of course.

Q. Do you know whether or not Worth Drilling Company and Whaley Company and J. C. Maxwell are record title owners of oil and gas leases, which are federal leases,,located S½SW¼ section 12, township 18 South, Range 31 East and SW¼ section 12 N½NW¼ section 13, township 18 South, range 31 East., N.M.P.M.?

A. I know all about record title and actual title too.

Q. Do you know whether or not those same parties own oil and gas lease on the SE¼ of section 12 and N½ of NE¼ of section 13, township 18 South, range 31 East?

A. Yes, sir, the same parties and in exactly the same proportion.

Q. The Worth Drilling Company owns half; Whaley Company, a quarter; and J. C. Maxwell, an individual, a quarter interest?

A. Yes.

Q. Do you know whether or not royalty payable to the United States and overriding royalty,if there are any, are uniform?

A. They are uniform on the whole south half of section 12 and north half of the north half of 13 are federal leases.

Q. Are you familiar with the management of the property?

A. Yes, sir.

Q. And have been associated with it since the inception of the development?

A. Yes, sir, and a good many years before that. I am familiar with all that has transpired in connection with the drilling of the wells.

Q. In the event the order of the Commission is entered as requested, you might state to the Commission how you propose to produce?

A. We will have four 40-acre units on SW¼ of 12, as four proration units. We won't produce over top allowable as fixed by the Commission for total number of developed 40-acre proration units. We will let old wells produce about what they can, not to exceed top allowable for individual well.

Q. Altogether they probably won't equal top allowable?

A. I am sure it will not.

MR. McCORMICK: You state that all this is uniform owned by the same group?

A. By the same group, three or four or five own exactly alike; three sections of Federal 5½ per cent royalty. Federal lease, the same exactly, never been any difference in ownership.

MR. McCORMICK: Do you propose that the southwest of 12 be made into one proration unit?

MR. HINKLE: We are amending the application so that the southwest of 12 and the north half of section 13 be considered a proration unit for proration allowable purposes because of fact that other well already allowed, unorthodox 7-A on section 12, and two wells are located on the north half of northwest quarter of section 13.

MR. McCORMICK: How will you handle the mechanics of the nominations?

A. We use tank batteries on skids to test the wells. We keep pretty careful and accurate check on the wells.

MR. McCORMICK: Do you propose to file what each well

produces and what they are nominated for each well for the following month?

A. That is right. That is the way we have always done.

MR. McCORMICK: Do you have available the rate of production?

A. I don't have it before me, no, sir. I know about what all are doing together. We have the information in the office.

MR. McCORMICK: At the present do you have any top allowable wells?

A. No, sir, there are not.

MR. SPURRIER: Do you intend to produce from any 40-acre tract more than 40-acre allowable?

A. Well, we intend to unitize. We know that we won't produce more than top allowable for the tract.

MR. McCORMICK: You do intend that one well geographically located on 40-acre unit added to other well on that would produce more than top allowable?

A. Yes, sir.

MR. McCORMICK: How do you test the producing capacity of individual wells?

A. We test them any time there is any material change in production from the whole--when there is more decline than usual. They are gradually going down. Some times there is quite a little bit. These wells are pretty steady as a rule. You know what they are going to make from day to day.

MR. McCORMICK: Do you think any one well is producing more than top allowable?

A. I am certain it is not.

CHAIRMAN SHEPARD: Any further questions? Mr. Morrell? Without any objections, the order is granted.

MR. MORRELL: I would like to make a statement. I am Foster Morrell, Oil and Gas Supervisor, Southwestern Region, Roswell. The points raised this morning on "five spot" locations, I think, warrant a few comments. The questions asked by the Commission of some of the witnesses in respect to implied covenant. I would like to endeavor so far as I can to state the interest of the United States as concerns Federal land. In the Grayburg case the wells with mineral royalty of 12½ per cent are more than 1320 acres from any 5 per cent royalty acreage. The Worth Drilling Company lease is less than 1320 acres from 12½ per cent royalty. It is not the intention of the Geological Survey to require offset on higher royalty by virtue of 5 per cent royalty acreage. That gets then into the question of the value of the merits of "five spot" drilling. It is my opinion that the Grayburg Oil Company of New Mexico and Western Production Company, predecessors of General American Oil Company of Texas, demonstrated most satisfactorily how additional can produce under the conditions of permeability as shown by the producing formation tests. They reported in excess of 6200 barrels per acre. I would suggest that that recovery in the San Andres Formation in Lea County, it is my offhand opinion, exceeds anything in Lea County other than Hobbs and Monument. The operators of the Grayburg unit have done a special job in matters of handling, have expended venture capital to drill additional wells to get additional recover. Additional royalties going to the United States are returned to the State, 90 per cent of that is returned to the State. In getting to the point of the discussion, we forget a little history. Why do we have

40-acre spacing. I was present in New Mexico in '27, '28, and '29. Hendricks and Wingler Fields in Texas had developed 10-acre spacing allowables. Waste accordingly resulted. New Mexico had the foresight to make proration regulations to avoid that waste. It was decided the 40-acre unit allowable be set up rather than on a well basis, with only one well on 40 acres to be produced. They located that well in the center of the 40 acres as that would best eliminate objections to closer locations to offset operators. While production was in the flush stage, it was entirely satisfactory. How, when we are approaching stripper production in southern New Mexico locations, the center precedent brings administrative difficulties. So the legal "five spot" location is the result. Reference has been made by questions of the Commission this morning to the matter of one well, or seeking more than four wells on 160 acres and the resultant apparent increase in allowable. In exercising the rules of the Commission, the fact that on a 160-acre tract, for example, with a well in the center of each 40, any operator can go in and drill four additional thirties in order to bring each 40 up to top allowable. Secondary, remember the primary flush stage is past. It requires closer consideration to the amount of capital invested in order to make it a profitable venture. It seems to me that the use of "five spot" drilling is a matter in which waste is prevented by the saving of drilling three unitized wells in other "five spots" in center of 160 instead of four 30-acre tracts to get oil out of the center of that block. I can also see down the road that there can be and should be a trend on stripper leases of unitizing and including of different properties for this very purpose,

additional "five spots" within leases, "five spots" on boundary of leases to attain uniformity such as Grayburg Cooperative Unit Agreement has obtained. The Geological Survey definitely is in favor of "five spot" method. No harm has been done by virtue of what already has been approved. It is a definite contribution toward conservation and greater recovery of oil to the State of New Mexico.

MR. McCORMICK: Suppose royalty owners in other pools file a suit against lessees to compel the drilling of "five spot" locations on basis that not to drill would be a failure of the implied covenant of reasonable development?

MR. MORRELL: Are you speaking of the Federal Government?

MR. McCORMICK: No, not Federal.

