





Gauge No. 6160		Depth 2402'		Clock No. 7098		12 hour		Ticket # 793818			
First Flow Period		Closed In Pressure		Second Flow Period		Second Closed In Pressure		Third Flow Period		Third Closed In Pressure	
Time Defl. .000"	PSIG Temp. Corr.										
$\text{Log } t + \frac{\theta}{\theta}$		$\text{Log } t + \frac{\theta}{\theta}$		$\text{Log } t + \frac{\theta}{\theta}$		$\text{Log } t + \frac{\theta}{\theta}$		$\text{Log } t + \frac{\theta}{\theta}$		$\text{Log } t + \frac{\theta}{\theta}$	
0	.0000	20.3	27.1	.0000	27.9	.0000	42.3	.0000	42.3		
1	.1940	27.1	206.7	.0720	28.8*	.0524	555.5	.0524	555.5		
2			384.7	.1374	27.9	.1048	709.6	.1048	709.6		
3			555.5	.2028	27.1	.1572	767.6	.1572	767.6		
4			692.7	.2682	28.8	.2096	798.8	.2096	798.8		
5			770.2	.3336	30.5	.2620	815.6	.2620	815.6		
6			808.0	.3990	42.3	.3144	826.6	.3144	826.6		
7			828.3			.3668	834.1	.3668	834.1		
8			840.0			.4192	839.2	.4192	839.2		
9			847.6			.4716	843.4	.4716	843.4		
10			852.7			.5240	846.8	.5240	846.8		
11			856.0			.5764	850.1	.5764	850.1		
12			859.4			.6288	852.7	.6288	852.7		
13			861.9			.6812	854.3	.6812	854.3		
14			863.6			.7336	856.0	.7336	856.0		
15			864.4			.7860	858.6	.7860	858.6		

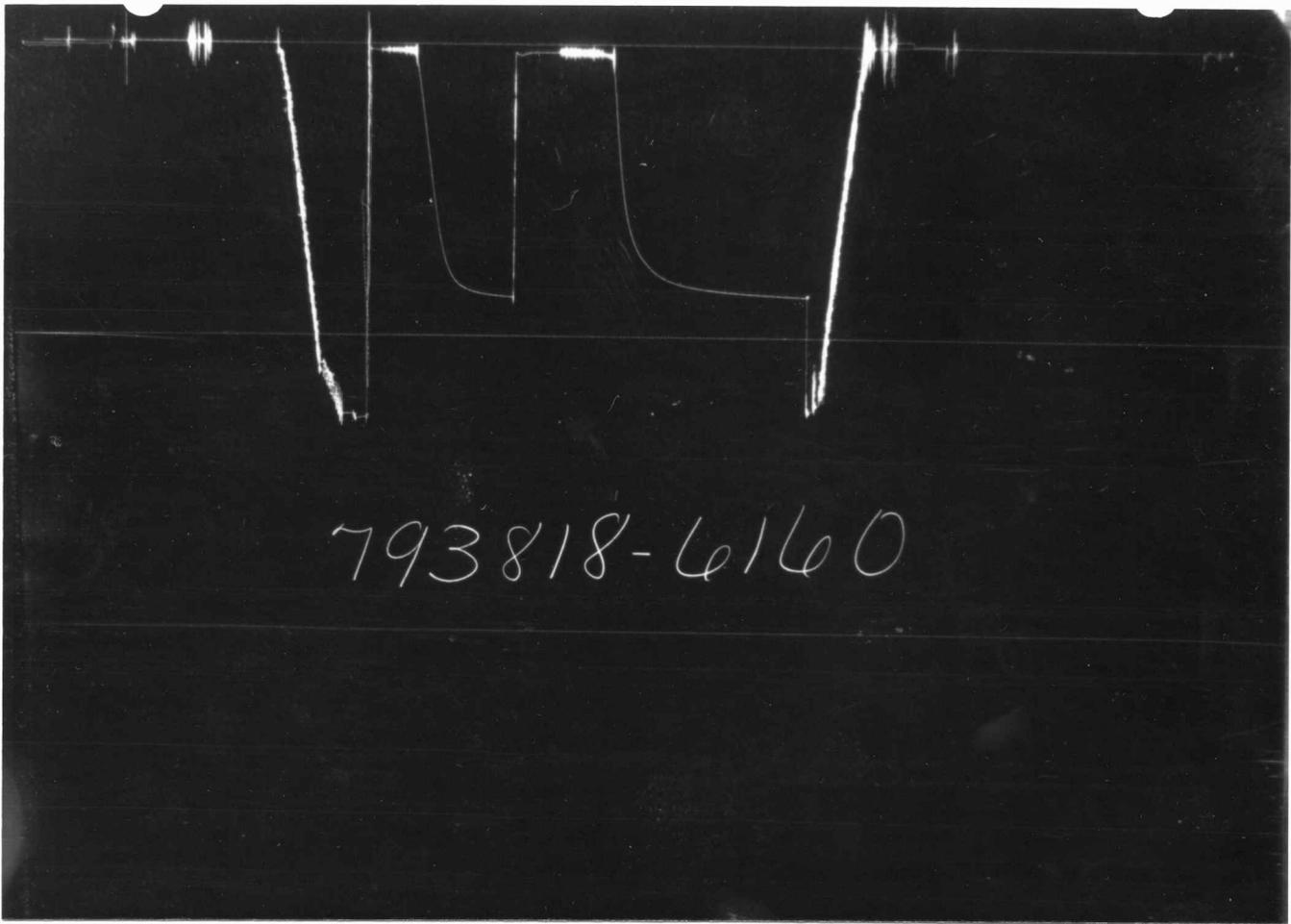
Gauge No. 6159		Depth 2462'		Clock No. 6947		12 hour	
Time Defl. .000"	PSIG Temp. Corr.						
0	.0000	49.7	48.9	.0000	51.3	.0000	57.0
1	.1990	48.9	221.0	.0739	45.6*	.0538	566.4
2			407.8	.1414	44.0	.1076	723.6
3			572.1	.2088	44.8	.1614	781.2
4			700.9	.2762	46.4	.2152	813.6
5			781.2	.3437	47.3	.2690	829.8
6			821.7	.4100	57.0	.3228	841.1
7			842.7			.3766	847.6
8			854.9			.4304	854.1
9			863.8			.4842	858.1
10			868.7			.5380	861.4
11			871.9			.5918	864.6
12			875.2			.6465	867.1
13			877.6			.6994	869.5
14			879.2			.7532	871.1
15			881.6			.8070	871.9

