

CASE 5587: Appl. of PENNZOIL
CO. for DOWNHOLE COMMINGLING,
Eddy County

CASE NO.

5587

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,

ETC.

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. 5587
Order No. R-5128

APPLICATION OF PENNZOIL COMPANY FOR
DOWNHOLE COMMINGLING, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 19, 1975, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 25th day of November, 1975, 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, Pennzoil Company, is the owner and operator of the Gulf Federal Well No. 2, located in Unit L of Section 6, Township 23 South, Range 27 East, NMPM, Eddy County, New Mexico.

(3) That, pursuant to the provisions of Commission Order MC-1978, said well is presently dually completed to produce gas from the Strawn and Morrow formation through parallel strings of tubing with separation of the zones accomplished by means of a packer set at approximately 11,311 feet.

(4) That the applicant proposes to open additional perforations in said well in the Atoka formation and to commingle production from the Atoka and Morrow formations and to produce said commingled production through one string of tubing, and to continue to produce the Strawn formation through the other string of tubing, and to accomplish separation of the Strawn and the combined Atoka-Morrow zones by means of a packer set at approximately 10,800 feet.

(5) That from the Morrow zone, the subject well is capable of low marginal production only.

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(6) That from the Atoka zone, the subject well is capable of low marginal production only.

(7) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(8) That the reservoir characteristics of each of the subject zones are such that underground waste will not be caused.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject well, the applicant should consult with the Supervisor of the Artesia district office of the Commission, and arrive at an allocation formula for the combined Atoka-Morrow stream.

(10) That the Strawn production and the combined Atoka-Morrow production from said well should be metered at the surface and sold separately.

IT IS THEREFORE ORDERED:

(1) That the applicant, Pennzoil Company, is hereby authorized to commingle Morrow and Atoka production within the wellbore of the Gulf Federal Well No. 2, located in Unit L of Section 6, Township 23 South, Range 27 East, NMPM, Eddy County, New Mexico, and to produce said commingled zones through a single string of tubing, and to produce the Strawn zone in said well through a second string of tubing, accomplishing separation of the Strawn formation from the commingled Atoka-Morrow formations by means of a packer set at approximately 10,800 feet.

(2) That upon completion of the aforesaid work, the applicant shall consult with the Supervisor of the Artesia district office of the Commission and arrive at an allocation formula for determining production from the Atoka zone and from the Morrow zone.

(3) That the applicant shall separately meter at the surface the production from the Strawn formation and the commingled production from the Atoka-Morrow formations.

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

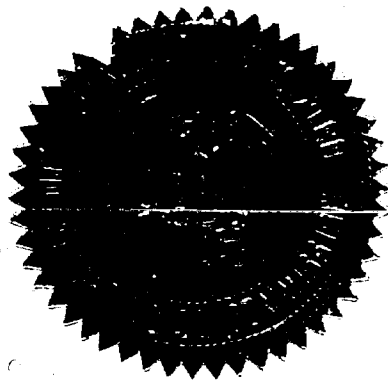
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Case No. 5587
Order No. R-5128

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Phil R. Lucero
PHIL R. LUCERO, Chairman



EMERY C. ARNOLD, Member

Joe D. Ramey
JOE D. RAMEY, Member & Secretary

S E A L

jr/

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 19, 1975

EXAMINER HEARING

IN THE MATTER OF:

Application of Pennzoil Company for
downhole commingling, Eddy County,
New Mexico.

CASE
5587

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: William F. Carr, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant: W. Thomas Kellahin, Esq.
KELLAHIN & FOX
Attorneys at Law
500 Don Gaspar
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1 MR. NUTTER: We will call Case 5587.

2 MR. CARR: Case 5587, application of Pennzoil
3 Company for downhole commingling, Eddy County, New Mexico.

4 MR. KELLAHIN: Tom Kellahin, Kellahin and Fox
5 appearing on behalf of Pennzoil. I have one witness to be
6 sworn.

7 (THEREUPON, the witness was duly sworn.)

8 J. C. RANEY

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

11
12 DIRECT EXAMINATION

13 BY MR. KELLAHIN:

14 Q Please state your name, by whom employed and in
15 what capacity?

16 A J. C. Raney, I'm employed by Pennzoil Company in
17 Midland as a petroleum engineer.

18 Q Have you previously testified before this Commission
19 and had your qualifications as an expert witness accepted?

20 A Yes, sir.

21 Q And are you familiar with the facts surrounding this
22 particular application?

23 A Yes.

24 MR. KELLAHIN: If the Examiner please, are the
25 witness's qualifications acceptable?

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1 MR. NUTTER: Yes, they are.

2 Q (Mr. Kellahin continuing.) Mr. Raney, would you
3 please refer to Exhibit Number One, the Morrow structure map,
4 identify it and state briefly what Pennzoil Company is seeking?

5 A Exhibit Number One includes two maps, a structure
6 map of the Atoka and Morrow structures. Pennzoil Company
7 seeks approval to perforate a zone or zones in the Atoka zone
8 interval and commingle with the production in the Morrow zone.
9 The Gulf Federal 2 is currently a dual Strawn-Morrow gas
10 well. Our proposal is to commingle downhole the production
11 from the Atoka and Morrow zones and separate this production
12 from the Strawn zone.

13 The Exhibit One is, as I said, a structure map of
14 the Atoka and Morrow zones. The red arrow shows the location
15 of the Gulf Federal Number 2, it shows the structural position
16 of each one of the surrounding wells. It also shows the
17 offset wells and the operators of these wells.

18 Q Please refer to Exhibit Number Two and identify it?

19 A Exhibit Number Two, this is a copy of the USGS
20 Form 9331.

21 Q I'm sorry, Exhibit Number Two is your Atoka
22 structure.

23 A That's part of Exhibit Number One.

24 Q If you will renumber these then.

25 MR. NUTTER: Exhibit Number One has two pages,

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1 is that right?

2 MR. KELLAHIN: That's right.

3 Q (Mr. Kellahin continuing.) Yes, Exhibit Number Two
4 then is the USGS Form?

5 A. 9331, the approved copies of these 9331 where we
6 asked approval to perforate additional zones in both the
7 Atoka and the Morrow and also to stimulate the Strawn zone.
8 Attached to this is a workover procedure of the work that we
9 plan to do on this well. On the back of the procedure is the
10 present wellbore sketch of the wellbore makeup and then the
11 last part of this exhibit is a planned wellbore sketch, where
12 the packer will be set and the proposed overall new perforations
13 in the Morrow and the Atoka zones.

14 Q Refer to Exhibit Number Three and identify it?

15 A. Exhibit Number Three is a cross section of the
16 Strawn, Atoka and Morrow zones in the surrounding wells, in
17 the subject well, and the surrounding wells. The tops as
18 marked on this cross section are down in the porosity and
19 the tops are somewhat different from the map. We were looking
20 strictly for porosity in this.

21 Q Please identify Exhibit Number Four?

22 A. Exhibit Number Four is a type log of the Gulf
23 Federal Number Two, it's a bore-hole compensated sonic gamma
24 ray log. On this log on the right side of the depth track
25 is the current perforations and on the left side is the

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1 proposed perforations.

2 Q Exhibit Number Five?

3 A Exhibit Number Five is a gas analysis of the Morrow
4 gas that is produced from the Gulf Federal Number 2 and on
5 the back of that is a gas analysis of the Atoka gas produced
6 from Pennzoil's Gulf Federal Number 2. Excuse me, Pennzoil's
7 Mobil 12 Federal Number One, which is approximately one mile
8 southwest of the Gulf Federal Number 2. These analyses show
9 that the gas composition of the two wells are two zones very
10 similar. You might note the dates on these two gas analyses.
11 This was before the Morrow-Atoka gas was commingled in the
12 Mobil 12 Federal Number 1.

13 Q Exhibit Number Six?

14 A Exhibit Six is the Oil Conservation Commission
15 Form C-102 showing the proration units and the proposed
16 Morrow-Atoka proration unit being the west half of Section 6.
17 And as noted there an amended communitization agreement is
18 being circulated for signatures at this time.