MR. MORRELL: If the lessees--the very point which I have made, which may not be correct, is that the court is not going to go beyond engineering facts, if the operator used reasonable diligence, according to what is reasonable normal practice. When the operator has made and drilled a 40-acre location, he has complied with reasonable diligence. If some one wishes to offer over and beyond reasonable diligence, that is to be encouraged; but I don't think to be enforced. That is essentially the position we are taking with respect to Federal acreage.

MR. McCORMICK: Doesn't it set a precedent as to what is reasonable?

MR. MORRELL: No, I don't think that is the meaning of reasonable. I think the general practice all over is what is considered reasonable diligence. Take the offset to the Worth lease, it is an 80-acre tract. Say they are not in a position to do what Worth is doing. But because of this, that shouldn't prevent Worth from doing all he can do to

improve his position. In the case of 80-acre spacing, in Square Lake Pool where they drilled in the center of 80 recently, between two forties, there would have to be considerable leeway to fit the spacing pattern. These would not be requirements as far as we are concerned.

MR. McCORMICK: Suppose there was an 80-acre tract adjacent to the Worth lease, and the operator of that applied for an additional well on that 80, what would be the position of the United States Geological Survey on that?

MR. MORRELL: If he had developed wells on each forty of the 80, the Geological Survey would be happy to see the third well drilled.

MR. McCORMICK: It would permit that regardless of the size of adjacent acreage, whether 80 or 120, you would encourage additional wells?

MR. MORRELL: That is right. We would naturally endeavor by gentlemen's agreement to combine it into a single unit if that was feasible. We would not say you can't do this, whereas this other fellow can.

MR. McCORMICK: We have received testimony here very definitely and dogmatically that one well on a particular area will drain 80 acres; more testimony that one well won't drain 40 acres. Is there any relation between depths of wells and ability to drain?

MR. MORRELL: Your question might be answered by one witness with, ho can you prove it. There is some relationship with respect to depth as normal pressures increase with depth.

MR. GRAHAM: Do you approve the general principle of "five spot" drilling?

MR. MORRELL: Yes, sir.

MR. GRAHAM: Without reference to the pool or permeability?
MR. MORRELL: Anything to get more oil. It is mostly opinion. There again is the point that if the operator is willing to spend venture capital to drill to obtain the recovery of the greatest amount of oil, he shouldn't be prevented. We had one case in the Fren Pool in which they desired 20-acre spacing. I called a meeting in Artesia of all the operators involved. Danciger was not represented at the meeting. Fren Oil Company had venture capital and was willing to try. We took the position that they should not be prevented and set up the spacing pattern. We told Danciger the result of the decision, but that they would not be required to drill offsets, but if it did,,there was to be uniform spacing. The Fren Oil Company proceeded and showed a profit on the 20-acre spacing. Subsequently, Danciger drilled 20-acre location offsets. The point is, if we had prevented them from doing that when an offset operator objected, Fren would not have proved the point which later taught the offset operator that it was to his advantage.
MR. CAMPBELL: Jack Campbell, Atwood, Malone & Campbell, Roswell. Since the Commission has already granted the application, my remarks as are those of the others in way of a preliminary to tomorrow's hearing. For that reason, I felt constrained for the benefit of the Commission, there are a couple of matters I think Mr. Morrell should clear up for the Commission. Mr. Morrell, assume for sake of argument, analyzing "five spot" wells, is it correct that the Federal Government has no particular interest in a location or matter of the allocation or rate of production within an area?
MR. MORRELL: Well, forty--
MR. CAMPBELL: The Federal Government is willing to comply

with that, are they not?

MR. MORRELL: Yes.

MR. CAMPBELL: The second question is, is it your opinion that "five spot" locations confined to areas where stripper conditions exist and there should only be "five spot" locations where wells are less than top allowable?

MR. MORRELL: Any of them?

MR. CAMPBELL: Any of the wells.

MR. MORRELL: There is a difference to be made.

CHAIRMAN SHEPARD: The meeting will be adjourned.

- - -

C E R T I F I C A T E

I HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Commission of New Mexico, in Santa Fe, New Mexico, on February 7, 1950, at 10:00 A. M., is a true record of such proceedings to the best of my knowledge, skill, and ability.

DATED at Albuquerque, New Mexico, this 18th day of February, 1950.

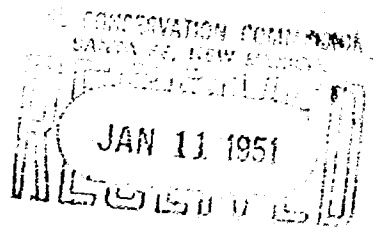
Margaret Powell
REPORTER

GENERAL AMERICAN OIL COMPANY OF TEXAS

REPUBLIC BANK BUILDING
DALLAS, TEXAS

FIELD OFFICE
P. O. BOX NO. 416
LOCO HILLS, NEW MEXICO

January 5, 1951



Mr. R. R. Spurrier, Director
New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Dear Mr. Spurrier:

In compliance with New Mexico Oil Conservation Order No. R-7 I am enclosing herewith for your file an approved copy of "Notice of Intention to Drill" our Keely No. 18-B well. This well site is located 25 feet from the north and west lines of Section 25, Township 17-S, Range 29-E, NMPM, and is one of seventeen (17) unorthodox locations authorized by the above mentioned order.

Very truly yours,

N. W. Krouskop,
Asst. Field Supt.

Encl/ 1

NWK:gb

GENERAL AMERICAN OIL COMPANY OF TEXAS

REPUBLIC BANK BUILDING
DALLAS, TEXAS

November 22, 1950

210

Mr. R. R. Spurrier, Director
New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Dear Mr. Spurrier:

In compliance with New Mexico Oil Conservation Commission Order No. R-7 I am transmitting herewith one approved copy of "Notice of Intention to Drill" our Keely No. 42-C location. This is one of the seventeen (17) unorthodox approved by Order R-7.

Very truly yours,

N. W. Krouskop,
Asst. Field Supt.

NWK:gb

Encl: 1

GENERAL AMERICAN OIL COMPANY OF TEXAS

REPUBLIC BANK BUILDING
DALLAS, TEXAS

FIELD OFFICE
P. O. BOX NO. 416
LOCO HILLS, NEW MEXICO

September 5, 1950

Mr. R. R. Spurrier, Director
New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

210

Dear Mr. Spurrier:

Transmitted herewith is one approved copy of "Notice of Intention to Drill" our Keely No. 41-C well located 1345' from the North line and 2615' from the West line of Section 25, Township 17-South, Range 29-East, N.M.P.M., Eddy County, New Mexico.

This unorthodox location is one of seventeen authorized by New Mexico Oil Conservation Commission Order No. R-7 and if completed as a commercial oil well will be produced in accordance with Order No. 802.

