WELL NO.: 41

Current Conditions

ZERO ELEV.: 7016' KB (12' AGL)

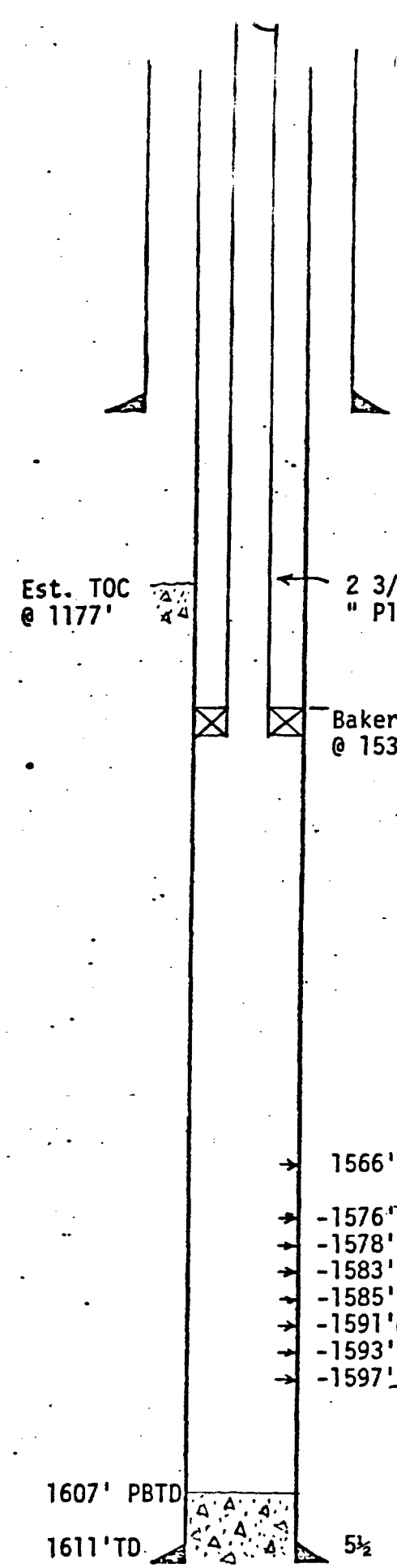
LOCATION: 5' FNL & 1650' FEL

Sec. 12-T17N-R9W

McKinley County

New Mexico

Completed: 9/10/70 as
WIW (216 BWPD @ 650 p



8 5/8 "O.D, 24 LB, H-40 CSG.

Set @ 71 ' w/ 75 sx.in 12 ¼ "hole.

(Top of Cmt. @ Surf. by Circ.)

Est. TOC @ 1177'

2 3/8", 4.7#, J-55, EUE, 8R
" Plastic Cap AB tubing

Baker Lok-Set Packer Top
@ 1536'

Acidized 1566-1597' w/750 gal.

15% HCL

Sand-water-Fraced 1566-1597'

w/1800 gal. & 5000 lb.

10/20 sand

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 5246
Submitted by Applicant
Hearing Date 5-22-74

1566' (2shots)

-1576'
-1578'
-1583'
-1585' } 1 JSPF
-1591'
-1593'
-1597'

Formation Tops:

Lookout Point 314', Mancus

627', Crevasse 852',

Hospah 1564'

1607' PBTD

1611'TD

5½ "OD, 15.5 LB, J-55 CSG

Set @ 1610 'w/ 75 sx.in 7 7/8 "hole.

(Top of Cmt. @ 1177 by Estimate)

TD @ 1611' PBTD @ 1607'

15 Centralizers & scratchers on bottom 5 jts. (3 each/jt.) & Rough Coate

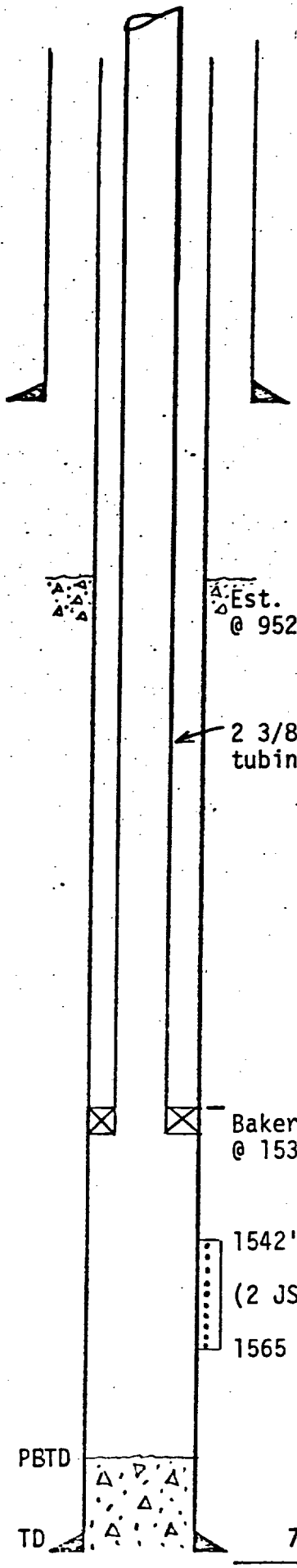
LEASE: South Hospah Unit

WELL NO.: 56

Current Conditions

ZERO ELEV.: 6966' KB (12' AGL)

