

**KANSAS CORPORATION COMMISSION
MULTIPOINT BACK PRESSURE TEST**

FORM G-1
8-7-58

TYPE TEST: ☒ Initial ☐ Annual ☐ Special		TEST DATE: 2-6-1999	
COMPANY John O. Farmer		LEASE Patterson	WELL NO. 1-28
COUNTY Haskell	LOCATION 2317'FSL 2309'FWL	SECTION 28	TWP 30s 31w
FIELD Morrow Sand		PIPELINE CONNECTION tbd	
COMPLETION DATE 1-20-99	PLUG BACK DEPTH TOTAL DEPTH	5513 5513	PACKER SET AT
CASING SIZE 4.500	WT. 10.500	ID 3.927	SET AT 5575
		PERF. 5409	TO 5424
TUBING SIZE 2.375	WT. 4.700	ID 1.995	SET AT 5417
		PERF.	TO
TYPE COMPLETION (Describe) perfs w/ CO2 frac		TYPE FLUID PRODUCTION	
PRODUCING TBU (Annulus/Tubing) tubing		RESERVOIR TEMPERATURE F 134	BAR PRESS - Pa 14.4 psia
GAS GRAVITY - Gg .696	% CARBON DIOXIDE .005	% NITROGEN 10.908	API GRAVITY OF LIQUID
VERTICAL DEPTH (H) 5417	TYPE METER CONN.		PROVER SIZE 2"
REMARKS			

OBSERVED SURFACE DATA

RATE NO.	ORIFICE SIZE in.	(PROVER) PRESSURE psig	DIFF. (h _w) (h _t)	FLOWING TEMP. t.	WELLHEAD TEMP. t.	CASING WELLHEAD PRESS.		TUBING WELLHEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w) (P _t) (P _c) psia	psig	(P _w) (P _t) (P _c) psia		
SHUT-IN						1376	1390	1357	1371	76.00	
1.	.250	485.00		60		1310	1324	1280	1294	2.00	
2.	.375	300.00		48		1238	1252	1212	1226	2.00	
3.	.375	413.00		50		1152	1166	1066	1080	2.00	.2
4.	.375	472.00		58		1069	1083	980	994	2.00	

FLOW STREAM ATTRIBUTES

RATE NO.	COEFFICIENT (F _p) Mcfd	(PROVER) PRESSURE psia	EXTENSION $\sqrt{P_m \times H_w}$	GRAVITY FACTOR Fg	FLOWING TEMP FACTOR Ft	DEVIATION FACTOR Fpv	RATE OF FLOW Q Mcfd	GOR	G _m
1.	1.120	499.4	499.40	1.1987	1.0000	1.0465	701		.696
2.	2.439	314.4	314.40	1.1987	1.0117	1.0311	958		.696
3.	2.439	427.4	427.40	1.1987	1.0098	1.0424	1315	547970.6	.704
4.	2.439	486.4	486.40	1.1987	1.0019	1.0459	1490		.696

PRESSURE CALCULATION

RATE NO.	P _t psia	P _c psia	P _w psia	(P _c) ² Thousands	(P _w) ² Thousands	PLOTING POINTS		% SHUT-IN 100 $\left[\frac{P_w - P_a}{P_c - P_a} \right]$
						(P _c) ² - (P _w) ² Thousands	Q Mcfd	
1.	1294.4	1390.4	1324.4	1933.2	1754.0	179.2	701.6	95.2
2.	1226.4	1390.4	1252.4	1933.2	1568.5	364.7	958.8	90.0
3.	1080.4	1390.4	1166.4	1933.2	1360.5	572.7	1315.2	83.7
4.	994.4	1390.4	1083.4	1933.2	1173.8	759.5	1490.1	77.7

INDICATED WELLHEAD OPEN FLOW

2713

Mcfd @ 14.65 psia

"n" = .620

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated herein and that said report is true and correct. Executed this the _____ day of _____, 19 _____

Witness (if any)

For Company

For Commission

Checked by

Well name Kelly
DST # 1
Recorder # 13339

1				
2	A	2.955	2974	
3	B	.043	44	
4	C	.054	56	
5	D	1.822	1844	
6	E	.105	109	
7	F	.101	105	
8	G	1.724	1746	
9	H	2.746	2767	
10				
11				
12				

KANSAS CORPORATION COMMISSION
ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

FORM G-2
 (Rev.8/98)

TYPE TEST:

☒ Open Flow
☐ Deliverability

TEST DATE: 2-7-99

API No.

Company John O. Farmer		Lease Patterson			Well Number 1-28	
County Haskell	Location 2317'FSL 2309'FWL	Section 28	TWP 30s	RNG(E/W) 31w	Acres Attributed 160	
Field	Reservoir Morrow Sand			Gas Gathering Connection tbd		
Completion Date 1-20-99		Plug Back Total Depth 5513		Packer Set at		
Casing Size 4.500	Weight 10.500	Internal Diameter 3.927	Set at 5575	Perforations 5409	To 5424	
Tubing Size 2.375	Weight 4.700	Internal Diameter 1.995	Set at 5417	Perforations	To	
Type Completion (Describe) perfs w/ CO2 frac		Type Fluid Production		Pump Unit or Traveling Plunger?		
Producing Thru (Annulus/Tubing) tubing		% Carbon Dioxide .005		% Nitrogen 10.908		Gas Gravity- Gg .696
Vertical Depth (H) 5417		Pressure Taps		Prover Size 2"		
Pressure Buildup: Shut in				TAKEN		
Well on Line: Started				TAKEN		

OBSERVED SURFACE DATA

Static/ Dynamic Property	Orifice Size in.	Prover Pressure psig	Pressure Diff. In. H ₂ O	Flowing Temp. t.	WellHead Temp. t.	Casing WellHead Press. (P _w) (P _t) (P _c)		Tubing WellHead Press. (P _w) (P _t) (P _c)		Duration (Hours)	Liquid Prod. Barrels
						psig	psia	psig	psia		
Shut-in						1376	1390	1357	1371	76.0	
Flow	.375	414.0		64		868	882	800	814	31.0	

FLOW STREAM ATTRIBUTES

COEFFICIENT (F _p) Mcfd	PRESSURE psia	(PROVEREXTENSION $\sqrt{P_m \times H_w}$)	GRAVITY FACTOR F _g	FLOWING TEMP FACTOR F _t	DEVIATION FACTOR F _{pv}	RATE OF FLOW R Mcfd	GOR	G _m
2.440	428.4	428.40	1.1987	.9962	1.0384	1296		.696