19 Q How do you propose to allocate production between
20 the commingled zones?

21 A There is no test other than the drill stem test
22 that was taken in the Atoka during the drilling operation of
23 this well and the estimated increase in production from the
24 Morrow zone is approximately to eight hundred MCF a day or
25 an increase of six hundred and fifty. Two hundred and twenty-

1 five MCF a day would be attributed to the Atoka and the
2 remaining part to the Morrow.

3 During the drilling operation, like I said, the
4 drill stem test was taken on the Atoka interval and it had
5 a shut in bottom-hole pressure of approximately twenty-five
6 sixty and on six, twenty-five, seventy-five the Morrow had a
7 seventy-eight hour shut in bottom-hole pressure of eighteen
8 fifty-one.

9 We had planned from the time this well was drilled
10 to either recomplete this well and separate the Morrow and
11 the Atoka or commingle as we are proposing now.

12 Q In your opinion, Mr. Raney, will any waste occur
13 to either formation by the commingled production?

14 A No, sir.

15 Q In your opinion will the approval of this applica-
16 tion be in the best interests of conservation and the prevention
17 of waste and the protection of correlative rights?

18 A It will.

19 Q Were Exhibits One through Six either prepared
20 by you directly or prepared under your direct supervision?

21 A Yes, sir.

22 MR. KELLAHIN: We move the introduction of Exhibits
23 One through Six.

24 MR. NUTTER: Pennzoil's Exhibits One through Six
25 will be admitted into evidence.

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CROSS EXAMINATION

2 BY MR. NUTTER:

3 Q Mr. Raney, the well is presently a dual-completion
4 in the Strawn and the Morrow, is that correct?

5 A Yes, sir.

6 Q And it presently has dedicated the south half of
7 the section to the Strawn completion?

8 A Yes, sir.

9 Q And the west half of the section to the Morrow
10 completion?

11 A Yes, sir.

12 Q And after you would commingle the Atoka with the
13 Morrow, your acreage dedications would stay the same except
14 that the south half would now be dedicated to Strawn and the
15 west half would be dedicated to Strawn and Atoka combined?

16 A Yes, sir, and it would be measured that way by
17 the use of two packers and two strings of tubing.

18 Q And you would have separate meter measurement of
19 the gas at all times from the two sides of the well?

20 A Between the Strawn and the Morrow-Atoka commingle,
21 yes, sir.

22 Q Now, is it your intent to use the same perforations
23 that are presently open in the Morrow or will you have new
24 perforations in the Morrow also?

25 A Exhibit Number Two shows additional Morrow perfora-

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1 tions. These are not as good a quality as of the reservoirs
2 that were initially perforated, but it is worth a try. This
3 well has never been treated. We have some tubing-conveyed
4 perforating guns in this well, and as far as the treatment, we
5 will pull all the tubing out of the hole, perforate both the
6 Atoka and the Morrow with a casing gun and run everything back
7 and test the overall interval and then if necessary we will
8 treat the well with approximately five thousand gallons of
9 acid.

10 Q Now the well presently, in the South Carlsbad Morrow
11 Gas Pool, is classified as a marginal well, is it not?

12 A Yes, sir, it is currently producing a hundred and
13 fifty MCF of gas per day.

14 Q Do you think as a result of this workover the Morrow
15 formation might become non-marginal in classification?

16 A No, sir.

17 Q The reserves are just not there?

18 A No, sir.

19 Q To make a non-marginal well?

20 A The quality of the reservoir in that particular
21 area is not that good to make it a non-marginal well.

22 Q And, of course, the Strawn formation just remains
23 as it is, a single producer?

24 A Yes, sir. We do plan to re-treat it.

25 Q Work it over while you are at it?

1 A. Yes, sir. We can do that without any work, just
2 pumping acid into it, but we wanted to go ahead and work on
3 the Atoka and Morrow intervals.

4 MR. NUTTER: Are there any further questions of
5 Mr. Raney? He may be excused.

6 (THEREUPON, the witness was excused.)

7 MR. NUTTER: Do you have anything further, Mr.
8 Kellahin?

9 MR. KELLAHIN: No, sir.

10 MR. NUTTER: Does anyone have anything they wish
11 to offer in Case Number 5587?


12 We will take the Case under advisement.
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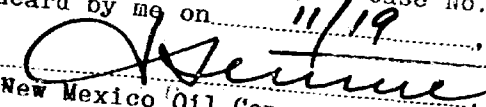
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REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a court reporter, do hereby
 certify that the foregoing and attached Transcript of Hearing
 before the New Mexico Oil Conservation Commission was reported
 by me, and the same is a true and correct record of the said
 proceedings to the best of my knowledge, skill and ability.


 Sidney F. Morrish, Court Reporter

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I do hereby certify that the foregoing is
 a complete record of the proceedings in
 the Examiner hearing of Case No. 5387
 heard by me on 11/19, 1975

 Examiner
 New Mexico Oil Conservation Commission

Docket No. 29-75

Dockets Nos. 30-75 and 31-75 are tentatively set for hearing on December 3 and December 17, 1975. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - NOVEMBER 19, 1975

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

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas from seventeen prorated pools in Lea, Eddy, Roosevelt, and Chaves Counties, New Mexico, for December, 1975.
- (2) Consideration of the allowable production of gas from five prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for December, 1975.

CASE 5583: Application of Stevens Oil Company for a pilot waterflood project, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project in the Twin Lakes-San Andres Pool by injection of produced water through its Twinlakes Oil Company Well No. 1, located in Unit D of Section 12, Township 9 South, Range 28 East, Chaves County, New Mexico.

CASE 5584: Application of Cities Service Oil Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a well at an unorthodox location 990 feet from the North line and 660 feet from the West line of Section 29, Township 21 South, Range 27 East, South Carlsbad Field, Eddy County, New Mexico, or, in the alternative, in the NW/4 NW/4 of said Section 29 at some point not closer than 660 feet from either the North or West lines of said Section, the W/2 of said Section 29 to be dedicated to the well.

CASE 5585: Application of W. P. Carr for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pictured Cliffs formation underlying the NE/4 of Section 13, Township 31 North, Range 11 West, Blanco-Pictured Cliffs Pool, San Juan County, New Mexico, to be dedicated to a well to be drilled in Unit G of said Section 13. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 5586: Application of Amerada Hess Corporation for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Otero-Callup oil production and Basin-Dakota gas production in the wellbore of its McKenzie Federal Wells Nos. 1 and 3 located, respectively, in Units M and O of Section 25 and its Harvey State Well No. 1 located in Unit N of Section 36, all in Township 25 North, Range 6 West, Rio Arriba County, New Mexico.

CASE 5587: Application of Pennzoil Company for downhole commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval to commingle Morrow and Atoka gas production in the wellbore of its Gulf Federal Well No. 2, located in Unit L of Section 6, Township 23 South, Range 27 East, South Carlsbad Field, Eddy County, New Mexico.

CASE 5588: Application of Amoco Production Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval to commingle Gonzales-Mesaverde and Basin-Dakota gas production in the wellbore of its Jicarilla Contract 146 Well No. 11 located in Unit K of Section 4, Township 25 North, Range 5 West, Rio Arriba County, New Mexico.

CASE 5589: Application of Filon Exploration Corporation for pool creation, assignment of a discovery allowable, 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 Entrada formation for its Federal 33 Well No. 3 located in Unit N of Section 33, Township 21 North, Range 5 West, Sandoval County, New Mexico, and the assignment of a discovery allowable to said well; applicant further seeks the promulgation of special pool rules for said pool, including a provision for a special depth bracket allowable.