LOCATION: 1100' FNL & 1275' FE
Sec. 12-T17N-R9W
McKinley Co.,
New Mexico
Completed: 5/19/73 as
WIW @ 1280
BWPD



9 5/8" O.D, 36 LB, J-55 CSG.
Set @ 102 ' w/ 90 sx. in 12¼ "hole.
(Top of Cmt. @ Surf. by Circ.)

Acidized w/500 gal. 15% HCL
on 10/12/73

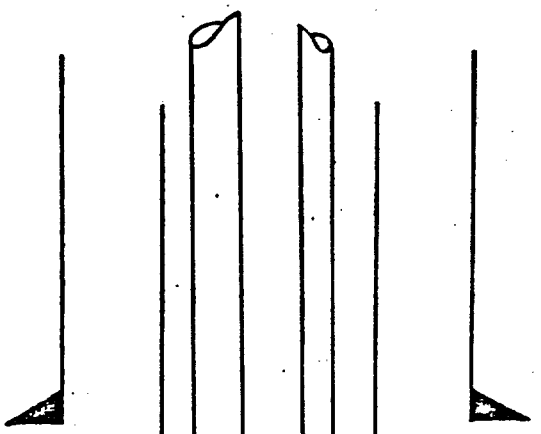
Completed 5/19/73 as WIW
w/Inj. Rate of 800 BW/15 hr.

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 5246
Submitted by Applicant
Hearing Date 5-22-74

7 "OD, 20 LB, J-55 CSG
Set @ 1584 'w/ 95 sx. in 8 3/4 "hole.
(Top of Cmt. @ 952 by Vol. Est.)
TD @ 1584' PBTD @ 1577'
10 Centralizers

LEASE: South Hospah Unit

WELL NO.: 41
Proposed Dual Completion



ZERO ELEV.: 7016' KB (12' AGL)

LOCATION: 5' FNL & 1650' FEL
Sec. 12-T17N-R9W
McKinley Co., New Mexico

8 5/8" O.D. 24 LB. H-40 CSG.
Set @ 71 ' w/ 75 sx. in 12¼ "hole
(Top of Cmt. @ Surf. by Circ.)

1½" Integral Joint Tubing

Baker Model "B" @ 1500' + w/
Baker J-Lock Seal Assembly

-1566'

-1576'
-1578'
-1583'
-1585'
-1591'
-1593'
-1597'

Existing Perforations
in Upper Hospah

2 3/8" Integral
Joint Tubing

Baker Model "F" @ 1600 ± by wireline

1610'

5½ " O.D. 15.5 LB. J-55 CSG.
Set @ 1610 ' w/ 75 sx. in 7 7/8 "hole.
(Top of Cmt. @ 1177 by Vol. Est.)

1619' Estimated top of shale

1627' Est. Top of Lower Hospah

1637' T.D. (PBD ')
Size hole: 4 3/4"

(Estimated bottom of Lower Hospah Sand
@ 1735').

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 5246
Submitted by Applicant
Hearing Date 5-22-74

PROGNOSIS
DUAL HOSPAH NO. 41

1. MI and RU WOR

2. POH with tubing and "Lok-Set" packer.

3. GIH with bit and drill collars. Drill from PBTD of 1607 to 1615 5' below casing shoe.

4. GIH with retrievable packer and set at 1605. Inject down annulus into perfs 1566 thru 1597 and monitor tubing for communication.

5. If communication is present, reset packer ± 1200 feet and squeeze perfs and casing shoe with 75 sacks of cement. POH. If no communication, proceed to step 8 and skip step No. 9.

6. GIH with bit and drill collars. Drill out cement to 1615 feet. Test squeeze to 1000 psi.

7. If squeeze not okay, POH and resqueeze.

8. If squeeze okay, drill out and penetrate Lower Hospah sand 10 feet. Est. top of Lower Hospah 1627 feet and est. TD 1637'. POH.

9. Rig up Wireline Company. GIH and reperforate Upper Hospah 1574 - 1598 feet.

10. GIH and set Baker Model "F" packer at 1605 feet.

11. GIH with long string (2 3/8" integral joint) with Baker Model "B" snap set dual tension packer, and Baker seal assembly for Model "F" packer.

