

C/SF 6-22

☒ Standard ☐ Four Point ☐ Annual ☐ Special		Test Date 9-22-81		660 FSL			
Operator A. A. SCHELLINGER			Connection AIR NEW WELL		660 FWL		
Well Name WELL CAT 224			Formation ABO		Unit M		
Test Date 9-18-81		Total Length 6800		Plug Back To 5300		Elevation 3882 KB	
Set At 15.5		Set At 4.950		Perforations: From 5177 To 5229		Well No. 1	
Set At 2.375		Set At 1.995		Perforations: From OPEN To		Unit M	
Flow Rate Type Well - Single - Drilling - G.C. or G.O. Multiple				Packer Set At NONE O.C.D.		County CHAVES	
Pressure, Thru TUBING		Pressure Temp. °F 100 • 5095		Mean Annual Temp. °F 60		State NEW MEXICO	
Flow Rate 5203		Flow Rate 5203		Flow Rate 5203		Flow Rate 5203	
Flow Rate 5203		Flow Rate 5203		Flow Rate 5203		Flow Rate 5203	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
No.	Flow Rate	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	B.H.P.		CHOKE
1	4"	X	1"	400.	3.5	86	983	80	1118		78 HRS.
2	4"	X	1"	395.	8.0	99	950	69	1087	8/64	1
3	4"	X	1"	400.	17.0	96	900	66	1041	10/64	1
4	4"	X	1"	400.	31.0	91	840	65	963	13/64	1
5	4"	X	1"	400.			735	65	851	16/64	1

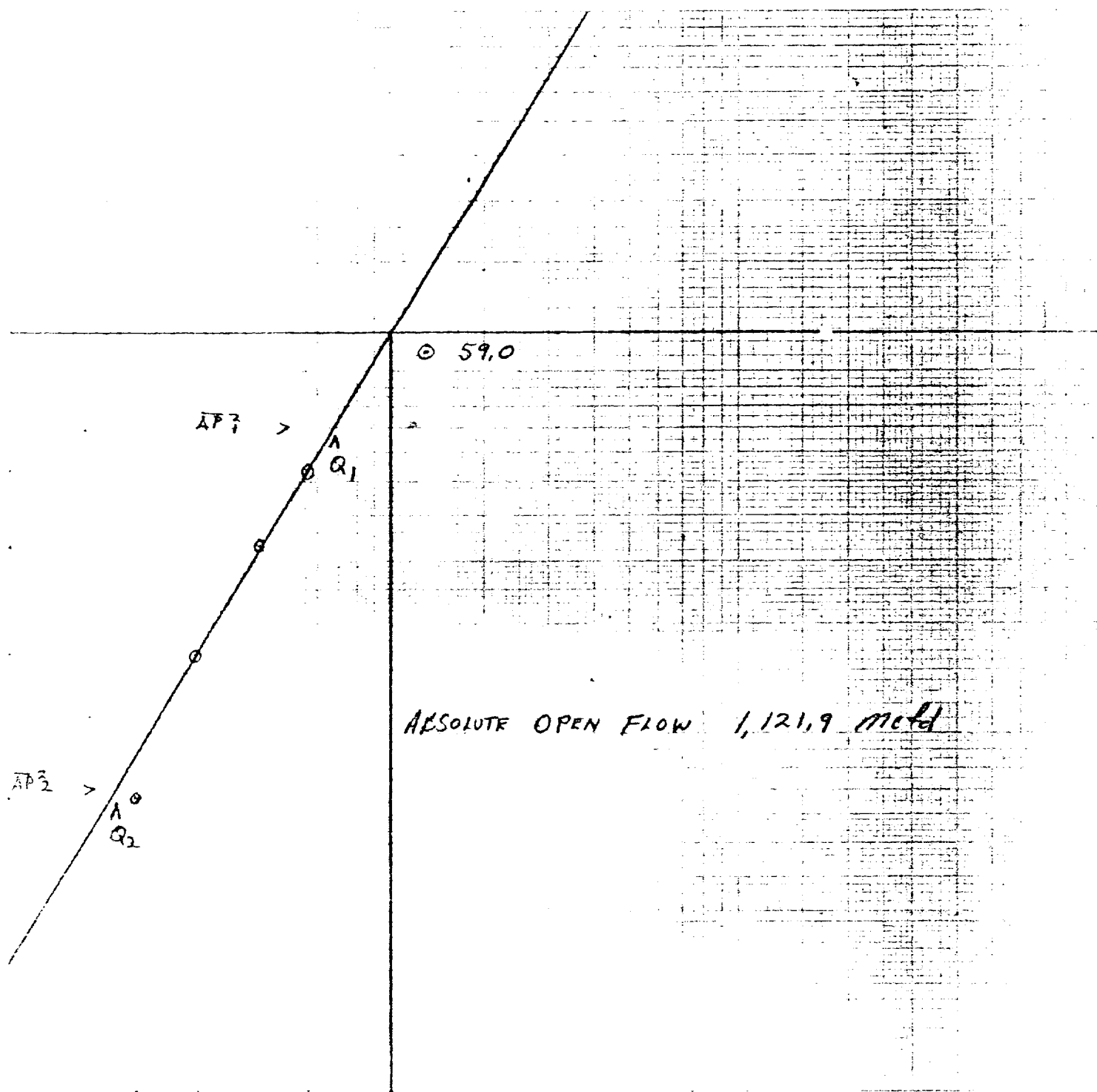
RATE OF FLOW CALCULATIONS							
No.	Coefficient (24 hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compress. Factor, F _{sp}	Rate of Flow O, Mcfd
1	4.8740	38.03	413.2	.9759	1.1893	1.0420	224.
2	4.8740	57.15	408.2	.9645	1.1893	1.0375	331.
3	4.8740	83.81	413.2	.9671	1.1893	1.0392	488.
4	4.8740	113.18	413.2	.9715	1.1893	1.0403	663.

