

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

Form C-122
Revised 9-60

RECEIVED

Type Test: ☒ Initial ☐ Annual ☐ Special				Test Date: 8-12-81		AUG 27 1981	
Company: General American Oil Co of Tx.				Contract: Kennedy Engineering		O.C.D.	
Pool: <u>W. 1/4 Sec. 36 Twp. 7S R. 28E</u> undesignated				State: Penn		H. ARTESIAL OFFICE	
Completion Date: 10-29-80		Total Depth: 7060		Perforations: 6740		Elevation: 4050.7 G.L.	
Casing Size: 5 1/2		Wt.: 15.5		Set At: 7052		Well No.: 1	
Tubg. Size: 2-3/8		Wt.: 4.6		Set At: 6600		Unit: H 36 7S 28E	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple				Packer Set At: 6600		County: CHAVES	
Producing Thru: TUBING		Reservoir Temp. °F: 139 ^a 6711		Mean Annual Temp. °F: 60		State: NEW MEXICO	
L: 6711		H: 6711		Gg: .6982		Prover: 2"	
				% CO ₂ : .193		% H ₂ S: —	
				% N ₂ : 4.606		Meter Run: —	

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							1617		PKR	CHOKE	48 hrs.
1.	2	x	1/8	10	----	60	1550	72		20/64	1 hr.
2.	2	x	1/8	265	----	61	1440	73		23/64	1 hr.
3.	2	x	1/8	280	----	56	1154	74		25/64	1 hr.
4.	2	x	1/8	740	----	59	910	74		27/64	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 Fg	Super. Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	.2648		23.2	1.000	1.197	----	7
2	.2648		278.2	.9990	1.197	1.030	91
3	.2648		293.2	1.004	1.197	1.033	96
4	.2648		753.2	1.001	1.197	1.088	260
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/Ebl.
1	.003	520	1.37	----	A.P.I. Gravity of Liquid Hydrocarbons	-----
2	.421	521	1.37	.943	Specific Gravity Separator Gas	.6982
3	.443	516	1.36	.937	Specific Gravity Flowing Fluid	XXXXXX
4	1.14	519	1.37	.845	Critical Pressure	661 P.S.I.A.
5					Critical Temperature	380 °R

* $P_c = 1932.95$ $P_c^2 = 3736.3$				
NO.	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		1859	3456	280.3
2		1754	3077	659.3
3		1480	2190	1546.3
4		1389	1929.3	1807
5				

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 2.067$$

$$\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 538$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.067$$

