

Case 4225: Application of HANAGAN
for a DUE
RECONSTRUCTION, WEST COUNTY, N. MEX.

OK

CASE No.

4825

Application,

Transcripts,

Small Exhibits

ETC.

dearnley, meier & mc cormick

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
CONFERENCE HALL, STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
September 13, 1972

EXAMINER HEARING

IN THE MATTER OF:

Application of Hanagan Petroleum
Corporation for dual completion,
Eddy County, New Mexico.

a n d

Application of Hanagan Petroleum
Corporation for pool creating,
special pool rules, and an
unorthodox location, Eddy County,
New Mexico.

CASE NO. 4825

CASE NO. 4826

BEFORE: Daniel S. Nutter
Examiner

TRANSCRIPT OF HEARING

dearnley, meier & mc cormick

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1 MR. NUTTER: Case 4825.

2 MR. HATCH: Application of Hanagan Petroleum
3 Corporation for dual completion, Eddy County, New Mexico.

4 MR. MORRIS: Mr. Examiner, I'm Richard Morris
5 of Montgomery, Federici, Andrews, Hannahs, and Morris,
6 appearing for the Applicant.

7 May I request that this case be consolidated,
8 for purposes of testimony, with Case Number 4826?

9 MR. NUTTER: The dual completion and 4825 involves
10 the same acreage that's involved in 4826?

11 MR. MORRIS: Yes, sir.

12 MR. NUTTER: We'll call Case Number 4826, also.

13 MR. HATCH: Application of Hanagan Petroleum
14 Corporation for pool creation, special pool rules, and an
15 unorthodox location, Eddy County, New Mexico.

16 MR. NUTTER: Cases 4825 and 4826 will be
17 consolidated for the purpose of hearing.

18 MR. MORRIS: May I ask that the witness be

19 sworn?

20 HUGH HANAGAN,

21 appeared as a witness and, having been duly sworn according to
22 law, testified as follows:

23 DIRECT EXAMINATION

24 BY MR. MORRIS:

25 Q Will you state your name, where you reside, and your

1 position with the Applicant, please?

2 A My name is Hugh Hanagan and I live in Roswell, New
3 Mexico. I'm Vice-president of Hanagan Petroleum
4 Corporation.

5 Q Mr. Hanagan, what does the Applicant seek in Case
6 4825?

7 A Hanagan Petroleum Corporation seeks approval for
8 dual completion (conventional) of its Catclaw Draw
9 Unit Well Number 3, located 920 feet from the north
10 and west lines of Section 36, Township 21 South, Range
11 25 East, Eddy County, New Mexico, in order to produce
12 gas from the Strawn formation through tubing and gas
13 from the Morrow formation through the casing tubing
14 annulus.

15 Q Please state the location of this well and the manner
16 in which it is presently completed.

17 A Hanagan Petroleum Corporation Number 3 Catclaw Draw
18 Unit well is located approximately five miles west of
19 Carlsbad, New Mexico. It is in the Catclaw Draw unit
20 with Hanagan Petroleum Corporation being the operator,
21 and is a diagonal SE offset to the Number 1 "Y" Catclaw
22 Draw Unit well in Section 26, 21 South, 25 East, which
23 produces from the Morrow only. The subject well was
24 dually completed from the Strawn and Morrow on August
25 7, 1972, and is presently shut-in. There are no Strawn

1 producing wells in the area. However, Inexco Oil
2 Company does have a dually completed Strawn-Morrow
3 well approximately three miles northeast of this in
4 Section 18, 21 South, 26 East, which is also in the
5 process of acquiring approval for a dual completion
6 from the Strawn-Morrow formation, which were heard
7 today in Case 4828.

8 Q Have you prepared Exhibits in support of this
9 Application?

10 A Yes, I have prepared four Exhibits.

11 Exhibit Number 1 is a lease ownership plat of the
12 area.

13 Q All right. Would you go ahead and explain what is
14 shown on that Exhibit at this time?

15 A This Exhibit primarily shows the lease ownership of
16 the area. The outlined area in red is the area
17 covered in the Catclaw Draw unit. The area colored
18 blue is the section that we wish to dedicate towards
19 this well. The red circled wells are the two Strawn
20 wells I mentioned, one being in Section 36 of 21, 25.
21 The other was Inexco's well in Section 18, of 21, 26.
22 The yellow colored wells are Morrow wells only. The
23 gray colored wells are dry holes. The green well to
24 the south of our Catclaw 3 in Section 1 of 22, 25, is
25 a Canyon gas producer. I believe that pretty well

1 covers that plat.

2 Q You have your Wells 5 and 6 shown on this plat. What
3 is the status of those two unit wells?

4 A Catclaw Well Number 5, located in Section 25, 21, 25,
5 is presently being perforated, and it will probably
6 be a Morrow well only. The well, Catclaw Number 6
7 well, in Section 13, of 21, 25, is presently drilling
8 below 2,800 feet.

9 Q Please refer to your Exhibit Number 2, the Commission
10 form C-107.

11 A This Exhibit Number 2, which is a New Mexico Oil
12 Conservation Form C-107, is an Application for multiple
13 completion. It was filed by Hanagan Petroleum
14 Corporation on August 8, 1972, and it merely shows
15 where the Strawn is perforated and that it is a gas
16 well and where the Morrow was perforated and we merely
17 included this to show that we have filed with the
18 Commission not only this form C-107 previously, but
19 also the next Exhibit was also filed at the same time,
20 which is titled A Schematic Dual Completion.

21 Q Go ahead and discuss that Exhibit Number 3.

22 A Exhibit Number 3, titled A Schematic Dual Completion
23 Catclaw Draw Well Number 3, shows how the well is
24 completed, the downhole equipment in the well, the
25 casing and so forth. The Hanagan Petroleum Corporation

dearnley, meier & mc cormick

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1 Number 3 Catclaw Draw unit was completed August 7,
2 1972, from the Morrow for a calculated absolute open-
3 flow of 5,000 MCF of gas per day and from the Strawn,
4 a calculated absolute open-flow of 5,200 MCF of gas
5 per day.

