

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

Form C-122
Revised 9-1-65

DEC 18 1978

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 12-4-78		SPUD DATE: 3-19-78	
Company Read and Stevens						To Air			
Pool 4 Point Strawn						Formation Strawn			
Completion Date 12-4-78		Total Depth 7200		Blow Back TD 6865		Elevation		Form or Lease Name Calumet Ranch	
Cog. Size 4 1/2	Wt. 11.6	d	Set At 6897	Perforations: From 6651 To 6657		Well No. 1			
Tbg. Size 2 3/8	Wt. 4.7	d	Set At 6593	Perforations: From open To ended		Unit 0	Sec. 21	Twp. 12S	Rge. 27E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 6593		County Chaves	
Producing Thru Tbg.		Reservoir Temp. °F 140 @ 6653		Mean Annual Temp. °F		Baro. Press. - P _a 13.2		State New Mexico	
L 6653	H 6653	Gg .637	% CO ₂	% N ₂	% H ₂ S	Prover	Meter Run 4	Taps Flg.	

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	Press. p.s.i.g.	Temp. °F	
SI							1848				45 hrs.
1.	4 x	.500		490	13	75	1664				1 hr.
2.	4 x	.500		495	22	82	1537				1 hr.
3.	4 x	.500		500	37	82	1379				1 hr.
4.	4 x	.500		500	66	78	1112				1 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, Mcfd
1	1.182	80.88	503.2	.9859	1.253	1.045	123
2	1.182	105.74	508.2	.9795	1.253	1.043	160
3	1.182	137.80	513.2	.9795	1.253	1.044	209
4	1.182	184.04	513.2	.9831	1.253	1.045	280
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry	Mcft/bbl.
1.	.75	535	1.45	.916	A.P.I. Gravity of Liquid Hydrocarbons		Deq.
2.	.76	542	1.47	.919	Specific Gravity Separator Gas	.637	XXXXXX
3.	.77	542	1.47	.918	Specific Gravity Flowing Fluid	XXXXXX	
4.	.77	538	1.46	.916	Critical Pressure	670	P.S.I.A.
5.					Critical Temperature	368	R

P _c 1885.5 P _c ² 3555.1		(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \underline{1.597}$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \underline{1.427}$	
NO.	F ₁ ²	P _w	P _w ²	F _c ² - P _w ²	
1		1703.2	2900.9	654.2	
2		1571.1	2468.4	1086.7	
3		1410.9	1990.6	1564.5	
4		1152.7	1328.7	2226.4	
5					

Absolute Open Flow **400** Mcfd @ 15.025 Angle of Slope **52.75** Slope, n **.760**

Remarks: **No fluid made during test. P_c & P_w calculated from known bottom hole pressures.**

