

1922. Application of EL PASO
WATER FOR A DUAL COMPLETION,
RIO ARriba COUNTY, NEW MEXICO.

Case Number

4908

Application
Transcripts.

Small Exhibits

ETC.

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date

FEBRUARY 28, 1973

TIME: 9 A.M.

| NAME | REPRESENTING | LOCATION |
|-------------------|----------------------|------------|
| Michael J. Morris | Montgomery, Federal | Santa Fe |
| Charles Higgins | El Paso Natural Gas | Farmington |
| W. H. McArthur | Eastern Petro | Farmington |
| Robert G. Kelly | Eastern Petro | Farmington |
| J. J. Hamlett | Anadarko Prod. Co | Houston |
| D. G. KERNAGHAN | Anadarko Prod. Co | Houston |
| R. J. Kephau | Anadarko | Fort Worth |
| Paul A. Tucker | Anadarko Prod. Co | Fort Worth |
| Victor T. Lyon | CONTINENTAL OIL CO | Hobbs |
| Karpi & Cooley | Local Gas Industries | Midland |
| Carl E. Matthews | El Paso Natural Gas | Farmington |
| E. R. Manning | El Paso Natural Gas | El Paso |
| Jason Bell | Kellam & Fox | Santa Fe |
| John S. Williams | R. W. Beggs & Co | SF |

dearnley, meier & mc cormick

209 SIMMS BLDG., P.O. BOX 1092, PHONE 243-6691, ALBUQUERQUE, NEW MEXICO 87103
1216 FIRST NATIONAL BANK BLDG. EAST, ALBUQUERQUE, NEW MEXICO 87108

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
OIL CONSERVATION COMMISSION CONFERENCE ROOM
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
Wednesday, February 23, 1973

EXAMINER HEARING

IN THE MATTER OF:

Application of El Paso Natural Gas
Company for a dual completion, Rio
Arriba County, New Mexico.

Case No. 4903

BEFORE: Elvis A. Utz,
Examiner

TRANSCRIPT OF HEARING

1 MR. UTZ: Call Case 4992.

2 MR. CARR: Case 4992, application of El Paso Natural
3 Gas Company for a dual completion, Rio Arriba County, New
4 Mexico.

5 MR. MORRIS: Mr. Examiner, Dick Morris of Montgomery,
6 Federici, Andrews, Hannahs & Morris, Santa Fe, appearing on
7 behalf of the applicant. We have one witness, Mr. Manning.
8 I ask that he be sworn.

9 MR. UTZ: Other appearances in this case?

10 MR. MORRIS: Mr. Examiner, I'd also like to note Mr.
11 David Burleson is with the office of the General Council in
12 El Paso and a member of the Oklahoma Bar.

13 MR. UTZ: I'm sure glad Bob has got his calculator
14 there. He'd be lost without it.

15 BOB: Don't you ask me about any bottomhole pressures
16 and start figuring them in your head. Then you better be
17 right.

18 EUGENE E. MANNING,
19 a witness, having been first duly sworn according to law, upon
20 his oath, testified as follows:

21 DIRECT EXAMINATION

22 BY MR. MORRIS:

23 Q Mr. Manning, will you please state your name, where you
24 reside, by whom you are employed, and in what capacity?

25 A My name is Eugene E. Manning and I reside in El Paso,

1 Texas. I'm employed by El Paso Natural Gas Company as
2 Administrative Assistant in the Gas Proration Operations
3 Department.

4 Q Have you previously testified before the Commission and
5 established your qualifications as a matter of record?

6 A Yes, sir, I have.

7 Q What does El Paso Natural Gas Company seek by their
8 application in this case?

9 A El Paso drilled the Strawn Well Number 22 in Unit B of
10 Section 29, Township 26 North, Range 6 West, Rio Arriba
11 County and dually completed it in the Blanco and the
12 Pictured Cliffs in the South Blanco-Pictured Cliffs and
13 the Otero Chacra Gas Pools. And at this time we are
14 seeking approval for the dual completion of the Strawn
15 Well Number 222 in such manner as to permit the production
16 of gas from the South Blanco-Pictured Cliffs Pool and
17 the Otero Chacra Pool through two-and-seven-inch casing
18 separated in the common hole without the benefit of
19 tubing.

20 Q Has the Commission previously approved this type of a
21 dual completion between these two pools?

22 A To answer that question, Mr. Morris, this particular
23 method that we are employing, this technique, if you
24 please, they have not approved. They have approved the
25 dual completion of the two formations. Is this what you

1 were seeking?

2 Q That was my question.

3 A All right.

4 Q Thank you. Mr. Manning, please refer to Exhibit Number 1
5 and that being a plat, just point out the pertinent
6 features of that exhibit.

7 A Exhibit Number 1 is a plat of the Section 29 in which the
8 Strawn Well Number 22 was drilled. The red dot is the
9 well location. It has a red arrow pointing to it and it
10 also shows the leases surrounding it on the north and the
11 east side.

12 It shows the well was drilled 1,550 from the north
13 line and 1,740 feet from the east line.

14 Q Okay. Now, how close is the nearest Pictured Cliffs
15 production to this well, if you know?

16 A Well, the nearest Pictured Cliffs production you'll
17 notice is up there in Well Number 18 which is northwest
18 of Well Number 22.

