MINIMUM CONTRACT TEST

Pool	Lease
PHILLIPS PETROLEUM COMPANY	Lusk Deep Unit "A" No. 5

Unit	Sec.	Twp.	Rge.	County	Pool
J	19	19S	32E	Lea	Lusk (Atoka & Morrow)

Type Well	Tubing	Casing	Top of Pay	Est. Pressure	Compressor
Single-Commmingle Producing Thru	X		11,656'	13.2	

Date of Previous Minimum Contract Test	n_t of Previous Back Pressure Test	Gravity	Meter Sta. No.	Acre Factor
	.890	.682		

FLOW DATA					FLOWING PRESSURES, PSIA		DURATION OF FLOW HOURS
Prover Line Size	X Choke Orifice Size	Static Pressure Psig.	Diff. h_w	Temp. °F	Tubing	Casing	
4"	X 2.000"	615	30.00	73	2162.2	Pkr.	72

VOLUME CALCULATIONS

Coefficient (24 - Hour)	$\sqrt{h_w P_m}$	Pressure Psia.	Flow Temp. Factor F_t	Gravity Factor F_g	Super Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 Psia.
19.81	137.28	628.2	.9877	1.211	1.065	3,464

$$D_t = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2} \right]^{n_t}$$

Pr	Temp. R	Tr	Z
.94	533	1.40	.882

SHUT-IN DATA, PSIA

DURATION	TUBING	CASING
24 Hour		
48 Hour	3929.2	Pkr.
72 Hour		

LINE	ITEM	SOURCE	113.2	513.2	613.2	713.2	
1	P_c^2			15438.6	15438.6	15438.6	
2	P_d^2			263.4	376.0	508.7	
3	P_t^2			4675.1	4675.1	4675.1	
4	$P_c^2 - P_d^2$	$\bar{1} - \bar{2}$		15175.2	15062.6	14929.9	
5	$P_c^2 - P_t^2$	$\bar{1} - \bar{3}$		10763.5	10763.5	10763.5	
6	B	$\bar{4} \div \bar{5}$		1.410	1.399	1.387	
7	Log $\bar{6}$			.149219	.145818	.142077	
8	n_t			.890	.890	.890	
9		$\bar{7} \times \bar{8}$		.132804	.129778	.126449	
10	B^{n_t}	Antilog $\bar{9}$		1.358	1.348	1.338	
11	Q.MCF/D			3,464	3,464	3,464	
12	D_t	$\bar{10} \times \bar{11}$		4,704	4,669	4,635	

n_t = Slope of Wellhead Deliverability Curve ($Pc^2 - Pt^2$ vs Q)

Q = Actual flow @ end of Flow Period at Wellhead Press., Pt.

Pc = Maximum Shut-in Pressure, Psia Observed in a 72 Hour Period

Pt = Flowing Wellhead Pressure (tubing if flowing thru tubing and vice versa), Psia

Pd = Deliverability Pressure, Psia

D_t = Wellhead Deliverability @ Deliverability Pressure (Pd) MCF/D

Witnessed By: (Name)	Winn Sutton
Company:	Phillips Petroleum Company
Tested By:	John West Engineering Co., Inc.
Calculated By:	Bob Murray