

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

Form C-122
Revised 9-1-65

Type Test ☒ Initial FOUR POINT ☐ Annual ☐ Special						Test Date 9-21-81		1900 FNL	
Company AIKMAN PETROLEUM CORP.				Connection AIR NEW WELL				660 FWL	
Pool LIGHT CAP DEVONIAN				Formation MONTOKA				Unit E	
Completion Date 9-15-81		Total Depth 7954		Plug Back TD 7946		Elevation 4047 KB		Farm or Lease Name SANDERS	
Csg. Size 4.50	Wt. 11.6	d 4.00	Set At 7946	Perforations: From 7903 To 7911				Well No. 1	
Tbg. Size 2.375	Wt. 4.7	d 1.995	Set At 7872	Perforations: From OPEN To ENDED				Unit Sec. Twp. Rye. E 8 8S 30E	
Type Well - Single - Brdenhead - G.G. or G.O. Multiple SINGLE						Packer Set At 7840		County CHAVES	
Producing Thru TUBING		Reservoir Temp. °F 163 @ 7923		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State NEW MEXICO	
L 7907	H 7907	G _g 0.720	% CO ₂ 5.079	% N ₂ 3.89	% H ₂ S	Prover	Meter Run 4"	Taps FLANGE	

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
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	
SI							1836	90	2953		72 1/2 HRS
1.	1.	X	4"	495	5.0	105	1653	87	2892		1
2.	1.	X	4"	495	30.0	90	1653	82	2803		1
3.	1.	X	4"	505	70.0	82	1590	74	2567		1
4.	1.	X	4"	505	68.0	92	1518	73	2413		1
5.	1.	X	4"	505	75.0	91	1385	73	2296		1

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	4.8740	50.41	508.2	.9594	1.1785	1.0392	289.
2	4.8740	123.47	508.2	.9723	1.1785	1.0431	719.
3	4.8740	190.46	518.2	.9795	1.1785	1.0471	1122.
4	4.8740	187.72	518.2	1.0078	1.1785	1.0588	1151.
5	4.8740	197.14	518.2	.9715	1.1785	1.0448	1149.

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	.74	565.	1.50	.926	67.3	
2.	.74	550.	1.46	.919		
3.	.76	542	1.44	.912		
4.	.76	512.	1.36	.892		
5.	.76	551.	1.46	.916		

A.P.I. Gravity of Liquid Hydrocarbons				67.3		Deg.	
Specific Gravity Separator Gas				.7200		X X X X X X X X	
Specific Gravity Flowing Fluid				X X X X X		.7200	
Critical Pressure				683		P.S.I.A.	
Critical Temperature				376		R	