Reading Interval	4	10	8	Minutes
REMARKS:	*Interval = 11 minutes			

5

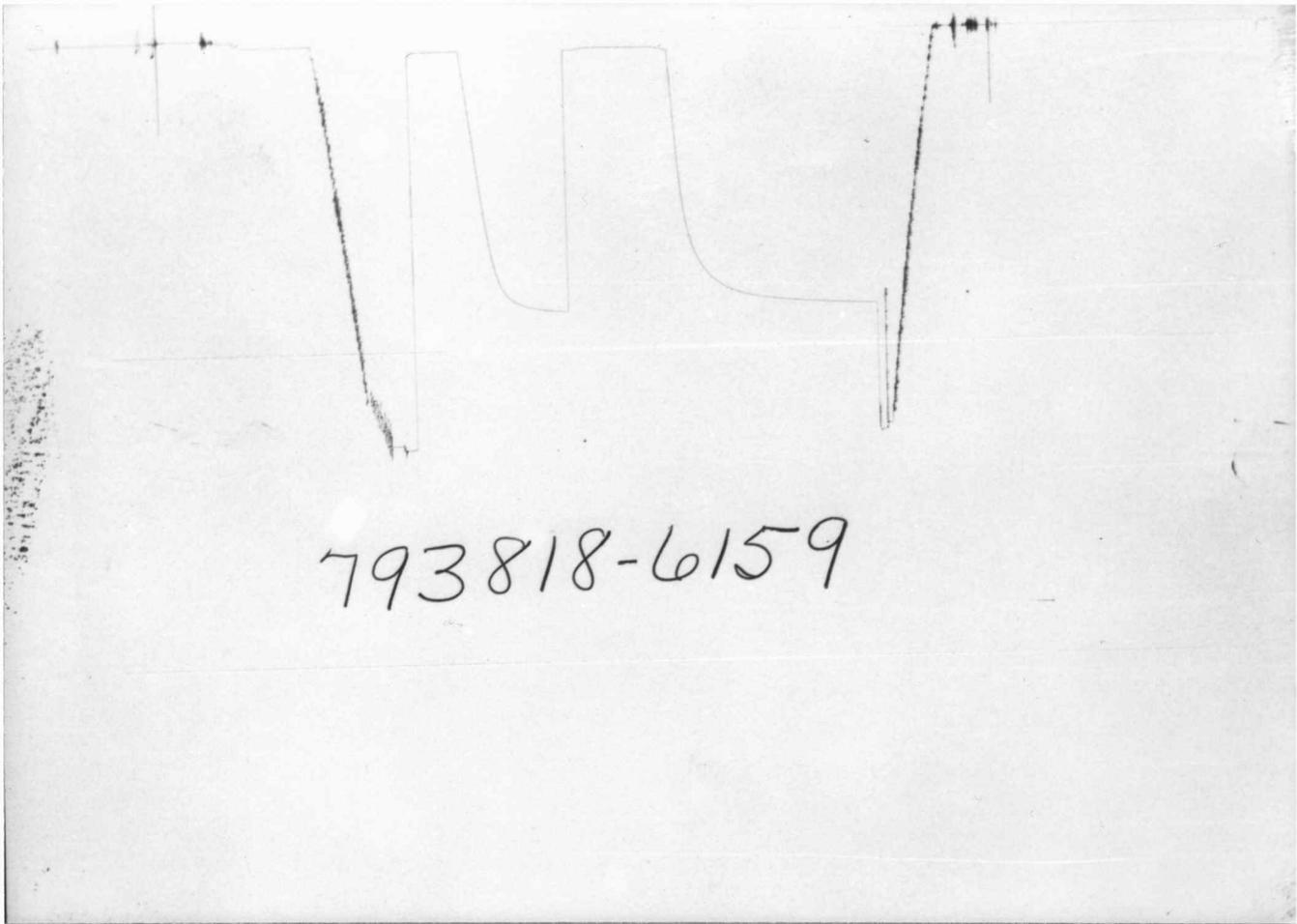
	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Drill Collars				
Reversing Sub	6.25"	2.75"	1'	
Water Cushion Valve				
Drill Pipe	4 1/2"	3.826"	2268'	
<del>Drill Collars</del> Reversing sub	6.25"	2.75"	1'	
<del>Handing Sub &amp; Choke Assembly</del> D. Pipe	4 1/2"	3.826"	122'	
Dual CIP Valve	5"	.87"	6.25'	2394'
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	2401'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	3.75"	4'	2402'
Hydraulic Jar	5"	1.75"	5'	
VR Safety Joint	5"	1"	2.85'	
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53"	5.85'	2418'
Distributor				
Packer Assembly	6.75"	1.53"	5.85'	2424'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	3.84"	34'	
Blanked-Off B.T. Running Case	5"	2.75"	5.50'	2462'
Total Depth				2466'



793818-6160

↑  
PRESSURE

TIME →



793818-6159

↓  
PRESSURE

Each Horizontal Line Equal to 1000 p.s.i.

TEMPERATURE  
RECORDER  
CHART



10° each circle

- $OF_3$  = Theoretical Open Flow Potential with/Damage Removed Max. . . . . MCF/D
- $OF_4$  = Theoretical Open Flow Potential with/Damage Removed Min. . . . . MCF/D
- $P_s$  = Extrapolated Static Pressure . . . . . Psig.
- $P_f$  = Final Flow Pressure . . . . . Psig.
- $P_{ot}$  = Potentiometric Surface (Fresh Water \*) . . . . . Feet
- $Q$  = Average Adjusted Production Rate During Test . . . . . bbls/day
- $Q_1$  = Theoretical Production w/Damage Removed . . . . . bbls/day
- $Q_g$  = Measured Gas Production Rate . . . . . MCF/D
- $R$  = Corrected Recovery . . . . . bbls
- $r_w$  = Radius of Well Bore . . . . . Feet
- $t$  = Flow Time . . . . . Minutes
- $t_o$  = Total Flow Time . . . . . Minutes
- $T$  = Temperature Rankine . . . . . °R
- $Z$  = Compressibility Factor . . . . . —
- $\mu$  = Viscosity Gas or Liquid . . . . . CP
- Log** = Common Log

\* Potentiometric Surface Reference to Rotary Table When Elevation Not Given,  
Fresh Water Corrected to 100° F.

