

CASE 4646: Application of MANNING
GAS & OIL CO. FOR DOWN-HOLE COM-
MINGLING & NON-STANDARD PRO. UNIT.

1
2000

Case Number

46 46

Application

Transcripts

Small Exhibits

ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
January 19, 1972

EXAMINER HEARING

IN THE MATTER OF:

Application of Manning Gas
and Oil Company for down-
hole commingling and a non-
standard proration unit,
Rio Arriba County, New Mexico.)

Case No. 4646

BEFORE:

Daniel S. Nutter, Alternate Examiner.

TRANSCRIPT OF HEARING

1 MR. NUTTER: Case 4646.

2 MR. HATCH: Case 4646: Application of Manning Gas
3 and Oil Company for down-hole commingling and a non-standard
4 proration unit, Rio Arriba County, New Mexico.

5 MR. DURRETT: I am James E. Durrett, from Albuquerque.
6 I have one witness, Mr. Walch.

7 WALCH
8 a witness, having been first duly sworn according to law, upon
9 his oath, testified as follows:

10 DIRECT EXAMINTION

11 BY MR. DURRETT

12 Q Mr. Walch, would you state your occupation for the record?

13 A I am a petroleum engineer-consultant, and president of
14 Walch Engineering Production Corporation, Farmington, New
15 Mexico.

16 Q Have you previously testified as a petroleum engineer
17 before the Commission and have your qualifications been
18 made a matter of record and accepted by the Commission?

19 A Yes, I have.

20 MR. DURRETT: Is the witness acceptable?

21 MR. NUTTER: Yes, he is qualified.

22 Q (By Mr. Durrett) Mr. Walch, will you briefly state to the
23 Examiner what it is that the Applicant, Manning Gas & Oil
24 Company, is seeking with this application in Case 4646?

25 A We are basically requesting permission to complete the

1 Apache No. 100, which is located in the northeast east of
2 Section 3, Township 24, North, Range 4 West, as a
3 commingled well producing from an undesignated Gallup,
4 undesignated Dakota Reservoir, and also to set forth the
5 manner in which any future wells drilled on certain portions
6 of or sections of Township 24 North, Range 4 West may be
7 approved for a similar type of completion.

8 Q I don't think we actually colored that well on this plat?

9 A No, on Exhibit 1.

10 Q Can you see that, where it is?

11 A The well is indicated there, Manning Gas and Oil, 100, in
12 the Northeast corner of Section 324, North Range 24 West.

13 Q That is right above that T.A. Dugan well, right?

14 A Yes.

15 Q Now, Mr. Walch, let's refer to your Exhibit No. 1, which
16 is a map of the area, and state what that shows?

17 A This is a map of the general area covering Township 24,
18 also with portions of the surrounding township and ranges.

19 On this map you may note that to the north of the
20 subject well in 25 North, Range 4 West, there are, as
21 indicated previously, completed down-hole commingled wells
22 of Continental Oil Company.

23 In the Township 24 North, Range 4 West, you have
24 indicated there in Section 1 the approximate Hall-Jicarilla
25 1-26-1, and the southwest southwest in, of Section 1 as a

1 Dakota only completion.

2 In Section 2, the southwest southwest, northwest
3 production Jicarilla No. 126 is No. 116, which was
4 recently completed as a Dakota-Gallup dual producer, using
5 conventional methods.

6 However, at the present time it is producing only as
7 a Gallup well.

8 MR. NUTTER: Oil in both zones?

9 THE WITNESS: Oil in both zones--at the bottom of
10 them, we're producing.

11 The Dakota, that hasn't produced since 1967, as I
12 understand, due to mechanical reasons, and the company has not
13 repaired the mechanical problem.

14 Also in the northeast northeast of section 11, the
15 northwest production 126 S-13 indicated there is a Gallup
16 producer only as an oil well.

17 All of the other wells on the map are basically Pictured
18 Cliff gas producing wells.

19 MR. NUTTER: Mr. Walch, while we are on the subject,
20 how many of these Continental Oil well duals do you have on
21 this exhibit are oil well completions, I should say?

22 THE WITNESS: Oil completions, there would be--I
23 would like to give you a full description.

24 In Section 33 of 25 North, Range 4 West, with unit D or
25 northwest, northwest, Continental Jicarilla 28 No. 6 and in

1 Section 33 25 North, Range 4 West, indicating in the southeast
2 quarter, there are the Jicarilla 28-No. 5.

3 In Section 34, Township 25 North, Range 4 West, in the
4 northwest northwest portion of the Section Jicarilla 28 No. 4,
5 in section 34 in the Southeast quarter, there the Jicarilla 28-
6 No. 3 is also in the row of sections above, in section 28 there
7 are two wells, Continental Jicarilla B-9 and 12.

8 In Section 27 the Continental Jicarilla B No. 2, and as I
9 believe the well indicated in the Southeast quarter of that
10 section, although it is not colored here, I believe that is
11 also a dual.

12 MR. NUTTER: That would be No. 7 or the square well?

13 THE WITNESS: The square well next to the seven.

14 MR. NUTTER: All of those wells are oil completion
15 from two zones?

16 THE WITNESS: Yes.

17 MR. NUTTER: And are they equipped with a separation
18 equipment or are they commingled in the well bore?

19 THE WITNESS: As I understand, these wells receive
20 permission to commingle in the oil well bore.

21 Initially they were separated.

22 MR. NUTTER: That is that group of wells that several
23 years ago were separate, and they were authorized to remove
24 that equipment?

25 THE WITNESS: That is correct.

1 MR. NUTTER: I see. Go ahead.

2 Q (By Mr. Durrett) Well, just a matter of interest, mainly to
3 me, I guess, are those the wells that were completed on
4 this Continental Order here, 4203?

5 A The Continental Order?

6 Q It is R-4203.

7 A R-4203.

8 Basically you are concerned with only two wells,
9 located in Section 27-25 North, Range 4 West.

10 However, I believe there are additional orders
11 covering other wells, and also administrative approvals
12 have been issued for the other wells that Continental
13 wished to complete in this matter.

14 Q This was a base order?

15 A Yes, as I understand, a base order.

16 MR. DURRETT: We were going to talk about that well,
17 Mr. Examiner, in that it was Order 4203 that set up a procedure
18 where they have gone ahead and completed under that order.

19 MR. NUTTER: All right.

20 MR. ARNOLD: I am Emory Arnold. There is one other
21 order.

22 THE WITNESS: I believe, Mr. Arnold, in the earlier
23 order it concerned itself basically with the commingling, sur-
24 face commingling of these wells. Wasn't this the first order,
25 basically issued for down-hole commingling established the

1 procedure?

2 MR. ARNOLD: Possibly you are right.

3 MR. DURRETT: Well, we can check that out. We don't
4 have the number of the other order with us.

5 THE WITNESS: Well, I have.

6 MR. NUTTER: Just go ahead with your case. We will
7 get to the Order if it is pertinent.

8 Q (By Mr. Durrett) This referred now to your U.S.G.S. Application
9 for a permit to drill?

10 A This was filed with the United States Geological Survey in
11 Durango, Colorado, and approval received to drill the
12 subject well which is currently drilling and nearing total
13 depth.

14 The only thing on this, if there is no other questions,
15 I would like to bring out that at the time that the Applica-
16 tion for permit to drill was filed that their 72 acres was
17 indicated as the acreage dedication to this well.

18 Accompanying with the Permit to drill is the Surveyor's
19 Well Location and Acreage Dedication plat.

20 Q That shows 72 acres; is that correct?

21 A Yes. In the original copies the 72 acres was outlined in
22 red pencil.

23 Q Let's go ahead and refer now to your Exhibit No. 3, which
24 is a letter from San Juan Engineering to the Examiner, and
25 states what the problem is on the acreage?

1 A At the time of the filing of the Application for Permit to
2 Drill it was my understanding that Lot 1 of Section 3,
3 Township 24 North, Range 4 West would consist of 72 acres,
4 including the northeast northeast quarter and a portion of
5 the section above the northeast northeast quarter, this
6 coming about because this tier of sections in the top of
7 this township are longer north and south than the normal
8 section.

9 Subsequent conversations with Mr. Emory Arnold from
10 the Aztec office resulted in advertising of this case to
11 be stated that the acreage dedicated to this well would be
12 32 acres.

13 That is a result that, the thought being that Lot 1
14 would consist of only that excess portion of Section 1
15 above the northeast northeast quarter, and it was satisfac-
16 tory to Manning Gas & Oil to dedicate 32 acres.

17 Q You were thinking at that time of a forty and a thirty-two?

18 A A forty and a thirty-two.

19 I had talked to the surveyor's office, his office man-
20 ager, and he more or less confirmed this to me by telephone,
21 that we had the forty plus the thirty-two.