6 We have 13-3/8 inch casing set at 493 feet,
7 with 350 sacks of cement circulated. We have 8-5/8 inch
8 casing set at 2,130 feet, with 950 sacks of cement
9 circulated. We have 5-1/2 inch casing at 10,993 feet
10 with 350 sacks of cement and a Float Collar at
11 10,895 feet. The Morrow is perforated from 10,810
12 feet to 10,826 feet with four shots per foot on a
13 four point test. The dead weight test was 3,254
14 pounds, 36 hour shut-in bottomhole pressure test was
15 4,422, that is a minus 7,338, which we take our bottom-
16 hole pressure as midway between the perforations.

17 The Strawn is perforated at 9,544 to 9,560 feet
18 with four shots per foot; midway test, 2,769 pounds;
19 55 and 1/2 hour shut in bottomhole pressure, 3,860
20 pounds, that's minus 6,072.

21 We have, as you can see on the diagram here,
22 two packers separating the two zones. We have all
23 the equipment, downhole equipment here, is Otis, and
24 it is a cross-over type of arrangement. In that, we
25 flow the Morrow gas through the tubing annulus and the

1 Strawn gas through the tubing. I think that the
2 diagram here is self-explanatory, but if the
3 Commission requests, we will try to answer any question
4 you might have.

5 MR. NUTTER: Just tell me what this 5-1/2 inch
6 Otis O.S.T.S.O. means.

7 THE WITNESS: That's the sliding sleeve.

8 MR. NUTTER: That's a lot of letters to say sliding
9 sleeve.

10 THE WITNESS: I think that's what it is. I
11 think that's what they call a side door sliding sleeve and
12 it's an Otis term, of course.

13 MR. NUTTER: That's the thing above that. That's
14 a sliding side door sleeve.

15 THE WITNESS: I don't know what it is. It's
16 the engineer who drew this one up.

17 Q (By Mr. Morris) Mr. Hanagan, can you supply to
18 Mr. Nutter by letter, the explanation of those
19 initials and what that particular piece of equipment
20 is?

21 A I will delve into it.

22 Q Would you please refer to your log, Exhibit 4, and
23 point out the information shown on that log?

24 A Well, the electric log section, which is just a
25 detailed part of the Schlumberger density log, shows

1 a detailed section, possibly 9,500 feet to the total
2 depth. On this log, is the correlations of the top
3 of the formations in this section lifted. The Strawn
4 is picked at 9,492, which is a minus of 6,012. It
5 shows a perforated interval, calculated absolute open-
6 flow and it also shows some of the reservoir
7 characteristics, which I think we'll talk about a
8 little later. And it also shows, it picks the top
9 of the Atoka formation at 9,184, the bottom point here
10 at 10,448, and the base of the Morrow sand at 10,826
11 and it shows the perforated intervals at 10,810 to
12 10,826. And, again, showing the calculated absolute
13 open-flow and reservoir characteristics for that zone.

14 Q Now, you are going to discuss the four point test in
15 connection with the Application in the next Case?

16 A Either way.

17 Q Okay. Mr. Hanagan, in your opinion, is the installation
18 as exhibited on Exhibit Number 3 in accordance with
19 good engineering practices, and can this well be
20 produced in accordance with this installation without
21 causing waste?

22 A Yes.

23 Q Let's proceed to your Application in Case 4826. What
24 is it that Hanagan Petroleum Corporation seeks in
25 this Case?

- 1 A In Case Number 4826, Hanagan Petroleum Corporation
2 seeks the creation of a new Strawn gas pool for it's
3 Number 3 Catclaw Draw Unit well located in Section
4 36, of 21 South, 25 East. It further seeks a special
5 field rule establishing 640 acre spacing units
6 comprising all of Section 36, 21 South, 25 East. All
7 of this section is within the unit area. Further, it
8 wishes to establish the future wells being drilled in
9 this pool be not nearer than 1,650 feet to the outer
10 boundary of the section and no nearer than 330 feet to
11 any governmental quarter section line, border section
12 line. This is the same request that Inexco had made
13 earlier in Case 4815.
- 14 Q Also, is this in conformity with the rules that are
15 in effect with respect to the Morrow formation and
16 the Catclaw Draw-Morrow Pool?
- 17 A They are exactly the same special rules. We further
18 seek approval of an unorthodox location for the subject
19 well. The Catclaw Draw unit well was drilled as a
20 Morrow development well 920 feet from the north and
21 west line of Section 36, 21 South, 25 East, due to
22 the topography. This unorthodox location for the
23 Morrow was approved by the Commission by administrative
24 Order NSL-552, dated May 9, 1972. We ask at this
25 time that the Commission also approve the Strawn completion

1 at an unorthodox location of 920 feet from the north
2 and west line of Section 36, 21 South, 25 East, due
3 to the topography.

4 Q Now, have you prepared some Exhibits in support of
5 this Application?

6 A Yes, I have two Exhibits. Exhibit Number 1 again, is
7 a lease ownership plat and superimposed upon the
8 ownership plat is a structural surface plat drawn on
9 top of the Strawn. And Exhibit Number 2 is again, just
10 an electric log, formation density log of the subject
11 well.

12 Q All right. Now, with respect to Exhibit Number 1, is
13 there information shown on this Exhibit that you wish
14 to explain?

15 A Well, I think that, first, as you can see, it is
16 exactly the same lease ownership plat as Exhibit Number
17 1 in Case 4825, with the exception of the superimposed
18 structure map on it. And looking at this map, the
19 subject well, which is located in Section 36, 21, 25,
20 appears as interpreted here on the flanks of the
21 structure. Therefore, it is our opinion that the
22 Strawn is more of a stratigraphic-type trap than a
23 structural trap. It is associated with a structure,
24 but is definitely of a stratigraphic nature. The trend
25 of it appears to be essentially the same as the

1 Morrow, trend-wise. Also, you can see on this plat,
2 again, that the only two wells that are presently
3 producing out of the Strawn are the subject well and
4 Inexco's wells in Section 18, 21 South, 26 East. The
5 yellow X's on there, of course, denote the present
6 sections that are included in the Catclaw Draw-Morrow
7 field at the present time.

8 Q On the basis of limited information presently
9 available, can anything be said about the areal
10 extent of the Strawn formation in this area?

11 A Really, I can't at the present time, I'm sorry to
12 say. As far as I'm concerned, I can't say how much
13 area this Strawn is going to cover in production. As
14 you can see from the plat here, we have wells north,
15 northwest, south and southwest, which have not
16 encountered this pay. Therefore, the areal extent of
17 it at this time would be just conjecture.

