STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

REC. MIDLAND

Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: 4PT [X] Initial [ ] Annual [ ] Special				Test Date: 7-20-82	
Company: Grace Petroleum Corporation		Connection: To Air			
Pool: Teas Penn		Formation: Morrow		Unit	
Completion Date: 7-16-82	Total Depth: 13,700	Plug Back TD: 13,340	Elevation: 3613 K.B.	Farm or Lease Name: East Smith Ranch	
Csg. Size: 5½ / Wt.: 20.17 / d: / Set At: 13,702		Perforations: From 13,142 To 13,332		Well No.: Fed Com #1	
Tbg. Size: 2 3/8 / Wt.: 4.7 / d: / Set At: 13,050		Perforations: From To		Unit: D / Sec.: 12 / Twp.: 20S / Rge.: 33E	
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single		Packer Set At: 13,050		County: Lea	
Producing Thru: Tbg	Reservoir Temp. °F: 206 @ 13,277	Mean Annual Temp. °F: 60°	Baro. Press. – P_a: 13.2	State: New Mexico	

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
13,237	13,237	.6788	1.002	1.091			4.0"	Flg

	FLOW DATA					TUBING DATA		CASING DATA		
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	Duration of Flow
SI						3588				24 hrs
1.	4.0	x 1.00	600	6"	99°	2973	78°			60 min
2.	4.0	x 1.00	605	13"	97°	2632	78°			60 min
3.	4.0	x 1.00	605	25"	85°	2335	78°			60 min
4.	4.0	x 1.00	605	49"	72°	2001	78°			45 min
5.										

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor F_t	Gravity Factor F_g	Supar Compress. Factor, F_{pv}	Rate of Flow Q, Mcfd
1	4.753	60.65	613.2	.9645	1.214	1.051	355
2.	4.753	89.65	618.2	.9662	1.214	1.053	526
3	4.753	124.32	618.2	.9768	1.214	1.057	741
4.	4.753	174.06	618.2	.9887	1.214	1.062	1055
5.							

NO.	P_t	Temp. °R	T_r	Z
1	.913	559	1.48	.905
2.	.920	557	1.47	.902
3.	.920	545	1.44	.895
4.	.920	532	1.41	.887
5				

Gas Liquid Hydrocarbon Ratio: 20.11 @ Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: 61 @ 60° Deg.
Specific Gravity Separator Gas: .6788 / xxxxxxxxx
Specific Gravity Flowing Fluid: xxxxx / G-mix = .843
Critical Pressure: 672 P.S.I.A. / 664 P.S.I.A.
Critical Temperature: 378 R / 438 R

P_c 3601.2 P_c^2 12968.6

NO	P_c	P_w	P_w^2	$P_c^2 - P_w^2$
1		2984.8	8909.0	4059.6
2		2649.0	7017.2	5951.4
3		2354.1	5541.7	7426.8
4		2026.1	4105.0	8863.5
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.463$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.463$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1,544$

Absolute Open Flow: 1,544 Mcfd @ 15.025 | Angle of Slope θ: 45° | Slope, n: 1.00

Remarks: Well made 5 barrels of condensate during test.

Approved By Division	Conducted By:	Calculated By:	Checked By:
	Baber Well Testing	B.R.	Mark Rowland