12. Sting into Model "F" and land long string. GIH with short string (1 1/2" integral joint) with Model "C" J-lock seal nipple. Sting into the Model "B" packer with J-lock nipple and take an upstrain to set Model "B" in tension.

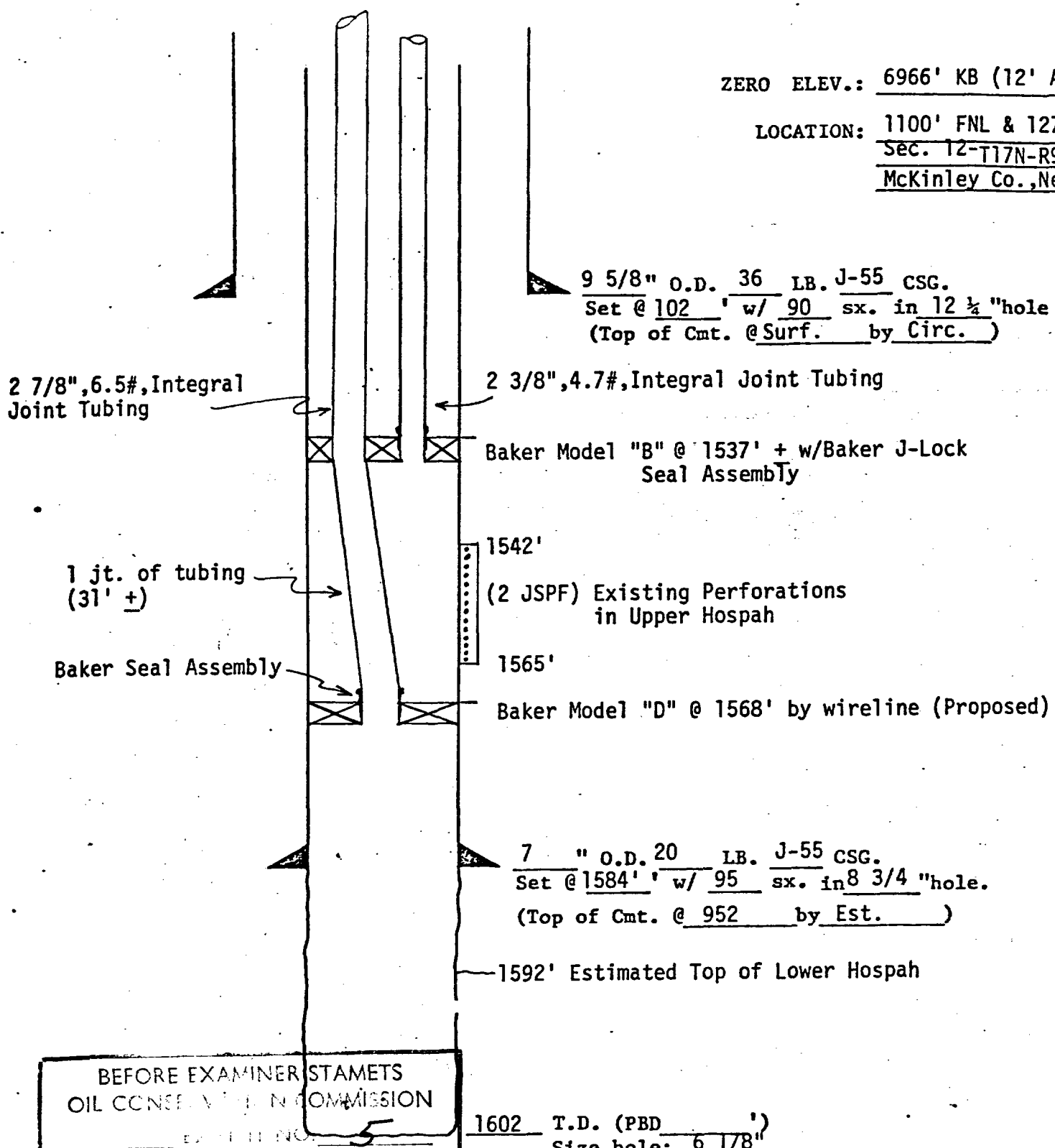
13. Connect injection lines and begin injection. Connect dual pin recorder and monitor pressures to show separation between Upper and Lower zones. Acidize if necessary to obtain injection.

WTJ W. T. Jones
April 17, 1974

LEASE: South Hospah Unit

WELL NO.: 56

Proposed Dual Completion



BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 5246
Submitted by Applicant
Hearing Date 5-22-74

PROGNOSIS
DUAL HOSPAH NO. 56

1. MI and RU WOR.

2. POH with fiberglass tubing and Model "A" packer. Lay down fiberglass tubing.

3. GIH with bit and drill collars. Drill from PBTD of 1577 to 1586 2' below casing shoe. POH.

4. GIH with retrievable packer and set at 1570 feet. Inject down annulus into perfs 1542 - 65 and monitor tubing for communication.