19 Q All right. Is that well also completed in the Chacra?

20 A Yes, sir. It is.

21 MR. UTZ: What was the number of that well?

22 THE WITNESS: Number 13. Strawn Number 18.

23 Q (By Mr. Morris) Is that a dual completion?

24 A Yes, sir. That is a dual completion.

25 Q Mechanically completed somewhat differently than the

1 subject well?

2 A I'm not sure how it was completed, what technique was
3 employed in its completion.

4 Q Would you refer to Exhibit 2, the diagramatic sketch,
5 and describe how this well has been equipped?

6 A Well, Exhibit 2 shows that the Strawn Well Number 22 had
7 seven-and-five-eighths-inch casing set at 143 feet and
8 cemented with 142 cubic feet of cement which circulated
9 to the surface. It shows that the Pictured Cliffs'
10 perforations are at 2938 to 2948 feet and 2978 to 2990
11 feet with 20 shots, and it was fractured with sand and
12 water. It also shows that the Pictured Cliffs' casing
13 was set at 3,073 feet and it was cemented with 405 cubic
14 feet of cement. And the top of the cement was determined
15 to be at 1,750 feet from the surface by temperature
16 survey. The Chacra perforations are indicated at 3,830
17 feet to 3,823 feet and 3,900 feet to 3,910 feet with 20
18 shots. And it was fractured with sand and water. The
19 Chacra casing is indicated to be set at 3988 feet; and
20 incidentally, it's two-and-seven-eighths-inch casing,
21 also, and cemented with 292 cubic feet of cement.

22 Q Mr. Manning, please refer to Exhibit 3, the electric logs,
23 and point out the features there.

24 A All right, sir. Well, Exhibit 3 is a reproduction of the
25 Schlumberger logs to the Strawn Well Number 22. On the

1 left-hand side of the exhibit is a Compensated Formation
2 Density log. On the right-hand side of the exhibit is
3 an Induction Electrical log. Now, on the lower part of
4 the log, the Induction Electrical Log, in the detail log
5 section, the top of the Pictured Cliffs has been marked
6 there; and it is indicated to be at 2,916 feet with a
7 plus 3,323 feet Kelly Drive Bushing.

8 And continuing on down the log, the top of the
9 Chacra has been marked at 3,302 feet which is a plus
10 2,942 feet Kelly Drive Bushing. It shows that there is
11 a substantial separation between the top of the Chacra
12 and the top of the Pictured Cliffs.

13 Q Have you submitted notices to the U.S.G.S. concerning
14 this well and the manner in which it was drilled?

15 A Yes, sir. We have submitted summary notices and reports
16 on wells to the U.S.G.S., and we have indicated that.
17 This is our Exhibit Number 4.

18 Q Fine. Would you explain to the Examiner briefly the
19 drilling and completion techniques used by El Paso on this
20 well?

21 A Well, the drilling and completion of the Vaughn Well
22 Number 22 required certain special techniques due to the
23 unique tubingless type of completion that we were seeking
24 in this well. As previously stated, we set nine-and-five
25 eighth-inch casing in a thirteen-and-three-quarter-inch

1 hole at 142 feet and circulated cement to the surface.
2 Now, we waited for the cement to set for twelve hours,
3 and we drilled an eight-and-three-quarters-inch hole to
4 3,073 feet at which time we reduced the size of the hole
5 or tip at 3,073 feet. We reduced the size of the hole to
6 six-and-three-quarter-inch and drilled to 3,938 feet. We
7 set two-and-seven-eighth-inch production casing for the
8 Chacra formation at 3,938 feet, and we landed this in the
9 nine-and-five-eighths-inch casing we had. The two-and-
10 seven-eighths-inch production casing for the Pictured
11 Cliffs formation was then run and set at 3,073 feet. And
12 we also landed this in the casing well we had. After
13 this, we cemented the Chacra production casing with 292
14 cubic feet of cement. As you recall, this is the long
15 string. And we cemented the Pictured Cliffs production
16 casing with 405 cubic feet of cement immediately following
17 the first operation. And then after waiting a period of
18 time for the temperature of hydration on the cement to
19 take effect, we ran a temperature survey and we determined
20 that the top of the cement was at 1,750 feet. After
21 waiting more than eighteen hours, the Pictured Cliffs
22 production string was perforated from 2,938 feet to
23 2,948 feet and 2,973 feet to 2,990 feet with 28 shots.
24 The perforating gun was oriented in the hole in such a
25 manner as to preclude the possibility of perforating the

1 Chacra production casing. During the perforating
2 operations on the Pictured Cliffs formation, pressure was
3 maintained on the Chacra production casing for evidence
4 of the perforating gun's failure to orient properly.
5 No pressure change was noted on the Chacra formation
6 after perforating the Pictured Cliffs formation. So
7 this indicated to us that the gun oriented properly and
8 we did not shoot that into the deeper Chacra production
9 casing.

10 Now, following this operation, the Chacra formation
11 was then perforated from 3,308 feet to 3,323 feet,
12 correction, 3,900 feet to 3,910 feet with 20 shots. Now,
13 following the perforating operations, the Pictured Cliffs
14 formation was fractured with 30,000 pounds of sand and
15 30,600 gallons of treated water. Now, while the Chacra
16 formation was fractured 5,000 pounds at 20/40 sand and
17 6,420 gallons of treated water. I might add at this
18 point that the Chacra formation sanded over at that time
19 and we will probably produce it and then may go back in
20 there and refracture it.

