

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS **RECEIVED**

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 4/11/83		APR 27 1983	
Company Exxon Company USA ✓			Connection None		
Well Antelope Sink <i>Wildcat Penn</i> Upper Penn			Formation Upper Penn <i>liver</i>		
Completion Date 3/30/83 4-11-83		Total Depth 8700'		Plug Back TD 7915'	
Elevation 3803' GL		Farm or Lease Name New Mexico DE State			
Csg. Size 5 1/2"	Wt. 15.5	d 4.950	Set At 8698'	Perforations: From 6240' To 6356'	
Trg. Size 2 7/8"	Wt. 6.5	d 2.441	Set At 6160'	Perforations: Open Ended From To	
Type Well - Single - Brdenhead - G.C. or G.O. Multiple Single				Packer Set At 6160'	
Producing Thru Tubing		Reservoir Temp. °F 141 @ 6160		Mean Annual Temp. °F 60	
Baro. Press. - P _a 13.2		State New Mexico			
L 6298	H -	C _g 0.6391	% CO ₂ 0.266	% N ₂ 1.269	% H ₂ S -
Prover -		Meter Run 2.900		Taps F	

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. DWT	Temp. °F	Press. p.s.i.g.	Temp. °F	
1	2.90	6/64	1.250	490	5	80	1620	77	PACKER		117.5 hr
2	2.90	8/64	1.250	500	14	80	1602	76			1.00 hr
3	2.90	10/64	1.250	500	29	80	1578	74			1.00 hr
4	2.90	13/64	1.250	520	71	77	1544	75			1.00 hr
5											

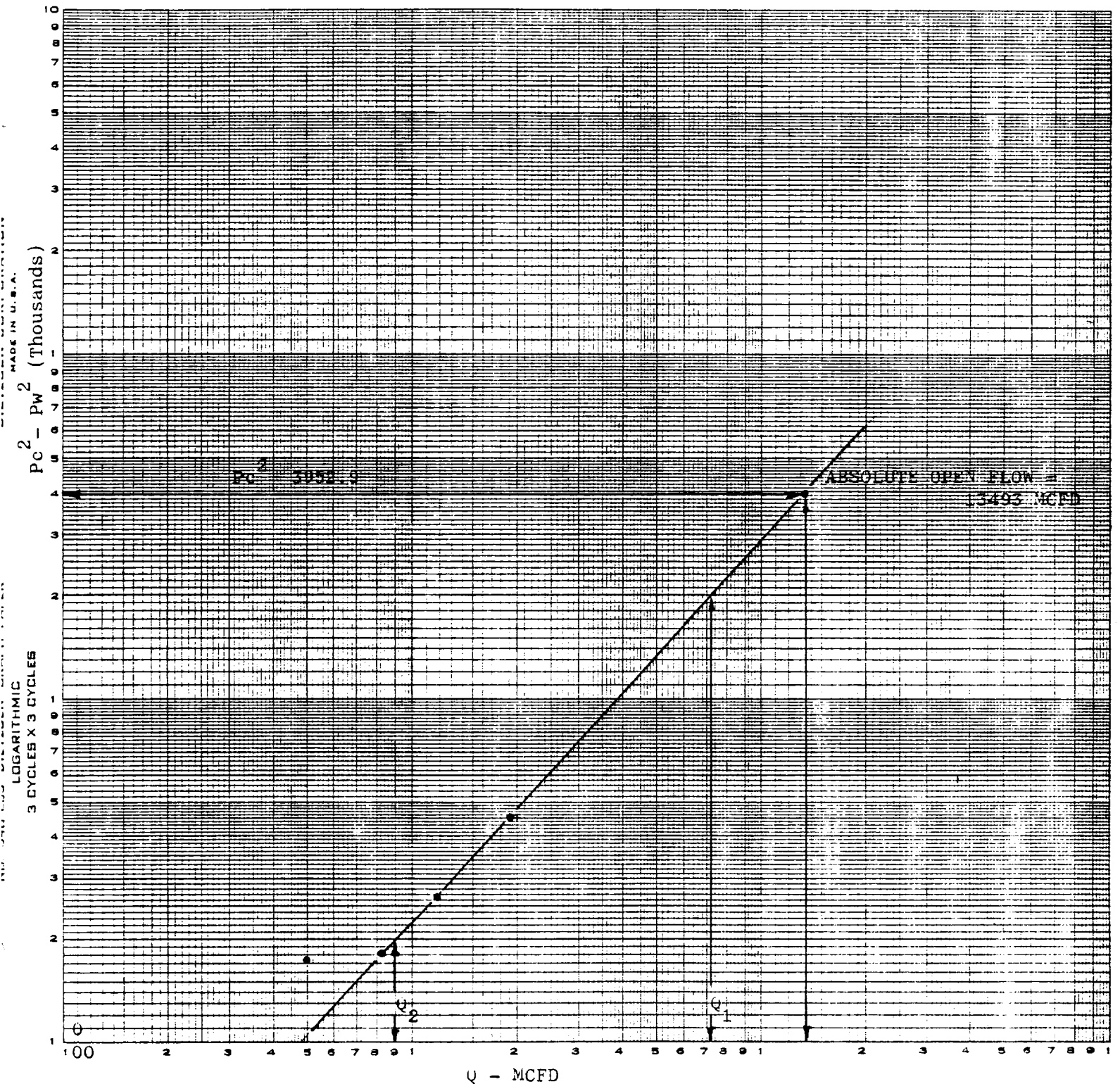
RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mscf/d
1	7.615	50.16	503.2	0.9813	1.251	1.040	487.66
2	7.615	84.76	513.2	0.9813	1.251	1.040	824.05
3	7.615	122.00	513.2	0.9813	1.251	1.040	1186.10
4	7.615	194.57	533.2	0.9840	1.251	1.043	1902.32
5							

