

OIL CONSERVATION COMMISSION  
3 DISTRICT

OIL CONSERVATION COMMISSION  
BOX 871  
SANTA FE, NEW MEXICO

DATE 3-9-65

Re: Proposed NSP \_\_\_\_\_

Proposed NWU \_\_\_\_\_

Proposed NSL \_\_\_\_\_

Proposed NFO \_\_\_\_\_

Proposed DC ✓

Gentlemen:

I have examined the application dated 3-5-65  
for the James C. Galt Company Jaramilla AA 2 B-18-26N-SW  
Operator Lease and Well No. S-T-R

and my recommendations are as follows:

Approved  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yours very truly,

Henry C. Galt

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

Form C-107  
5-1-61

Operator Tenneco Oil Company		County Rio Arriba		Date March 5, 1965
Address P. O. Box 1714, Durango, Colorado		Lease Jicarilla "A"		Well No. 2
Location of Well	Unit B	Section 18	Township 26 N	Range 5 W

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	South Blanco Tocito		Basin Dakota
b. Top and Bottom of Pay Section (Perforations)	6919 6917 6917-6919		7749 7670 7396-7627
c. Type of production (Oil or Gas)	Oil		Shut in
d. Method of Production (Flowing or Artificial Lift)	Flowing		Shut In

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 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.

\* Caulkins Oil Company, P. O. Box 967, Farmington, New Mexico

\* Note: Above operator furnished copy of this form.



6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO \_\_\_\_\_. If answer is yes, give date of such notification March 5, 1965 by copy of this form.

CERTIFICATE: I, the undersigned, state that I am the Sr. Production Clerk of the Tenneco Oil 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.

Harold C. Nichols  
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.

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

Form C-107  
5-1-61

Operator Tenneco Oil Company		County Rio Arriba		Date March 5, 1965
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c. Type of production (Oil or Gas)	Oil		Shut in
d. Method of Production (Flowing or Artificial Lift)	Flowing		Shut In

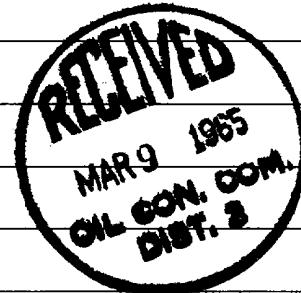
4. The following are attached. (Please check YES or NO)

Yes	No	
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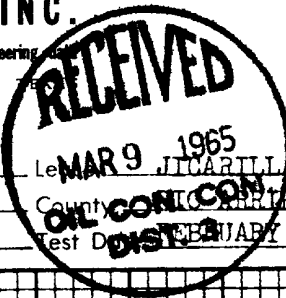
David C. Nichols  
Signature

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Company TENNECO OIL COMPANY  
 Field BASIN DAKOTA  
 Formation DAKOTA

Le MAR 9 1965 "A"  
 County CHIEF State NEW MEXICO  
 Test Date FEBRUARY 18, 1965