No.	P ₁	Temp. °F	T ₁	Z	Gas Liquid Hydrocarbon Ratio	Mcfd
1	.62	540	1.40	.921	A.P.L. Gravity of Liquid Hydrocarbons	
2	.61	559	1.44	.929	Specific Gravity Separator Gas	
3	.62	556	1.43	.926	Specific Gravity Flowing Fluid	
4	.62	551	1.42	.924	Critical Pressure	
5					Critical Temperature	

No.	P ₁	P ₂	P ₁ ² - P ₂ ²	(1) $\frac{P_1^2}{P_2^2 - P_1^2} =$	(2) $\left[\frac{P_1^2}{P_2^2 - P_1^2} \right]^n =$
1	1100.2	1210.4	69.0	2.4008	1.6921
2	1054.5	1111.3	168.0		
3	976.2	953.0	327.0		
4	864.2	746.8	533.0		

Bottom Hole Pressure Measured with Amerada Pressure Elements.		Mcfd @ 15.025		Angle of Slope ft		Slope, n	
1,121.9		59.0		6.006		11-23-81	

Comp Cell Station L
Unit M, Sec 34, Twp 8S, Rge 1E
Chaves County New Mexico
9-2281



$$\Delta P_1^2 \quad P_e^2 - P_w^2 = 760$$

$$\Delta P_2^2 \quad P_e^2 - P_w^2 = 70$$

$$Q_1 = 774 \text{ mcf/d}$$

$$Q_2 = 1950 \text{ mcf/d}$$

$$\log Q_1 = 2.8906$$

$$\log Q_2 = 2.2900$$

$$\Delta = 1006$$

NEW-TEX LAB

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

No. _____
Run No. _____
Date of Run _____
Date Secured _____

CERTIFICATE OF ANALYSIS

Schellinger

M-34-8-27

A Sample of _____ Secured from _____
AI _____ Secured by abo B 5177-5229
Time _____ Date _____
Sampling conditions _____ Press _____
Temp _____

FRACTIONAL ANALYSIS

Percentage Composition

	MOL %	LIQ. %	G.P.M.
Carbon Dioxide	<u>.305</u>		
Air			
Nitrogen	<u>22.171</u>		
Oxygen			
Hydrogen sulfide			
Hydrogen			
Methane	<u>68.759</u>		
Ethane	<u>5.511</u>		<u>1.470</u>
Propane	<u>1.663</u>		<u>.456</u>
Butanes			
Iso-Butane	<u>.254</u>		<u>.083</u>
N-Butane	<u>.511</u>		<u>.161</u>
Pentanes			
Iso-Pentane	<u>.194</u>		<u>.071</u>
N-Pentane	<u>.223</u>		<u>.081</u>
Hexanes	<u>.182</u>		<u>.075</u>
Heptanes	<u>.227</u>		<u>.104</u>
Octanes			
TOTAL			<u>2.501</u>

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

LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M. 456
Butanes Calc. G.P.M. 214
Pentanes Plus. G.P.M. .331
Ethane Calc. G.P.M. 1.470
RVP Gasoline G.P.M. _____
B.T.U./Cu. Ft. @ 14.696 P.S.I.A.
Dry Basis 897
Wet Basis 881
Sulfur Analysis by Titration
Gr./100 Cu. Ft. _____
Hydrogen Sulfide _____
Mercaptans _____
Sulfides _____
Residual Sulfur _____
Total Sulfur _____