NO.	R _f	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	0.75	540	1.50	0.925	343.760 Mscf/bbl.	56 Deg.	0.6391	XXXXXX	671 P.S.I.A.	361 °R
2	0.76	540	1.50	0.924						
3	0.76	540	1.50	0.924						
4	0.79	537	1.49	0.919						
5										

P _c 1988.2 P _c ² 3952.9		(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 8.755$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 7.093$	
NO.	P _i	P _w *	P _w ²	P _c ² - P _w ²	
1		1943.2	3776.0	176.9	
2		1942.2	3772.1	180.8	
3		1920.2	3687.2	265.7	
4		1871.2	3501.4	451.5	
5					

Absolute Open Flow 13493 Mscf @ 15.025		Angle of Slope @ 47° 55'		Slope, n 0.903	
Remarks: * BOTTOM HOLE PRESSURE @ (-2495) 6298' USED FOR PRESSURE CALCULATIONS WELL PRODUCED 0.5 BBLS OF CONDENSATE IN 3.75 HOURS = 3.2 BC/D					
Approved By Division		Conducted By: JARREL WELL TESTING, INC		Calculated By: Joe A. Coleman	
				Checked by: PE #2208 Joe A. Coleman	

COMPANY: Exxon Company USA
 WELL: New Mexico De State, No. 1
 LOCATION: C 19 19s 23e
 COUNTY: Eddy
 DATE: April 11, 1983



$$Q_1 = 7200 \text{ MCFD: } \log Q_1 = 3.85733$$

$$Q_2 = 900 \text{ MCFD: } \log Q_2 = 2.95424$$

$$N = \frac{0.90309}{0.90309} = 0.903$$

JARREL SERVICES, INC.