(OPEN FLOW)(DELIVERABILITY) CALCULATIONS

(OPEN FLOW)(DELIVERABILITY) CALCULATIONS

$(P_c)^2 = 1933.2$		$(P_w)^2 = 778.6$		$P_d =$		$\% (P_c - 14.4) + 14.4 =$		$(P_a)^2 = 0.207$	
$(P_c)^2 - (P_a)^2$		$(P_c)^2 - (P_w)^2$		$\frac{(P_c)^2 - (P_a)^2}{(P_c)^2 - (P_w)^2}$ or $\frac{(P_c)^2 - (P_d)^2}{(P_c)^2 - (P_w)^2}$		LOG		Backpressure Curve Slope "n" ---- or ---- Assigned Standard Slope	
$n \times \text{LOG}$		Antilog						Open Flow Deliverability = R x Antilog Mcfd	
1933.00		1154.58		1.674		.2238		.620	
		</							

OPEN FLOW 1784 **Mcfd @ 14.65 psia** **DELIVERABILITY** **Mcfd @ 14.65 psia**

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated herein and that said report is true and correct Executed this the _____ day of _____, 19 _____

Witness (if any)

For Company

For Commission

Checked by

GAS WELL BACK PRESSURE CURVE

WELL TESTER: 02-06-99

1015 a

TEST DATE: 2-6-1999

John O. Farmer
Patterson 1-28
28 30s 31w
Haskell ,KS.
Slope n : 0.6195

$PC^2 - PW^2$ (10^3 PSI^2)

5000

500

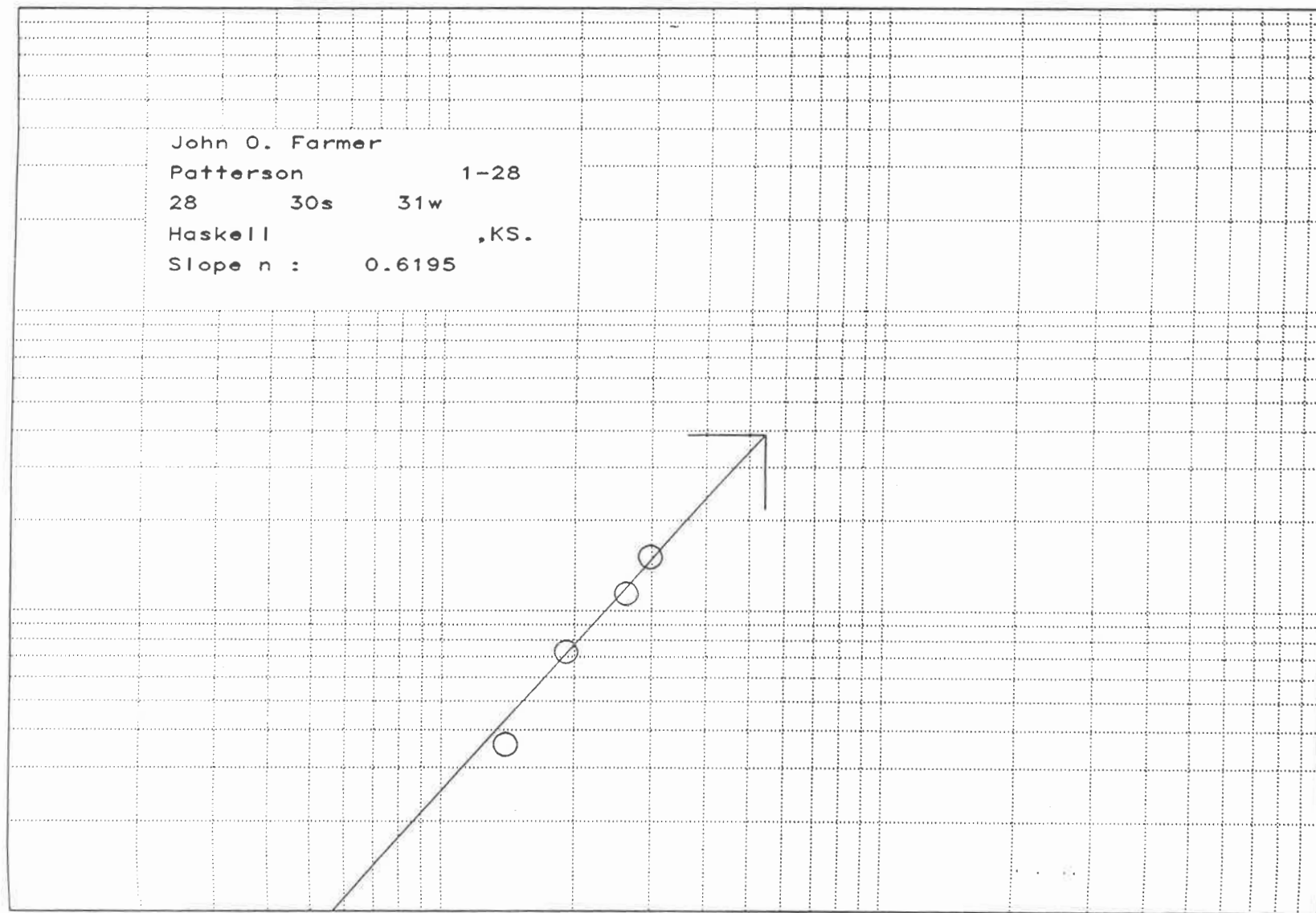
50

50

500

5000

Q (MCF/DAY)



From: Robert Caraway Caraway Analytical, Inc. Fax: 316-626-7108
To: Simpson, Paul Trilobite Testing, L. L. C. Fax: 1-785-625-5620

21:50:25 2/12/99 Page 4 of 4 Log:469

NATURAL GAS ANALYSIS REPORT

Sampled by:
Trilobite Testing, L. L. C.
Hays, Kansas
Scott City, Kansas
Phone: 800-728-5369
Fax: 913-625-5620

Analyzed by:
Caraway Analytical, Inc
P. O. Box 2137
Liberal, Kansas 67905
Phone: 316-624-5389
Fax: 316-626-7108

Lab Number: 990663
Sample From: Patterson 1-28 Wireline
Producer: John O. Farmer
Date:
Time:
Sampler:
Source:

Analyzed: 02/12/99
Pressure:
Temperature:
Location: 28-30-31
County: Haskell
State: Kansas
Formation: Morrow

