FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas .0406 Q
cc. Oil 950 (.00598 bbls.)
cc. Water _____
cc. Mud _____
Tot. Liquid cc. 950
Gravity 42 ° API @ 60 °F.
Gas/Oil Ratio 6.78 cu. ft./bbl.

	RESISTIVITY		CHLORIDE CONTENT
Recovery Water	____ @ ____	°F.	____ ppm
Recovery Mud	____ @ ____	°F.	____ ppm
Recovery Mud Filtrate	____ @ ____	°F.	____ ppm
Mud Pit Sample	____ @ ____	°F.	____ ppm
Mud Pit Sample Filtrate	____ @ ____	°F.	____ ppm

Mud Weight 10.3 vis 38 sec.

Date 2-25-80 Ticket Number 810104
Kind of D.S.T. OPEN HOLE Halliburton Location OBERLIN
Tester EUGENE TALLY Witness
Drilling Contractor EMPHASIS #1 TJH S

EQUIPMENT & HOLE DATA

Formation Tested Lower Kansas City H & I Zone
Elevation 1831' Ft.
Net Productive Interval 10' Ft.
All Depths Measured From Kelly Bushing
Total Depth 3290' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length _____ I.D. _____
Drill Pipe Length 3220' I.D. 3.826"
Packer Depth(s) 3244' Ft.
Depth Tester Valve 3227' Ft.

Cushion TYPE AMOUNT Ft. Depth Back Pres. Valve Surface Choke .25" Bottom Choke .75"

Recovered 107 Feet of heavy oil and gas cut mud.
Recovered 310 Feet of slightly mud cut gassey oil.
Recovered Feet of
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

Remarks SEE PRODUCTION TEST DATA SHEET . . .

TEMPERATURE	Gauge No. 7354	Gauge No. 7353	Gauge No.	TIME (00:00-24:00 hrs.)
	Depth: 3229 Ft.	Depth: 3286 Ft.	Depth: Ft.	
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened 1211
Est. °F.	Blanked Off NO	Blanked Off YES	Blanked Off	
3285 Actual 93 °F.	Pressures	Pressures	Pressures	Opened Bypass 1445

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic			1746.4	1794	1769.1				
First Period	Flow Initial		105.2	61	126.2			___	___
	Flow Final		60.7	71	76.7			4	4
	Closed in		663.0	666	680.0			60	58
Second Period	Flow Initial		74.8	81	92.9			___	___
	Flow Final		121.4	131	140.4			30	32
	Closed in		502.0	515	519.1			60	60
Third Period	Flow Initial							___	___
	Flow Final								
	Closed in								
Final Hydrostatic			1741.4	1764	1762.1			___	___

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FORMATION TEST DATA

LITTLE'S 111033 75C 2/80

Legal Location Sec. - Twp. - Rng. 1 - 19S - 12W
Lease Name HEINZ
Well No. B-8
Test No. 1
Tested Interval 3244' - 3290'
Lease Owner/Company Name SOHIO PETROLEUM COMPANY
Field Area
County BARTON
State KANSAS

Casing perfs._____ Bottom choke_____ Surf. temp_____ °F Ticket No. 810104

Gas gravity_____ Oil gravity_____ GOR_____

Spec. gravity_____ Chlorides_____ ppm Res._____ @_____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED_____

Date Time a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
2-24-80 2000					Called out.
2-25-80 0200					On location. Rig on bottom after
					bit trip. Made 15' more.
1000					Picked up and made up tool.
1045					Tool in table ready to run in hole.
1100					Rig started tools in hole.
					Picked up test stands.
1211					Opened tool with a very strong blow
					on bottom of 12" bucket in 1/2 minutes.
1215					Closed tool.
1315					Opened tool with a very strong blow
					on bottom of bucket. Gas to surface
					in 15 minutes. Opened valve - let
					gas go to pit with 1/4" choke. We
					had 5.5 lbs. make 20.7 MCF PER DAY.
1345					Closed tool.
1445					Off bottom with tool.

