

CASE 4495: APPLICATION OF SOUTHERN
UNION PROD. CO. FOR A TRIPLE
COMPLETION, RIO ARRIBA COUNTY.

Case Number

4495

Application

Transcripts.

Small Exhibits

ETC.

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

February 3, 1971

EXAMINER HEARING

IN THE MATTER OF:)

Application of Southern Union)
Production Company for a triple)
completion, Rio Arriba County,)
New Mexico)

Case No. 4495

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

1 (Whereupon, Applicant's
2 Exhibits 1 through 4 were
3 marked for identification.)

4 MR. NUTTER: The hearing will come to order,
5 please. The next case will be Case 4495.

6 MR. HATCH: Case 4495, Application of Southern
7 Union Production Company for a triple completion, Rio Arriba
8 County, New Mexico.

9 MR. COOLEY: William J. Cooley of Burr and Cooley,
10 Farmington, New Mexico, currently appearing on behalf of the
11 Applicant, Southern Union Production Company. We have one
12 witness to be sworn, Mr. Noland.

13 MR. HATCH: Would you stand and be sworn.

14 (Witness sworn.)

15 GILBERT NOLAND

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

18 DIRECT EXAMINATION

19 BY MR. COOLEY:

20 Q State your full name for the record, please.

21 A Gilbert Noland.

22 Q And where do you reside, Mr. Noland?

23 A Farmington, New Mexico.

24 Q And by whom are you employed?

25 A Southern Union Production Company.

Q In what capacity are you employed by Southern Union

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1 Production Company?

2 A Drilling Superintendent.

3 Q Would you briefly outline your education and
 4 experience in the field of petroleum engineering?

5 A Well, I graduated from New Mexico Institute of
 6 Mining Technology with a degree in petroleum engineering and
 7 I've had the position of drilling superintendent for ten years.

8 Q For Southern Union Production Company?

9 A Southern Union Production Company.

10 MR. COOLEY: Are the witness's qualifications
 11 acceptable to the Examiner?

12 MR. NUTTER: Yes, they are.

13 MR. COOLEY: You don't object to the school?

14 MR. NUTTER: Not at all, except I don't like to
 15 hear it referred to as the school of "Mining Technology."
 16 That's the School of Mines.

17 THE WITNESS: School of Mines, yeah.

18 Q Mr. Noland, are you personally familiar with the
 19 area in Northwestern New Mexico wherein the Jicarilla "K"
 20 Well No. 13, Section 11, Township 25 North, Range 5 West in
 21 Rio Arriba County, New Mexico is located?

22 A Yes, I am.

23 Q Have you personally supervised the drilling of that
 24 well?

25 A Yes.

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1 Q Have you prepared a plat which shows the location
 2 of the well and offset locations?

3 A Yes.

4 Q I hand you what's been marked as Exhibit Number 1
 5 and ask you to please point out the well in question thereon.

6 A Well, it's the Jicarilla "K" Well No. 13. It's
 7 marked in red on the map.

8 Q Is that in the lower left-hand corner of the map?

9 A Lower left-hand corner of the map.

10 Q Who is the offset operator to the north and east?

11 A Southern Union is direct offset operator to the
 12 north and east.

13 Q And offset operators to the south and west?

14 A Pan American.

15 Q Has Pan American drilled wells to the same formations
 16 as the well in question?

17 A Yes, they have.

18 Q Is this area substantially developed?

19 A As far as the Dakota is concerned, it is, and the
 20 Pictured Cliffs.

21 Q With respect to the Otero Chacra, what is the
 22 characteristics of the productivity of that formation in
 23 the particular area?

24 A Well, this refers to the well we have completed in
 25 the Chacra in this area; but the productive history of the

1 Chacra in the area is good.

2 Q Despite this effect, did you project this well as
3 a Chacra completion?

4 A No. The well was originally scheduled as a dual
5 Pictured Cliffs and Dakota.

6 Q And upon drilling the well, was it your opinion
7 that the Chacra would be productive?

8 A After we ran logs and saw the development in the
9 Chacra, we decided to test it in that it might look like a
10 productive well.

11 Q I hand you what's been marked as Exhibit 2.

12 A This is just a field print.

13 Q That's good enough. You just use it for your use.

14 A All right.

15 Q And I'll ask you if this is the induction electric
16 log on the well in question.

17 A Yes, this is the log.

18 Q Are the areas of productivity in the Pictured Cliffs,
19 Otero-Chacra and Dakota marked in any way on this log?

20 A Yes. Perforations of productive areas are marked
21 on the log.

22 Q I hand you what's been marked as Applicant's
23 Exhibit Number 3, and ask you to identify this exhibit.

24 A These are the back pressure tests that were
25 conducted on three different zones in the well.

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1 Q Would you point out the productivity revealed by
 2 these tests with respect to each of the formations involved.

3 A The Pictured Cliffs, i. p. for four million four
 4 hundred and forty-five m.c.f., choke volume, six million
 5 six hundred and thirty m.c.f., absolute.

6 The Chacra flowing choke volume was one million
 7 one-0-two, absolute, one million one eighty-five.

8 The Dakota was one million five hundred with an
 9 absolute of one million five hundred and forty-eight.

10 Q With these results, do you consider each of the
 11 formations to be commercially productive?

12 A Yes, we do.

13 Q And how do you propose to complete this well?

14 A The well was completed by using --

15 Q A triple completion?

16 A -- a triple completion.

17 Q Have you prepared a diagrammatic sketch of the precise
 18 method of completion which you have used?

19 A Yes, we have.

20 Q I hand you what's been marked as Applicant's Exhibit
 21 Number 4 and ask you to explain the data shown thereon.

22 A Well, we set eight and five-eighths inch surface
 23 pipe at a depth of 312 feet, cemented back to surface with
 24 250 sacks of cement. The well was mud drilled to a total
 25 depth of 7475 feet, production casing was five and one-half

1 inch which was set at 7475.

2 We used a three-stage cementing procedure with a
3 Baker stage collar set at 5480 feet and another collar set
4 at 3983 feet.

5 The first stage was cemented with six hundred cubic
6 feet of cement. Second stage was cemented with eight hundred
7 cubic feet of cement. And the third stage was cemented with
8 eleven hundred cubic feet of cement, and we did circulate
9 cement to the surface on the third stage.

10 We rigged up the completion unit, cleaned out the plug
11 back total depth to 7440, perforated and fracked the Dakota,
12 Chacra, and then we run a production test on the Chacra to see
13 if it would be commercial and it did prove to have gas in
14 commercial quantities.

15 Whereupon, we set a bridge plug above the Dakota,
16 perforated and fracked the Pictured Cliffs.

17 We went in and drilled out all the bridge plugs
18 and cleaned out to plug back total depth of 7440. And then
19 we set a Baker five-and-a-half inch Model D production packer
20 at 7102 feet above the Dakota, and we set a Baker Model FA
21 production packer at 3811 feet. This is above the Chacra.

22 We ran one and one-half inch upset tubing to the
23 Dakota and landed in the packers at 7102 and 3811.

24 We ran one and one-half inch into the joint tubing
25 to the Chacra and landed in the Model FA packer at 3811 feet,

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1 and we proposed to produce the Pictured Cliffs from the
 2 annulus.

3 The Dakota will produce from an inch and a half up-
 4 set. The Chacra from the inch and a half integral joint,
 5 and the Pictured Cliffs from the annulus.

6 Q Mr. Noland, do you believe with the type of packers
 7 that you have installed and the general method of completion
 8 that you have utilized in this well, that there will be
 9 complete isolation of each of the three zones from the other?

10 A Yes, sir, we do.

11 Q Have you run any tests to confirm this?

12 A Yes. Yes, sir.

13 Q What do those tests reflect?

14 A That no communication exists between the three
 15 different intervals.

16 Q In your professional opinion, is there any likelihood
 17 that this method of completion will result in any form of
 18 underground waste to any of the reservoirs involved?