Absolute Open Flow: 538 Mcfd @ 15.025	Angle of Slope θ : 45°	Slope, n: 1.00
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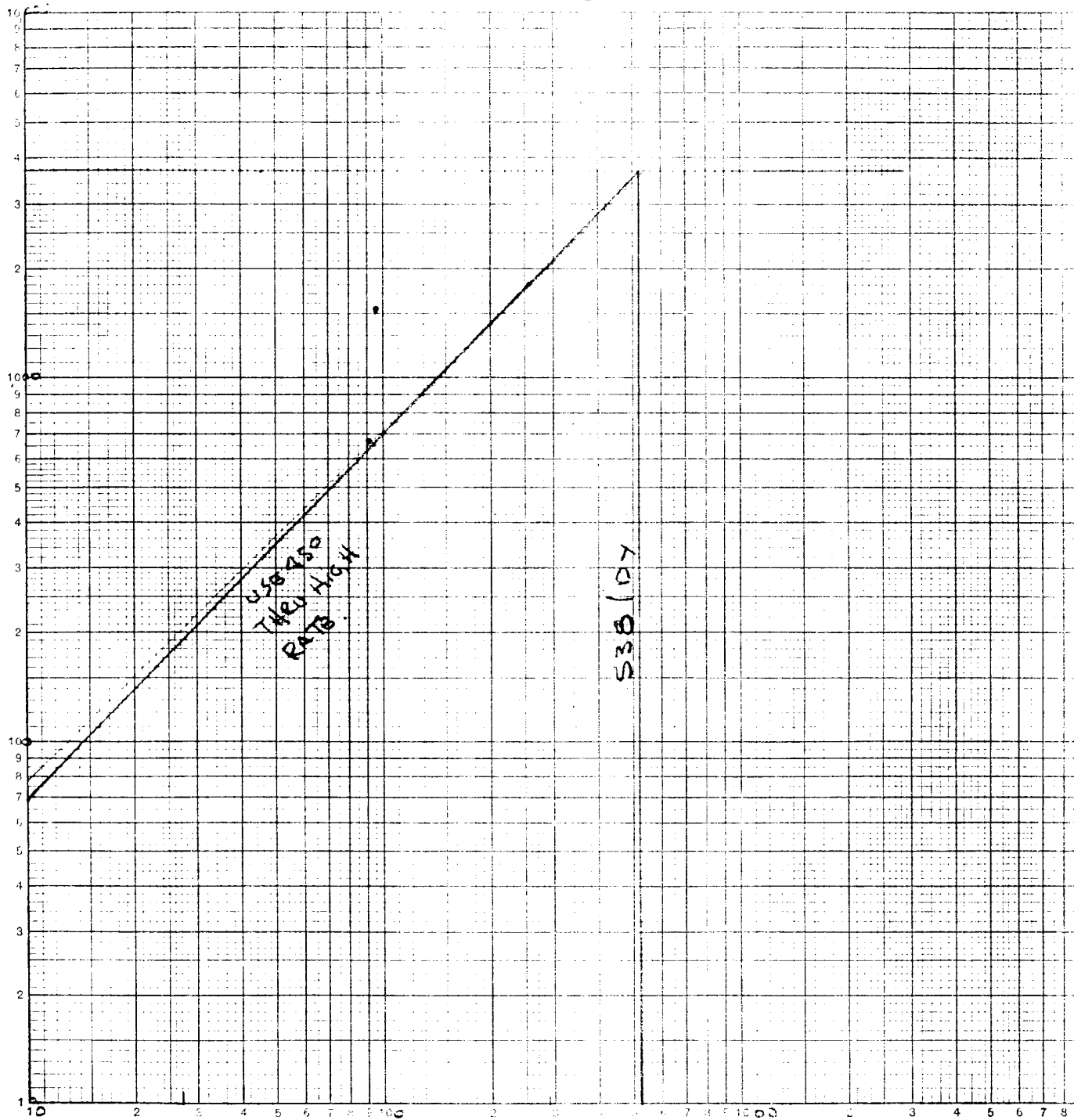
Remarks: * CALCULATED FROM KNOWN BOTTOM HOLE PRESSURES. WELL MADE NO LIQUIDS DURING TEST.

Approved By Commission:	Conducted By: M.R.	Calculated By: M.K.	Checked By: M.K.
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$$260 \left(\frac{37363}{1807} \right)^1 \quad 538$$

$P_c^2 - P_w^2$

LOGARITHMIC
5 X 5 INCHES
46 7400
KEUFFEL & ESSER CO.
MADE IN U.S.A.



NEW-TEX LAB

P. O. BOX 1161
HOBBS, N.M. 88240

No. 5428
Run No. _____
Date of Run 8-13-81
Date Secured 8-12-81

CERTIFICATE OF ANALYSIS

Sample of General American into #1
Secured from John West Engineering
at 412 No. Dal Paso Street Secured by _____ Date _____
Hobbs, New Mexico 88240 Time _____
Sampling conditions _____ Press _____
Temp. _____

FRACTIONAL ANALYSIS

Percentage Composition

MOL % LIQ. % G.P.M.

Carbon Dioxide	.193	
Air		
Nitrogen	4.606	
Oxygen		
Hydrogen sulfide		
Hydrogen		
Methane	79.031	
Ethane	2.265	2.604
Propane	4.204	1.154
Butanes		
Iso-Butane	.591	.193
N-Butane	.996	.313
Pentanes		
Iso-Pentane	.290	.106
N-Pentane	.248	.090
Hexanes	.003	.003
Heptanes	Plus .063	.031
Octanes		
TOTAL	100.000	4.494

Calc. Sp. Gr. 0.6982
Calc. A.P.I. _____
Calc. Vapor Press. _____ PSIA
Sp. Gr. _____
Mol. Wt. 20.23 8023

LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M. 1.154
Butanes Calc. G.P.M. .506
Pentanes Plus. G.P.M. .230
Ethane Calc. G.P.M. 2.604
RVF Gasoline G.P.M. _____
B.T.U./Cu. Ft. @ 14.696 P.S.I.A.
Dry Basis 1154
Wet Basis 1134
Sulfur Analysis by Titration
Gr./100 Cu. Ft.
Hydrogen Sulfide _____
Mercaptans _____
Sulfides _____
Residual Sulfur _____
Total Sulfur _____

Run by R. H. Hamilton Checked by Deane Simpson Approved by [Signature]

Additional Data and Remarks

COMPANY Gulfamer, Oil Co. LEASE WELL NO. 5.A.O. ST. 10.1 DATE 8-19-81

LOCATION: Unit H 6711 Section 36 Township 7S Range 28E

LN 1.00 G 6982 SCQZ .193 QZ 4.606 WGS -0-
 GR 4686 IN 66T TO 380

TABLE I TABLE II TABLE III

1	2	3	4	5	6	7	8
510	520	520	521	521	521	516	516
590	590	590	590	590	590	590	590
555	555	555	555	556	553	553	553
.789	.742	.743	.684	.753	.752	.827	.771
437.895	411.81	415.14	379.96	418.29	417.736	462.86	426.363
10.70032	11.37811	11.2868	12.331812	11.20180	11.21670	10.1231	10.38974
1493708	1532160	152692	158744	152206	152271	146172	151000
2297.2	2297.2	2297.2	2164.2	2164.2	2164.2	1819.2	1819.2
5277.13	5277.13	5277.13	4683.76	4683.76	4683.76	3305.9	3301.49
3532.90	3444.24	3456.05	2949.57	3077.24	3075.5	2261.61	2491.7
1879.60	1855.57	1859.04	1717.43	1754.21	1753.72	1503.86	1480.44
		2078.12				1958.96	1649.82
3.16	3.14	3.14	2.94	2.96	2.96	2.51	2.50
1.46	1.40	1.46	1.46	1.46	1.46	1.46	1.46
742	748	748	753	752	75	771	771

WORK SHEET FOR CALCULATION OF WELL HEAD PRESSURE (P₁ or P₂) FROM KNOWN BOTTOM HOLE PRESSURE (P₁ or P₂)

DATE: 8-19-81

COMPANY: G&A. Amer. Oil Co LEASE: WELL NO. G.A.O. 57461 DATE: 8-19-81

LOCATION: Unit: 6711 Section: 36 Township: 15 Range: 28E

OR 4686 DE 661 TO 380

S.I.