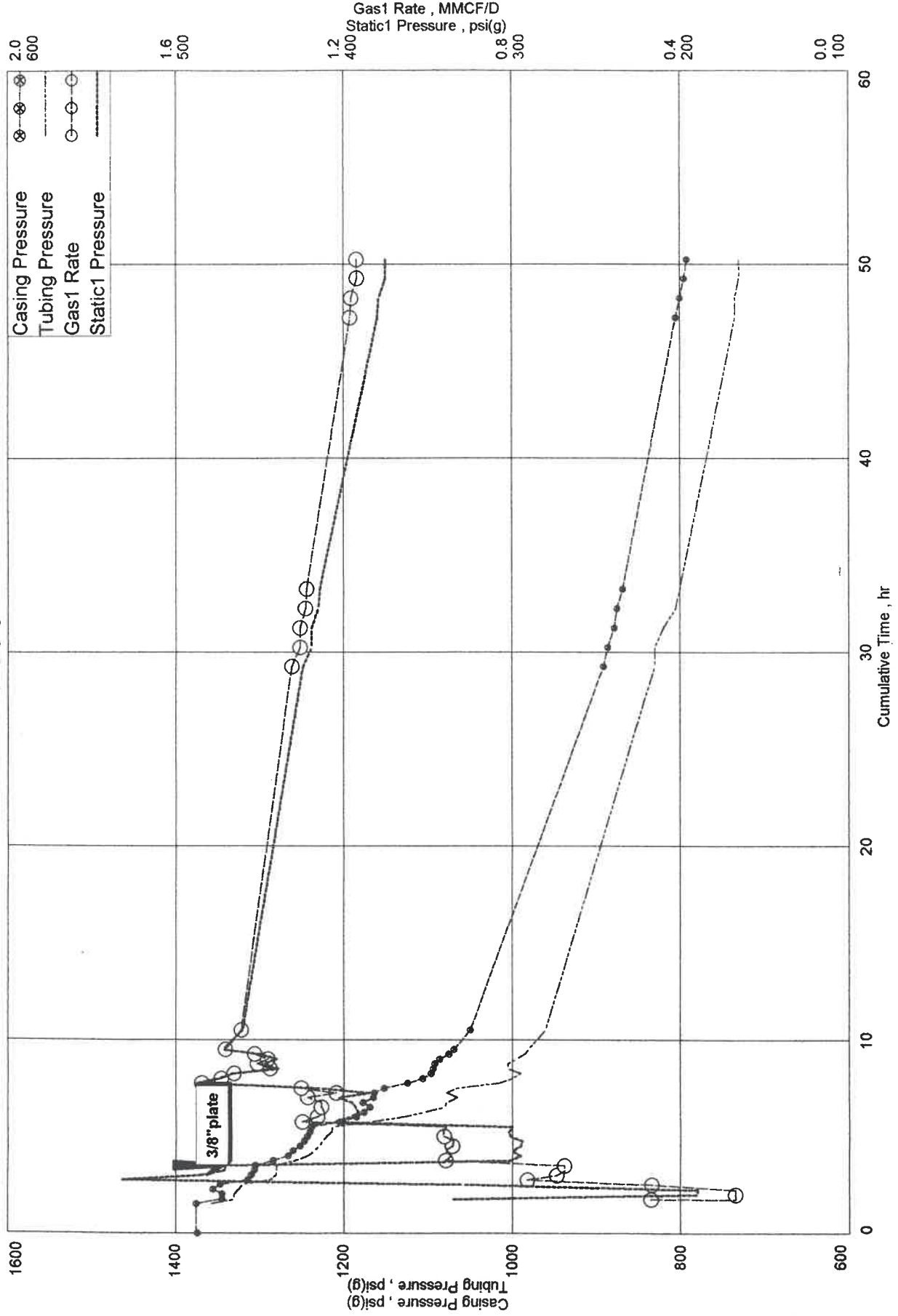
	Mole %	GPM
Helium	He: 0.212	0.000
Hydrogen	H2: 0.006	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 10.908	0.000
Carbon Dioxide	CO2: 0.005	0.000
Methane	C1: 77.281	0.000
Ethane	C2: 5.993	1.603
Propane	C3: 3.597	0.991
Iso Butane	iC4: 0.554	0.181
Normal Butane	nC4: 0.936	0.295
Iso Pentane	iC5: 0.198	0.072
Normal Pentane	nC5: 0.189	0.068
Hexanes Plus	C6+: 0.121	0.053

TOTAL: 100.000 3.264
Z Fact: 0.9975
SP. GR.: 0.6964
BTU (SAT): 1034.1 @ 14.73 psia
BTU (DRY): 1052.4 @ 14.73 psia
OCTANE RATING: 111.8

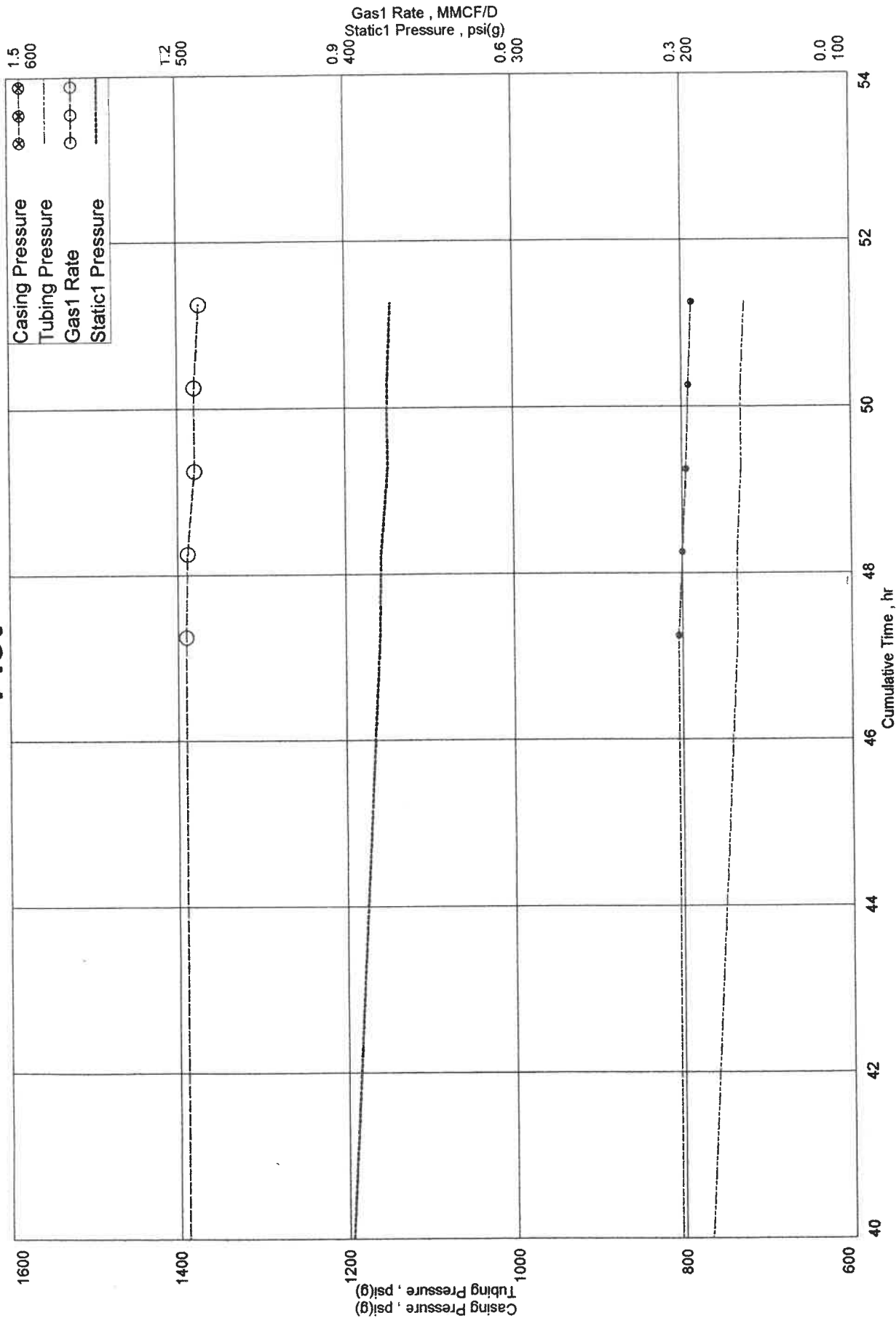
COMMENTS:

0.000

Plot



Plot



ALPINE SUBSURFACE ELECTRONICS PROBE DATA LISTING

TEST: wireline test John O. Farmer Patterson #1-28

DATE: 02/06/99

TIME: 09:00:00

PAGE: 001

Sample	Date	Time	Relative Seconds	Temperature DEG F	Pressure PSIg
1	99/02/06	09:00:01	000:00:01	38.15 DEG F	2.49 PSig
Started Battery					
Print every sample					
2	99/02/06	09:00:02	000:00:02	38.15 DEG F	2.17 PSig
Print every 100 samples					
102	99/02/06	09:11:45	000:11:45	38.57 DEG F	1363.04 PSig
202	99/02/06	09:36:45	000:36:45	87.31 DEG F	1503.29 PSig
243	99/02/06	09:47:00	000:47:00	117.83 DEG F	1637.87 PSig
Probe @ 5430'					
343	99/02/06	10:12:00	001:12:00	132.30 DEG F	1638.39 PSig
355	99/02/06	10:15:00	001:15:00	132.37 DEG F	1638.35 PSig
Starting 4Pt					
455	99/02/06	10:40:00	001:40:00	132.70 DEG F	1610.21 PSig
555	99/02/06	11:05:00	002:05:00	132.73 DEG F	1610.97 PSig
655	99/02/06	11:30:00	002:30:00	132.65 DEG F	1565.21 PSig
755	99/02/06	11:55:00	002:55:00	132.83 DEG F	1552.84 PSig
835	99/02/06	12:15:00	003:15:00	132.90 DEG F	1549.47 PSig
1st point					
935	99/02/06	12:40:00	003:40:00	132.87 DEG F	1505.89 PSig
1035	99/02/06	13:18:00	004:18:00	132.63 DEG F	1484.80 PSig
1092	99/02/06	14:15:00	005:15:00	132.09 DEG F	1467.84 PSig
2nd point					
1192	99/02/06	15:55:00	006:55:00	132.83 DEG F	1374.45 PSig
1212	99/02/06	16:15:00	007:15:00	132.84 DEG F	1362.64 PSig
3rd point					
1312	99/02/06	17:55:00	008:55:00	132.83 DEG F	1273.46 PSig
1332	99/02/06	18:15:00	009:15:00	132.83 DEG F	1259.86 PSig
4th point					
1432	99/02/06	19:55:00	010:55:00	132.85 DEG F	1223.13 PSig
1532	99/02/06	21:35:00	012:35:00	132.84 DEG F	1195.35 PSig
1632	99/02/06	23:15:00	014:15:00	132.83 DEG F	1170.42 PSig
1732	99/02/07	00:55:00	015:55:00	132.83 DEG F	1148.91 PSig
1832	99/02/07	02:35:00	017:35:00	132.81 DEG F	1131.04 PSig
1932	99/02/07	04:15:00	019:15:00	132.79 DEG F	1115.96 PSig
2032	99/02/07	05:55:00	020:55:00	132.79 DEG F	1101.86 PSig
2132	99/02/07	07:35:00	022:35:00	132.78 DEG F	1089.81 PSig
2232	99/02/07	09:46:00	024:46:00	132.69 DEG F	1073.32 PSig
2332	99/02/07	14:46:00	029:46:00	132.65 DEG F	1042.00 PSig
2397	99/02/07	18:01:00	033:01:00	132.62 DEG F	1017.11 PSig
1 point					
2497	99/02/07	23:01:00	038:01:00	132.58 DEG F	988.23 PSig
2597	99/02/08	04:01:00	043:01:00	132.55 DEG F	961.01 PSig
2697	99/02/08	09:01:00	048:01:00	132.53 DEG F	936.90 PSig
2797	99/02/08	14:01:00	053:01:00	132.53 DEG F	914.67 PSig
2897	99/02/08	19:01:00	058:01:00	132.51 DEG F	891.42 PSig
2997	99/02/09	00:01:00	063:01:00	132.52 DEG F	869.31 PSig
3097	99/02/09	05:01:00	068:01:00	132.53 DEG F	848.44 PSig
3197	99/02/09	12:31:00	075:31:00	132.52 DEG F	822.68 PSig
3200	99/02/09	13:01:00	076:01:00	132.96 DEG F	912.34 PSig
Shutin well					
3300	99/02/10	05:41:00	092:41:00	132.94 DEG F	1178.99 PSig