21 The Pictured Cliffs formation calculated an absolute
22 open flow of 615 MCF per day, while the Chacra formation
23 calculated an absolute open flow of 336 MCF per day.

24 Q Does this method of completion and this method of
25 equipping the well conform to good engineering practice

1 and does it provide adequate separation of the two zones
2 involved in this well?

3 A Yes, sir. I think the manner in which the well was
4 completed will permit the hydrocarbons from both zones to
5 be safely and efficiently produced with complete and total
6 separation of the zones.

7 Q Will the granting of this application cause waste or
8 impair correlative rights?

9 A No, sir. In my opinion, it will not.

10 Q Were Exhibits 1 through 4 prepared by you or under your
11 direction?

12 A Yes, sir, they were.

13 MR. MORRIS: We move the introduction of El Paso's
14 Exhibits 1, 2, 3, and 4.

15 MR. UTZ: Without objection Exhibits 1, 2, 3, and 4
16 will be entered into the record of this case.

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

18 CROSS-EXAMINATION

19 BY MR. UTZ:

20 Q At the top of your cement, Mr. Manning, was at 1,750?

21 A Yes, sir.

22 Q Your surface casing, the bottom of your surface casing was
23 at 143 feet?

24 A Yes, sir.

25 Q Do you have any fresh-water zones in that area?

1 A None that I know of. This is up on the side of a
2 mountain. The elevation is around 6,000.

3 Q Do you happen to know where the Ojo formation is?

4 A No, sir. I do not. No, sir. It is the Ojo. No, sir.
5 I don't have it marked here. I'd have to do some
6 studying to get it marked on the log.

7 Q Would you check that with your engineering department and
8 be sure they have got the Ojo Alamo --

9 A Yes, sir. All right, sir.

10 Q -- properly separated?

11 A All right, sir.

12 MR. MORRIS: Mr. Examiner, do you wish to be
13 advised by letter concerning that inquiry?

14 MR. UTZ: I think it would be well to do so with
15 a copy to Mr. Arnold. Are there other questions of the
16 witness?

17 THE WITNESS: Just a minute, please, Mr. Examiner.
18 We are showing here that the Ojo Alamo is at 2,259 feet.

19 MR. UTZ: 2,259?

20 THE WITNESS: Yes, sir.

21 MR. MORRIS: That would be behind the cement.

22 THE WITNESS: Right, which is definitely behind the
23 cement, which gives it 1,200 feet. Now, I was picturing the
24 Ojo Alamo up at about 1,900 feet in which is still behind the
25 cement. So it is somewhere in that area. Our geological

1 department has it pictured at 2,259.

2 MR. UTZ: Okay. So the Ojo is covered with cement?

3 THE WITNESS: Yes, sir.

4 MR. UTZ: Other questions of the witness? He may
5 be excused. Statements in the case? The case will be taken
6 under advisement.

7
8 REPORTER'S CERTIFICATE

9 I, JANET RUSSELL, a Court Reporter, do hereby certify
10 that the foregoing and attached Transcript of Hearing before
11 the New Mexico Oil Conservation Commission was reported by me;
12 and that the same is a true and correct record of the said
13 proceedings to the best of my knowledge, skill and ability.

14
15 I do hereby certify that the foregoing is
16 a complete record of the proceedings in
the Examiner hearing of Case No. 12868,
heard by me on Feb 28, 1973.

Janet Russell
COURT REPORTER

17 *[Signature]* Examiner
18 New Mexico Oil Conservation Commission D E X

19 WITNESS

PAGE

20 EUGENE L. MANNING

21 Direct Examination by Mr. Morris

3

22 Cross-Examination by Mr. Utz

10

23 EXHIBITS

24 OFFERED

ADMITTED

25 El Paso's Exhibits 1, 2, 3, & 4

10

10



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

87501

GOVERNOR

BRUCE KING

CHAIRMAN

LAND COMMISSIONER

ALEX J. ARMIJO

MEMBER

STATE GEOLOGIST

A. L. PORTER, JR.

SECRETARY - DIRECTOR

March 13, 1973

Re: Case No. 4908

Order No. R-4487

Applicant:

El Paso Natural Gas Company

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

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, Esq.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC **x**

Artesia OCC

Aztec OCC **x**

Other

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 4908
Order No. R-4487

APPLICATION OF EL PASO NATURAL GAS
COMPANY FOR A DUAL COMPLETION, RIO
ARRIBA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
February 28, 1973, at Santa Fe, New Mexico, before Examiner
Elvis A. Utz.

NOW, on this 13th day of March, 1973, 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, El Paso Natural Gas Company,
seeks authority to complete its Vaughn Well No. 22, located in
Unit G of Section 29, Township 26 North, Range 6 West, NMPM,
Rio Arriba County, New Mexico, as a dual completion (tubingless)
to produce gas from the South Blanco-Pictured Cliffs Pool and the
Otero Chacra Pool through parallel strings of tubing cemented in
a common wellbore.

(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, El Paso Natural Gas Company, is
hereby authorized to complete its Vaughn Well No. 22, located
in Unit G of Section 29, Township 26 North, Range 6 West, NMPM,
Rio Arriba County, New Mexico, as a dual completion (tubingless)
to produce gas from the South Blanco-Pictured Cliffs Pool and the
Otero Chacra Pool through parallel strings of tubing cemented in
a common wellbore.