CASE 5590: Northwestern New Mexico nomenclature case calling for an order for the creation, contraction, and extension of certain pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

(a) CREATE a new pool in San Juan County, New Mexico, classified as a gas pool for Pictured Cliffs production and designated as the Nipp Pictured Cliffs Pool and described as:

TOWNSHIP 26 NORTH, RANGE 12 WEST, NMPM

Section 16: SW/4
Section 17: SE/4
Section 20: E/2
Section 21: W/2
Section 28: W/2
Section 33: All
Section 34: SW/4

(b) CONTRACT the Blanco-Pictured Cliffs Pool boundary in Rio Arriba and San Juan Counties, New Mexico, to exclude therefrom:

TOWNSHIP 29 NORTH, RANGE 9 WEST, NMPM

Section 17: SW/4

TOWNSHIP 30 NORTH, RANGE 10 WEST, NMPM

Section 35: NW/4

(c) EXTEND the Angels Peak-Gallup Pool boundary in San Juan County, New Mexico, to include therein:

TOWNSHIP 26 NORTH, RANGE 9 WEST, NMPM
Section 5: N/2
Section 15: SE/4

TOWNSHIP 26 NORTH, RANGE 10 WEST, NMPM
Section 13: S/2

TOWNSHIP 27 NORTH, RANGE 9 WEST, NMPM
Section 31: All

(d) EXTEND the Aztec-Fruitland Pool boundary in San Juan County, New Mexico, to include therein:

TOWNSHIP 29 NORTH, RANGE 10 WEST, NMPM
Section 8: NW/4
Section 9: SW/4
Section 20: N/2

(e) EXTEND the Aztec-Pictured Cliffs Pool boundary in San Juan County, New Mexico, to include therein:

TOWNSHIP 29 NORTH, RANGE 9 WEST, NMPM
Section 17: SW/4
Section 20: NW/4

TOWNSHIP 29 NORTH, RANGE 10 WEST, NMPM
Section 11: N/2
Section 12: NW/4

TOWNSHIP 30 NORTH, RANGE 10 WEST, NMPM
Section 27: E/2
Section 35: NW/4

(f) EXTEND the Blanco-Mesaverde Pool boundary in Rio Arriba and San Juan Counties, New Mexico, to include therein:

TOWNSHIP 30 NORTH, RANGE 5 WEST, NMPM
Section 2: All
Section 3: All

(g) EXTEND the Blanco-Pictured Cliffs Pool boundary in Rio Arriba and San Juan Counties, New Mexico, to include therein:

TOWNSHIP 29 NORTH, RANGE 8 WEST, NMPM
Section 31: SE/4
Section 32: S/2

TOWNSHIP 29 NORTH, RANGE 9 WEST, NMPM
Section 28: E/2

TOWNSHIP 30 NORTH, RANGE 8 WEST, NMPM
Section 29: SW/4
Section 32: N/2

TOWNSHIP 30 NORTH, RANGE 10 WEST, NMPM

Section 3: All

Section 4: E/2

TOWNSHIP 31 NORTH, RANGE 9 WEST, NMPM

Section 31: NE/4

Section 32: NW/4

TOWNSHIP 31 NORTH, RANGE 10 WEST, NMPM

Sections 5 through 8: All

Section 14: W/2

Sections 15 through 17: All

Section 18: N/2 and SE/4

Section 20: N/2 and SE/4

Sections 21 through 23: All

Sections 26 through 28: All

Section 29: NE/4

Sections 33 and 34: All

Section 35: N/2

TOWNSHIP 31 NORTH, RANGE 11 WEST, NMPM

Section 1: All

Section 2: E/2 and SW/4

Section 15: NW/4

Section 16: N/2

Section 26: NE/4

TOWNSHIP 32 NORTH, RANGE 11 WEST, NMPM

Section 16: S/2

Section 17: SE/4

(h) EXTEND the Bloomfield-Chacra Pool boundary in San Juan County, New Mexico, to include therein:

TOWNSHIP 29 NORTH, RANGE 10 WEST, NMPM

Section 8: SE/4

Section 17: N/2 and SW/4

(i) EXTEND the Campo-Gallup Pool boundary in Rio Arriba County, New Mexico, to include therein:

TOWNSHIP 29 NORTH, RANGE 4 WEST, NMPM

Section 12: NW/4

(j) EXTEND the Escrito-Gallup Oil Pool boundary in Rio Arriba and San Juan Counties, New Mexico, to include therein:

TOWNSHIP 24 NORTH, RANGE 7 WEST, NMPM

Section 33: E/2

TOWNSHIP 24 NORTH, RANGE 8 WEST, NMPM

Section 13: W/2 NE/4, E/2 NW/4 and E/2 SE/4

(k) EXTEND the Fulcher Kutz-Pictured Cliffs Pool boundary in San Juan County, New Mexico, to include therein:

TOWNSHIP 28 NORTH, RANGE 11 WEST, NMPM
Section 23: NW/4 and SE/4

TOWNSHIP 29 NORTH, RANGE 11 WEST, NMPM
Section 7: NE/4
Section 8: NW/4

(l) EXTEND the Harris Mesa-Chacra Pool boundary in San Juan County, New Mexico, to include therein:

TOWNSHIP 27 NORTH, RANGE 9 WEST, NMPM
Section 2: N/2 and SE/4
Section 11: NE/4
Section 12: NW/4

TOWNSHIP 28 NORTH, RANGE 9 WEST, NMPM
Section 26: N/2 and SE/4
Section 34: NW/4
Section 35: All

(m) EXTEND the Largo-Chacra Pool boundary in Rio Arriba and San Juan Counties, New Mexico, to include therein:

TOWNSHIP 27 NORTH, RANGE 7 WEST, NMPM
Section 6: SW/4
Section 7: W/2
Section 15: SW/4
Section 22: W/2
Section 27: NW/4
Section 28: NE/4
Section 29: S/2

TOWNSHIP 27 NORTH, RANGE 8 WEST, NMPM
Section 1: SE/4
Section 12: All

(n) EXTEND the South Lindrith Gallup-Dakota Oil Pool boundary in Rio Arriba County, New Mexico, to include therein:

TOWNSHIP 23 NORTH, RANGE 4 WEST, NMPM
Section 3: NW/4
Section 4: N/2
Section 5: NE/4

TOWNSHIP 24 NORTH, RANGE 4 WEST, NMPM
Section 33: SW/4

(o) EXTEND the West Lindrith Gallup-Dakota Oil Pool boundary in Rio Arriba County, New Mexico, to include therein:

TOWNSHIP 24 NORTH, RANGE 4 WEST, NMPM
Section 1: NW/4 SW/4 and E/2 SW/4
Section 2: N/2
Section 11: NW/4 NE/4 and S/2 NE/4

(p) EXTEND the Ojo-Pictured Cliffs Pool boundary in San Juan County, New Mexico, to include therein:

TOWNSHIP 28 NORTH, RANGE 15 WEST, NMPM
Section 26: NE/4

(q) EXTEND the Otero-Chacra Pool boundary in Rio Arriba County, New Mexico, to include therein:

TOWNSHIP 26 NORTH, RANGE 6 WEST, NMPM
Section 21: NE/4

TOWNSHIP 26 NORTH, RANGE 7 WEST, NMPM
Section 11: S/2
Section 13: SW/4
Section 14: N/2
Section 24: NW/4

(r) EXTEND the Rusty-Menefee Oil Pool boundary in Sandoval County, New Mexico, to include therein:

TOWNSHIP 22 NORTH, RANGE 7 WEST, NMPM
Section 13: NW/4
Section 14: NE/4

(s) EXTEND the Tapacito-Pictured Cliffs Pool boundary in Rio Arriba County, New Mexico, to include therein:

TOWNSHIP 27 NORTH, RANGE 4 WEST, NMPM
Section 16: SW/4
Section 21: N/2

(t) EXTEND the Waw-Pictured Cliffs Pool boundary in San Juan County, New Mexico, to include therein:

TOWNSHIP 27 NORTH, RANGE 13 WEST, NMPM
Section 29: E/2 and SW/4
Section 30: SE/4
Section 31: NE/4
Section 32: N/2

(u) EXTEND the Wild Horse-Gallup Pool boundary in Rio Arriba County, New Mexico, to include therein:

TOWNSHIP 26 NORTH, RANGE 4 WEST, NMPM
Section 14: N/2
Section 24: NE/4

CASE 5591: Application of Amoco Production Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a well at an unorthodox location 1980 feet from the South line and 1241 feet from the West line of Section 33, Township 17 South, Range 29 East, Grayburg-Morrow Gas Pool, Eddy County, New Mexico, the S/2 of said Section 33 to be dedicated to the well.

