

OKLAHOMA CORPORATION COMMISSION - OIL & GAS CONSERVATION DIVISION
380 Jim Thorpe Building-Oklahoma City Oklahoma 73105
BACK - PRESSURE TEST FOR NATURAL GAS WELLS

Lease Name: SOUTH EMPIRE STATE #1 OTC No.:
 Well No.: 1 SEC: 24 TWP: 17S RGE: 28E County: EDDY
 State: NEW MEXICO Type test: FOUR POINT-INITIAL Test date: 4-7-81
 Company: DOYLE HARTMAN Connection: AIR
 Field: Pool No.: Reservoir: MORROW
 Location: M Compl date: 12-14-80 Tot depth: 10750 Plug back: 10722
 Elev.: GR 3681 Type compl: SINGLE Packer set at: 0
 Prod. thru: TUBING BHT: 158.0 F Atm temp: 60 F Baro press.: 13.2 PSI
 Size: METER RUN 4 in Taps: FLANGE L: 10494 H: 10494 Gg: .671
 %CO2: 1.23 %N2: .77 %H2S: 0 API WELL NO.: 31
 Casing Size(in) Wt(#/Ft) Set at ***** Perforation *****
 5.500 17.00 10722 from 10481 to 10509
 Tubing 2.875 6.50 10433 from 0 to 0

***** FLOW DATA *****					** TUBING **		** CASING ^{BOTTOM HOLE} **		* DURATION *
No.	Orifice Size	Press PSIG	Diff in/RTS	Temp F	Press PSIG	Temp F	Press PSIG	Temp F	Dur. of Flow(hrs)
SI					2228.0	60.0	3124.0	60.0	960.00
1	1.7500	582.2	6.76	97	2162.0	76.0	3073.0	.0	1.00
2	1.7500	591.4	16.81	88	2102.0	77.0	3015.0	.0	1.00
3	1.7500	592.9	60.84	81	1992.0	78.0	2872.0	.0	1.00
4	1.7500	613.1	98.01	81	1900.0	78.0	2757.0	.0	1.00

***** RATE OF FLOW CALCULATION *****							
No.	Coeff. (24hrs)	SQRT (Hw*Pw)	Press Pm	Flow Temp (Ft)	Gravity (Fg)	Compress (Fpv)	Rate of Flow(Q)
1	15.3100	62.73	582.2	.9662	1.2208	1.0483	1188.
2	15.3100	99.70	591.4	.9741	1.2208	1.0518	1909.
3	15.3100	189.93	592.9	.9804	1.2208	1.0547	3670.
4	15.3100	245.13	613.1	.9804	1.2208	1.0564	4745.

No.	Pr	Temp. R	Tr	Z
1	.86	557.	1.48	.910
2	.88	548.	1.46	.904
3	.88	541.	1.44	.899
4	.91	541.	1.44	.896

Pc 3137.2 (Pc)2 9842.0

No.	Pw	(Pw)2	(Pc)2-(Pw)2
1	3086.2	9524.6	317.0
2	3028.2	9170.0	672.0
3	2885.2	8324.4	1518.0
4	2770.2	7674.0	2168.0

GAS LIQUID HYDROCARBON CALCULATION

Ratio ***** MCF/BBL

API Gravity 63.0 DEG.

Specific Gravity:

Separator Gas .6710

Flowing Fluid .6735

Critical Press 674 PSIA 673 PSIA

Critical Temp 375 R 376 R

(Pc)2 / ((Pc)2 - (Pn)2) = 4.5397

4.5397

((Pc)2 / ((Pc)2 - (Pw)2))n = 2.9731

3.6180

WHAOF = Q * ((Pc)2 / ((Pc)2 - (Pw)2))n

= 14107.3 \ 17167.5

Calculated ^{Absolute} Well Head Open Flow: 14107.3 MCFPD Slope: .7202 Angle: 54.2 Deg.
 17167.5 MCFPD .8500 49.6 Deg.

REMARKS

METER DATA CHANGED FROM L-10 CHART READINGS

APPROVED BY COMMISSION

CONDUCTED BY

CALCULATED BY
 Wohlford & Jenkins
 Gas Consultants

CHECKED BY

Larry A. Jenkins

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