FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

		RESISTIVITY	CHLORIDE CONTENT
Recovery Water	____ @ ____ °F.		____ ppm
Recovery Mud	____ @ ____ °F.		
Recovery Mud Filtrate	____ @ ____ °F.		____ ppm
Mud Pit Sample	____ @ ____ °F.		
Mud Pit Sample Filtrate	____ @ ____ °F.		____ ppm
Mud Weight	10 vis	36 cp	

Date 9-2-71 Ticket Number 503010
Kind of Job OPEN HOLE Halliburton District GREAT BEND
Tester MR. WILLINGER Witness MR. CLARK
Drilling Contractor COMPANY TOOLS DR S

EQUIPMENT & HOLE DATA

Formation Tested Howard
Elevation - Ft.
Net Productive Interval - Ft.
All Depths Measured From Kelly Bushing
Total Depth 2790' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length - I.D. -
Drill Pipe Length 2740' I.D. 3.826"
Packer Depth(s) 2728'-2732' Ft.
Depth Tester Valve 2730' Ft.

Cushion TYPE AMOUNT Ft. Depth Back Pres. Valve Surface Choke 1" Bottom Choke 3/4"

Recovered 70 Feet of mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

Remarks Opened tool for 35 minute first flow with a good blow. Closed tool for 28 minute first closed in pressure, decreasing blow throughout closed in period. Reopened tool for 29 minute second flow with a fair blow. Closed tool for 28 minute second closed in pressure, decreasing blow.

TEMPERATURE	Gauge No. 1463		Gauge No. 396		Gauge No.		TIME
	Depth: 2731 Ft.		Depth: 2786 Ft.		Depth: Ft.		
	12 Hour Clock		12 Hour Clock		Hour Clock		Tool Opened 10:12 A.M. P.M.
Est. °F.	Blanked Off No		Blanked Off Yes		Blanked Off		
2784' Actual 88 °F.	Pressures		Pressures		Pressures		Tool Closed 12:12 A.M. P.M.
	Field	Office	Field	Office	Field	Office	Reported Minutes / Computed Minutes
Initial Hydrostatic		1415	1448	1454			
First Period Flow Initial		13	52	52			— / —
First Period Flow Final		35	69	70			30 / 35
First Period Closed in		680	712	718			30 / 28
Second Period Flow Initial		35	60	75			— / —
Second Period Flow Final		50	87	89			30 / 29
Second Period Closed in		604	625	643			30 / 28
Third Period Flow Initial							— / —
Third Period Flow Final							
Third Period Closed in							
Final Hydrostatic		1413	1434	1450			— / —

Legal Location Sec. - Twp. - Rng. 4-25S-16W
Lease Name KOETT
Well No. 1
Test No. 1
Tested Interval 2732'-2790'
Field Area
County EDWARDS
State KANSAS
Lease Owner/Company Name D. R. LAUCK OIL COMPANY

4-25S-16W

5

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FORMATION TEST DATA

LITTLE'S

Gauge No.	1463		Depth	2731'		Clock No.	4309		12 hour	Ticket No.	503010	

	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	.000	13	.000		35	.000	35	.000		50					
1	.0484	19	.021		83	.0353	40	.0209		123					
2	.0968	23	.042		66	.0706	42	.0418		209					
3	.1452	27	.063		267	.1059	45	.0627		207					
4	.1936	31	.084		364	.1412	47	.0836		362					
5	.2420	35	.105		453	.1765	49	.1045		428					
6			.126		525	.2050	50**	.1254		480					
7			.147		579			.1463		525					
8			.168		628			.1672		564					
9			.189		667			.1881		595					
10			.196		680*			.1950		604***					
11															
12															
13															
14															
15															

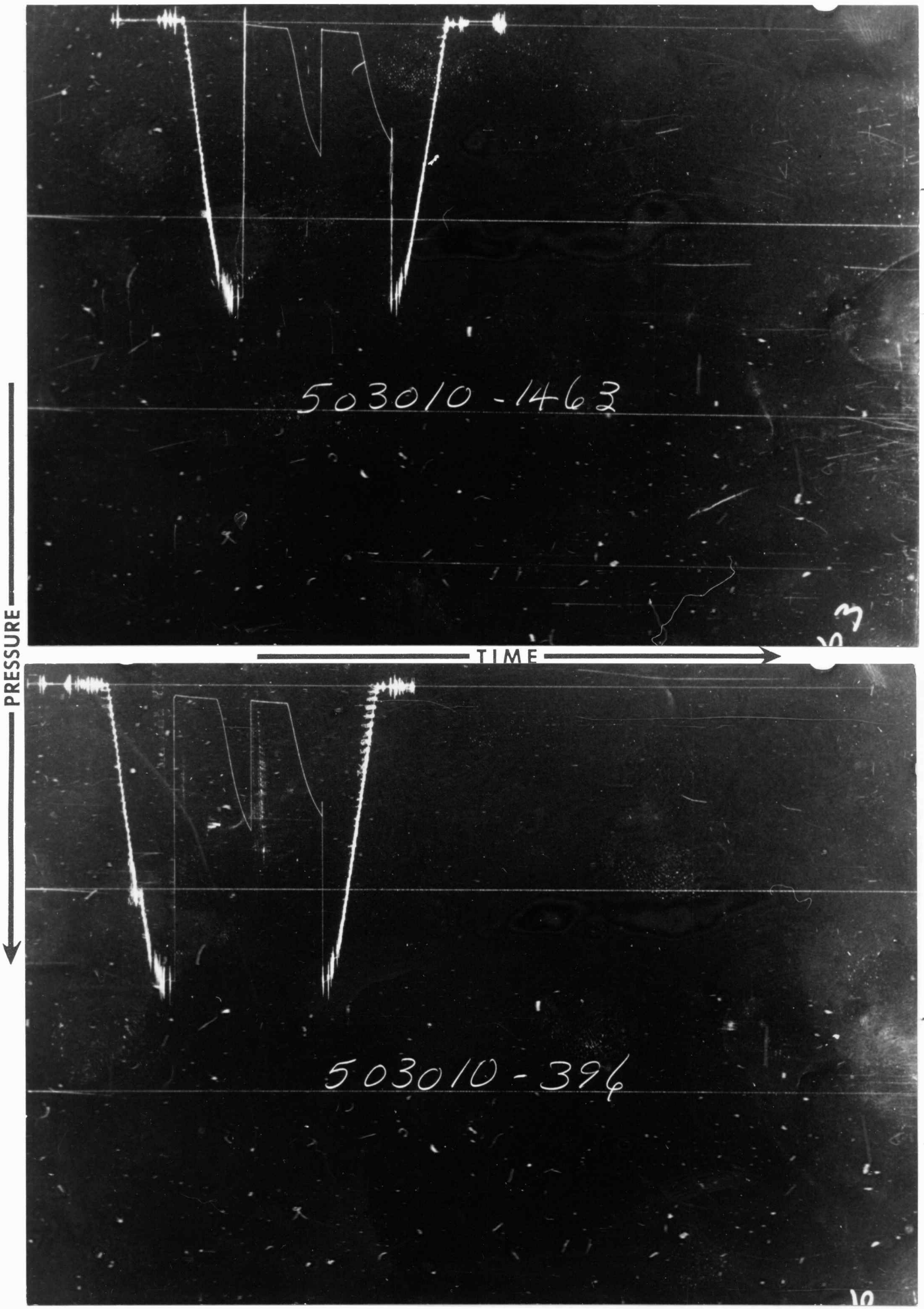
Gauge No.	396		Depth	2786'		Clock No.	4197		12 hour					
0	.000	52	.000		70	.000	75	.000		89					
1	.0488	57	.021		132	.0353	79	.0211		163					
2	0976	61	.042		216	.0706	81	.0422		257					
3	.1464	64	.063		318	.1059	84	.0633		333					
4	.1952	68	.084		414	.1412	86	.0844		404					
5	.2440	70	.105		501	.1765	87	.1055		467					
6			.126		565	.2050	89**	.1266		523					
7			.147		626			.1477		566					
8			.168		672			.1688		601					
9			.189		708			.1899		633					
10			.196		718*			.1970		643***					
11															
12															
13															
14															
15															

Reading Interval	7	3	5	3			Minutes

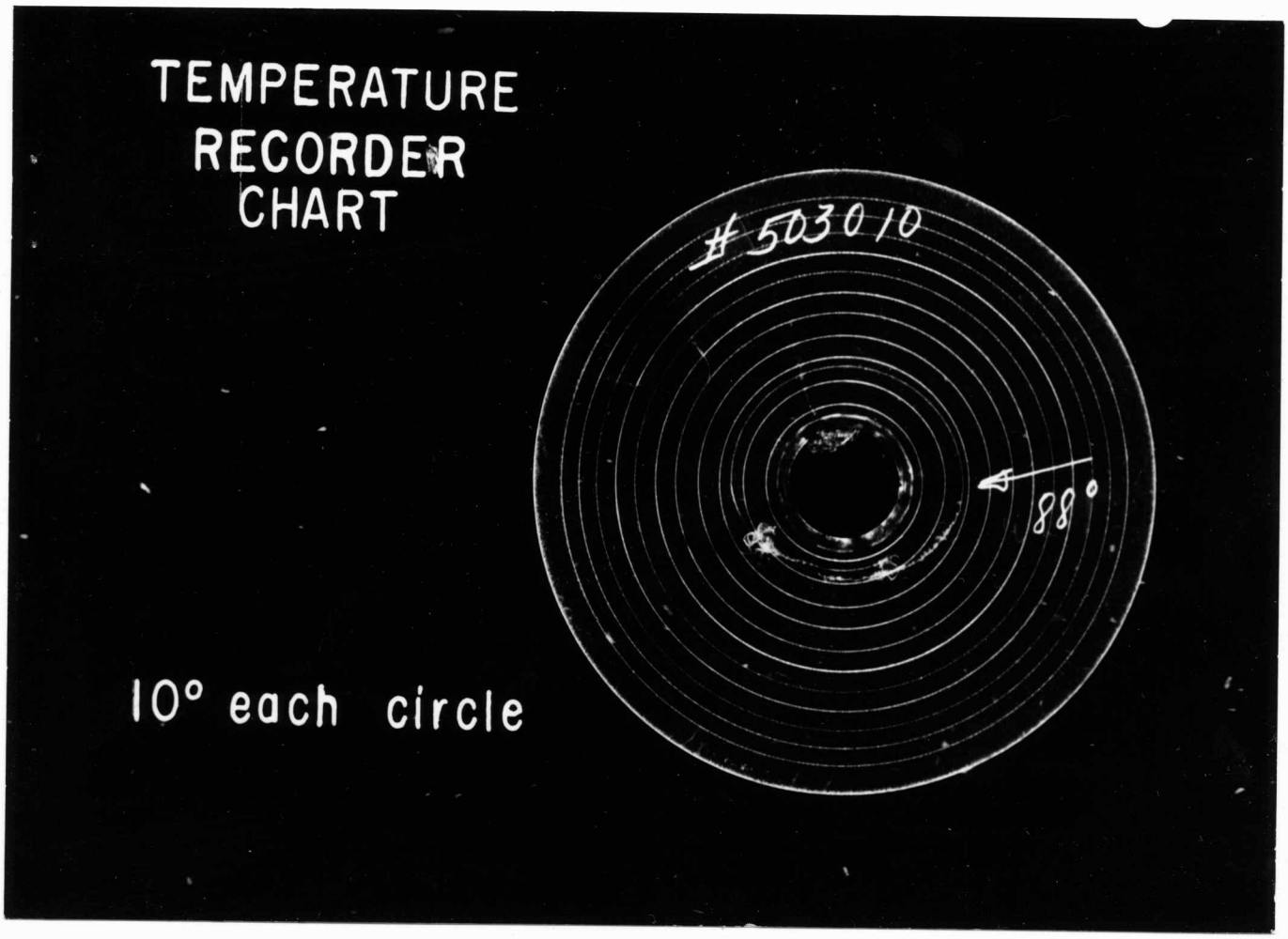
REMARKS: * Last interval equal to 1 minute **-4 minutes ***-1 minutes.