18 Q Would you please refer to Exhibit 2, the electric log,
19 and point out information that's shown on that Exhibit
20 concerning the producing characteristics of this Strawn
21 formation?

22 A Well, Exhibit Number 2, which is a log section, first,
23 really does include everything from the bone springs
24 at 7,720, all the way down to the TD. It merely shows
25 the log picks, or the formation's tops, and we picked

1 them. The Strawn pay itself, which is located at
2 9,544 to 9,560, colored in yellow, we have come up
3 with the figures of 16 feet of pay, nine perforations,
4 10 percent water saturation. It is a quartziferous
5 sand. The gravity at the point is 6,950. It is a
6 sweet gas, bottomhole temperature is 120 degrees. I
7 believe that covers it pretty well.

8 Q Did you want to discuss your four point test in this?

9 A All right. The four point test, I don't believe the
10 Commission is particularly interested in the Morrow
11 four point, but I believe you just would be interested
12 in the Strawn, is that correct?

13 MR. NUTTER: Yes, sir.

14 A The four point test in the Strawn is as follows:
15 Dead weight test, 2,769 -- all four points were taken
16 on a positive choke. The choke sizes were as
17 follows: 964; 1094; 1394; and 1464. The tubing
18 pressures in order of the choke sizes there previously
19 mentioned were 2,607 pounds; 2,374 pounds; 2,011 pounds;
20 1,819 pounds. The duration of the test was one hour
21 for each point or each choke size. The flow rate in
22 MCFs beginning again with the small choke were:
23 1,998 MCF; 1,453.4 MCF; 1,234.4 MCF; 2,926.2 MCF; for
24 a calculated absolute open-flow of 52 MCF of gas per
25 day.

1 Q Mr. Hanagan, in view of the limited information that
2 is available on the Strawn zone formation in this
3 area, can you make any observations concerning the
4 ability of one well to efficiently and economically
5 drain and develop an area of 640 acres in the Strawn
6 zone?

7 A Well, that's always a big question mark, even after
8 we complete wells. It kind of brings me back to the
9 time that that same question was asked in the early
10 stages of the Indian Basin Field. It was really
11 questionable whether the reservoir was large enough
12 to drain 640 acres or not. I think it's pretty much
13 the same case now. I don't believe that any operator
14 or anyone can come here with one well and say what area
15 it's going to drain. I do think that the gas that
16 is there, we will efficiently and economically get.
17 And since we are really talking about this temporary
18 special field rules, if it was a permanent situation
19 where we were talking about permanent rules, then
20 perhaps I would question the decision of making 640
21 acres east of the operation. But since it is a
22 temporary situation, I think that it certainly would
23 not, or could not, be proved that it would not drain
24 efficiently; certainly, from the economical standpoint
25 at the present time, we would not care to develop it on

1 the west.

2 Q So, as a matter of correlative rights, as well as
3 preservation of waste, you want the field rules for
4 the Strawn to be identical with the Morrow, which is
5 the predominant producing formation in this area?

6 A I think so. I think it would lead to a more orderly
7 development of the area.

8 MR. MORRIS: Mr. Examiner, we would like to offer
9 into evidence, at this time, Exhibits 1, 2, 3, and 4 in Case
10 4825; and Exhibits 1 and 2 in Case 4826.

11 MR. NUTTER: The Exhibits will be admitted into
12 evidence.

13 (Whereupon, Applicant's Exhibits 1, 2, 3, and 4
14 in Case Number 4825 and Exhibits 1 and 2 in
15 Case Number 4826 were marked and admitted into
16 evidence.)

17 MR. MORRIS: That's all we have on Direct
18 Examination.

19 MR. NUTTER: Are there any questions of the
20 witness?

21 (No response.)

22 * * * * *

23 CROSS-EXAMINATION

24 BY MR. NUTTER:

25 Q Mr. Hanagan, you mentioned that you were proposing

1 temporary rules for what time?

2 A Well, I think, normally, a year.

3 Q From the date of completion?

4 A Yes, sir. And speaking of completions, this well
5 should be connected within the next 30 days.

6 Q Who is going to be the purchaser?

7 A Llano.

8 Q Now, Mr. Hanagan, does the Morrow produce any liquids
9 with this five million cubic feet of gas per day?

10 A Again, we haven't tested these wells with any
11 equipment to sufficiently say how much liquids we
12 are making out of either zone. We feel that based
13 on other fields and on the analysis, strictly from the
14 analysis, we are getting good evidence that it
15 is going to be pretty dry, three to four barrels per
16 million, something like that. Now, that was another
17 one reason to produce the Strawn tubing now. We feel,
18 again, by analysis that the Strawn and also from the
19 history of the Strawn that we would produce more liquids
20 than we wanted to produce liquids through that tubing.

21 Q Now, let's see, I think somewhere here I saw the
22 gravity of the gas here on your log. I believe it was
23 695.

24 Do you have the gravity of the Morrow gas?

25 A Yes, sir, 5,839.

1 Q Is it also a sweet gas?

2 A Yes, sir, they are both sweet gases.

3 Q And the bottomhole pressure differential across the
4 packers would be somewhere in the neighborhood of
5 600 pounds, I believe?

6 A Five hundred pounds.

7 Q Would that packer withstand that differential?

8 A Yes, sir. We have, show packers are set in by tension
9 instead of by weight and the whole string from the
10 base of the bottom packer to the top surface is set at
11 a 4,000 pound tension. And we feel like there
12 wouldn't be much of anything that could happen.

13 MR. NUTTER: Are there further questions of the
14 witness?

15 (No response.)

16 MR. NUTTER: He may be excused.

17 (Witness excused.)

18 MR. NUTTER: Do you have anything further,
19 Mr. Morris, in these Cases?

20 MR. MORRIS: We will supply the Examiner with an
21 explanation of O.S.T.S.O., as shown on Exhibit 3 in Case
22 4825. But other than that, we have nothing further in the
23 Cases. Thank you.