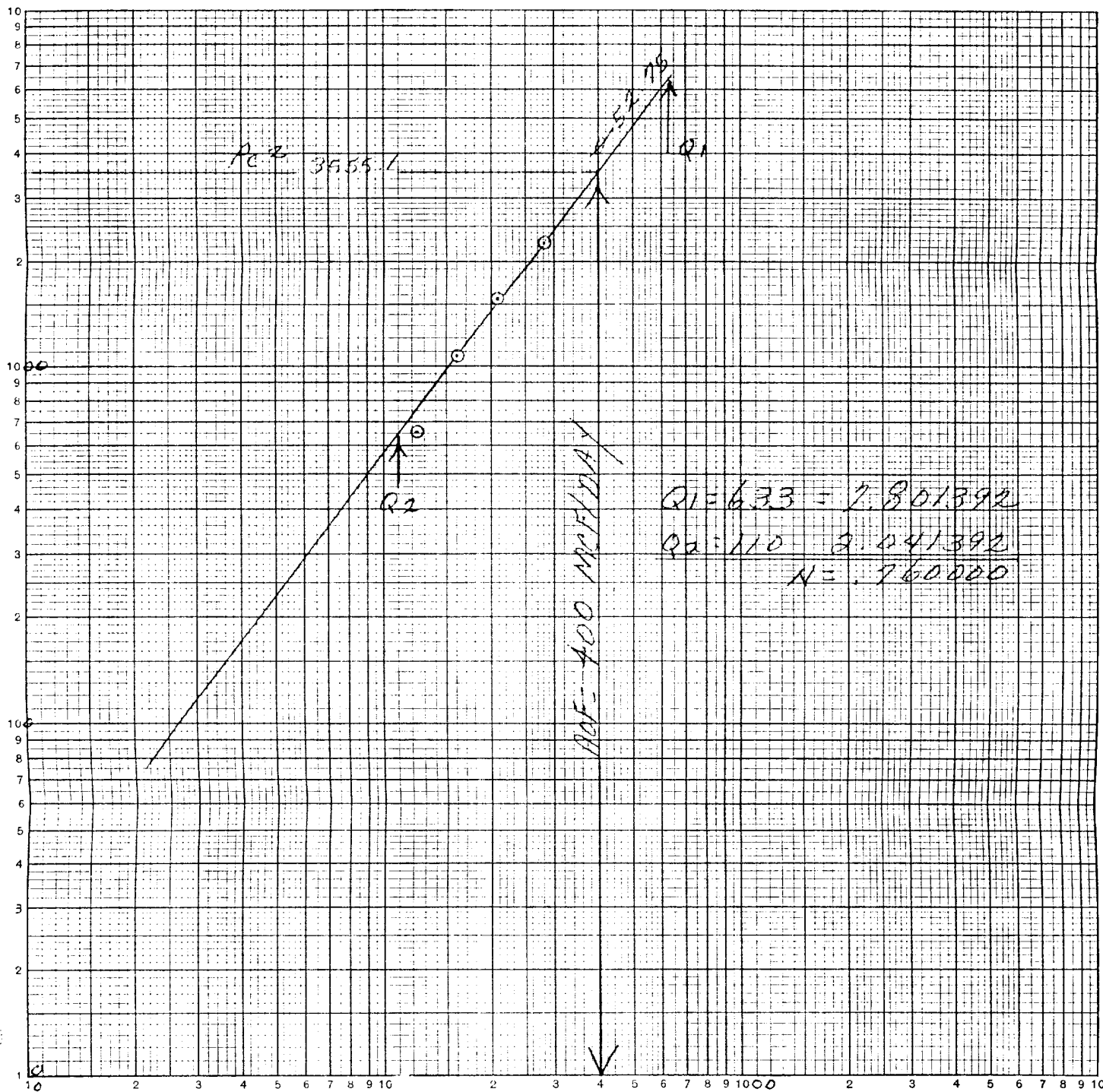
Approved By Commission:	Conducted By: Reggie Reston	Calculated By: Reggie Reston	Checked By:
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READ and STEVENS, INC

Calumet Ranch No. 1
O-21-12S-27E
Chaves County, New Mexico
December 4, 1978

10-11-12 IN 1000'S

LOGARITHMIC 46 1400
3 X 3 CYCLES
MADE IN U.S.A.
KEUFFEL & ESSER CO.



Q=MCF/Day

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (P_h or P_w)

Form C-122F
Adopted 9-1-65

FROM KNOWN BOTTOM HOLE PRESSURE (P_b or P_s)

