

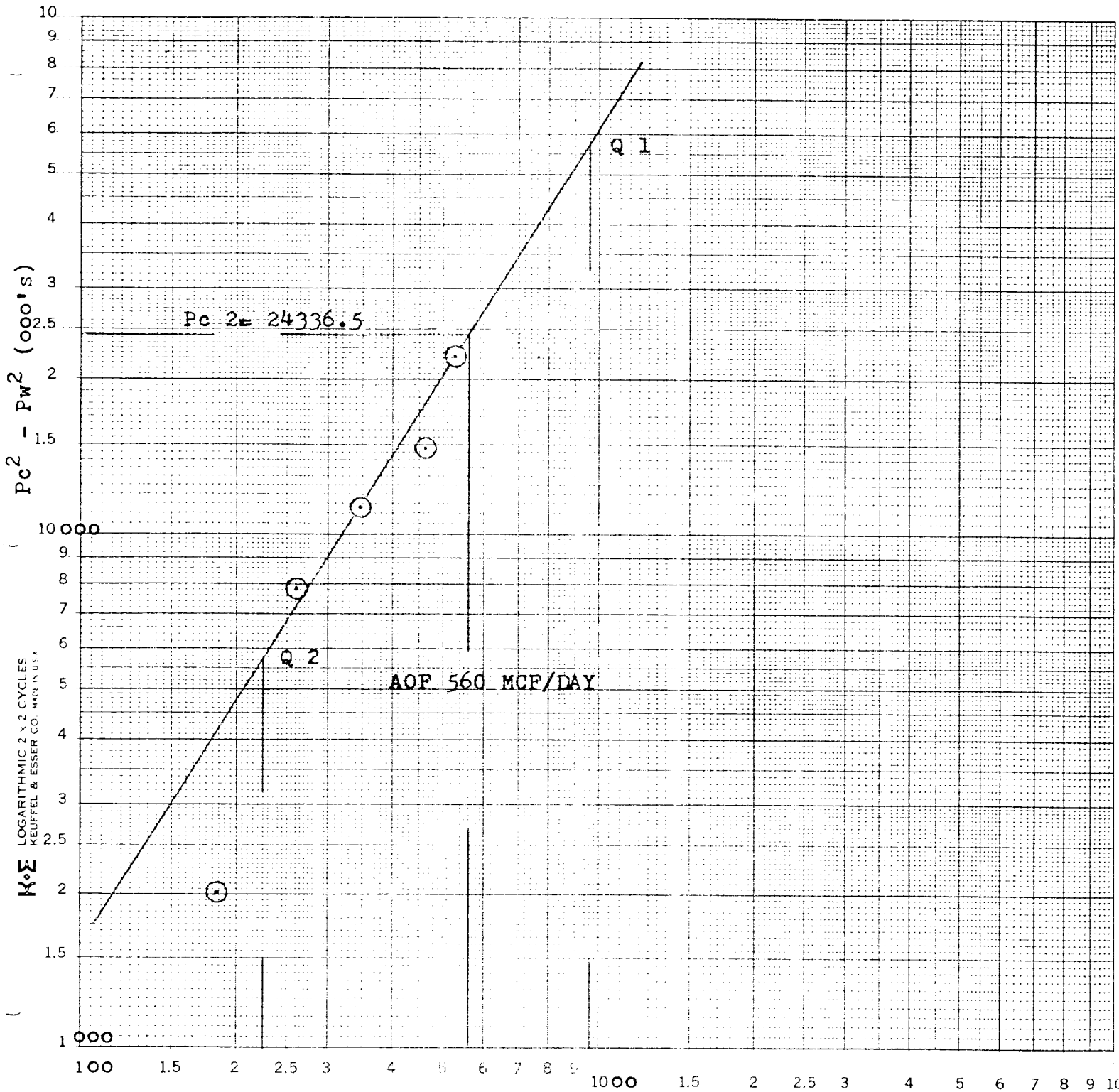
NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
 Revised 9-1-65