-2-

Case No. 4908
Order No. R-4487

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 zone segregation tests upon completion and annually thereafter during the Annual Deliverability Test Period for the Otero-Chacra 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. Armijo
ALEX J. ARMIJO, Member

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

S E A L

dr/

Case 4708

Heard 2-28-73

Rec. 3-2-73

Grant El Paso request for
a (tubingless) Dual Completion
for their Vaughn #22 G-28-284-6W
2 strings of 2 7/8" J-55 tubing
will be cemented in the hole
the T.C. being at 1750' thereby
protecting all oil & gas producing
& fresh water zones.

The short string will be perfect
produce from the So. Blanco P.C.
The long string will be perfect
produce from the Otter Chacara.

Thos D. Mc

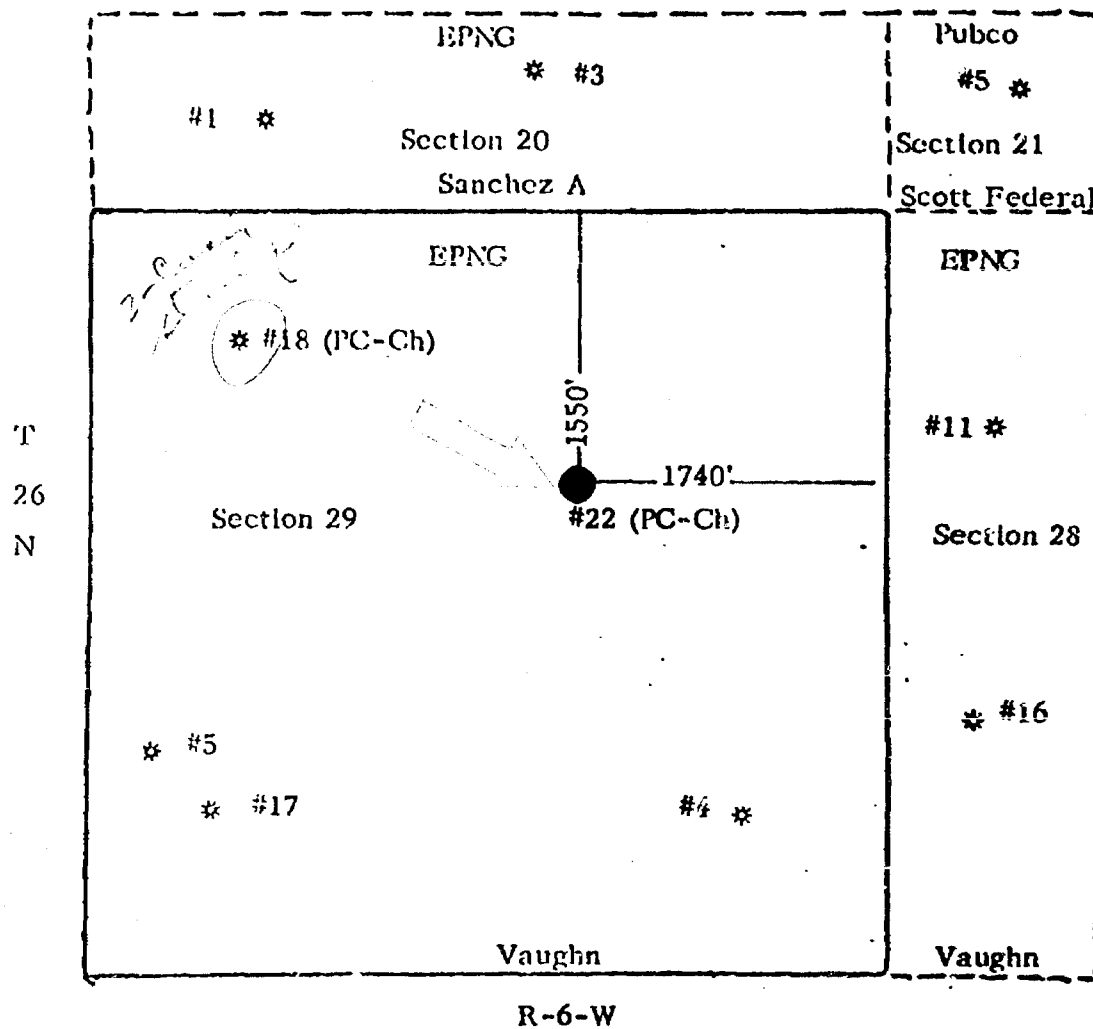
DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 28, 1973

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

The following cases will be heard before Elvis A. Utz, Examiner, or Richard L. Stamets, Alternate Examiner:

- CASE 4907: Application of Eastern Petroleum Company for water disposal, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced water into the Dakota formation through its Navajo Well No. 21 located in Unit C of Section 3, Township 27 North, Range 17 West, Table Mesa-Dakota Oil Pool, San Juan County, New Mexico.
- CASE 4908: Application of El Paso Natural Gas Company for a dual completion, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Vaughn Well No. 22 located in Unit G of Section 29, Township 26 North, Range 6 West, Rio Arriba County, New Mexico, in such a manner as to permit the production of gas from the South Blanco-Pictured Cliffs Pool and the Otero Chacra Pool through parallel strings of tubing cemented in a common wellbore.
- CASE 4909: Application of Continental Oil Company for a non-standard unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 160-acre non-standard gas proration unit comprising the N/2 SW/4, SE/4 SW/4, and NW/4 SE/4 of Section 9, Township 21 South, Range 37 East, Blinebry Gas Pool, Lea County, New Mexico, said unit to be simultaneously dedicated to its Hawk B-1 Wells Nos. 2 and 4 located in Units J and L, respectively, of said Section 9.
- CASE 4910: Application of Continental Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Blinebry and Drinkard production in its wellbore of its Lockhart B-1 Well No. 7 located in Unit G of Section 1, Township 22 South, Range 36 East, Blinebry and Drinkard Oil Pools, Lea County, New Mexico.
- CASE 4911: Application of Anadarko Production Company for a unit agreement. Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Ballard Grayburg-San Andres Unit Area, comprising 2581 acres, more or less, of Federal and fee lands in Township 18 South, Range 29 East, Eddy County, New Mexico.
- CASE 4912: Application of Anadarko Production Company for a waterflood project, special rules, unorthodox locations, and pool redelineation, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg-San Andres formation through 23 injection wells, some at unorthodox locations, in its Ballard Grayburg-San Andres Unit in Sections 4, 5, 6, 7, 8, and 17, Township 18 South, Range 29 East, Loco Hills Pool, Eddy County, New Mexico. Applicant

Plat Showing Location of Dually Completed
El Paso Natural Gas Company
Vaughn #22 (PC-Ch) Well
and Offset Acreage



EL PASO NATURAL GAS COMPANY

CASE NO. 4908

EXHIBIT NO. 1

Schematic Diagram of Dually Completed

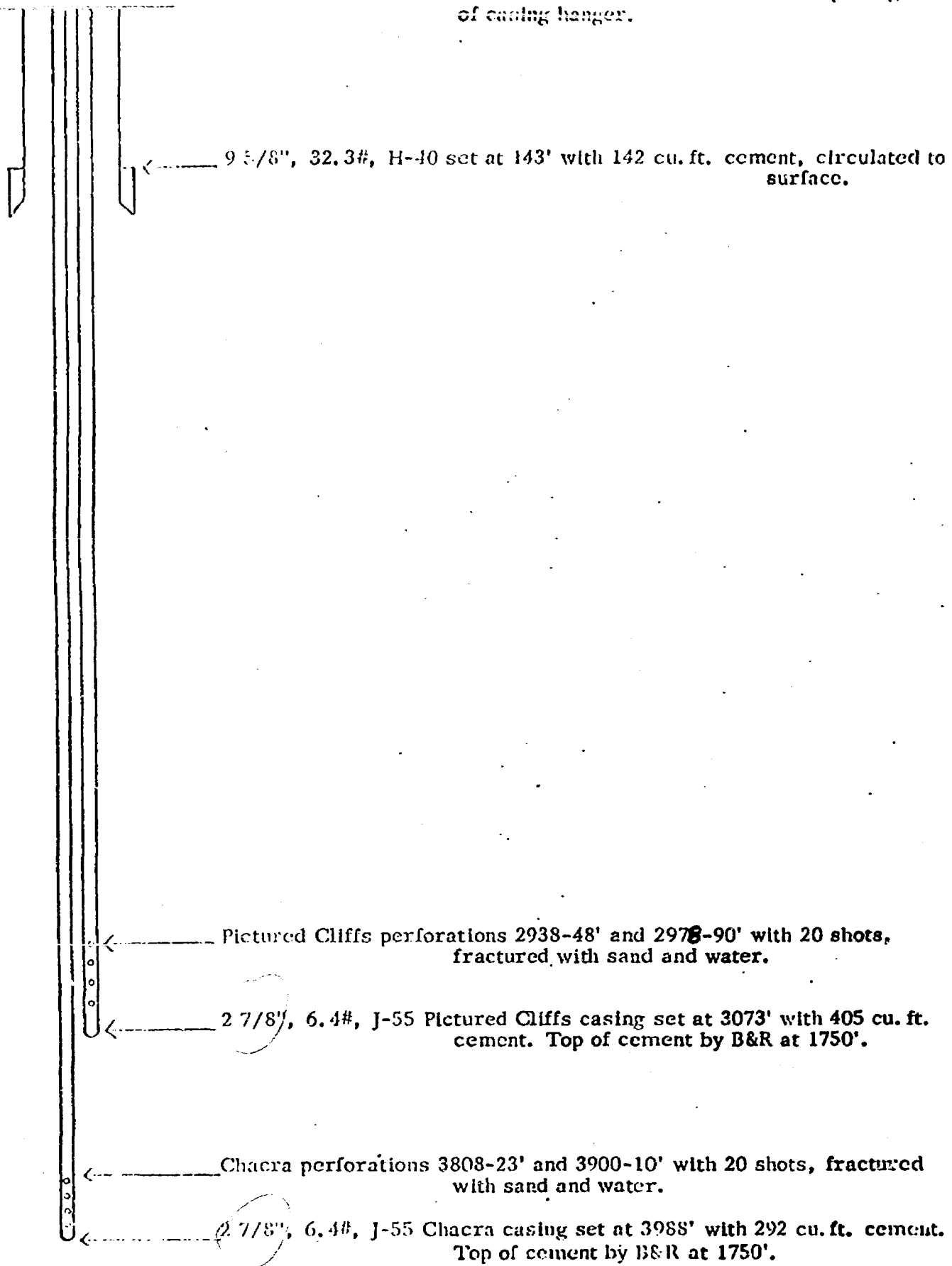
El Paso Natural Gas Company

Vaughn #22 (PC-Ch)

NE/4 Section 29, T-26-N, R-6-W

Dual String
Christmas Tree

Zero Reference Point 10.0' above top flange
of casing hanger.