5. If communication is present, reset packer at ± 1200 feet and squeeze perfs and casing shoe with 75 sacks of cement. POH. If no communication, proceed to step 8 and skip step No. 9.

6. GIH with bit and drill collars. Drill out cement to 1586. Test squeeze to 1000 psi.

7. If squeeze not okay, POH and resqueeze.

8. If squeeze okay, drill out and penetrate Lower Hospah Sand 10 feet. Est. top of Lower Hospah 1592, est. TD 1602 feet. POH.

9. GIH and perforate Upper Hospah 1542 - 65.

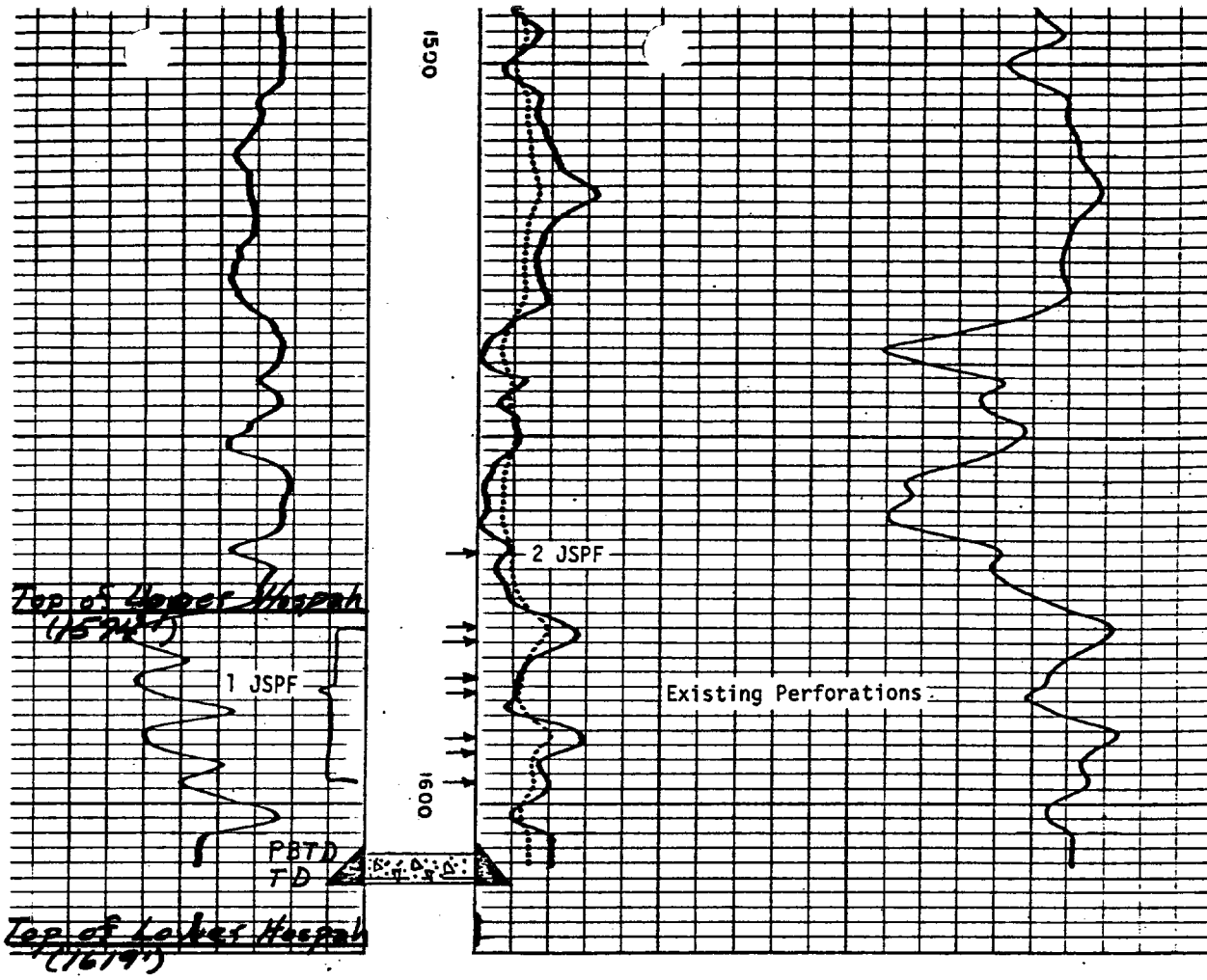
10. GIH with Wireline and set Baker Model "D" packer at 1575 ±.

11. GIH with long string (2 7/8" integral joint tubing) with Baker Model "B" snap set dual tension packer and Baker seal assembly for Model "D" packer.