Very truly yours,

N. W. Krouskop,
Asst. Field Supt.

Encl. 1

NWK:gb

GENERAL AMERICAN OIL COMPANY OF TEXAS
REPUBLIC BANK BUILDING
DALLAS, TEXAS

FIELD OFFICE
P. O. BOX NO. 416
LOCO HILLS, NEW MEXICO
June 15, 1950

Mr. R. R. Spurrier, Director
New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Dear Mr. Spurrier:

In compliance with New Mexico Oil Conservation Commission Order No. R-7 I am enclosing herewith one approved copy each of our notices of intention to drill the following unorthodox well locations:

Burch No. 14-c: 25' from S line and 1345' from E line of Section 23, Twp. 17 South, Rge. 29 East, NMPM.

Keely No. 43-c: 2615' from S line and 25' from W line of Section 25, Twp. 17 South, Rge. 29 East, NMPM.

Very truly yours,

N. W. Krouskop
Asst. Field Supt.

NWK:mw

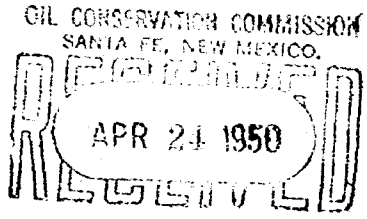
Encl. 2

GENERAL AMERICAN OIL COMPANY OF TEXAS

REPUBLIC BANK BUILDING
DALLAS, TEXAS

FIELD OFFICE
P. O. BOX NO. 416
LOCO HILLS, NEW MEXICO

April 18, 1950



Mr. R. R. Spurrier, Director
New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Dear Mr. Spurrier:

In accordance with New Mexico Oil Conservation Commission Order No. R-7 there are transmitted herewith approved copies of "Notices of Intention to Drill" the following unorthodox lease line five-spot wells:

Keely No. 19-B, 1345' from N line and 25' from E line of Section 26, Twp. 17-S, Rge. 29-E, NMPM.

Keely No. 44-C, 1295' from S line and 2615' from W line of Section 26, Twp. 17-S, Rge. 29-E, NMPM.

Burch No. 18-B, 1345' from N line and 25' from W line of Section 30, Twp. 17-S, Rge. 30-E, NMPM.

Very truly yours,

GENERAL AMERICAN OIL CO. OF TEXAS

N. W. Krouskop
Asst. Field Supt.

NWK:gb

Encl - 3

GENERAL AMERICAN OIL COMPANY OF TEXAS

REPUBLIC BANK BUILDING
DALLAS, TEXAS

FIELD OFFICE
P. O. BOX NO. 416
LOCO HILLS, NEW MEXICO

February 21, 1950

Case 210

Mr. R. R. Spurrier, Director
New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Dear Mr. Spurrier:

In compliance with New Mexico Oil Conservation Commission Order No. R-7 I am enclosing herewith approved copies of "Notices of Intention to Drill" the following unorthodox lease line five-spots:

Keely No. 20-B, 1295' from N line and 2615' from W line of Section 25, Twp 17-S, Rge 29-E, NMPM.

Keely No. 21-B, 2615' from S and E lines of Section 26, Twp 17-S, Rge 29-E, NMPM.

Keely No. 22-B, 25' from E line and 1295' from S line of Section 26, Twp 17-S, Rge 29-E, NMPM.

Yours very truly,

N. W. Krouskop
Asst. Field Supt.

NWK:gb

Encl/3

BEFORE THE OIL CONSERVATION COMMISSION

OF THE STATE OF NEW MEXICO

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

CASE NO. 210
ORDER NO. R-7

THE APPLICATION OF GENERAL AMERICAN OIL COMPANY OF TEXAS FOR AN ORDER GRANTING PERMISSION TO DRILL SEVENTEEN UNORTHODOX "FIVE SPOT" LINE LOCATIONS ON LEASES WITHIN THE BOUNDARIES OF THE GRAYBURG COOPERATIVE AND UNIT AREA IN TOWNSHIP 17 SOUTH, RANGES 29 AND 30 EAST, N.M.P.M., IN THE GRAYBURG-JACKSON POOL OF EDDY COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This matter came on for hearing at 10:00 A. M. on the 7th day of February, 1950, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission".

NOW, on this 7th day of February, 1950, the Commission, having before it for consideration the testimony adduced at said hearing and being fully advised in the premises,

FINDS:

1. That due public notice having been given, as provided by law, the Commission has jurisdiction of this cause.

2. That General American Oil Company of Texas,

Applicant herein, on December 1, 1949, by purchase, acquired all of the oil and gas leases comprising what is known as the Grayburg Cooperative and Unit Area, situated in Eddy County, State of New Mexico, formerly owned by Grayburg Oil Company of New Mexico and Western Production Company, Inc. That leases covering the following described lands, in the Grayburg Cooperative and Unit Area, are owned by General American Oil Company of Texas:

BURCH "A" LEASE, Las Cruces Serial No. 028793, described as S/2 S/2 Section 18, N/2 and N/2 S/2 Section 19, Township 17 South, Range 30 East, N.M.P.M.

BURCH "B" LEASE, Las Cruces Serial No. 028793-84, described as NW/4, N/2 SW/4 Section 18, S/2 SW/4 Section 19, NW/4 Section 30, Township 17 South, Range 30 East; NE/4 and SW/4 Section 23, Township 17 South, Range 29 East, N.M.P.M.

BURCH "C" LEASE, Las Cruces Serial No. 028793, described as NE/4, N/2 SE/4 Section 18, S/2 SE/4 Section 19, NE/4 and S/2 Section 30, Township 17 South, Range 30 East, N.M.P.M.; NW/4 and SE/4 Section 23, Township 17 South, Range 29 East, N. M.P.M.

KEELY "A" LEASE, Las Cruces Serial No. 028784, described as NE/4 SE/4, S/2 S/2 Section 13, N/2 NW/4, SW/4 NW/4, N/2 SW/4, NE/4, N/2 SE/4 Section 24, Township 17 South, Range 29 East, N.M.P.M.

KEELY "B" LEASE, Las Cruces Serial No. 028784-93, described as S/2 SW/4 Section 24, N/2 NW/4 Section 25 and E/2 Section 26, Township 17 South, Range 29 East, N. M.P.M.

KEELY "C" LEASE, Las Cruces Serial No. 028784, described as N/2 SW/4, NW/4 SE/4 Section 13, S/2 SE/4 Section 24, S/2 NW/4, NE/4 and S/2 Section 25, W/2 Section 26, Township 17 South, Range 29 East, N.M.P.M.

DEXTER LEASE, Las Cruces Serial No. 054406, described as SE/4 NW/4 Section 24, Township 17 South, Range 29 East, N. M.P.M.

3. That all of the leases covering the lands above described comprise, and are situated within the boundaries of, the Grayburg Cooperative and Unit Area.

