

**State of New Mexico
Energy, Mineral and Natural Resources**

Submit in duplicate to
appropriate district office
See Rule 401 & Rule 1122

Form C-122
Revised October, 1999

**Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505**

30-025-36904

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator SAMSON RESOURCES COMPANY					Lease or Unit Name LEA FEDERAL				
Type Test ☒ Initial ☐ Annual ☐ Special					Test date 4/20/2005		Well No. 18		
Completion Date: 4/3/2005		Total Depth 13380		Plug Back TD 13333		Elevation: 3665 GL		Unit Ltr.-Sec.-TWP-Rge. B 11 20S 34E	
Csg. Size 5.500	Wt. 20	d 4.778	Set At 13377	Perforations: From 12960 To 12982			County LEA		
Tbg. Size 2.375	Wt. 4.7	d 1.995	Set At 12861	Perforations: From _____ To _____			Pool		
Type Well - Single - Bradenhead - G.G or G.O Multiple SINGLE					Packer Set At 12861		Formation MORROW		
Prod. Thru TUBING		Reservoir Temp.F 230 @ 12,971		Mean Annual Temp. F 60		Baro, Press - Pa 13.20		Connection DOWNSTREAM	
L 12971	H 12971	Gg 0.686	%Co2 0	%N2 0	%H2s ppm 0	Prover	Meter run X	Taps F	

FLOW DATA					TUBING DATA		CASING DATA		Duration Of Flow	
NO.	Prover Line Size	Orifice X Size	Press. p.s.i.g.	Diff. hw	Temp. F.	Press. p.s.i.g.	Temp. F.	Press. p.s.i.g.		Temp. F.
Shut-in Pressure										
1	3.068 X 1.500		119	40	62	3700	60			24
2						2400	60			24
3										
4										
5										

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	hwPm	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg.	Super Compress Factor, Fpv.	Rate of Flow (Q) Mcfd
1	11.13	72.72	132.20	0.9981	1.20736	1.013086	988
2							
3							
4							
5							

NO.	Pr	Temp R	Tr	Z
1	.198	522	1.356	.9712
2				
3				
4				
5				

Pc	3713.2	Pc2	13787.9
----	--------	-----	---------

NO.	Pw	Pw2	Pc2-Pw2
1	2420.9	5860.5	7927.3
2			
3			
4			
5			

GAS LIQUID HYDROCARBON RATIO		76	Mcf/bbl.
API GRAVITY OF LIQUID HYDROCARBONS		55.5	Deg.
S. G. SEPARATOR GAS		0.686	XXXXXXXXXX
S.G. FLOWING FLUID		XXXXXXXXXXXX	0.721
CRITICAL PRESSURE		668.99	667.76 P.S.I.A.
CRITICAL TEMPERATURE		385.07	396.67 R

[1] Pc2	1.739284	[2] Pc2	n	1.739284
Pc2-Pw2		Pc2-Pw2		

$AOF = Q \cdot \frac{Pc2}{Pc2-Pw2} \cdot n$		1718
---	--	------

Absolute Open Flow	1718	Mcf/d @ 15.025	Angle of Slope	45.00	Slope n	1.00
--------------------	------	----------------	----------------	-------	---------	------

Remarks: WELL MADE 13 BBLS OIL AND 3 WATER.

Approved by Division: 	Conducted by: SAMSON RESOURCES COMPANY	Calculated by: COMPUTER	Checked by:
---------------------------	---	----------------------------	-------------

7160-3901-9842-0439-6163

**State of New Mexico
Energy, Mineral and Natural Resources**

Submit in duplicate to
appropriate district office
See Rule 401 & Rule 1122

Form C-122
Revised October, 1999

**Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505**

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator SAMSON RESOURCES COMPANY					Lease or Unit Name LEA FEDERAL				
Type Test ☐ Initial ☐ Annual ☒ Special					Test date 5/1/2006		Well No. 18		
Completion Date: 4/3/2005		Total Depth 13380		Plug Back TD 13333		Elevation: 3665 GL		Unit Ltr.-Sec.-TWP-Rge. B 11 20S 34E	
Csg. Size 5.500	Wt. 20	d 4.778	Set At 13377	Perforations: From 12960 To 12982			County LEA		
Tbg. Size 2.375	Wt. 4.7	d 1.995	Set At 12861	Perforations: From To			Pool		
Type Well - Single - Bradenhead - G.G or G.O Multiple SINGLE					Packer Set At 12861		Formation MORROW		
Prod. Thru TUBING		Reservoir Temp.F 230 @ 12,971		Mean Annual Temp. F 60		Baro, Press - Pa 13.20		Connection DOWNSTREAM	
L 12971	H 12971	Gg 0.686	%Co2 0	%N2 0	%H2s ppm 0	Prover	Meter run X	Taps F	
FLOW DATA					TUBING DATA		CASING DATA		
NO.	Prover Line X Size	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. F.	Press. p.s.i.g.	Temp. F.	Press. p.s.i.g.	Temp. F.
Shut-in Pressure						3500	60		
1	3.068 X 1.625		434	110	60	1650	60		24
2									24
3									
4									
5									
RATE OF FLOW CALCULATIONS									
NO.	COEFFICIENT (24 HOUR)	hwPm	Pressure Pm	Flow Temp Factor Ft.	Gravity Factor Fg.	Super Compress Factor Fpv.	Rate of Flow (Q) Mcfd		
1	13.24	221.79	447.20	1.0000	1.20736	1.052662	3731		
2									
3									
4									
5									

NO.	Pr	Temp R	Tr	Z
1	.668	520	1.35	.8995
2				
3				
4				
5				

Pc	3513.2	Pc2	12342.6
----	---------------	-----	----------------

NO.	Pw	Pw2	Pc2-Pw2
1	1811.9	3283.1	9059.4
2			
3			
4			
5			

GAS LIQUID HYDROCARBON RATIO		60	Mcf/bbl.
API GRAVITY OF LIQUID HYDROCARBONS		55.5	Deg.
S. G. SEPARATOR GAS		0.686	
S.G. FLOWING FLUID		XXXXXXX	
CRITICAL PRESSURE		668.99	667.45 P.S.I.A.
CRITICAL TEMPERATURE		385.07	399.66 R

[1] Pc2	1.362399	[2] Pc2	1.362399
Pc2-Pw2		Pc2-Pw2	

AOF = Q * $\frac{Pc2}{Pc2-Pw2}$ **5084**

Absolute Open Flow	5084	Mcf/d @ 15.025	Angle of Slope	45.00	Slope n	1.00
--------------------	-------------	----------------	----------------	--------------	---------	-------------

Remarks: **WELL MADE 62 BBLS OIL AND 96 WATER. WORKOVER**

Approved by Division: 	Conducted by: SAMSON RESOURCES COMPANY	Calculated by: COMPUTER	Checked by:
---------------------------	--	-----------------------------------	-------------

7160-3901-9842-0439-6163