22 I did request him to prepare a letter stating this.

23 However, when I received the letter from the surveyor,
24 Mr. James P. Reese, informed me that in accordance with
25 the methods used for subdividing a section, that what we

1 considered the northeast quarter and the 32 acres would
2 have to be called Lot 1.

3 Insofar as the amount of acreage to be dedicated to
4 this well, Manning Gas and Oil would have no objection to
5 dedicating a standard 40 acres of the seventy-two to the
6 well instead of the full 72 or 32, whatever the Commission
7 decides to do.

8 MR. DURRETT: We might just interrupt here just for a
9 moment, Mr. Examiner, and state along the lines of what Mr.
10 Walch is talking about, that Manning doesn't really have any
11 rathers concerning the matter. We don't really care. We may
12 have a little problem on the advertising, whatever the
13 Commission thinks. I think it was advertised for 32.

14 MR. NUTTER: It is a non-standard unit. It would be
15 probably limited to 32.

16 I think the Commission could probably approve a 32 non-
17 standard acres, since this has been defined on this private land
18 survey. There is no Governmental land survey in here, is there?

19 MR. DURRETT: The U. S. public land survey has not
20 been made at this time.

21 It is based on a private survey.

22 MR. NUTTER: This is designated as Lot 1 on that
23 private survey?

24 THE WITNESS: Yes.

25 MR. NUTTER: I think we could either approve the 32

1 as a non-standard unit, that is the 32 northernmost acres in the
2 lot, or if we went to a standard unit, we could define it as a
3 northernmost 40 acres in the lot. There has got to be some
4 acreage left over somewhere. Anyway it will work out, one
5 way or the other, Mr. Durrett.

6 I don't think we can go to a 72 non-standard unit within
7 the scale of this hearing.

8 MR. DURRETT: We wanted to bring the problem out.

9 Q Let's move on to your off-set well 4, which I think is No.
10 4.

11 A Yes, sir, this is a tabulation compiled from the
12 production data from the New Mexico Oil Gas Engineering
13 records, which obtains its production information from the
14 monthly production report filed with the Oil Conservation
15 Commission.

16 The reason for this exhibit is to show the varying
17 percentages of the production as reported during the time
18 of segregation of production between the Gallup and
19 Dakota.

20 As was established with the Continental Oil Company's
21 wells, on approval for commingling down-hole, there was
22 definite percentages set forth that the total production
23 produced, its service on how it would be allocated to each
24 producing zone.

25 From my study of the indicated off-set wells here, I

1 do not believe there would be any recommendation to change
2 the percentages that were set forth for Continental, which
3 were to allocate commingled production to each of the
4 commingled zones, 53 percent of the commingled oil
5 production would be allocated to the Gallup zone; 47 percent
6 of the commingled oil production to the Dakota zone; 30
7 percent of the commingled gas production to the Gallup zone;
8 and 61 percent of the commingled gas production to the
9 Dakota zone.

10 In the commingled wells, my overall, you get varying
11 percentages here, and statistically you probably come up
12 with what you want.

13 My grand total percentage usage of the available for,
14 I believe would more or less verify that these percentages
15 could be used in the area of the proposed Manning well and
16 acreage.

17 Q (By Mr. Dürrett) That is the percentages you are referring
18 to that are set out in that Order 4203?

19 A Yes, it is.

20 Q Let's move to your schematic diagram.

21 A Exhibit 5 is a schematic diagram of the proposed final
22 completion and ready for producing of the Apache 100 of
23 Manning Gas and Oil.

24 It simply, this indicates approximate depth where
25 your surface casing has been set, the estimated total depth

1 of the well, also that 4 1/2 inch casing will be run to the
2 total depth.

3 This casing will be cemented in two stages.

4 The first or bottom stage with approximately 320 sacks
5 of 50-50 post-mix-a cement.

6 This volume of cement will be adjusted in accordance
7 with a caliber survey of the hole.

8 However, enough cement will be run on the first stage
9 to bring the cement up at least 200 feet above the top of
10 the Gallup perforation, at which the Gallup would be
11 completed.

12 The second stage, or top stage cement would be placed
13 by, through a stage collar, which would be in the casing
14 string approximately 100 feet below the bottom of the
15 Mesaverde Formation.

16 The second stage cement would consist of approximately
17 450 sacks of lightweight cement, and followed by 50 sacks
18 of regular cement.

19 Again, the actual volume will be calculated on the
20 basis of the caliber of the hole diameter.

21 However, the cement will be brought up to at least
22 200 feet above the top of the Pictured Cliffs Formation.

23 The Pictured Cliffs Formation is a producing formation
24 in the area, and the reason for covering up the Mesaverde
25 is essentially to prevent any future possible problems

1 with corrosive waters from the Mesaverde, as it has been
2 exhibited in other wells in the Basin with a corrosion
3 problem.

4 On completion of the well the Dakota perforation will
5 be sand water frac'd, a bridge plug set in the Gallup
6 perforation and the sand water frac'd, ~~bridge plug cleaned~~
7 out, drilled out, excess sand in the well removed from the
8 well bore, and then when the well is satisfactorily cleaned
9 up, tubing will be run and Rhodes sub-surface pumps for
10 producing--the reason for the sub-surface pump indicated
11 here is that Continental Oil Company's wells, although they
12 were flowing at one time with the aid of gas lift, they
13 eventually did go to a sub-surface pump to lift the fluids
14 from the well bore.

15 Q Mr. Walch, as a petroleum engineer, what would be your
16 opinion concerning the possibility or danger of
17 communication between zones here in the event that this
18 down-hole commingling that you propose is approved? Is
19 there a danger?

20 A Communication between formations behind the casing?

21 Q Right, the Gallup and the Dakota.

22 A I think it would be very remote because of the distance
23 between.

24 You are talking of approximately six to eight hundred
25 feet between the Dakota and the Gallup.

1 Q O.K. Let's move on now to, just briefly, the administrative
2 procedure that you are seeking.

3 You might refer there to your Order No. R-38-45, which
4 I believe established a procedure under Rule 303.

5 A This established a procedure, yes. Order No. R-38-45
6 established a procedure for the Secretary-Director of the
7 Commission to grant the commingling in the well bore of
8 duly completed oil wells after certain information has
9 been presented.

10 In part, some of the information that was necessary
11 to present was a 24-hour productivity test and decline
12 curve, if sufficient producing time justified preparing
13 one, and estimated bottom hole pressure.

14 Of course, in our request we are requesting that the
15 commingling be approved prior to any production from the
16 well, so I believe as far as administrative approval for
17 any future wells to be drilled in the area, in sections of
18 Township 24 North, Range 4 West, Section 1, 2, 3, 4, 9, 10,
19 11, 12, 13, 14, 23 and 24, that such administrative appro-
20 val be established in the same manner as set forth for
21 Continental Oil Company in Order R-4203.

22 Q That acreage that you just mentioned is set out in your
23 application; is it not?

24 A In my letter, yes, to Mr. Porter, I set forth these
25 sections.

1 Q Have you--Manning is just suggesting that that would be an
2 appropriate area to include for this administrative
3 procedure?

4 A Due to the reasoning that this is the area in which
5 Manning Gas and Oil Company either has an interest or can
6 earn interest in acreage by drilling.

7 Q You wouldn't have any objection from Manning's standpoint
8 if the Commission wanted to make it larger or change it
9 around some?

10 A No. If they wish to include other areas in between these
11 sections or outside these sections, no.

12 Q I think we have previously mentioned this Order R-4203,
13 which was on the Continental application for commingling,
14 which established an administrative procedure. That is a
15 similar procedure that you are seeking here; is that correct?

16 A Yes, it is.

17 Q Were Exhibit 1 through 5 prepared by you or under your
18 supervision?

19 A Yes, they were.

20 MR. DURRETT: If the Examiner please, I would move
21 the introduction of Exhibits 1 through 5, and that will conclude
22 my direct examination.

23 MR. NUTTER: The applicant's Exhibits 1 through 5
24 will be admitted in evidence.

25 CROSS-EXAMINATION

CROSS-EXAMINATION

1 BY MR. NUTTER

2 Q Now, Mr. Walch, these figures that you mentioned on the
3 Continental order, the 5347 for oil and the 3961 for gas,
4 what Order were those figures taken from?

5 A This Order is R-4203.

6 Q What particular area does that Order apply to?

7 A Section 27, Township 25 North, Range 4 West, which I
8 consider very close in proximity to the well concerned in
9 this case.