4. That one well located in the center of each forty acre legal subdivision is not sufficient to obtain all of the recoverable oil under any forty acre tract and that the drilling of "five spot" line locations, as proposed in the Application of General American Oil Company of Texas, at the locations designated, would be in the interest of conservation, prevent waste and enable Applicant to obtain a greater ultimate recovery of oil, in that Applicant would be able to recover substantial quantities of oil which would, otherwise, not be produced if such "five spot" line locations are not drilled.

5. That it is the intention of General American Oil Company of Texas to continue the development program started by Grayburg Oil Company of New Mexico, and General American Oil Company of Texas desires and proposes to make seventeen locations for "five spot" line wells, to be located not nearer than twenty-five feet to the outermost lease boundary lines, at the locations designated in its Application.

6. That all leases within the boundaries of the Grayburg Cooperative and Unit Area are Federal leases and all leases on which "five spot" line locations are proposed are either (b) or (c) leases providing for the payment of royalty to the United States Government of not less that 12-1/2 per cent, and that the royalty due the United

States Government is uniform under each location, thereby eliminating any question of drainage. That in the case of each location there is at least a forty acre legal subdivision between the proposed location and any (a) lease upon which the royalty to be paid to the United States Government is five per cent, thereby making each proposed "five spot" line location at least a legal forty acre subdivision away from any lease upon which the royalty payable to the United States is less than 12-1/2 per cent.

7. That the owners of overriding royalty interests affected by the drilling of such "five spot" locations have agreed to and approved in writing the proposed "five spot" line locations spacing pattern set forth in the Application filed herein, thereby eliminating any question of overriding royalty owners being adversely affected by the proposed "five spot" spacing pattern.

8. That heretofore, on November 19, 1948, the Commission entered Order No. 802 in Case No. 164, wherein certain specific tracts, more fully described in said Order, were unitized for proration purposes and wherein Grayburg Oil Company of New Mexico and Western Production Company, Inc., the former owners of all leases comprising the Grayburg Cooperative and Unit Area, were authorized to produce from each such unitized tract described in said Order No. 802, the total allowable production as fixed by the Oil Conservation Commission for the total number of developed forty acre units comprising such unitized tracts and were authorized to produce the total allowable so fixed by the Commission for each such unitized tract from all

of the wells that were located upon, or that may hereafter be drilled upon, such unitized tract producing from the Grayburg-Jackson Pay, and said Order further provided that no well located upon any unitized tract should be permitted to produce at a rate in excess of the top allowable as fixed by the Oil Conservation Commission.

9. That Applicant herein does not ask for any additional allowable by reason of drilling and completing any of the "five spot" line locations described in its Application, but that it is Applicant's desire to produce all such tracts unitized for proration purposes in accordance with the terms and provisions of Order No. 802 entered by the Oil Conservation Commission in Case No. 164.

10. That the proposed unorthodox "five spot" line location plan, being on Federal lands, has been approved by the Washington and Roswell, New Mexico offices of the United States Geological Survey.

IT IS THEREFORE ORDERED by the Commission that the Application of General American Oil Company of Texas, as successor to Grayburg Oil Company of New Mexico and Western Production Company, Inc., for an Order granting permits to drill seventeen unorthodox "five spot" line locations at the locations designated in said Application, be and the same is hereby granted and approved.

That the numbers and locations of the wells to be drilled by General American Oil Company of Texas, are as follows:

Burch No. 17-B: Section 23, Township 17 South, Range 29 East, N.M.P.M., SE/4 SW/4, 1295 feet from South Line, 2615 feet from West Line;

Burch No. 18-B: Section 30, Township 17 South, Range 30 East, N.M.P.M., SW/4 NW/4, (Lot 2) 1345 feet from the North Line, 25 feet from the West Line;

Burch No. 13-C: Section 23, Township 17 South, Range 29 East, N.M.P.M., NW/4 SE/4, 2615 feet from South Line, 1345 feet from East Line;

Burch No. 14-C: Section 23, Township 17 South, Range 29 East, N.M.P.M., SW/4 SE/4, 25 feet from South Line, 1345 feet from East Line;

Burch No. 15-C: Section 30, Township 17 South, Range 30 East, N.M.P.M., NW/4 NE/4, 25 feet from North Line, 2615 feet from East Line;

Keely No. 17-B: Section 26, Township 17 South, Range 29 East, N.M.P.M., NW/4 NE/4, 25 feet from North Line, 2615 feet from East Line;

Keely No. 18-B: Section 25, Township 17 South, Range 29 East, N.M.P.M., NW/4 NW/4, 25 feet from North and West Lines;

Keely No. 19-B: Section 26, Township 17 South, Range 29 East, N.M.P.M., SE/4 NE/4, 1345 feet from North Line, 25 feet from East Line;

Keely No. 20-B: Section 25, Township 17 South, Range 29 East, N.M.P.M., NE/4 NW/4, 1295 feet from North Line, 2615 feet from West Line;

Keely No. 21-B: Section 26, Township 17 South, Range 29 East, N.M.P.M., NW/4 SE/4, 2615 feet from South and East Lines;

Keely No. 22-B: Section 26, Township 17 South, Range 29 East, N.M.P.M., SE/4 SE/4, 1295 feet from South Line, 25 feet from East Line;

Keely No. 39-C: Section 25, Township 17 South, Range 29 East, N.M.P.M., NW/4 NE/4, 25 feet from North Line, 2615 feet from East Line;

Keely No. 40-C: Section 25, Township 17 South, Range 29 East, N.M.P.M., NE/4 NE/4, 25 feet from North Line and 25 feet from East Line;

Keely No. 41-C: Section 26, Township 17 South, Range 29 East, N.M.P.M., SE/4 NW/4, 1345 feet from North Line, 2615 feet from West Line;

Keely No. 42-C: Section 25, Township 17 South, Range 29 East, N.M.P.M., SE/4 NW/4, 1345 feet from North and West Lines;

Keely No. 43-C: Section 25, Township 17 South, Range 29 East, N.M.P.M., NW/4 SW/4, 2615 feet from South Line, 25 feet from West Line;

Keely No. 44-C: Section 26, Township 17 South, Range 29 East, N.M.P.M., SE/4 SW/4, 1295 feet from South Line, 2615 feet from West Line.

IT IS FURTHER ORDERED that as General American Oil Company of Texas completes the above described unorthodox "five spot" line location wells, as producing wells, that such wells be produced in accordance with the terms and provisions of Order No. 802 entered in Case No. 164 by the Commission, wherein certain specific tracts more fully described in said Order, were unitized for proration purposes and wherein Grayburg Oil Company of New Mexico and Western Production Company, Inc., the former owners of all the leases comprising the Grayburg Cooperative and Unit Area, were authorized to produce from each such unitized tract described in said Order No. 802 the total allowable production as fixed by the Commission for the total number of developed forty acre proration units comprising such unitized tracts, and that General American Oil Company of Texas be, and it is hereby authorized to produce the total allowable so fixed by the Commission for each such unitized tract from all of the wells located on or that may hereafter be drilled upon such unitized tract, producing from the Grayburg-Jackson Pay.