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIP
(Other instructions
verse side)

T-7

Form Approved
Budget Bureau No. 43-21424

6. LEASE DESIGNATION AND SERIAL NO.

SF 079266

8. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT ASSIGNMENT NAME

9. FARM OR LEASE NAME

Vaughn

9. WELL NO.

22

10. FIELD AND POOL OR WILDCAT
So. Blanco Pictured Cliffs &
Otero Chacra11. SEC. T. R. M. OR BLK. AND
SURVEY OR AREASec. 29, T-26-N, R-6-W
NMPM

12. COUNTY OR PARISH

Rio Arriba

13. STATE

New Mexico

SUNDRY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR

El Paso Natural Gas Company

3. ADDRESS OF OPERATOR

PO Box 990, Farmington, NM 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface

1550'N, 1740'E

14. PERMIT NO.

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

6733'GL

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 perti-
nent to this work.)

11-2-72 Pictured Cliffs T.D. 3073'. Ran 100 joints 2 7/8", 6.4#, J-55 production casing, 3063' set at 3073'. Baffle set at 3061'. Cemented with 405 cu. ft. cement. WOC 18 hours.

Chacra T.D. 3988'. Ran 129 joints 2 7/8", 6.4#, J-55 production casing, 3978' set at 3988'. Baffle set at 3977'. Cemented with 292 cu. ft. cement. WOC 18 hours. Top of cement at 1750'.

12-6-72 Pictured Cliffs PBTD 3061'. Perf'd 2938-48' and 2978-90' with 20 shots per zone. Frac'd with 30,000# 10/20 sand and 30,600 gallons treated water. Dropped one set of 20 balls. Flushed with 750 gallons water. 615 MCF

Chacra PBTD 3977'. Perf'd 3808-23' and 3900-10' with 20 shots per zone. Frac'd with 6000# 20/40 sand and 6420 gallons treated water. Dropped one set of 20 balls, sanded off after 5000#. 336 MCF

T.C. 1750

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

SIGNED



TITLE Petroleum Engineer

DATE December 8, 1972

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

*See Instructions on Reverse Side

EL PASO NATURAL GAS CO.
CASE NO. 4908
EXHIBIT NO. 4

Case 1908

OIL CONSERVATION COMMISSION
3 DISTRICT

OIL CONSERVATION COMMISSION
BOX 2088
SANTA FE, NEW MEXICO

DATE 1-29-73

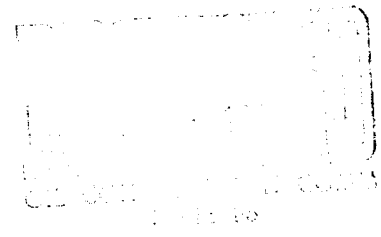
Re: Proposed NSP _____

Proposed NWU _____

Proposed NSL _____

Proposed NFO _____

Proposed MC ✓



Gentlemen:

I have examined the application dated 1-24-73
for the El Paso Nat. Gas Co Vaughn 22 G-29-260-601
Operator Lease and Well No. S-T-R

and my recommendations are as follows:

approve

Yours very truly,

Ernest C. Lunsford

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

Form C-107
5-1-61

Case 4908

| | | | |
|--|----------------------|-----------------------------|---------------------------------|
| Operator El Paso Natural Gas Company | | County Rio Arriba | Date January 24, 1973 |
| Address PO Box 990, Farmington, NM | | Lease Vaughn | Well No. 22 |
| Location of Well G | Section 29 | Township 26N | Range 6W |

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 ☐ Memo #18-58
2. If answer is yes, identify one such instance: Order No. **R-1214**; Operator Lease, and Well No.:

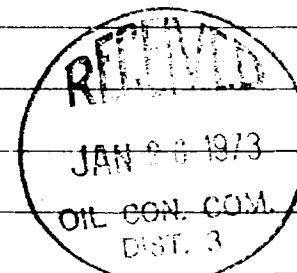
| 3. The following facts are submitted: | Upper Zone | Intermediate Zone | Lower Zone |
|--|-----------------------------------|-------------------|---------------------|
| a. Name of Pool and Formation | So. Blanco Pictured Cliffs | | Otero Chacra |
| b. Top and Bottom of Pay Section (Perforations) | 2938-2990' | | 3808-3910' |
| c. Type of production (Oil or Gas) | gas | | gas |
| d. Method of Production (Flowing or Artificial Lift) | flowing | | flowing |

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

- | | | |
|---|-------------------------------------|---|
| Yes <input checked="" type="checkbox"/> | No <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 checked="" 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 checked="" 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.

Pubco Petroleum Corp., PO Box 869, Albuquerque, New Mexico 87103



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 **January 24, 1973**.

CERTIFICATE: I, the undersigned, state that I am the **Division Petroleum Engineer** of the **El Paso Natural Gas Co.** (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.

