

(TO BE USED FOR FRUITLAND, PICTURED CLIFFS, MESAVERDE, & ALL DAKOTA  
EXCEPT BARKER DOME STORAGE AREA)

Operator DAN AMERICAN INDEPENDENT CORP. Lease Horris Gas Unit "C" Well No. 1  
Unit K Sec. 26 Twp. 20N Rge. 10W Pay Zone: From 6295 To 6301  
Casing: OD 4-1/2 WT. 10.5 Set At 6412 Tubing: OD 3-3/8 WT. 4.7 T. Perf. 6306  
Produced Through: Casing ^ Tubing X Gas Gravity: Measured .687 Estimated           
Date of Flow Test: From 3-7-64 To 3-13-64 \* Date S.I.P. Measured 3-4-64  
Meter Run Size 4" Orifice Size 1.390 Type Chart Eq. B. Type Taps Flange

Flowing casing pressure (Dwt)	_____	psig + 12 = _____	psia	(a)
Flowing tubing pressure (Dwt)	_____	psig + 12 = _____	psia	(b)
Flowing meter pressure (Dwt)	_____	psig + 12 = _____	psia	(c)
Flowing meter pressure (meter reading when Dwt. measurement taken:				
Normal chart reading	_____	psig + 12 = _____	psia	(d)
Square root chart reading (_____)	$^2 \times$ spring constant _____	= _____	psia	(d)
Meter error (c) - (d) or (d) - (c)	_____	$\pm$ _____	psi	(e)
Friction loss, Flowing column to meter:				
(b) - (c) Flow through tubing:	(a) - (c) Flow through casing	_____	psi	(f)
Seven day average static meter pressure (from meter chart):				
Normal chart average reading	_____	psig + 12 = _____	psia	(g)
Square root chart average reading ( <u>7.05</u> )	$^2 \times$ sp. const. <u>30</u>	= <u>407</u>	psia	(g)
Corrected seven day avge. meter press. ( $P_f$ )	(g) + (e)	= <u>407</u>	psia	(h)
$P_t = (h) + (f)$		= <u>407</u>	psia	(i)
Wellhead casing shut-in pressure (Dwt)	<u>2004</u>	psig + 12 = <u>2016</u>	psia	(j)
Wellhead tubing shut-in pressure (Dwt)	<u>2004</u>	psig + 12 = <u>2016</u>	psia	(k)
$P_c = (j)$ or (k) whichever well flowed through		= <u>2016</u>	psia	(l)
Flowing Temp. (Meter Run)	_____ °F + 460	= _____	° Abs	(m)
$P_d = \frac{1}{2} P_c = \frac{1}{2} (l)$		= <u>1008</u>	psia	(n)

Q = \_\_\_\_\_ X  $\left( \frac{\text{FLOW RATE CALCULATION}}{\frac{\sqrt{(c)}}{\sqrt{(d)}}} = \frac{\text{_____}}{\text{_____}} = \text{_____} \right)^* = \text{_____ MCF/day}$

(integrated)

$$D = Q \frac{1350}{\left[ \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = \frac{2,044,192}{3,773,232} \right]^n} \cdot .8320 = 1197 \text{ MCF/da.}$$

$P_c = 2015$  \_\_\_\_\_ psia  
 $Q = 1150$  \_\_\_\_\_ Mcf/day  
 $P_w = 940$  \_\_\_\_\_ psia  
 $P_d = 2000$  \_\_\_\_\_ psia  
 $D = 1157$  \_\_\_\_\_ Mcf/day

Company THE AMERICAN FURNACE CO.  
By F. L. Hubert  
Title District Engineer  
Witnessed by W. J. [illegible] ORIGINAL SIGNED BY F. W. Foell  
Company \_\_\_\_\_ JUN 11 1964

REMARKS OR FRICTION CALCULATIONS

GL	$(1-e^{-S})$	$(F_c Q)^2$	$\frac{(F_c Q)^2 (1-e^{-S})}{R^2}$	$P_t^2$ (Column i)	$P_t^2 + R^2$	$P_w$
4331	.270	143,000	44,013	347,000	392,000	340

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