COMPANY Good & Shumma LEASE Calvinet Ranch WELL NO. 1 DATE 12-4-78

LOCATION: Unit 2 Section 21 Township 12 Range 27

L 6653 H 6653 LN 1.00 G 637 %CO₂ .75 %N₂ 1.51 %H₂S

GH 4238 P_{cr} 670 T_{cr} 368
TABLE IX B X TABLE IX B X

NE	1	2	3	4	5	6	7	8
1 T _w (W.H. °R)	534	534	534	534	534	534	534	534
2 T _s (B.H. °R)	600	600	600	600	600	600	600	600
3 T = ($\frac{T_w + T_s}{2}$)	567	567	567	567	567	567	567	567
4 Z (Est.)	1.776	1.783	1.783	1.792	1.795	1.805	1.822	1.832
5 TZ	439.9	444.0	449.0	449.1	450.8	456.4	466.1	471.7
6 GH/TZ	9.632	9.546	9.546	9.437	9.402	9.285	9.093	8.984
7 e ^s (Table XIV)	1.435	1.430	1.430	1.425	1.423	1.416	1.406	1.401
8 P _f or P _s	2037.2	2037.2	1875.2	1875.2	1679.2	1679.2	1364.2	1364.2
9 P _f ² or P _s ²	4150.2	4150.2	3516.4	3516.4	2819.7	2819.7	1861.0	1861.0
10 P _c ² = P _f ² /e ^s or P _w ² = P _s ² /e ^s	1832.0	2901.4	2458.3	2468.3	1981.9	1990.6	1323.3	1328.8
11 P _b or P _w	1700.6	1703.3	1562.9	1571.1	1407.8	1410.9	1150.4	1152.7
12 P = ($\frac{P_w + P_s}{2}$) or ($\frac{P_c + P_f}{2}$)	1868.9	1870.3	1721.5	1723.1	1593.5	1595.0	1251.2	1258.5
13 P _r = (P/P _{cr})	2.79	2.79	2.57	2.57	2.30	2.31	1.88	1.88
14 T _r = (T/T _{cr})	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
15 Z (Table XI)	1.783	1.783	1.792	1.792	1.805	1.805	1.832	1.832

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (P_c or B_w)

Form C-122F
Adopted 9-1-65

FROM KNOWN BOTTOM HOLE PRESSURE (P_f or B_h)

COMPANY Ready Steady LEASE Calumet Sands WELL NO. 1 DATE 12-4-78

LOCATION: Unit 0 Section 21 Township 13 Range 27

L 6653 H 6653 L/H 100 G 1637 %CO₂ 1 %N₂ 1 %H₂S 1

GH 4238 P_{CT} 670 T_{CT} 368
TABLE IX & X TABLE IX & X

Chart - 1N

NE	1	2	3	4	5	6	7	8
1 $T_w(W.H. \cdot R)$	534	534						
2 $T_g(B.H. \cdot R)$	600	600						
3 $T = (\frac{T_w}{2} + T_s)$	567	567						
4 $Z (Est.)$	1.772	1.775						
5 TZ	437.7	438.4						
6 GH/TZ	9.682	9.644						
7 $e^S (Table XIV)$	1.438	1.436						
8 P_f or P_s	2255.2	2259.2						
9 P_f^2 or P_s^2	5104.0	5104.0						
10 $P_c^2 = P_f^2/e^S$ or $P_w^2 = P_s^2/e^S$	3550.0	3555.0						
11 P_c or P_w	1884.1	1885.5						
12 $P_c (\frac{P_w + P_s}{2})$ or $(\frac{P_c + P_f}{2})$	2071.7	2072.3						
13 $P_r = (P/P_{cr})$	3.09	3.09						
14 $T_r = (T/T_{cr})$	1.54	1.54						
15 $Z (Table XI)$	1.725	1.725						

Bennett Wire Line Service

P. O. Box 787 • Phone 746 - 3281

Artesia, New Mexico - 88210

12/5/78

Read & Stevens Oil Producer
Lovington, New Mexico

Gentlemen;

The following pressures were recorded with pressure instrument
set at a depth of 6,635 Ft. On your Calumet Ranch Unit - 1.

Surface pressure flowing	554 Lbs. D.W.	BH pressure Flowing	856 Lbs.	
"	"	"	859 "	30 Min.
"	"	"	865 "	60 "

BHP after shut-in 0 Hrs. 865 Lbs.