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PRODUCTION TEST DATA

LITTLE'S 96672 5M 8/74

7

Gauge No. 7354			Depth 3229			Clock No.			12 hour	Ticket No. 810104				
	First Flow Period		First Closed In Pressure			Second Flow Period		Second Closed In Pressure			Third Flow Period		Third Closed In Pressure		
	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG Temp. Corr.
0	.0000	105.2	.0000		60.7	.0000	74.8	.0000		121.4					
1	.0060	84.0	.0134*		279.3	.0459**	93.1	.0268		287.4					
2	.0120	60.7	.0403		572.0	.0787	110.3	.0536		364.3					
3	.0180	56.6	.0672		604.0	.1116	123.4	.0804		403.8					
4	.0240	60.7	.0941		618.0	.1444	114.3	.1072		424.0					
5			.1210		628.0	.1772	122.4	.1340		438.2					
6			.1479		635.0	.2100	121.4	.1608		448.3					
7			.1748		640.0			.1876		457.4					
8			.2017		645.0			.2144		466.5					
9			.2286		648.0			.2412		473.6					
10			.2555		651.0			.2680		478.7					
11			.2823		653.0			.2948		483.7					
12			.3092		656.0			.3216		487.8					
13			.3361		659.0			.3484		491.8					
14			.3630		662.0			.3752		496.9					
15			.3900		663.0			.4020		502.0					
Gauge No. 7353					Depth 3286			Clock No.			12 hour				
0	.0000	126.2	.0000		76.7	.0000	92.9	.0000		140.4					
1	.0060	112.1	.0133*		298.9	.0468**	109.0	.0267		302.0					
2	.0120	78.7	.0400		591.5	.0802	126.2	.0533		381.8					
3	.0180	74.7	.0667		620.7	.1137	140.4	.0800		421.2					
4	.0240	76.7	.0934		636.8	.1471	131.3	.1066		441.4					
5			.1201		645.8	.1805	140.4	.1333		455.5					
6			.1467		651.9	.2140	140.4	.1600		466.6					
7			.1734		656.9			.1866		475.7					
8			.2001		661.9			.2133		483.8					
9			.2268		665.9			.2399		489.8					
10			.2535		669.0			.2666		496.9					
11			.2801		671.0			.2933		503.0					
12			.3068		674.0			.3199		507.0					
13			.3335		676.0			.3466		512.0					
14			.3602		678.0			.3732		516.0					
15			.3870		680.0			.4000		519.1					
Reading Interval	1		4			5		4							Minutes

REMARKS: * - first interval is equal to 2 minutes, ** - 7 minutes.

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SPECIAL PRESSURE DATA

LITTLE'S 96673 75C 8/74

TICKET NO. 810104

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Drill Collars				
Reversing Sub	5"	3"	1'	
Water Cushion Valve				
Drill Pipe	4.50"	3.286"	3220'	
Drill Collars				
Handling Sub & Choke Assembly				
Dual CIP Valve				
Dual CIP Sampler	5"	.87"	8'	3215'
Hydro-Spring Tester	5"	.75"	5'	3227'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	2.25"	4'	3229'
Hydraulic Jar	5"	1.75"	5'	
VR Safety Joint	5"	1"	3'	
Pressure Equalizing Crossover				
Packer Assembly				
Distributor				
Packer Assembly	6.75"	1.53"	4'	3244'
BOTTOM OF NR	5"	2.37"	2'	
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"	2.37"	39'	
HT-500	5"	2.25"	1'	3285'
Blanked-Off B.T. Running Case	5"	2.44"	4'	3286'
Total Depth				3290'