19 A No, sir.

20 Q Is there substantial savings to Southern Union
 21 Production Company by completing this well as a triple
 22 completion rather than drilling separate wells?

23 A Yes, sir. We feel there's considerable savings by
 24 employing this method.

25 Q Do you anticipate any mechanical difficulties in

1 connection with the production of this well as completed
2 in this fashion?

3 A None are anticipated.

4 Q Were these four exhibits prepared by you or under
5 your supervision?

6 A Yes, sir.

7 MR. COOLEY: Mr. Examiner, we would offer Applicant's
8 Exhibits 1 through 4.

9 MR. NUTTER: Southern Union's Exhibits 1 through 4
10 will be admitted into evidence.

11 (Whereupon, Applicant's Exhibits
12 Numbers 1 through 4 were duly
admitted into evidence.)

13 MR. COOLEY: I have no further questions of the
14 witness.

15 CROSS EXAMINATION

16 BY MR. NUTTER:

17 Q Mr. Noland, you did install blast joints in the
18 tubing strings opposite the perforations, did you not?

19 A Yes.

20 Q Does the Pictured Cliffs make any liquid that would
21 present any problem through producing through the annulus?

22 A We don't anticipate any liquid problems, but we do
23 have -- we installed a Model L sliding sleeve on the Dakota
24 string at a depth of 3773 feet in the event we do encounter
25 water or liquid problems, we can open this sleeve which will

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1 enable us to clean the annulus.

2 Q So you do have other means of answering the liquid
3 problems if they should develop?

4 A Right. Right.

5 MR. NUTTER: Are there any further questions of
6 the witness? He may be excused.

7 Do you have anything further, Mr. Cooley?

8 MR. COOLEY: Nothing, Mr. Examiner.

9 MR. NUTTER: Does anyone have anything they wish
10 to offer in Case 4495? We'll take the case under advisement.

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

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

9
10 *Charlotte J. Macias*
11 Court Reporter

12
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22 I do hereby certify that the foregoing is
23 a true and correct copy of the transcript of
24 the hearing held on 2/3 1971 at 4495
25 _____
New Mexico Oil Conservation Commission

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. 4495
Order No. R-4100

APPLICATION OF SOUTHERN UNION PRODUCTION
COMPANY FOR A TRIPLE COMPLETION, RIO ARRIBA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 3, 1971, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 10th day of February, 1971, 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, Southern Union Production Company, seeks authority to complete its Jicarilla "K" Well No. 13, located in Unit E of Section 11, Township 25 North, Range 5 West, NMPM, Rio Arriba County, New Mexico, as a triple completion (conventional) to produce gas from the South Blanco-Pictured Cliffs, Otero-Chacra, and Basin-Dakota Pools through a combination of two 1 1/2-inch tubing strings and the casing-tubing annulus, with separation of the producing zones by packers set at approximately 3811 feet and 7102 feet.
- (3) That the mechanics of the proposed triple completion are feasible and in accord with good conservation practices.
- (4) That approval of the subject application will prevent waste and protect correlative rights.

-2-

CASE No. 4495
Order No. R-4100

IT IS THEREFORE ORDERED:

(1) That the applicant, Southern Union Production Company, is hereby authorized to complete its Jicarilla "K" Well No. 13, located in Unit E of Section 11, Township 25 North, Range 5 West, NMPM, Rio Arriba County, New Mexico, as a triple completion (conventional) to produce gas from the South Blanco-Pictured Cliffs, Otero-Chacra, and Basin Dakota Pools through a combination of two 1 1/2-inch tubing strings and the casing-tubing annulus, with separation of the producing zones by packers set at approximately 3811 feet and 7102 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 Deliverability Test Period for the Basin-Dakota Pool.

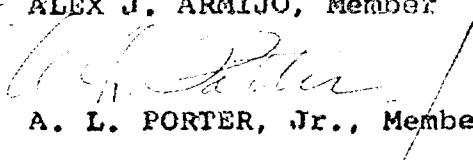
(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


BRUCE KING, Chairman


ALEX J. ARMIJO, Member


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


GSR/

BOOKING EXAMINER HEARING - WEDNESDAY - FEBRUARY 3, 1971

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:

CASE 4494: Application of Southern Union Gas Company and Southern Union Gathering Company for the suspension of certain provisions of Rules 14(A), 15(A), and 15 (B) of the General Rules and Regulations for the prorated gas pools in Northwestern New Mexico in San Juan, Rio Arriba, and Sandoval Counties, New Mexico. Applicants, in the above-styled cause, seek suspension for a period of one year from February 1, 1971, of those provisions of Rules 14 (A), 15 (A), and 15 (B) of the General Rules and Regulations for the prorated gas pools of Northwestern New Mexico promulgated by Order No. R-1670, as amended, that provide for the cancellation of unproduced allowable and the shutting-in of over-produced wells.

CASE 4495: Application of Southern Union Production Company for a triple completion, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (conventional) of its Jicarilla "K" Well No. 13 located in Unit E of Section 11, Township 25 North, Range 5 West, Rio Arriba County, New Mexico, to produce gas from the South Blanco-Pictured Cliffs, Otero Chacra, and Basin-Dakota Pools through a combination of tubing strings and the casing-tubing annulus.

CASE 4490: (Continued from the January 13, 1971 Examiner Hearing)
Application of Texas Pacific Oil Company for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico. Said exception would be for the applicant's Wooley Federal Well No. 3 located in Section 21, Township 17 South, Range 30 East, Loco Hills-Abo Pool, Eddy County, New Mexico.

CASE 4475: (Continued from the December 16, 1970, Examiner Hearing)
Application of Texas American Oil Corporation for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves and Roosevelt Counties, New Mexico. Applicant seeks an exception to the provisions of said order for wells completed in the Sand Dunes-Atoka Gas Pool and the Sand Dunes-Cherry Canyon Pool, Eddy County, New Mexico, to permit the disposal of water produced by said wells in unlined surface pits.

SOUTHERN UNION PRODUCTION COMPANY

POST OFFICE BOX 818
FARMINGTON, NEW MEXICO 87401

JANUARY 22, 1971

71 JAN 25 11 3 51

4495

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

ATTENTION: MR. A. L. PORTER

DEAR SIR:

ENCLOSED ARE THREE (3) CORRECTED COPIES OF SCHEMATIC DIAGRAM OF WELL COMPLETION TO COVER SOUTHERN UNION PRODUCTION COMPANY'S JICARILLA "K" No. 13 WELL LOCATED 1450 FEET FROM THE NORTH LINE AND 1070 FEET FROM THE WEST LINE OF SECTION 11, TOWNSHIP 25 NORTH, RANGE 5 WEST, RIO ARRIBA COUNTY, NEW MEXICO.

THE ENCLOSED SCHEMATIC DIAGRAM OF WELL COMPLETION HAS BEEN CORRECTED TO SHOW THE TUBING SET TO CHACRA AND THE BLAST JOINTS SET ACROSS PICTURED CLIFFS PERFORATIONS FROM 2957 FEET TO 3036 FEET R.K.B., WHICH WAS INADVERTENTLY LEFT OFF THE ORIGINAL COPY.

YOURS TRULY,

SOUTHERN UNION PRODUCTION COMPANY

Gilbert D. Noland, Jr.