CASE 5592: Application of Agua, Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced water by injection into the San Andres formation through the open-hole interval from approximately 4000 to 5000 feet in its Blinebry-Drinkard SWD System Well No. A-22 located 817 feet from the North line and 965 feet from the East line of Section 22, Township 22 South, Range 37 East, Lea County, New Mexico.

CASE 5403: (Reopened)

In the matter of the hearing called by the Oil Conservation Commission on its own motion to further consider the subject matter of Case No. 5377, namely to permit all interested parties to appear and show cause why the continued injection of water for secondary recovery or disposal purposes into any formation from the surface of the ground down to and including the Drinkard formation should be permitted in the following described area in Lea County, New Mexico:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
Sections 13 through 36: All

TOWNSHIP 23 SOUTH, RANGE 37 EAST, NMPM
Sections 1 through 12: All

CASE 5571: (Continued from October 8, 1975 Examiner Hearing)

Application of Robert C. Cox for amendment of Order No. R-4561, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks amendment of Order No. R-4561, which order permitted the directional drilling of applicant's Federal "EA" Well No. 1, located 330 feet from the North and West lines of Section 12, Township 18 South, Range 27 East, Empire-Abo Pool, Eddy County, New Mexico, in such a manner as to be bottomed within 100 feet of the surface location. Applicant seeks the amendment of said order to permit bottoming of the subject well approximately 58 feet from the North line and 8 feet from the West line of said Section 12 and to permit verification of said downhole location by single-shot directional surveys made concurrently with the drilling of said well.

Form 9-311
(May 1963)

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Form approved
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO.

NM 040547

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Gulf-Federal

9. WELL NO.

#2

10. FIELD AND POOL, OR WILDCAT

S. Carlsbad (Morrow)

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

Sec. 6, T-23-S, R-27-

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, OR, etc.)

3212.4 GL

12. COUNTY OR PARISH

Eddy

13. STATE

New Mex

16.

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

After New Mexico Oil Conservation Commission approval the work as outlined on the attached procedure will be performed with the ultimate objective to perforate additional Morrow zones plus perforating some Atoka zones and then comingling the 2 zones downhole.

See attached procedure, current well bore sketch and the well bore sketch after the workover.

N.M. O.C.C. Comingling Hearing set Nov. 19, 1975

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

Pennzoil EXHIBIT NO. 1432

CASE NO. 5587

18. I hereby certify that the foregoing is true and correct

SIGNED

TITLE Petroleum Engineer

DATE 10-23-75

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

*See Instructions on Reverse Side

Form 9-331
(Mar. 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ARTESIA OFFICE COPY
SUBMIT IN
(Other Instr. on reverse side)

Form approved.
Budget Bureau No. 43-B1494.

6. LEASE DESIGNATION AND SERIAL NO.

NM 040547

7. IF INDIAN, ALLOTTEE OR TRIBAL NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Gulf-Federal

9. WELL NO.

#2

10. FIELD AND POOL, OR WELDCAT

S. Carlsbad-Strawn

11. SEC., T., R., M., OR BLM. AND SURVEY OR AREA

Sec. 6, T23S, R27E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, ST, OR, etc.)

3212.4

12. COUNTY OR PARISH

Eddy

13. STATE

New Mex

16.

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion or Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

After completion of work on Morrow zone (see attached procedure) in this dual completion, the Strawn zone will be treated with 3,000 gallons of 15% N.E. acid, using 750 SCF of N₂ per barrel.

The well will be swab tested, put on line, and a packer leakage test run.

RECEIVED

OCT 28 1975

U. S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

18. I hereby certify that the foregoing is true and correct

SIGNED

TITLE

Petroleum Engineer

DATE

10-23-75

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

APPROVED
OCT 28 1975
U. S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

APPROVED
OCT 28 1975
U. S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

GULF FEDERAL NO. 2

WORKOVER PROCEDURE

1. Pump KCL water down both tubing strings to kill well.
2. Install BOP.
3. Pull both strings of tubing and inspect Morrow perforating guns.
4. Circulate hole with packer fluid.
5. Spot 750 gallons of 10% acetic acid from 10,695'.
6. Perforate the following intervals with 1 shot per foot using a casing gun:

ATOKA

10,856 - 10,863'

10,892 - 10,896'

10,899 - 10,906'

10,922 - 10,932'

10,939 - 10,941'

10,943 - 10,945'

MORROW

11,405 - 11,410' - 11,640 - 11,645'

11,426 - 11,431' - 11,652 - 11,657'

11,481 - 11,483'

11,511 - 11,514' - 11,662 - 11,669'

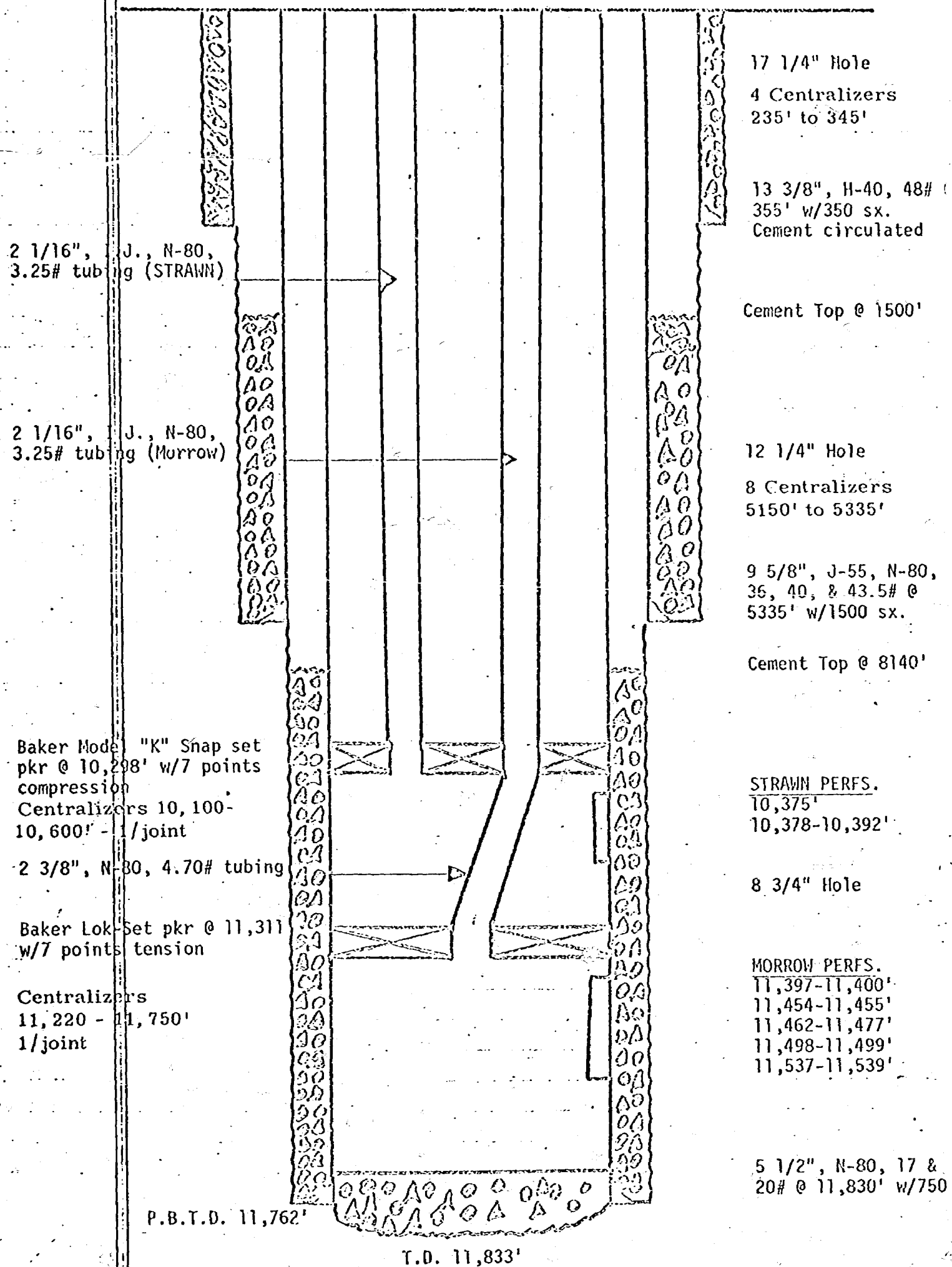
11,589 - 11,593' - 11,673 - 11,677'