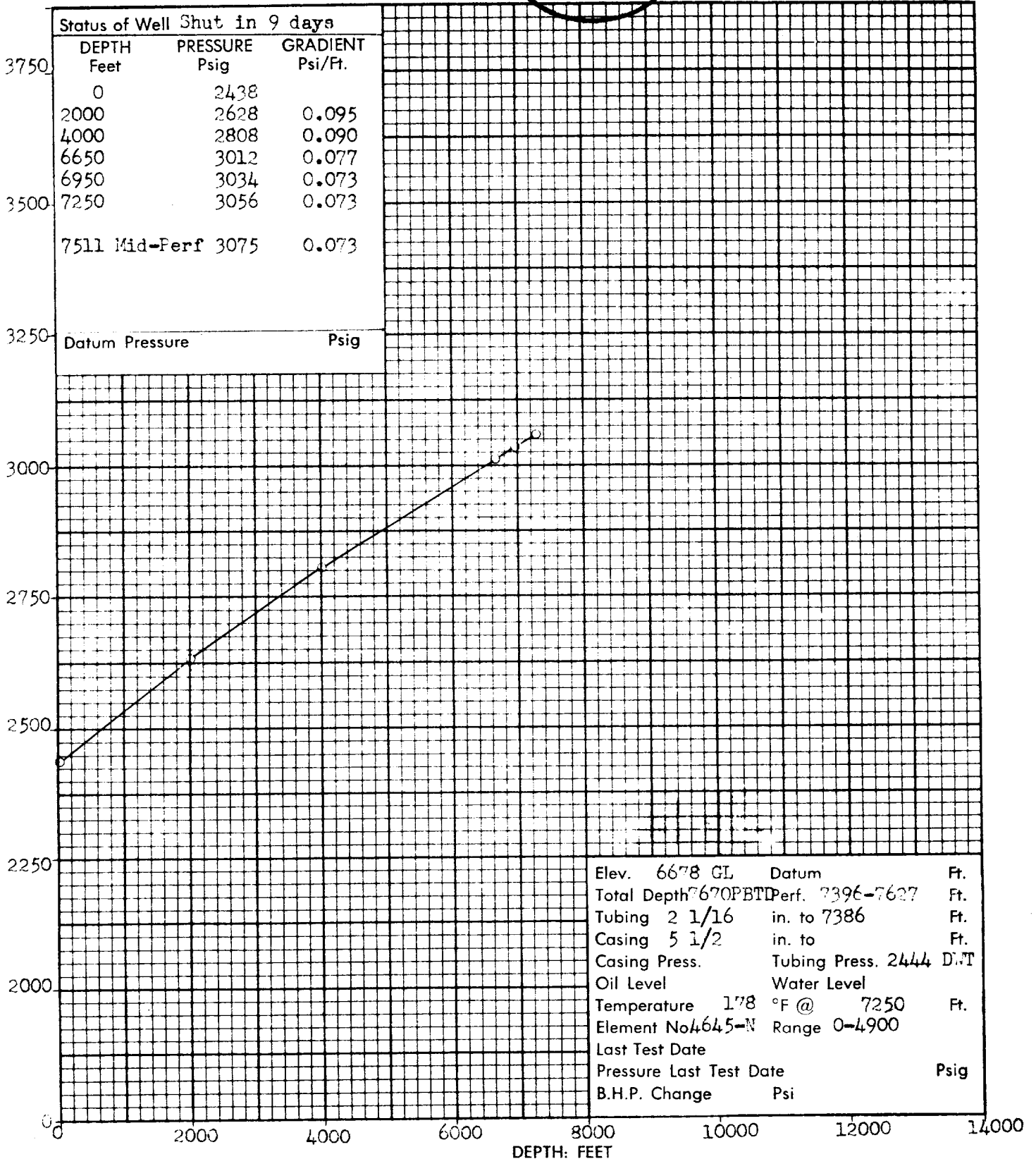


Status of Well Shut in 9 days

DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft.
0	2438	
2000	2628	0.095
4000	2808	0.090
6650	3012	0.077
6950	3034	0.073
7250	3056	0.073
7511 Mid-Perf	3075	0.073

Datum Pressure Psig

PRESSURE POUNDS PER SQUARE INCH GAUGE



## NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Basin Dakota Formation Dakota County Rio Arriba  
 Initial X Annual \_\_\_\_\_ Special OIL CON. COM. DIST. 3 Date of Test February 15, 1965  
 Company Tenneco Oil Co. Lease Jicarilla Well No. A-2  
 Unit \_\_\_\_\_ Sec. 16 Twp. 26 Rge. 5 Purchaser \_\_\_\_\_  
 Casing 5 1/2 Wt. 15.5 I.D. \_\_\_\_\_ Set at 7749 Perf. 7396 To 7627  
 Tubing 2 1/16 Wt. \_\_\_\_\_ I.D. 1.750 Set at 7306 Perf. \_\_\_\_\_ To \_\_\_\_\_  
 Gas Pay: From 7749 To 7670 L \_\_\_\_\_ xG \_\_\_\_\_ -GL \_\_\_\_\_ Bar.Press. \_\_\_\_\_  
 Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well G.O.  
 Date of Completion: \_\_\_\_\_ Packer \_\_\_\_\_ Single-Bradenhead-G. G. or G.O. Dual  
 Reservoir Temp. 178

## OBSERVED DATA

Tested Through (CHOKE) (CHOKE) (CHOKE)TEMPERATURE

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI										
1.		<u>3/4</u>				<u>2444</u>		<u>Phr.</u>		
2.						<u>310</u>	<u>56</u>	<u>Phr.</u>		<u>3 Hours</u>
3.										
4.										
5.										