GILBERT D. NOLAND, JR.
DRILLING SUPERINTENDENT

GDNJR:AY
ENCLOSURES

CC: BENNY E. BECHTOL - DALLAS EXPLORATION
AZTEC OIL & GAS COMPANY
P.O. DRAWER 570, FARMINGTON, NEW MEXICO 87401
AZTEC OIL & GAS COMPANY
2000 FIRST NATIONAL BANK BLDG.
DALLAS, TEXAS 75202
NEW MEXICO OIL CONSERVATION COMMISSION
1000 RIO BRAZOS ROAD, AZTEC NEW MEXICO 87410
PAN AMERICAN PETROLEUM CORPORATION
501 AIRPORT DRIVE, FARMINGTON, NEW MEXICO 87401

SOUTHERN UNION PRODUCTION COMPANY
 CORRECTED
 (SCHEMATIC DIAGRAM)

WELL: JICARILLA "K" No. 13

LOCATION: 1450 FT. FROM NORTH
 LINE & 1070 FT. FROM WEST LINE OF
 SEC. 11, T-25-N, R-5-W, N.M.P.M.
 RIO ARRIBA COUNTY, NEW MEXICO

TRIPLE COMPLETION: SOUTH BLANCO
 PICTURED CLIFFS, OTERO CHACRA
 EXTENSION & BASIN DAKOTA.

SURFACE HOLE SIZE - 12-1/4"
 PRODUCTION HOLE SIZE - 7-7/8"

LARKIN FIG. 904, 5 1/2" CENTRALIZERS
 RUN ON 31 FT. SPACING ACROSS
 PICTURED CLIFFS FROM 2868-3116 FT.

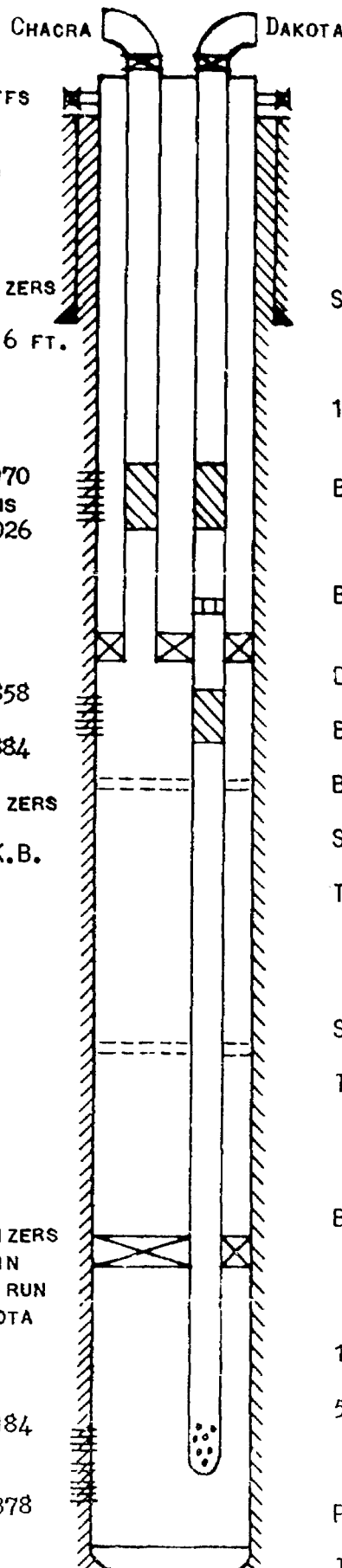
PICTURED CLIFFS PERFORATIONS
 2970
 3026

CHACRA PERFORATIONS
 3858
 3884

LARKIN FIG. 904, 5 1/2" CENTRALIZERS
 RUN ON 31 FT. SPACING ACROSS
 CHACRA FROM 3734-3982 FT. R.K.B.

LARKIN FIG. 904, 5 1/2" CENTRALIZERS
 RUN ON 31 FT. SPACING & LARKIN
 5 1/2" RECIPROCATING SCRATCHERS RUN
 ON 10 FT. SPACING ACROSS DAKOTA
 FROM 7070-7460 FT. R.K.B.

DAKOTA PERFORATIONS
 7184
 7378



SURFACE CASING: 8-5/8", 24.0#, J-55
 SET AT 312 FT. R.K.B. CEMENTED
 TO SURFACE W/250 SACKS CEMENT.

1 1/2", 2.76#, V-55 INTEGRAL JOINT TBG.
 SET TO CHACRA. LANDED IN MODEL "FA"
 PACKER AT 3811 FT. R.K.B.

BAKER 2.33" O.C. BLAST JOINTS SET
 ACROSS PICTURED CLIFFS PERFORATIONS
 FROM 2957-3037 FT. R.K.B. ON DAKOTA
 TUBING.

BAKER 2.18" O.D. BLAST JOINTS SET
 ACROSS PICTURED CLIFFS PERFS FROM
 2957-3036 FT. R.K.B. ON CHACRA TBG.

BAKER MODEL "L" SLIDING SLEEVE SET
 AT 3773 FT. R.K.B.

BAKER 5 1/2" MODEL "FA" PRODUCTION PACKER
 SET AT 3811 FT. R.K.B.

BAKER 2.33" O.D. BLAST JOINTS SET ACROSS
 CHACRA PERFS FROM 3849-3890 FT. R.K.B.

STAGE COLLAR SET AT 3983 FT. R.K.B.,
 CEMENTED TO SURFACE W/1100 CU. FT. CEMENT.
 TOP CEMENT ON 2ND STAGE CEMENT AT
 4100 FT. R.K.B.

STAGE COLLAR SET AT 5480 FT. R.K.B.;
 CEMENTED W/800 CU. FT. CEMENT.
 TOP CEMENT ON 1ST STAGE CEMENT AT
 5600 FT. R.K.B.

BAKER 5 1/2" MODEL "D" PRODUCTION PACKER
 SET AT 7102 FT. R.K.B.

1 1/2", 2.90#, V-55 TUBING SET TO DAKOTA
 AT 7311 FT. R.K.B.

5 1/2", 15.50#, K-55 CASING SET AT 7475 FT.
 R.K.B. 1ST STAGE CEMENTED W/600 CU.
 FT. CEMENT.

P.B.T.D. 7440 FT. R.K.B.

TOTAL DEPTH - 7475 FT. R.K.B.

SOUTHERN UNION PRODUCTION COMPANY
 CORRECTED
 (SCHEMATIC DIAGRAM)

WELL: JICARILLA "K" No. 13

LOCATION: 1450 FT. FROM NORTH
 LINE & 1070 FT. FROM WEST LINE OF
 SEC. 11, T-25-N, R-5-W, N.M.P.M.
 RIO ARriba COUNTY, NEW MEXICO

TRIPLE COMPLETION: SOUTH BLANCO
 PICTURED CLIFFS, OTERO CHACRA
 EXTENSION & BASIN DAKOTA.

SURFACE CASING: 8-5/8", 24.0#, J-55
 SET AT 312 FT. R.K.B. CEMENTED
 TO SURFACE W/250 SACKS CEMENT.

1 1/2", 2.76#, V-55 INTEGRAL JOINT TBG.
 SET TO CHACRA. LANDED IN MODEL "FA"
 PACKER AT 3811 FT. R.K.B.

BAKER 2.33" O.C. SLAST JOINTS SET
 ACROSS PICTURED CLIFFS PERFORATIONS
 FROM 2957-3037 FT. R.K.B. ON DAKOTA
 TUBING.

BAKER 2.18" O.D. BLAST JOINTS SET
 ACROSS PICTURED CLIFFS PERFS FROM
 2957-3036 FT. R.K.B. ON CHACRA TBG.

BAKER MODEL "L" SLIDING SLEEVE SET
 AT 3773 FT. R.K.B.

BAKER 5 1/2" MODEL "FA" PRODUCTION PACKER
 SET AT 3811 FT. R.K.B.

BAKER 2.33" O.D. BLAST JOINTS SET ACROSS
 CHACRA PERFS FROM 3849-3890 FT. R.K.B.

STAGE COLLAR SET AT 3983 FT. R.K.B.,
 CEMENTED TO SURFACE W/1100 CU.FT. CMT.

TOP CEMENT ON 2ND STAGE CEMENT AT
 4100 FT. R.K.B.