11,631 - 11,635' - 11,685 - 11,691'

7. Run both strings of 2 1/16" tubing with a Model "K" packer to be set at 10,300' and a Lok-Set packer to be set at 10,800'.
8. Displace acid into the lower perforations with KCL water.
9. Swab test. Re-treat zones with 5,000 gallons of 7 1/2% M. S. acid using 96 rubber covered nylon ball sealers and 750 SCF of N₂ per bbl. in acid and flush.
10. Swab test.
11. Treat Strawn zone with 3,000 gallons of 15% N.E. acid using 750 SCF of N₂ per gallon in acid and flush.
12. Swab test and put on line.

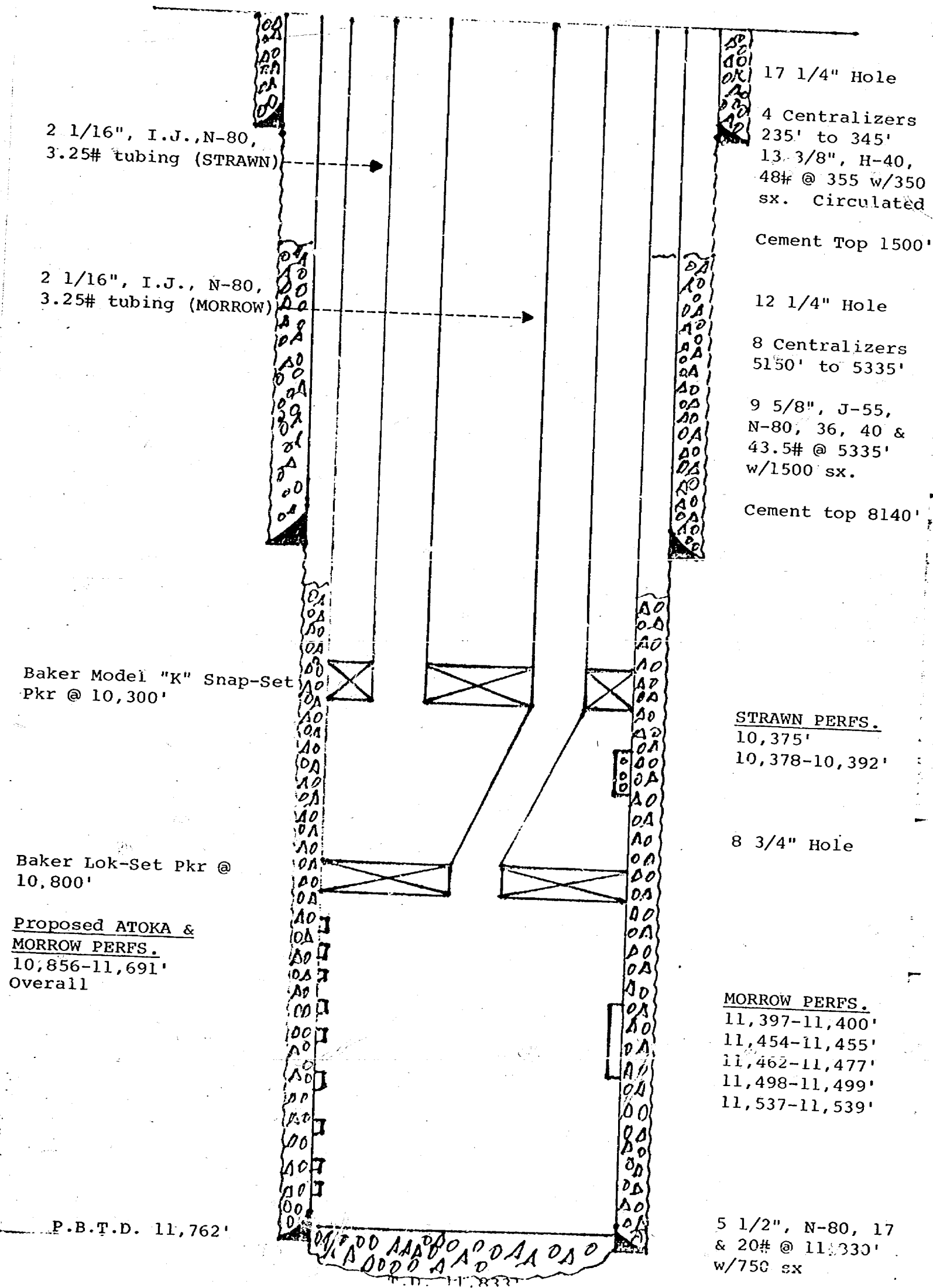
GULF FEDERAL NO. 2
1980 FSL & 990 FWL
SEC. 6, T-23-S, R-27-E
SOUTH CARLSBAD STRAWN-MORROW FIELD
EDDY COUNTY, NEW MEXICO

K.B. 3232'
S.L. 3212'



PLANNED WELL BORE
GULF FEDERAL NO. 2
1980 FSL & 990 FWL
SEC. 6, T-23-S, R-27-E
SOUTH CARLSBAD STRAWN-MORROW FIELD
EDDY COUNTY, NEW MEXICO

K.B. 3232'
G.L. 3212'



2 1/16", I.J., N-80,
3.25# tubing (STRAWN)

2 1/16", I.J., N-80,
3.25# tubing (MORROW)

Baker Model "K" Snap-Set
Pkr @ 10,300'

Baker Lok-Set Pkr @
10,800'

Proposed ATOKA &
MORROW PERFS.
10,856-11,691'
Overall

P.B.T.D. 11,762'

17 1/4" Hole

4 Centralizers
235' to 345'
13 3/8", H-40,
48# @ 355 w/350
sx. Circulated

Cement Top 1500'

12 1/4" Hole

8 Centralizers
5150' to 5335'

9 5/8", J-55,
N-80, 36, 40 &
43.5# @ 5335'
w/1500 sx.

Cement top 8140'

STRAWN PERFS.
10,375'
10,378-10,392'

8 3/4" Hole

MORROW PERFS.
11,397-11,400'
11,454-11,455'
11,462-11,477'
11,498-11,499'
11,537-11,539'

5 1/2", N-80, 17
& 20# @ 11,330'
w/750 sx

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator PENNZOIL UNITED, INC.		Lease GULF FEDERAL		Well No. 2
Unit Letter L	Section 6	Township 23 SOUTH	Range 27 EAST	County EDDY
Actual Footage Location of Well: 1980 feet from the SOUTH line and 990 feet from the WEST line				
Ground Level Elev. 3212.4	Producing Formation Morrow/Strawn	Pool South Carlsbad	Dedicated Acreage: 320 Acres	