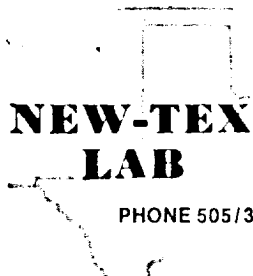
RECEIVED

Test Type: ☒ Initial ☐ Annual ☐ Special		Test Date: 8/3/82		Date: AUG 13 1982							
Company: Perry R. Bass BASS ENTERPRISES			Direction: NATURAL GAS PIPELINE								
Well: Sand Point atoka			Location: ATOKA								
Completion Date: 8-3-82		Total Length: 12417		Perforations: 11775							
Casing Size: 5 1/2		Set At: 12417		From: 11309 To: 11341							
Tubing Size: 2 3/8		Set At: 11270		From: To:							
Type Well - Casing - Production - G.G. or G.O. Multiple: SINGLE				Factor Set At: 11230							
Producing thru: Tbg.		Reservoir Temp. °F: 187^a 11300		Mean Annual Temp. °F: 60^o							
L: 11300		H: 11300		G _g : .5916							
% CO ₂ : .411		% N ₂ : 1.607		% H ₂ S:							
Prover:		Meter Run: 3"		Flag: Flg.							
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
51							4920				24 HRS.
1.	3 x 1.000			562	1.4	72	4370				1 HR.
2.	3 x 1.000			564	2.9	82	3850				1 HR.
3.	3 x 1.000			565	5.2	89	3320				1 HR.
4.	3 x 1.000			570	9.2	89	2720				1 HR.
5.	3 x 1.000			565	12.2	91	1180				4 HRS.
RATE OF FLOW CALCULATIONS											
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _L	Gravity Factor F _g	Super Compress. Factor F _{pv}	Rate of Flow Q, Mscf				
1	4.789	28.38	575.2	.9887	1.300	1.045	183				
2	4.789	40.91	577.2	.9795	1.300	1.042	260				
3	4.789	54.83	578.2	.9732	1.300	1.040	346				
4	4.789	73.25	583.2	.9732	1.300	1.040	462				
5	4.789	83.99	578.2	.9715	1.300	1.039	528				
Gas Liquid Hydrocarbon Ratio: DRY Mscf/bbl.											
NO.	P _r	Temp. °R	T _r	Z	A.P.L. Gravity of Liquid Hydrocarbons:						
1	.86	532	1.50	.915	Specific Gravity Separator Gas: .5916						
2	.86	542	1.53	.921	Specific Gravity Flowing Fluid: X X X X X						
3	.86	549	1.55	.925	Critical Pressure: 672 P.S.I.A.						
4	.87	549	1.55	.924	Critical Temperature: 354 °R						
5	.86	551	1.56	.926	P.S.I.A.						
(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.097$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.060$											
NO.	BHP	P _w	P _w ²	P _c ² - P _w ²	(3) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = .560$						
1	5828.2	4724.4	22320.2	2016.3	(4) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = .560$						
2	5073.2	4063.1	16508.4	7828.1	(5) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = .560$						
3	4535.2	3601.7	12971.9	11364.6	(6) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = .560$						
4	3829.2	3010.1	9060.8	15275.7	(7) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = .560$						
5	1869.2	1467.4	2153.2	22183.3	(8) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = .560$						
Absolute Open Flow: 6254.2 S.I.P.				Mscf: 560	Angle of Slope: 57.75^o	Slope: .630					
Remarks:											
Approved By:		Conducted By:		Calculated By:		Checked By:					
DAVIS SERVICES, INC.		RICK PAGAN		RICK PAGAN		RICK PAGAN					

COMPANY : BASS ENTERPRISES
 LEASE : BIG EDDY UNIT
 WELL NO. : #83
 UNIT : C/SEC. 10/TWP.21S/RGE.28E
 COUNTY : EDDY
 STATE : NEW MEXICO
 DATE : AUGUST 3, 1982



$Q = \text{MCF / DAY}$
 $Q \ 1 \ \text{LOG} \ 960 = 2.982271$
 $Q \ 2 \ \text{LOG} \ 225 = 2.352183$
 $N = .630$
 $\theta = 57.75^\circ$



NEW-TEX LAB

PHONE 505/393-3561

P. O. BOX 1161

611 W. SNYDER

HOBBS, NEW MEXICO 88240

ANALYSIS CERTIFICATE

CLIENT: DAVIS SERVICES INC
ADDRESS: BOX 2033
CITY, STATE: HOBBS NM 88240

ANALYSIS NUMBER: 7958
DATE OF RUN: 8 4 82
DATE SECURED: 8 2 82

SAMPLE IDENT: BASS ENTERPRISES BIG EDDY UNIT 83
SAMPLING PRESS: SAMPLING TEMP:

***** GAS ANALYSIS *****

	MOLE PERCENT	GAL/ MCF
NITROGEN	1.607	
CARBON DIOXIDE	0.411	
METHANE	94.268	
ETHANE	2.633	0.702
PROPANE	0.646	0.177
ISO-BUTANE	0.119	0.039
NORMAL BUTANE	0.110	0.035
ISO-PENTANE	0.055	0.020
NORMAL PENTANE	0.030	0.011
HEXANES	0.044	0.018
HEPTANES PLUS	0.077	0.035
TOTAL	100.000	1.037