503010

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5.75"	2.75"	12'	
Water Cushion Valve				
Drill Pipe	4.5"	3.826"	2740'	
Drill Collars	4.5"	2.764"	466' WP	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	48.92"	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	60.21"	2730'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	3.06"	49.63"	2731'
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	48.89"	2728'
Distributor				
Packer Assembly	6 3/4"	1.53"	48.89"	2732'
Flush Joint Anchor	5"	2.37"		
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	3.06"	49.63"	2786'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor				
Blanked-Off B.T. Running Case				



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


TEMPERATURE
RECORDER
CHART
#503010
88°
10° each circle

FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

		RESISTIVITY		CHLORIDE CONTENT
Recovery Water	____ @ ____	°F.		ppm
Recovery Mud	____ @ ____	°F.		
Recovery Mud Filtrate	____ @ ____	°F.		ppm
Mud Pit Sample	____ @ ____	°F.		
Mud Pit Sample Filtrate	____ @ ____	°F.		ppm
Mud Weight	9.7	vis 38		cp

Date 9-4-71 Ticket Number 503389
Kind of Job OPEN HOLE Halliburton District PRATT
Tester MR. THOMPSON Witness MR. CLARK
Drilling Contractor COMPANY TOOLS DR S

EQUIPMENT & HOLE DATA

Formation Tested Kansas City
Elevation - Ft.
Net Productive Interval 10' Ft.
All Depths Measured From Kelly Bushing
Total Depth 3800' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length - I.D. -
Drill Pipe Length 450' WP 3250' I.D. 3.826"-2.76"WP
Packer Depth(s) 3780 Ft.
Depth Tester Valve 3760' Ft.

Cushion TYPE AMOUNT Ft. Depth Back Pres. Valve
Surface Choke 1" Bottom Choke 3/4"

Recovered 50 Feet of gas cut mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

MAILED
SEP 13 1971
Halliburton Company
Duncan, Oklahoma

Mea. From Tester Valve

Remarks Opened tool for 40 minute first flow with a strong blow,gas to surface in 32 minutes, too weak to measure. Closed tool for 40 minute first closed in pressure. Reopened tool for 40 minute second flow, gas tooweak to measure. Closed tool for 40 minute second closed in pressure.

TEMPERATURE	Gauge No. 1831 Depth: 3770 Ft.	Gauge No. 1830 Depth: 3796 Ft.	Gauge No. Depth: Ft.	TIME
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened 6:30 A.M. P.M.
Est. °F. 3794'	Blanked Off No	Blanked Off Yes	Blanked Off	Tool Closed 9:10 A.M. P.M.
Actual 110 °F.	Pressures	Pressures	Pressures	

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		1996	1959	1996	1975				
First Period	Flow Initial	19	13	19	32			___	___
	Flow Final	28	22	28	32			40	40
	Closed in	287	281	287	287			40	40
Second Period	Flow Initial	18	20	28	31			___	___
	Flow Final	28	22	28	31			40	40
	Closed in	287	281	287	285			40	40
Third Period	Flow Initial							___	___
	Flow Final								
	Closed in								
Final Hydrostatic		1978	1948	1978	1964			___	___

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FORMATION TEST DATA

LITTLE'S

Legal Location Sec. - Twp. - Rng. 4-25S-16W
Lease Name KOETT
Well No. 1
Test No. 2
Field Area WILDCAT
County EDWARDS
State KANSAS
Tested Interval 3780'-3800'
Lease Owner/Company Name D. R. LAUCK OIL COMPANY, INCORPORATED

Gauge No.	1831		Depth	3770'	Clock No.	2476		12 hour	Ticket No.	503389	

	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	.000	13	.000		22	.000	20	.000		22					
1	.0673	19	.0261		252	.270	22	.0270		256					
2	.1346	25	.0522		273			.0540		272					
3	.2019	22	.0783		278			.0810		276					
4	.2690	22	.1044		279			.1080		277					
5			.1305		280			.1350		278					
6			.1566		281			.1620		279					
7			.1827		281			.1890		280					
8			.2088		281			.2160		281					
9			.2349		281			.2430		281					
10			.2610		281			.2700		281					
11															
12															
13															
14															
15															

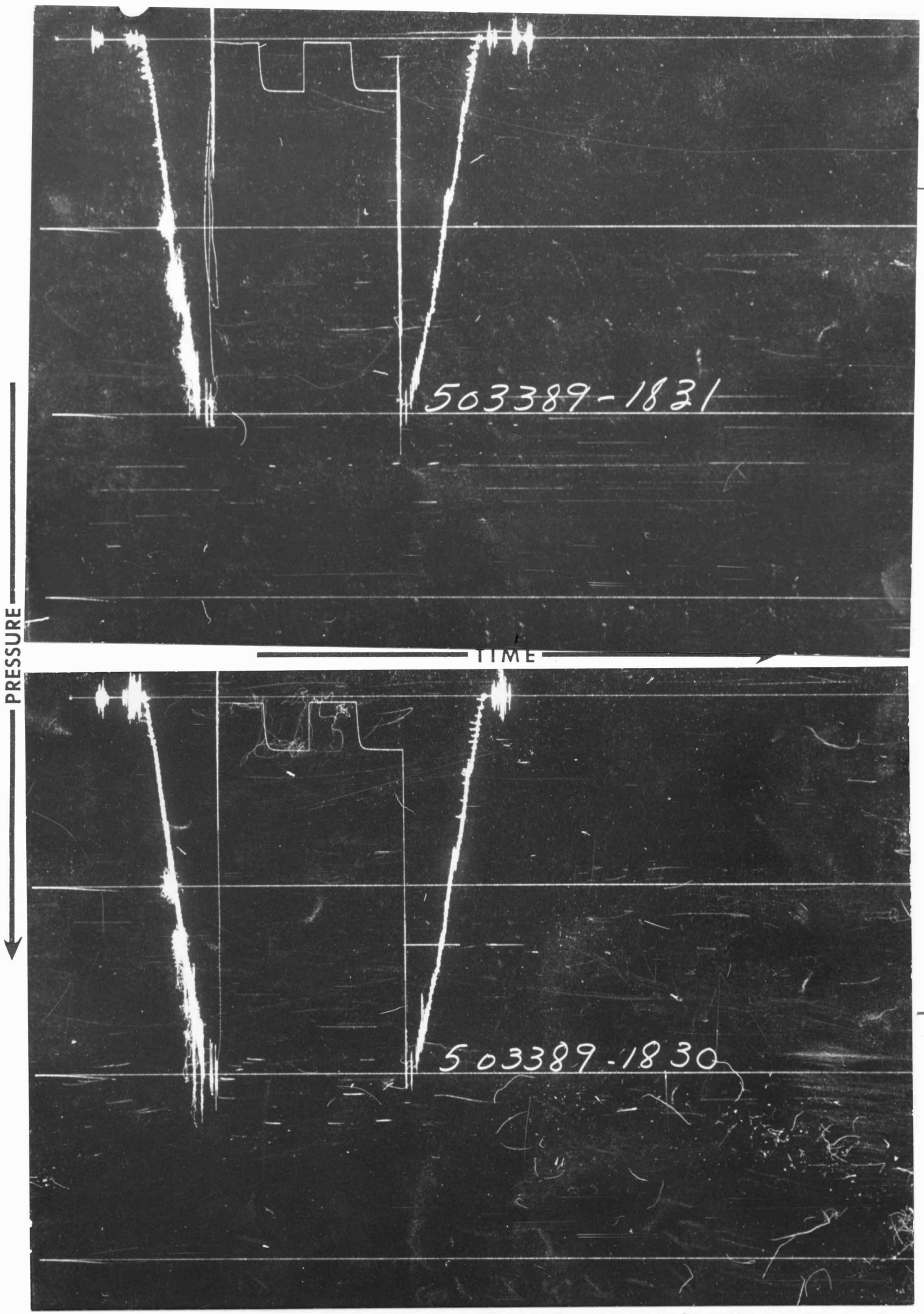
Gauge No.	1830		Depth	3796'	Clock No.	2486		12 hour			
0	.000	32	.000		32	.000	31	.000		31					
1	.268	32	.0266		260	.271	31	.0268		258					
2			.0532		281			.0536		278					
3			.0798		283			.0804		281					
4			.1064		285			.1072		281					
5			.1330		286			.1340		282					
6			.1596		287			.1608		283					
7			.1862		287			.1876		284					
8			.2128		287			.2144		285					
9			.2394		287			.2412		285					
10			.2660		287			.2680		285					
11															
12															
13															
14															
15															

Reading Interval	10	4		4		Minutes

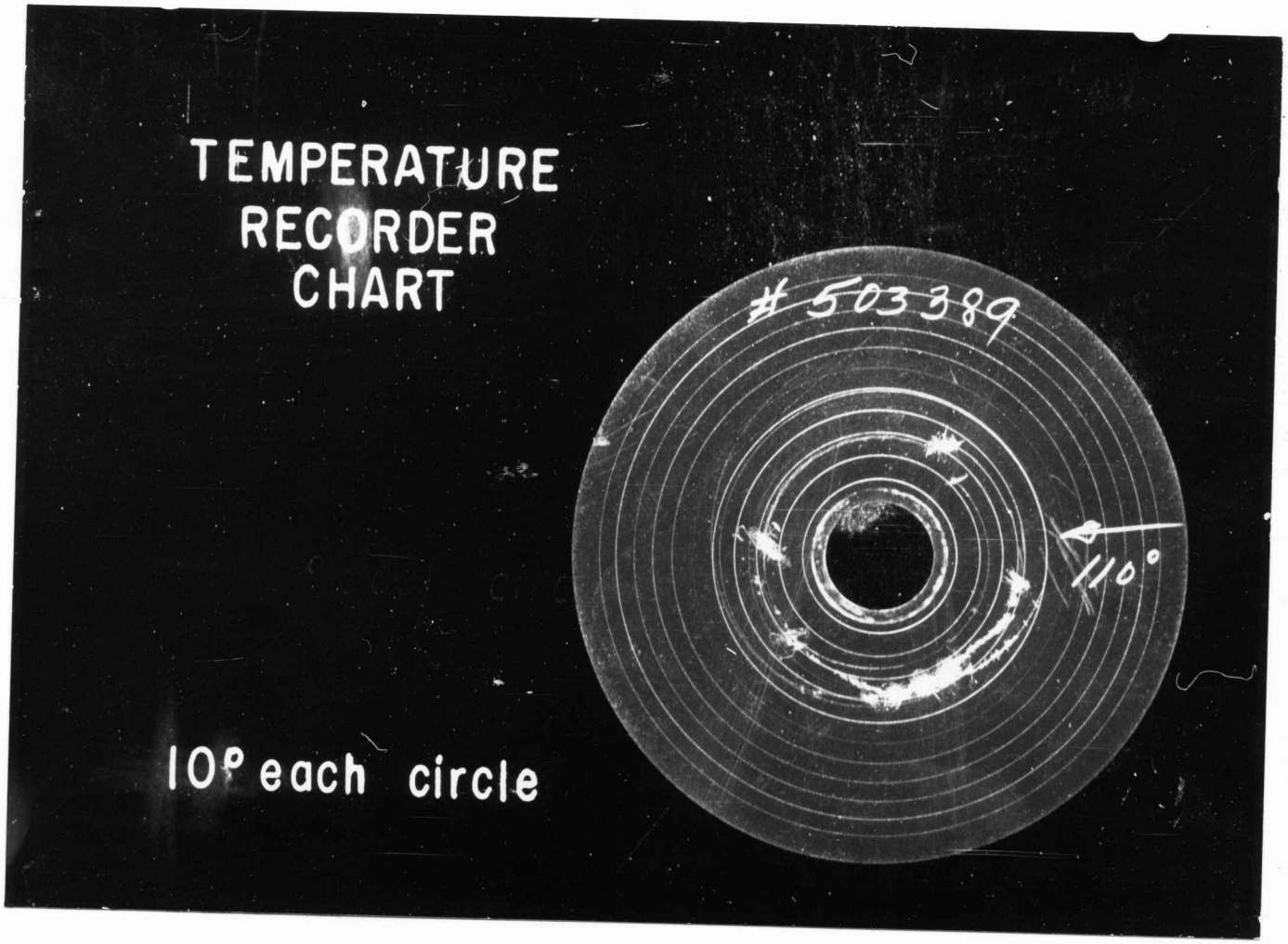
REMARKS:

503389

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 5/8"	2"	1½'	
Water Cushion Valve				
Drill Pipe	4½" Fh	3.826"	3250'	
Drill Collars	3½"	2.76"	450' WP	
Handling Sub & Choke Assembly	5 3/4"	2¼"	2½'	
Dual CIP Valve	5"	3/4"	6'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	3/4"	5'	3760'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	2¼"	4'	3770'
Hydraulic Jar				
VR Safety Joint	5"	1½"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1½"	6'	3780'
Distributor				
Packer Assembly				
Flush Joint Anchor	5"	2¼"	20'	
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	2¼"	4'	3796'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor				
Blanked-Off B.T. Running Case				



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


TEMPERATURE
RECORDER
CHART
#503389
110°
10° each circle

FLUID SAMPLER DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

	RESISTIVITY	CHLORIDE CONTENT
Recovery Water	____ @ ____ °F.	____ ppm
Recovery Mud	____ @ ____ °F.	
Recovery Mud Filtrate	____ @ ____ °F.	____ ppm
Mud Pit Sample	____ @ ____ °F.	
Mud Pit Sample Filtrate	____ @ ____ °F.	____ ppm
Mud Weight	9.7 vis 38 cp	

Date 9-5-71 Ticket Number 503390
Kind of Job OPEN HOLE Halliburton District PRATT
Tester BILL THOMPSON Witness POLLY CLARK
Drilling Contractor COMPANY TOOLS SM S

EQUIPMENT & HOLE DATA

Formation Tested Kansas City
Elevation - Ft.
Net Productive Interval 10' Ft.
All Depths Measured From Kelly bushing
Total Depth 3930' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 450' WP I.D. 2.764"
Drill Pipe Length 3540' I.D. 3.826"
Packer Depth(s) 3913' Ft.
Depth Tester Valve 3893' Ft.

Cushion TYPE AMOUNT Ft. Depth Back Pres. Valve
Surface Choke 1" Bottom Choke 3/4"

Recovered 55 Feet of gas cut mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

MAILED
SEP 13
Halliburton Company
Duncan, Oklahoma

Remarks Tool opened for 39 minute first flow with strong blow with gas to the surface in 40 minutes, would not measure. Closed tool for 39 minute first closed in pressure. Tool reopened for 39 minute second flow - gas would not measure. Closed tool for 43 minute second closed in pressure.

TEMPERATURE	Gauge No. 1831 Depth: 3903 Ft.	Gauge No. 1830 Depth: 3926 Ft.	Gauge No. Depth: Ft.	TIME
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened A.M. 8:40 P.M.
Est. °F.	Blanked Off no	Blanked Off yes	Blanked Off	Tool Closed A.M. 11:20 P.M.
3924 Actual 113 °F.	Pressures	Pressures	Pressures	

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		2090	2015	2070	2022				
First Period	Flow Initial	19	25	19	37			____	____
	Flow Final	28	25	28	40			40	39
	Closed in	917	908	917	918			40	39
Second Period	Flow Initial	19	31	19	41			____	____
	Flow Final	28	28	28	39			40	39
	Closed in	843	838	843	845			40	43
Third Period	Flow Initial							____	____
	Flow Final								
	Closed in								
Final Hydrostatic		2071	1984	2071	2009			____	____

Legal Location Sec. - Twp. - Rng. 4 2S 16
Lease Name KOETT
Well No. 1
Test No. 3
Field Area WILDCAT
County EDWARDS
State KANSAS
Tested Interval 3913-3930'
Lease Owner/Company Name D. R. LAUCK OIL COMPANY

PRINTED IN U.S.A.

FORMATION TEST DATA

LITTLE'S 83429 15M 4/69—33, 34-13

5

Gauge No.	1831	Depth	3903'	Clock No.	2476	12 hour	Ticket No.	503390

	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	.000	25	.000		25	.000	31	.000		28					
1	.271	25	.0274		258	.265	28	.0273		188					
2			.0548		452			.0546		333					
3			.0822		594			.0819		451					
4			.1096		694			.1092		550					
5			.1370		761			.1365		625					
6			.1644		811			.1638		687					
7			.1918		848			.1911		733					
8			.2192		876			.2184		770					
9			.2466		897			.2457		799					
10			.2660*		908			.2940**		838					
11															
12															
13															
14															
15															

Gauge No.	1830	Depth	3926'	Clock No.	2486	12 hour

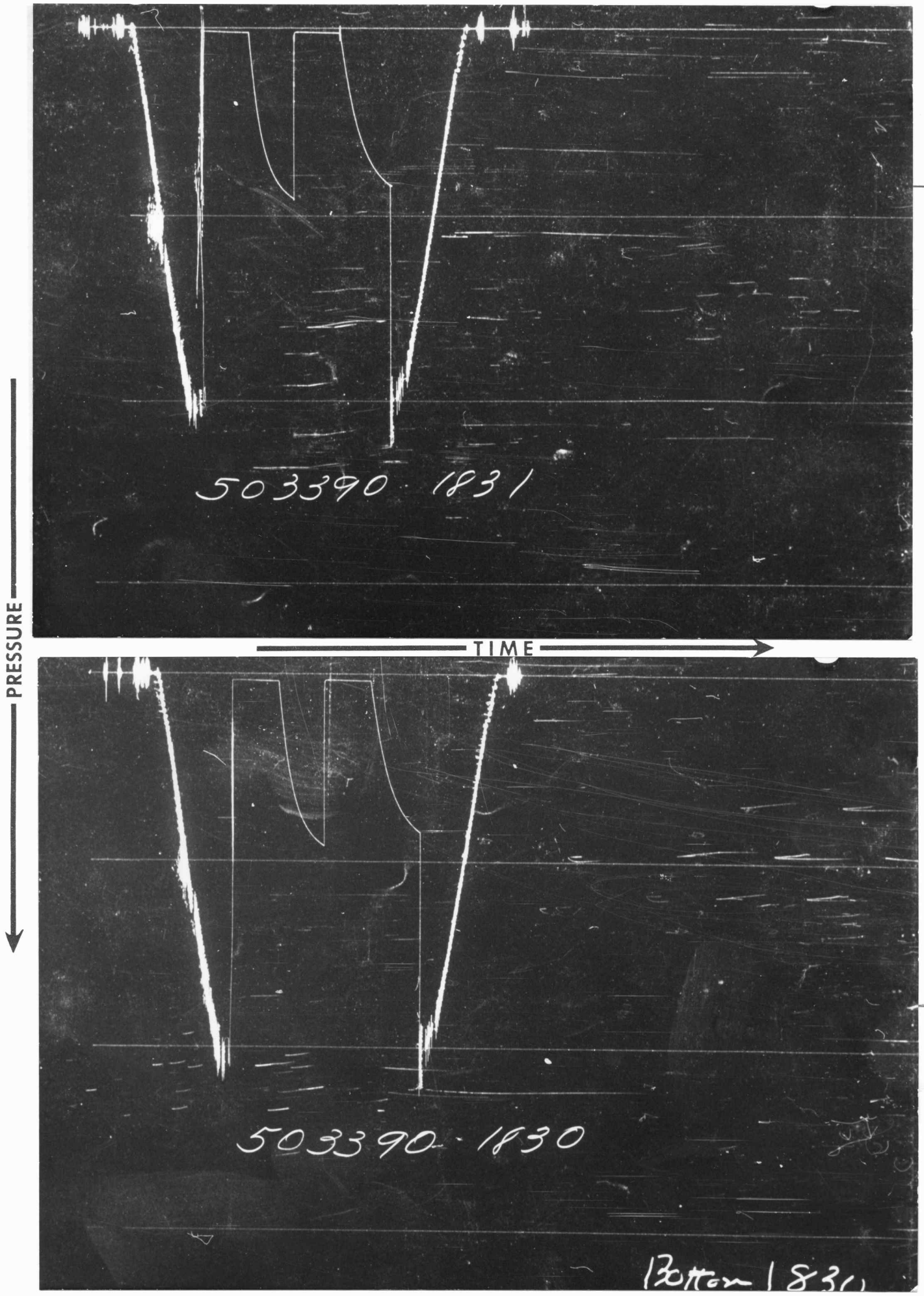
0	.000	37	.000		40	.000	41	.000		39					
1	.270	40	.0276		279	.267	39	.0272		206					
2			.0552		470			.0544		351					
3			.0828		601			.0816		467					
4			.1104		701			.1088		567					
5			.1380		770			.1360		640					
6			.1656		819			.1632		698					
7			.1932		856			.1904		744					
8			.2208		884			.2176		779					
9			.2484		906			.2448		807					
10			.2690*		918			.2920**		845					
11															
12															
13															
14															
15															
Reading Interval			4					4							Minutes

REMARKS: *Last interval is equal to 3 minutes. **Last = 7 minutes.