FLUID SAMPLE DATA				Date	3-15-80	Ticket Number	819624				
Sampler Pressure _____ P.S.I.G. at Surface				Kind of D.S.T.	OPEN HOLE	Halliburton Location	GREAT BEND				
Recovery: Cu. Ft. Gas _____				Tester	GREG DREWS	Witness	JIM MUSGROVE				
cc. Oil _____				Drilling Contractor							
cc. Water _____				RAINS & WILLIAMSON DRILLING COMPANY SM							
cc. Mud _____				EQUIPMENT & HOLE DATA							
Tot. Liquid cc. _____				Formation Tested	Topeka						
Gravity _____ ° API @ _____ °F.				Elevation	1807' Derrick floor/1809' KB Ft.						
Gas/Oil Ratio _____ cu. ft./bbl.				Net Productive Interval	-						
RESISTIVITY _____ CHLORIDE CONTENT _____				All Depths Measured From	Kelly bushing						
Recovery Water _____ @ _____ °F. _____ ppm				Total Depth	2705'						
Recovery Mud _____ @ _____ °F. _____ ppm				Main Hole/Casing Size	7 7/8"						
Recovery Mud Filtrate _____ @ _____ °F. _____ ppm				Drill Collar Length	- I.D.						
Mud Pit Sample _____ @ _____ °F. _____ ppm				Drill Pipe Length	2665' I.D. 3.826"						
Mud Pit Sample Filtrate _____ @ _____ °F. _____ ppm				Packer Depth(s)	2665-2670' Ft.						
Mud Weight 10 vis 37 sec.				Depth Tester Valve	2649' Ft.						
Cushion				TYPE	AMOUNT	Depth Back Pres. Valve	Surface Choke	Bottom Choke			
							2"	.75"			
Recovered 60 Feet of watery mud with a few specks of oil on top of tool				Med. From Tester Valve							
Recovered Feet of											
Recovered Feet of											
Recovered Feet of											
Recovered Feet of											
Remarks				SEE PRODUCTION TEST DATA SHEET							
TEMPERATURE				Gauge No. 6041	Gauge No. 1838	Gauge No.	TIME				
				Depth: 2650 Ft.	Depth: 2701 Ft.	Depth: Ft.	(00:00-24:00 hrs.)				
				12 Hour Clock	12 Hour Clock	Hour Clock	Tool				
Est. °F.				Blanked Off NO	Blanked Off YES	Blanked Off	Opened 1324				
Actual 94 °F.				Pressures			Opened Bypass 1754				
				Field	Office	Field	Office	Field	Office	Reported	Computed
Initial Hydrostatic					1440.2	1474.3	1464.3			Minutes	Minutes
First Period	Flow	Initial		7.3	37.5	41.0					
		Final		11.4	41.6	41.9			30	31	
	Closed in		963.6	985.2	983.5			60	59		
Second Period	Flow	Initial		19.6	41.6	65.2					
		Final		26.2	50.0	55.9			60	59	
	Closed in		952.2	952.3	972.8			120	120		
Third Period	Flow	Initial									
	Final										
	Closed in										
Final Hydrostatic					1415.2	1457.8	1439.4				

Legal Location Sec. - Twp. - Rng. **BROWN**  
 Lease Name **NW SW NW 1 17S 9W**  
 Well No. **3**  
 Test No. **2**  
 Tested Interval **2670 - 2705'**  
 County **ELLSWORTH**  
 Field Area **GREEN GARDEN**  
 State **KANSAS**  
 Lease Owner/Company Name **AMERICAN PETROFINA OF TEXAS**



Gauge No.		6041		Depth		2650'		Clock No.		16166		12 hour		Ticket No.		819624	
First Flow Period		Closed In Pressure		Second Flow Period		Second Closed In Pressure		Third Flow Period		Third Closed In Pressure		Third Flow Period		Third Closed In Pressure		Third Flow Period	
Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.
0	.0000	7.3		.0000	11.4	.0000	19.6	.0000		.0000	26.2						
1	.2080	11.4		.0208*	286.9	.0606**	18.8	.0553		.0553	472.2						
2				.0486	612.4	.1278	18.8	.1105		.1105	703.0						
3				.0764	738.6	.1951	21.3	.1658		.1658	788.8						
4				.1042	805.8	.2624	22.9	.2211		.2211	837.3						
5				.1320	848.7	.3297	24.5	.2764		.2764	867.3						
6				.1598	877.0	.3970	26.2	.3316		.3316	886.7						
7				.1876	897.2			.3869		.3869	902.1						
8				.2154	913.4			.4422		.4422	913.4						
9				.2432	926.3			.4974		.4974	922.3						
10				.2710	935.2			.5527		.5527	929.6						
11				.2987	943.3			.6080		.6080	936.1						
12				.3265	950.6			.6632		.6632	941.7						
13				.3543	956.3			.7185		.7185	946.6						
14				.3821	960.3			.7738		.7738	949.8						
15				.4100	963.6			.8290		.8290	952.2						
Gauge No.		1838		Depth		2701'		Clock No.		14235		12 hour					
0	.0000	41.0		.0000	41.9	.0000	65.2	.0000		.0000	55.9						
1	.2070	41.9		.0201*	409.1	.0599**	51.2	.0535		.0535	517.2						
2				.0470	651.5	.1266	52.1	.1071		.1071	734.7						
3				.0738	767.7	.1932	53.1	.1606		.1606	814.6						
4				.1007	831.1	.2598	53.1	.2141		.2141	859.9						
5				.1275	871.4	.3264	54.0	.2677		.2677	888.7						
6				.1544	898.6	.3930	55.9	.3212		.3212	908.5						
7				.1812	919.2			.3747		.3747	922.5						
8				.2081	934.9			.4282		.4282	934.0						
9				.2349	946.4			.4818		.4818	943.9						
10				.2618	956.3			.5353		.5353	950.5						
11				.2886	963.7			.5888		.5888	956.3						
12				.3155	969.5			.6424		.6424	962.0						
13				.3423	975.2			.6959		.6959	966.2						
14				.3692	979.3			.7494		.7494	969.5						
15				.3960	983.5			.8030		.8030	972.8						
Reading Interval		4		10		8		Minutes									
REMARKS: *First interval is equal to 3 minutes. ** = 9 minutes.																	