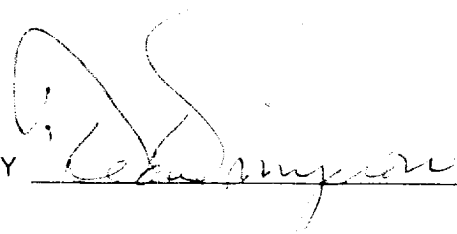
PROPANE GPM:	0.18	BUTANES GPM:	0.07
ETHANE GPM:	0.70	PENTANES PLUS GPM:	0.08

SPECIFIC GRAV (CALC): 0.5916
MOLE WEIGHT: 17.14

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
14.696		1014	1032
14.650		1011	1029
14.730		1017	1035
14.735		1017	1035

ANALYZED BY: DEANE SIMPSON

APPROVED BY



WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES ~~(For P_w)~~

Form C-122F
Adopted 9-1-65

FROM KNOWN BOTTOM HOLE PRESSURE (~~For P_s~~)

COMPANY BASS ENTERPRISES LEASE BIG EDDY UNIT WELL NO. 83 DATE 8/3/82

LOCATION: Unit C Section 10 Township 21s Range 28e

L 11300 H 11300 L/H 1.000 G .5916 % CO₂ .411 % N₂ 1.607 % H₂S

GH 6685 P_{cr} 672 T_{cr} 354

LINE	1st RATE			2nd RATE			3rd RATE			4th RATE		
	1	2	3	4	5	6	7	8				
1	T _w (W.H. °R)	534	534	534	534	534	534	534	534	534	534	534
2	T _s (B.H. °R)	647	647	647	647	647	647	647	647	647	647	647
3	$T = \left(\frac{T_w + T_s}{2} \right)$	590.5	590.5	590.5	590.5	590.5	590.5	590.5	590.5	590.5	590.5	590.5
4	Z (Est.)	1.053	1.011	.993	.956	.952	.905	.882				
5	TZ	621.8	597.0	586.4	564.5	562.2	534.4	520.8				
6	GH/TZ	10.751	11.198	11.401	11.842	11.892	12.509	12.836				
7	e ^S (Table XIV)	1.497	1.522	1.533	1.559	1.562	1.599	1.618				
8	P _f or P _s	5828.2	5828.2	5073.2	5073.2	4535.2	3829.2	3829.2				
9	P _f ² or P _s ²	33967.9	33967.9	25737.4	25737.4	20568.0	14662.8	14662.8				
10	P _c ² = P _f ² /e ^s or P _w ² = P _s ² /e ^s	22697.5	22320.2	16783.7	16508.4	13168.0	9172.6	9060.8				
11	P _c or P _w	4764.2	4724.4	4096.8	4063.1	3628.8	3028.6	3010.1				
12	$P = \left(\frac{P_w + P_s}{2} \right)$ or $\left(\frac{P_c + P_f}{2} \right)$	5296.2	5276.3	4585.0	4568.1	4082.0	3428.9	3419.7				
13	P _f = (P/P _{cr})	7.88	7.85	6.82	6.80	6.07	5.10	5.09				
14	T _f = (T/T _{cr})	1.67	1.67	1.67	1.67	1.67	1.67	1.67				
15	Z (Table XI)	1.011	1.009	.956	.955	.921	.882	.882				

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (P_e or P_w)

FROM KNOWN BOTTOM HOLE PRESSURE (P_b or P_s)

COMPANY BASS ENTERPRISES LEASE BIG EDDY UNIT WELL NO. 83 DATE 8/3/82

LOCATION: Unit C Section 10 Township 21 S Range 28 E

L 11300 H 11300 L/H 1.000 G .5916 %CO₂ .411 %N₂ 1.607 %H₂S

GH 6685 P_{cr} 672 T_{cr} 354

5th RATE

LINE		1	2	3	4	5	6	7	8
1	T _w (W.H. ϕ_R)	534	534						
2	T _s (B.H. ϕ_R)	647	647						
3	$T = \left(\frac{T_w + T_s}{2} \right)$	590.5	590.5						
4	Z (Est.)	.869	.877						
5	TZ	513.1	517.9						
6	GH/TZ	13.028	12.909						
7	e ^S (Table XIV)	1.630	1.623						
8	P _f or P _s	1869.2	1869.2						
9	P _f ² or P _s ²	3493.9	3493.9						
10	P _c ² = P _f ² /e ^S or P _w ² = P _s ² /e ^S	2143.6	2153.2						
11	P _c or P _w	1464.1	<u>1467.4</u>						
12	$P = \left(\frac{P_w + P_s}{2} \right)$ or $\left(\frac{P_c + P_f}{2} \right)$	1666.6	1668.3						
13	P _r = (P/P _{cr})	2.48	2.48						
14	T _r = (T/T _{cr})	1.67	1.67						
15	Z (Table XI)	.877	.877						