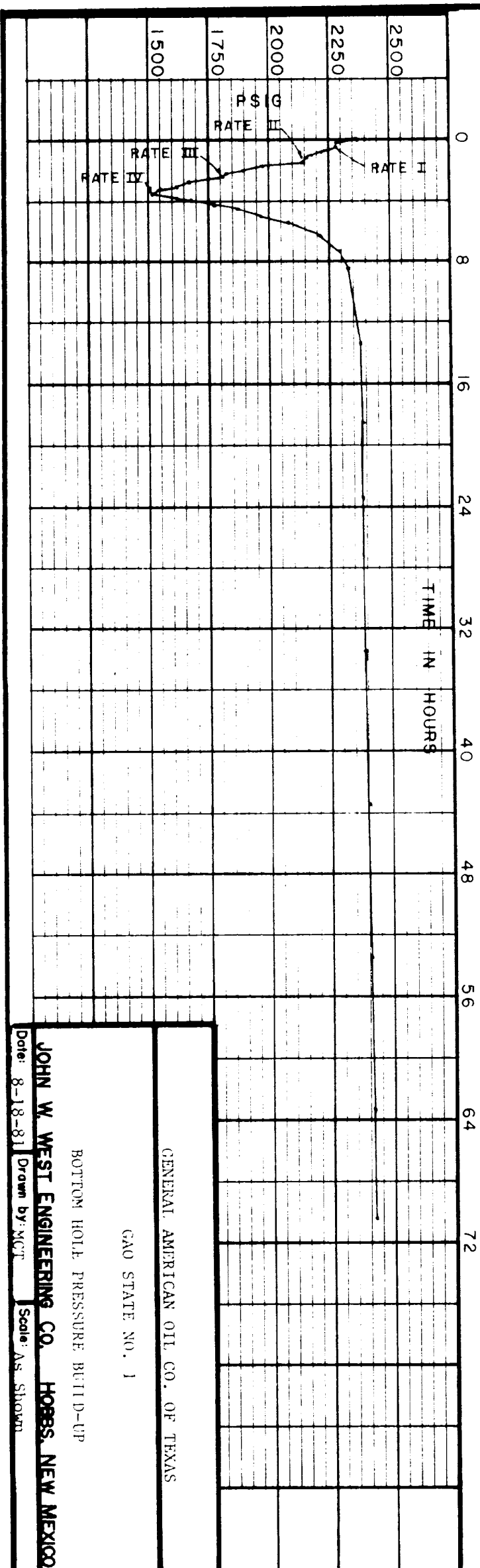
FACTS

LINE	1	2	3	4	5	6	7	8
1	520	520				519	519	
2	590	590				590	590	
3	555	555				555	555	
4	742	747				745	796	
5	411.81	414.59				442.49	441.382	
6	11.376111	11.301953				0.594187	10.61579	
7	1.5326	1.52779				1.487496	1.48898	
8	2389.2	2389.2				1527.2	1527.2	
9	5708.216	5708.216				2332.34	2332.34	
10	3725.638	3736.743				1567.96	1566.4	
11	1930.14	1932.949				1252.18	1251.6	
12						1389.4		
13	32673	3.27				2.10	2.10	
14	1.46	1.46				1.46	1.46	
15	747	747				796	796	

General American Oil Company of Texas
GAO State No. 1
Bottom Hole Pressure Build-up

See tabulation of Pressure and Time on attached sheet.

Test Date: August 12-15, 1981
Test Depth: 6711 feet
Element No. 18055
Range: 0-3500 psi
Clock No.: E-1917
Range: 0-72hrs.



GENERAL AMERICAN OIL CO. OF TEXAS

GAO STATE NO. 1

BOTTOM HOLE PRESSURE BUILD-UP

JOHN W. WEST ENGINEERING CO. HOBBES, NEW MEXICO

Date: 8-18-81 Drawn by: MCT Scale: As Shown

General American Oil Company of Texas
 State No. 1
 Bottom Hole Pressure Build-up

Test conducted by:
 John West Engineering Company

Well	Time	Cum. Hrs./Min.		PSIG. @ 6711'
2-81	9:00 am	00hrs,	00min.	2376 Guage reached 6711'
	9:15 am	00	00	2376 Open Choke; Begin Test
	9:30 am	00	15	2282
	9:45 am	00	0	2284 End Rate I
	10:00 am	00	45	2213
	10:15 am	01	00	2176
	10:30 am	01	15	2160
	10:45 am	01	30	2151 End Rate II.
	11:00 am	01	45	1972
	11:15 am	02	00	1898
	11:30 am	02	15	1813
	11:45 am	02	30	1806 End Rate III.
	12:00 noon	02	45	1671
	12:15 pm	03	00	1616
	12:30 pm	03	15	1549
	12:45 pm	03	30	1514 End Rate IV.
	12:45 pm	00	00	1514 Shut in, begin build-up
		00	15	1614
		00	30	1680
		00	45	1776
	1:45 pm	01	00	1861
		01	30	1960
	2:45 pm	02	00	2078
	3:45 pm	03	00	2213
	4:45 pm	04	00	2296
	5:45 pm	05	00	2333
2-81	10:45 pm	10	00	2379
3-81	3:45 am	15	00	2381
3-81	8:45 am	20	00	2385
3-81	6:45 pm	30	00	2392
4-81	4:45 am	40	00	2401
4-81	2:45 pm	50	00	2408
5-81	12:45 am	60	00	2411
5-81	7:45 am	67	00	2417 Chart ran out; End test.