10 Q That would be a section just two miles directly north?

11 A Yes. However, I believe possibly future administrative
12 orders have included even wells closer than that.

13 If I am not mistaken, I have not seen the order myself,
14 but due to having other previously newly completed wells
15 less than one mile from this well, I would assume the
16 administrative orders have taken them in.

17 Q I was wondering about the applicability of those numbers
18 when we have two wells which are closer than Section 27 and
19 and in which the production appears to be reversed.

20 Now, we take on your Exhibit No. 2 for Continental 28
21 No. 4.

22 A Yes.

23 Q That is in Section 34, and I don't know--

24 A Northwest, northwest of Section 32.

25 Q So, that is closer than Section 27, and it appears that

1 you have just--no, I am looking at the wrong well.

2 The well number 28-5, which is in Section 33, then
3 would be closer than Section 27. You have the reversal
4 there in which you have the Dakota has produced 57 percent
5 of the production and Gallup, 43 percent.

6 So, you have a direct reversal of the numbers.

7 Then you go over to the dual completion that you
8 mention in Section 2 of Township 24 for the northwest No.
9 16 well there, the Gallup, it has produced 65 percent.

10 A In Section 2?

11 Q Yes.

12 A Yes, Mr. Nutter, I believe you can find reversals then
13 even in close approximation down through these wells. I
14 don't know the basis in which these previous percentages
15 were established.

16 Q The other well I was looking at would be the 28-3, which is
17 a--directly a north off-set to your proposed location, and
18 here the Dakota is 58 percent and the Gallup is 42, which--

19 A Which is a reverse. Then you go to the 28-4, which comes
20 back the other way.

21 Q It is getting farther away, isn't it?

22 A Yes, it is a little further away.

23 As I stated, I was not familiar with the basis of the
24 establishing of percentages set forth in Order R-4203.

25 Q Where do you anticipate that the first additional

1 development by Manning would take place up in the northern
2 part of this township?

3 A Excuse me.

4 Q They have got twelve sections, which you said they owned
5 the interest or could own the interest?

6 A Yes, in addition possibly to this well, Apache 1 northeast
7 of Section 3, possibly additional development would occur
8 in maybe the northeast of two. Possibly even northeast of
9 one, or we possibly would go to the southwest quarter of
10 three, depending on what the characteristics of the forma-
11 tions are in this well.

12 Q You would anticipate development would be in the northern
13 portion of 24-24 and moving south?

14 A Yes.

15 Q Working south?

16 A Yes.

17 Q Well, it maybe that the Commission could adopt a formula
18 for the north portion, and then based on experience, revise
19 that formula as you proceed southerly.

20 A I don't see any objection with taking this formula we have
21 in the Continental order, and making it apply to all of
22 this area you mentioned, the Commission would wish to do
23 so, I don't believe there would be any objection to doing
24 such.

25 MR. NUTTER: Are there any other questions of Mr.

dearnley-meier reporting

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1 Walch?
2 You may be excused.
3 Do you have anything further, Mr. Durrett?
4 MR. DURRETT: We don't have anything further.
5 MR. NUTTER: Does anyone have anything they wish to
6 offer in Case 4646?
7 We will take the case under advisement and go back to Case
8 No. 4642.
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FIRST NATIONAL BANK BLDG., EAST ALBUQUERQUE, NEW MEXICO 87108

1 STATE OF NEW MEXICO)
2) SS.
3 COUNTY OF BERNALILLO)

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

10 
11 CERTIFIED SHORTHAND REPORTER

22 I do hereby certify that the foregoing is
23 a complete record of the proceedings of
24 the hearing of Case No. 46
25 heard by me on 1/19/72
New Mexico Oil Conservation Commission

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I N D E X

WITNESS

PAGE

MR. WALCH

Direct Examination by Mr. Durrett

3

Cross-Examination by Mr. Nutter

E X H I B I T S

APPLICANT'S

OFFERED AND
ADMITTED

Exhibits 1 through 5



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2098 - SANTA FE
87501

January 27, 1972

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

Re: Case No. 4646

Order No. R-4245

Applicant:

Mr. J. M. Durrett, Jr.
Attorney at Law
1811 Carlisle Blvd., N.E.
Albuquerque, New Mexico 87110

Manning Gas & Oil Company

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC x

Other Mr. Jim Kapteina - Engineering Division



OIL CONSERVATION COMMISSION

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

October 12, 1971

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

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

Re: Case No. 4595

Order No. R-4203

Applicant:

Continental Oil Company

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC x

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. 4646
Order No. R-4245

APPLICATION OF MANNING GAS AND OIL
COMPANY FOR DOWN-HOLE COMMINGLING
AND A NON-STANDARD PRORATION UNIT,
RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 19, 1972,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 27th day of January, 1972, 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, Manning Gas and Oil Company, seeks
authority to commingle production from undesignated Gallup and
Dakota oil pools in the well-bore of its Apache Well No. 100
to be drilled 435 feet from the North line and 475 feet from
the East line of Section 3, Township 24 North, Range 4 West,
NMPM, Rio Arriba County, New Mexico, on a 32-acre unit com-
prising the Northernmost portion of Lot 1 of said Section 3.

(3) That the applicant further seeks the establishment
of a procedure whereby approval may be granted administratively
for the similar completion of other wells to be drilled in
Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 23, and 24 of
Township 24 North, Range 4 West.

-2-

CASE NO. 4646
Order No. R-4245

(4) That each well previously completed in the above-described pools has been capable of only low marginal production.

(5) That the evidence indicates that wells completed in the future in said pools will be capable of only low marginal production.

(6) That the reservoir characteristics of the above-described Gallup and Dakota oil pools are such that underground waste would not be caused by the proposed commingling in the well-bore of the well to be drilled.

(7) That the granting of authorization to complete the subject well as requested should permit the drilling of a well that would not otherwise be drilled and should result in the recovery of oil from each of the commingled zones in the subject well that would not otherwise be recovered, thereby preventing waste, and will not violate correlative rights.

(8) That the mechanics of the proposed completion is feasible and in accord with good conservation practices.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject well, 53% of the commingled oil production should be allocated to the Gallup zone, 47% of the commingled oil production to the Dakota zone, 39% of the commingled gas production to the Gallup zone, and 61% of the commingled gas production to the Dakota zone in the subject well.

(10) That a procedure should be established whereby the Secretary-Director of the Commission may approve the similar completion of other wells to be drilled in Sections 1, 2, 3, and 4 of Township 24 North, Range 4 West.

(11) That approval of the subject application will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Manning Gas and Oil Company, is hereby authorized to drill and complete its Apache Well No. 100 to be drilled 435 feet from the North line and 475 feet from the East line of Section 3, Township 24 North, Range 4

CASE NO. 4646
Order No. R-4245

West, Rio Arriba County, New Mexico, on a 32-acre unit comprising the Northernmost portion of Lot 1 of said Section 3, in such a manner as to produce oil from undesignated Gallup and Dakota Oil pools through a single string of tubing, commingling in the well-bore the production from each of said pools.

(2) That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

(3) That as to subject well, 53% of the commingled oil production shall be allocated to the Gallup zone, 47% of the commingled oil production to the Dakota zone, 39% of the commingled gas production to the Gallup zone, and 61% of the commingled gas production to the Dakota zone.

(4) That as to subject well, commingling in the well-bore shall continue only so long as the commingled production does not exceed 50 barrels of oil per day nor 100 barrels of water per day.

(5) That as to subject well, the maximum amount of gas which may be produced daily from the commingled zones shall be determined by multiplying 2000 by the top unit allowable for the Gallup zone.

(6) That the Secretary-Director of the Commission is hereby authorized to approve the drilling and completion of other wells in Sections 1, 2, 3, and 4 of Township 24 North, Range 4 West, NMPM, undesignated Gallup and Dakota Oil Pools, Rio Arriba County, New Mexico, in such a manner as to produce oil from the Gallup and Dakota formations through a single string of tubing, commingling in the well-bores production from each of said formations.

(7) Application for administrative approval shall be made in QUADRUPLICATE, with two copies of the application to be mailed to the Commission's Santa Fe Office, and two copies to the Aztec District Office of the Commission. The application shall be accompanied by the following:

-4-

CASE NO. 4646

Order No. R-4245

- (a) Diagrammatic Sketch of the proposed completion showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, and such other information as may be pertinent.
- (b) Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- (c) Waivers consenting to such completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.
- (d) Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted when available.)

The Secretary-Director may approve the completion if, after a period of 20 days following the filing of the application, no operator has filed objection to the proposed completion.

(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, Chairman

ALEX J. ARMISTO, Member

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

Docket No. 2-72

DOCKET; EXAMINER HEARING - WEDNESDAY - JANUARY 19, 1972

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

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas for February, 1972, from fifteen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico;
- (2) Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba and Sandoval Counties, New Mexico, for February, 1972.