24 MR. NUTTER: Thank you, Mr. Morris. If there's
25 nothing else in the Cases 4825 and 4826, we will take them

dearnley, meier & mc cormick

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1 under advisement and call Case Number 4827.
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1 STATE OF NEW MEXICO)
2) ss
3 COUNTY OF BERNALILLO)

4 I, JOHN DE LA ROSA, a Court Reporter, in and for the
5 County of Bernalillo, State of New Mexico, do hereby certify
6 that the foregoing and attached Transcript of Hearing
7 before the New Mexico Oil Conservation Commission was
8 reported by me; and that the same is a true and correct record
9 of the said proceedings to the best of my knowledge, skill
10 and ability.
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John De la Rosa
COURT REPORTER

7/13 4865-06
1972

dearnley, meier & mc cormick
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OIL CONSERVATION COMMISSION
MEXICO

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

**GOVERNOR
BRUCE KING
CHAIRMAN
LAND COMMISSIONER
ALEX J. ARMJO
MEMBER
STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR**

September 19, 1972

Mr. Richard Morris
Montgomery, Federici, Andrews,
Hanna & Morris
Attorneys at Law
Post Office Box 2307
Santa Fe, New Mexico

Re: Case No. 4825
Order No. R-4399
Applicant:
Hanagan Petroleum Corp.

Dear Sir:

Dear Sir:

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

very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC _____ x
Artesia OCC _____ x
Aztec OCC _____

other

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 4825
Order No. R-4399

APPLICATION OF HANAGAN PETROLEUM
CORPORATION FOR A DUAL COMPLETION,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
September 13, 1972, at Santa Fe, New Mexico, before Examiner
Daniel S. Nutter.

NOW, on this 18th day of September, 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, Hanagan Petroleum Corporation,
seeks authority to complete its Catclaw Draw Unit Well No. 3,
located in Unit D of Section 36, Township 21 South, Range 25
East, NMPM, Eddy County, New Mexico, as a dual completion (con-
ventional) to produce gas from the Catclaw Draw-Strawn Gas Pool
through tubing and from the Catclaw Draw-Morrow Gas Pool through
the casing-tubing annulus by means of a cross-over flow assembly
with separation of zones by packers set at approximately 9,453
feet and 10,409 feet.

(3) That the mechanics of the proposed dual completion
are feasible and in accord with good conservation practices.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Hanagan Petroleum Corporation,
is hereby authorized to complete its Catclaw Draw Unit Well

-2-

CASE NO. 4825
Order No. R-4399

No. 3, located in Unit D of Section 36, Township 21 South, Range 25 East, NMPM, Eddy County, New Mexico, as a dual completion (conventional) to produce gas from the Catclaw Draw-Strawn Gas Pool through tubing and from the Catclaw Draw-Morrow Gas Pool through the casing-tubing annulus by means of a cross-over flow assembly with separation of zones by packers set at approximately 9,453 feet and 10,409 feet;

PROVIDED HOWEVER, 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;

PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Shut-in Test Period for the Catclaw Draw-Morrow Gas Pool.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



Bruce King
BRUCE KING, Chairman

Alex J. Arrijo
ALEX J. ARRIJO, Member

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

S E A L

dr/

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 13, 1972

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 Elvis A. Utz, Alternate Examiner:

ALLOWABLE: (1) Consideration of the allowable production of gas for October, 1972, from seventeen prorated pools in Lea, Eddy, Chaves and Roosevelt 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 October, 1972.

CASE 4808: Application of Skelly Oil Company for a waterflood expansion and dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks to expand its Grayburg-Jackson Skelly Unit Waterflood Project, Grayburg-Jackson Pool, Eddy County, New Mexico, by the injection of water through its Unit Well No. 114 located in Unit D of Section 14, Township 17 South, Range 31 East. Said Well No. 114 to be completed as a dual completion in such a manner as to permit the production of oil from the Fren-Sevens Rivers Pool and the injection of water into the Grayburg-Jackson Pool.

CASE 4809: Application of Saturn Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Antebellum Unit Area comprising 3,840 acres, more or less, of State and Federal lands in Township 23 South, Range 34 East, Lea County, New Mexico.

CASE 4810: In the matter of the application of the Oil Conservation Commission on its own motion to consider the revision of the special rules for the Devils Fork Gallup Associated Pool and the Escrito Gallup Associated Pool, Rio Arriba and San Juan Counties, New Mexico, promulgated by Orders Nos. R-1670-B and R-1793-A, respectively, to permit taking of gas-oil ratio and bottom-hole pressure tests on an annual basis rather than quarterly and semi-annually, as is now required.

CASE 4747: (Continued from the July 26, 1972, Examiner Hearing)

Application of Union Texas Petroleum, a Division of Allied Chemical Corporation for compulsory pooling, Lea County, New Mexico, Applicant, in the above-styled cause, seeks an order pooling all mineral interests below the base of the Devonian formation underlying the $\frac{1}{2}$ of Section 33, Township 25 South, Range 37 East, Crosby Field, Lea County, New Mexico. Said acreage to be dedicated to its well to be located 1650 feet from the North line and 2310 feet from the East line of said Section 33. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4577: (Reopened)

In the matter of Case 4577 being reopened pursuant to the provisions of Order No. R-4181, which order established special rules and regulations for the Parkway-Wolfcamp Pool, Eddy County, New Mexico, including a provision for 160-acre spacing units. All interested persons may appear and show cause why said pool should not be developed on 40-acre or 80-acre spacing units.

CASE 4811: Application of Atlantic Richfield Company for a non-standard proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 120-acre non-standard gas proration unit comprising the N/2 SE/4 and NE/4 SW/4 of Section 36, Township 21 South, Range 37 East, Blinbry Gas Pool, Lea County, New Mexico, to be dedicated to its State 367 Well No. 3 located in Unit K of said Section 36.

CASE 4812: Application of Midwest Oil Corporation for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks as an exception to Rule 104, authority to drill a wildcat gas well to test the Morrow formation at an unorthodox location 1320 feet from the South and East lines of Section 1, Township 18 South, Range 28 East, Eddy County, New Mexico, with the S/2 of said Section 1 to be dedicated to the well.

CASE 4813: Application of Inexco Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Sitting Bull Unit Area comprising 6,665 acres, more or less, of Federal lands in Sections 28, 29, 31, 32, and 33 of Township 23 South, Range 22 East, and Sections 4 through 9 of Township 24 South, Range 22 East, Eddy County, New Mexico.