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing	4.50"	3.826"	2543'	
Drill Collars				
Reversing Sub	6.25"	2.75"	1'	2516'
Water Cushion Valve				
Drill Pipe	4.50"	3.826"	122'	
Drill Collars				
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	6.25'	2642'
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	2649'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	3.75"	4'	2650'
Hydraulic Jar	5"	1.75"	5'	
VR Safety Joint	5"	1"	2.80'	
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53"	4.50'	2665'
Distributor				
Packer Assembly	6.75"	1.53"	4.50'	2670'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	3.84"	28'	
HT 500 Temp case				2700'
Blanked-Off B.T. Running Case	5"	2.75"	5.50'	2701'
Total Depth				2705'

819624-6041

↑  
PRESSURE  
↓

← TIME →

819624-1838

Each Horizontal Line Equal to 1000 p.s.i.

# TEMPERATURE RECORDER CHART



10° each circle

- OF<sub>3</sub> = Theoretical Open Flow Potential with/Damage Removed Max. . . . . MCF/D
- OF<sub>4</sub> = Theoretical Open Flow Potential with/Damage Removed Min. . . . . MCF/D
- P<sub>s</sub> = Extrapolated Static Pressure . . . . . Psig.
- P<sub>f</sub> = Final Flow Pressure . . . . . Psig.
- P<sub>or</sub> = Potentiometric Surface (Fresh Water \* ) . . . . . Feet
- Q = Average Adjusted Production Rate During Test . . . . . bbls/day
- Q<sub>1</sub> = Theoretical Production w/Damage Removed . . . . . bbls/day
- Q<sub>g</sub> = Measured Gas Production Rate . . . . . MCF/D
- R = Corrected Recovery . . . . . bbls
- r<sub>w</sub> = Radius of Well Bore . . . . . Feet
- t = Flow Time . . . . . Minutes
- t<sub>o</sub> = Total Flow Time . . . . . Minutes
- T = Temperature Rankine . . . . . °R
- Z = Compressibility Factor . . . . . —
- μ = Viscosity Gas or Liquid . . . . . CP
- Log = Common Log

\* Potentiometric Surface Reference to Rotary Table When Elevation Not Given, Fresh Water Corrected to 100° F.

FLUID SAMPLE DATA				Date	Ticket Number		
Sampler Pressure _____ P.S.I.G. at Surface				3-17-80	819625		
Recovery: Cu. Ft. Gas _____				Kind of D.S.T.	Halliburton Location		
cc. Oil _____				OPEN HOLE	GREAT BEND		
cc. Water _____				Tester	Witness		
cc. Mud _____				MR. DREWS	MR. PAULING		
Tot. Liquid cc. _____				Drilling Contractor			
Gravity _____ ° API @ _____ ° F.				RAINS & WILLIAMSON DRILLING CO. IC			
Gas/Oil Ratio _____ cu. ft./bbl.				EQUIPMENT & HOLE DATA			
RESISTIVITY _____ CHLORIDE CONTENT _____				Formation Tested			
Recovery Water _____ @ _____ ° F. _____ ppm				lansing - Kansas City			
Recovery Mud _____ @ _____ ° F. _____ ppm				Elevation			
Recovery Mud Filtrate _____ @ _____ ° F. _____ ppm				1809' KB			
Mud Pit Sample _____ @ _____ ° F. 82,000 ppm				Net Productive Interval _____ Ft.			
Mud Pit Sample Filtrate _____ @ _____ ° F. _____ ppm				All Depths Measured From			
Mud Weight _____ 10.1 vis _____ 53 sec.				Kelly Bushing			
				Total Depth			
				3068' _____ Ft.			
				Main Hole/Casing Size			
				7 7/8"			
				Drill Collar Length			
				0 I.D. 0			
				Drill Pipe Length			
				3007' I.D. 3.826"			
				Packer Depth(s)			
				3030' - 3035' _____ Ft.			
				Depth Tester Valve			
				3014' _____ Ft.			
TYPE		AMOUNT		Depth Back		Surface	
Cushion				Ft. Pres. Valve		Choke	
						2" Bottom Choke .75"	
Recovered		330 Feet of Gas in pipe					
Recovered		180 Feet of Oil & gas cut mud					
Recovered		30 Feet of Heavy oil & gas cut mud					
Recovered		Feet of					
Recovered		Feet of					
Remarks SEE PRODUCTION TEST DATA SHEET.							
TEMPERATURE		Gauge No. 6041		Gauge No. 1838		Gauge No.	
		Depth: 3015' Ft.		Depth: 3064' Ft.		TIME (00:00-24:00 hrs.)	
		12 Hour Clock		12 Hour Clock		Hour Clock	
Est. _____ ° F.		Blanked Off NO		Blanked Off YES		Tool Opened 06:55	
3063' @						Opened Bypass 11:25	
Actual 97 ° F.		Pressures		Pressures		Pressures	
		Field Office		Field Office		Field Office	
Initial Hydrostatic		- 1617.9		1672.5 1641.0		Reported Computed	
						Minutes Minutes	
First Period Flow Initial		- 11.4		41.6 42.4		- -	
Flow Final		- 22.9		50.0 42.4		30 30	
Closed in		- 285.2		324.5 306.9		60 59	
Second Period Flow Initial		- 35.2		50.0 68.2		- -	
Flow Final		- 49.1		58.3 64.8		60 60	
Closed in		- 299.2		316.2 316.1		120 120	
Third Period Flow Initial						- -	
Flow Final						- -	
Closed in						- -	
Final Hydrostatic		- 1597.7		1639.5 1622.1		- -	

Legal Location Sec. - Twp. - Rng. 1 - 17S - 9W NW/SW/NW  
 Lease Name BROWN  
 Well No. 3  
 Test No. 3  
 Field Area GREEN GARDEN  
 County ELLSWORTH  
 State KANSAS  
 Tested Interval 3035' - 3068'