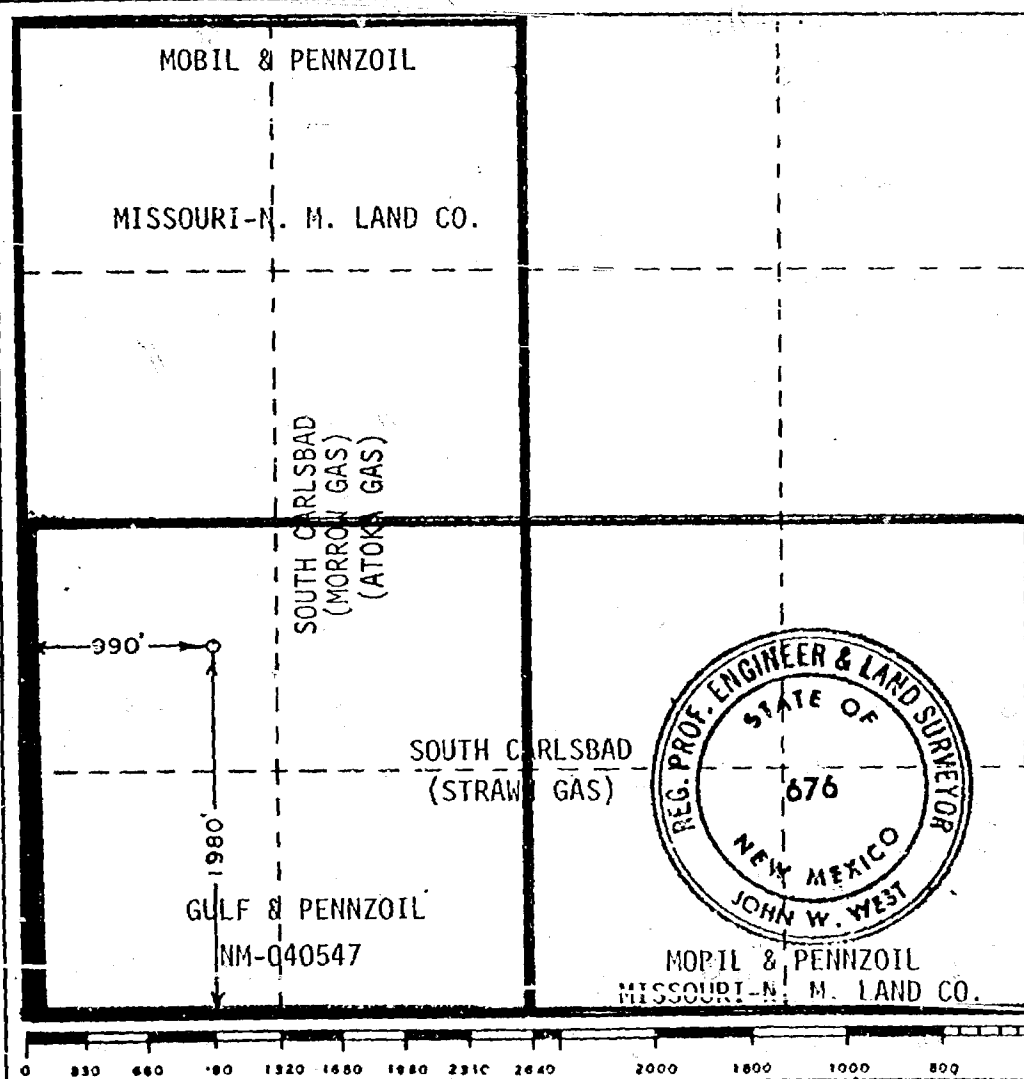
1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is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

Amended

☒ Yes ☐ No If answer is "yes," type of consolidation Communitization agreement being circulated for signatures

If answer is "no," list the owners and tract descriptions which have actually been 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.



CERTIFICATION

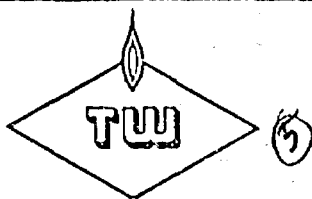
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name [Signature]
Position Drilling Superintendent
Company Pennzoil United, Inc.
Date 12-1-71

RECEIVED

I hereby certify that the well location shown on this plat was located 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 AUGUST 5, 1971
Registered Professional Engineer and Land Surveyor John W. West
Certificate No. 676



GAS QUALITY TEST REPORT

COMPANY SELLER

PENNZOIL

FIELD OR
LOCATION

So. CARLSBAD

SOURCE OR
RESERVOIR

MORROW

WELL OR
STATION NAME

GULF FED #2

STA. NO.

1076-2

CONTRACT NO.

1643

1681

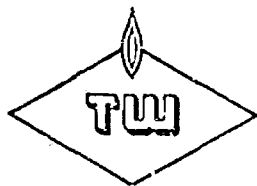
TEST DATE

9.6.74

LAB

4

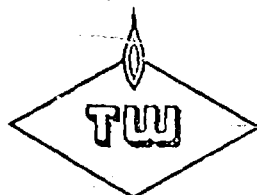
COMPOUND COMPONENTS	COMPONENT SPECIFIC GRAVITY	COMPONENT MOLE FRACTION	LIQUEFIABLE HYDROCARBONS	COMPONENT G.P.M.	MOLE FRACTION	G.P.M. CONTENT
NITROGEN	.9672	.0038	PROPANE	27.514	PENNZOIL	
CARBON DIOXIDE	1.5195	.0106	ISO-BUTANE	32.698	SEP 30 1974	
HELIUM	.1382	.0001	N-BUTANE	31.510	MIDLAND	
OXYGEN	1.1048	-	LPG - - - - -			
HYDROGEN SULFIDE	1.1766	-	ISO-PENTANE	36.582		
WATER VAPOR	.6220	-	N-PENTANE	36.213		
HYDROCARBON DILUENTS		(.0145)	HEXANES	41.111		
METHANE	.5539	.9635	HEPTANES +	46.126		
ETHANE	1.0382	.0183	NATURAL GASOLINE - - - - -			
PROPANE	1.5225	.0027	TOTAL LIQUEFIABLE GPM			
ISO-BUTANE	2.0068	.0003	WATER VAPOR CONTENT:			
N-BUTANE	2.0068	.0003	Gas Mixture Static Pressure PSIG	165		
ISO-PENTANE	2.4910	.0001	Hydrocarbon Dew Point °F	43°		
N-PENTANE	2.4910	.0001	Water Vapor Dew Point °F	-3°		
HEXANES	2.9753	.0001	Lbs Water Vapor per MMCF	5.84		
HEPTANES +	3.7018	.0001	Conversion Constant	X 0.000021		
			Water Vapor Mole Fraction			
			Moisture recorder reading			
			Make or type			
COMPOSITION - - - - -	1.0000		SULFUR CONTENT:			
MIXTURE SPECIFIC GRAVITY:			H ₂ S - Hydrogen Sulfide, Gr./100 cf	.02		
Calculated From Analysis	.579		RSR - Mercaptans	.01		
Determined by Test Instrument	.581		RSR - Sulfides	.02		
Instrument Make or Type	Paniraf		RSSR - Residuals	.02		
			Total Sulfur, Gr./100 cf	.07		
MIXTURE HEATING VALUE:			H ₂ S Grains to fraction conversion	X 0.0000157		
(Btu/cf at 14.73 Psia, 60°F, Sat.)			H ₂ S Mole Fraction			
Calculated From Analysis	1003		Critical Pressure	677	Critical Temperature	351
Determined by Calorimeter						
Calorimeter Verified ()						
REMARKS						
MEASUREMENT	Roswell		GAS	Alston		
AREA			ANALYST			



GAS QUALITY TEST REPORT

COMPANY SELLER KENTZ OIL UNITEDFIELD OR
LOCATION S. CARLSBADSOURCE OR
RESERVOIR ADIFAWELL OR
STATION NAME MOBILE FCO #12-1STA. NO. 1059-2CONTRACT NO. 1643
1644TEST DATE 9.6.74LAB 4