Run by _____ Checked by _____ Approved by _____

Additional Data and Remarks

SUGGESTED FIELD DATA SHEET (Not Required To File)

HOUR FLOW ☐ Initial ☐ Annual ☒ Special 9-22-81 TO 9-23-81										Lease No. or Serial No.	
Name: CARL A. SCHELLINGER Connection: AIR NEW WELL										Allottee	
Well: WILDCAT Reservoir: ABO Location:										Unit: M	
Test Date: 9-19-81		Total Depth: 6800		Plug Back TD: 5300		Elevation: 3882 KB		Form or Lease Name: CAMPBELL STATION UNIT		Well No.: 1	
G: 5.50 Wt.: 15.5 d: 4.950		Set At: 5300		Perforations: From 5.77 To 5229		Sec: M Twp: 34 Blk: 8S Rct: 27E		Well No.: 1		Scale:	
G: 2.375 Wt.: 4.7 d: 1.995		Set At: 5097		Perforations: From OPEN To ENDED		Packer Set At: NONE		County or Parish: CHAVES		State: NEW MEXICO	
Description (If Descriptive): DUAL Tubing: 106 Mean Annual Temp. F: 60 Baro. Press. P _a : 13.2										Prover: 5203 Meter Run: 4"	
H: 5203 G: 7207 % CO ₂ : .31 % N ₂ : 22.17 % H ₂ S:										Flange:	

DATE	ELAP. TIME	Wellhead Working Pressure			METER OR PROVER				REMARKS	
		Thg. Psig.	B.H.P. PSIA	Temp. F	Pressure Psig.	Diff.	Temp. F	Orifice	MCFD	(Include liquid production data; Type-A.P.I. Gravity-Amount)
1100	0	735	864	65	400	9	91	1"	479.4	12 1/4 /64
1200	1	800	941	65	400	9	87	1"	500.1	12 /64 1145 HRS
1300	2	820	963	63	400	9	89	1"	506.3	11 3/4 /64 1200 HRS
1400	3	820	963	63	400	9	88	1"	506.3	
1500	4	820	960	60	400	9	87	1"	506.3	
1600	5	820	954	62	400	9	87	1"	506.3	
1700	6	820	949	60	400	9	87	1"	506.3	
1800	7	810	948	61	400	9	85	1"	503.2	
1900	8	810	944	61	400	9	87	1"	503.2	
2000	9	805	935	63	400	9	88	1"	501.7	12 /64 0800 HRS
2100	10	800	929	66	400	9	90	1"	500.1	
2200	11	790	926	70	400	9	90	1"	496.9	
2300	12	790	923	72	400	9	92	1"	496.9	
2400	13	785	920	76	400	9	94	1"	495.4	
2500	14	780	916	80	400	9	94	1"	493.8	
2600	15	780	910	82	400	9	96	1"	493.8	
2700	16	775	907	82	400	9	96	1"	492.3	
2800	17	765	904	84	400	9	96	1"	489.1	12 1/4 /64
2900	18	745	892	84	400	9	95	1"	482.6	12 1/2 /64 1715 HRS
3000	19	715	885	80	400	9	94	1"	472.8	12 3/4 /64 1845 HRS
3100	20	685	883	74	400	9	92	1"	462.8	13 /64 1950 HRS
3200	21	660	885	72	400	9	91	1"	454.3	
3300	22	625	883	66	400	9	91	1"	442.1	
3400	23	610	883	63	400	9	90	1"	436.7	
3500	24	600	883	62	400	8 1/2	90	1"	433.1	13 1/4 /64 2245 HRS

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY CARL A. SCHELLINGER WELL NAME CAMPBELL STATION UNIT #1
DATE OF TEST 9-22-81 LOCATION _____ PAGE 2 OF 2