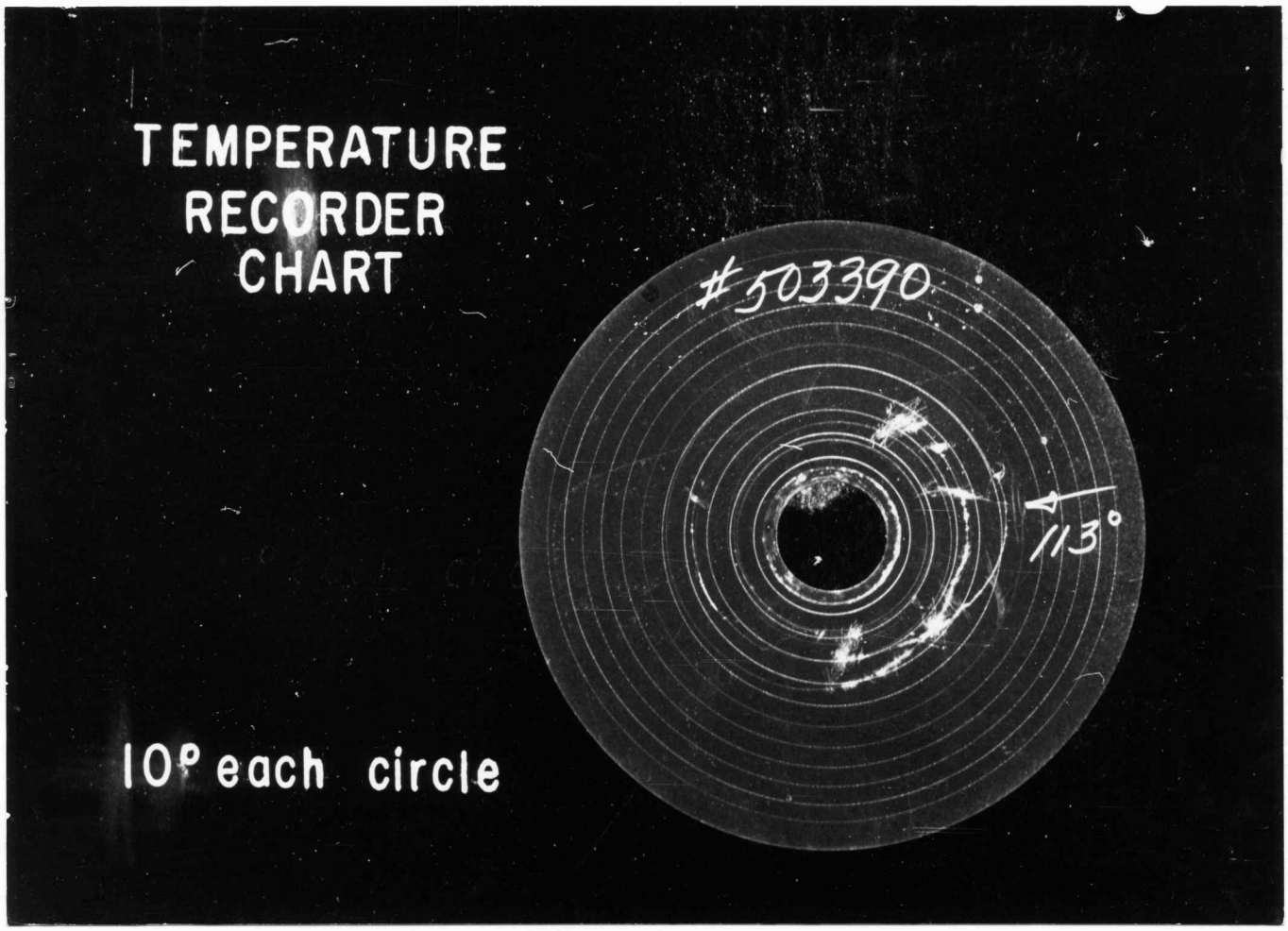
5

503390

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 5/8"	2"	12"	
Water Cushion Valve				
Drill Pipe	4½"	3.826"	3540'	
Drill Collars — Weight Pipe	4½"	2.764"	450'	
Handling Sub & Choke Assembly	5 3/4"	2 1/4"	2½"	
Dual CIP Valve	5"	3/4"	6'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	3/4"	5'	3893'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	2 1/4"	4'	3903'
Hydraulic Jar				
VR Safety Joint	5"	1½"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1½"	6'	3913'
Distributor				
Packer Assembly				
Flush Joint Anchor	5"	2 1/4"	17'	
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	2½"	4'	3926'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor				
Blanked-Off B.T. Running Case				



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


TEMPERATURE
RECORDER
CHART
#503390
113°
10° each circle

FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

	RESISTIVITY	CHLORIDE CONTENT
Recovery Water	_____ @ _____ °F.	_____ ppm
Recovery Mud	_____ @ _____ °F.	
Recovery Mud Filtrate	_____ @ _____ °F.	_____ ppm
Mud Pit Sample	_____ @ _____ °F.	
Mud Pit Sample Filtrate	_____ @ _____ °F.	_____ ppm
Mud Weight	9.7 vis	32 cp

Date 9-6-71 Ticket Number 503391
Kind of Job OPEN HOLE Halliburton District PRATT
Tester MR. THOMPSON Witness MRS. CLARK
Drilling Contractor COMPANY TOOLS IC S

EQUIPMENT & HOLE DATA

Formation Tested Kansas City
Elevation - Ft.
Net Productive Interval 10' Ft.
All Depths Measured From Kelly Bushing
Total Depth 3986' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 450' WP I.D. 2.764"
Drill Pipe Length 3560' I.D. 3.826"
Packer Depth(s) 3971' Ft.
Depth Tester Valve 3951' Ft.

Cushion TYPE - AMOUNT - Ft. Depth Back Pres. Valve - Surface Choke 1" Bottom Choke 3/4"

Recovered 200 Feet of Gas in pipe
Recovered 50 Feet of Oil & gas cut mud
Recovered 70 Feet of Oil & gas cut watery mud
Recovered 20 Feet of Water
Recovered Feet of

MAILED
SEP 13 1971
Halliburton Company
Duncan, Oklahoma

Meas. From Tester Valve

Remarks Opened tool for 32 minute first flow with a good blow. Closed tool for 29 minute initial closed in pressure. Reopened tool for 29 minute second flow with a good blow throughout test. Closed tool for 30 minute second closed in pressure.

TEMPERATURE	Gauge No. 1831 Depth: 3961' Ft.	Gauge No. 1830 Depth: 3982' Ft.	Gauge No. Depth: Ft.	TIME
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened A.M. 10:50 P.M.
Est. °F.	Blanked Off NO	Blanked Off YES	Blanked Off	
3980'@ Actual 118F.	Pressures	Pressures	Pressures	Tool Closed A.M. 12:50 P.M.

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		2071	2045	2071	2059				
First Period	Flow Initial	28	31	28	44			—	—
	Flow Final	56	51	58	68			30	32
	Closed in	815	808	815	812			30	29
Second Period	Flow Initial	56	61	56	76			—	—
	Flow Final	74	77	74	91			30	29
	Closed in	815	820	815	831			30	30
Third Period	Flow Initial							—	—
	Flow Final								
	Closed in								
Final Hydrostatic		2052	2040	2052	2052			—	—

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FORMATION TEST DATA

LITTLE'S

Legal Location Sec. - Twp. - Rng. 4 - 25 - 16
Lease Name KOETT
Well No. 1
Test No. 4
Tested Interval 3971' - 3986'
Field Area WILDCAT
County EDWARDS
State KANSAS
Lease Owner/Company Name D. R. LAUCK OIL COMPANY, INCORPORATED

5

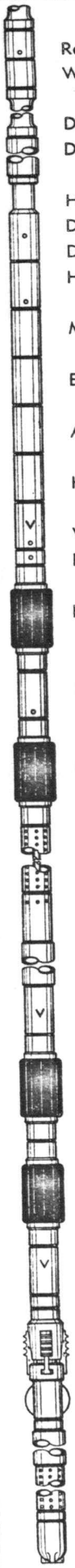
Gauge No.	1831		Depth	3961'		Clock No.	2476		12 hour	Ticket No.	503391			
	First Flow Period		First Closed In Pressure			Second Flow Period		Second Closed In Pressure			Third Flow Period		Third Closed In Pressure		
	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	Log $\frac{t+\theta}{\theta}$	PSIG 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	.000	31	.000		51	.000	61	.000		77					
1	.0543	37	.0205		70	.0407	65	.0201		94					
2	.1085	43	.0410		96	.0814	69	.0402		128					
3	.1628	47	.0615		133	.1221	72	.0603		174					
4	.2170	51	.0820		181	.1628	75	.0804		237					
5			.1025		253	.1970	77**	.1005		328					
6			.1230		359			.1206		443					
7			.1435		491			.1407		562					
8			.1640		632			.1608		669					
9			.1845		744			.1809		752					
10			.1980		808*			.2010		820					
11															
12															
13															
14															
15															

Gauge No.	1830		Depth	3982'		Clock No.	2486		12 hour					
0	.000	44	.000		68	.000	76	.000		91					
1	.0553	50	.0201		90	.041	79	.0198		116					
2	.1105	56	.0402		157	.082	82	.0396		147					
3	.1658	59	.0603		160	.123	85	.0594		192					
4	.2210	68	.0804		216	.164	88	.0792		257					
5			.1005		291	.198	91**	.0990		346					
6			.1206		446			.1188		459					
7			.1407		531			.1386		577					
8			.1608		638			.1584		682					
9			.1809		756			.1782		767					
10			.1940		812*			.1980		831					
11															
12															
13															
14															
15															
Reading Interval	8		3			6		3							Minutes

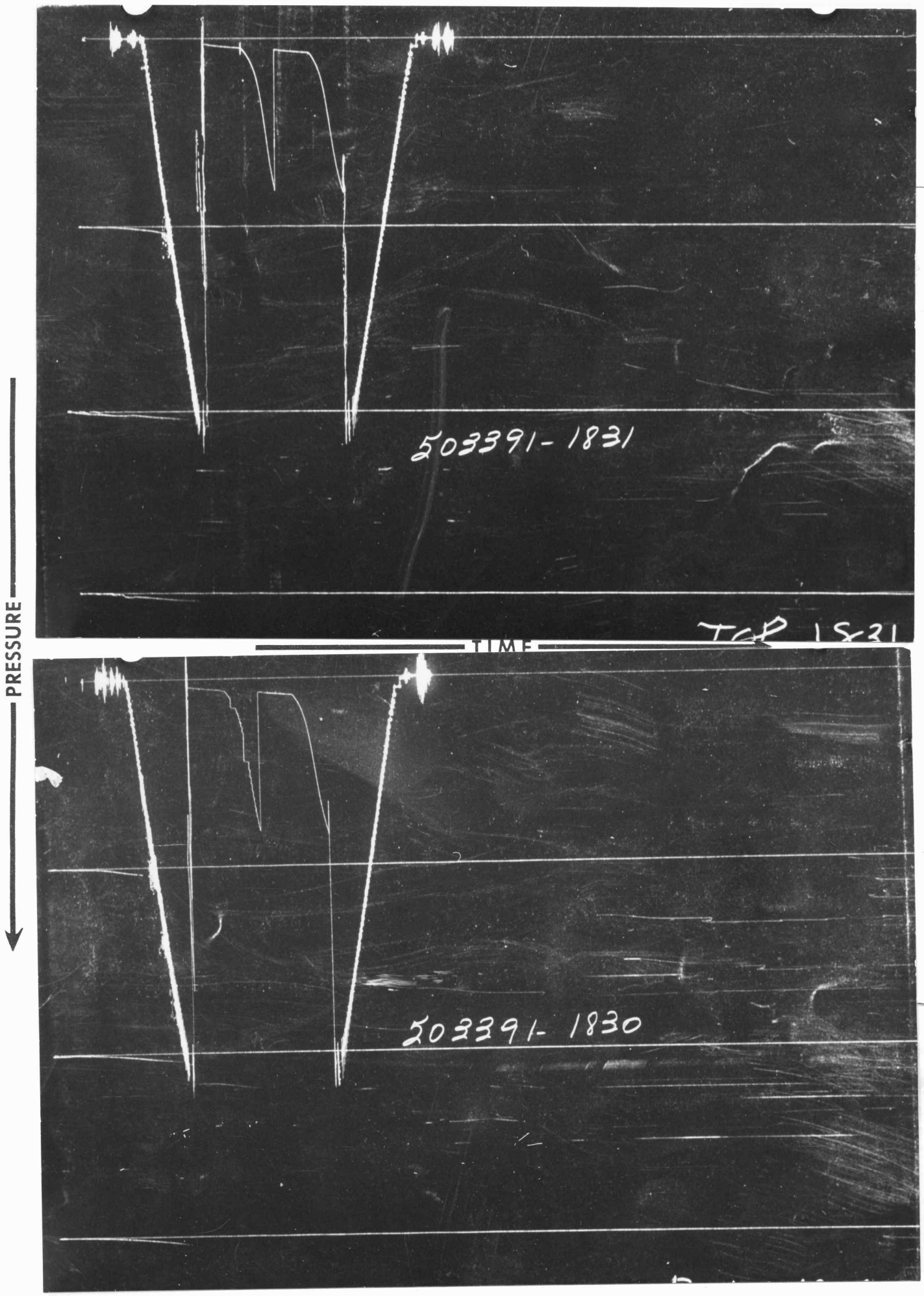
REMARKS: *Last interval equal to 2 minutes **Last interval equal to 5 minutes