CASE 4645: Application of Acoma Oil Corporation for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Drinkard Pool and Wantz-Abo Pool in the well-bore of its S. J. Sarkeys A Well No. 1, a triple completion, located in Unit A of Section 26, Township 21 South, Range 37 East, Lea County, New Mexico.

CASE 4648: Application of Aztec Oil & Gas Company for an unorthodox well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the off-pattern unorthodox location for its Vasaly Federal Well No. 1-Y to be located 790 feet from the North line and 1795 feet from the West line of Section 31, Township 32 North, Range 11 West, Blanco-Mesaverde Pool, San Juan County, New Mexico.

CASE 4625: (Continued from the December 15, 1971, Examiner Hearing) Application of Texaco Inc. for downhole commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Paduca-Morrow and Paduca-Wolfcamp Gas Pools in the well-bore of its Cotton Draw Unit Well No. 65 located in Unit G of Section 2, Township 25 South, Range 31 East, Eddy County, New Mexico.

CASE 4642: (Continued from the January 5, 1972, Examiner Hearing) Application of Fluid Power Pump Company for special pool rules and a pressure maintenance project, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special rules for the Media-Entrada Pool, including a provision for 160-acre spacing and proration units. Applicant further seeks authority to

(Case 4642 continued)

institute a pressure maintenance project in said pool by the injection of water into the Entrad formation through various wells located in Sections 10, 11, 22, and 23 of Township 19 North, Range 3, West, Sandoval County, New Mexico, and the promulgation of rules for said project including a procedure whereby additional injection or production wells at orthodox or unorthodox locations may be approved administratively.

CASE 4646: Application of Manning Gas and Oil Company for down-hole commingling and a non-standard proration unit, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from undesignated Gallup and Dakota oil pools in the well-bore of its Apache Well No. 100 to be drilled 435 feet from the North line and 475 feet from the East line of Section 3, Township 24 North, Range 4 West, Rio Arriba County, New Mexico. Applicant further seeks a procedure whereby similar approval may be granted administratively for other wells to be drilled in the area of the above-described well. Applicant further seeks approval for a non-standard 32-acre proration unit comprising all of Lot 1 to be dedicated to the above-described Well No. 100.

CASE 4647: Application of Apache Corporation for the creation of a new pool and special pool rules, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new pool for the production of oil from the Mesaverde formation for its Jicarilla Apache Well No. 1-7 located in the SE/4 NE/4 of Section 7, Township 22 North, Range 5 West, Sandoval County, New Mexico. Applicant further seeks the promulgation of special rules for said pool including provisions for 80-acre spacing units with wells to be drilled in the north-west or southeast quarter-quarter sections.

CASE 4650: Application of Walter W. Krug dba Wallen Production Company for an exception to Order No. R-111-A and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the potash-oil area casing and cementing rules as set forth in Commission Order No. R-111-A for his Wallen Federal Well No. 2 located 990 feet from the North line and 1650 feet from the West line of Section 20, Township 20 South, Range 34 East, North Lynch Yates-Seven Rivers Pool, Lea County, New Mexico. Applicant proposes to drill and complete said well in such a manner that upon completion, the well would be equipped with a 7-inch production casing to the top of the pay and a 4 1/2-inch liner through the pay, with cement to the surface. Applicant further seeks the promulgation of special pool rules for similar casing and cementing, of all wells drilled in the above-described pool.

CASE 4649: Application of the Oil Conservation Commission on its own motion for the amendment of the gas well testing procedures promulgated by Order No. R-333-F for Northwest New Mexico. The Commission proposes to amend Chapter I of said Order No. R-333-F in such a manner as to provide that most annual deliverability and shut-in pressure tests required by said order be filed within 60 days following the completion of the test and to provide for notice to the Commission of any re-scheduling of shut-in pressure tests. The Commission further proposes to amend the ninth paragraph of Chapter II, Section 2 of said order to permit shutting in gas wells for the required shut-in test other than immediately following the 7-day deliverability flow test and to permit measuring the shut-in test pressure during the 8th to 15th day of shut-in of the well rather than on the 8th day as presently required.

CASE 4637: (Continued from the December 15, 1971, Examiner Hearing)
In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Luttrell Oil Company and all other interested persons to appear and show cause why the following-described wells in New Mexico should not be plugged and abandoned in accordance with a Commission-approved plugging program:

Luttrell Oil Company State Well No. 1 -
Unit M, Section 28, Township 2 South,
Range 26 East, De Baca County;

Luttrell Oil Company Corn Well No. 1 -
Unit A, Section 5, Township 8 South,
Range 24 East, Chaves County.

CASE 4651: Southeastern New Mexico nomenclature case calling for an order for the creation and extension of certain pools in Lea and Roosevelt Counties, New Mexico.

(a) Create a new pool in Roosevelt County, New Mexico, classified as a gas pool for San Andres production and designated as the Baker-San Andres Gas Pool. The discovery well is the Cactus Drilling Corporation of Texas Kewanee State No. 2 located in Unit G of Section 9, Township 7 South, Range 35 East, NMPM. Said pool would comprise:

TOWNSHIP 7 SOUTH, RANGE 35 EAST, NMPM
SECTION 9: NE/4

(Case 4651 continued)

(b) Extend the Bluitt-San Andres Associated Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 8 SOUTH, RANGE 37 EAST, NMPM
SECTION 15: All

(c) Extend the Littman-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 38 EAST, NMPM
SECTION 20: SE/4

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

TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM
SECTION 27: SW/4

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

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM
SECTION 18: W/2

(f) Extend the Vada-Pennsylvanian Pool in Lea and Roosevelt Counties, New Mexico, to include therein:

TOWNSHIP 8 SOUTH, RANGE 34 EAST, NMPM
SECTION 36: NW/4

TOWNSHIP 9 SOUTH, RANGE 34 EAST, NMPM
SECTION 17: NW/4
SECTION 18: N/2

EWELL N. WALSH
PETROLEUM ENGINEER CONSULTANT
EXECUTIVE BLDG. - 413 W. MAIN
P. O. BOX 254
FARMINGTON, NEW MEXICO
87401

TELEPHONE BUS. 325-8203

January 5, 1972

Mr. George M. Hatch
General Council
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Case 4646

Ref: Manning Gas and Oil Company,
Operator, Apache No. 100,
Gallup-Dakota Dual,
Rio Arriba County, New Mexico

Dear Mr. Hatch:

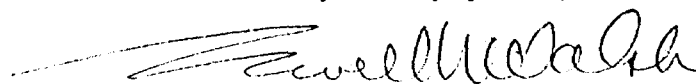
The enclosed copy of a letter from San Juan Engineering Company set forth the portion of Section 3-T24N-R4W that is designated as Lot 1 and indicates the amount of acreage in Lot 1.

At the time that Mr. Emery Arnold contacted you by telephone concerning the amount of acreage to be assigned to the well, it was assumed that Lot 1 would only be 32 acres. Also, at that time it was agreeable to change the acreage dedication from 72 acres to 32 acres or the acreage contained in the legal subdivision of Lot 1.

The reason for this letter is to be certain that the advertisement for the requested hearing will be correct and that the hearing will be held in view of the correct amount of acreage in Lot 1.

Thank you for your cooperation and consideration in this matter.

Very truly yours,


Ewell N. Walsh

ENW:lt

cc:Mr. Emery Arnold, NMOCC, Aztec (w/encl)

DOCKET MARKED

Date 1-6-72

Rec. 1-3-71

PHONES

San Juan Engineering Company

WELL LOCATIONS - ROADS - SUBDIVISIONS - POWER LINES - LAND SURVEYS - PIPE LINES
CONSULTING - GENERAL ENGINEERING - DESIGN - REPORTS - MUNICIPAL

REGISTERED PROFESSIONAL ENGINEERING SERVICE
IN NEW MEXICO, COLORADO, UTAH, ARIZONA, OKLAHOMA, WYOMING

HOME OFFICE
FARMINGTON, N. M. . . . 325-7535
NIGHT 325-2670
MUSKOGEE, OKLA. . . . 687-6812

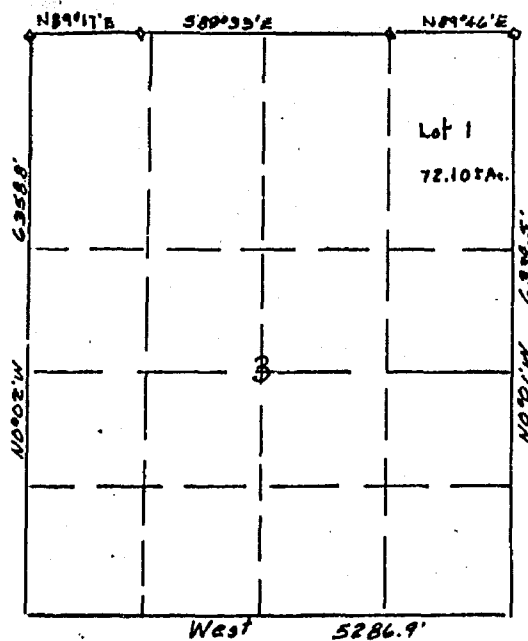
P. O. BOX 752
FARMINGTON, NEW MEXICO
28 December, 1971

Walsh Engineering & Production Corp.
413 West Main
Farmington
New Mexico 87401

Dear Sir:

As shown on a plat of Survey by R. E. De Bolt and Assoc., Consulting Engineers, of a portion of T24N, R4W, N.M.P.M., Rio Arriba County, New Mexico, surveyed in October, 1955; Lot 1 of Section 3 of T24N, R4W, contains 72.10 Acres, more or less.