AMERICAN PETROFINA OF TEXAS  
 Lease Owner/Company Name





Gauge No. 6041		Depth 3015'		Clock No. 16166		Ticket # 819625	
First Flow Period		First Closed In Pressure		Second Flow Period		Third Flow Period	
Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } t + \frac{\theta}{\theta}$	Time Defl. .000"	$\text{Log } t + \frac{\theta}{\theta}$	Time Defl. .000"	$\text{Log } t + \frac{\theta}{\theta}$
0	11.4	.000	22.9	.000	35.2	.000	49.1
1	.0338	12.2	.0276	.0677	35.2*	.0684	99.1
2	.0677	13.1	.0621	.1354	38.5	.1368	147.5
3	.1015	15.5	.0966	.2031	40.9	.2052	188.5
4	.1353	18.0	.1311	.2708	44.2	.2736	219.7
5	.1692	20.4	.1656	.3385	46.7	.3420	245.1
6	.2030	22.9	.2001	.4060	49.1	.4104	263.1
7			.2346			.4788	276.2
8			.2691			.5472	284.4
9			.3036			.6156	289.3
10			.3381			.6840	293.4
11			.3726			.7524	296.7
12			.4070			.8210	299.2
13							
14							
15							
Reading Interval 5		5		10		10	
Gauge No. 1838		Depth 3064'		Clock No. 14235		12 hour	
Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\text{Log } t + \frac{\theta}{\theta}$	Time Defl. .000"	$\text{Log } t + \frac{\theta}{\theta}$	Time Defl. .000"	$\text{Log } t + \frac{\theta}{\theta}$
0	.000	42.4	.000	.000	68.2	.000	64.8
1	.203	42.4	.0267	.0667	57.4	.0667	116.4
2			.0601	.1334	58.2	.1334	163.8
3			.0935	.2001	58.2	.2001	205.4
4			.1269	.2668	60.7	.2668	237.9
5			.1603	.3335	63.2	.3335	262.8
6			.1937	.4000	64.8	.4000	280.3
7			.2271			.4669	292.8
8			.2605			.5336	301.1
9			.2939			.6003	306.9
10			.3273			.6670	311.1
11			.3607			.7337	314.4
12			.3940			.8000	316.1
13							
14							
15							
Reading Interval 5		5		10		10	
REMARKS: *First interval equal to 4 minutes							

51

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing	4.50"	3.826"	2885.00'	
Drill Collars				
Reversing Sub	6.25"	2.75"	1.00'	2881'
Water Cushion Valve				
Drill Pipe	4.50"	3.826"	122.00'	
Drill Collars				
Handling Sub & Choke Assembly				
Dual CIP Valve	5.00"	.87"	6.25'	3007'
Dual CIP Sampler				
Hydro-Spring Tester	5.00"	.75"	5.00'	3014'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5.00"	3.75"	4.00'	3015'
Hydraulic Jar	5.00"	1.75"	5.00'	
VR Safety Joint	5.00"	1.00"	2.80'	
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53"	4.50'	3030'
Distributor				
Packer Assembly	6.75"	1.53"	4.50'	3035'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5.00"	3.84"	26.00'	3063' TEMP.
Blanked-Off B.T. Running Case	5.00"	2.75"	5.50'	3064'
Total Depth				3068'