CASE 4814: Application of Inexco Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Four Forks Unit Area comprising 3,133 acres, more or less, of Federal and Fee lands in Sections 3, 10, 11, 14 and 15 of Township 22 South, Range 25 East, Eddy County, New Mexico.

CASE 4815: Application of Inexco Oil Company for pool creation and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Strawn gas pool for its well located 1980 feet from the South and West lines of Section 18, Township 21 South, Range 26 East, Eddy County, New Mexico. Applicant further seeks the promulgation of special rules therefor, including a provision for 640-acre spacing units.

CASE 4816: Application of Penroc Oil Corporation for a special gas-oil ratio limitation increase, Lea County, New Mexico. Applicant, in the above-styled cause, seeks amendment of the special rules and regulations for the Hobbs-Drinkard Pool promulgated by Order No. R-3811, as amended,

(Case 4816 continued from Page 2)

to establish a limiting gas-oil ratio limitation of 6,000 cubic feet of gas per barrel of oil in said pool.

CASE 4817: Application of Phillips Petroleum Company for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Drag "B" Well No. 1 located in Unit K of Section 18, Township 23 South, Range 27 East, Eddy County, New Mexico, in such a manner as to produce gas from the South Carlsbad-Morrow Gas Pool through tubing and an undesignated Canyon gas pool through the casing-tubing annulus.

CASE 4818: Application of Tipperary Land and Exploration Corporation for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the North Bagley-Pennsylvanian Pool by the injection of water into the Strawn and possibly other formations by the injection of water through its Bess Well No. 1 located 660 feet from the North line and 1980 feet from the East line of Section 20, Township 11 South, Range 33 East, Lea County, New Mexico.

CASE 4819: Application of D. L. Hannifin for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in and under the S/2 of Section 24, Township 22 South, Range 26 East, South Carlsbad Field, Eddy County, New Mexico, to be dedicated to a well to be drilled 1980 feet from the South and East lines of said Section 24. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4820: Application of Anadarko Production Company for the creation of an associated pool, special rules therefor, downhole and surface commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new associated pool for the production of oil and gas from the Yates and Seven Rivers formations for its Loco Hills Federal "B" Wells Nos. 1 and 8 located, respectively, in Units P and K of Section 9, Township 17 South, Range 30 East, Eddy County, New Mexico, and the promulgation of special rules therefor including provisions for the classification of oil and gas wells, oil and gas well spacing, and an unlimited gas-oil ratio.

Applicant further seeks authority to commingle in the well-bore of said Well No. 1 the Yates-Seven Rivers production from the newly created pool and the Grayburg-Jackson Pool and to commingle on the surface the Yates-Seven Rivers production from said Well No. 8 with production from the Grayburg-Jackson Pool.

CASE 4821: Application of Getty Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks as an exception

(Case 4821 continued from Page 3)

to Rule 303 of the Commission Rules and Regulations, authority to commingle production from the North Vacuum-Abo, Vacuum-Wolfcamp, and Vacuum-Pennsylvanian Pools in the wellbore of its State "BA" Well No. 8 located in Unit B of Section 36, Township 17 South, Range 34 East, Lea County, New Mexico.

CASE 4822: Application of Getty Oil Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox location for its State "BA" Well No. 9 located 660 feet from the North line and 2310 feet from the East line of Section 36, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico. Said well being nearer than 660 feet to another well capable of producing from the same pool.

CASE 4823: Application of Getty Oil Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox location for its A. B. Coates "C" Well No. 28 located 1820 feet from the North and West lines of Section 24, Township 25 South, Range 37 East, Justis Blinbry Pool, Lea County, New Mexico. Said well being located nearer than 660 feet to another well capable of producing from the same pool.

CASE 4824: Application of Getty Oil Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox location for its H. D. McKinley Well No. 11 located 760 feet from the North line and 550 feet from the East line of Section 30, Township 18 South, Range 38 East, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico. Said well being nearer than 660 feet to another well capable of producing from the same pool.

CASE 4825: Application of Hanagan Petroleum Corporation for dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Catclaw Draw Unit Well No. 3 located in Unit D of Section 36, Township 21 South, Range 25 East, Eddy County, New Mexico, in such a manner as to produce gas from an undesignated Strawn gas pool through tubing and from the Catclaw Draw-Morrow Gas Pool through the casing-tubing annulus.

CASE 4826: Application of Hanagan Petroleum Corporation for pool creation, special pool rules, and an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Strawn gas pool for its well located 920 feet from the North and West lines of Section 36, Township 21 South, Range 25 East, Eddy County, New Mexico, and the promulgation of special rules therefor, including a provision for 640-acre spacing units. Applicant further seeks approval of an unorthodox location for the above-described well.

CASE 4827: Application of Robert N. Enfield for an unorthodox location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks

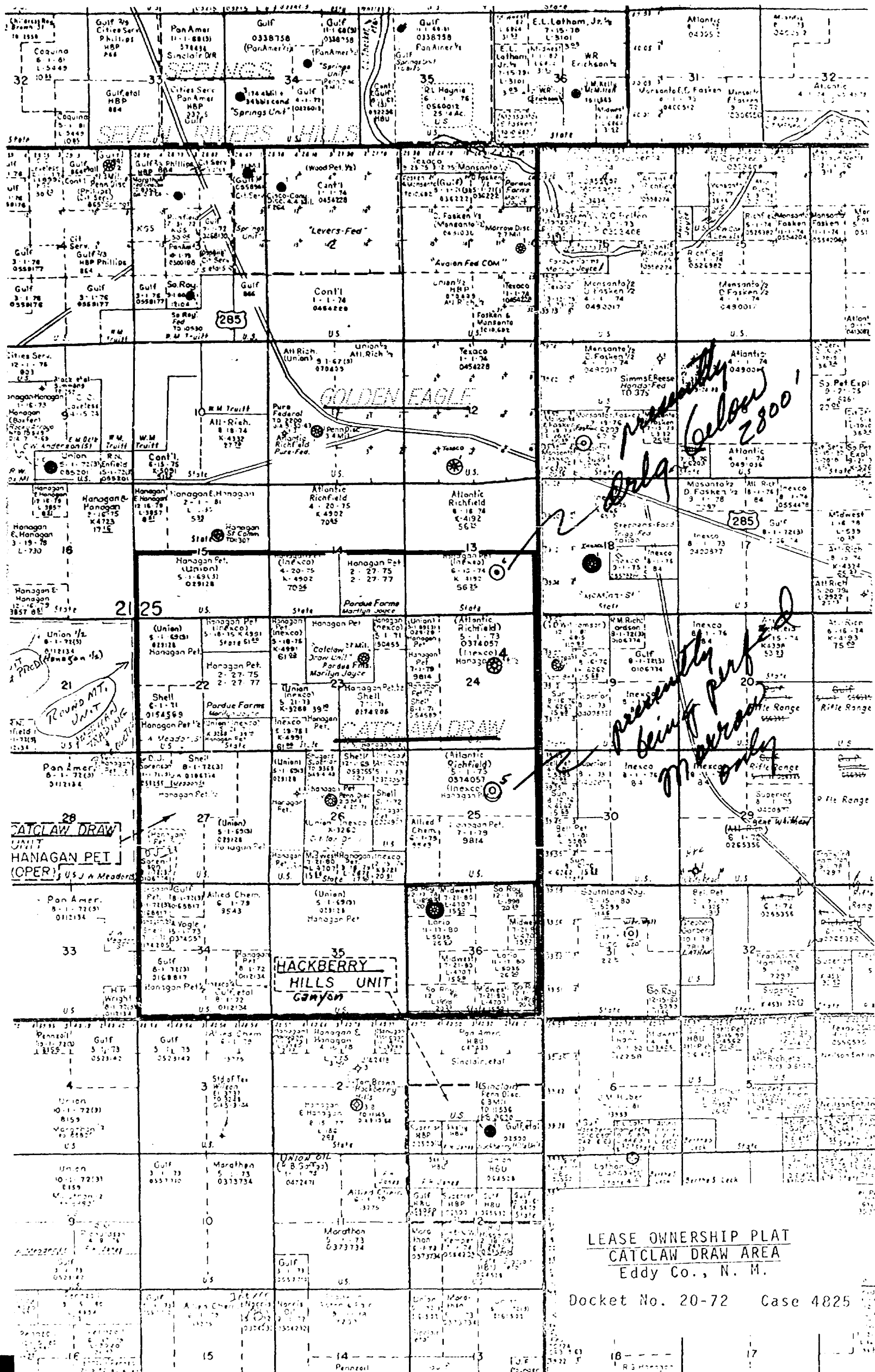
Examiner Hearing - Wednesday - September 13, 1972
-5-

Docket No. 20-72

(Case 4827 continued from Page 4)

authority to drill a gas well at an off-pattern unorthodox location 990 feet from the North and East lines of Section 11, Township 15 South, Range 27 East, Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico, with the E/2 of said Section 11 to be dedicated to the well.

CASE 4828: Application of Inexco Oil Company for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority for the dual completion of its McMinn State Well No. 1 located 1980 feet from the South and West lines of Section 18, Township 21 South, Range 26 East, Eddy County, New Mexico, in such a manner as to produce gas from the Strawn formation and the Morrow formation adjacent to the Catclaw Draw-Morrow Gas Pool.



NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
APPLICATION FOR MULTIPLE COMPLETION

Form O-107
6-1-61

Operator Hanagan Petroleum Corporation		County Eddy	Date 8/8/72
Address P.O. Box 1737, Roswell, N. Mex. 88201		Lease Catchlaw Draw Unit	Well No. 3
Location of Well D	Section 36	Township 21 South	Range 25 East

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES _____ NO X
2. If answer is yes, identify one such instance: Order No. _____; Operator Lease, and Well No.: _____

5. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Wildcat - Strawn		Catchlaw Draw Morrow
b. Top and Bottom of Pay Section (Perforations)	9544-9560		10810-10826
c. Type of production (Oil or Gas)	Gas		Gas
d. Method of Production (Flowing or Artificial Lift)	Flow		Flow

4. The following are attached. (Please check YES or NO)

Yes | No

- ☒ ☐ a. Diagrammatic Sketch of the Multiple 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, location and type of packers and side door chokes, 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 multiple 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 as provided by Rule 112-4.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES _____ NO _____. If answer is yes, give date of such notification _____.

CERTIFICATE: I, the undersigned, state that I am the Vice President of the Hanagan Petroleum Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Form O-107
Dated 8/10/72
Eddy, N.M.

Hugh C. Hanigan
Signature

*If all waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in a nonorthodox well location and/or a non-standard perforation unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

DUAL COMPLETION (TUBING/ANNULUS) CONVEN-
Strawn & Morrow Formations TIONAL

Hanagan Petroleum Corporation
 No. 3 Catclaw Draw Unit
 Sec. 36-21S-25E, Eddy Co., N.M.
 920' FNL & FWL Elev. 3480' KB
 Comp., 8/7/72
 Morrow CAOF 5,000 MCFGPD ✓
 Strawn CAOF 5,200 MCFGPD ✓

13-3/8" csg. set at 493' w/350 sx., cmt. circ.