POST OFFICE BOX 1654

PHONE 505 393-5396

HOBBS, NEW MEXICO 88240

COMPANY: Exxon Company USA

WELL: New Mexico DE State, No. 1

FIELD: Antelope Sink - Upper Penn

CHRONOLOGICAL PRESSURE DATA

DATE	STATUS OF WELL	TIME	ELAPSED TIME		SURFACE PRESSURE		BHP @ (-2495')	
			HRS.	MIN.	TBG	CSG	6160'	6298' PSIG
1983								
4/6	Flowing. Run	1:00 PM	-	-	1167	PKR	1653	1677
	Flowing Gradient w/ Tandem Bombs & Set Bombs off @ 6160'							
	Shut in	2:00	1	00	-	-	1653	1677
	"	2:05	0	05	-	-	1663	1709
	"	2:10	0	10	-	-	1666	1712
	"	2:15	0	15	-	-	1672	1718
	"	2:20	0	20	-	-	1684	1720
	"	2:25	0	25	-	-	1690	1736
	"	2:30	0	30	-	-	1697	1743
	"	2:35	0	35	-	-	1703	1749
	"	2:40	0	40	-	-	1709	1755
	"	2:45	0	45	-	-	1715	1761
	"	2:50	0	50	-	-	1724	1770
	"	2:55	0	55	-	-	1728	1774
	"	3:00	1	00	-	-	1731	1777
	"	3:15	1	15	-	-	1743	1789
	"	3:30	1	30	-	-	1746	1792
	"	3:45	1	45	-	-	1752	1798
	"	4:00	2	00	-	-	1755	1801
	"	4:30	2	30	-	-	1768	1804
	"	5:00	3	00	-	-	1774	1820
	"	6:00	4	00	-	-	1786	1832
	"	7:00	5	00	-	-	1796	1842
	"	8:00	6	00	-	-	1802	1848
	"	9:00	7	00	-	-	1814	1860
	"	10:00	8	00	-	-	1817	1863
	"	11:00	9	00	-	-	1820	1866
	"	12:00 MN	10	00	-	-	1827	1873
4/7	"	1:00 AM	11	00	-	-	1836	1882
	"	2:00	12	00	-	-	1836	1882
	"	3:00	13	00	-	-	1839	1885
	"	4:00	14	00	-	-	1842	1888
	"	5:00	15	00	-	-	1845	1891
	"	6:00	16	00	-	-	1848	1894
	"	7:00	17	00	-	-	1851	1897
	"	8:00	18	00	-	-	1851	1897
	"	9:00	19	00	-	-	1854	1900
	"	10:00	20	00	-	-	1858	1904
	"	11:00	21	00	-	-	1861	1907
	"	12:00 N	22	00	-	-	1864	1910
	"	1:00 PM	23	00	-	-	1867	1913
	"	2:00	24	00	-	-	1867	1913

WELL: New Mexico DE State, No. 1

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DATE	STATUS OF WELL	TIME	ELAPSED TIME		SURFACE PRESSURE		BHP @ (-2495)	
			HRS.	MIN.	TBG	CSG	6160'	6298'PSIG
	Shut in	3:00	25	00	-	-	1867	1913
	"	4:00	26	00	-	-	1867	1913
	"	5:00	27	00	-	-	1870	1916
	"	6:00	28	00	-	-	1873	1919
	"	7:00	29	00	-	-	1873	1919
	"	8:00	30	00	-	-	1873	1919
	"	9:00	31	00	-	-	1876	1922
	"	10:00	32	00	-	-	1879	1925
	"	11:00	33	00	-	-	1879	1925
	"	12:00 MN	34	00	-	-	1879	1925
4/8	"	1:00 AM	35	00	-	-	1882	1928
	"	2:00	36	00	-	-	1882	1928
	"	3:00	37	00	-	-	1885	1931
	"	4:00	38	00	-	-	1885	1931
	"	5:00	39	00	-	-	1885	1931
	"	6:00	40	00	-	-	1887	1933
	"	7:00	41	00	-	-	1887	1933
	"	8:00	42	00	-	-	1887	1933
	"	9:00	43	00	-	-	1887	1933
	"	10:00	44	00	-	-	1892	1938
	"	11:00	45	00	-	-	1892	1938
	"	12:00 N	46	00	-	-	1892	1938
	"	1:00 PM	47	00	-	-	1892	1938
	"	2:00	48	00	-	-	1892	1938
	"	3:00	49	00	-	-	1892	1938
	"	4:00	50	00	-	-	1892	1938
	"	5:00	51	00	-	-	1895	1941
	"	6:00	52	00	-	-	1895	1941
	"	7:00	53	00	-	-	1895	1941
	"	8:00	54	00	-	-	1895	1941
	"	9:00	55	00	-	-	1895	1941
	"	10:00	56	00	-	-	1895	1941
	"	11:00	57	00	-	-	1895	1941
	"	12:00 MN	58	00	-	-	1895	1941
4/9	"	1:00 AM	59	00	-	-	1898	1944
	"	2:00	60	00	-	-	1898	1944
	"	3:00	61	00	-	-	1898	1944
	"	4:00	62	00	-	-	1898	1944
	"	5:00	63	00	-	-	1901	1947
	"	6:00	64	00	-	-	1901	1947
	"	7:00	65	00	-	-	1901	1947
	"	8:00	66	00	-	-	1901	1947
	"	9:00	67	00	-	-	1904	1950
	"	10:00	68	00	-	-	1904	1950
	"	11:00	69	00	-	-	1904	1950
	"	12:00 N	70	00	-	-	1904	1950
	"	1:00	71	00	-	-	1904	1950
	"	2:00	72	00	-	-	1907	1953
	"	3:00	73	00	-	-	1907	1953
	"	4:00	74	00	-	-	1910	1956
	"	5:00	75	00	-	-	1910	1956
	"	6:00	76	00	-	-	1910	1956
	"	7:00	77	00	-	-	1910	1956
	"	8:00	78	00	-	-	1910	1956
	"	9:00	79	00	-	-	1910	1956
	"	10:00	80	00	-	-	1913	1959