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

DATE	HOUR	TIME	DEFLECTION in/inches	CALCULATED PRESSURE psig	CORRECTION P ± PC psig	CORRECTED PRESSURE psig	PRESSURE AT MID-POINT OF PERFORATIONS psig
	11	1000		913	13.2		926
	12	1100		910	13.2		923
	13	1200		907	13.2		920
	14	1300		903	13.2		916
	15	1400		897	13.2		910
	16	1500		894	13.2		907
	17	1600		891	13.2		904
	18	1700		879	13.2		892
	19	1800		872	13.2		885
	20	1900		872	13.2		885
	21	2000		872	13.2		885
	22	2100		870	13.2		883
	23	2200		870	13.2		883
	24	2300		870	13.2		883
WELL SHUT IN	0	2300		870	13.2		883
	1/4	2315		910	13.2		923
	1/2	2330		941	13.2		954
	3/4	2345		960	13.2		973
	1	2400		984	13.2		997
	1-1/4	2415		994	13.2		1007
	1-1/2	2430		1003	13.2		1016
	1-3/4	2445		1009	13.2		1022
9-24-81	2	0100		1012	13.2		1025
	2-1/2	0130		1022	13.2		1035
	3	0200		1028	13.2		1041
	3-1/2	0230		1034	13.2		1047
	4	0300		1037	13.2		1050
	4-1/2	0330		1040	13.2		1053
	5	0400		1043	13.2		1056
	6	0500		1046	13.2		1059
	7	0600		1048	13.2		1061
	8	0700		1050	13.2		1063
	9	0800		1053	13.2		1066
	10	0900		1057	13.2		1070
	15	1400		1062	13.2		1075
	20	1900		1071	13.2		1083
	25	2400		1073	13.2		1088
9-25-81	30	0500		1078	13.2		1091
	35	1000		1079	13.2		1092
	40	1500		1079	13.2		1092
	45	2000		1079	13.2		1092
9-26-81	50	0100		1079	13.2		1092
	55	0600		1090	13.2		1103
	60	1100		1091	13.2		1104
	70	2200		1093	13.2		1106
9-27-81	80	0800		1096	13.2		1109
	87	1500		1097	13.2		1110

BENNETT - CATHEY
 Artesia, New Mexico 88210
SUBSURFACE PRESSURE MEASUREMENTS

COMPANY CARL SCHELLINGER WELL NAME CAMPBELL STATION UNIT WELL NO. 1
 DATE OF TEST 9-22-81 FORMATION ABO PAGE 1 OF 2

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

ELEMENT NUMBER RPG3 #41552 RANGE 0 - 6,000 LBS.
 CLOCK NUMBER G 9489 RANGE 144 HOURS
 TIME WELL SHUT IN 2300 HOURS
 TIME CLOCK STARTED 1718 HOURS
 DEAD WEIGHT ELEMENT ON SURFACE 996 LBS.
 TIME ELEMENT REACHED BOTTOM 1804
 DEAD WEIGHT ELEMENT ON BOTTOM 996 LBS.
 ELEMENT SET AT 5095 FEET.
 TEMPERATURE 5095 FT. 119 °F.
 DEAD WEIGHT AT THE END OF _____ HOURS _____ MINUTES.
 TANDUM ELEMENT #RPG3 #46950, 0 - 7,000 LBS.

DATE	HR	TIME	DEFLECTION in/inches	CALCULATED PRESSURE psig	CORRECTION P ± PC psig	CORRECTED PRESSURE psia	PRESSURE AT MID-POINT OF PERFORATIONS psia
9-22-81		804		1118	13.2		1131
START TEST	0	1900		1118	13.2		1131
	1/4	1915		1109	13.2		1122
	1/2	1930		1096	13.2		1109
	3/4	1945		1088	13.2		1101
END RATE 1	1	2000		1087	13.2		1100
	1-1/4	2015		1068	13.2		1081
	1-1/2	2030		1053	13.2		1066
	1-3/4	2045		1047	13.2		1060
END RATE 2	2	2100		1041	13.2		1054
	2-1/4	2115		1009	13.2		1022
	2-1/2	2130		988	13.2		1001
	2-3/4	2145		972	13.2		985
END RATE 3	3	2200		963	13.2		976
	3-1/4	2215		925	13.2		938
	3-1/2	2230		885	13.2		989
	3-3/4	2245		863	13.2		876
END RATE 4	4	2300		851	13.2		864
WELL FLOWING	0	2300		851	13.2		864
	1/4	2315		888	13.2		901
	1/2	2330		900	13.2		913
	3/4	2345		910	13.2		923
	1	2400		928	13.2		941
	1-1/4	2415		935	13.2		948
	1-1/2	2430		941	13.2		954
	1-3/4	2445		947	13.2		960
9-23-81	2	0100		950	13.2		963
	2-1/2	0130		950	13.2		963
	3	0200		950	13.2		963
	3-1/2	0230		950	13.2		963
	4	0300		947	13.2		960
	5	0400		941	13.2		954
	6	0500		936	13.2		949
	7	0600		935	13.2		948
	8	0700		931	13.2		944
	9	0800		922	13.2		935
	10	0900		916	13.2		929