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
1.	<u>12.3650</u>		<u>322</u>	<u>1.0039</u>	<u>.9608</u>	<u>1.033</u>	<u>3969</u>
2.							
3.							
4.							
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.  
 Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.  
 F<sub>c</sub> 13.239 (1-e<sup>-s</sup>) 0.295

Est.  
 Specific Gravity Separator Gas .65  
 Specific Gravity Flowing Fluid \_\_\_\_\_  
 P<sub>c</sub> 2456 P<sub>c</sub> 6011916

No.	P <sub>w</sub> P <sub>t</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> )	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup>	Cal. P <sub>w</sub>	P <sub>w</sub> P <sub>c</sub>
1.	<u>322</u>	<u>103.684</u>	<u>52.546</u>	<u>2761.082</u>	<u>814.519</u>	<u>919681</u>	<u>5112255</u>	<u>959</u>	<u>1.180</u>
2.									
3.									
4.									
5.									

Absolute Potential: 4493 MCFPD; n .75 (1.1321)

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

AGENT and TITLE \_\_\_\_\_

WITNESSED \_\_\_\_\_

COMPANY \_\_\_\_\_

REMARKS \_\_\_\_\_

## INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log. paper used for plotting the back pressure curve shall be of at least three inch cycles.

## NOMENCLATURE

$Q$  = Actual rate of flow at end of flow period at W. H. working pressure ( $P_w$ ).  
MCF/da. @ 15.025 psia and 60° F.

$P_c$  = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.  
psia

$P_w$  = Static wellhead working pressure as determined at the end of flow period.  
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia

$P_t$  = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

$P_f$  = Meter pressure, psia.

$h_w$  = Differential meter pressure, inches water.

$F_g$  = Gravity correction factor.

$F_t$  = Flowing temperature correction factor.

$F_{pv}$  = Supercompressability factor.

$n$  = Slope of back pressure curve.

Note: If  $P_w$  cannot be taken because of manner of completion or condition of well, then  $P_w$  must be calculated by adding the pressure drop due to friction within the flow string to  $P_t$ .

STATE OF NEW MEXICO )  
 )  
COUNTY OF Rio Arriba )



I, L. V. Cain, being first duly sworn upon  
my oath depose and say as follows:

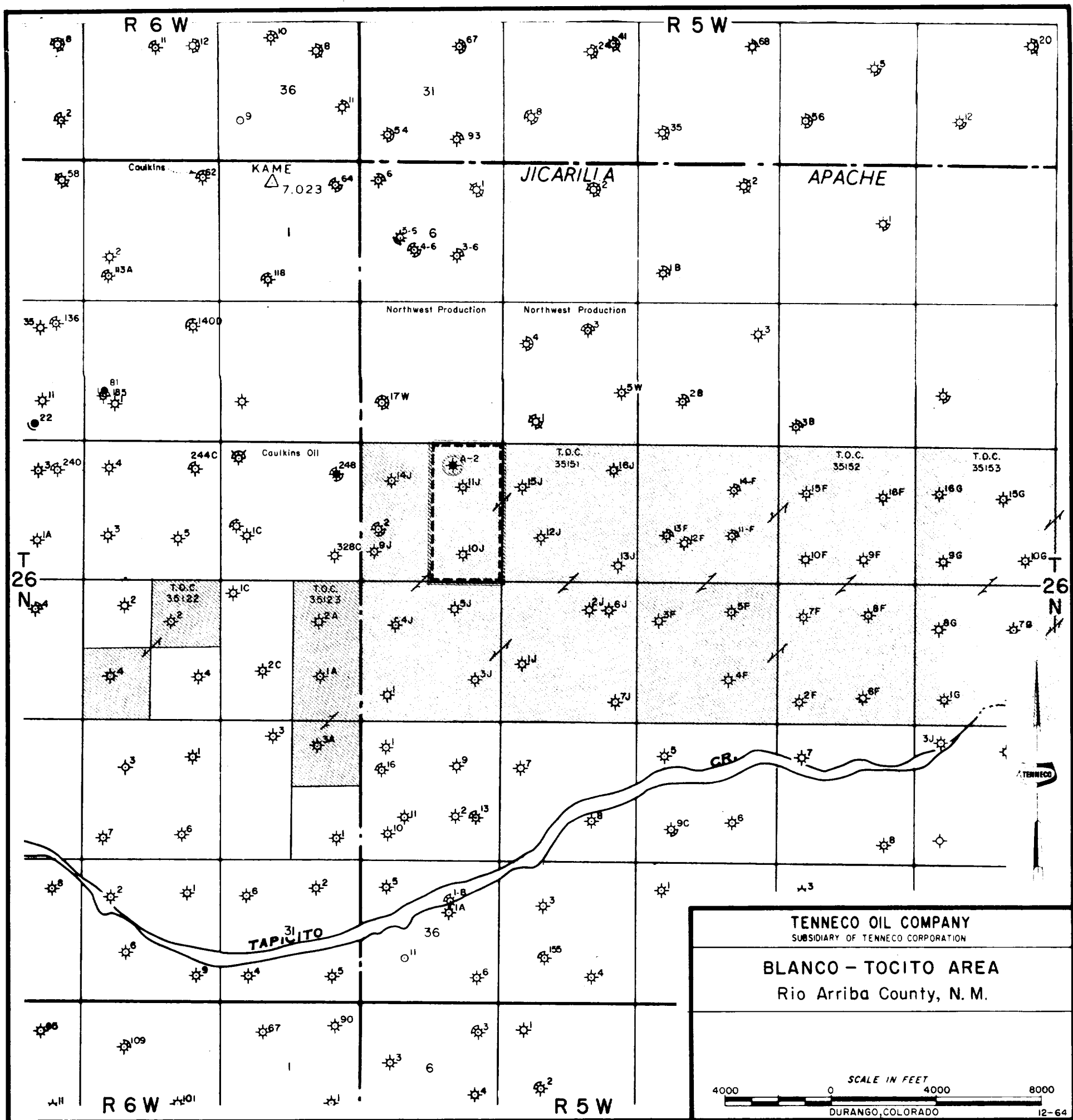
I am an employee of Baker Oil Tools, Inc., and that on 12-10-1964,  
1964, I was called to the location of the Tenneco Oil Company Company  
Micarilla A-2 Well located in the SW NE  
(Well Number)  
of Section 19, Township 26-N, Range 5-W, N.M.P.M., for  
advisory service in connection with installation of a production packer. In  
my presence, a Baker Model 400 Production Packer was set in this well  
at 7386' feet in accordance with the usual practices and customs of  
the industry.

Leslie Cain

Subscribed and sworn to before me, a Notary Public in and for New Mexico  
County, New Mexico, the 5<sup>th</sup> day of March, 1965

G. A. Ford  
Notary Public in and for New Mexico  
County, New Mexico

My commission expires 7-31-66.







# TABULATION OF DEVIATION TESTS

TENNECO OIL COMPANY

JICARILLA A-2

DEPTH	INCLINATION
90'	1/2°
450'	3/4°
927'	2-3/4°
1157'	1-1/4°
1650'	2-1/2°
1900'	2-1/4°
2402'	1°
2560'	2°
2844'	2-1/2°
3347'	1-3/4°
3585'	1°
4103'	1-1/4°
4450'	1/2°
4701'	1/4°
4985'	1/4°
5393'	1-1/2°
5613'	1°
5960'	1-1/4°
6276'	1-1/4°
6622'	1-3/4°
6843'	3/4°
7290'	2-3/4°
7480'	2-3/4°
7575'	1-3/4°
7606'	2-3/4°
7669'	1-1/4°



## A F F I D A V I T

THIS IS TO CERTIFY that to the best of my knowledge the above tabulation details the deviation test taken on TENNECO OIL COMPANY'S Jicarilla A-2, Blanco-Tocito-Basin Dakota Field, located in Section 18, T-26-N, R-5-W, Rio Arriba County, New Mexico.

Signed J. D. Hicks  
District Production Engineer

THE STATE OF COLORADO )  
 ) SS.  
COUNTY OF LA PLATA )

BEFORE ME, the undersigned authority, on this day personally appeared J. D. Hicks known to me to be District Production Engineer for Tenneco Oil Company and to be the person whose name is subscribed to the above statement, who, being by me duly sworn on oath, states that he has knowledge of the facts stated herein and that said statement is true and correct.