SPECIAL PRESSURE DATA

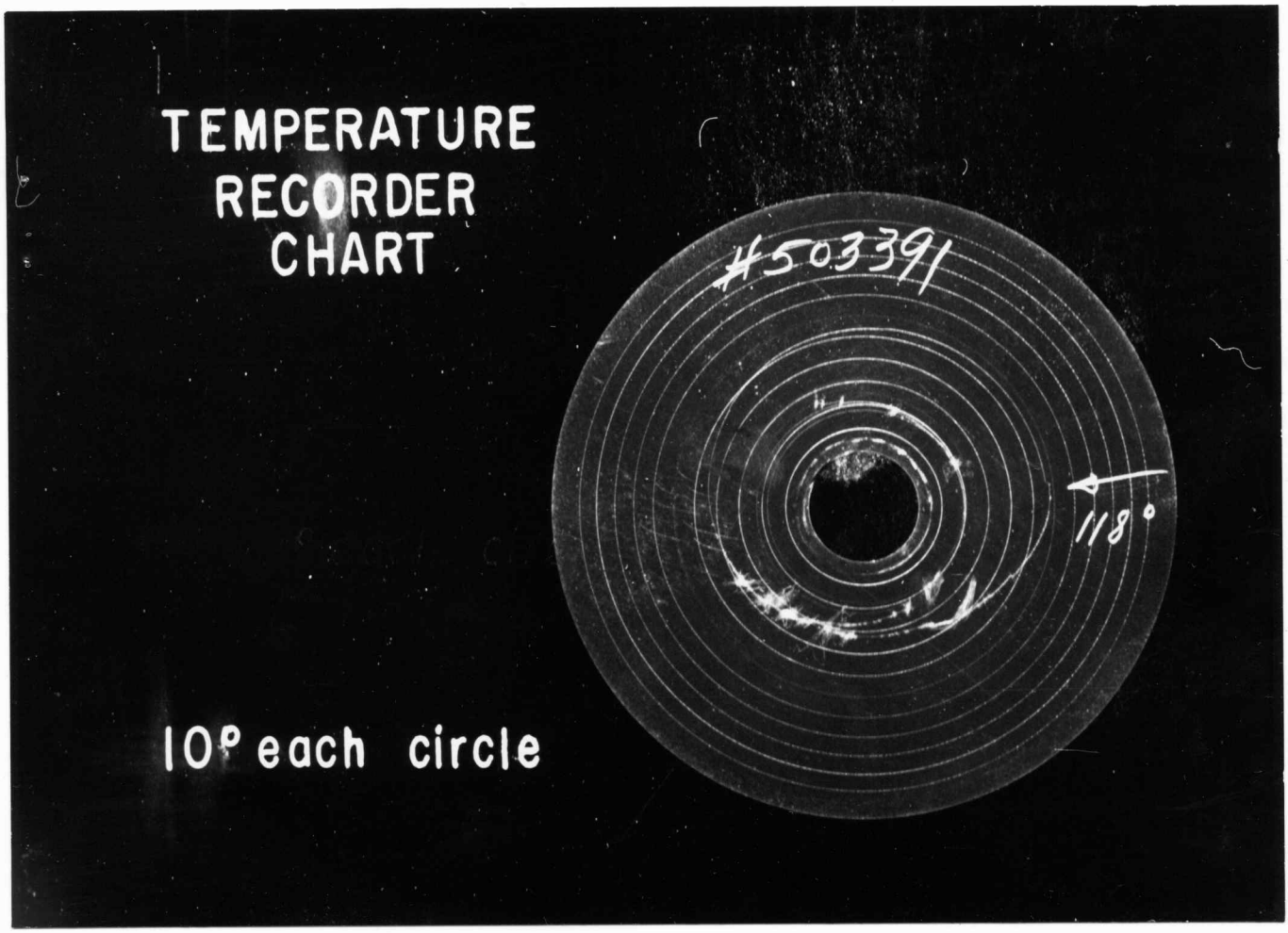
503391



	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 5/8"	2"	1 1/2'	
Water Cushion Valve				
Drill Pipe	4 1/2"	3.826"	3560'	
Drill Collars	4 1/2"	2.764"	450' WEIGHT PIPE	
Handling Sub & Choke Assembly	5 3/4"	2 1/4"	2 1/2'	
Dual CIP Valve	5"	3/4"	6'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	3/4"	5'	3951'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	2 1/4"	4'	3961'
Hydraulic Jar				
VR Safety Joint	5"	1 1/2"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1 1/2"	6'	3971'
Distributor				
Packer Assembly				
Flush Joint Anchor	5"	2 1/4"	15'	
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	2 1/2"	4'	3982'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor				
Blanked-Off B.T. Running Case				



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


TEMPERATURE
RECORDER
CHART
#503391
118°
10° each circle

FLUID SAMPLER DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

		RESISTIVITY		CHLORIDE CONTENT
Recovery Water	____	@ ____	°F.	____ ppm
Recovery Mud	____	@ ____	°F.	
Recovery Mud Filtrate	____	@ ____	°F.	____ ppm
Mud Pit Sample	____	@ ____	°F.	
Mud Pit Sample Filtrate	____	@ ____	°F.	____ ppm
Mud Weight	9.6	vis 45		cp

Date 9-8-81 Ticket Number 503392
Kind of Job OPEN HOLE Halliburton District PRATT
Tester BILL THOMPSON Witness POLLY CLARK
Drilling Contractor COMPANY TOOLS SM S

EQUIPMENT & HOLE DATA

Formation Tested Mississippi
Elevation 2725' DF Ft.
Net Productive Interval 10' Ft.
All Depths Measured From Kelly bushing
Total Depth 4270' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length - 450' W.B. - 2.764"
Drill Pipe Length 3780' I.D. 3.826"
Packer Depth(s) 4253' Ft.
Depth Tester Valve 4233' Ft.

Cushion TYPE AMOUNT Ft. Depth Back Pres. Valve
Surface Choke 1" Bottom Choke 3/4"

Recovered 60 Feet of gas cut mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Mea. From Tester Valve

Remarks SEE PRODUCTION TEST DATA SHEET

TEMPERATURE	Gauge No. 1831	Gauge No. 1830	Gauge No.	TIME
	Depth: 4243 Ft.	Depth: 4266 Ft.	Depth: Ft.	
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened 8:40 A.M. P.M.
Est. °F.	Blanked Off no	Blanked Off yes	Blanked Off	
4264' Actual 108 °F.	Pressures	Pressures	Pressures	Tool Closed 11:25 A.M. P.M.

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		2258	2234	2258	2267				
First Period	Flow Initial	194	181	194	203			____	____
	Flow Final	194	181	194	189			35	35
	Closed in	1307	1297	1307	1296			30	30
Second Period	Flow Initial	204	215	204	226			____	____
	Flow Final	204	193	204	200			30	30
	Closed in	1288	1288	1288	1287			30	30
Third Period	Flow Initial							____	____
	Flow Final								
	Closed in								
Final Hydrostatic		2240	2223	2240	2237			____	____

Legal Location Sec. - Twp. - Rng. 4 2S 16
Lease Name KOETT Well No. 1 Test No. 5
Field Area WILDCAT Tested Interval 4253-4270'
County EDWARDS State KANSAS
Lease Owner/Company Name D. R. LAUCK OIL COMPANY INCORPORATED

PRINTED IN U.S.A.

FORMATION TEST DATA

LITTLE'S 03429 15M 4/69—33, 34-13

5

Casing perfs. _____ Bottom choke 3/4" Surf. temp _____ °F Ticket No. 503393

Gas gravity _____ Oil gravity _____ GOR _____

Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

Date 9-8-71 Time a.m. 8:55 p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
	3/4"				
8:55					Opened tool for 35 minute first flow with gas to the surface in one minute.
9:30					Closed for 30 minute closed in pressure.
10:00					Tool reopened for second flow.
10:30					Closed for second CIP.
11:00					Off Bottom.
					GAS GAUGE:
					10 Minutes 3# 1250 MCF.
					20 Minutes 1450 MCF.
					30 Minutes 1450 MCF.
					10 Minutes 4# 1450 MCF
					20 Minutes 1450 MCF
					30 Minutes 1450 MCF.

Gauge No.	1831	Depth	4243'	Clock No.	2476	12 hour	Ticket No.	503392	

	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	.000	181	.000		181	.000	215	.000		193					
1	.236	181	.0198		1155	.0345	208	.020		1144					
2			.0396		1215	.0690	200	.040		1201					
3			.0594		1242	.1035	189	.060		1229					
4			.0792		1258	.1380	187	.080		1247					
5			.0990		1271	.1725	197	.100		1259					
6			.1188		1279	.2070	193	.120		1268					
7			.1386		1285			.140		1275					
8			.1584		1290			.160		1281					
9			.1782		1294			.180		1285					
10			.1980		1297			.200		1288					
11															
12															
13															
14															
15															

Gauge No.	1830	Depth	4266'	Clock No.	2486 12 hour				

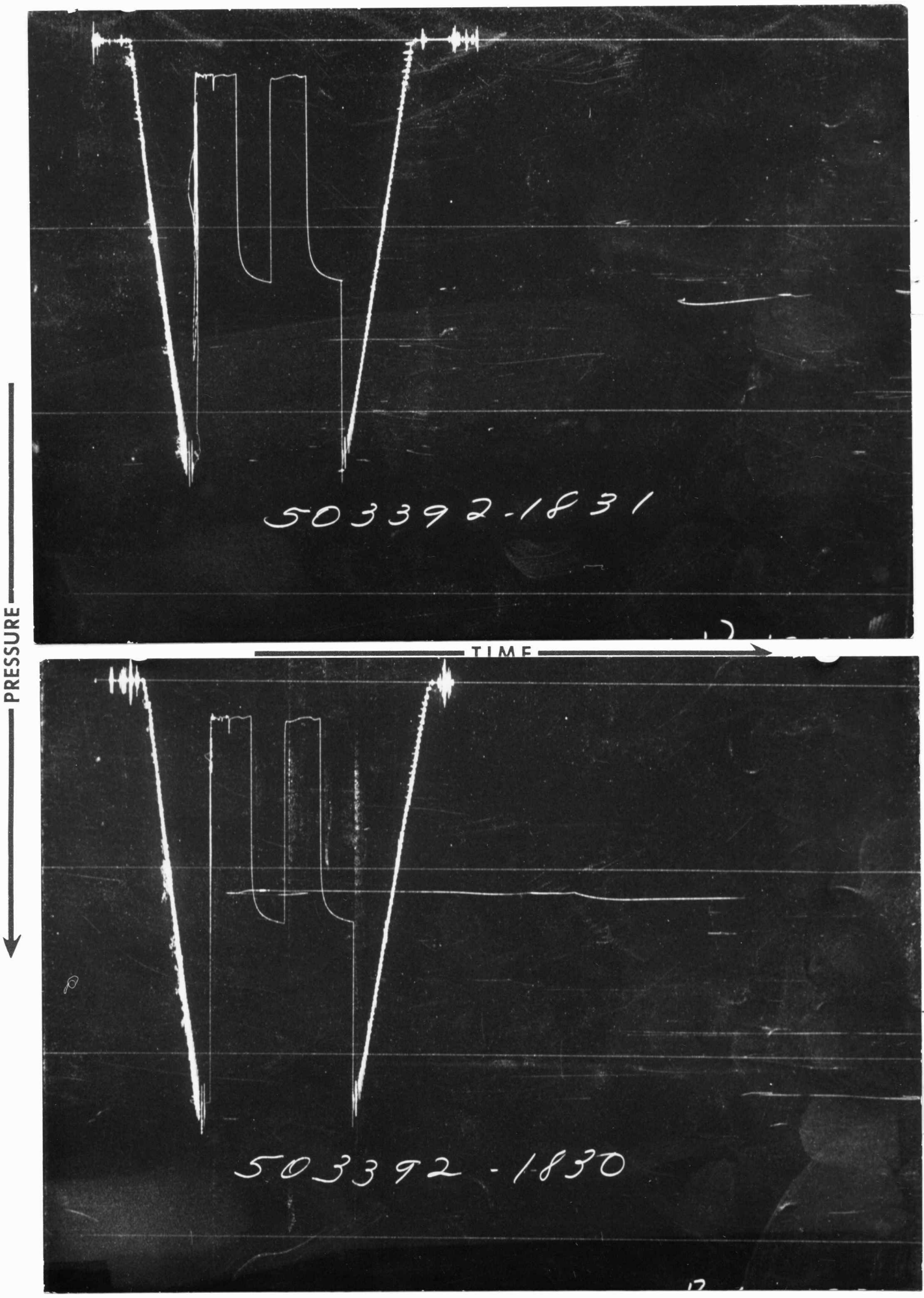
0	.000	203	.000		189	.000	226	.000		200					
1	.235	189	.0198		1148	.0338	219	.020		1131					
2			.0396		1212	.0676	208	.040		1199					
3			.0594		1242	.1014	198	.060		1228					
4			.0792		1258	.1352	194	.080		1244					
5			.0990		1270	.1690	206	.100		1258					
6			.1188		1278	.2030	200	.120		1267					
7			.1386		1283			.140		1274					
8			.1584		1289			.160		1279					
9			.1782		1294			.180		1283					
10			.1980		1296			.200		1287					
11															
12															
13															
14															
15															