PRESSURE

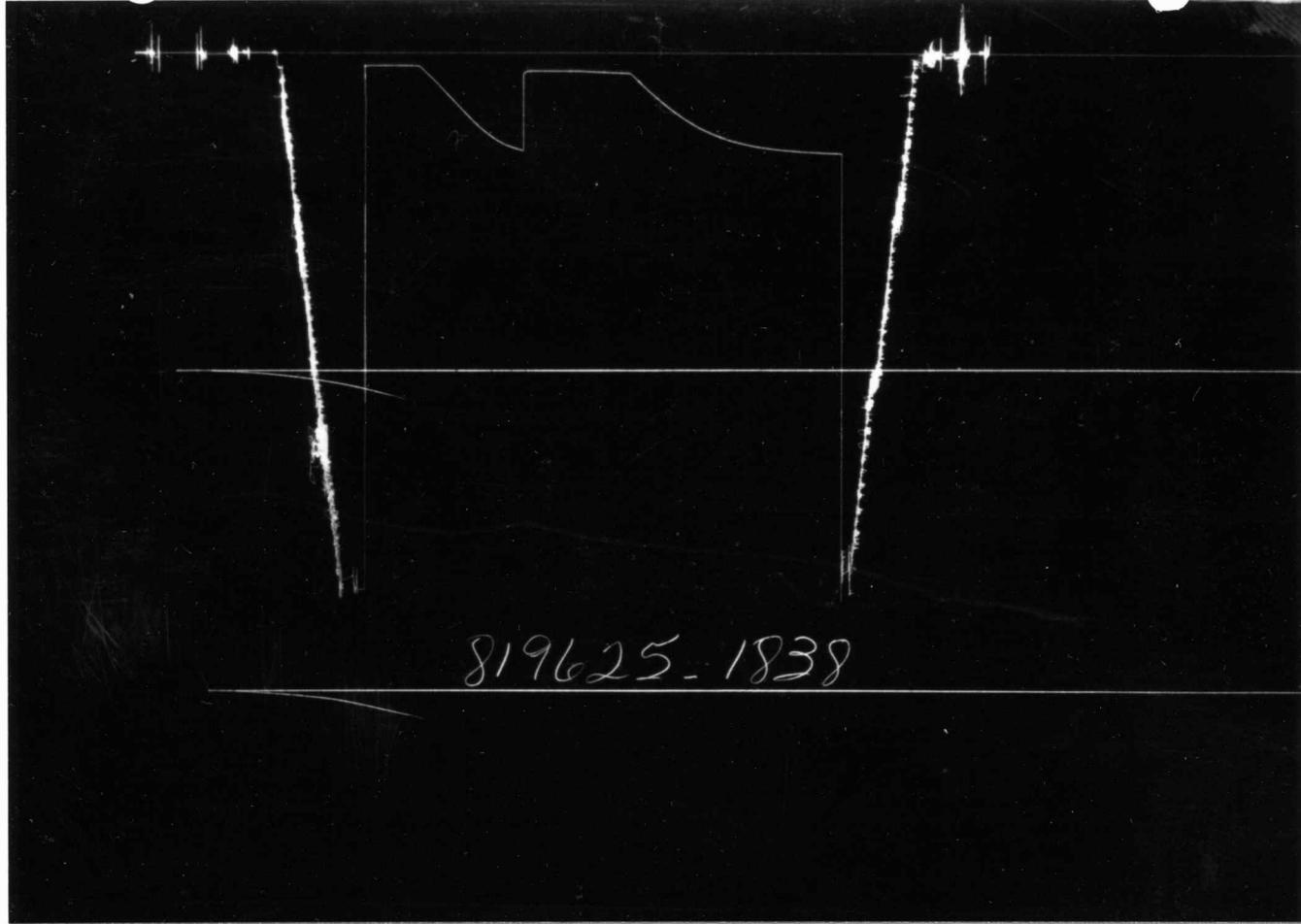
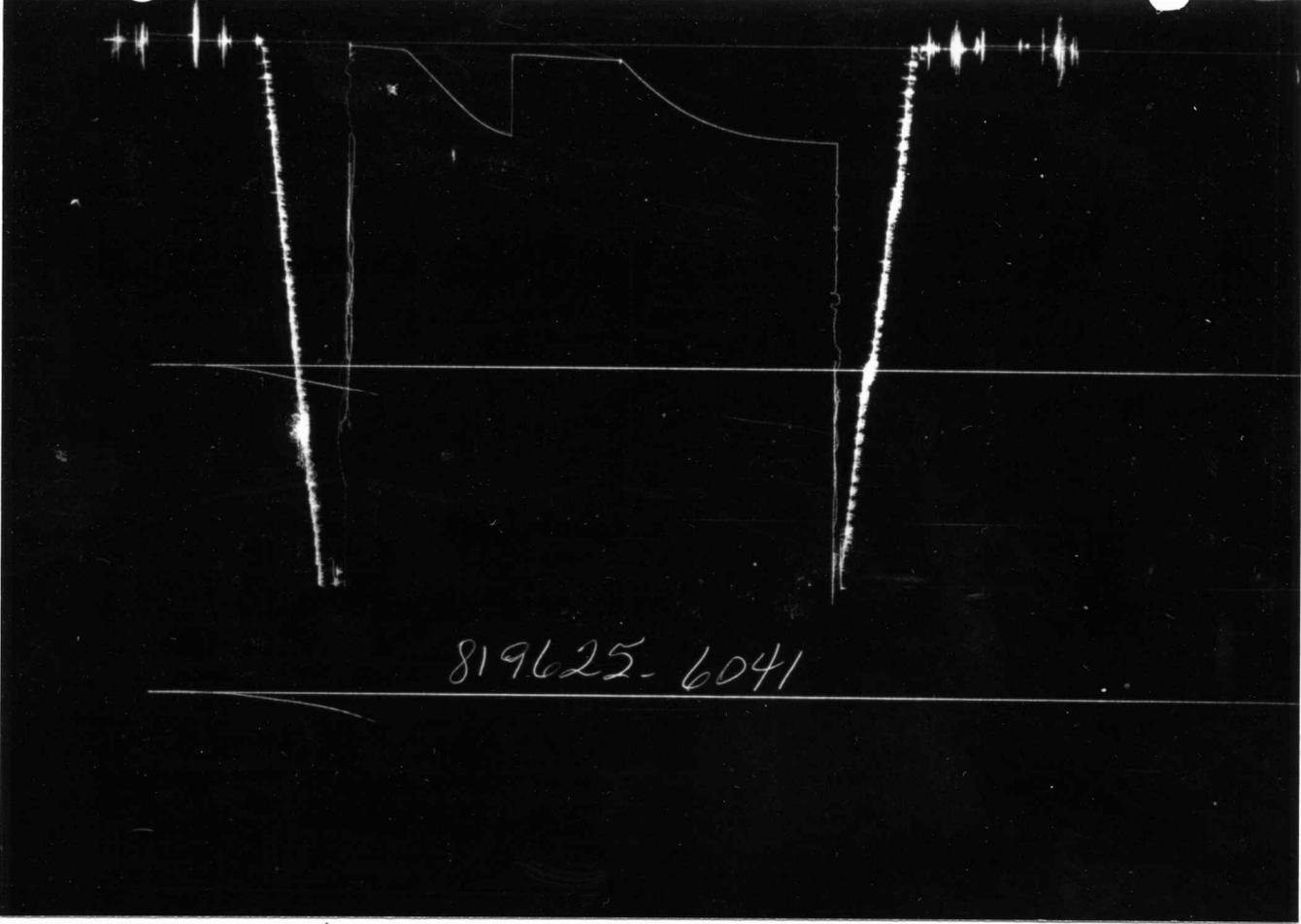
PRESSURE

TIME

819625-6041

819625-1838

Each Horizontal Line Equal to 1000 p.s.i.



# TEMPERATURE RECORDER CHART



10° each circle

- OF<sub>3</sub> = Theoretical Open Flow Potential with/Damage Removed Max. . . . . MCF/D
- OF<sub>4</sub> = Theoretical Open Flow Potential with/Damage Removed Min. . . . . MCF/D
- P<sub>s</sub> = Extrapolated Static Pressure . . . . . Psig.
- P<sub>f</sub> = Final Flow Pressure . . . . . Psig.
- P<sub>or</sub> = Potentiometric Surface (Fresh Water \*) . . . . . Feet
- Q = Average Adjusted Production Rate During Test . . . . . bbls/day
- Q<sub>1</sub> = Theoretical Production w/Damage Removed . . . . . bbls/day
- Q<sub>g</sub> = Measured Gas Production Rate . . . . . MCF/D
- R = Corrected Recovery . . . . . bbls
- r<sub>w</sub> = Radius of Well Bore . . . . . Feet
- t = Flow Time . . . . . Minutes
- t<sub>o</sub> = Total Flow Time . . . . . Minutes
- T = Temperature Rankine . . . . . °R
- Z = Compressibility Factor . . . . . —
- μ = Viscosity Gas or Liquid . . . . . CP
- Log = Common Log

\* Potentiometric Surface Reference to Rotary Table When Elevation Not Given,  
Fresh Water Corrected to 100° F.