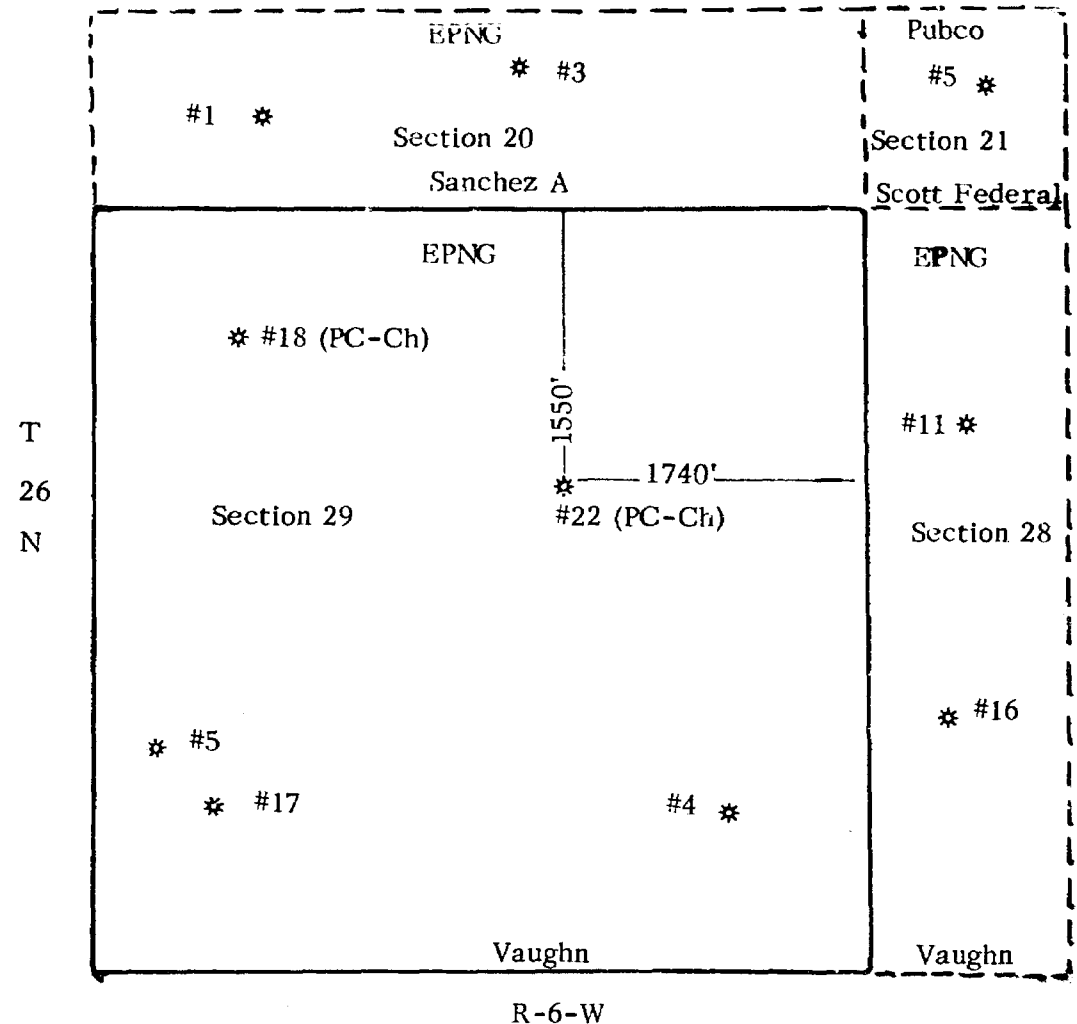
F. H. Wood
F. H. Wood Signature

*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 proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

Case 4908

Plat Showing Location of Dually Completed
El Paso Natural Gas Company
Vaughn #22 (PC-Ch) Well
and Offset Acreage



EL PASO NATURAL GAS COMPANY

| | | |
|----------|------------|-----|
| SCALE | DATE | 115 |
| DRAWN BY | CHECKED BY | |

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

Form C-107
5-1-61

Case 4908

| | | | |
|--|------------------|-----------------------------|---------------------------------|
| Operator El Paso Natural Gas Company | | County Rio Arriba | Date January 24, 1973 |
| Address PO Box 990, Farmington, NM | | Lease Vaughn | Well No. 22 |
| Location of Well G | Unit G | Section 29 | Township 26N |
| | | Range 6W | |

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 ☐ Memo #18-58
2. If answer is yes, identify one such instance: Order No. **R-1214**; Operator Lease, and Well No.:

| 3. The following facts are submitted: | Upper Zone | Intermediate Zone | Lower Zone |
|--|-----------------------------------|-------------------|---------------------|
| a. Name of Pool and Formation | So. Blanco Pictured Cliffs | | Otero Chacra |
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| c. Type of production (Oil or Gas) | gas | | gas |
| d. Method of Production (Flowing or Artificial Lift) | flowing | | flowing |

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

- | | | |
|-------------------------------------|-------------------------------------|---|
| Yes | No | |
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Pubco Petroleum Corp., PO Box 869, Albuquerque, New Mexico 87103

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 **January 24, 1973**.

CERTIFICATE: I, the undersigned, state that I am the **Division Petroleum Engineer** of the **El Paso Natural Gas Co.** (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.