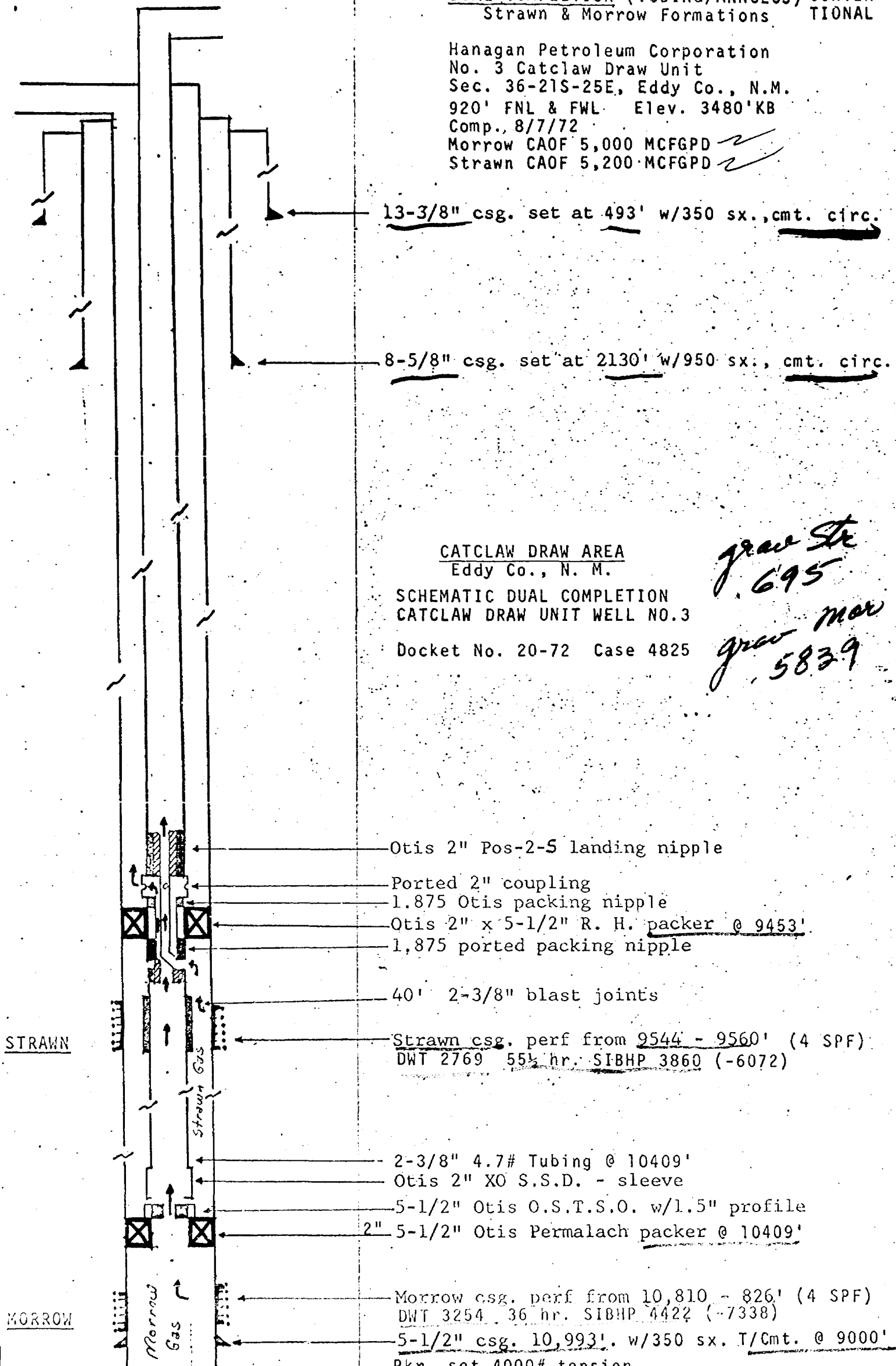
8-5/8" csg. set at 2130' w/950 sx., cmt. circ.

CATCLAW DRAW AREA
Eddy Co., N. M.

SCHEMATIC DUAL COMPLETION
 CATCLAW DRAW UNIT WELL NO.3

Docket No. 20-72 Case 4825

graw str
695
graw mor
5839



J. O. SETH (1883-1963)

A. K. MONTGOMERY
WM. R. FEDERICI
FRANK ANDREWS
FRED C. HANNAHS
RICHARD S. MORRIS
SUMNER G. BUELL
SETH D. MONTGOMERY
FRANK ANDREWS III
OWEN M. LOPEZ
JEFFREY R. BRANNEN
JOHN BENNETT POUND

MONTGOMERY, FEDERICI, ANDREWS, HANNAHS & MORRIS

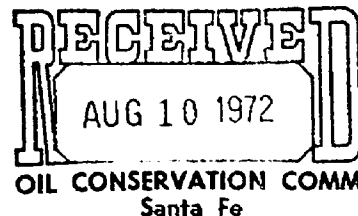
ATTORNEYS AND COUNSELORS AT LAW

350 EAST PALACE AVENUE
SANTA FE, NEW MEXICO 87501

August 9, 1972

Case 4825

POST OFFICE BOX 2307
AREA CODE 505
TELEPHONE 982-3876



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

Gentlemen:

Enclosed in triplicate is Form C-107 with diagrammatic sketch attached concerning the proposed dual completion of the Hanagan Petroleum Corporation Catclaw Draw Unit Well No. 3 located in Unit D of Section 36, Township 21 South, Range 25 East, Eddy County, New Mexico. The two zones involved in this Well have not previously been approved by the Commission for dual completion and therefore we request that this Application be set for hearing. We understand the next Examiner Hearing is scheduled for Wednesday, September 13, 1972.

Very truly yours,

Richard S. Morris

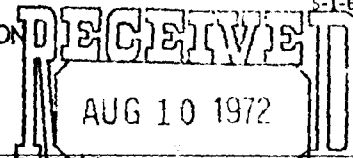
RSM:F
Encls.

cc: Hanagan Petroleum Corporation
P.O. Box 1737
Roswell, N.M. 88201

DOCKED 8-31-72
8-31-72

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
APPLICATION FOR MULTIPLE COMPLETION

Form C-107
5-1-61



Case 4825

Operator Hanagan Petroleum Corporation		County Eddy	Date 8/8/72
Address P.O. Box 1737, Roswell, N. Mex. 88201		Lease Catclaw Draw Unit	Well No. 3
Location of Well D	Unit 36	Township 21 South	Range 25 East

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES _____ NO X
2. If answer is yes, identify one such instance: Order No. _____; Operator Lease, and Well No.: _____

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Wildcat - Strawn		Catclaw Draw Morrow
b. Top and Bottom of Pay Section (Perforations)	9544-9560		10810-10826
c. Type of production (Oil or Gas)	Gas		Gas
d. Method of Production (Flowing or Artificial Lift)	Flow		Flow

4. The following are attached. (Please check YES or NO)

- | Yes | No | |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | a. Diagrammatic Sketch of the Multiple 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, location and type of packers and side door chokes, and such other information as may be pertinent. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 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. |
| <input type="checkbox"/> | <input type="checkbox"/> | c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.* |
| <input type="checkbox"/> | <input type="checkbox"/> | 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 as provided by Rule 112-A.) |

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES _____ NO _____. If answer is yes, give date of such notification _____.