COMPOUND COMPONENTS	COMPONENT SPECIFIC GRAVITY	COMPONENT MOLE FRACTION	LIQUEFIABLE HYDROCARBONS	COMPONENT G. P. M.	MOLE FRACTION	G. P. M. CONTENT
NITROGEN	.9672	.0111	PROPANE	27.514		
CARBON DIOXIDE	1.5195	.0053	ISO-BUTANE	32.698		
HELIUM	.1382	.0001	N-BUTANE	31.510		
OXYGEN	1.1048	-	LPG -----			
HYDROGEN SULFIDE	1.1766	-	ISO-PENTANE	36.582		
WATER VAPOR	.6220	-	N-PENTANE	36.213		
HYDROCARBON DILUENTS		(.0165)	HEXANES	41.111		
METHANE	.5539	.9519	HEPTANES +	46.126		
ETHANE	1.0382	.0179	NATURAL GASOLINE -----			
PROPANE	1.5225	.0023	TOTAL LIQUEFIABLE GPM			
ISO-BUTANE	2.0068	.0005	WATER VAPOR CONTENT:			
N-BUTANE	2.0068	.0004	Gas Mixture Static Pressure PSI _____			
ISO-PENTANE	2.4910	.0002	Hydrocarbon Dew Point °F _____			
N-PENTANE	2.4910	.0001	Water Vapor Dew Point °F _____			
HEXANES	2.9753	.0001	Lbs Water Vapor per MMCF _____			
HEPTANES +	3.7018	.0001	Conversion Constant <u>X 0.000021</u>			
COMPOSITION ----- 1.0000			Water Vapor Mole Fraction _____			
MIXTURE SPECIFIC GRAVITY:			Moisture recorder reading _____			
Calculated From Analysis <u>.577</u>			Make or type _____			
Determined by Test Instrument <u>.581</u>			SULFUR CONTENT:			
Instrument Make or Type <u>PANALOG</u>			H ₂ S - Hydrogen Sulfide, Gr./100 cf <u>.26</u>			
MIXTURE HEATING VALUE:			RSH - Mercaptans " <u>.02</u>			
(Btu/cf at 14.73 Psia, 60°F, Sat.)			RSR - Sulfides " <u>.01</u>			
Calculated From Analysis <u>1001</u>			RSSR - Residuals " <u>.02</u>			
Determined by Colorimeter _____			Total Sulfur, Gr./100 cf <u>.34</u>			
Colorimeter Verified (_____) _____			H ₂ S Grains to fraction conversion <u>X 0.0000157</u>			
REMARKS <u>TW DENE OUT OF SERVICE</u>			H ₂ S Mole Fraction _____			
MEASUREMENT AREA <u>ROSEN</u>			Critical Pressure <u>673</u> Critical Temperature <u>349</u>			
GAS ANALYST <u>ALSTON</u>						



GAS QUALITY TEST REPORT

COMPANY SELLER

PENNZOIL

FIELD OR
LOCATION

So. CARLSBAD

SOURCE OR
RESERVOIR

MORROW

WELL OR
STATION NAME

GULF FED #2

STA. NO.

1076-2

CONTRACT NO.

1643

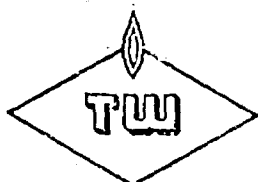
TEST DATE

9.6.74

LAB

4

COMPOUND COMPONENTS	COMPONENT SPECIFIC GRAVITY	COMPONENT MOLE FRACTION	LIQUEFIABLE HYDROCARBONS	COMPONENT G. P. M.	MOLE FRACTION	G. P. M. CONTENT
NITROGEN	.9672	.0038	PROPANE	27.514		PENNZOIL
CARBON DIOXIDE	1.5195	.0106	ISO-BUTANE	32.698		SEP 20 1974
HELIUM	.1382	.0001	N-BUTANE	31.510		MIDLAND
OXYGEN	1.1048	-	LPG - - - - -			
HYDROGEN SULFIDE	1.1766	-	ISO-PENTANE	36.582		
WATER VAPOR	.6220	-	N-PENTANE	33.213		
HYDROCARBON DILUENTS		(.0145)	HEXANES	41.111		
METHANE	.5539	.9635	HEPTANES +	46.126		
ETHANE	1.0382	.0183	NATURAL GASOLINE - - - - -			
PROPANE	1.5225	.0027	TOTAL LIQUEFIABLE GPM			
ISO-BUTANE	2.0068	.0003	WATER VAPOR CONTENT:			
N-BUTANE	2.0068	.0003	Gas Mixture Static Pressure PSIA 165			
ISO-PENTANE	2.4910	.0001	Hydrocarbon Dew Point °F 43°			
N-PENTANE	2.4910	.0001	Water Vapor Dew Point °F -3°			
HEXANES	2.9753	.0001	Lbs Water Vapor per MMCF 5.84			
HEPTANES +	3.7018	.0001	Conversion Constant X 0.000021			
COMPOSITION - - - - - 1.0000			Water Vapor Mole Fraction			
MIXTURE SPECIFIC GRAVITY:			Moisture recorder reading			
Calculated From Analysis 579			Make or type			
Determined by Test Instrument 581			SULFUR CONTENT:			
Instrument Make or Type Paniraf			H ₂ S - Hydrogen Sulfide, Gr./100 cf .02			
MIXTURE HEATING VALUE:			RSH - Mercaptans " .01			
(Btu/cf at 14.73 Psia, 60°F, Sat.)			RSR - Sulfides " .02			
Calculated From Analysis 1003			RSSR - Residuals " .02			
Determined by Colorimeter			Total Sulfur, Gr./100 cf .07			
Colorimeter Verified			H ₂ S Grains to fraction conversion X 0.0000157			
BEFORE EXAMINER NOTED			H ₂ S Mole Fraction			
OIL CONSERVATION COMMISSION			Critical Pressure 627 Critical Temperature 351			
PENNZAIL EXHIBIT NO. 26			REMARKS			
CASE NO. 5587			MEASUREMENT AREA			
GAS ANALYSIS			Alston			



GAS QUALITY TEST REPORT

COMPANY SELLER PENNZOIL UNITEDFIELD OR LOCATION S. CARLSBADSOURCE OR RESERVOIR ADIFAWELL OR STATION NAME MOBIL FED #12-1STA. NO. 1054-2CONTRACT NO. 1643
1644TEST DATE 9.6.77LAB 4

COMPOUND COMPONENTS	COMPONENT SPECIFIC GRAVITY	COMPONENT MOLE FRACTION	LIQUEFIABLE HYDROCARBONS	COMPONENT G. P. M.	MOLE FRACTION	G. P. M. CONTENT
NITROGEN	.9672	.0111	PROPANE	27.514		
CARBON DIOXIDE	1.5195	.0053	ISO-BUTANE	32.698		
HELIUM	.1382	.0001	N-BUTANE	31.510		
OXYGEN	1.1048					
HYDROGEN SULFIDE	1.1766					
WATER VAPOR	.6220					
HYDROCARBON DILUENTS		.0165	LPG - - - - -			
METHANE	.5539	.9619	ISO-PENTANE	36.582		
ETHANE	1.0382	.0179	N-PENTANE	36.213		
PROPANE	1.5225	.0023	HEXANES	41.111		
ISO-BUTANE	2.0068	.0005	HEPTANES +	46.126		
N-BUTANE	2.0068	.0004	NATURAL GASOLINE - - - - -			
ISO-PENTANE	2.4910	.0002	TOTAL LIQUEFIABLE GPM			
N-PENTANE	2.4910	.0001	WATER VAPOR CONTENT:			
HEXANES	2.9753	.0001	Gas Mixture Static Pressure PSI			
HEPTANES +	3.7018	.0001	Hydrocarbon Dew Point °F			
			Water Vapor Dew Point °F			
			Lbs Water Vapor per MMCF			
			Conversion Constant X 0.000021			
			Water Vapor Mole Fraction			
			Moisture recorder reading			
			Make or type			
COMPOSITION - - - - - 1.0000			SULFUR CONTENT:			
MIXTURE SPECIFIC GRAVITY:			H ₂ S - Hydrogen Sulfide, Gr./100 cf			
Calculated From Analysis			RSH - Mercaptans			
Determined by Test Instrument			RSR - Sulfides			
Instrument Make or Type <u>PANALOG</u>			RSSR - Residuals			
			Total Sulfur, Gr./100 cf			
MIXTURE HEATING VALUE:			H ₂ S Grains to fraction conversion X 0.0000157			
(Btu/cf at 14.73 Psia, 60°F, Sat.)			H ₂ S Mole Fraction			
Calculated From Analysis			Critical Pressure <u>673</u> Critical Temperature <u>349</u>			
Determined by Calorimeter						
Calorimeter Verified ()						
REMARKS <u>TW DENE OUT OF SERVICE</u>						
MEASUREMENT AREA <u>Roswell</u>			GAS ANALYST <u>ALSTON</u>			

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator PENNZOIL UNITED, INC.		Lease GULF FEDERAL		Well No. 2
Unit Letter L	Section 6	Township 23 SOUTH	Range 27 EAST	County EDDY
Actual Footage Location of Well: 1980 feet from the SOUTH line and 990 feet from the WEST line				
Ground Level Elev. 3212.4	Producing Formation Morrow/Strawn	Pool South Carlsbad	Dedicated Acreage: 320 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure 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?