"	"	"	$\frac{1}{2}$	"	1114	"
"	"	"	1	"	1360	"
"	"	"	$\frac{1}{2}$	"	1525	"
"	"	"	2	"	1669	"
"	"	"	$\frac{1}{2}$	"	1762	"
"	"	"	3	"	1849	"
"	"	"	$\frac{1}{2}$	"	1902	"
"	"	"	4	"	1962	"
"	"	"	$\frac{1}{2}$	"	1990	"
"	"	"	5	"	2018	"
"	"	"	$\frac{1}{2}$	"	2039	"
"	"	"	6	"	2058	"
"	"	"	$\frac{1}{2}$	"	2077	"
"	"	"	7	"	2089	"
"	"	"	8	"	2111	"
"	"	"	9	"	2126	"
"	"	"	10	"	2142	"
"	"	"	11	"	2158	"
"	"	"	12	"	2167	"
"	"	"	13	"	2176	"
"	"	"	14	"	2189	"
"	"	"	15	"	2192	"
"	"	"	16	"	2205	"
"	"	"	17	"	2208	"
"	"	"	18	"	2211	"
"	"	"	22	"	2223	"
"	"	"	26	"	2226	"
"	"	"	30	"	2229	"
"	"	"	34	"	2236	"
"	"	"	38	"	2242	"
"	"	"	42	"	2245	"
"	"	"	45	"	2246	"

BHP Draw down	0 Hrs.	2246 Lbs.
"	1 "	2024 "
"	2 "	1862 "
"	3 "	1666 "
"	4 "	1351 "

BOTTOM HOLE PRESSURE SURVEY REPORT

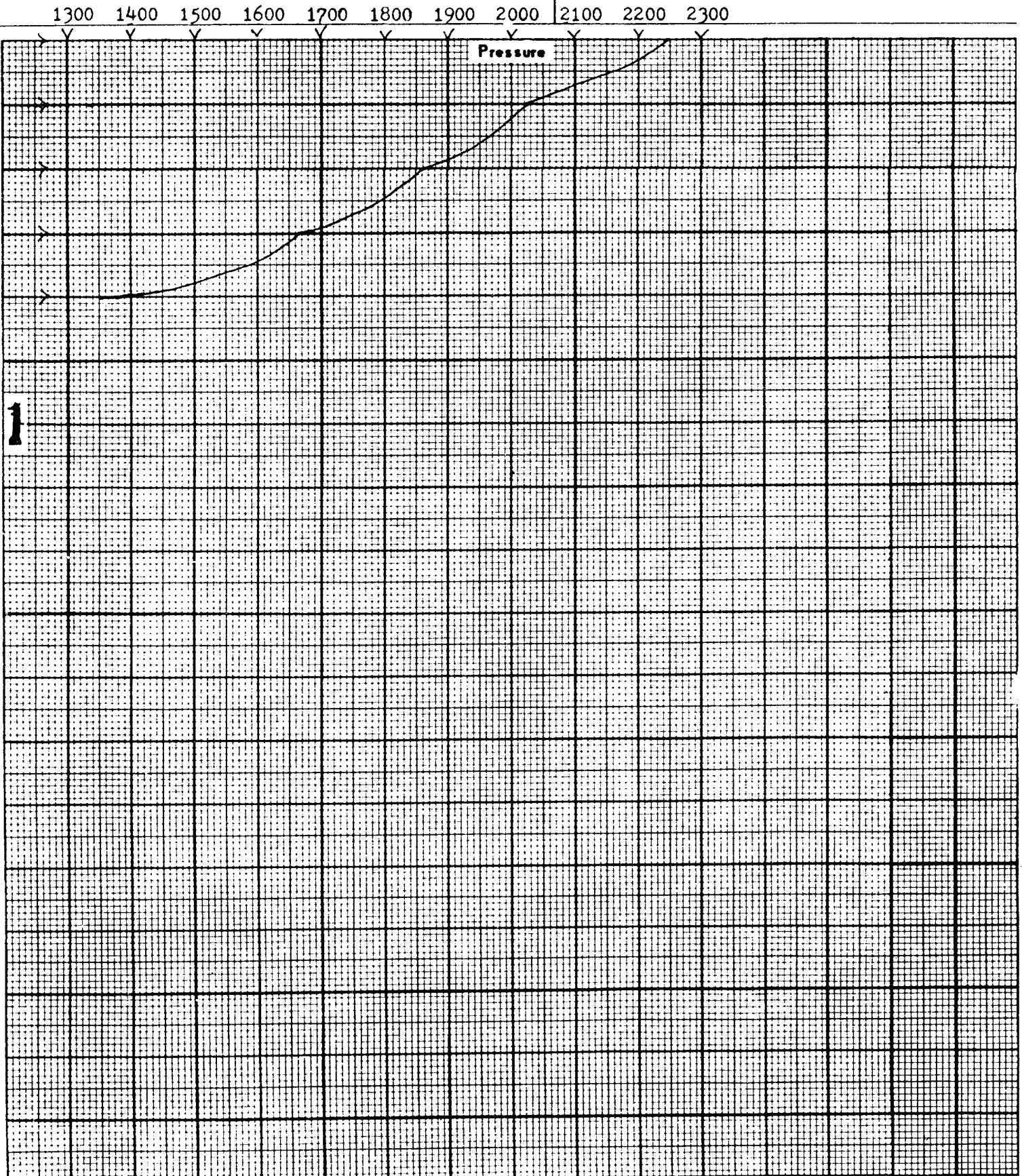
OPERATOR Read & Stevens Inc.
LEASE Calumet Ranch Unit
WELL NO. 1
FIELD _____
DATE 12/4/78 TIME 10:00 A.M.
STATUS Shut-in TEST DEPTH 6635 Ft.
TIME S.I. _____ LAST TEST DATE _____
CAS. PRES. _____ BHP LAST TEST _____
TUB. PRES. _____ BHP CHANGE _____
ELEV. _____ FLUID TOP _____
DATUM _____ WATER TOP _____
TEMP _____ RUN BY Cathey
CLOCK NO. _____ GAUGE NO. _____
ELEMENT NO. 41552