IT IS FURTHER ORDERED that no well located upon

any such unitized tract be permitted to produce at a rate in excess of the top allowable as fixed by the Oil Conservation Commission.

IT IS FURTHER ORDERED that General American Oil Company of Texas shall file with the Commission copies of Federal location notices for the hereinabove described locations, after approval thereof by the Oil and Gas Supervisor.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

CHAIRMAN

Guy Shepard

MEMBER

R. L. Gourrier

SECRETARY

Comms. Spurrier + Shepard — Attys. Wm McCormick & George Graham —

Hearing of 2/7/50

Name	Address	Company
Elvis A. Utz	Santa Fe. N. Mex.	Oil Cons. Com
Frank C. Barnes	" " " "	" " "
Phillip Ducleay	" " " "	AH. Gen. Office
Jack M. Campbell	Roswell N. M.	Atwood, Milnes & Campbell
Justin Brown	Artesia	O. C. C.
John E. Cochran, Jr	Artesia, New Mex	Genexan Pet. Co. of Texas
Roy O. Yarbrough	O C C Hobbs	Oil Cons Comm
[illegible] Quinney	Artesia NM	NM Bur of Mines
B. F. Heard.	Artesia N M	Gen al American
R. F. Miller	Artesia N. M.	Gen. Amer. Oil Co of Tex for Gen. Amer. Oil Co of Texas
W B Macey	artesia N. M	American Republics Corp
Jack R. Hoffmyer	Artesia, N. M.	American Republics Corp
H. C. Williamson	Houston, Texas	American Republics Corp
M. W. Rowekamp.	Jal, Hobbs, N. Mex	Brit Amer. Oil Co.
Roy Charlesworth	Kermit, Tex	Worth Pdg Co. Inc
E. J. McCandy Jr.,	Fort Worth, Texas	E J McCandy Jr
Wm D. Morris	Fort Worth, Texas	Worth Drilling Co Inc Whaley Co. Inc J. C. Maxwell
Foster Morrell	Roswell N. M.	U. S. Geol. Survey
Haynie & Edwards	Fort Worth Texas.	E J McCandy
Glenn Staley	Hobbs N. M.	Lea Co. Operators
Ford Bradish	Fort Worth Texas	Cons. Geologist
Lemuel Hinkle	Hervey, Dow & Hinkle	Roswell, N. M.

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

The State of New Mexico by its Oil Conservation Commission hereby gives notice, pursuant to law and the Rules of said Commission promulgated thereunder, of the following public hearing to be held February 7, 1950, beginning at 10:00 o'clock a.m. on that day in the City of Santa Fe, New Mexico, in the Capitol Building (Hall of Representatives)

STATE OF NEW MEXICO TO:

All named parties in the following cases, and notice to the public:

Case 210

In the matter of the application of General American Oil Company of Texas for an order granting permission to drill seventeen unorthodox "five spot" line locations on leases within the boundaries of the Grayburg Cooperative and Unit Area in Township 17 South, Ranges 29 and 30 East, N.M.P.M. in the Grayburg-Jackson Pool of Eddy County, New Mexico.

Case 211

In the matter of the application of Worth Drilling Company, Inc. for permission to drill three unorthodox locations: No. 8-A, 1345 feet north of the south line and 1295 feet east of the west line (SW/4) section 12; No. 9-A, 1345' north of the south line and 2615 feet east of the west line (SW/4) section 12; and No. 10-A, 25 feet north of the south line and 2615 feet east of the west line (SW/4) section 12, all in Township 18 South, Range 31 East, N.M.P.M., upon the A. C. Taylor "A" lease in the North Shugart pool, Eddy County, New Mexico.

Given under the seal of the Oil Conservation Commission of New Mexico, at Santa Fe, New Mexico, on January 20, 1950.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

R. R. Spurrier

R. R. SPURRIER, SECRETARY

January 20, 1950

CARLSBAD CURRENT ARGUS
Carlsbad, New Mexico

RE: Cases 210 and 211
Notice of Publication

Gentlemen:

Please publish the enclosed notice once, immediately. Please proof read the notice carefully and send a copy of the paper carrying such notice to this office.

UPON COMPLETION OF THE PUBLICATION SEND PUBLISHER'S AFFIDAVIT IN DUPLICATE.

For payment, please submit statement in duplicate and sign and return the enclosed voucher.

Very truly yours,

bpw
enc.

Secretary and Director

January 20, 1950

SANTA FE NEW MEXICAN
Santa Fe, New Mexico

RE: Cases 210 and 211
Notice of Publication

Gentlemen:

Please publish the enclosed notice once immediately. Please proof read the notice carefully and send a copy of the paper carrying such notice to this office.

UPON COMPLETION OF THE PUBLICATION SEND PUBLISHER'S AFFIDAVIT IN DUPLICATE.

For payment, please submit statement in duplicate and sign and return the enclosed voucher.

Very truly yours,

Secretary and Director

bpw
enc.

January 20, 1950

REGISTERED MAIL

Mr. Glenn Staley
Lea County Operators Committee
Hobbs, New Mexico

Dear Mr. Staley:

We are enclosing herewith copy of Notice of Publication for the hearing to be held on February 7, 1950, at 10:00 a.m., in Santa Fe at the Hall of Representatives. Two cases, Nos. 210 and 211, are to be heard.

Very truly yours,

bpw
enc.

Secretary and Director

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

The State of New Mexico by its Oil Conservation Commission hereby gives notice, pursuant to law and the Rules of said Commission promulgated thereunder, of the following public hearing to be held February 7, 1950, beginning at 10:00 o'clock a.m. on that day in the City of Santa Fe, New Mexico, in the Capitol Building (Hall of Representatives).

STATE OF NEW MEXICO TO:

All named parties in the following cases, and notice to the public:

Case 210

In the matter of the application of General American Oil Company of Texas for an order granting permission to drill seventeen unorthodox "five spot" line locations on leases within the boundaries of the Grayburg Cooperative and Unit Areas in Township 17 South, Ranges 29 and 30 East, N.M.P.M. in the Grayburg-Jackson Pool of Eddy County, New Mexico.

Case 211

In the matter of the application of Woods Drilling Company, Inc., for permission to drill three unorthodox locations: No. 8-A, 1348 feet north of the south line and 1320 feet east of the west line (SW/4) section 12; No. 9-A, 1345 north of the south line and 2615 feet east of the west line (SW/4) section 12; and No. 10-A, 35 feet north of the south line and 2615 feet east of the west line (SW/4) section 12, all in Township 18 South, Range 31 East, N.M.P.M., upon the A. C. Taylor "A" lease in the North Shugart pool, Eddy county, New Mexico.