WELL: New Mexico DE State, No. 1

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DATE	STATUS OF WELL	TIME	ELAPSED TIME		SURFACE PRESSURE		BHP @ (-2495)	
			HRS.	MIN.	TBG	CSG	6160'	6298'PSIG
4/10	Shut in	11:00	81	00	-	-	1913	1959
	"	12:00 MN	82	00	-	-	1913	1959
	"	1:00 AM	83	00	-	-	1916	1962
	"	2:00	84	00	-	-	1916	1962
	"	3:00	85	00	-	-	1916	1962
	"	4:00	86	00	-	-	1916	1962
	"	5:00	87	00	-	-	1916	1962
	"	6:00	88	00	-	-	1916	1962
	"	7:00	89	00	-	-	1916	1962
	"	8:00	90	00	-	-	1916	1962
	"	9:00	91	00	-	-	1916	1962
	"	10:00	92	00	-	-	1920	1966
	"	11:00	93	00	-	-	1920	1966
	"	12:00 N	94	00	-	-	1920	1966
	"	1:00 PM	95	00	-	-	1920	1966
	"	2:00	96	00	-	-	1923	1969
	"	3:00	97	00	-	-	1923	1969
	"	4:00	98	00	-	-	1923	1969
	"	5:00	99	00	-	-	1923	1969
	"	6:00	100	00	-	-	1923	1969
	"	7:00	101	00	-	-	1926	1972
	"	8:00	102	00	-	-	1926	1972
	"	9:00	103	00	-	-	1926	1972
	"	10:00	104	00	-	-	1926	1972
	"	11:00	105	00	-	-	1929	1975
4/11	"	12:00 MN	106	00	-	-	1929	1975
	"	1:00 AM	107	00	-	-	1929	1975
	"	2:00	108	00	-	-	1929	1975
	"	3:00	109	00	-	-	1929	1975
	"	4:00	110	00	-	-	1929	1975
	"	5:00	111	00	-	-	1929	1975
	"	6:00	112	00	-	-	1929	1975
	"	7:00	113	00	-	-	1929	1975
	Fished Bombs	8:00	114	00	-	-	1929	1975
	Run Static Gradient & hung Bombs @ 6160' for 4-Point	9:00	115	00	1630 DWT	-	1929	1975
	Started 1st Rate	11:30	117	30	1630	-	1919	1975
	Finished 1st Rate	12:15 PM	0	45	1620		1923	1930
	& Started 2nd Rate							
	Finished 2nd Rate	1:15	1	00	1602		1922	1929
	& Started 3rd Rate							
	Finished 3rd Rate	2:15	1	00	1578		1900	1907
	& Started 4th Rate							
	Finished 4th Rate	3:15	1	00	1544		1851	1858
	& Pulled Bombs							