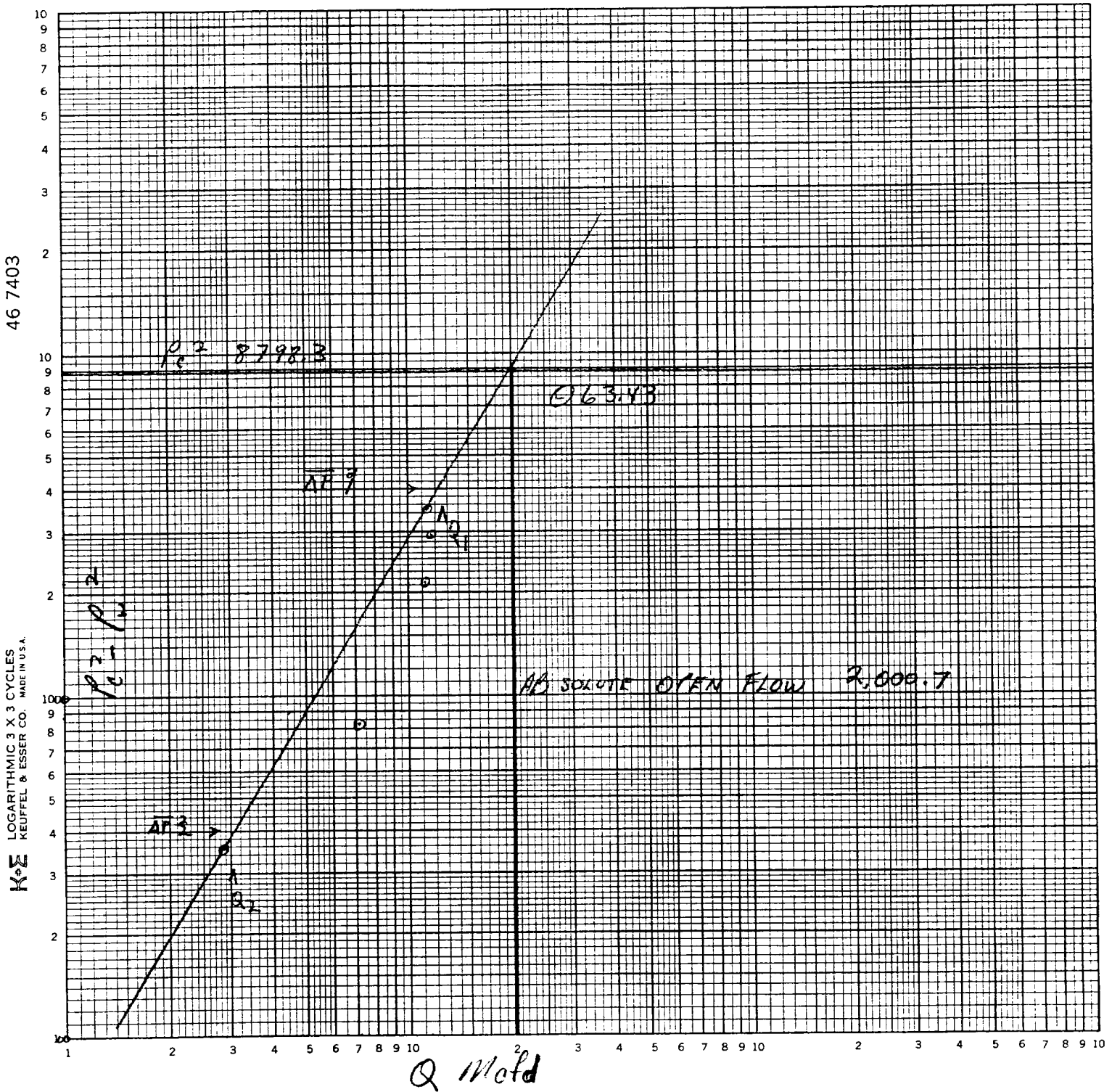
NO.	P _t ²	P _w	P _w ²	P _t ² - P _w ²	(1) $\frac{P_t^2}{P_t^2 - P_w^2} = 3.0214$	(2) $\left[\frac{P_t^2}{P_t^2 - P_w^2} \right]^n = 1.7382$
1	2905.2	8440.2	358.0			
2	2816.2	7931.0	867.0			
3	2580.2	6657.4	2141.0			
4	2426.2	5886.4	2912.0			
5	2306.2	5322.4	3466.0			

Absolute Open Flow				2,000.7		Mcf/d @ 15.025		Angle of Slope @ .5000		Slope, n 63.43	
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Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA PRESSURE ELEMENT			
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Approved By Commission Jerry S. ...	Conducted By: DON BENNETT	Calculated By: WOHLFORD & JENKINS	Checked By:
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MINNAPAC
SANDERS Well No 1
Unit F, Sec. 8, Twp 8S, Rge 30E
Chaves County New Mexico
9-21-81



$$\frac{\Delta P_1}{\Delta P_2} = \frac{P_e^2 - P_w^2}{P_e^2 - P_w^2} = \frac{4000}{400}$$

$$Q_1 = 1217.5 \text{ mcf/d}$$

$$Q_2 = 385.0 \text{ mcf/d}$$

$$\log Q_1 = 3.0855$$

$$\log Q_2 = \frac{2.5855}{.5000}$$

COMPANY AIKMAN PETROLEUM WELL NAME SANDERS WELL NO. 1
DATE OF TEST 9-21-81 FORMATION MONTOYA PAGE 1 OF 1

ELEMENT NUMBER	RPG3 #9526	RANGE	0 - 8,100 LBS.
CLOCK NUMBER	C 3099	RANGE	24 HOURS
TIME WELL SHUT IN	1530 HOURS	9-18-81	
TIME CLOCK STARTED	N.A.		
DEAD WEIGHT ELEMENT ON SURFACE	1849		LBS.
TIME ELEMENT REACHED BOTTOM	N.A.		
DEAD WEIGHT ELEMENT ON BOTTOM	1849		LBS.
ELEMENT SET AT	7923		FEET.
TEMPERATURE	7923	FT.	163 °F.
DEAD WEIGHT AT THE END OF	72	HOURS	30 MINUTES.
TANDUM BOMBS #2 - RPG3 #46950,	0 - 7000	LBS.	