STAGE COLLAR SET AT 5480 FT. R.K.B.;
 CEMENTED W/800 CU.FT. CEMENT.
 TOP CEMENT ON 1ST STAGE CEMENT AT
 5600 FT. R.K.B.

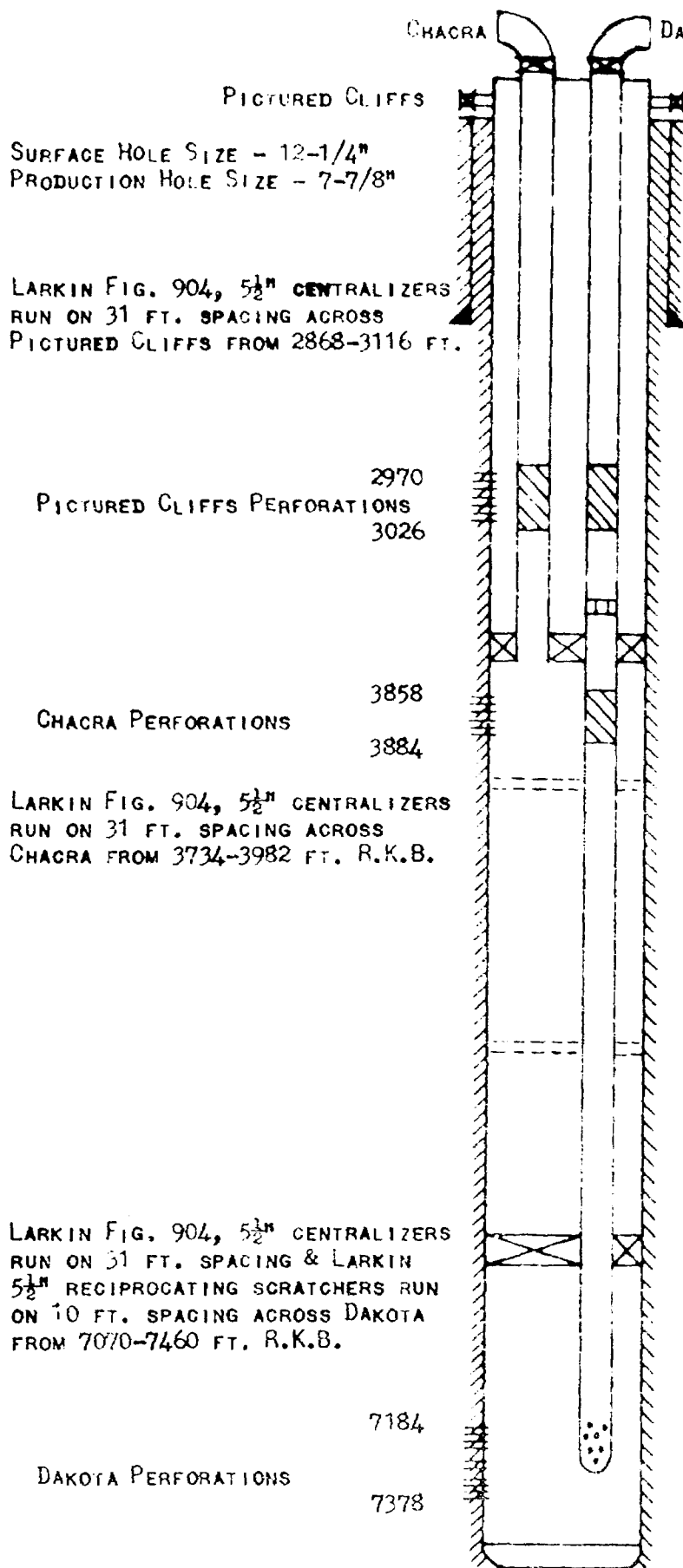
BAKER 5 1/2" MODEL "D" PRODUCTION PACKER
 SET AT 7102 FT. R.K.B.

1 1/2", 2.90#, V-55 TUBING SET TO DAKOTA
 AT 7311 FT. R.K.B.

5 1/2", 15.50#, K-55 CASING SET AT 7475 FT.
 R.K.B. 1ST STAGE CEMENTED W/600 CU.
 FT. CEMENT.

P.B.T.D. 7440 FT. R.K.B.

TOTAL DEPTH - 7475 FT. R.K.B.



SURFACE HOLE SIZE - 12-1/4"
 PRODUCTION HOLE SIZE - 7-7/8"

LARKIN FIG. 904, 5 1/2" CENTRALIZERS
 RUN ON 31 FT. SPACING ACROSS
 PICTURED CLIFFS FROM 2868-3116 FT.

PICTURED CLIFFS PERFORATIONS
 2970
 3026

CHACRA PERFORATIONS
 3858
 3884

LARKIN FIG. 904, 5 1/2" CENTRALIZERS
 RUN ON 31 FT. SPACING ACROSS
 CHACRA FROM 3734-3982 FT. R.K.B.

LARKIN FIG. 904, 5 1/2" CENTRALIZERS
 RUN ON 31 FT. SPACING & LARKIN
 5 1/2" RECIPROCATING SCRATCHERS RUN
 ON 10 FT. SPACING ACROSS DAKOTA
 FROM 7070-7460 FT. R.K.B.

7184

DAKOTA PERFORATIONS

7378

SOUTHERN UNION PRODUCTION COMPANY
 CORRECTED
 (SCHEMATIC DIAGRAM)

WELL: JICARILLA "K" No. 13

LOCATION: 1450 FT. FROM NORTH
 LINE & 1070 FT. FROM WEST LINE OF
 SEC. 11, T-25-N, R-5-W, N.M.P.M.
 RIO ARriba COUNTY, NEW MEXICO

TRIPLE COMPLETION: SOUTH BLANCO
 PICTURED CLIFFS, OTERO CHACRA
 EXTENSION & BASIN DAKOTA.

SURFACE HOLE SIZE - 12-1/4"
 PRODUCTION HOLE SIZE - 7-7/8"

LARKIN FIG. 904, 5 1/2" CENTRALIZERS
 RUN ON 31 FT. SPACING ACROSS
 PICTURED CLIFFS FROM 2868-3116 FT.

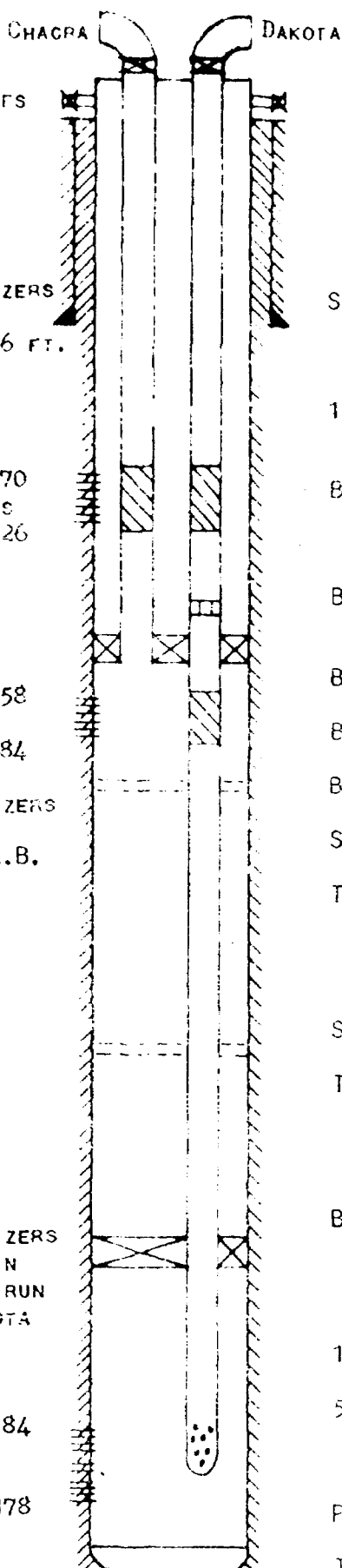
PICTURED CLIFFS PERFORATIONS
 2970
 3026

CHACRA PERFORATIONS
 3858
 3884

LARKIN FIG. 904, 5 1/2" CENTRALIZERS
 RUN ON 31 FT. SPACING ACROSS
 CHACRA FROM 3734-3982 FT. R.K.B.

