OIL CONSERVATION DIVI[illegible]

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: [X] Initial [ ] Annual [ ] Special				Test Date: 08-14-91	
Company: Union Oil Company of California		Connection: Sid Richardson			
Pool: Red Hills (Penn.)		Formation: Atoka		Unit: Red Hills	
Completion Date: 7-31-91	Total Depth: 17597	Plug Back TD: 16240	Elevation: 3349' GR	Farm or Lease Name: Red Hills Unit	
Csg. Size: 7 3/4 / Wt.: 46# / d: / Set At: 16,986'	Perforations: From 14528 To 14545			Well No.: 3	
Tbg. Size: 2 7/8 / Wt.: 8.1 / d: / Set At: 14400	Perforations: From To			Unit: K / Sec.: 5 / Twp.: 26-S / Rge.: 33-E	
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single		Packer Set At: 14400		County: Lea	
Producing Thru: Tubing	Reservoir Temp. °F: 218 @ 14400	Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2	State: New Mexico	
L: 14400	H: 14400	Gg: .605	% CO_2: .49	% N_2: .69	% H_2S:	Prover:	Meter Run: 4.026	Taps: flange

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							8300		PKR		72 hrs.
1.	4	X	2.500	48	2.45	90	7000		PKR		45 mins.
2.	4	X	2.500	51	6.48	95	5800		PKR		45 mins.
3.	4	X	2.500	54	10.58	93	3800		PKR		60 mins.
4.	4	X	2.500	57	18.00	92	2500		PKR		60 mins.
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.	32.64	12.24	61.2	.9723	1.286	1.005	502
2.	32.64	20.40	64.2	.9680	1.286	1.005	833
3.	32.64	26.66	67.2	.9697	1.286	1.005	1091
4.	32.64	35.55	70.2	.9706	1.286	1.005	1455
5.							

NO.	P_t	Temp. °R	T_f	Z
1.	.09	550	1.53	.991
2.	.09	555	1.55	.991
3.	.10	553	1.54	.990
4.	.10	552	1.54	.990
5.				

Gas Liquid Hydrocarbon Ratio: 65.2 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: 50.8% @ 60° Deg.
Specific Gravity Separator Gas: .605 XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX GMIX .646
Critical Pressure: 671 P.S.I.A. 670 P.S.I.A.
Critical Temperature: 358 R 372 R

P_c 8313.2 P_c^2 69109.3

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		7013.9	49194.8	19914.5
2		5814.9	33813.1	35296.2
3		3816.9	14568.7	54540.6
4		2520.4	6352.4	62756.9
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.101$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.093$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.579$

Absolute Open Flow: 1,579 Mcfd @ 15.025 Angle of Slope θ: 47.5 Slope, n: .924

Remarks: well made 2.26 BBLs 50.8 API CONDENSATE DURING TEST

Charles Pietsch/Unoco

Approved By Division	Conducted By:	Calculated By:	Checked By:
	Pro Well Testers	BM	CEP