Reading Interval	3	5	3		Minutes

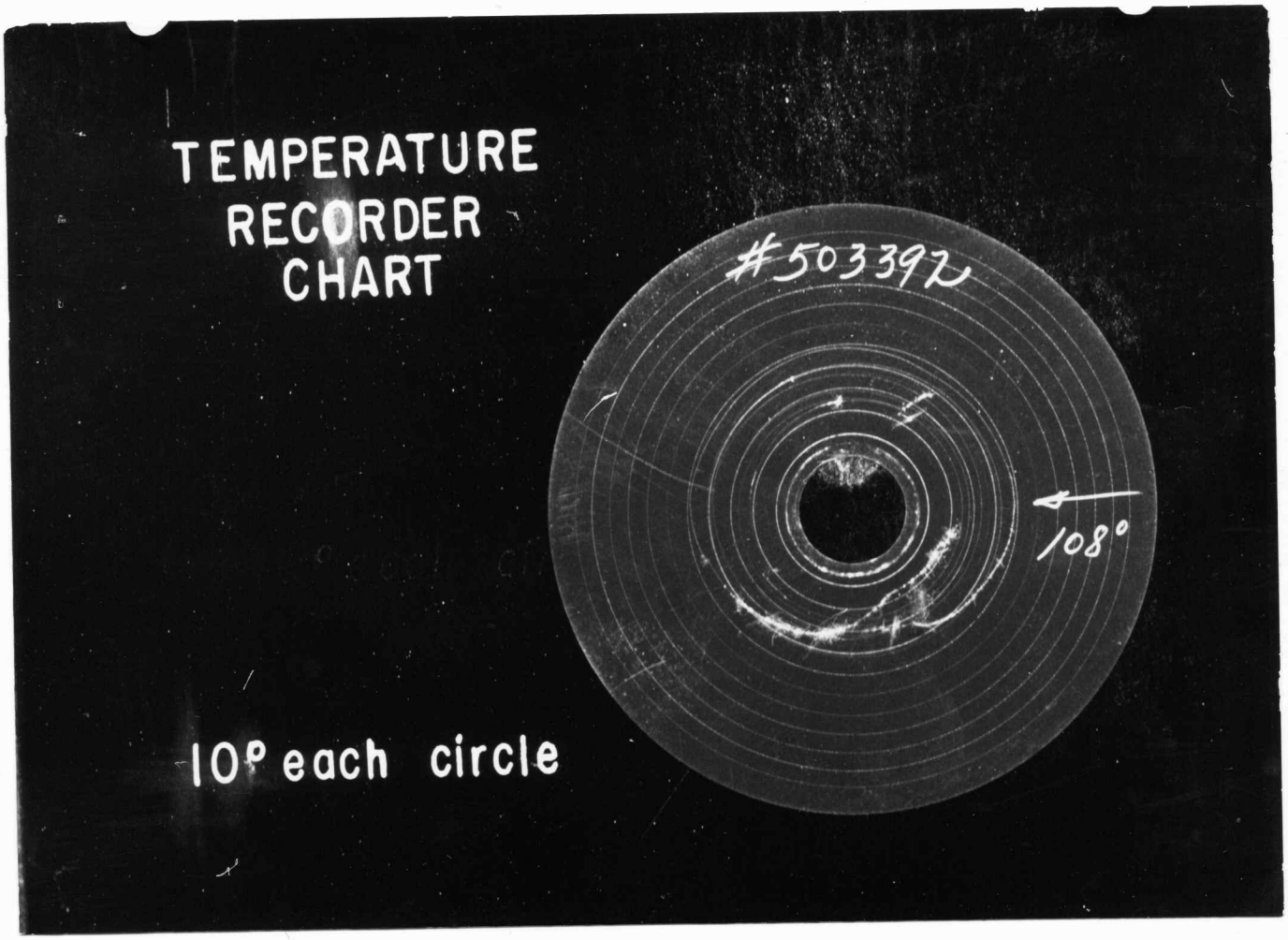
REMARKS:

503392

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 5/8"	2"	1½'	
Water Cushion Valve				
Drill Pipe	4½"	3.826"	3780'	
Drill Collars	4½"	2.764"	450' WP	
Handling Sub & Choke Assembly	5 3/4"	2 1/4"	2½'	
Dual CIP Valve	5"	3/4"	6'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	3/4"	5'	4233'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	2 1/4"	4'	4243'
Hydraulic Jar				
VR Safety Joint	5"	1½"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1½"	6'	4253'
Distributor				
Packer Assembly				
Flush Joint Anchor	5"	2 1/4"	17'	
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	2½"	4'	4266'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor				
Blanked-Off B.T. Running Case				



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


TEMPERATURE
RECORDER
CHART
#503392
108°
10° each circle

FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

	RESISTIVITY	CHLORIDE CONTENT
Recovery Water	_____ @ _____ °F.	_____ ppm
Recovery Mud	_____ @ _____ °F.	
Recovery Mud Filtrate	_____ @ _____ °F.	_____ ppm
Mud Pit Sample	_____ @ _____ °F.	
Mud Pit Sample Filtrate	_____ @ _____ °F.	_____ ppm
Mud Weight	9.6 vis 45 cp	

Date 9-9-71 Ticket Number 503393
Kind of Job OPEN HOLE Halliburton District PRATT
Tester MR. THOMPSON Witness MR. CLARK
Drilling Contractor COMPANY TOOLS IC S

EQUIPMENT & HOLE DATA

Formation Tested Kenderhook
Elevation 2222' DF Ft.
Net Productive Interval 10' Ft.
All Depths Measured From Kelly Bushing
Total Depth 4315' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 450' WP I.D. 2.764"WP
Drill Pipe Length 3820' I.D. 3.826"
Packer Depth(s) 4298' Ft.
Depth Tester Valve 4278' Ft.

Cushion TYPE - AMOUNT - Ft. Depth Back Pres. Valve - Surface Choke 1" Bottom Choke 3/4"

Recovered 58 Feet of Gas cut mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

MAILED
SEP 13 [illegible]
Halliburton Company

Mea. From Tester Valve

Remarks Opened tool for 31 minute first flow with gas to surface in 6 minutes. Gauged in 10 minutes at 12 oz. and 120 MCF, 20 minutes-13 oz. and 124 MCF, 30 minutes-14 oz. and 129 MCF. Closed tool for 30 minute initial closed in pressure. Reopened tool for 30 minute second flow with gas gauged in 10 minutes at 142 MCF with 17 oz., 20 minutes at 142 MCF and 17 oz. and in 30 minutes at 142 MCF and 17 oz. Closed tool for 29 minute second closed in pressure.

TEMPERATURE	Gauge No. 1831 Depth: 4288' Ft.	Gauge No. 1830 Depth: 4311' Ft.	Gauge No. Depth: Ft.	TIME
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened A.M. 12:30 P.M.
Est. °F.	Blanked Off NO	Blanked Off YES	Blanked Off	Tool Closed A.M. 2:30 P.M.
4309'@ Actual 111 °F.	Pressures	Pressures	Pressures	

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		2361	2243	2361	2272				
First Period	Flow Initial	28	30	28	40			___	___
	Flow Final	37	34	37	42			30	31
	Closed in	935	918	935	919			30	30
Second Period	Flow Initial	28	31	28	34			___	___
	Flow Final	37	32	37	37			30	30
	Closed in	935	918	935	916			30	29
Third Period	Flow Initial							___	___
	Flow Final								
	Closed in								
Final Hydrostatic		2343	2239	2343	2268			___	___

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FORMATION TEST DATA

LITTLE'S

Legal Location Sec. - Twp. - Rng. 4 - 25 - 16
Lease Name KOETT
Well No. 1
Test No. 6
Field Area WILDCAT
Tested Interval 4298' - 4315'
County EDWARDS
State KANSAS
Lease Owner/Company Name D. R. LAUCK OIL COMPANY, INCORPORATED

5

Gauge No.	1831		Depth	4288'		Clock No.	2476		12 hour		Ticket No.	503393		
	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	.000	30	.000		34	.000	31	.000		32					
1	.207	34	.0205		784	.203	32	.0208		764					
2			.0410		904			.0416		898					
3			.0615		910			.0624		906					
4			.0820		913			.0832		910					
5			.1025		915			.1040		912					
6			.1230		917			.1248		914					
7			.1435		918			.1456		915					
8			.1640		918			.1664		916					
9			.1845		918			.1827		917					
10			.2050		918			.2010		918*					
11															
12															
13															
14															
15															

Gauge No.	1830		Depth	4311'		Clock No.	2486		12 hour					
0	.000	40	.000		42	.000	34	.000		37					
1	.206	42	.0203		787	.200	37	.0204		809					
2			.0406		905			.0408		899					
3			.0609		911			.0612		906					
4			.0812		914			.0816		909					
5			.1015		916			.1020		911					
6			.1218		917			.1224		913					
7			.1421		918			.1428		914					
8			.1624		919			.1632		915					
9			.1827		919			.1836		916					
10			.2030		919			.1970		916*					
11															
12															
13															
14															
15															

Reading Interval		3		3		Minutes

REMARKS: *Last interval equal to 2 minutes

503393

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 5/8"	2"	1 1/2"	
Water Cushion Valve				
Drill Pipe	4 1/2"	3.826"	3820'	
Drill Collars	-	-	450' WEIGHT PIPE	
Handling Sub & Choke Assembly	5 3/4"	2 1/4"	2 1/2'	
Dual CIP Valve	5"	3/4"	6'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	3/4"	5'	4278'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	2 1/4"	4'	4288'
Hydraulic Jar				
VR Safety Joint	5"	1 1/2"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1 1/2"	6'	4298'
Distributor				
Packer Assembly				
Flush Joint Anchor	5"	2 1/4"	17'	
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	2 1/2"	4'	4311'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor				
Blanked-Off B.T. Running Case				