LARKIN FIG. 904, 5 1/2" CENTRALIZERS
 RUN ON 31 FT. SPACING & LARKIN
 5 1/2" RECIPROCATING SCRATCHERS RUN
 ON 10 FT. SPACING ACROSS DAKOTA
 FROM 7070-7460 FT. R.K.B.

DAKOTA PERFORATIONS
 7184
 7378



SURFACE CASING: 8-5/8", 24.0#, J-55
 SET AT 312 FT. R.K.B. CEMENTED
 TO SURFACE W/250 SACKS CEMENT.

1 1/2", 2.76#, V-55 INTEGRAL JOINT TBG.
 SET TO CHACRA. LANDED IN MODEL "FA"
 PACKER AT 3811 FT. R.K.B.

BAKER 2.33" O.D. BLAST JOINTS SET
 ACROSS PICTURED CLIFFS PERFORATIONS
 FROM 2957-3037 FT. R.K.B. ON DAKOTA
 TUBING.

BAKER 2.18" O.D. BLAST JOINTS SET
 ACROSS PICTURED CLIFFS PERFS FROM
 2957-3036 FT. R.K.B. ON CHACRA TBG.

BAKER MODEL "L" SLIDING SLEEVE SET
 AT 3770 FT. R.K.B.

BAKER 5 1/2" MODEL "FA" PRODUCTION PACKER
 SET AT 3811 FT. R.K.B.

BAKER 2.33" O.D. BLAST JOINTS SET ACROSS
 CHACRA PERFS FROM 3849-3890 FT. R.K.B.

STAGE COLLAR SET AT 3983 FT. R.K.B.,
 CEMENTED TO SURFACE W/1100 CU. FT. CMT.
 TOP CEMENT ON 2ND STAGE CEMENT AT
 4100 FT. R.K.B.

STAGE COLLAR SET AT 5480 FT. R.K.B.;
 CEMENTED W/800 CU. FT. CEMENT.

TOP CEMENT ON 1ST STAGE CEMENT AT
 5600 FT. R.K.B.

BAKER 5 1/2" MODEL "D" PRODUCTION PACKER
 SET AT 7102 FT. R.K.B.

1 1/2", 2.90#, V-55 TUBING SET TO DAKOTA
 AT 7311 FT. R.K.B.

5 1/2", 15.50#, K-55 CASING SET AT 7475 FT.
 R.K.B. 1ST STAGE CEMENTED W/600 CU.
 FT. CEMENT.

P.B.T.D. 7440 FT. R.K.B.

TOTAL DEPTH - 7475 FT. R.K.B.

BEFORE EXAMINER NUTTER

4495 EXHIBIT NO. 3
Case No. *San Juan*

1/19/71

SOUTHERN UNION PRODUCTION Co. SOUTHERN UNION GAS COMPANY

SOUTH BLANCO PICTURED CLIFFS

12/22/70 7475 7440 6698 JICARILLA #K^o

5.500 15.50 4.950 7475 From 2970 3036 13

No Tubing Perms To E 11 25 N 5E

TRIPLE - GAS - GAS - GAS 3811 & 7102 RIO ARriba

CASING 12 NEW MEXICO

2958 0.700

FLOW DATA				TUBING DATA		CASING DATA		Duration of Flow
NO	Flow Line Size	Pressure	Temp	Temp	Temp	Temp		
1	2"	3/4"				603	66°	22 DAYS 3 HOURS
2								
3								
4								
5								

RATE OF FLOW CALCULATIONS

NO	Flow Rate	Pressure	Temp	Temp	Temp	Temp
1	12,3650	374	0.9923	0.9228	1.044	6.630
2						
3						
4						
5						

615 378,225

142,015 236,270

1.6012 1.4919

$ROP = Q \left[\frac{P_2^n}{P_1^n - P_2^n} \right] = 6,630$

6,630 0.85

Approved By Commission: **JAN 20 1971**

Conducted By: **KENNETH E. ROBBY**

Calculated By: **KENNETH E. ROBBY**

Checked By: **KENNETH E. ROBBY**

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

Type Test		<input checked="" type="checkbox"/> Initial		<input type="checkbox"/> Annual		<input type="checkbox"/> Special		Date		12/12/71			
Company				SOUTHERN UNION PRODUCTION CO.				SOUTHERN UNION GAS COMPANY					
Post				OTERO				CHACRA EXTENSION					
Completion Date		12/22/70		Well No.		7475		Well No.		7440			
Casing Size		5.500		Well Depth		6698		Lease Name		JICARILLA #K#			
Casing Weight		15.50		Set At		7475		Perforations:		From 3858 To 3884			
Tubing Size		1.900		Set At		3811		Perforations:		From To 3811			
Tubing Weight		2.76		Set At		3811		Perforations:		From To 3811			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple				TRIPLE - GAS - GAS - GAS				Packer Set At		3811 & 7102		County	
Producing Thru				TUBING				Baro. Press. - P ₀		12		State	
Reservoir Temp. °F				Mean Annual Temp. °F				Prover		Meter Run		Taps	
L		H		G _g		% CO ₂		% N ₂		% H ₂ S		Prover	
3799				0.700									
FLOW DATA						TUBING DATA			CASING DATA			Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow		
SI	2"		3/4"				892				15 DAYS		
1.							84	57°			3 HOURS		
2.													
3.													
4.													
5.													
RATE OF FLOW CALCULATIONS													
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compress. Factor, F _{py}	Rate of Flow Q, Mcfd						
1	12.3650		96	1.0029	0.9258	1.000	1,102						
2													
3													
4													
5													
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.								
1					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.								
2					Specific Gravity Separator Gas _____ X X X X X X X X X								
3					Specific Gravity Flowing Fluid _____ X X X X X								
4					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.								
5					Critical Temperature _____ R _____ R								
P _c	904	P _c ²	817,216										
NO.	P _r	P _w	P _w ²	P _w ² - P _c ²	(1) $\frac{P_c^2}{P_w^2 - P_c^2} = 1.0895$		(2) $\left[\frac{P_c^2}{P_w^2 - P_c^2} \right]^n = 1.0756$						
1			67,124	750,092									
2													
3													
4													
5													
Absolute Term Flow				1,185				Mcfd @ 15.025		Angle of Slope θ		Slope, n = 0.85	
Remarks:													
Approved By Commission:				Conducted By: KENNETH E. RODDY				Calculated By: KENNETH E. RODDY				Checked By: KENNETH E. RODDY	

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form No. 12
Revised 10-1-65

Type Well		XX		1/5/71	
Company			SOUTHERN UNION PRODUCTION CO. SOUTHERN UNION GAS COMPANY		
Basin			DAROTA		
Completion Date		7475		7475	
12/22/70		6093		JICARILLA "KW"	
Depth	WT.	d	Set At	Perforations	Arbit. No.
5,500	15.5	4.950	7475	From 7196 To 7311	1
1.900	2.90	1.610	7311	From 7303 To 7311	E 11
Type Well - Single - Dresshead - G.C. or G.O. Multiple				Packer Set At	
TRIPLE - GAS - GAS - GAS				3111 & 3112	
Producing Thru		Reservoir Temp. °F		Baro. Press. p.s.i.g.	
TUBING		•		12	
L	h	log	% CO ₂	% N ₂	% H ₂ S
7271		0.700			
County		State			
RIO ARriba		NEW MEXICO			
Meter Run					
7271					