FLUID SAMPLE DATA				Date	3-18-80	Ticket Number	819276	
Sampler Pressure _____ P.S.I.G. at Surface				Kind of D.S.T.	OPEN HOLE	Halliburton Location	GREAT BEND	
Recovery: Cu. Ft. Gas _____				Tester	MR. DREWS	Witness	MR. PAULING	
cc. Oil _____				Drilling Contractor	RAINS & WILLIAMSON DRILLING COMPANY			
cc. Water _____				EQUIPMENT & HOLE DATA				
cc. Mud _____				Formation Tested	Simpson			
Tot. Liquid cc. _____				Elevation	1809' KB			
Gravity _____ ° API @ _____ ° F.	RESISTIVITY			CHLORIDE CONTENT				
Gas/Oil Ratio _____ cu. ft./bbl.								
Recovery Water _____ @ _____ ° F. _____ ppm								
Recovery Mud _____ @ _____ ° F. _____ ppm								
Recovery Mud Filtrate _____ @ _____ ° F. _____ ppm								
Mud Pit Sample _____ @ _____ ° F. 63,000 ppm								
Mud Pit Sample Filtrate _____ @ _____ ° F. _____ ppm								
Mud Weight 10.2 vis 48 sec.								
Cushion				TYPE	AMOUNT	Depth Back Pres. Valve	Surface Choke	
							2"	
							Bottom Choke .75"	
Recovered 60 Feet of Drilling mud								Mea. From Tester Valve
Recovered Feet of								
Recovered Feet of								
Recovered Feet of								
Recovered Feet of								
Remarks SEE PRODUCTION TEST DATA SHEET.								
TEMPERATURE		Gauge No. 6041	Gauge No. 1838	Gauge No.	TIME			
		Depth: 3182' Ft.	Depth: 3247' Ft.	Depth: _____ Ft.	(00:00-24:00 hrs.)			
Est. °F.		12 Hour Clock	12 Hour Clock	Hour Clock	Tool			
Blanked Off NO		Blanked Off YES	Blanked Off		Opened 1612			
3246' Actual 103 °F.		Pressures	Pressures	Pressures	Opened Bypass 2042			
	Field	Office	Field	Office	Field	Office	Reported	
		1756.8	1812.8	1796.2			Minutes	
First Period	Initial	12.2	45.8	55.7			Minutes	
	Flow Initial	12.2	50.0	53.2			30	
	Flow Final	12.2	50.0	53.2			60	
Second Period	Closed in	244.3	282.9	282.0			60	
	Flow Initial	13.9	50.0	69.8			60	
	Flow Final	13.9	50.0	58.2			120	
Third Period	Closed in	474.6	499.2	511.5			60	
	Flow Initial						60	
	Flow Final						60	
Final Hydrostatic		1705.1	1771.5	1745.0			60	

Legal Location: Sec. - Twp. - Rng. NW SW NW 1 - 17S - 9W  
 Lease Name: BROWN  
 Well No.: 3  
 Test No.: 4  
 Tested Interval: 3202' - 3251'  
 Field Area: GREEN GARDEN  
 County: ELLSWORTH  
 State: KANSAS  
 Lease Owner/Company Name: AMERICAN PETROFINA OF TEXAS