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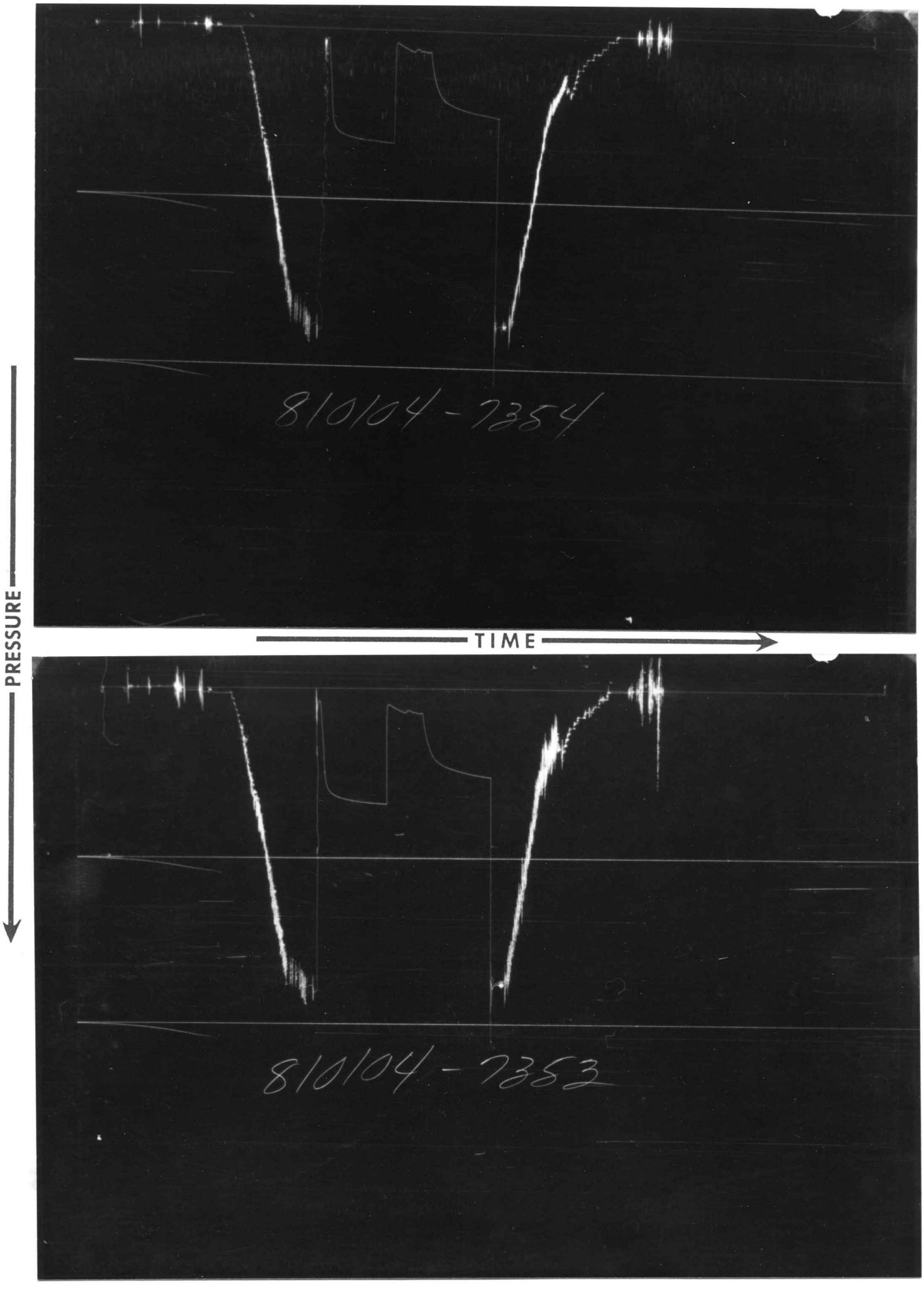
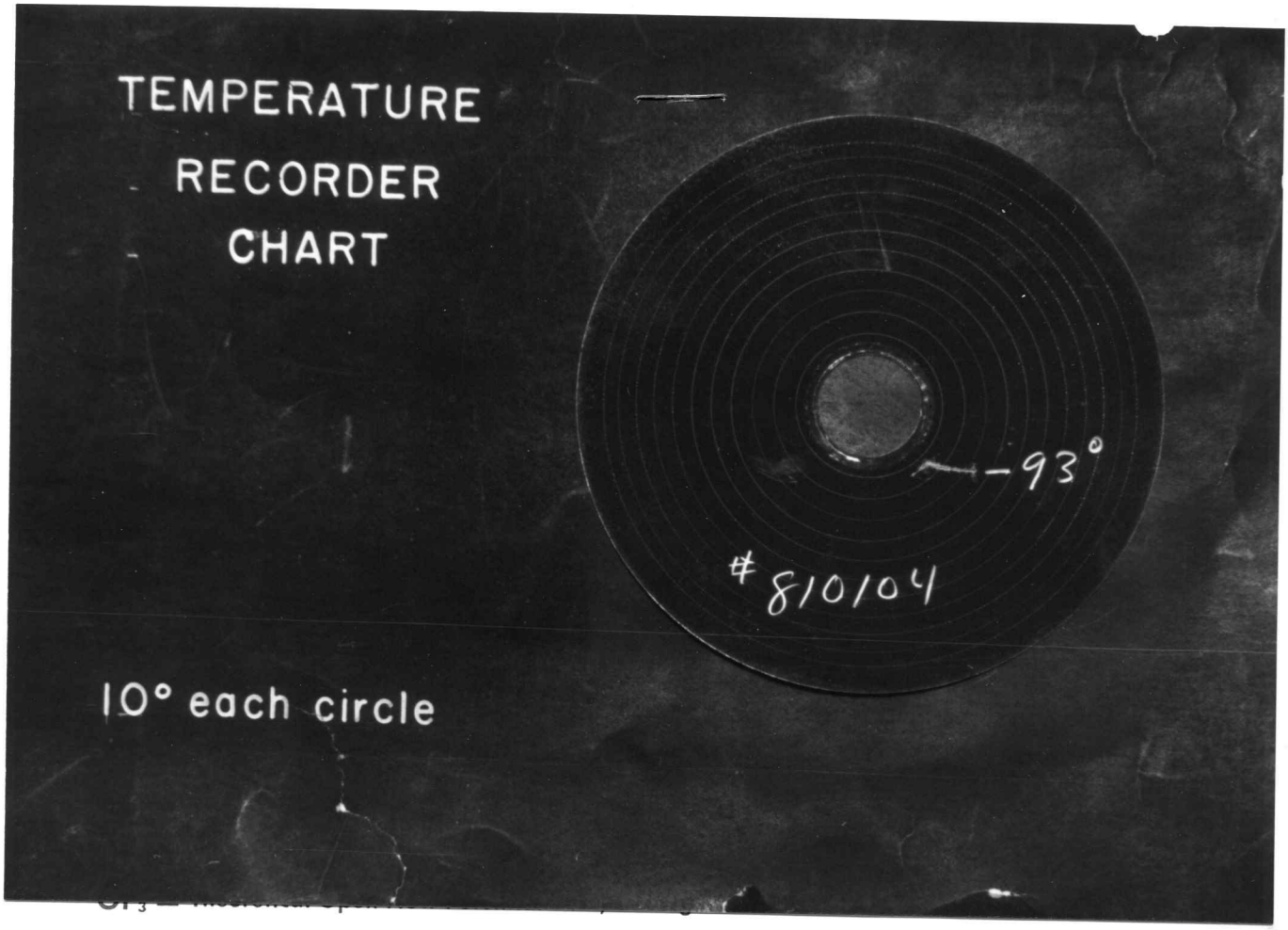
EQUIPMENT DATA

LITTLE'S 111036 75C 2/80



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



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 . . . . . ——

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.