Bryan Printers & Stationers, Inc.

TEST DATE: 9-21-81

TEST DEPTH: 7,923 FEET

ELEMENT NO.: RPG3 #46950

RANGE: 0 - 8,100 LBS. & 0 - 7,000 LBS.

CLOCKS: C 3099

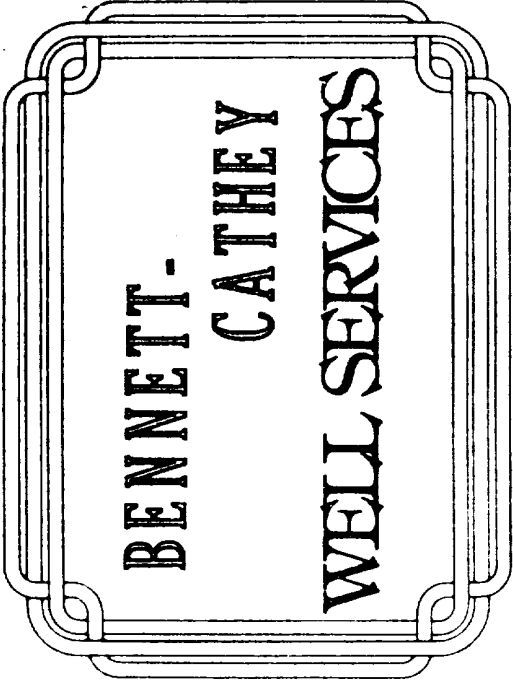
RANGE: 24 HOURS

OPERATOR: BOB HERREN

Note: See Attached Sheet for Tabulation of Pressure
And Time.

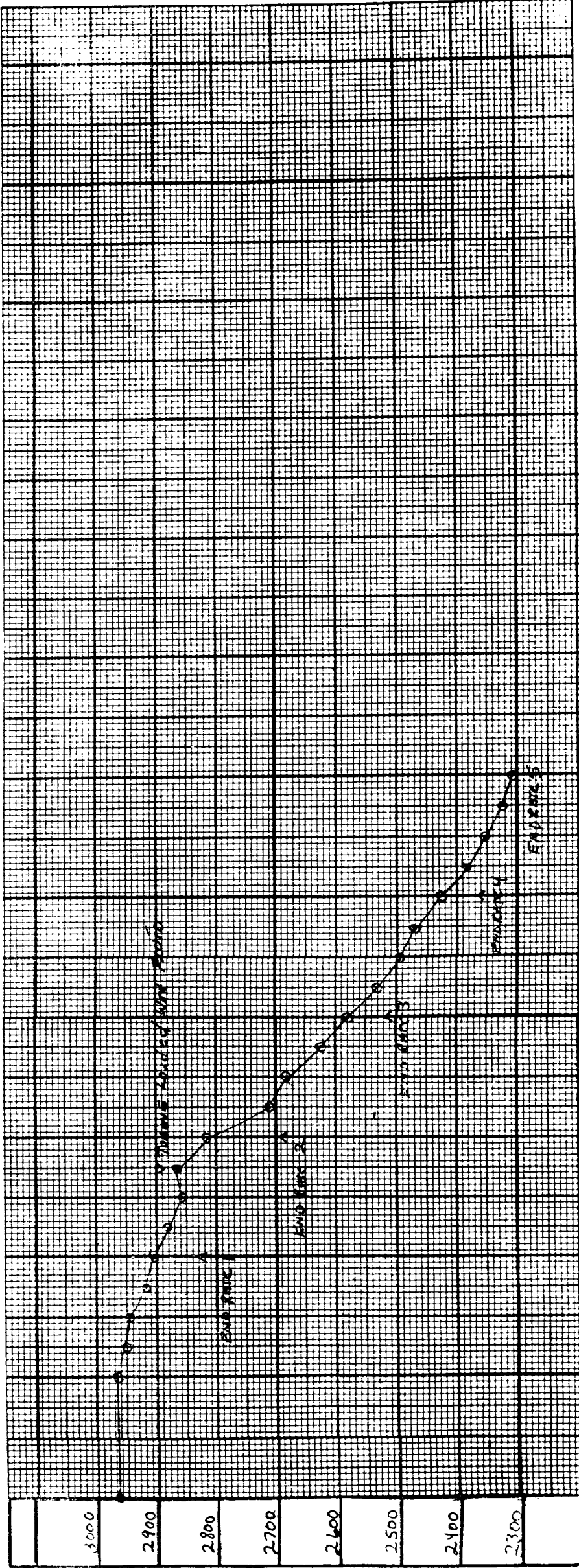
FOUR POINT BACK PRESSURE TEST

JOHN SHELTON
AIKMAN PETROLEUM CORP. SANDERS WELL NO. 1
BENNETT-CATHEY WIRE LINE SERVICE Box 787 Artesia, N.M. 88210 505/746-3281 Drawn By _____ Scale: As Shown