ALPINE SUBSURFACE ELECTRONICS PROBE DATA LISTING

TEST: wireline test John O. Farmer Patterson #1-28

DATE: 02/06/99

TIME: 09:00:00

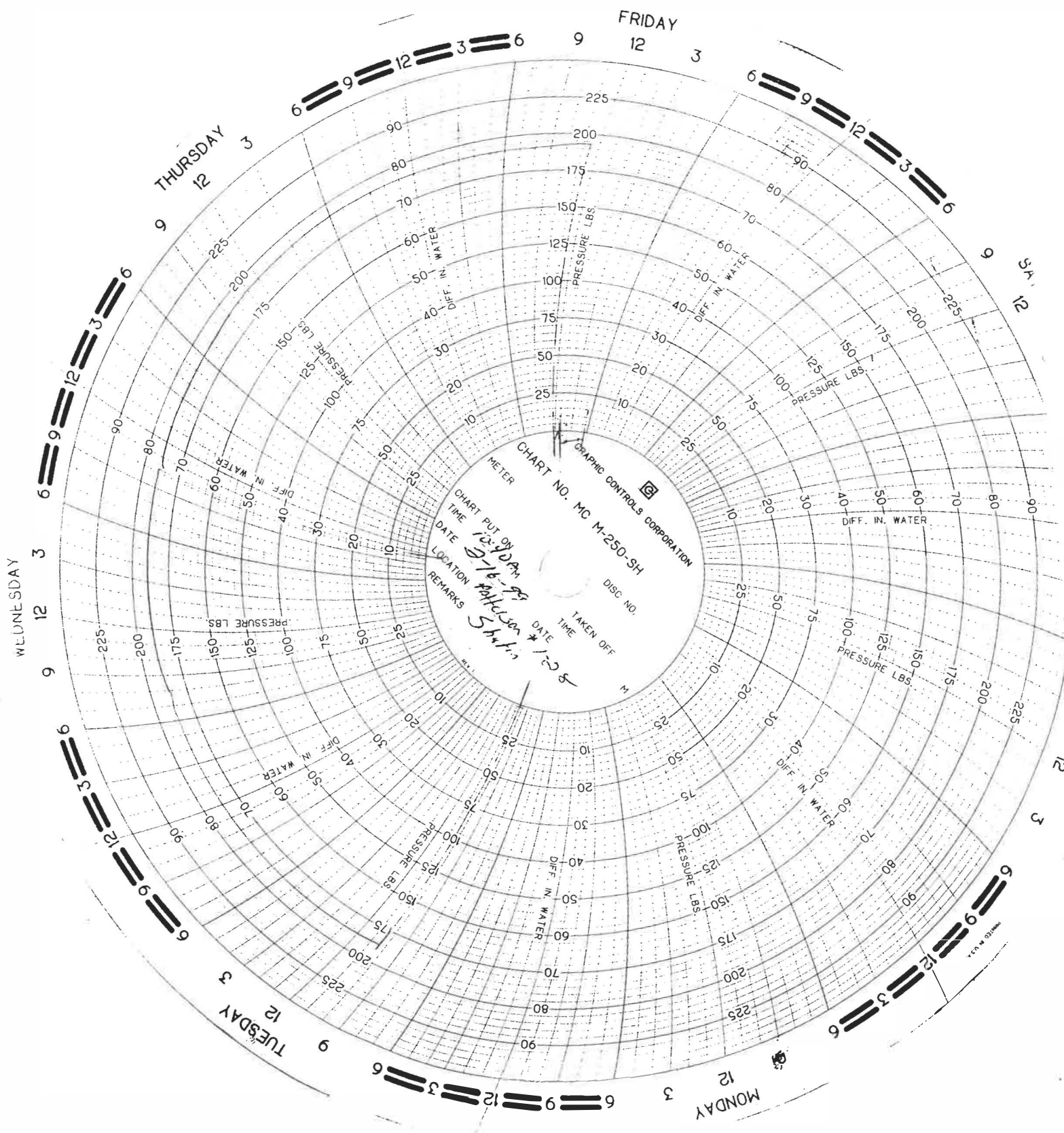
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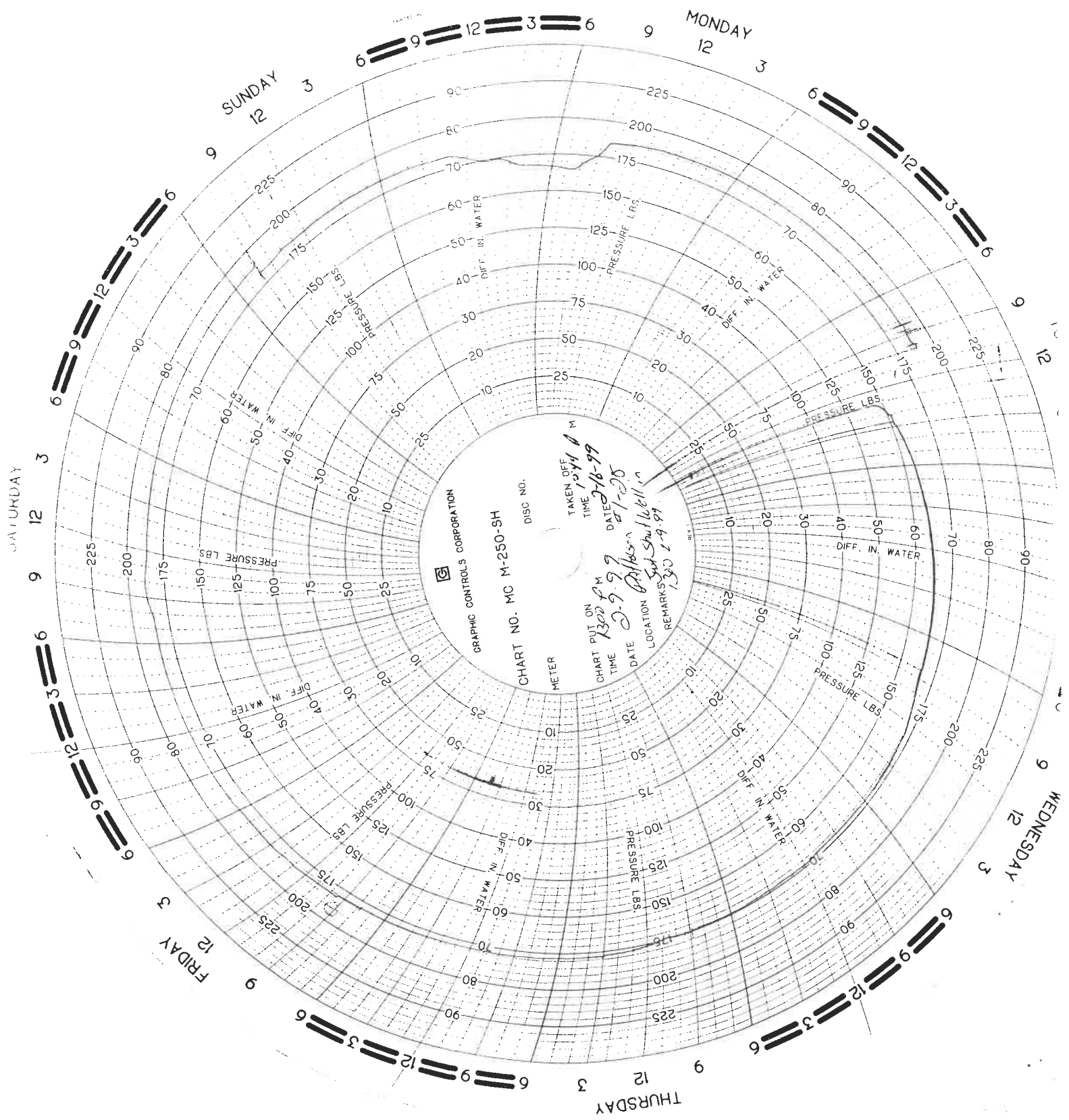
Sample	Date	Time	Relative Seconds	Temperature DEG F	Pressure PSIg
3400	99/02/10	22:21:00	109:21:00	132.99	1224.81
3500	99/02/11	15:11:00	126:11:00	133.06	1256.31
3600	99/02/12	07:51:00	142:51:00	133.09	1280.89
3700	99/02/13	00:31:00	159:31:00	133.18	1301.81
3800	99/02/13	17:11:00	176:11:00	133.23	1320.20
3900	99/02/14	09:51:00	192:51:00	133.27	1336.72
4000	99/02/15	02:31:00	209:31:00	133.31	1351.58
4100	99/02/15	14:11:00	221:11:00	133.35	1361.20
4200	99/02/15	22:31:00	229:31:00	133.37	1367.74
4300	99/02/16	06:51:00	237:51:00	133.40	1374.03
4400	99/02/16	15:11:00	246:11:00	133.43	1379.96
4500	99/02/16	23:31:00	254:31:00	133.44	1385.67
4600	99/02/17	07:51:00	262:51:00	133.43	1391.20
4700	99/02/17	16:11:00	271:11:00	133.48	1396.52
4800	99/02/18	00:31:00	279:31:00	133.50	1401.65
4900	99/02/18	08:51:00	287:51:00	133.99	1406.58
5000	99/02/18	17:11:00	296:11:00	133.77	1411.16
5100	99/02/19	01:31:00	304:31:00	133.81	1415.63
5200	99/02/19	09:51:00	312:51:00	133.86	1420.02
5219	99/02/19	11:26:00	314:26:00	133.86	1420.82

pulled recorder would not go through orbit valve

5308	99/02/19	18:51:00	321:51:00	56.50	DEG F	1204.44	PSIg
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End of File