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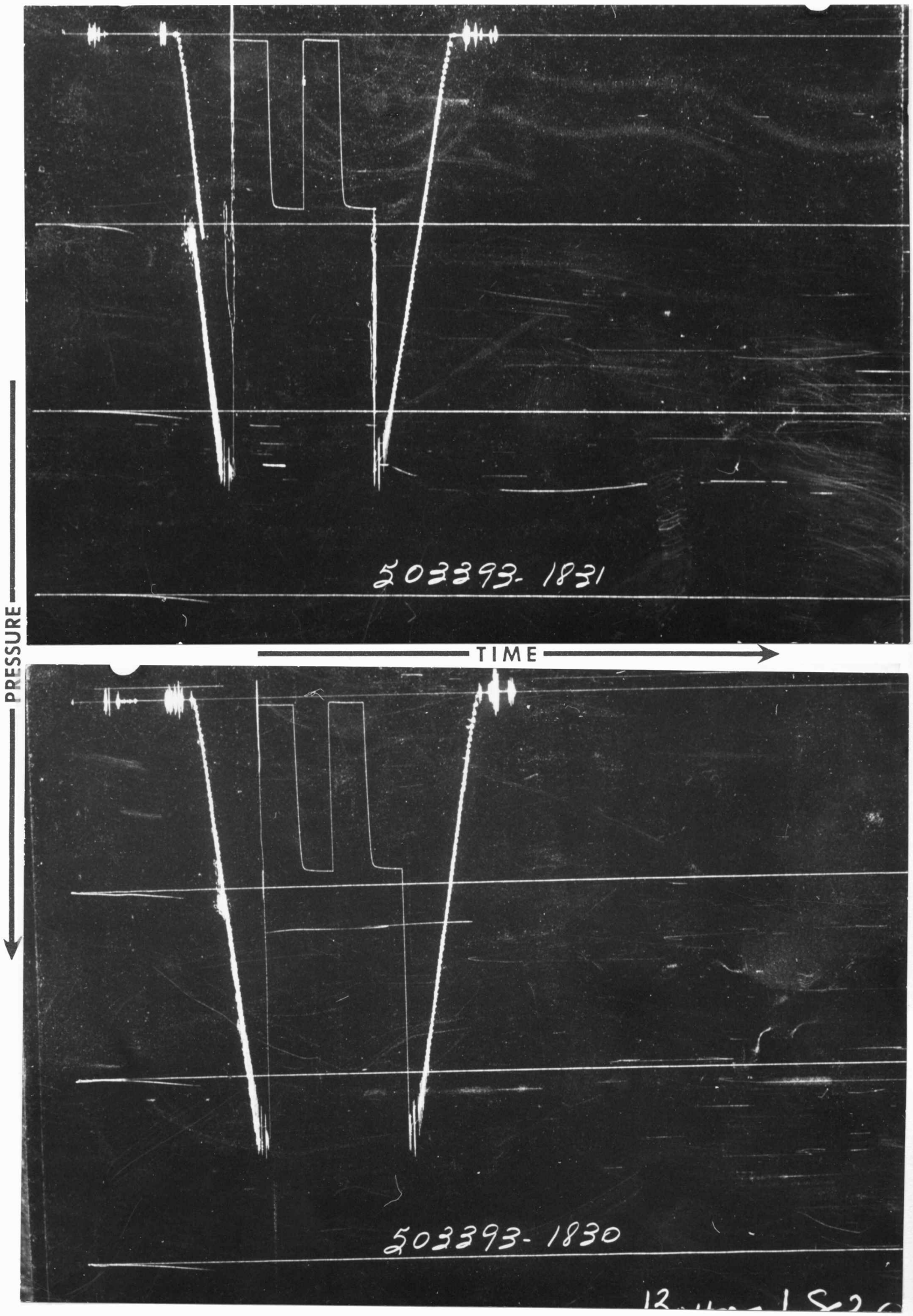
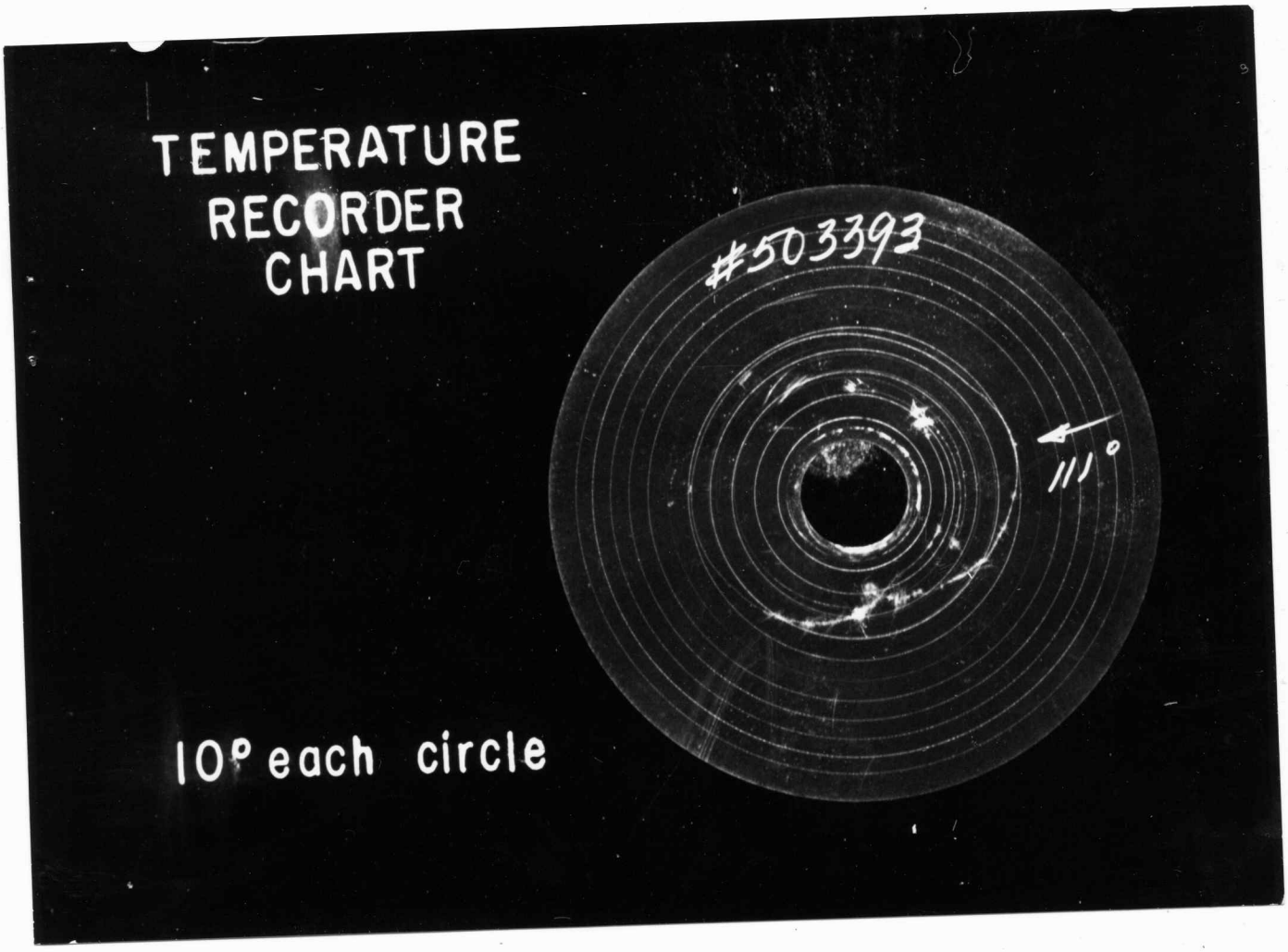
EQUIPMENT DATA

LITTLE'S 83431 15M 4/69—15, 16-13

5



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


TEMPERATURE
RECORDER
CHART
#503393
111°
10° each circle

FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

	RESISTIVITY			CHLORIDE CONTENT
Recovery Water	____ @ ____	°F.		____ ppm
Recovery Mud	____ @ ____	°F.		
Recovery Mud Filtrate	____ @ ____	°F.		____ ppm
Mud Pit Sample	____ @ ____	°F.		
Mud Pit Sample Filtrate	____ @ ____	°F.		____ ppm
Mud Weight	9.8	vis	45	cp

Date 9-10-71 Ticket Number 503394
Kind of Job OPEN HOLE Halliburton District PRATT
Tester THOMPSON Witness CLARK
Drilling Contractor COMPANY TOOLS NM

EQUIPMENT & HOLE DATA

Formation Tested Viola
Elevation 2228' D.F. Ft.
Net Productive Interval 12' Ft.
All Depths Measured From Kelly Bushing
Total Depth 4400' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length WEIGHT PIPE 450' I.D. ??
Drill Pipe Length 3908' I.D. 3.826"
Packer Depth(s) 4388' Ft.
Depth Tester Valve 4368' Ft.

Cushion TYPE NONE AMOUNT ____ Ft. Depth Back Pres. Valve NONE Surface Choke 1" Bottom Choke 3/4"

Recovered 15' Feet of mud
Recovered ____ Feet of ____
Recovered ____ Feet of ____
Recovered ____ Feet of ____
Recovered ____ Feet of ____

Meas. From Tester Valve

Remarks Tool opened for a 30 minute first flow with aweak blow. Rotated tool for a 30 minute first closed in pressure. Tool reopened with a very weak blow. Took a 30 minute second closed in pressure.

TEMPERATURE	Gauge No. 1831 Depth: 4378' Ft.		Gauge No. 1830 Depth: 4396' Ft.		Gauge No. Depth: Ft.		TIME	
	12 Hour Clock		12 Hour Clock		Hour Clock		Tool Opened	A.M. 2:35 P.M.
Est. °F.	Blanked Off NO		Blanked Off YES		Blanked Off		Tool Closed	A.M. 4:35 P.M.
4394' @ Actual 115°F.	Pressures		Pressures		Pressures		Reported	Computed
	Field	Office	Field	Office	Field	Office	Minutes	Minutes
Initial Hydrostatic	2352	2382	2352	2333				
First Period Flow Initial	19	21	19	32			____	____
First Period Flow Final	19	17	19	29			30	
First Period Closed in	46	29	46	41			30	
Second Period Flow Initial	19	19	19	32			____	____
Second Period Flow Final	28	17	28	31			30	
Second Period Closed in	37	28	37	41			30	
Third Period Flow Initial							____	____
Third Period Flow Final								
Third Period Closed in								
Final Hydrostatic	2333	2354	2333	2368			____	____

Legal Location Sec. - Twp. - Rng. 4 - 25 - 16
Lease Name KOETT
Well No. 1
Test No. 7
Field Area WILDCAT
County EDWARDS
State KANSAS
Tested Interval 4388' - 4400'
Lease Owner/Company Name D. R. LAUCK OIL COMPANY, INC.