12. Sting into Model "D" with seal assembly and land long string. GIH with short string (2 3/8" integral joint tubing) with Model "C" J-lock seal nipple. Sting into the Model "B" packer with J-lock nipple and take an upstrain to set Model "B" in tension.

13. Connect injection lines and begin injection. Connect dual pin recorder and monitor pressures to show separation between Upper and Lower zones. Acidize if necessary to obtain injection.

WTJ W. T. Jones
April 17, 1974

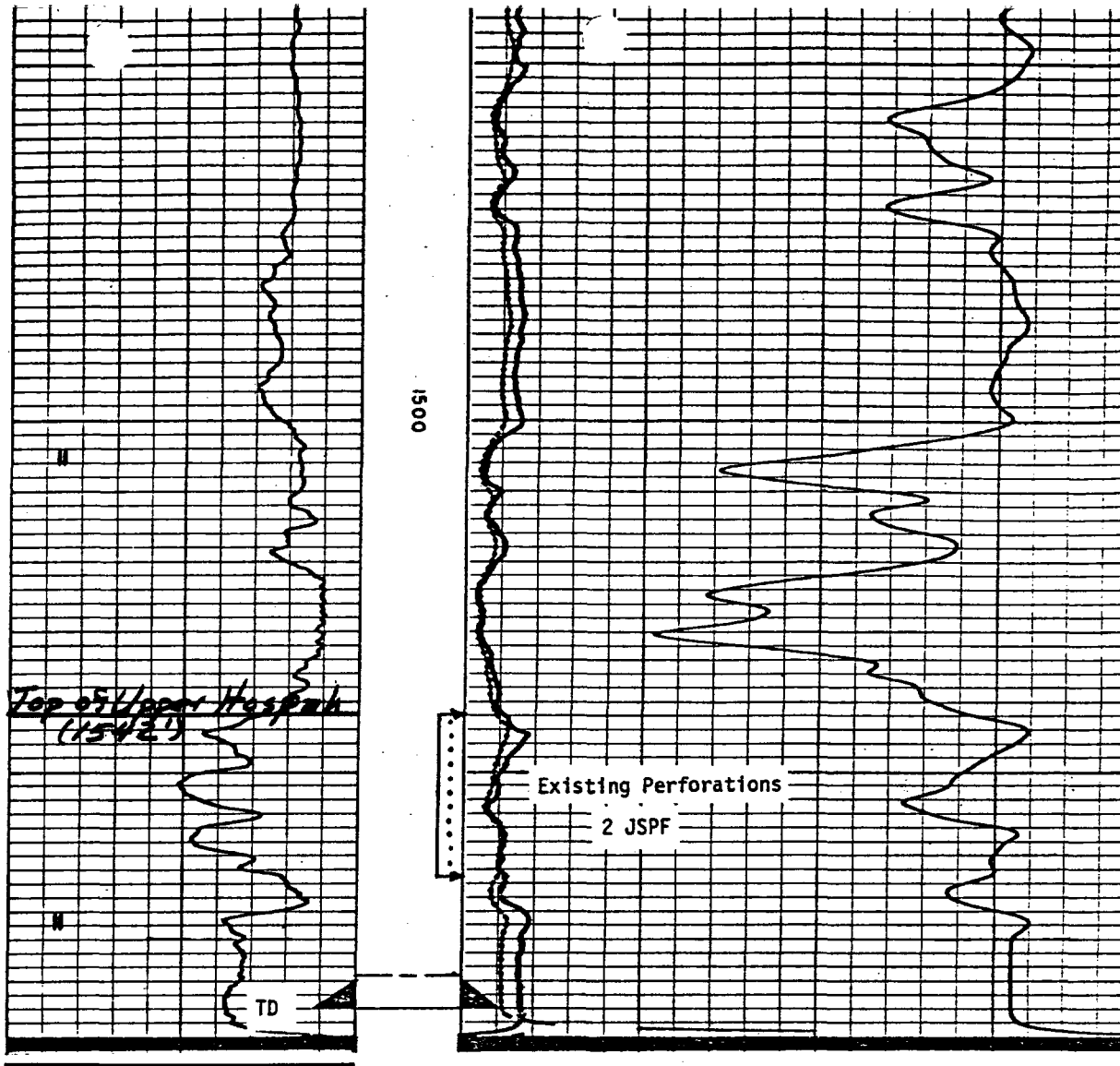


BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 6
CASE NO. 5246
Submitted by Applicant
Hearing Date 5-22-74

0 — 1000		
0 — 100 INDUCTION RESISTIVITY 40" SPACING		
0 — 1000		
0 — 100 16" NORMAL		
RESISTIVITY Ohms m²/m		
800 — 400		
400 — 0 INDUCTION CONDUCTIVITY 40" SPACING.		
SPONTANEOUS POTENTIAL Millivolts	DEPTH	CONDUCTIVITY Millimhos/m