GRAPHIC CONTROLS CORPORATION

CHART NO. MC M-250-SH

METER

DISC NO.

TAKEN OFF
TIME 12:44 P M

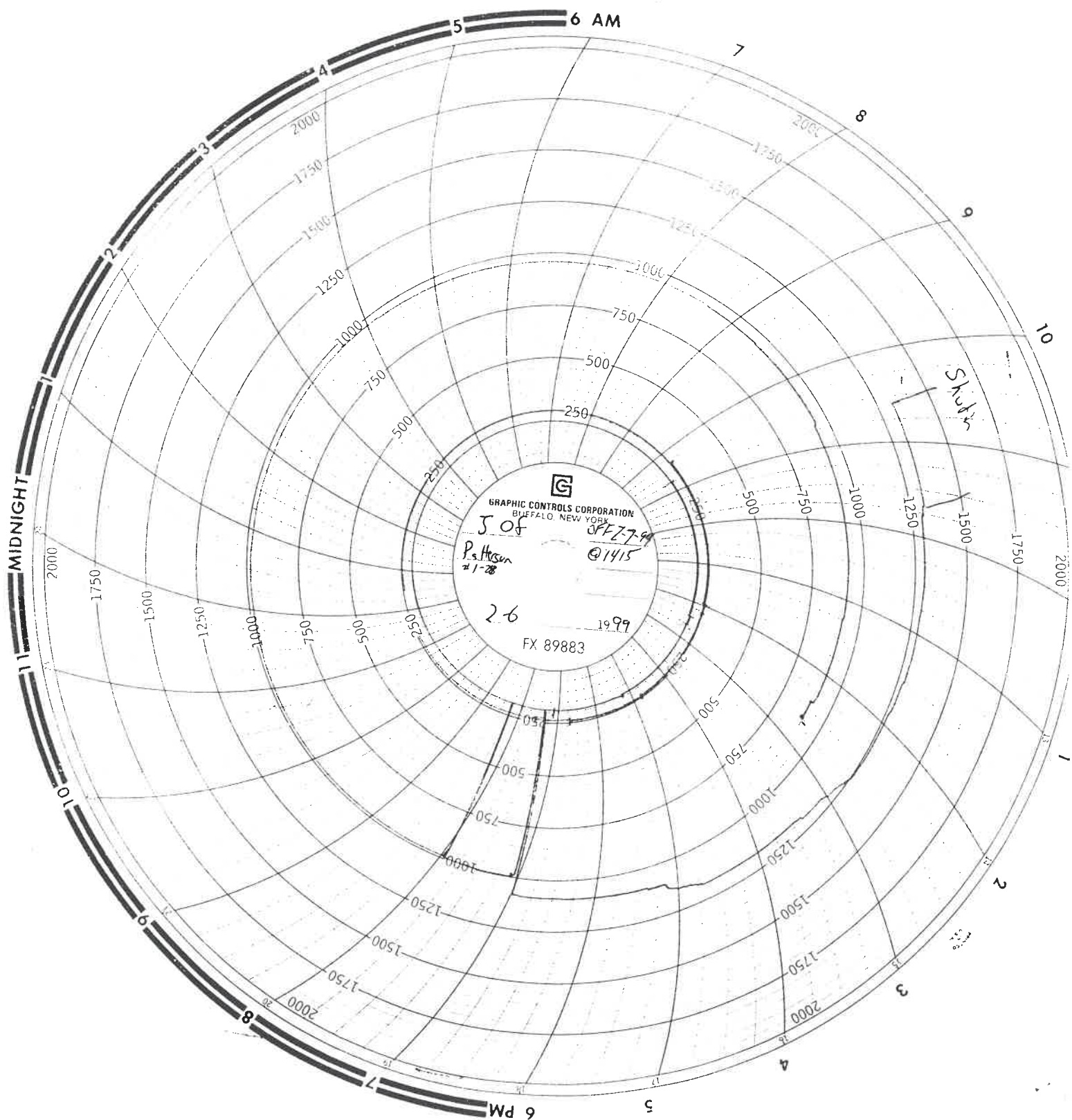
DATE 2-16-99

CHART PUT ON
TIME 2-9-99

DATE 2-1-99

LOCATION 2nd St. / 16th St.

REMARKS 1-9-99



FieldNotes

Gas Meter 1

Meter Type:	Flow Prover
Meter Size:	2.000 in
Previous Gas Production:	0.000 MMCF
Gas Gravity (G):	0.696
CO ₂ :	0.01 %
H ₂ S:	0.00 %
N ₂ :	10.91 %
Critical Temperature (T _C):	381.58 R
Critical Pressure (P _C):	651.12 psi

Water Meter1

Meter Type:	Measured Rate
Measurement type:	Cumulative
Previous Water Production:	0.000 bbl

Water Meter2

Meter Type:	Produced Volume
Measurement type:	Cumulative
Previous Water Production:	0.000 bbl

FieldNotes

Condensate Meter1

Meter Type:

Produced Volume

Measurement Type:

Cumulative

Previous Condensate Production:

0.000 bbl

FieldNotes

Field Measurements

	Date	Cum Time	Clock Time	Static1 Pres	Meter1 Temp	Comments	Casing Pres	Orifice1 in	Tubing Pres	Gas1 Rate	Cum. Gas1
	yyyy/mm/dd	hr	hh:mm:ss	psi(g)	°F		psi(g)		psi(g)	MMCF/D	MMCF
1	1999/02/06	0.0000	08:45:00				1374.00	0.000			
2		0.2500	09:00:00			started bat					
3		0.3333	09:05:00			in lub					
4		1.0333	09:47:00			probe@5430					
5		1.5000	10:15:00	0.00	0.00	starting 4pt	1376.00		1357.00	0.000	0.000
6		1.7500	10:30:00	335.00	76.00		1345.00	0.250	1330.00	0.470	0.005
7		2.0000	10:45:00	189.00	74.00		1345.00		1330.00	0.270	0.009
8		2.2500	11:00:00	190.00	74.00		1356.00		1325.00	0.272	0.012
9		2.5000	11:15:00	329.00	64.00		1347.00		1320.00	0.468	0.015
10		2.7500	11:30:00	532.00	60.00		1314.00		1287.00	0.764	0.022
11		3.0000	11:45:00	485.00	60.00		1310.00		1280.00	0.695	0.029
12		3.2500	12:00:00	470.00	58.00		1306.00		1280.00	0.675	0.037
13		3.5000	12:15:00	471.00	58.00	1st point	1305.00		1280.00	0.676	0.044
14		3.7500	12:30:00	301.00	45.00		1284.00	0.375	1256.00	0.959	0.052
15		4.0000	12:45:00	295.00	40.00		1266.00		1242.00	0.946	0.062
16		4.2500	13:00:00	300.00	40.00		1260.00		1234.00	0.962	0.072
17		4.5000	13:15:00	295.00	42.00		1252.00		1228.00	0.944	0.082
18		4.7500	13:30:00	294.00	42.00		1247.00		1225.00	0.940	0.092
19		5.0000	13:45:00	301.00	42.00		1243.00		1220.00	0.963	0.102
20		5.2500	14:00:00	302.00	42.00		1240.00		1214.00	0.966	0.112
21		5.5000	14:15:00	300.00	43.00	2nd point	1238.00		1212.00	0.958	0.122
22		5.7500	14:30:00	406.00	42.00		1205.00		1168.00	1.299	0.133
23		6.0000	14:45:00	396.00	44.00		1185.00		1130.00	1.263	0.147
24		6.2500	15:00:00	391.00	44.00		1176.00		1105.00	1.247	0.160
25		6.5000	15:15:00	393.00	44.00		1169.00		1080.00	1.254	0.173
26		6.7500	15:30:00	395.00	48.00		1177.00		1078.00	1.254	0.186
27		7.0000	15:45:00	403.00	44.00		1165.00		1065.00	1.286	0.199
28		7.2500	16:00:00	385.00	50.00		1164.00		1078.00	1.219	0.212
29		7.5000	16:15:00	413.00	54.00	3rd point	1152.00		1066.00	1.301	0.225
30		7.7500	16:30:00	488.00	56.00		1124.00		1015.00	1.538	0.240
31		8.0000	16:45:00	475.00	58.00		1106.00		1000.00	1.492	0.256

FieldNotes

Field Measurements

	Date	Cum Time	Clock Time	Static1 Pres	Meter1 Temp	Comments	Casing Pres	Orifice1 in	Tubing Pres	Gas1 Rate	Cum. Gas1
	yyyy/mm/dd	hr	hh:mm:ss	psi(g)	°F		psi(g)		psi(g)	MMCF/D	MMCF
32	1999/02/06	8.2500	17:00:00	466.00	59.00		1096.00		990.00	1.462	0.271
33		8.5000	17:15:00	439.00	59.00		1094.00		1005.00	1.376	0.286
34		8.7500	17:30:00	448.00	58.00		1092.00		1005.00	1.406	0.301
35		9.0000	17:45:00	440.00	58.00		1086.00		995.00	1.381	0.315
36		9.2500	18:00:00	450.00	58.00		1075.00		985.00	1.412	0.330
37		9.5000	18:15:00	472.00	58.00	4th point	1069.00		980.00	1.483	0.345
38		10.5000	19:15:00	460.00	58.00		1050.00		960.00	1.444	0.406
39	1999/02/07	29.2500	14:00:00	424.00	62.00		891.00		830.00	1.323	1.487
40		30.2500	15:00:00	419.00	64.00		886.00		830.00	1.304	1.542
41		31.2500	16:00:00	419.00	64.00		878.00		820.00	1.304	1.596
42		32.2500	17:00:00	415.00	64.00		875.00		805.00	1.292	1.650
43		33.2500	18:00:00	414.00	64.00	1 point	868.00		800.00	1.289	1.704
44	1999/02/08	47.2500	08:00:00	380.00	62.00		805.00		735.00	1.185	2.425
45		48.2500	09:00:00	379.00	62.00		800.00		735.00	1.182	2.475
46		49.2500	10:00:00	375.00	62.00	Rw .23@52	795.00		730.00	1.170	2.524
47		50.2500	11:00:00	375.00	62.00		792.00		730.00	1.170	2.572
48		51.2500	12:00:00	373.00	64.00		788.00		725.00	1.161	2.621
49		52.2500	13:00:00	373.00	68.00	Rw .085@58	785.00		725.00	1.155	2.669
50	1999/02/09	71.2500	08:00:00	327.00	64.00		711.00		646.00	1.018	3.529
51		72.2500	09:00:00	327.00	64.00		710.50		646.00	1.018	3.572
52		73.2500	10:00:00	327.00	66.00		710.50		646.00	1.016	3.614
53		74.2500	11:00:00	327.00	68.00		710.50		646.00	1.013	3.656
54		75.2500	12:00:00	326.00	68.00		710.10		645.00	1.010	3.698
55		76.2500	13:00:00	325.00	70.00		710.00		645.00	1.005	3.740
56		76.2500	13:00:00	0.00	0.00	shut well in	847.20	0.000	847.00	0.000	3.740
57		76.5000	13:15:00	0.00	0.00		847.00		847.20	0.000	3.740
58		76.7500	13:30:00				882.00		895.30		
59		77.0000	13:45:00				893.00		911.50		
60		77.2500	14:00:00				902.00		914.50		
61		77.5000	14:15:00				907.00		918.50		
62		77.7500	14:30:00				910.00		920.50		

FieldNotes

Field Measurements

	Date	Cum Time	Clock Time	Static1 Pres	Meter1 Temp	Comments	Casing Pres	Orifice1	Tubing Pres	Gas1 Rate	Cum. Gas1
	yyyy/mm/dd	hr	hh:mm:ss	psi(g)	°F		psi(g)	in	psi(g)	MMCF/D	MMCF
63	1999/02/09	78.0000	14:45:00				916.00		916.20		
64		78.2500	15:00:00				920.00		930.40		
65	1999/02/10	95.2500	08:00:00				1013.10		1013.00		
66		95.5000	08:15:00				1013.10		1013.00		
67		95.7500	08:30:00				1013.10		1013.00		
68		96.0000	08:45:00				1013.20		1013.00		
69		96.2500	09:00:00				1013.50		1013.00		
70		96.5000	09:15:00				1013.70		1013.00		
71		96.7500	09:30:00				1014.20		1014.00		
72		97.0000	09:45:00				1015.00		1015.00		
73		97.2500	10:00:00				1016.10		1015.00		
74	1999/02/11	119.2500	08:00:00				1064.50		1063.00		
75		119.5000	08:15:00				1064.50		1063.00		
76		119.7500	08:30:00				1065.20		1064.00		
77		120.0000	08:45:00				1065.70		1064.00		
78		120.2500	09:00:00				1065.70		1064.00		
79		120.5000	09:15:00				1065.00		1066.10		
80		120.7500	09:30:00				1065.00		1066.50		
81		121.0000	09:45:00				1065.00		1066.70		
82		121.2500	10:00:00				1066.00		1066.70		
83	1999/02/12	143.2500	08:00:00				1095.20		1093.00		
84		143.5000	08:15:00				1097.50		1093.00		
85		143.7500	08:30:00				1093.50		1093.00		
86		144.0000	08:45:00				1093.50		1093.00		
87		144.2500	09:00:00				1093.70		1093.00		
88		144.5000	09:15:00				1090.00		1093.00		
89		144.7500	09:30:00				1090.10		1093.00		
90		145.0000	09:45:00				1090.30		1093.00		
91		145.2500	10:00:00				1090.50		1093.00		
92	1999/02/14	191.2500	08:00:00				1132.10		1135.00		
93		191.5000	08:15:00				1132.30		1135.00		