FLOW DATA				TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.		Temp. °F
1	2"		3/4"				217	58°	8 DAYS
2							177		3 HOURS
3									
4									
5									

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super. Temp. Factor F _{sv}	Rate of Flow C. Mfd.
1	12.3650		129	1.0019	0.9258	1.012	1500
2							
3							
4							
5							

NO.	Gas-Liquid Hydrocarbon Ratio	M. Lb./Bbl.
1		
2		
3		
4		
5		

NO.	$\frac{P_e^2}{P_w^2 - P_e^2}$	$\frac{P_e^2}{P_e^2 - P_w^2}$	$\frac{P_e^2}{P_e^2 - P_w^2}$	$\frac{P_e^2}{P_e^2 - P_w^2}$
1	2224	6,946,176	1.0634	1.0323
2		205,616		
3		6,740,560		
4				
5				

1548	Mold # 15.025	Angle of Slope #	0.75
------	---------------	------------------	------

Remarks:

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
JAN 7 1971	JIM BONAVENTURA	KENNETH E. RODDY	KENNETH E. RODDY

SOUTHERN UNION PRODUCTION COMPANY
 CORRECTED
 (SCHEMATIC DIAGRAM)

WELL: JICARILLA #K No. 13

LOCATION: 1450 FT. FROM NORTH LINE & 1070 FT. FROM WEST LINE OF SEC. 11, T-25-N, R-5-W, N.M.P.M. RIO ARR. BA COUNTY, NEW MEXICO

TRIPLE COMPLETION: SOUTH BLANCO PICTURED CLIFFS, OTERO CHACRA EXTENSION & BASIN DAKOTA.

SURFACE CASING: 8-5/8", 24.0#, J-55 SET AT 312 FT. R.K.B. CEMENTED TO SURFACE W/250 SACKS CEMENT.

1 1/2", 2.76#, V-55 INTEGRAL JOINT TBG. SET TO CHACRA. LANDED IN MODEL #FA PACKER AT 3811 FT. R.K.B.

BAKER 2.33" O.C. BLAST JOINTS SET ACROSS PICTURED CLIFFS PERFORATIONS FROM 2957-3037 FT. R.K.B. ON DAKOTA TUBING.

BAKER 2.18" O.D. BLAST JOINTS SET ACROSS PICTURED CLIFFS PERFS FROM 2957-3035 FT. R.K.B. ON CHACRA TBG.

BAKER MODEL #L SLIDING SLEEVE SET AT 3773 FT. R.K.B.

BAKER 5/8" MODEL #FA PRODUCTION PACKER SET AT 3811 FT. R.K.B.

BAKER 2.33" O.D. BLAST JOINTS SET ACROSS CHACRA PERFS FROM 3849-3890 FT. R.K.B.

STAGE COLLAR SET AT 3983 FT. R.K.B., CEMENTED TO SURFACE W/1100 CU. FT. CM.

TOP CEMENT ON 2ND STAGE CEMENT AT 4100 FT. R.K.B.

STAGE COLLAR SET AT 5480 FT. R.K.B.; CEMENTED W/800 CU. FT. CEMENT.

TOP CEMENT ON 1ST STAGE CEMENT AT 5600 FT. R.K.B.

BAKER 5/8" MODEL #D PRODUCTION PACKER SET AT 7102 FT. R.K.B.

1 1/2", 2.90#, V-55 TUBING SET TO DAKOTA AT 7311 FT. R.K.B.

5/8", 15.50#, K-55 CASING SET AT 7475 FT. R.K.B. 1ST STAGE CEMENTED W/600 CU. FT. CEMENT.

P.B.T.D. 7440 FT. R.K.B.

TOTAL DEPTH - 7475 FT. R.K.B.

SURFACE HOLE SIZE - 12-1/4"
 PRODUCTION HOLE SIZE - 7-7/8"

LARKIN FIG. 904, 5/8" CENTRALIZERS RUN ON 31 FT. SPACING ACROSS PICTURED CLIFFS FROM 2868-3116 FT.

PICTURED CLIFFS PERFORATIONS
 2970
 3026

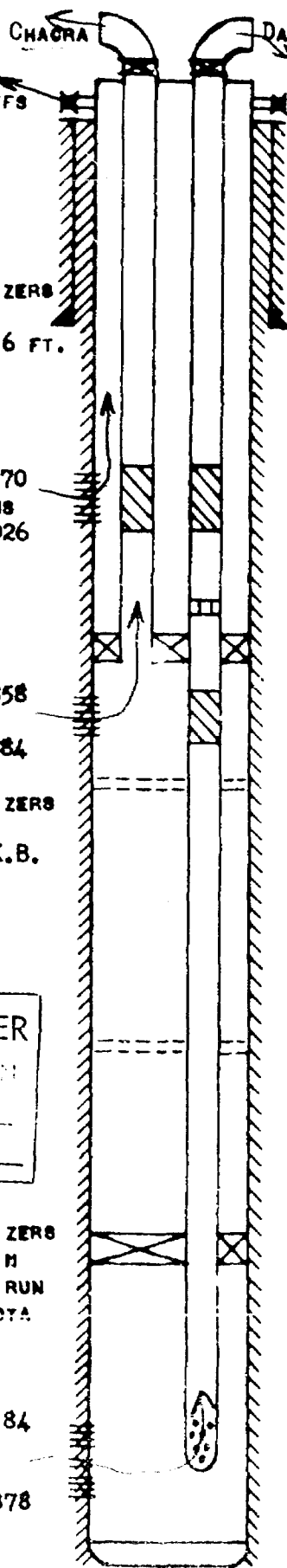
CHACRA PERFORATIONS
 3858
 3884

LARKIN FIG. 904, 5/8" CENTRALIZERS RUN ON 31 FT. SPACING ACROSS CHACRA FROM 3734-3982 FT. R.K.B.

BEFORE EXAMINER NUTTER
 OBSERVATION COPY
 449 EXHIBIT NO. 4
 CASE NO. *S. Union*

LARKIN FIG. 904, 5/8" CENTRALIZERS RUN ON 31 FT. SPACING & LARKIN 5/8" RECIPROCATING SCRATCHERS RUN ON 10 FT. SPACING ACROSS DAKOTA FROM 7070-7460 FT. R.K.B.

DAKOTA PERFORATIONS
 7184
 7378



SOUTHERN UNION PRODUCTION COMPANY

POST OFFICE BOX 808
FARMINGTON, NEW MEXICO 87401

JANUARY 11, 1971

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088
SANTA FE, NEW MEXICO 87501

ATTENTION: MR. A. L. PORTER

ENCLOSED ARE THREE (3) COPIES EACH OF THE FOLLOWING FORMS TO COVER
SOUTHERN UNION PRODUCTION COMPANY'S JICARILLA "K" No. 13 WELL LOCATED
1450 FEET FROM THE NORTH LINE AND 1070 FEET FROM THE WEST LINE OF
SECTION 11, TOWNSHIP 25 NORTH, RANGE 5 WEST, RIO ARRIBA COUNTY,
NEW MEXICO:

1. APPLICATION FOR MULTIPLE COMPLETION - FORM C-107
2. OFFSET OPERATOR'S PLAT
3. SCHEMATIC DIAGRAM OF WELL COMPLETION

ALSO ENCLOSED IS ONE (1) COPY EACH OF THE PACKER-SETTING AFFIDAVITS
AND E. S. INDUCTION LOG.

YOURS TRULY,

SOUTHERN UNION PRODUCTION COMPANY

Gilbert D. Noland Jr.