10

Company	TENNECO OIL COMPANY	Drillers T.D.	1605
Well	HOSPAH #41	Log F.R.	1604
Field	HOSPAH	Log T.D.	1610
County	MCKINLEY SEC. 12-17N-9W	Elevations:	
State	NEW MEXICO	K.B. 7016 D.F.	G.L. 7004



BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 7
CASE NO. 5246
Submitted by Applicant
Hearing Date 5-22-74

0 — 1000	
0 — 100	
INDUCTION RESISTIVITY 40" SPACING	
0 — 1000	
0 — 100	
16" NORMAL	
RESISTIVITY Ohms m²/m	
800	4
400	
INDUCTION CONDUCTIVITY 40" SPACING	

− ←→ +
10

SPONTANEOUS POTENTIAL Millivolts	DEPTH	CONDUCTIVITY Millimhos/m

Company	TENNECO OIL COMPANY	Drillers T.D.	1580
Well	HOSPAH #56	Log F.R.	1574
Field	HOSPAH	Log T.D.	1579
County	MC KINLEY SEC. 12-27N-9W	Elevations:	
State	NEW MEXICO	K.B. 6966	D.F. 6965 G.L. 6954

SCHLUMBERGER INDUCTION ELECTRICAL LOG

COMPANY TENNECO OIL COMPANY
WELL HOSPAH #8
FIELD HOSPAH
COUNTY MC KINLEY STATE NEW MEXICO
LOCATION 1650' FNL 2051' FEL
Sec. 12 Twp. 17N Rge. 9W

COUNTY MC KINLEY, N.M.
FIELD or LOCATION HOSPAH
WELL HOSPAH #8
COMPANY TENNECO OIL CO.

Other Services: FDC/GR

Elev.: K.B. 6990
D.F. 6989
G.L. 6979

Permanent Datum: GL, Elev. 6979
Log Measured From KB, 11 Ft. Above Perm. Datum
Drilling Measured From KB

Date	3/20/67		
Run No.	ONE		
Depth—Driller	1710		
Depth—Logger	1713		
Btm. Log Interval	1712		
Top Log Interval	55		
Casing—Driller	10 3/4@ 55		
Casing—Logger	55		
Bit Size	8 3/8		
Type Fluid in Hole	FRESH GEL		
Dens. | Visc.	8.7 | 62		
pH | Fluid Loss	9.0 | 4.6ml	ml	ml
Source of Sample	FLOW LINE		
R_m @ Meas. Temp.	1.46 @ 64 °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	1.44 @ 64 °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	-- @ -- °F	@ °F	@ °F
Source R_{mf} R_{mc}	M --		
R_m @ BHT	-- @ -- °F	@ °F	@ °F
Time Since Circ.	1 HR.		
Max. Rec. Temp.	°F	°F	°F
Equip. | Location	4542 FARM		
Recorded By	TUTM °F		
Witnessed By	BROOKS		
	MR. RAFFAELE		

FOLD HERE — The well name, location and borehole reference data were furnished by the customer.

Top of Upper Hospah (1544')

Top of Lower Hospah (1611')

1500 1600 1700

A-16"-M SHORT NORMAL
0 100
0 1000

INDUCTION
0 100
0 1000

RESISTIVITY
ohms – m^2/m

6 FF40 INDUCTION
400 200 0
600 400

– 10 +

SPONTANEOUS-POTENTIAL
millivolts

DEPTHS

CONDUCTIVITY
millimhos/m — 1000 ohms – m^2/m

COMPANY TENNECO OIL COMPANY
WELL HOSPAH #8

SWSC FR 1712'
SWSC TD 1713'
DRLR TD 1710'

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 8
CASE NO. 5246
Submitted by Applicant
Hearing Date 5-22-74

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

Form C-107
5-1-61

Case 5246

Operator	County	Date
Tenneco Oil Company	McKinley	4/10/74
Address	**Lease**	**Well No.**
1200 Lincoln Towers Denver, Colo. 80203	Hospah	41
Location of Well Unit: A	Section: 12	Township: 17 North	Range: 9 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 X NO _____ As a producer
2. If answer is yes, identify one such instance: Order No. R-3943 ; Operator Lease, and Well No.: Tenneco, Hospah #37X

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Upper Hospah		Lower Hospah (Gallup)
b. Top and Bottom of Pay Section (Perforations)	1574' (Top) 1595' (Bottom) (Perfs 1566-1597')		1627' (Est. Top) 1735' (Est. Bottom) Opn. Hole: top 10' of fmtn.
c. Type of production (Oil or Gas)	Water Injection		Gas & Water Injection
d. Method of Production (Flowing or Artificial Lift)	N/A		N/A

RECEIVED
MAY - 1 1974
OIL CONSERVATION COMM.
Santa Fe

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

Yes	No	
X		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.
X		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.
	X	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.*
X		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.