Lot 1 of Section 3 would be determined on this survey plat according to the G. L.O.L. methods for subdividing a section and would be the NE/4 NE/4 of said Section.



James P. Leese
James P. Leese
Professional Engineer and
Land Surveyor
N. M. ex. Reg. No. 1463

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>			5. NAME OF MINERALS AND SERIAL NO. Jicarilla Contr. #127		
b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>			6. IF INDIAN, ALLOTTEE OR TRIBAL NAME Jicarilla Apache		
3. NAME OF OPERATOR Manning Gas & Oil Company			7. UNIT AGREEMENT NAME		
8. ADDRESS OF OPERATOR 102 Continental Oil Building, 1755 Glenarm Place Denver, Colorado 80202			8. FARM OR LEASE NAME Apache		
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) At surface 435' from North Line, 475' from East Line, Sec. 3-T24N-R4W At proposed prod. zone Same as surface			9. WELL NO. 100		
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE --			10. FIELD AND POOL, OR WILDCAT Undesignated		
15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drg. unit line, if any) 435			11. SEC., T., R., M., OR S.E. AND RANGES, OR AREA Sec. 3-T24N-R4W N.M.P.M.		
16. NO. OF ACRES IN LEASE 2665			12. COUNTY OR PARISH Rio Arriba		
17. NO. OF ACRES ASSIGNED TO THIS WELL 72			13. STATE New Mexico		
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. --			20. ROTARY OR CABLE TOOLS Rotary		
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6876' GR			22. APPROX. DATE WORK WILL START 12-30-71		

23. PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4	8-5/8	24.0	240	175 SXS
7-7/8	4-1/2	9.5 & 10.5	7600	450 SXS.

It is proposed to drill this well with rotary tools using mud as circulation through the Dakota Formation. Possible productive zones in the Gallup, Graneros and Dakota Formation will be completed. Production casing will be cemented in such a manner as to protect the Pictured Cliffs Formation.

Lot 1 and NE/4NE/4 Sec. 3 are dedicated to this well.

BEFORE EXAMINER NUTTER

OIL CONSERVATION COM.

EXHIBIT NO. 2

CASE NO. 1646

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. *Ewell N. Walsh*
SIGNED Ewell N. Walsh

Petroleum Engineer
Consultant

DATE Dec. 20, 1971

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

APPROVED

JAN 4 1972

E. A. SCHMIDT
ACTING DISTRICT ENGINEER

*See Instructions On Reverse Side

*Oral approval to drill by E.A.S.
on 12/30/71
E.A.S. - Mr. Walsh*

**NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACERAGE DEDICATION PLAT**

All distances must be from the outer boundaries of the Section

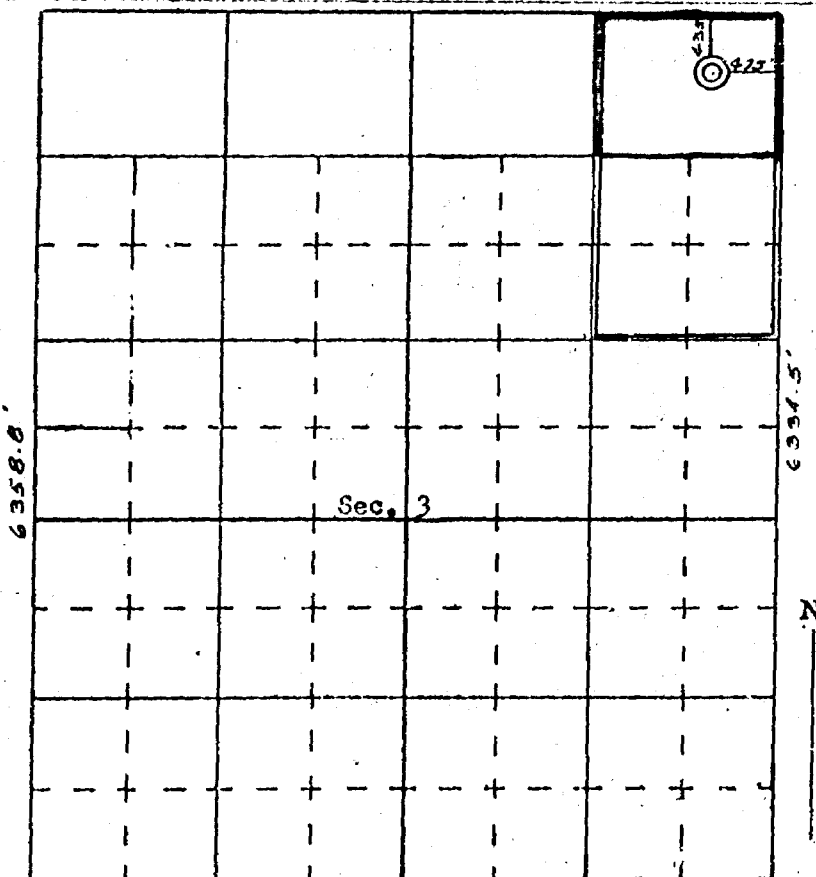
Operator MANNING GAS & OIL COMPANY				Lease APACHE		Well No 100	
Unit Letter A	Section 3	Township 24 NORTH	Range 4 WEST	County RIO ARriba			
Actual Footage Location of Well:							
1.35 feet from the NORTH line and		4.5 feet from the EAST line					
Test Pk 16.0		Dedicated to Callup & Granger Dakota		Pool Undesignated		Dedicated Acreage 72 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

() Yes () No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non standard unit, eliminating such interests, has been approved by the Commission.



SCALE—1 INCHES EQUALS 1 MILE 57 86.3'

SAN JUAN ENGINEERING COMPANY, FARMINGTON, N. M.

CERTIFICATION

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

Ewell N. Walsh
Name **Ewell N. Walsh**
Petroleum Engr. Consultant
Position

For: **Manning Gas & Oil Co.**
Company

Date **December 20, 1971**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed **18 December, 1971**

James P. Leese
Registered Professional Engineer
and/or Land Surveyor

JAMES P. LESEE

Certificate No. **1463**

Rec. 1-3-71

PHONES

HOME OFFICE
FARMINGTON, N. M. . . . 325-7555
NIGHT 325-2670
MUSKOGEE, OKLA. . . . 697-6612

San Juan Engineering Company

WELL LOCATIONS - ROADS - SUBDIVISIONS - POWER LINES - LAND SURVEYS - PIPE LINES
CONSULTING - GENERAL ENGINEERING - DESIGN - REPORTS - MUNICIPAL

REGISTERED PROFESSIONAL ENGINEERING SERVICE
IN NEW MEXICO, COLORADO, UTAH, ARIZONA, OKLAHOMA, WYOMING

P. O. BOX 752

FARMINGTON, NEW MEXICO

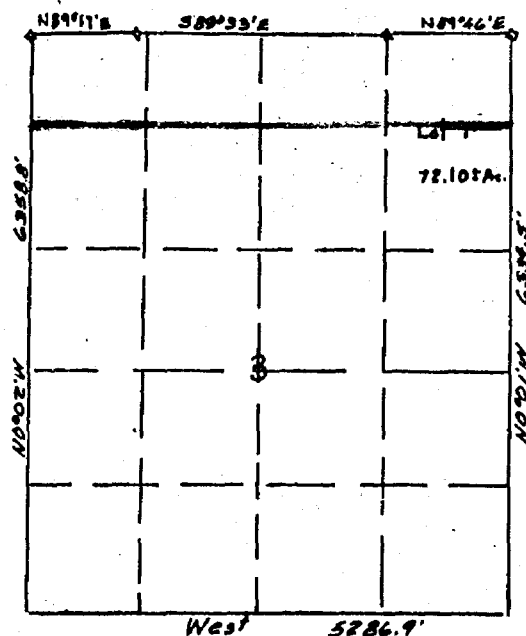
28 December, 1971

Walsh Engineering & Production Corp.
413 West Main
Farmington
New Mexico 87401

Dear Sir:

As shown on a plat of Survey by R. E. De Bolt and Assoc., Consulting Engineers,
of a portion of T24N, R4W, N.M.P.M., Rio Arriba County, New Mexico, surveyed in
October, 1955; Lot 1 of Section 3 of T24N, R4W, contains 72.10 Acres, more or less.