GILBERT D. NOLAND, JR.
DRILLING SUPERINTENDENT

GDNJR:AY
ENCLOSURES

CC: BENNY E. BECHTOL - DALLAS EXPLORATION
AZTEC OIL & GAS COMPANY
P. O. Box 570, FARMINGTON, NEW MEXICO 87401
AZTEC OIL & GAS COMPANY
2000 1ST NATIONAL BANK BLDG., DALLAS, TEXAS 75202
NEW MEXICO OIL CONSERVATION COMMISSION
1000 RIO BRAZOS ROAD, AZTEC, NEW MEXICO 87410
PAN AMERICAN PETROLEUM CORPORATION
501 AIRPORT DRIVE, FARMINGTON, NEW MEXICO 87401

DOCKET MAILLED

1-22-71

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

Form C-107
5-1-61

(200 44 95)

Operator SOUTHERN UNION PRODUCTION COMPANY		County RIO ARRIBA	Date
Address P.O. Box 808, FARMINGTON, NEW MEXICO		Township JICARILLA "K"	Well No. 13
Longitude E	Section 11	Range 25 NORTH	Range 5 WEST

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 **XX**
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	SOUTH BLANCO PICTURED CLIFFS	OTERO CHACRA EXTENSION	BASIN DAKOTA
b. Top and Bottom of Pay Section (Perforations)	2970 - 3026 FT.	3858 - 3884 FT.	7184 - 7198 FT.
c. Type of production (Oil or Gas)	GAS	GAS	GAS
d. Method of Production (Flowing or Artificial Lift)	FLOWING	FLOWING	FLOWING

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 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 checked="" 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.
- PAN AMERICAN PETROLEUM CORPORATION, 501 AIRPORT DRIVE, FARMINGTON, NEW MEXICO 87401**

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES **XX** NO _____. If answer is yes, give date of such notification **JANUARY 11, 1971**.

CERTIFICATE: I, the undersigned, state that I am the **DRILLING SUPERINTENDENT** of the **SOUTHERN UNION PRODUCTION COMPANY** (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.

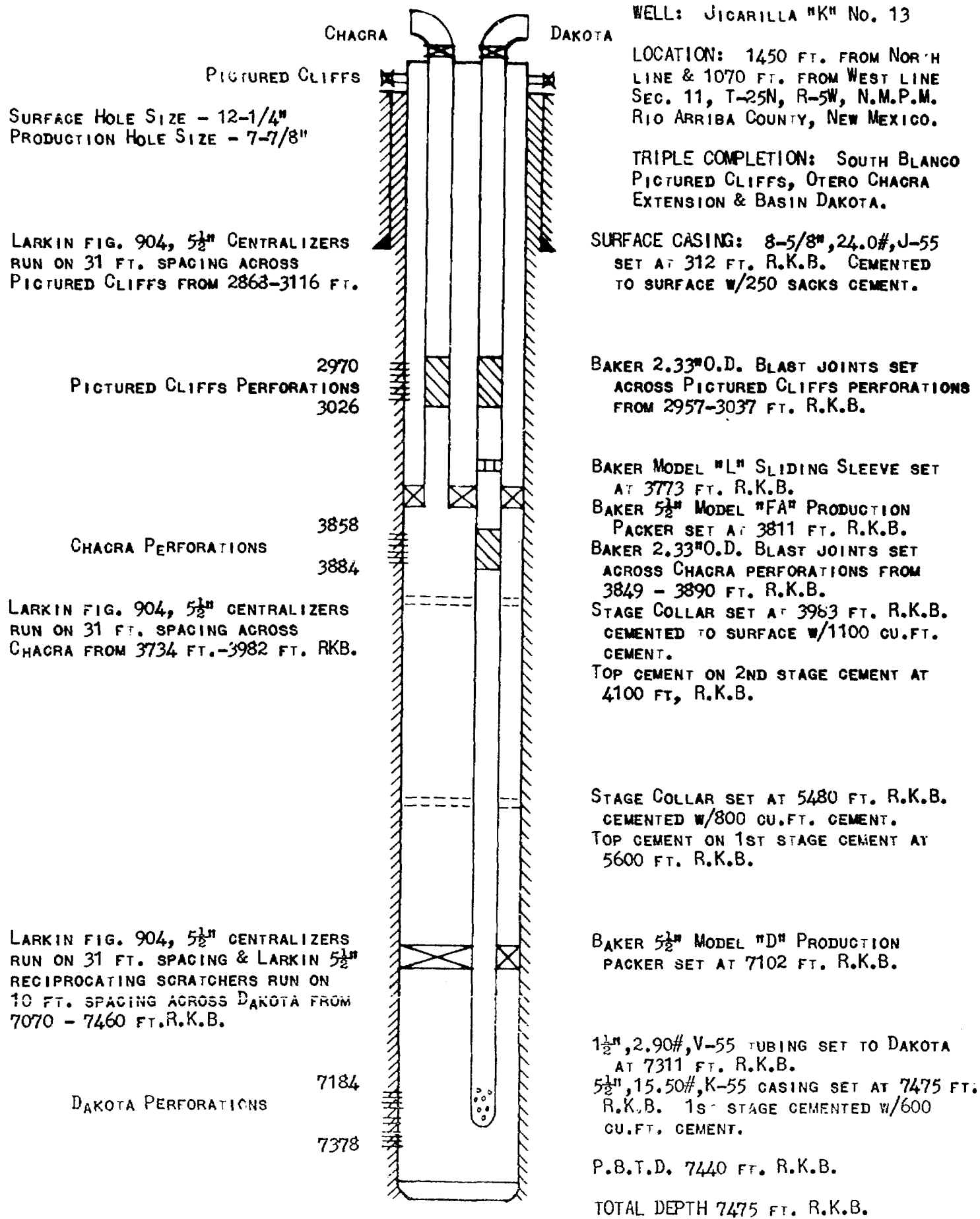
Gilbert D. Noland, Jr.
GILBERT D. NOLAND, JR. Signature

*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.

SOUTHERN UNION PRODUCTION COMPANY
(SCHEMATIC DIAGRAM)