DOCKET MAILED

Date

2-16-73

F. H. Wood

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 proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

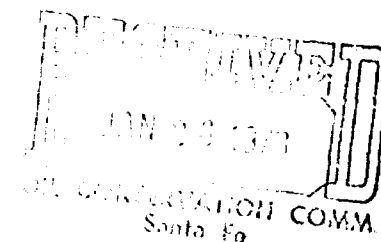
Case 4908

Schematic Diagram of Dually Completed

El Paso Natural Gas Company

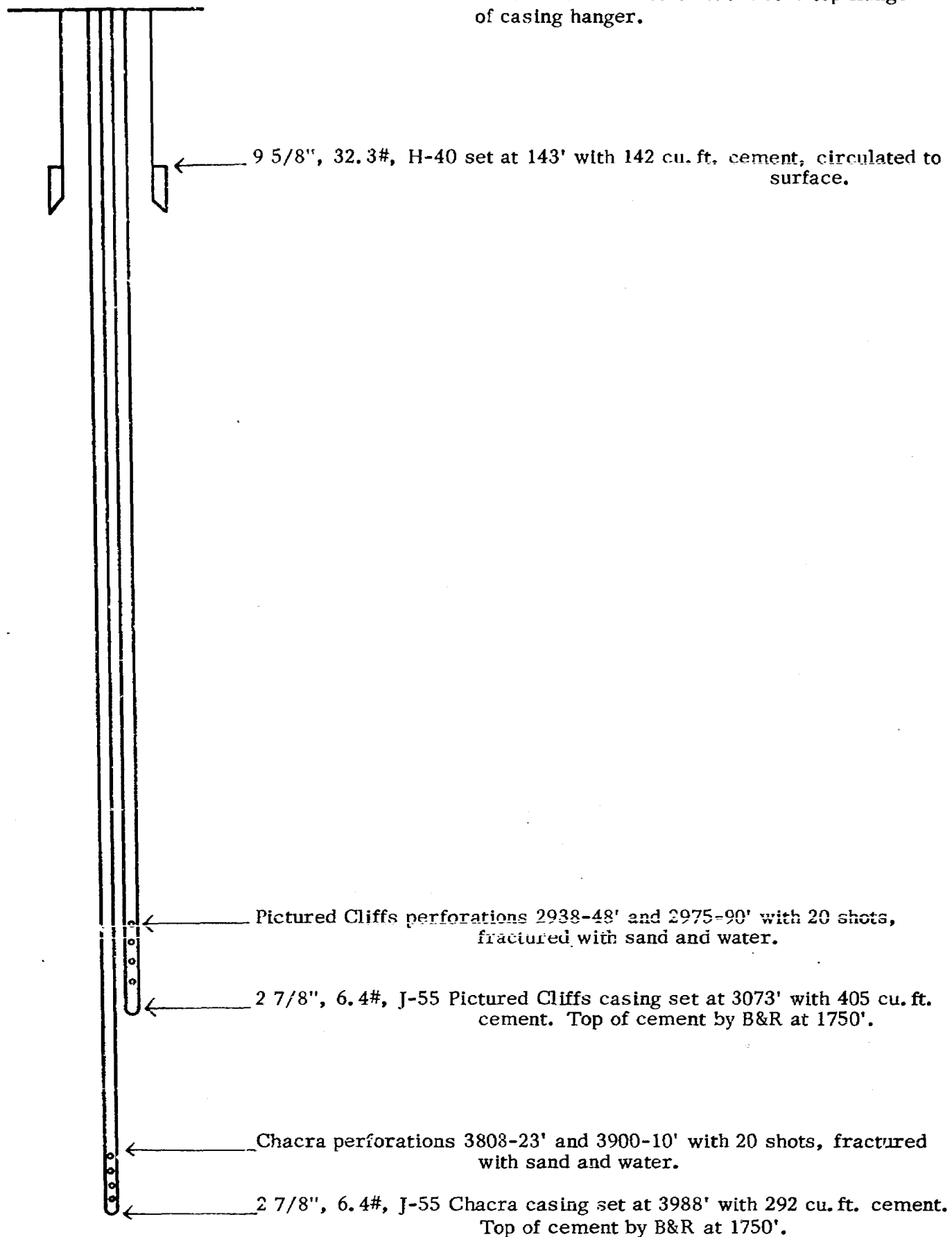
Vaughn #22 (PC-Ch)

NE/4 Section 29, T-26-N, R-6-W



Dual String
Christmas Tree

Zero Reference Point 10.0' above top flange
of casing hanger.



DRAFT

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. 4908

Order No. R-4487

APPLICATION OF EL PASO NATURAL GAS COMPANY
FOR A DUAL COMPLETION, RIO ARRIBA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
February 28, 1963, at Santa Fe, New Mexico, before Examiner
Elvis A. Utz.

NOW, on this _____ day of February, 1963, 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, El Paso Natural Gas Company,
seeks authority to complete its Vaughn

Well No. 22, located in Unit G of Section 29, Township

26 ~~XXXXXX~~ Range 6 ~~XXXXXX~~, NMPM, Rio Arriba County, New
North West

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

from the South Blanco-Pictured Cliffs ~~XXXXXX~~ Pool and the
Otero Chacra Pool through parallel strings of tubing cemented in
a common wellbore.

(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, El Paso Natural Gas Company, is hereby authorized to complete its Vaughn Well No. 22, located in Unit G of Section 29, Township 26 ~~South~~ ^{North}, Range 6 ~~East~~ ^{West}, NMPM, Rio Arriba County, New Mexico, as a dual completion ~~(conventional)~~ ^(combination) ~~(tubingless)~~ to produce gas from the South Blanco-Pictured Cliffs ~~Pool~~ ^{Pool} and the Otero Chacra Pool through parallel strings of tubing cemented in a common wellbore.

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 ~~Seal-off Test~~ ^{Seal-off Test} Period for the Otero-Chacra 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 hereinabove designated.