Lot 1 of Section 3 would be determined on this survey plat according to the
G. L.O.L methods for subdividing a section and would be the NE/4 NE/4 of said Section.



James P. Leese
James P. Leese
Professional Engineer and
Land Surveyor
N. M. x. Reg. No. 1463

BEFORE EXAMINER NUTTER
OIL CONSERVATION COM. 10
App'l EXHIBIT NO. 3
CASE NO. 4646

Mr. Cox
1000
2-10-11

DAKOTA CATTLE

$$\begin{array}{r} 25 \\ 40 \\ \hline 65 \end{array}$$
$$\begin{array}{r} 94 \\ 84 \\ \hline 54 \\ 74 \end{array} \quad \begin{array}{r} 6 \\ 16 \\ 46 \\ \hline 96 \end{array}$$
$$\begin{array}{r} 13 \\ 50 \\ 53 \\ \hline 71 \end{array} \qquad \begin{array}{r} 87 \\ 50 \\ 47 \\ \hline 53 \end{array}$$

68	32
56	44
52	48
47	53
43	57
61	39
53	77

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMPANY
Oil EXHIBIT NO. *4*
CASE NO. *4434*

2-25-4

MANNING GAS AND OIL COMPANY
OFFSET WELL INFORMATION

Page 2

S-T-R

2-24-4

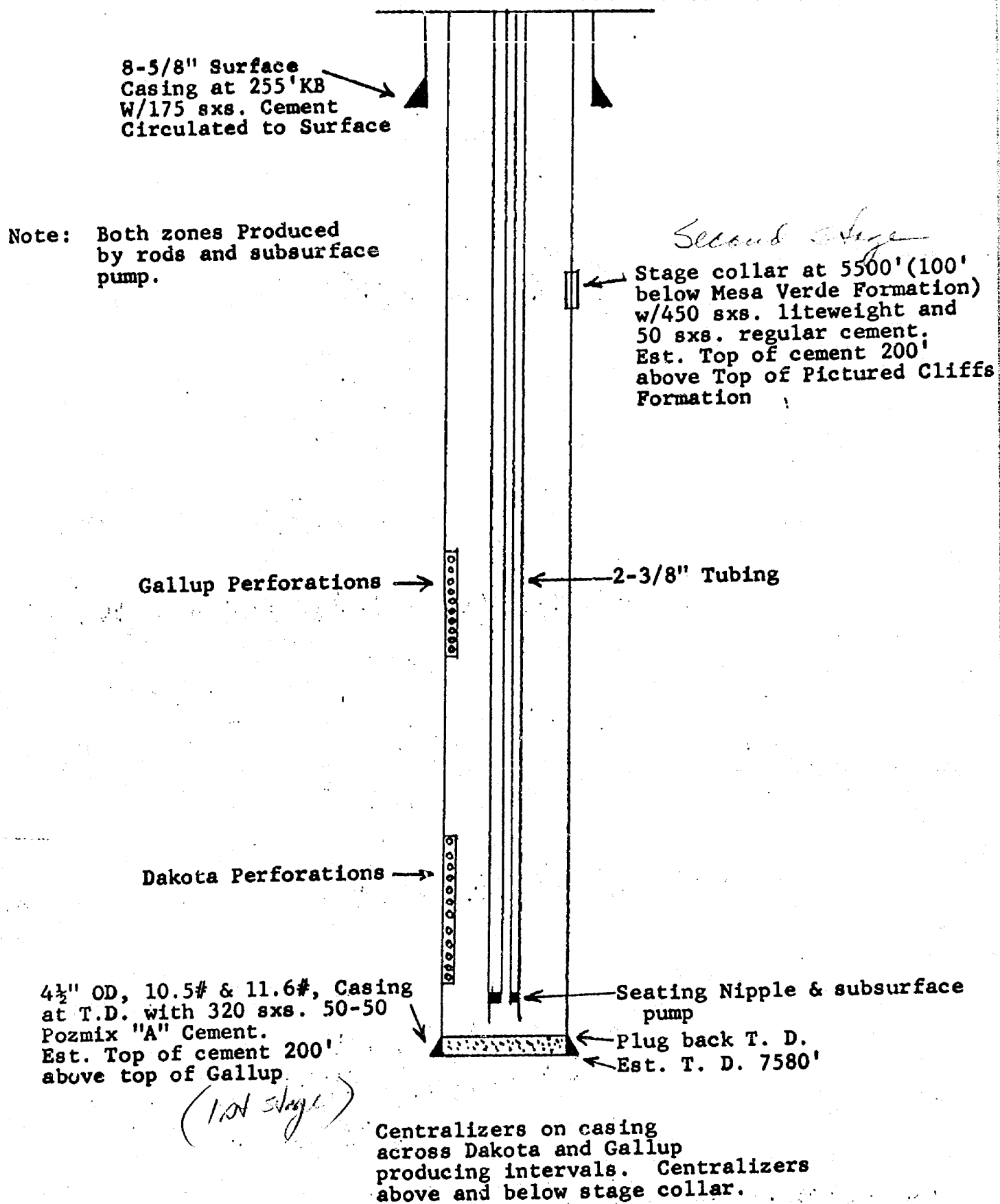
OIL PRODUCTION-BBLS.		%		GAS PRODUCTION-MCF		%	
DAKOTA	GALLUP	DAKOTA	GALLUP	DAKOTA	GALLUP	DAKOTA	GALLUP

NW Production
Jicarilla 126S #16

1959	2,293	1,142	3,435	67	33	220	47	267	82	18
1960	5,161	6,994	12,155	42	58	1,501	1,394	2,895	52	48
1961	2,564	6,276	8,840	29	71	2,657	5,566	8,223	32	68
1962	2,190	4,996	7,186	30	70	2,614	6,336	8,970	29	71
1963	1,916	4,702	6,618	29	71	2,086	4,176	6,262	33	67
1964	2,101	4,625	6,726	31	69	1,710	4,683	6,393	27	73
1965	1,593	3,921	5,514	29	71	1,165	3,500	4,665	25	75
1966	1,474	3,571	5,045	29	71	1,900	3,200	5,100	37	63
1967	1,423	2,941	4,364	33	67	1,792	3,957	5,749	31	69
TOTAL	20,715	39,168	59,883	35	65	15,645	32,879	48,524	32	68

GRAND TOTAL	79,314	83,410	162,664	49	51	290,035	224,560	515,595	56	44
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MANNING GAS AND OIL COMPANY
APACHE NO. 100
PROPOSED
DOWNHOLE COMMINGLING INSTALLATION
(All Depths and Volumes Approximate)



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 84646

EWELL N. WALSH
PETROLEUM ENGINEER CONSULTANT
EXECUTIVE BLDG. - 413 W. MAIN
P. O. BOX 254
FARMINGTON, NEW MEXICO
87401

RECEIVED

DEC 22 1971

OIL CONSERVATION COMM.
DAY&NIGHTPHONE BUS. 323-8203

December 21, 1971

AIRMAIL

Mr. A. L. Porter, Jr., Secretary-Director
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

Ref: Manning Gas and Oil Company, Operator
Apache No. 100, Gallup, Graneros-
Dakota Dual Oil Well, NE/4NE/4
Section 3-T24N-R4W, Rio Arriba
County, New Mexico

Dear Mr. Porter:

Please consider this letter as a request on behalf of the above-referred-to operator to have a hearing before the New Mexico Oil Conservation Commission or an Examiner of the Commission. The request for the hearing is being submitted at this time in order for the hearing to be considered for being scheduled for January 19, 1972.

A hearing is requested to consider, but not limited to, the following:

1. Authority to commingle production from an undesignated Gallup Oil Pool and an Undesignated Dakota Oil Pool in the well bore of the above-referred-to well.
2. That each well previously completed in the above-described pools, and adjacent or offsetting the above-referred-to well, has been capable of only low marginal production.
3. That wells completed in the future in said pools will be capable of only low marginal production.
4. That underground waste would not be caused by the proposed commingling of the above-described pools, of production in the well bore of the above-referred-to well.
5. The mechanics of the proposed completion.