Amended

☒ Yes ☐ No If answer is "yes," type of consolidation Communitization agreement being circulated for signatures

If answer is "no," list the owners and tract descriptions which have actually been 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.

<p>MOBIL & PENNZOIL</p> <p>MISSOURI-N. M. LAND CO.</p> <p>SOUTH CARLSBAD (MORROW GAS) (ATOKA GAS)</p> <p>990'</p> <p>1980'</p> <p>SOUTH CARLSBAD (STRAWN GAS)</p> <p>GULF & PENNZOIL NM-040547</p>	<p>BEFORE EXAMINER NUTTER</p> <p>OIL CONSERVATION COMMISSION</p> <p><i>Pennzoil</i> UNIT NO. 87</p> <p>CASE NO. 15587</p>	<p>CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>[Signature]</i></p> <p>Position Drilling Superintendent</p> <p>Company Pennzoil United, Inc.</p> <p>Date 12-1-71</p>
	<p>REG. PROF. ENGINEER & LAND SURVEYOR</p> <p>STATE OF NEW MEXICO</p> <p>676</p> <p>JOHN W. WEST</p> <p>MOBIL & PENNZOIL</p> <p>MISSOURI-N. M. LAND CO.</p>	<p>RECEIVED</p> <p>I hereby certify that the location shown on DEO 61971 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.</p> <p>Date Surveyed AUGUST 5, 1971</p> <p>Registered Professional Engineer and/or Land Surveyor</p> <p><i>John W. West</i></p> <p>Certificate No. 676</p>

0 330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600 6930 7260 7590 7920 8250 8580 8910 9240 9570 9900

Case 5587

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

KELLAHIN AND FOX
ATTORNEYS AT LAW
500 DON GASPAR AVENUE
POST OFFICE BOX 1769
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315
AREA CODE 505

October 21, 1975

Mr. Joe D. Ramey, Secretary-Director
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

Enclosed is the application of Pennzoil Company
for approval of down-hole commingling of production
from the Morrow and the Atoka formations, Eddy County,
New Mexico.

Yours very truly,

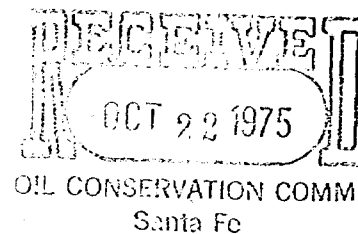
Jason W. Kellahin
Jason W. Kellahin

CC: J. C. Raney
Pennzoil Company

JWK:kjf

Enclosure

DOCKET MAILED
Date 11/10/75



Case 5587

OIL CONSERVATION COMMISSION
Santa Fe

BEFORE THE

OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF PENNZOIL COMPANY FOR APPROVAL
OF DOWN-HOLE COMMINGLING, EDDY
COUNTY, NEW MEXICO

A P P L I C A T I O N

Comes now Pennzoil Company and applies to the Oil Conservation Commission of New Mexico for approval of down-hole commingling of production from the Morrow and the Atoka formations in its well, located 1980 feet from the South line and 990 feet from the West line of Section 6, Township 23 South, Range 27 East, N.M.P.M., Eddy County, New Mexico, South Carlsbad Field, and in support thereof would show the Commission:

1. The subject well is presently completed as a Morrow-Strawn dual completion, ~~with the W/2 of Section 6 dedicated to the well.~~ (W/2 Morrow and S/2 Strawn) *correct to show W/2*
2. Applicant proposes to perforate the Atoka formation from approximately 10,850 feet to 10,950 feet.
3. Production will be through two strings of tubing, with the Strawn formation isolated from the Morrow-Atoka completion by a packer. Production from the Morrow and Atoka will be through a separate string of tubing, under a packer.
4. Approval of this application will result in the production of hydrocarbons that would not otherwise be recovered, and will result in the prevention of waste, avoid premature abandonment of production from the well, and is in the interests of conservation. The commingling, and

completion of the well as proposed will not impair the
correlative rights of any interest owner.

WHEREFORE applicant prays that this application be
set for hearing before the Commission or the Commission's
duly appointed examiner, and that after notice and hearing as
required by law, the Commission enter its order approving
the commingling of production as applied for.

Respectfully submitted,

PENNZOIL COMPANY

By Jason W. Kellahin

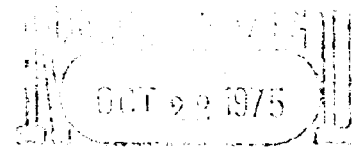
Kellahin & Fox

P. O. Box 1769

Santa Fe, New Mexico 87501

Attorneys for Applicant

Case 5587



OIL CONSERVATION COMM.
Santa Fe

BEFORE THE

OIL CONSERVATION COMMISSION OF NEW MEXICO

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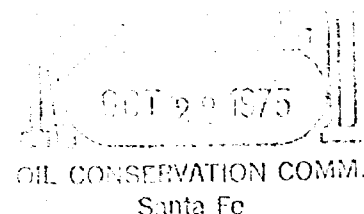
PENNZOIL COMPANY

By Jason W. Kellahin

Kellahin & Fox
P. O. Box 1769
Santa Fe, New Mexico 87501

Attorneys for Applicant

Case 5587



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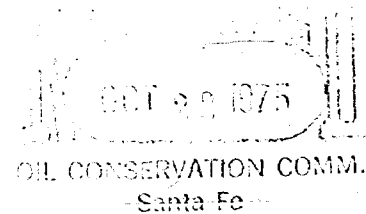
PENNZOIL COMPANY

By _____

Kellahin & Fox
P. O. Box 1769
Santa Fe, New Mexico 87501

Attorneys for Applicant

Case 5587



BEFORE THE
OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF PENNZOIL COMPANY FOR APPROVAL
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PENNZOIL COMPANY

By Jason W. Kellahin

Kellahin & Fox
P. O. Box 1769
Santa Fe, New Mexico 87501

Attorneys for Applicant

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. 5587

Order No. R- 5128

APPLICATION OF PENNZOIL COMPANY
FOR DOWNHOLE COMMINGLING, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 19,
19 75, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this day of November, 1975, 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, Pennzoil Company, is the
owner and operator of the Gulf Federal Well No. 2, located
in Unit L of Section 6, Township 23 South, Range
27 East, NMPM, Eddy County, New Mexico.

~~(3) That the applicant seeks authority to commingle~~
~~Morrow and Atoka production~~
~~within the wellbore of the above-described well.~~

(4) That from the Morrow zone, the
subject well is capable of low marginal production only.

(5) That from the Atoka zone, the
subject well is capable of low marginal production only.

(6) That the proposed commingling may result in the recovery
of additional hydrocarbons from each of the subject pools, thereby
preventing waste, and will not violate correlative rights.

(3) That pursuant to the provisions of Commission Order
MC-1978, said well is presently actually completed to pro-
duce gas from the Strawn and Narrow formations
through parallel strings of tubing with separation of the zones
accomplished by means of a packer set at approximately
11,311 feet.

(4) That the applicant proposes to open additional perfora-
tions in said well in the Atoka formation and to commingle
production from the Atoka and Narrow formations

and to produce said
commingled production
through one string of tubing, and to continue to produce the
formation through the other string of tubing, and to accomplish
separation of the Strawn and the combined Atoka-Narrow zones by means
of a packer set at approximately 11,800 feet.