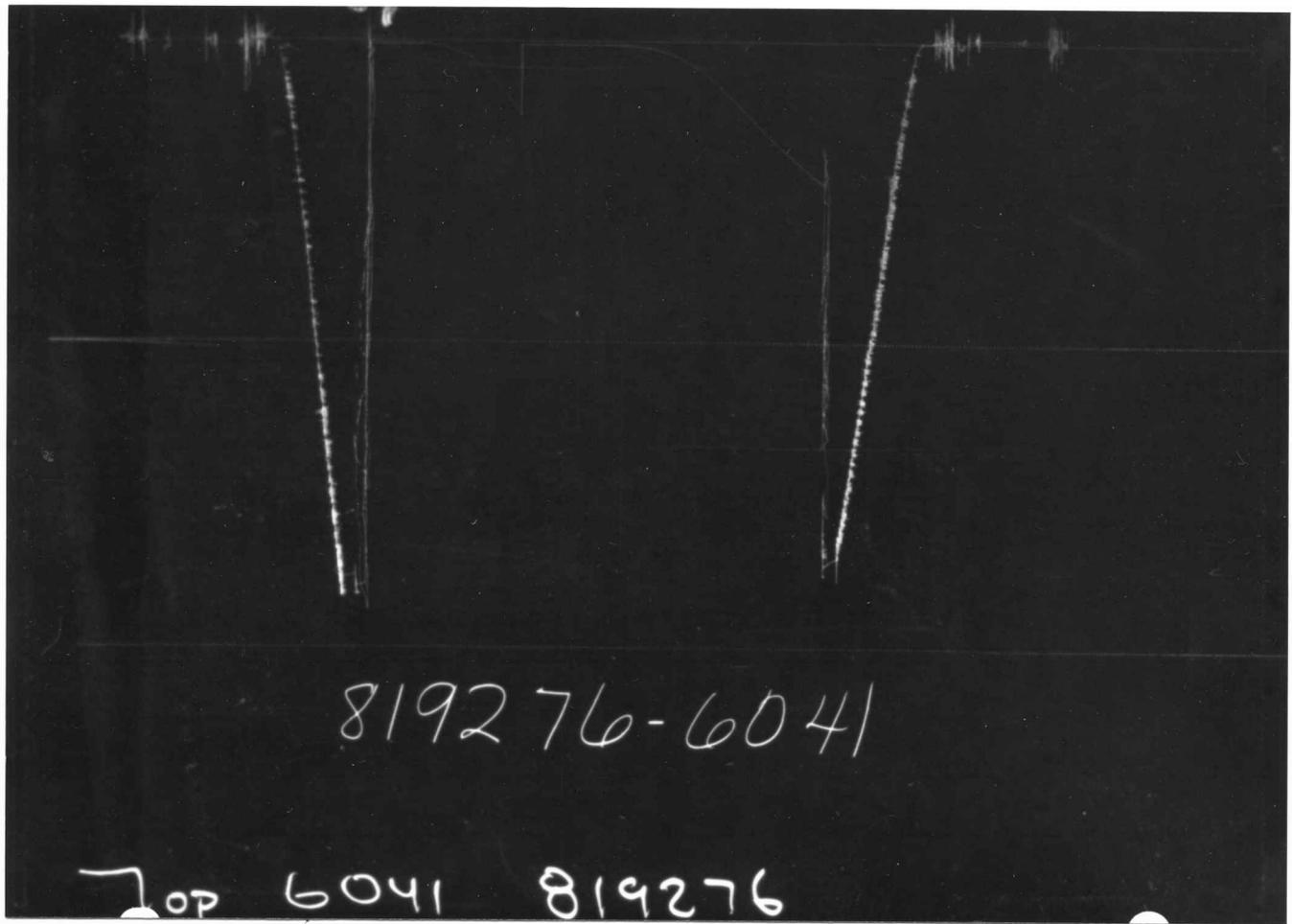
5



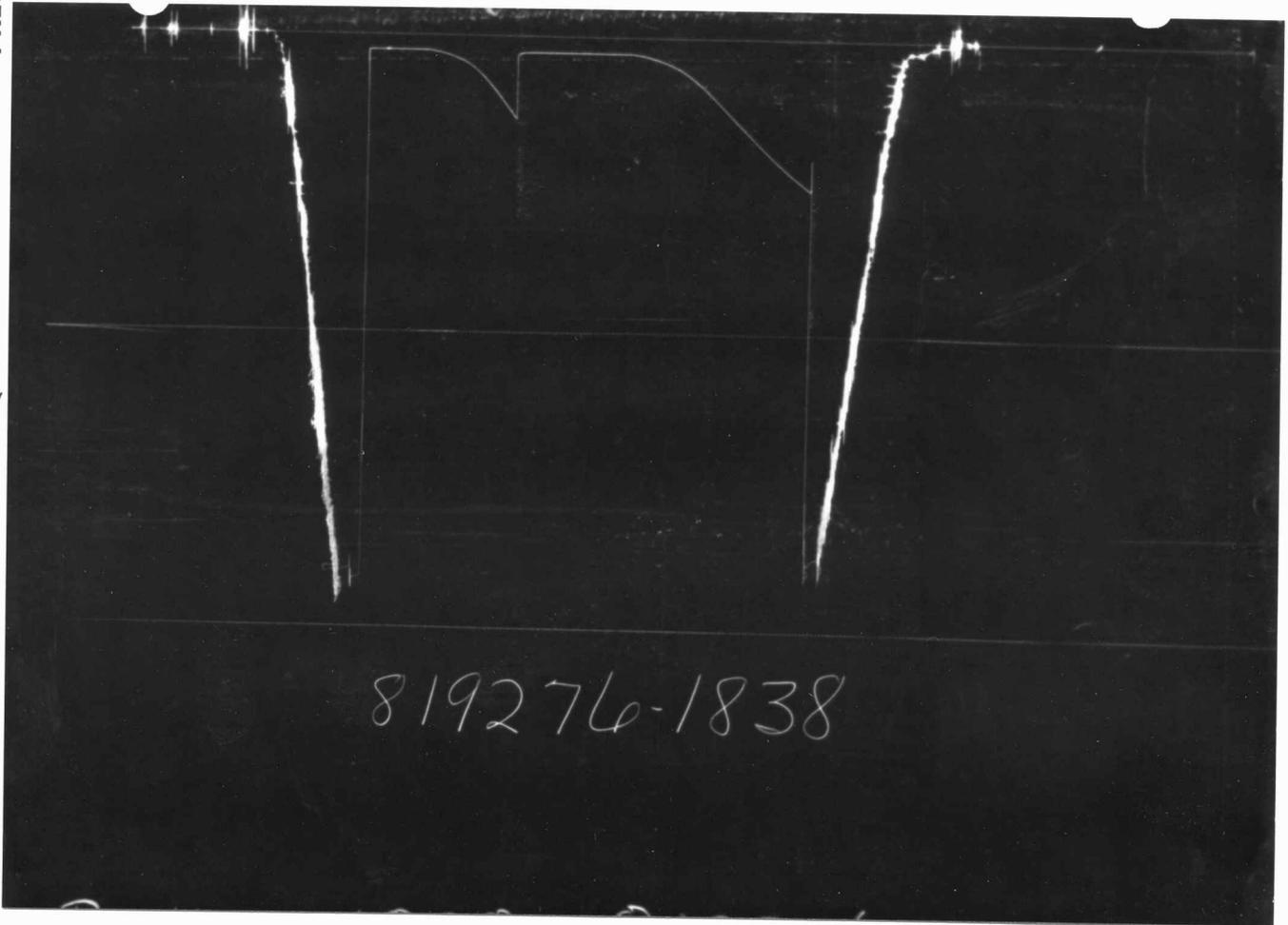
	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing	4½"	3.826"	3073'	
Drill Collars				
Reversing Sub	6.25"	2.75"	1'	3048'
Water Cushion Valve				
Drill Pipe	4½"	3.826"	122'	
Drill Collars				
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	6.25'	3174'
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3181'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	3.75"	4'	3182'
Hydraulic Jar	5"	1.75"	5'	
VR Safety Joint	5"	1"	2.80'	
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53"	4.50'	3197'
Distributor				
Packer Assembly	6.75"	1.53"	4.50'	3202'
Flush Joint Anchor	5"	3.84"	4'	
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case Drill pipe and subs	4½"	3.826"	33'	
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	3.84"	5'	3246'
Blanked-Off B.T. Running Case	5"	2.75"	5.50'	3247'
Total Depth				3251'

PRESSURE

↓



TIME



Each Horizontal Line Equal to 1000 p.s.i.

TEMPERATURE  
RECORDER  
CHART



10° each circle

- OF<sub>3</sub> = Theoretical Open Flow Potential with/Damage Removed Max. . . . . MCF/D
- OF<sub>4</sub> = Theoretical Open Flow Potential with/Damage Removed Min. . . . . MCF/D
- P<sub>S</sub> = Extrapolated Static Pressure . . . . . Psig.
- P<sub>F</sub> = Final Flow Pressure . . . . . Psig.
- P<sub>or</sub> = Potentiometric Surface (Fresh Water \*) . . . . . Feet
- Q = Average Adjusted Production Rate During Test . . . . . bbls/day
- Q<sub>1</sub> = Theoretical Production w/Damage Removed . . . . . bbls/day
- Q<sub>g</sub> = Measured Gas Production Rate . . . . . MCF/D
- R = Corrected Recovery . . . . . bbls
- r<sub>w</sub> = Radius of Well Bore . . . . . Feet
- t = Flow Time . . . . . Minutes
- t<sub>o</sub> = Total Flow Time . . . . . Minutes
- T = Temperature Rankine . . . . . °R
- Z = Compressibility Factor . . . . . —
- μ = Viscosity Gas or Liquid . . . . . CP
- Log = Common Log

\* Potentiometric Surface Reference to Rotary Table When Elevation Not Given,  
Fresh Water Corrected to 100° F.