Given under the seal of the Oil Conservation Commission of New Mexico, at Santa Fe, New Mexico, on January 20, 1950.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION
R. R. SPURRIER,
Secretary.

(SEAL)

Pub. Jan. 24, 1950.

Affidavit of Publication

State of New Mexico }
County of Santa Fe } ss.

I, Will Harrison, being first duly sworn, declare and say that I am the (Business Manager) (Editor) of the Santa Fe New Mexican, a daily newspaper, published in the English Language, and having a general circulation in the City and County of Santa Fe, State of New Mexico, and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 of the Session Laws of 1937; that the publication, a copy which is hereto attached, was published in said paper once each week for one time consecutive weeks and on the same day of each week in the regular issue of the paper during the time of publication, and that the notice was published in the newspaper proper, and not in any supplement, once each week for one time consecutively, the first publication being on the 24th day of January, 1950 and the last publication on the day of , 19 ; that payment for said advertisement has been (duly made), or (assessed as court costs); that the undersigned has personal knowledge of the matters and things set forth in this affidavit.

Will Harrison
Editor

Subscribed and sworn to before me this 25th day of January, A.D., 1950

Anna K. Dennis
Notary Public

My Commission expires
June 14, 1953

PUBLISHER'S BILL

48 lines, one time at $ 4.80

lines, times, $

Tax $

Total . . . . . $ 4.80

Received payment,

By

Affidavit of Publication

State of New Mexico,
County of Eddy, ss.

Jack Sitton
~~XXXXXXXX~~, being first duly sworn, on oath says:

That he is Editor ~~publisher~~ of the Daily Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, State of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of this state wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in a supplement thereof on the dates as follows, to-wit:

January 24, 1950

....., 19.....

....., 19.....

....., 19.....

that the cost of publication is $5.40, and that payment therefor has been made and will be assessed as court costs.

Jack Sitton

Subscribed and sworn to before me this

3 day of Feb., 1950

Jay B. King
Notary Public.

My commission expires July 1, 1950

(Published Jan. 24, 1950)

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

The State of New Mexico by its Oil Conservation Commission hereby gives notice, pursuant to law and the Rules of said Commission promulgated thereunder, of the following public hearing to be held February 7, 1950, beginning at 10:00 o'clock a. m. on that day in the City of Santa Fe, New Mexico, in the Capitol Building (Hall of Representatives)

STATE OF NEW MEXICO TO:
All named parties in the following cases, and notice to the public:

Case 210

In the matter of the application of General American Oil Company of Texas for an order granting permission to drill seventeen unorthodox "five spot" line locations on leases within the boundaries of the Grayburg Cooperative and Unit Area in Township 17 South, Ranges 29 and 30 East, N.M.P.M. in the Grayburg-Jackson Pool of Eddy County, New Mexico, to-wit:

Case 211

In the matter of the application of Worth Drilling Company, Inc. for permission to drill three unorthodox locations: No. 8-A, 1345 feet north of the south line and 1295 feet east of the west line (SW¼) section 12; No. 9-A, 1315 feet north of the south line and 2615 feet east of the west line (SW/4) section 12; and No. 10-A, 25 feet north of the south line and 2615 feet east of the west line (SW/4) section 12, all in Township 18 South, [redacted] N.M.P.M., upon the A. C. Taylor [redacted] lease in the North Shugart pool, Eddy County, New Mexico.

Given under the seal of the Oil Conservation Commission of New Mexico at Santa Fe, New Mexico, on January 20, 1950.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION
(SEAL)

R. R. SPURRIER
Secretary

BEFORE THE OIL CONSERVATION COMMISSION

OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF GENERAL AMERICAN OIL COMPANY OF TEXAS FOR AN ORDER GRANTING PERMISSION TO DRILL SEVENTEEN UNORTHODOX "FIVE SPOT" LINE LOCATIONS ON LEASES WITHIN THE BOUNDARIES OF THE GRAYBURG COOPERATIVE AND UNIT AREA IN TOWNSHIP 17 SOUTH, RANGES 29 AND 30 EAST, N.M.P.M. IN THE GRAYBURG-JACKSON POOL OF EDDY COUNTY, NEW MEXICO

Case NO. 210

APPLICATION

GENERAL AMERICAN OIL COMPANY OF TEXAS, Applicant herein, is a corporation organized under the laws of the State of Delaware, with its principal office at Dallas, Texas, and is duly licensed to transact business within the State of New Mexico, and in connection herewith respectfully shows to the Oil Conservation Commission:

1. On December 1, 1949, General American Oil Company of Texas, by purchase, acquired all of the oil and gas leases comprising what is known as the Grayburg Cooperative and Unit Area situated in Eddy County, State of New Mexico, formerly owned by Grayburg Oil Company of New Mexico and Western Production Company, Inc.

2. The following is a list of such leases so acquired by Applicant herein, the same being all of the leases committed to and within the boundaries of the Grayburg Cooperative and Unit Agreement:

BURCH "A" LEASE, Las Cruces Serial No. 028793, described as S/2 S/2 Section 18, N/2 and N/2 S/2 Section 19, Township 17 South, Range 30 East, N.M.P.M.

BURCH "B" LEASE, Las Cruces Serial No. 028793-84, described as NW/4, N/2 SW/4 Section 18, S/2 SW/4 Section 19, NW/4 Section 30, Township 17 South, Range 30 East; NE/4 and SW/4 Section 23, Township 17 South, Range 29 East, N.M.P.M.

BURCH "C" LEASE, Las Cruces Serial No. 028793, described as NE/4, N/2 SE/4 Section 18, S/2 SE/4 Section 19, NE/4 and S/2 Section 30, Township 17 South, Range 30 East, N.M.P.M.; NW/4 and SE/4 Section 23, Township 17 South, Range 29 East, N. M.P.M.

KEELY "A" LEASE, Las Cruces Serial No. 028784, described as NE/4 SE/4, S/2 S/2 Section 13, N/2 NW/4, SW/4 NW/4, N/2 SW/4, NE/4, N/2 SE/4 Section 24, Township 17 South, Range 29 East, N.M.P.M.

KEELY "B" LEASE, Las Cruces Serial No. 028784-93, described as S/2 SW/4 Section 24, N/2 NW/4 Section 25 and E/2 Section 26, Township 17 South, Range 29 East, N. M.P.M.

KEELY "C" LEASE, Las Cruces Serial No. 028784, described as N/2 SW/4, NW/4 SE/4 Section 13, S/2 SE/4 Section 24, S/2 NW/4, NE/4 and S/2 Section 25, W/2 Section 26, Township 17 South, Range 29 East, N.M.P.M.

DEXTER LEASE, Las Cruces Serial No. 054406, described as SE/4 NW/4 Section 24, Township 17 South, Range 29 East, N. M.P.M.