DOCKET # 1-6-72

Date

1-6-72

Mr. A. L. Porter, Jr., Sec.-Director
NMOCC

-2-

December 21, 1971

6. The allocation of the commingled production to each of the commingled zones.
7. That a procedure be established whereby the Secretary-Director of the Commission may approve the similar completion of other wells to be drilled in the following area:

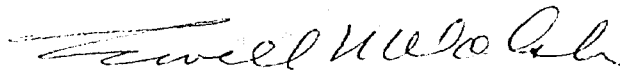
Township 24 North, Range 4 West;

Sections 1, 2, 3, 4, 9 thru 14,
23 and 24.

Enclosed you will find a copy of the Application For Permit to Drill which has been filed with the United States Geological Survey, Durango, Colorado.

Your consideration to schedule the requested hearing on January 19, 1971, would be greatly appreciated.

Very truly yours,



Ewell N. Walsh, P. E.

ENW:lt

Enclosure

cc:Mr. E. R. Arnold, NMOCC, Aztec, N.M. w/encl.
Mr. Jerry Long, U. S. Geological Survey, Durango wo/encl.
Mr. J. E. Manning, Manning Gas & Oil Co., Denver wo/encl.

FORM 10-511C
(May 1965)

RECEIVED

(Other instructions on
reverse side)

Form approved.
Bureau No. 42-11425

UNITED STATES
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY OIL CONSERVATION COMM.
SANTA FE

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☒

GAS
WELL ☐

OTHER

SINGLE
ZONE ☐

MULTIPLE
ZONE ☒

2. NAME OF OPERATOR

Manning Gas & Oil Company

3. ADDRESS OF OPERATOR

102 Continental Oil Building, 1755 Glenarm Place
Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements*)

At surface

435' from North Line, 475' from East Line,
Sec. 3-T24N-R4W

At proposed prod. zone

Same as surface

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

--

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drg. unit line, if any)

435

16. NO. OF ACRES IN LEASE

2665

17. NO. OF ACRES ASSIGNED
TO THIS WELL

72

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

--

19. PROPOSED DEPTH

7600'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6876' GR

22. APPROX. DATE WORK WILL START*

12-30-71

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4	8-5/8	24.0	240	175 sxs
7-7/8	4-1/2	9.5 & 10.5	7600	450 sxs.

It is proposed to drill this well with rotary tools using mud as circulation through the Dakota Formation. Possible productive zones in the Gallup, Graneros and Dakota Formation will be completed. Production casing will be cemented in such a manner as to protect the Pictured Cliffs Formation.

Lot 1 and NE/4NE/4 Sec. 3 are dedicated to this well.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

Petroleum Engineer
Consultant

SIGNED

Ewell N. Walsh

TITLE

DATE Dec. 20, 1971

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACQUISITION DISTRICT #14

All distances must be from the water level of the station.

ALBINO GOLF GLOVES

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

[illegible]

1. *Leucophaea*

1

100

4 3 24 NORTH

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1987).

410 22-124

Level 1: Location of Well:

453

Rev. Dr. H. C. C.

1000

45

1990-1991, 1992-1993, 1994-1995, 1996-1997, 1998-1999, 2000-2001, 2002-2003, 2004-2005, 2006-2007, 2008-2009, 2010-2011, 2012-2013, 2014-2015, 2016-2017, 2018-2019, 2020-2021, 2022-2023, 2024-2025, 2026-2027, 2028-2029, 2030-2031, 2032-2033, 2034-2035, 2036-2037, 2038-2039, 2040-2041, 2042-2043, 2044-2045, 2046-2047, 2048-2049, 2050-2051, 2052-2053, 2054-2055, 2056-2057, 2058-2059, 2060-2061, 2062-2063, 2064-2065, 2066-2067, 2068-2069, 2070-2071, 2072-2073, 2074-2075, 2076-2077, 2078-2079, 2080-2081, 2082-2083, 2084-2085, 2086-2087, 2088-2089, 2090-2091, 2092-2093, 2094-2095, 2096-2097, 2098-2099, 2100-2101, 2102-2103, 2104-2105, 2106-2107, 2108-2109, 2110-2111, 2112-2113, 2114-2115, 2116-2117, 2118-2119, 2120-2121, 2122-2123, 2124-2125, 2126-2127, 2128-2129, 2130-2131, 2132-2133, 2134-2135, 2136-2137, 2138-2139, 2140-2141, 2142-2143, 2144-2145, 2146-2147, 2148-2149, 2150-2151, 2152-2153, 2154-2155, 2156-2157, 2158-2159, 2160-2161, 2162-2163, 2164-2165, 2166-2167, 2168-2169, 2170-2171, 2172-2173, 2174-2175, 2176-2177, 2178-2179, 2180-2181, 2182-2183, 2184-2185, 2186-2187, 2188-2189, 2190-2191, 2192-2193, 2194-2195, 2196-2197, 2198-2199, 2200-2201, 2202-2203, 2204-2205, 2206-2207, 2208-2209, 2210-2211, 2212-2213, 2214-2215, 2216-2217, 2218-2219, 2220-2221, 2222-2223, 2224-2225, 2226-2227, 2228-2229, 2230-2231, 2232-2233, 2234-2235, 2236-2237, 2238-2239, 2240-2241, 2242-2243, 2244-2245, 2246-2247, 2248-2249, 2250-2251, 2252-2253, 2254-2255, 2256-2257, 2258-2259, 2260-2261, 2262-2263, 2264-2265, 2266-2267, 2268-2269, 2270-2271, 2272-2273, 2274-2275, 2276-2277, 2278-2279, 2280-2281, 2282-2283, 2284-2285, 2286-2287, 2288-2289, 2290-2291, 2292-2293, 2294-2295, 2296-2297, 2298-2299, 2300-2301, 2302-2303, 2304-2305, 2306-2307, 2308-2309, 2310-2311, 2312-2313, 2314-2315, 2316-2317, 2318-2319, 2320-2321, 2322-2323, 2324-2325, 2326-2327, 2328-2329, 2330-2331, 2332-2333, 2334-2335, 2336-2337, 2338-2339, 2340-2341, 2342-2343, 2344-2345, 2346-2347, 2348-2349, 2350-2351, 2352-2353, 2354-2355, 2356-2357, 2358-2359, 2360-2361, 2362-2363, 2364-2365, 2366-2367, 2368-2369, 2370-2371, 2372-2373, 2374-2375, 2376-2377, 2378-2379, 2380-2381, 2382-2383, 2384-2385, 2386-2387, 2388-2389, 2390-2391, 2392-2393, 2394-2395, 2396-2397, 2398-2399, 2400-2401, 2402-2403, 2404-2405, 2406-2407, 2408-2409, 2410-2411, 2412-2413, 2414-2415, 2416-2417, 2418-2419, 2420-2421, 2422-2423, 2424-2425, 2426-2427, 2428-2429, 2430-2431, 2432-2433, 2434-2435, 2436-2437, 2438-2439, 2440-2441, 2442-2443, 2444-2445, 2446-2447, 2448-2449, 2450-2451, 2452-2453, 2454-2455, 2456-2457, 2458-2459, 2460-2461, 2462-2463, 2464-2465, 2466-2467, 2468-2469, 2470-2471, 2472-2473, 2474-2475, 2476-2477, 2478-2479, 2480-2481, 2482-2483, 2484-2485, 2486-2487, 2488-2489, 2490-2491, 2492-2493, 2494-2495, 2496-2497, 2498-2499, 2500-2501, 2502-2503, 2504-2505, 2506-2507, 2508-2509, 2510-2511, 2512-2513, 2514-2515, 2516-2517, 2518-2519, 2520-2521, 2522-2523, 2524-2525, 2526-2527, 2528-2529, 2530-2531, 2532-2533, 2534-2535, 2536-2537, 2538-2539, 2540-2541, 2542-2543, 2544-2545, 2546-2547, 2548-2549, 2550-2551, 2552-2553, 2554-2555, 2556-2557, 2558-2559, 2560-2561, 2562-2563, 2564-2565, 2566-2567, 2568-2569, 2570-2571, 2572-2573, 2574-2575, 2576-2577, 2578-2579, 2580-2581, 2582-2583, 2584-2585, 2586-2587, 2588-2589, 2590-2591, 2592-2593, 2594-2595, 2596-2597, 2598-2599, 2600-2601, 2602-2603, 2604-2605, 2606-2607, 2608-2609, 2610-2611, 2612-2613, 2614-2615, 2616-2617, 2618-2619, 2620-2621, 2622-2623, 2624-2625, 2626-2627, 2628-2629, 2630-2631, 2632-2633, 2634-2635, 2636-2637, 2638-2639, 2640-2641, 2642-2643, 2644-2645, 2646-2647, 2648-2649, 2650-2651, 2652-2653, 2654-2655, 2656-2657, 2658-2659, 2660-2661, 2662-2663, 2664-2665, 2666-2667, 2668-2669, 2670-2671, 2672-2673, 2674-2675, 2676-2677, 2678-2679, 2680-2681, 2682-2683, 2684-2685, 2686-2687, 2688-2689, 2690-2691, 2692-2693, 2694-2695, 2696-2697, 2698-2699, 2700-2701, 2702-2703, 2704-2705, 2706-2707, 2708-2709, 2710-2711, 2712-2713, 2714-2715, 2716-2717, 2718-2719, 2720-2721, 2722-2723, 2724-2725, 2726-2727, 2728-2729, 2730-2731, 2732-2733, 27

2000

Chen, C. C., & Chen, C. C. (2005). The effects of the 2004 Indian Ocean tsunami on the coastal environment of Taiwan. *Journal of Coastal Research*, 21(2), 255-265.

called "C. C. C."