SUBSCRIBED AND SWORN TO before me, A Notary Public in and for said County and State this 28th day of December, 1964.

Mary Ann Chapman

My Commission Expires November 20, 1965.

TENNECO OIL CO.  
DURANGO DISTRICT  
JICARILLA "A" NO. 2  
1850' FEL & 790' FNL,  
SEC. 18, T. 26N., R. 5W.  
ELEVATION:  
GL 6661'  
KB 6676'  
KB-CHF 13.40'

DUAL COMPLETION

TOCITO GALLUP  
BASIN DAKOTA

BAKER MODEL J STAGE  
COLLAR @ 5600'

CEMENT TOP @ 6270'

5 1/2" O.D., 40 1/2" FT. @ 5920'

GALLUP PERFORATIONS

6917-19' 8 HOLES/FT.

FRACED GALLUP w/ 1070 BBLs.  
OIL AND 40,000 # SAND.

DAKOTA PERFORATIONS

INTERVAL	HOLES/FT.
7396	1
7397	1
7398	1
7399	1
7400	1
7401	1
7402	1
7409	2
7525	2
7527	2
7529	2
7534	2
7536	2
7538	2
7574	2
7576	2
7604	2
7608	2
7615	2
7617	2
7619	2
7625	1
7626	1
7627	1

LEGEND

LN - BAKER TYPE F LANDING NIPPLE  
SS - BAKER SLIDING SLEEVE  
SA - SEAL ASSEMBLY  
PT - PRODUCTION TUBE

①

②

8 5/8" @ 444'

CEMENT TOP @ 4850'

TUBING DATA

STRING #1: 2 1/16" IJ TBG.  
LANDED AT 7386' w/  
227 JTS (7363.19').

STRING #2: 2 1/16" IJ TBG  
LANDED AT 6906' w/  
213 JTS. (6896.54').

LN 6905



SS 7379

LN 7385

SA 7386

PT 7390

BAKER MODEL D PKR  
@ 7386'

FRACED DAKOTA w/ 150,000 GAL.  
WATER AND 150,000 # SAND.

PBTD 7670'

TD 7749'

5 1/2" O.D., 15.5 1/2" FT. @ 7749'

TENNERG OIL CO.  
DURANGO DISTRICT  
LICARILLA "A" NO. 2  
1850' FEL & 790' FNL,  
SEC. 18, T. 26N., R. 5W.  
ELEVATION:  
GL 6661'  
KB 6676'  
KB-CHF 13.40'

# DUAL COMPLETION

TOCITO GALLUP  
BASIN DAKOTA

BAKER MODEL J STAGE  
COLLAR @ 5600'

CEMENT TOP @ 6270'  
5 1/2" O.D., 40#/FT. @ 5920'

## GALLUP PERFORATIONS

6917-19' 8 HOLES/FT.

FRACED GALLUP w/ 1070 BBLs.  
OIL AND 40,000 # SAND.

## DAKOTA PERFORATIONS

INTERVAL	HOLES/FT.
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7397	1
7398	1
7399	1
7400	1
7401	1
7402	1
7409	2
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7527	2
7529	2
7534	2
7536	2
7538	2
7574	2
7576	2
7604	2
7608	2
7615	2
7617	2
7619	2
7625	1
7626	1
7627	1

SS 7379  
LN 7385  
SA 7386  
PT 7390

BAKER MODEL D PKR  
@ 7386'

FRACED DAKOTA w/ 150,000 GAL.  
WATER AND 150,000 # SAND.

PSTD 7670'

TD 7749'

5 1/2" O.D., 15.5#/FT. @ 7749'

5 5/8" @ 444'

2nd stage cemented w/ 350 sx  
class "C" 16% gel. 150 sx 50-50  
Poz 2% gel (150% theoretical  
fill volume)

## TUBING DATA

STRING #1: 2 1/16" IJ TAG.  
LANDED AT 7386' w/  
227 JTS (7363.19').

STRING #2: 2 1/16" IJ TAG  
LANDED AT 6906' w/  
213 JTS (6896.54').

## LEGEND

LN - BAKER TYPE F LANDING NIPPLE  
SS - BAKER SLIDING SLEEVE  
SA - SEAL ASSEMBLY  
PT - PRODUCTION TUBE