CERTIFICATE: I, the undersigned, state that I am the Vice President of the Hanagan Petroleum Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

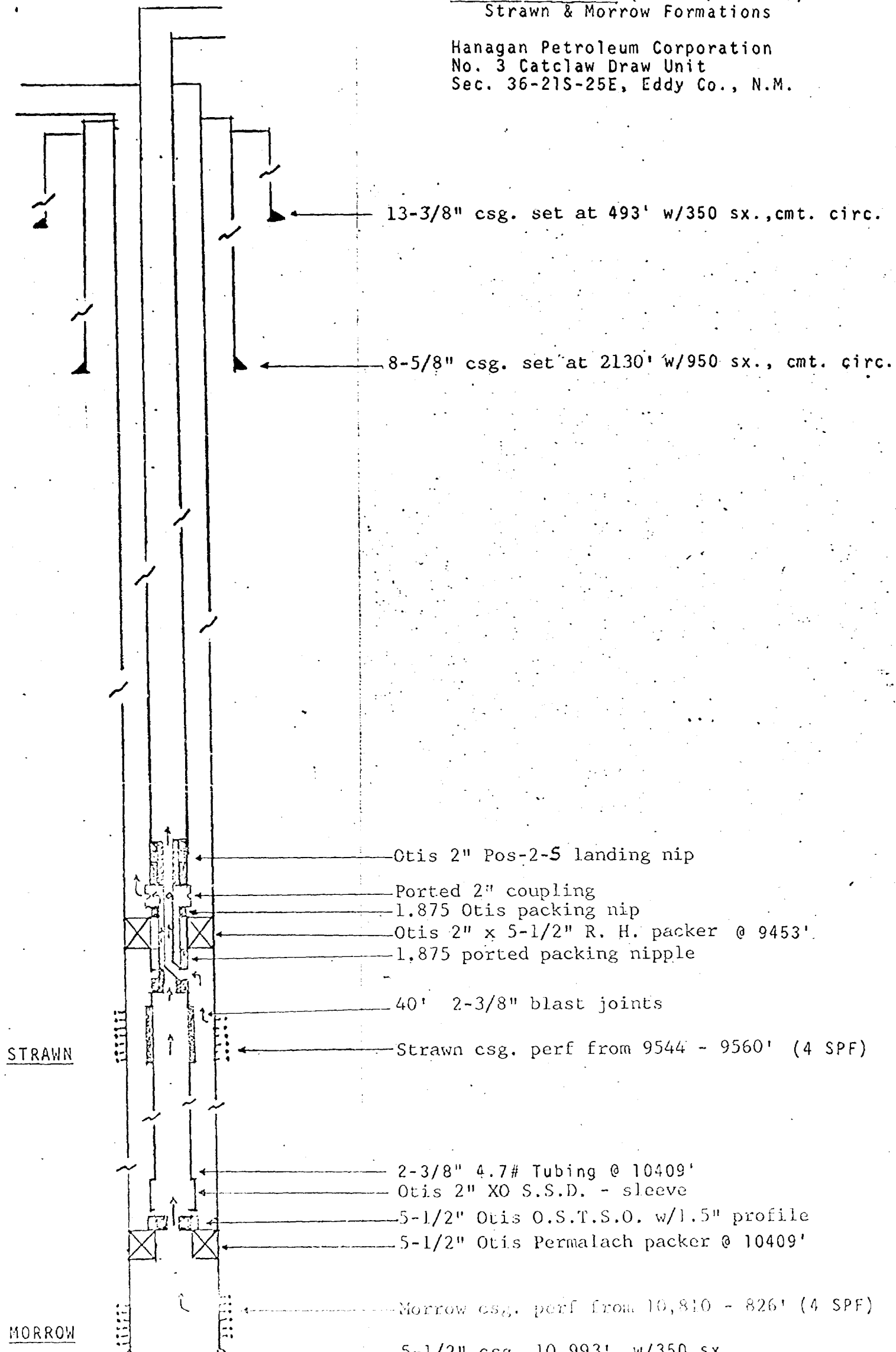
Hugh C. Hanagan
Signature

*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard perforation unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

DUAL COMPLETION (TUBING/ANNULUS)
Strawn & Morrow Formations

Hanagan Petroleum Corporation
 No. 3 Catclaw Draw Unit
 Sec. 36-21S-25E, Eddy Co., N.M.



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. 4825

Order No. R-4399

APPLICATION OF HANAGAN PETROLEUM CORPORATION
FOR A DUAL COMPLETION, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
September 13, 1982, at Santa Fe, New Mexico, before Examiner
Daniel S. Nutter.

NOW, on this day of September, 1982, 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, Hanagan Petroleum Corporation,
seeks authority to complete its Catclaw Draw Unit
Well No. 3, located in Unit D of Section 36, Township

21 South, Range 25 East, NMPM, Eddy County, New
~~XXXX~~ ~~NORTH~~ ~~West~~

(conventional) oik
Mexico, as a dual completion ~~(combination)~~ to produce gas
~~(tubingless)~~

to Catclaw Draw -
from ~~xxxx~~ ~~an undesignated~~ Strawn Gas Pool through tubing and from
the Catclaw Draw-Morrow Gas Pool through the casing-tubing annulus by
means of a cross-over flow assembly
with separation of zones by a packer at
approximately 10,400 feet, 9,453 feet and 10,009
feet.

(3) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Hanagan Petroleum Corporation, is hereby authorized to complete its Catclaw Draw Unit Well No. 3, located in Unit D of Section 36, Township 21 ~~South~~ ^{North} Range 25 East, NMPM, Eddy County, New Mexico, as a dual completion ^(conventional) ~~-(combination)-~~ to produce gas ~~-(tubingless)--~~

the Catclaw Draw -
from ~~the~~ *an* ~~undesignated~~ *Strawn Gas* Pool through tubing and from the Catclaw Draw-Morrow Gas Pool through the casing-tubing annulus *by means of a cross-over flow assembly with separation zones by packers at approximately 9453 feet and 10409 feet;*

PROVIDED HOWEVER, 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;

PROVIDED FURTHER, that the applicant shall take packer-leakage ^{zone segregation} tests upon completion and annually thereafter during the Annual ~~Gas-Oil Ratio~~ *Shut-in* Test Period for the *Catclaw Draw - Morrow Gas* Pool. Deliverability

(2) 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 herein-above designated.

CLASS NAME: REPUBLICAN OF AMERICA
FUNDING: 1980-1981
DATE: 1981-1982

640 OK
for 1 yr from
date of 1st course