3. That from inception of production to the present time on leases within the boundaries of the Grayburg Cooperative and Unit Area there have been drilled a total of ninety-five producing oil wells; ninety-four of which are producing from the Grayburg-Jackson Pay of the Upper San Andres Formation, encountered at an

approximate depth of 2800 feet, and one well, Keely Well No. 27-C, located in the NW/4 of Section 26, Township 17 South, Range 29 East, N.M.P.M., is producing from the sub-Grayburg, or Keely Zone, encountered at an approximate depth of 3300 feet. In addition to these wells, there have been drilled five wells which are now being used as gas injection wells for the purpose of returning gas to the reservoir. In addition, two wells are drilling at the present time, namely; Keely Well No. 30-C in the NE/4 of Section 25, Township 17 South, Range 29 East, and Burch Well No. 22-A in the NE/4 of Section 19, Township 17 South, Range 30 East, N.M.P.M.

4. That Grayburg Oil Company of New Mexico, the former Operator of the Grayburg Cooperative and Unit Area, upon the basis of geological and engineering information, was of the opinion and belief that one well in the center of each forty-acre legal subdivision was not sufficient to obtain all of the recoverable oil under any forty-acre tract, and that the drilling of "five spot" wells in the Grayburg Cooperative and Unit Area, at certain designated locations, would be in the interest of conservation, prevent waste and enable the Operator to obtain a greater ultimate recovery of oil, in that it was the belief of Grayburg Oil Company of New Mexico that it would be able to recover substantial quantities of oil which would otherwise not be produced if such

"five spot" locations were not drilled.

5. That pursuant to this information and belief, the Oil Conservation Commission of New Mexico heretofore, by Order No. 791 in Case No. 152, to which Order reference is hereby made for the full particulars thereof, granted to Grayburg Oil Company of New Mexico and Western Production Company, Inc. permission to drill twenty-eight unorthodox "five spot" locations at the locations designated in said Order.

6. That since the entry of the Commission of said Order, and prior to the acquisition of said properties by Applicant herein, Grayburg Oil Company of New Mexico drilled and completed as producing wells fifteen of such twenty-eight unorthodox "five spot" locations and, as hereinabove stated, Applicant herein, at the present time, is drilling two additional such "five spot" locations for which permission to drill was granted in the above mentioned Order of the Oil Conservation Commission No. 791.

7. That the results that have, thus far, been obtained in the drilling of these unorthodox "five spot" inside locations have been more than satisfactory in that most of these wells have been completed as good wells and the drilling of these wells has definitely established the fact that this drilling program, within the boundaries of the Grayburg Cooperative and Unit Agreement, is economically sound and that by the drilling of such "five

spot" locations a much greater ultimate recovery of oil will be obtained in that substantial quantities of oil will be recovered that would not otherwise be obtained if these "five spot" locations were not drilled.

8. That it is the desire and intention of General American Oil Company of Texas, Applicant herein, to continue the development program started by Grayburg Oil Company of New Mexico, and General American Oil Company of Texas desires and proposes to make seventeen locations for "five spot" staggered line wells to be located not nearer than twenty-five feet to the outermost lease boundary lines; that these proposed "five spot" staggered line wells are shown on the map attached hereto, marked Exhibit "A", in circles that have been colored in blue, and Applicant proposes to drill and complete each of said wells in the Grayburg-Jackson Pay of the Upper San Andres Formation.

9. The leases, well numbers and locations of the seventeen proposed "five spot" staggered line locations which Applicant desires permission to drill are as follows:

Burch No. 17-B: Section 23, Township 17 South, Range 29 East, N.M.P.M., SE/4 SW/4, 1295 feet from South Line, 2615 feet from West Line;

Burch No. 18-B: Section 30, Township 17 South, Range 30 East, N.M.P.M., SW/4 NW/4, (Lot 2) 1345 feet from the North Line, 25 feet from the West Line;

Burch No. 13-C: Section 23, Township 17 South, Range 29 East, N.M.P.M., NW/4 SE/4, 2615 feet from South Line, 1345 feet from East Line;

Burch No. 14-C: Section 23, Township 17 South, Range 29 East, N.M.P.M., SW/4 SE/4, 25 feet from South Line, 1345 feet from East Line;

Burch No. 15-C: Section 30, Township 17 South, Range 30 East, N.M.P.M., NW/4 NE/4, 25 feet from North Line, 2615 feet from East Line;

Keely No. 17-B: Section 26, Township 17 South, Range 29 East, N.M.P.M., NW/4 NE/4, 25 feet from North Line, 2615 feet from East Line;

Keely No. 18-B: Section 25, Township 17 South, Range 29 East, N.M.P.M., NW/4 NW/4, 25 feet from North and West Lines;

Keely No. 19-B: Section 26, Township 17 South, Range 29 East, N.M.P.M., SE/4 NE/4, 1345 feet from North Line, 25 feet from East Line;

Keely No. 20-B: Section 25, Township 17 South, Range 29 East, N.M.P.M., NE/4 NW/4, 1295 feet from North Line, 2615 feet from West Line;

Keely No. 21-B: Section 26, Township 17 South, Range 29 East, N.M.P.M., NW/4 SE/4, 2615 feet from South and East Lines;

Keely No. 22-B: Section 26, Township 17 South, Range 29 East, N.M.P.M., SE/4 SE/4, 1295 feet from South Line, 25 feet from East Line;

Keely No. 39-C: Section 25, Township 17 South, Range 29 East, N.M.P.M., NW/4 NE/4, 25 feet from North Line, 2615 feet from East Line;

Keely No. 40-C: Section 25, Township 17 South, Range 29 East, N.M.P.M., NE/4 NE/4, 25 feet from North Line and 25 feet from East Line;

Keely No. 41-C: Section 26, Township 17 South, Range 29 East, N.M.P.M., SE/4 NW/4, 1345 feet from North Line, 2615 feet from West Line;

Keely No. 42-C: Section 25, Township 17 South, Range 29 East, N.M.P.M., SE/4 NW/4, 1345 feet from North and West Lines;

Keely No. 43-C: Section 25, Township 17 South, Range 29 East, N.M.P.M., NW/4 SW/4, 2615 feet from South Line, 25 feet from West Line;

Keely No. 44-C: Section 26, Township 17 South, Range 29 East, N.M.P.M., SE/4 SW/4, 1295 feet from South Line, 2615 feet from West Line,

all such locations being shown on map attached hereto, marked Exhibit "A".

10. All of the leases within the boundaries of the Grayburg Cooperative and Unit Area are Federal leases and all leases on which "five spot" line locations are proposed are either (b) or (c) leases providing for the payment of royalty to the United States Government of not less than 12-1/2 per cent, and that the royalty due the United States Government is uniform under each proposed location, thereby eliminating any question of drainage. That in the case of each location there is at least a forty-acre legal subdivision between the proposed location and any (a) lease upon which the royalty to be paid to the United States Government is five per cent, thereby making each proposed "five spot" staggered line location at least a legal 40-acre subdivision away from any lease upon which the royalty payable to the United States Government is less than 12-1/2 per cent.