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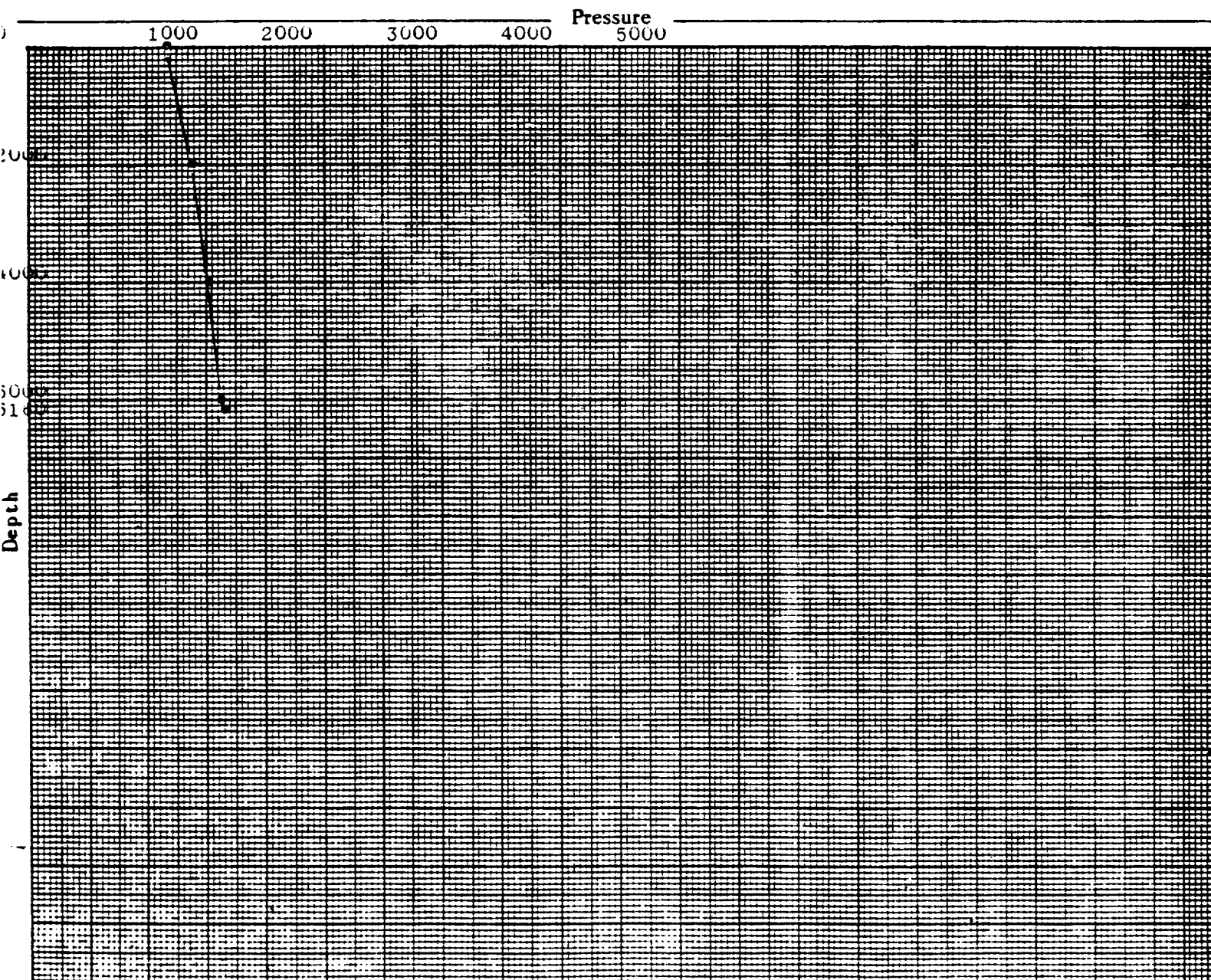
BOTTOM HOLE PRESSURE RECORD

OPERATOR Exxon Company USA
 FIELD Antelope Sink
 FORMATION Upper Penn
 LEASE New Mexico DE State WELL # 1
 COUNTY Eddy STATE New Mexico
 DATE 4/6/83 TIME 1:00 PM
 Status Flowing
 Test Depth 6160'
 Time S. I. Last test date
 Tub Pres. 1167 BHP last test
 Cas. Pres. PkR BHP change
 Elev. 3803' GL Fluid top Flowing
 Datum (-2495)** Water top
 Temp. @ 141 F Run by JSI #29
 Cal. No. A24514N Chart No. 1

Depth	Pressure	Gradient
0	1167	-
2000	1372	.103
4000	1517	.073
6000	1625	.054
6160	1653	.175
6298 (-2495)	1677 * **	(.175)