Case 4495

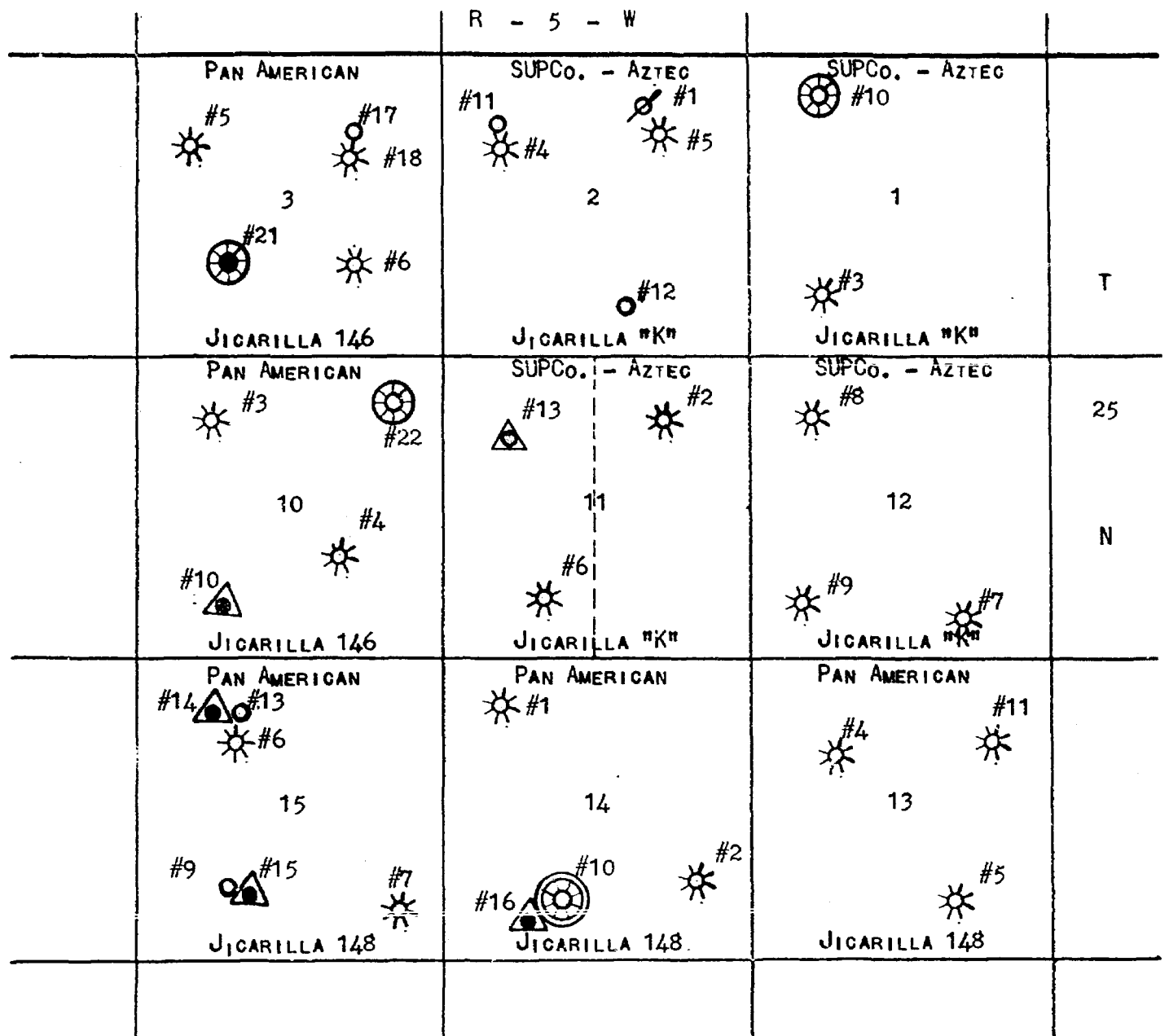


OFFSET OPERATOR'S PLAT
 To
 SOUTHERN UNION PRODUCTION COMPANY'S

Case
 4495

WELL: JICARILLA "K" No. 13

LOCATION: 1450 FT. FROM NORTH LINE & 1070 FT. FROM WEST LINE,
 SECTION 11, TOWNSHIP 25 NORTH, RANGE 5 WEST



- PROPOSED DAKOTA-PICTURED CLIFFS-OTERO CHAGRA EXTENSION
- DAKOTA
- PLUGGED & ABANDONED
- PICTURED CLIFFS
- OTERO CHAGRA
- DAKOTA-PICTURED CLIFFS
- DAKOTA-GALLUP
- DAKOTA-CHAGRA

PACKER-SETTING AFFIDAVIT
(Dual Completions)

Case 4495

STATE OF NEW MEXICO)
County of SAN JUAN) ss

GENE LONGACRE, being first duly sworn according to law, upon his oath deposes and says:

That he is of lawful age and has full knowledge of the facts herein below set out.

That he is employed by BAKER OIL TOOLS in the capacity of OILFIELD SERVICE ENGINEER and as such is its authorized agent.

That on DECEMBER 20, 1970, he personally supervised the setting of a 5 1/2" MODEL "D" BAKER PROD. PACKER in SOUTHERN UNION PRODUCTION COMPANY is
(Make and Type of Packer) (Operator)

JICARILLA "K" Well No. 13, located in Unit
(lease)
Letter E, Section 11, Township 25 NORTH, Range 5 WEST, NMPM,
RIO ARRIBA County, New Mexico.

That said packer was set at a subsurface depth of 7102 feet, said depth measurement having been furnished by LANE-WELLS.

That the purpose of setting this packer was to effect a seal in the annular space between the two strings of pipe where the packer was set so as to prevent the commingling, within the well-bore, of fluids produced from a stratum below the packer with fluids produced from a stratum above the packer. That this packer was properly set and that it did, when set, effectively and absolutely seal off the annular space between the two strings of pipe where it was set in such manner as that it prevented any movement of fluids across the packer.

BAKER OIL TOOLS

(Company)

Gene Longacre
(i/s Agent)

Subscribed and sworn to before me this the EIGHTH day of JANUARY, AD, 1971.

Herbert E. Koolby
Notary Public in and for the County of New Mexico

MY COMMISSION EXPIRES APRIL 4, 1972

My Commission Expires _____.

PACKER-SETTING AFFIDAVIT
(Dual Completions)

Case 4495

STATE OF NEW MEXICO)
County of SAN JUAN) ss

J. H. MADDEN, being first duly sworn according to law, upon his oath deposes and says:

That he is of lawful age and has full knowledge of the facts herein below set out.

That he is employed by BAKER OIL TOOLS in the capacity of OILFIELD SERVICE ENGINEER and as such is its authorized agent.

That on DECEMBER 20, 19 70, he personally supervised the setting of a 5 1/2" MODEL "FA" PRODUCTION PACKER in SOUTHERN UNION PRODUCTION COMPANY's
(Make and Type of Packer) (Operator)

JICARILLA "K" Well No. 13, located in Unit
(lease)
Letter E, Section 11, Township 25 NORTH, Range 5 WEST, NMPM,
RIO ARRIBA County, New Mexico.

That said packer was set at a subsurface depth of 3811 feet, said depth measurement having been furnished by LANE-WELLS.

That the purpose of setting this packer was to effect a seal in the annular space between the two strings of pipe where the packer was set so as to prevent the commingling, within the well-bore, of fluids produced from a stratum below the packer with fluids produced from a stratum above the packer. That this packer was properly set and that it did, when set, effectively and absolutely seal off the annular space between the two strings of pipe where it was set in such manner as that it prevented any movement of fluids across the packer.

BAKER OIL TOOLS

(Company)

J. H. Madden
(its Agent)

Subscribed and sworn to before me this the EIGHTH day of JANUARY, AD, 19 71.

Kenneth E. Reilly
Notary Public in and for the County of San Juan

MY COMMISSION EXPIRES APRIL 4, 1972

My Commission Expires _____.

DRAFT

GMH/esr

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:

ASD

CASE No. 4495

Order No. R- 7100

WML

APPLICATION OF SOUTHERN UNION PRODUCTION COMPANY
FOR A TRIPLE COMPLETION, RIO ARRIBA COUNTY,
NEW MEXICO.

2-5-71

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 ~~o'clock~~ a.m. on
February 3, 19 71, at Santa Fe, New Mexico, before Examiner
Daniel S. Nutter.

NOW, on this _____ day of February, 1971, 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, Southern Union Production Company,
seeks authority to complete its Jicarilla "K"

Well No. 13, located in Unit E of Section 11, Township

25 ~~South~~ North, Range 5 ~~East~~ West, NMPM, Rio Arriba County, New

Mexico, as a triple completion ~~(combination)~~ ^(conventional) to produce gas
~~(tabingless)~~

~~from the~~ Pool ~~through~~

from the South Blanco-Pictured Cliffs, Otero-Chacra, and Basin-

Dakota Pools through a combination of ^{1 1/2}-inch
strings and the casing tubing annulus with
separation zones by packers set at
approximately 3811 feet and 7102 feet.

(3) That the mechanics of the proposed triple 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, Southern Union Production Company, is hereby authorized to complete its Jicarilla "K"

Well No. 13, located in Unit E of Section 11, Township

25 ~~South~~ North, Range 5 ~~East~~ West, NMPM, Rio Arriba County, New

Mexico, as a triple completion (conventional) ~~(combination)~~ ~~(oil)~~ ~~(tubingless)~~ to produce gas

~~from the~~ ~~Pool~~ ~~through~~

from the South Blanco-Pictured Cliffs, Otero-Chacra, and Basin-

Dakota Pools through ^{the} a combination of two tubing strings
and the casing tubing annulus with separation
of zones by packers set at approximately 3811 feet
and 7107 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 ~~zone segregation~~ Gas-Oil Ratio Test Period for the Basin - Dakota 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.