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

1. *Phragmites* (common reed) is a tall, grass-like plant that grows in wetlands and along water bodies. It is a native species and is often found in large, dense stands.

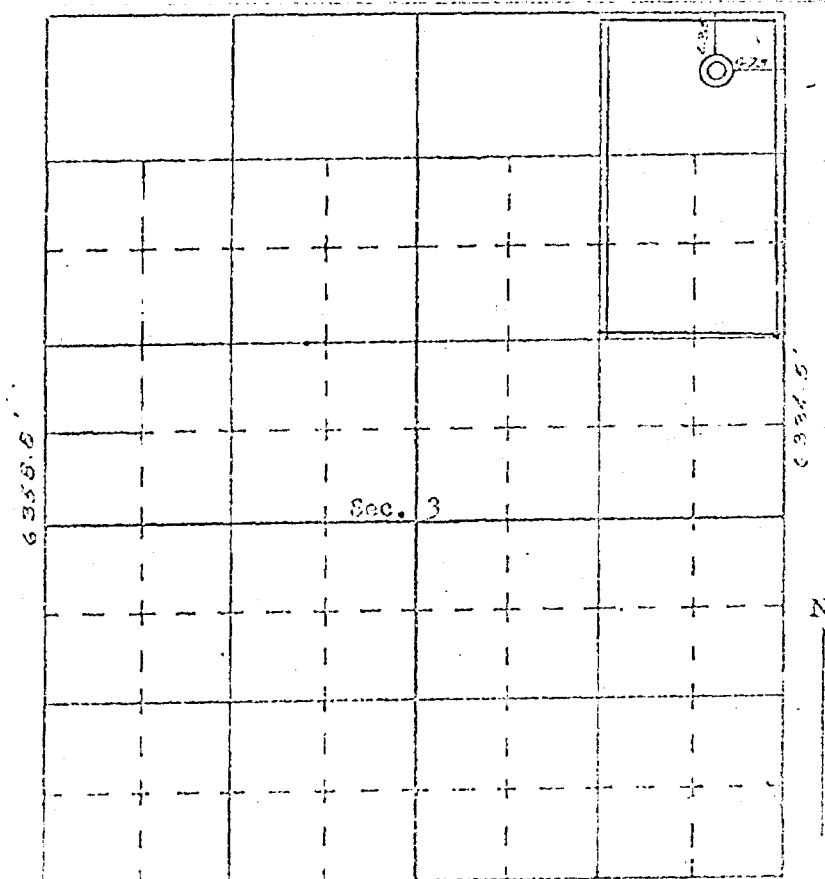
675.0

Yakutsk

Understand

72

1. Outline the acreage dedicated to the subject well by colored pencil or ballpoint marker on the plot below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both surface ownership interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?
- () Yes () No If answer is "yes," type of consolidation: _____
- If answer is "no," list the owners and tract descriptions which have actually consolidated. (Use reverse side of this form if necessary) _____
- No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, force-pooling, or otherwise) or until a non standard unit, eliminating such interests, has been approved by the Commission.



SCALE--1 INCHES EQUALS 1 MILE 3786.9

SAN JUAN ENGINEERING COMPANY, FARMINGTON, N. M.

CERTIFICATION

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

Name **Evell N. Walsh**
Petroleum Mgr. Consultant

For: Manning Cas & Oil Co.


Company

December 20, 1971

Date _____

I hereby certify that the well location shown on this plan was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

16. December, 1971


 Professional Engineer
 and/or Land Surveyor

JAMES W. LEONARD

Certificate No. 114

DRAFT

GMH/dr

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. 4646

Order No. R-4245

APPLICATION OF MANNING GAS AND OIL
COMPANY FOR DOWN-HOLE COMMINGLING
AND A NON-STANDARD PRORATION UNIT,
RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 19, 1972,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of January, 1972, 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, Manning Gas and Oil Company, seeks
authority to commingle production from undesignated Gallup and
Dakota oil pools in the well-bore of its Apache Well No. 100 to
be drilled 435 feet from the North line and 475 feet from the East
line of Section 3, Township 24 North, Range 4 West, NMPM, Rio
Arriba County, New Mexico, on a ³²~~40~~-acre unit comprising
the northernmost portion of Lot 1 of said Section 3.

(3) That the applicant further seeks the establishment of a procedure whereby approval may be granted administratively for the similar completion of other wells to be drilled in ~~the~~ *area. Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 23, and 24 of Township 24 North, Range 4 West.*

(4) That each well previously completed in the above-described pools has been capable of only low marginal production.

(5) That the evidence indicates that wells completed in the future in said pools will be capable of only low marginal production.

(6) That the reservoir characteristics of the above-described Gallup and Dakota oil pools are such that underground waste would not be caused by the proposed commingling in the well-bore of the well to be drilled.

(7) That the granting of authorization to complete the subject well, as requested should permit the drilling of ^a well ^a that would not otherwise be drilled and should result in the recovery of oil from each of the commingled zones in ~~the~~ subject well that would not otherwise be recovered, thereby preventing waste, and will not violate correlative rights.

(8) That the mechanics of the proposed completion is feasible and in accord with good conservation practices.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject well, 53 % of the commingled oil production should be allocated to the Gallup zone, 47 % of the commingled oil production to the Dakota zone, 39 % of the commingled gas production to the Gallup zone, and 61 % of the commingled gas production to the Dakota zone in ~~each~~ the subject well.

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- (10) That a procedure should be established whereby the Secretary-Director of the Commission may approve the similar completion of other wells to be drilled in ^{Sections 1, 2, 3, and 4 of Township 24 North, Range 4 West.} the subject area.
- (11) That approval of the subject application will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Manning Gas and Oil Company, is hereby authorized to drill and complete its Apache Well No. 100 to be drilled 435 feet from the North line and 475 feet from the East line of Section 3, Township 24 North, Range 4 West, Rio ^{32-acre} Arriba County, New Mexico, ^{on a 32-acre unit comprising the northmost} in such a manner as to produce oil from undesignated Gallup and Dakota Oil pools through a single string of tubing, commingling in the well-bore the production from ~~XXXXXXXXXXXXXXXXXXXX~~ each of said pools.

(2) That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

(3) That as to subject well, 53% of the commingled oil production shall be allocated to the Gallup zone, 47% of the commingled oil production to the Dakota zone, 39% of the commingled gas production to the Gallup zone, and 61% of the commingled gas production to the Dakota zone.

(4) That as to subject well, commingling in the well-bore shall continue only so long as the commingled production does not exceed 50 barrels of oil per day nor 100 barrels of water per day.

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(5) That as to subject well, the maximum amount of gas which may be produced daily from the commingled zones shall be determined by multiplying 2000 by the top unit allowable for the Gallup zone.

(6) That the Secretary-Director of the Commission is hereby authorized to approve the drilling and completion of other wells in Section ^{1, 2, 3, and 4 of} ~~5~~, Township 24 North, Range 4 West, NMPM, undesignated Gallup and Dakota Oil Pools, Rio Arriba County, New Mexico, in such a manner as to produce oil from the Gallup and Dakota formations through a single string of tubing, commingling in the well-bores production ~~on~~ from each of said formations.

(7) Application for administrative approval shall be made in QUADRUPLICATE, with two copies of the application to be mailed to the Commission's Santa Fe Office, and two copies to the Aztec District Office of the Commission. The application shall be accompanied by the following:

- (a) Diagrammatic Sketch of the proposed completion showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, and such other information as may be pertinent.

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- (b) Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- (c) Waivers consenting to such completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.
- (d) Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted when available.)

The Secretary-Directory may approve the completion if, after a period of 20 days following the filing of the application, no operator has filed objection to the proposed completion.

(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.