* EXTRAPOLATED PRESSURE

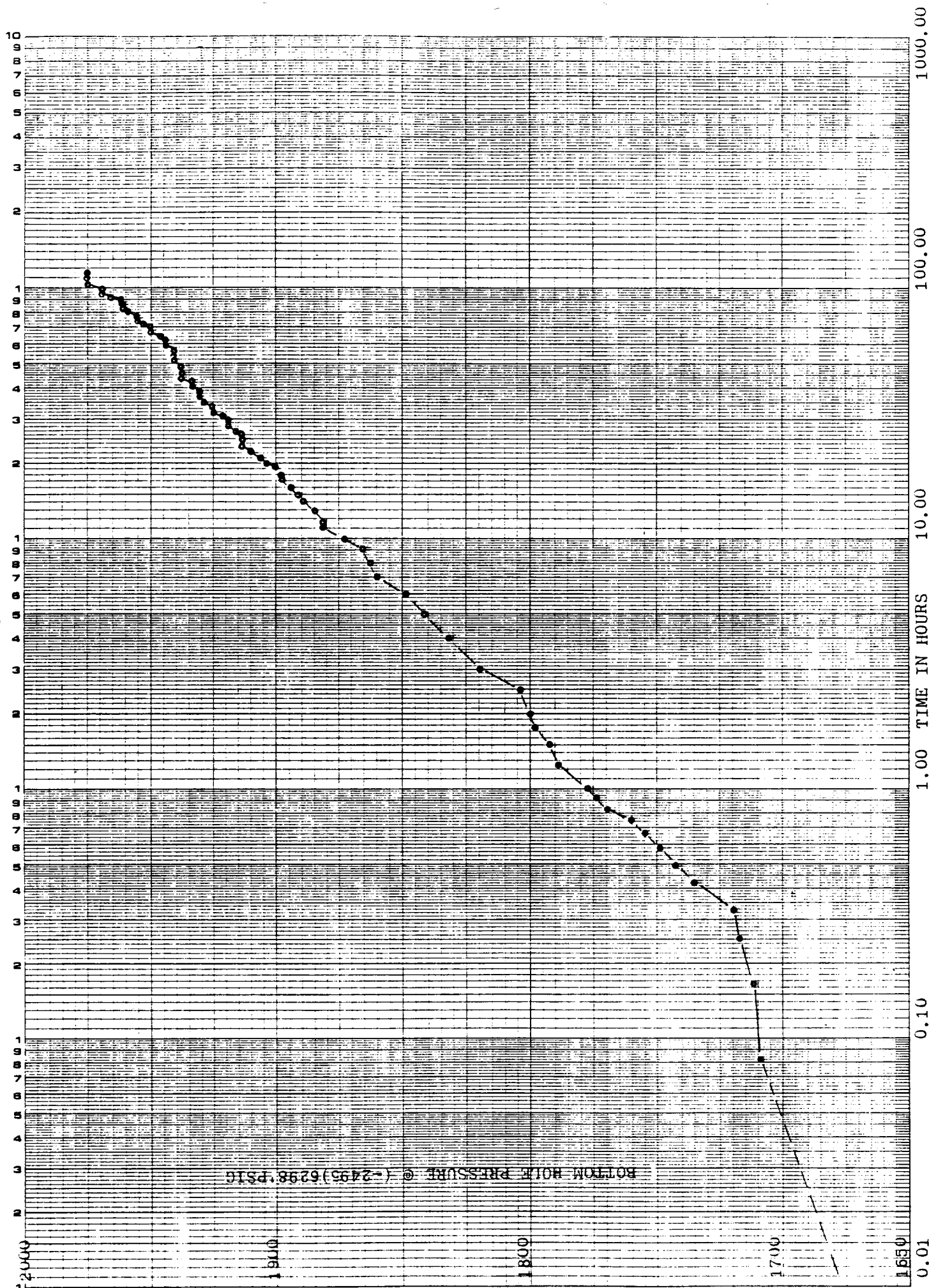
** MIDPOINT OF CASING PERFORATIONS



DIETZGEN CORPORATION
MADE IN U.S.A.

NO. 34DR-LS10 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
5 CYCLES X 10 DIVISIONS PER INCH

JARREL SERVICES, INC.



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HOBBS, NEW MEXICO 88240

BOTTOM HOLE PRESSURE RECORD

OPERATOR Exxon Company USA
 FIELD Antelope Sink
 FORMATION Upper Penn
 LEASE New Mexico DE State WELL #1
 COUNTY Eddy STATE New Mexico
 DATE 4/11/83 TIME 9:00 AM
 Status Shut in
 Test Depth 6160'
 Time S. I. 115.0 hrs Last test date -
 Tub Pres. 1630 DWT BHP last test -
 Cas. Pres. PKR BHP change -
 Elev. 3803' GL Fluid top 6025'
 Datum (-2495)** Water top -
 Temp. @ 141 F Run by JSI #29
 Cal. No. A24514N Chart No. 2

Depth	Pressure	Gradient
0	1630	-
2000	1715	.043
4000	1807	.046
6000	1901	.047
6160	1929	.175
6298 (-2495)	1975 * **	(.330)

* EXTRAPOLATED PRESSURE

** MIDPOINT OF CASING PERFORATIONS