FieldNotes

Field Measurements

	Date	Cum Time	Clock Time	Static1 Pres	Meter1 Temp	Comments	Casing Pres	Orifice1 in	Tubing Pres	Gas1 Rate	Cum. Gas1
	yyyy/mm/dd	hr	hh:mm:ss	psi(g)	°F		psi(g)		psi(g)	MMCF/D	MMCF
94	1999/02/14	191.7500	08:30:00				1132.40		1135.00		
95		192.0000	08:45:00				1132.60		1135.00		
96		192.2500	09:00:00				1132.80		1136.00		
97		192.5000	09:15:00				1132.90		1137.00		
98		192.7500	09:30:00				1133.10		1137.00		
99		193.0000	09:45:00				1133.40		1138.00		
100		193.2500	10:00:00				1134.70		1139.00		
101	1999/02/15	220.2500	13:00:00				1154.20		1166.00		
102		220.5000	13:15:00				1154.20		1166.00		
103		221.2500	14:00:00				1154.30		1167.00		
104		221.2500				found 2" ball valve on surface braden head opened & oozing mud					
105	1999/02/16	240.7500	09:30:00				1165.10		1173.00		
106		241.0000	09:45:00				1165.20		1174.00		
107		241.2500	10:00:00				1165.10		1175.00		
108		241.5000	10:15:00				1165.70		1175.00		
109	1999/02/17	276.9999	21:45:00				1187.90		1196.00		
110	1999/02/19	314.4999	11:15:00				1204.00		1216.00		
111		314.4999				pulled out of hole with recorder-would not go					
112		314.4999				through orbit valve went back to bottom with recorder & flowed well					
113		314.4999									
114		317.7499	14:30:00			flowing well					
115		317.7499				pulled recorder again- got through valve and in lubricator					
116		319.9999	16:45:00								
117		319.9999				orbit valve not closing					
118	1999/02/22	383.2499	08:00:00			killed well - found recorder approx. 15' below orbit valve					
119						found wire and recorder coated with scale					
120						which prevented recorder from being pulled					
121						into lubricator					

2/4/99

Date: 2/4/99 Time: 1:03:20 PM

Page 2 of 2

Form G-2
(Rev. 8/88)

KANSAS CORPORATION COMMISSION

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

Type Test:

- ☐ Open Flow
☐ Deliverability

Test Date:

API No. 15

081-212310000

Company

John O. Farmer Inc.

Lease

Patterson

Well Number

#1-28

County

Haskell

Location

2317 FSL + 2309 FNL

Section

TWP

RNG (E/W)

Acres Allocated

28

30 S

31 W

160

Field

N/A

Reservoir

Morrow Sand

Gas Gathering Connection

to be determined

Completion Date

1-20-99

Plug Back Total Depth

5513'

Packer Set at

N/A

Casing Size

4 1/2"

Weight

10 1/2 #

Internal Diameter

Set at

5575

Perforations

5409

To

5424

Tubing Size

2 3/8"

Weight

4.7 #

Internal Diameter

1.995

Set at

5417

Perforations

open ended tubing

To

Type Completion (Describe)

Perforations w/ CO₂ Frac Job

Type Fluid Production

Gas

Pump Unit or Traveling Plunger?

N/A

Yes (No)

Producing Thru (Annulus / Tubing)

tubing

% Carbon Dioxide

0.1297 %

% Nitrogen

9.4676 %

Gas Gravity - G_s

0.6989

Vertical Depth (H)

Pressure Taps

(Meter Run) (Prover) Size

Pressure Buildup:

Shut in

18

at

(AM) (PM) Taken

18

at

(AM) (PM)

Well on Line:

Started

18

at

(AM) (PM) Taken

18

at

(AM) (PM)

OBSERVED SURFACE DATA

Duration of Shut-in _____ Hours

Static / Dynamic Property	Orifice Size inches	Gauge and Meter or Prover Pressure psia	Pressure Differential in (h) inches H ₂ O	Flowing Temperature °F	Well Head Temperature °F	Casing Wellhead Pressure (P _w) or (P _i) or (P _e)		Tubing Wellhead Pressure (P _w) or (P _i) or (P _e)		Duration (Hours)	Liquid Produced (Barrels)
						psig	psia	psig	psia		
Shut-in											
Flow											

FLOW STREAM ATTRIBUTES

Plate Coefficient (F _p) (F _s) Mod	Gauge and Meter or Prover Pressure psia	Press Extension $\sqrt{P_w \times H_w}$	Gravity Factor F _g	Flowing Temperature Factor F _t	Deviation Factor F _z	Metered Flow R (Mcf/d)	GGR (Cubic Feet/ Barrel)	Flowing Fluid Gravity G _s

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P_w)₁ = 0.207(P_w)₂ =

$(P_w)^2 =$ _____ :	$(P_w)^2 =$ _____ :	$P_w =$ _____ %	$(P_w - 14.4) + 14.4 =$ _____ :	$(P_w)^2 =$ _____ :
$(P_w)^2 - (P_w)^2$ or $(P_w)^2 - (P_w)^2$	$(P_w)^2 - (P_w)^2$ Choose Formula 1 or 2: 1. $P_w^2 - P_{w1}^2$ 2. $P_w^2 - P_{w2}^2$ divided by: $P_{w1}^2 - P_{w2}^2$	LOG of formula 1, or 2, and divide by: $P_w^2 - P_{w1}^2$	Backpressure Curve Slope = "n" ----- or ----- Assigned Standard Slope	$n \times \text{LOG}$ []
				Anilog
				Open Flow Deliverability Equals R x Anilog Mod

Open Flow

Mod @ 14.65 psia

Deliverability

Mod @ 14.65 psia

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct. Executed this the _____ day of _____, 19 ____.

Witness (If any)

For Company

For Commission

Post-It® Fax Note

7671

Date

2/5/99

of pages

1

To

Co./Dept.

Phone #

Fax #

From

John O. Farmer, Inc.

Phone

(785) 483-3144

FAX

(785) 483-6020