Tesoro Petroleum Corp., 8520 Crownhill, San Antonio, Texas

Gil Oil & Gas Co., 152 Petroleum Center Bldg., Farmington, New Mexico

John Beard, 1230 United Founders Life Tower, 5900 Mosteller Drive, Oklahoma City, OK

Beard Oil Co., 2000 Classen Bldg., Oklahoma City, Oklahoma

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 _____.

CERTIFICATE: I, the undersigned, state that I am the Petroleum Engineer 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.

Frederick E. Kastner
Frederick E. Kastner Signature

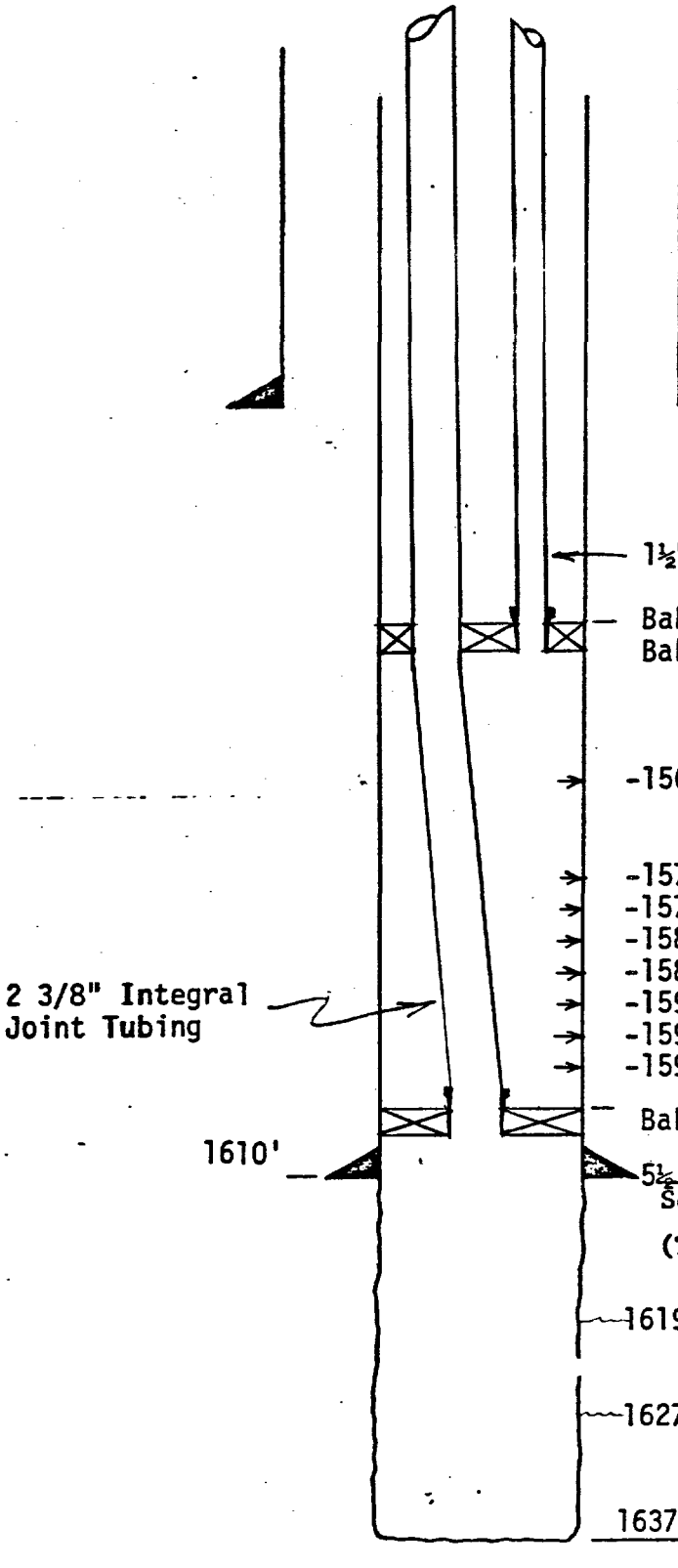
*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest 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.

LEASE: South Hospah Unit

WELL NO.: 17

Proposed Dual Completion



ZERO ELEV.: 7016' KB (12' AGL)

LOCATION: 5' FNL & 1650' FEL
Sec. 12-T17N-R9W
McKinley Co., New Mexico

8 5/8" O.D. 24 LB. H-40 CSG.
Set @ 71 ' w/ 75 sx. in 12¼ "hole
(Top of Cmt. @ Surf. by Circ.)