11. That C. J. Dexter and J. W. Berry, as the owners of overriding royalty interests affected by the drilling of such "five spot" staggered line locations, have agreed to and approved, in writing, the proposed "five spot" staggered line locations spacing pattern herein set forth, thereby eliminating any question of overriding royalty owners being adversely affected by the proposed "five spot" staggered line well spacing pattern.

12. Heretofore, on November 19, 1948, the Oil Conservation Commission of the State of New Mexico entered Order No. 802 in Case No. 164, wherein certain specific tracts, more fully described in said Order, and to which Order reference is hereby made for the full particulars thereof, were unitized for proration purposes, and wherein Grayburg Oil Company of New Mexico and Western Production Company, Inc., the former owners of all of the leases comprising the Grayburg Cooperative and Unit Area, were authorized to produce from each such unitized tract described in said Order No. 802, the total allowable production as fixed by the Oil Conservation Commission for the total number of developed forty-acre units comprising such unitized tract, and were authorized to produce the total allowable so fixed by the Commission for each such unitized tract from all of the wells that were located upon, or that may hereafter be drilled upon, such unitized tract, producing from the Grayburg-Jackson Pay, and said Order further provided that no well located upon any unitized tract should be permitted to produce at a rate in excess of the top allowable, as fixed by the Oil Conservation Commission.

13. That it is not the intention, nor does Applicant herein ask for any additional allowable by reason of the drilling and completing of any of the hereinabove described "five spot" staggered line locations as producing wells, but that it is Applicant's desire and intention

to produce all such tracts unitized for proration purposes in accordance with the terms and provisions of Order No. 802 entered by the Oil Conservation Commission in Case No. 164; that is, that Applicant be authorized to produce from each tract described in Order No. 802, unitized for proration purposes, the total allowable production as fixed by the Commission for the total number of developed forty-acre proration units comprising such unitized tract, and that Applicant be authorized to produce the total allowable so fixed by the Commission for each unitized tract from all of the wells located upon, or that may be hereafter drilled upon such unitized tract producing from the Grayburg-Jackson Pay, and that no well located upon any such unitized tract will be permitted to produce at a rate in excess of the top allowable, as fixed by the Oil Conservation Commission.

WHEREFORE, Applicant prays that this Commission set a date for hearing this Application and give notice thereof in accordance with its rules and regulations and that upon presentation of this Application an Order be entered granting Applicant permission to drill the seventeen unorthodox "five spot" staggered line locations hereinabove described and shown on map attached hereto, marked Exhibit "A", and that the Commission further enter its order authorizing such wells, upon completion as producing wells, to be produced in accordance with the terms

and provisions of Order No. 802 entered by the Oil Conservation Commission of New Mexico in Case No. 164.

John E. Cochran, Jr.
Attorney for Applicant
General American Oil Company
of Texas

STATE OF NEW MEXICO)
: ss.
COUNTY OF EDDY)

R. J. HEARD, being first duly sworn upon his oath deposes and states: That he is Field Superintendent for Applicant in the above and foregoing Application and that he has read the same and from personal knowledge knows that the matters therein contained are true and correct, except such statements as are alleged upon information and belief, and as to those, he verily believes them to be true.

R. J. Heard

SUBSCRIBED AND SWORN TO before me this 13th day of January, 1950.

Notary Public

My commission expires:

April 15, 1950

Applicant's Exhibit 13
Case 210

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 997
Roswell, New Mexico
January 31, 1950

Mr. John E. Cochran, Jr.
Carper Building
Artesia, New Mexico

Subject: "Five Spot" Line Locations, Grayburg Cooperative and Unit Area

Dear Mr. Cochran:

Reference is made to your letter of January 12 transmitting a copy of an application executed by you as attorney for applicant, General American Oil Company of Texas, which has been filed with the Oil Conservation Commission of New Mexico, for permission to drill 17 unorthodox "five spot" line locations on leases within the boundaries of the Grayburg Cooperative and Unit Area in T. 17 S., Rs. 29 and 30 E., N.M.P.M., in the Grayburg-Jackson pool, Eddy County, New Mexico. Your application has been set for hearing by the Oil Conservation Commission on February 7, 1950, at Santa Fe as Case No. 210.

The unorthodox well locations set forth in the application are for "five spot" wells to be located as near as practicable equidistant between wells now producing from the San Andres pay zone of the Grayburg-Jackson pool. In general, the proposed well locations are 25 feet from the outer boundaries of Federal oil and gas leases within the Grayburg Cooperative and Unit Agreement except that no "five spots" will be located closer than 1295 feet to the outer boundary of such leases where they offset property of other operators or the outer boundary of the Grayburg Cooperative and Unit Area. We have received concurrence from the Washington office of the Geological Survey for the proposed drilling of the 17 line "five spot" wells set forth in your application in order to fill in the gaps of the spacing pattern under the development program in progress.

It is noted in your application that you request that the order issued by the Commission approving the proposed additional drilling provide that no well located upon any unitized tract shall be permitted to produce at a rate in excess of the top allowable as fixed by the Oil Conservation Commission. This office endorses this provision and feels that it should be incorporated in the Commission order.

No objection is offered by this office to the well spacing plan providing for the drilling of additional wells at the unorthodox locations specified in the subject application. The proposed additional drilling should afford opportunity to increase the ultimate recovery of oil and gas and to produce otherwise unrecoverable oil from the presently producing reservoir of the Grayburg-Jackson pool.

Approval to drill the additional wells at the unorthodox locations will be contingent upon prior approval of such locations by the Oil Conservation Commission of the State of New Mexico for proration purposes.

Very truly yours,

Foster Morrell

Foster Morrell
Oil and Gas Supervisor
Southwestern Region

cc: Mr. Coohran

LAW OFFICES
JOHN E. COCHRAN, JR.
CARPER BUILDING
ARTESIA, NEW MEXICO

case 210

January 12, 1950

Oil Conservation Commission
of the State of New Mexico
State Capitol Building
Santa Fe, New Mexico

Attention: Mr. R. R. Spurrier, Secretary

Gentlemen:

Enclosed herewith for filing is Application of General American Oil Company of Texas, for an Order granting permission to drill seventeen unorthodox "five spot" line locations on leases within the boundaries of the Grayburg Cooperative and Unit Area, in Township 17 South, Ranges 29 and 30 East, N.M.P.M., in the Grayburg Jackson Pool of Eddy County, New Mexico, in triplicate.

At your earliest convenience, will you please publish the proper notice of this case, as required by your rules and regulations, and set the matter down for hearing at an early date.

Very truly yours

John E. Cochran, Jr.

JEC:rm
Encls.