DEPTH	PRESSURE	GRADIENT
BHP Draw down test	0 Hrs.	2246 Lbs.
" " "	1 "	2024 "
" " "	2 "	1862 "
" " "	3 "	1666 "
" " "	4 "	1351 "

RECEIVED

DEC 18 1978

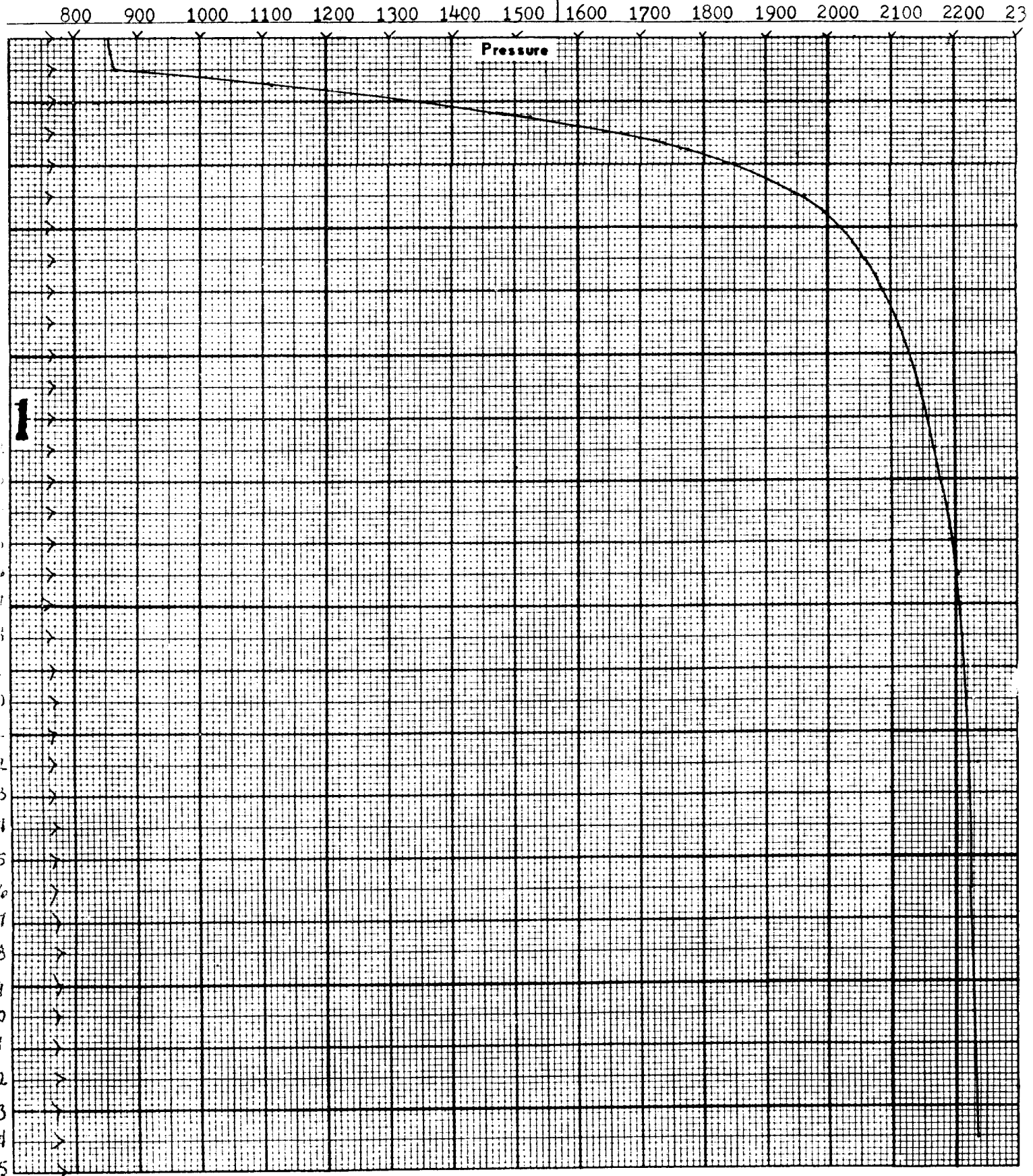
O. C. C.
ARTESIA, OFFICE



BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR Read & Steavens Inc.
LEASE Calumet Ranch Unit
WELL NO. 1
FIELD _____
DATE 12/2-4/78 TIME 10:00 A.M.
STATUS _____ TEST DEPTH 6635 Ft.
TIME S.I. _____ LAST TEST DATE _____
CAS. PRES. _____ BHP LAST TEST _____
TUB. PRES. _____ BHP CHANGE _____
ELEV. _____ FLUID TOP _____
DATUM _____ WATER TOP _____
TEMP 138 ° RUN BY Billy Joe Cathey
CLOCK NO. _____ GAUGE NO. _____
ELEMENT NO. 41552

DEPTH PRESSURE GRADIENT



BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR Read & Stevens Inc.
LEASE Calumet Ranch Unit
WELL NO. 1
FIELD _____
DATE 12/2-4-78 TIME 10:00 A.M.
STATUS _____ TEST DEPTH 6635 Ft.
TIME S.I. _____ LAST TEST DATE _____
CAS. PRES. _____ BHP LAST TEST _____
TUB. PRES. _____ BHP CHANGE _____
ELEV. _____ FLUID TOP _____
DATUM _____ WATER TOP _____
TEMP 138 ° RUN BY Billy Joe Cathey
CLOCK NO. _____ GAUGE NO. _____
ELEMENT NO. 41552

DEPTH PRESSURE GRADIENT

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