1½" Integral Joint Tubing

Baker Model "B" @ 1500' + w/
Baker J-Lock Seal Assembly

-1566'

-1576'
-1578'
-1583'
-1585'
-1591'
-1593'
-1597'

Existing Perforations
in Upper Hospah

2 3/8" Integral
Joint Tubing

Baker Model "F" @ 1600 ± by wireline

1610'

5½ " O.D. 15.5 LB. J-55 CSG.
Set @ 1610 ' w/ 75 sx. in 7 7/8 "hole.
(Top of Cmt. @ 1177 by Vol. Est.)

1619' Estimated top of shale

1627' Est. Top of Lower Hospah

1637' T.D. (PBD ')
Size hole: 4 3/4"

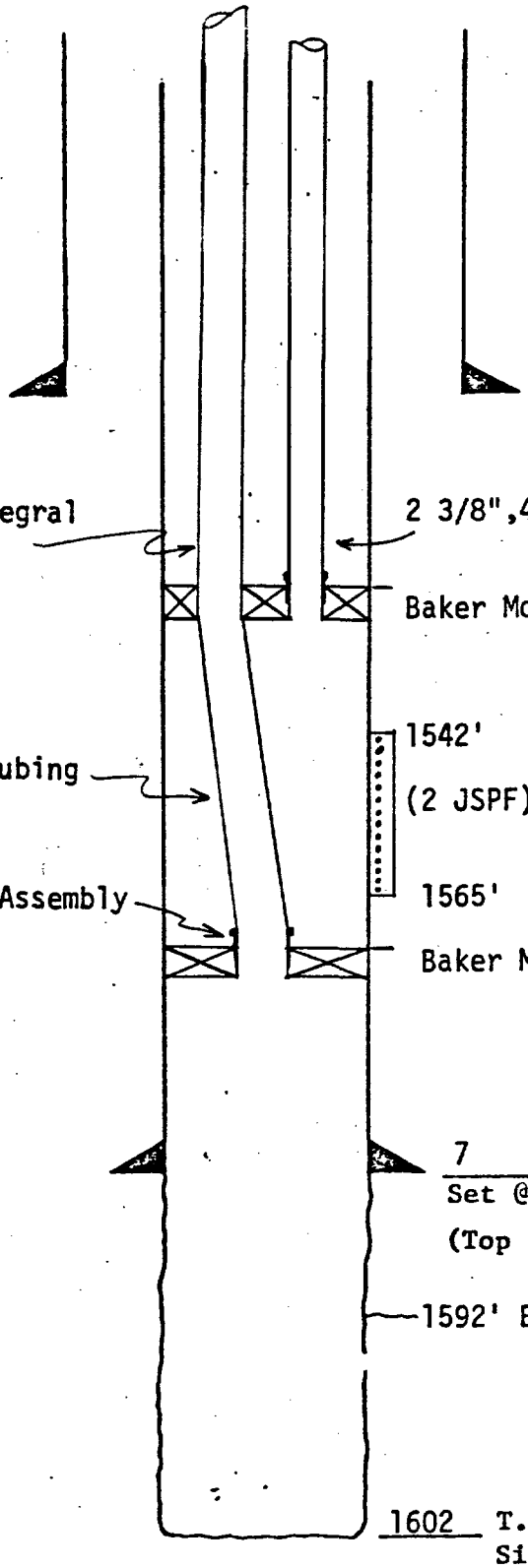
(Estimated bottom of Lower Hospah Sand
@ 1735').

Case 3-246

LEASE: South Hospah Unit

WELL NO.: 56

Proposed Dual Completion



ZERO ELEV.: 6966' KB (12' AGL)

LOCATION: 1100' FNL & 1275' FEL
Sec. 12-T17N-R9W
McKinley Co.,New Mexico

9 5/8" O.D. 36 LB. J-55 CSG.
Set @ 102 ' w/ 90 sx. in 12 ¼ "hole
(Top of Cmt. @ Surf. by Circ.)

2 7/8",6.5#,Integral Joint Tubing

2 3/8",4.7#,Integral Joint Tubing

Baker Model "B" @ 1537' + w/Baker J-Lock Seal Assembly

1542'

1 jt. of tubing (31' ±)

(2 JSPF) Existing Perforations in Upper Hospah

Baker Seal Assembly

1565'

Baker Model "D" @ 1568' by wireline (Proposed)

7 " O.D. 20 LB. J-55 CSG.
Set @ 1584' w/ 95 sx. in 8 3/4 "hole.
(Top of Cmt. @ 952 by Est.)

1592' Estimated Top of Lower Hospah

1602 T.D. (PBD ')
Size hole: 6 1/8"

(Estimated bottom of Lower Hospah Sand @ 1694')

Case 5276