TIME IN HOURS

0 1 2 3 4 5



1981
1981
1981

NEW-TEX LAB

P. O. BOX 1181
HOBBS, N.M. 88240

No. 5683
Run No. _____
Date of Run 9-23-81
Date Secured 9-18-81

CERTIFICATE OF ANALYSIS

A Sample of Aikman Petroleum Co. Sanders #1 (Condensate)
Secured from Bennett-Cathey
At Box 787 Secured by _____
Artesia, NM 88210 Time _____ Date _____
Sampling conditions _____ Press _____
Temp. _____

FRACTIONAL ANALYSIS

Percentage Composition

	MOL %	LIQ. %	Wt % G.P.M.
Carbon Dioxide			
Air			
Nitrogen			
Oxygen			
Hydrogen sulfide			
Hydrogen			
Methane			
Ethane	.195	.131	.062
Propane	1.440	.993	.676
Butanes			
Iso-Butane	1.369	1.122	.846
N-Butane	3.804	3.005	2.352
Pentanes			
Iso-Pentane	4.940	4.532	3.792
N-Pentane	6.059	5.502	4.651
Hexanes	82.193	84.715	87.621
Heptanes			
Octanes			
TOTAL	100.000	100.000	100.000

Calc. Sp. Gr. 0.5584 (Liquid)
Calc. A.P.I. _____
Calc. Vapor Press. _____ PSIA
Sp. Gr. _____
Mol. Wt. _____

LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M. _____
Butanes Calc. G.P.M. _____
Pentanes Plus. G.P.M. _____
Ethane Calc. G.P.M. _____
____ RVP Gasoline G.P.M. _____
B.T.U./Cu. Ft. @ 14.696 P.S.I.A. _____
Dry Basis _____
Wet Basis _____
Sulfur Analysis by Titration _____
Gr./100 Cu. Ft. _____
Hydrogen Sulfide _____
Mercaptans _____
Sulfides _____
Residual Sulfur _____
Total Sulfur _____

Run by R H Hamilton Checked by Deane Simpson Approved by Deane Simpson

Additional Data and Remarks

NEW-TEX LAB

P. O. BOX 1161
HOBBS, N.M. 88240

No. 5652
Run No. _____
Date of Run 9-21-81
Date Secured 9-18-81

CERTIFICATE OF ANALYSIS

A Sample of Akiman Petroleum Co. Sanders Well #1
Secured from Bennett-Cathey
At Box 787 Secured by _____
Artesia, NM 88210 Time _____ Date _____
Sampling conditions _____ Press _____
Temp. _____

FRACTIONAL ANALYSIS

Percentage Composition

	MOL %	LIQ. %	G.P.M.
Carbon Dioxide	5.079		
Air			
Nitrogen	3.889		
Oxygen			
Hydrogen sulfide			
Hydrogen			
Methane	79.466		
Ethane	6.726	1.794	
Propane	2.381	.654	
Butanes			
Iso-Butane	.421	.137	
N-Butane	.757	.238	
Pentanes			
Iso-Pentane	.266	.097	
N-Pentane	.244	.088	
Hexanes	.212	.087	
Heptanes	.559	.257	
Octanes			
TOTAL	100.000	5.352	

Calc. Sp. Gr. 0.7211
Calc. A.P.I. _____
Calc. Vapor Press. _____ PSIA
Sp. Gr. _____
Mol. Wt. 20.94

LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M. .654
Butanes Calc. G.P.M. .375
Pentanes Plus. G.P.M. .529
Ethane Calc. G.P.M. 1.794
RVP Gasoline G.P.M. _____
B.T.U./Cu. Ft. @ 14.696 P.S.I.A.
Dry Basis 1082
Wet Basis 1063
Sulfur Analysis by Titration
Gr./100 Cu. Ft. _____
Hydrogen Sulfide _____
Mercaptans _____
Sulfides _____
Residual Sulfur _____
Total Sulfur _____

Run by Deane Simpson Checked by _____ Approved by Deane Simpson

Additional Data and Remarks