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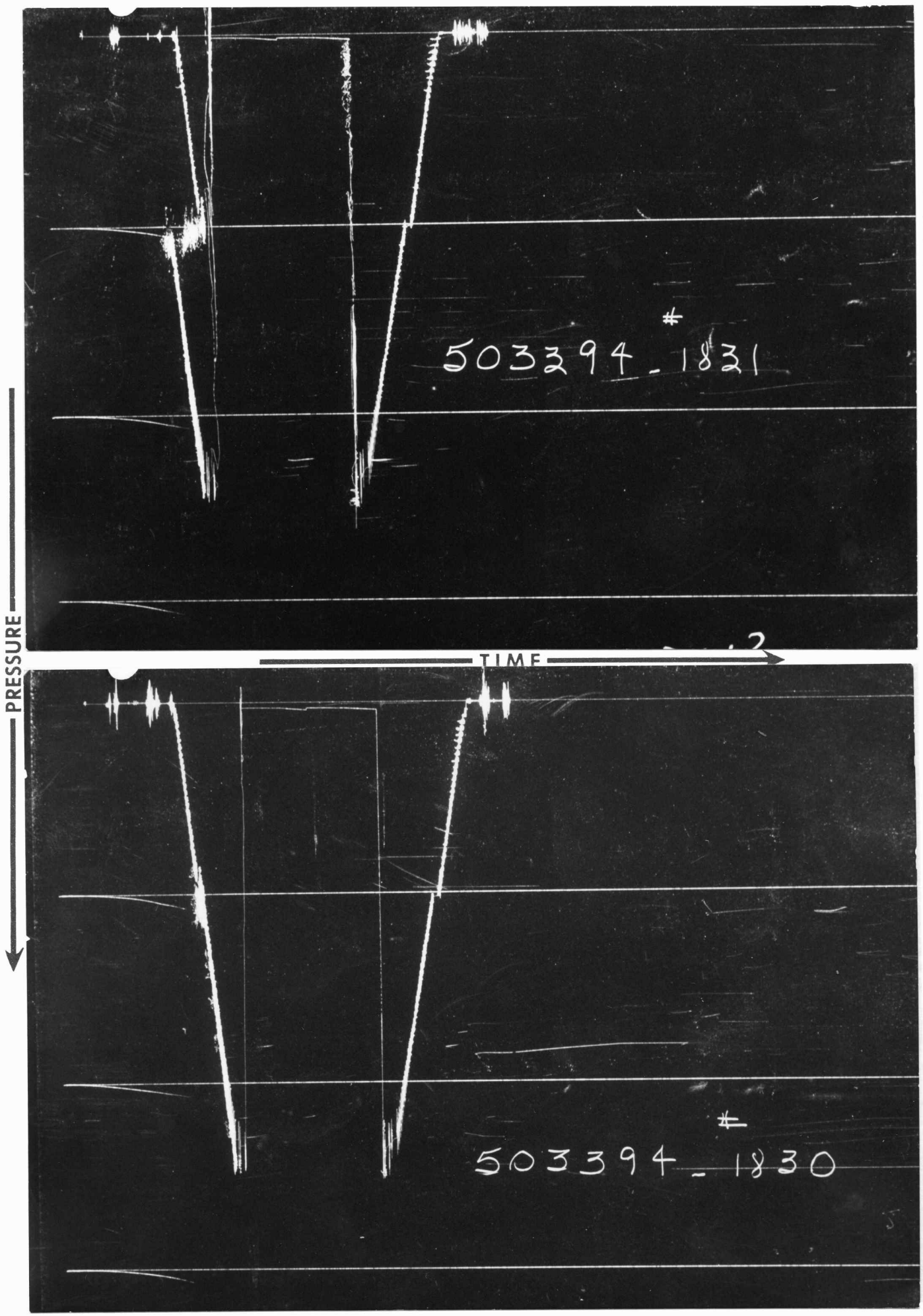
FORMATION TEST DATA

LITTLE'S

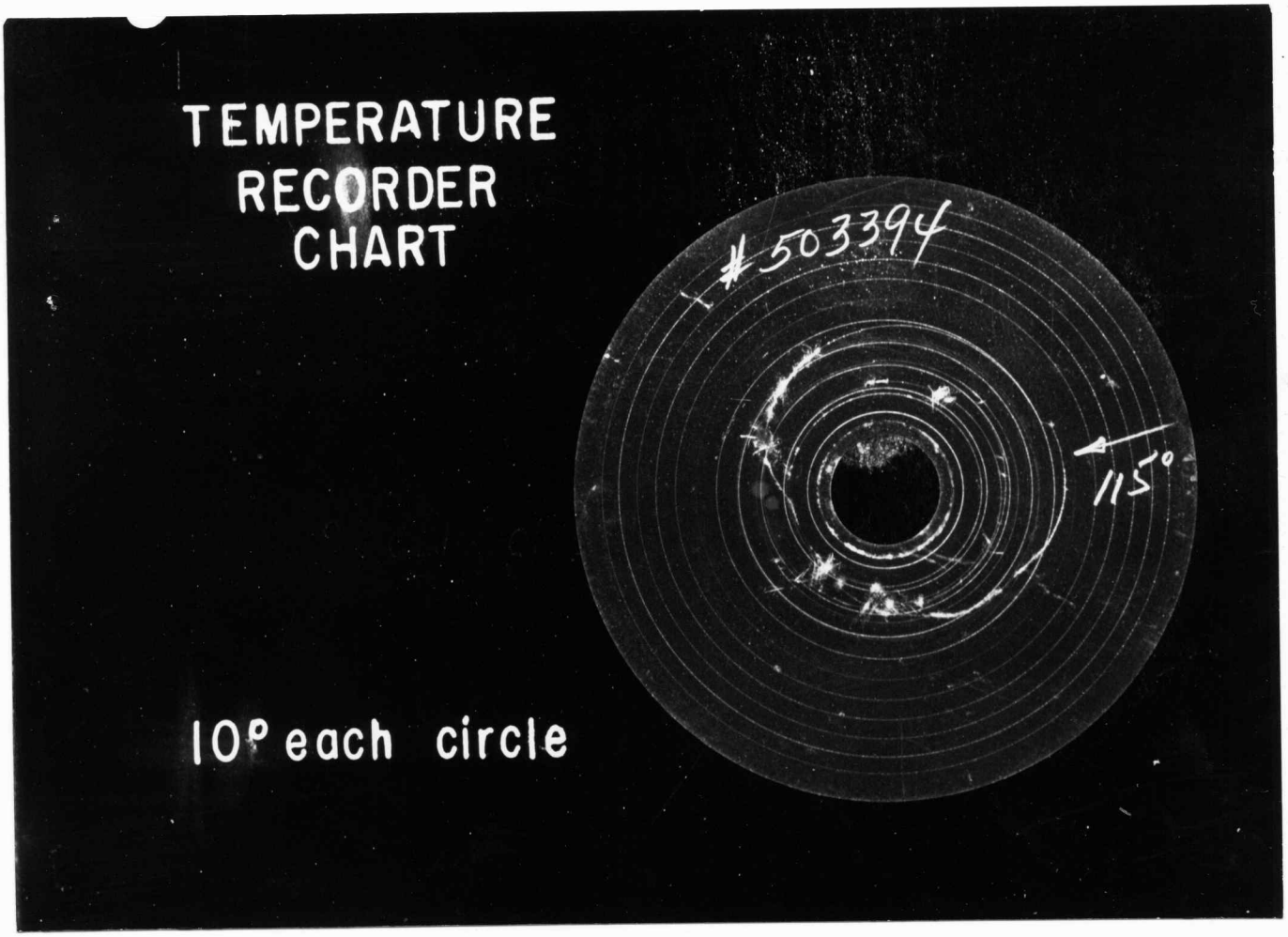
10

503394

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 5/8"	2"	1½'	
Water Cushion Valve				
Drill Pipe	4½" FH	3.826"	3908'	
Drill Collars WEIGHT PIPE	-		450'	
Handling Sub & Choke Assembly	5 3/4"	2¼"	2½'	
Dual CIP Valve	5"	3/4"	6'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	3/4"	5'	4368'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	2¼"	4'	4378'
Hydraulic Jar				
VR Safety Joint	5"	1½"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1½"	6'	4388'
Distributor				
Packer Assembly				
Flush Joint Anchor	5"	2¼"	12'	
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	2½"	4'	4396'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor				
Blanked-Off B.T. Running Case				



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


TEMPERATURE
RECORDER
CHART
#503394
115°
10° each circle

FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

		RESISTIVITY		CHLORIDE CONTENT
Recovery Water	____ @	____	°F.	____ ppm
Recovery Mud	____ @	____	°F.	
Recovery Mud Filtrate	____ @	____	°F.	____ ppm
Mud Pit Sample	____ @	____	°F.	
Mud Pit Sample Filtrate	____ @	____	°F.	____ ppm
Mud Weight	9.8	vis 45		cp

Date 9-10-71 Ticket Number 503395
Kind of Job OPEN HOLE Halliburton District PRATT
Tester MR. THOMPSON Witness MR. CLARK
Drilling Contractor COMPANY TOOLS IC

EQUIPMENT & HOLE DATA

Formation Tested Viola
Elevation 2228' DF Ft.
Net Productive Interval 12' Ft.
All Depths Measured From Kelly Bushing
Total Depth 4430' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 450' WP I.D. 2.764" WP
Drill Pipe Length 3938' I.D. 3.826"
Packer Depth(s) 4406' Ft.
Depth Tester Valve 4386' Ft.

Cushion TYPE - AMOUNT Ft. Depth Back Pres. Valve - Surface Choke 1" Bottom Choke 3/4"

Recovered 62 Feet of Mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Mea. From Tester Valve

Remarks Opened tool for 40 minute first flow with a good blow. Closed tool for 40 minute initial closed in pressure. Reopened tool for 40 minute second flow with a good blow throughout test. Closed tool for 40 minute second closed in pressure.

TEMPERATURE	Gauge No. 1831 Depth: 4396' Ft.		Gauge No. 1830 Depth: 4426' Ft.		Gauge No. Depth: Ft.		TIME	
	12 Hour Clock		12 Hour Clock		Hour Clock		Tool Opened	A.M. 5:18 P.M.
Est. °F.	Blanked Off NO		Blanked Off YES		Blanked Off		Tool Closed	A.M. 8:00 P.M.
4424'@ Actual 121 °F.	Pressures		Pressures		Pressures			
	Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic	2361	2318	2361	2331				
First Period Flow Initial	28	19	28	38			____	____
First Period Flow Final	46	36	46	48			40	
First Period Closed in	120	99	120	112			40	
Second Period Flow Initial	46	35	46	53			____	____
Second Period Flow Final	56	40	56	56			40	
Second Period Closed in	111	95	111	111			40	
Third Period Flow Initial							____	____
Third Period Flow Final								
Third Period Closed in								
Final Hydrostatic	2343	2311	2343	2326			____	____

Legal Location Sec. - Twp. - Rng. 4 - 25 - 16
Lease Name KOETT
Well No. 1
Test No. 8
Field Area WILDCAT
Tested Interval 4406' - 4430'
County EDWARDS
State KANSAS
Lease Owner/Company Name D. R. LAUCK OIL COMPANY, INCORPORATED

503395

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 5/8"	2"	1 1/2'	
Water Cushion Valve				
Drill Pipe	4 1/2"	3.826"	3938'	
Drill Collars	4 1/2"	2.764"	450' WEIGHT PIPE	
Handling Sub & Choke Assembly	5 3/4"	2 1/4"	2 1/2'	
Dual CIP Valve	5' 3/4"	3/4"	6'	
Dual CIP Sampler				
Hydro-Spring Tester	5 3/4"	3/4"	5'	4386'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5 3/4"	2 1/4"	4'	4396'
Hydraulic Jar				
VR Safety Joint	5 3/4"	1 1/2"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1 1/2"	6'	4406'
Distributor				
Packer Assembly				
Flush Joint Anchor	5"	2 1/4"	24'	
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	2 1/2"	4'	4426'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor				
Blanked-Off B.T. Running Case				

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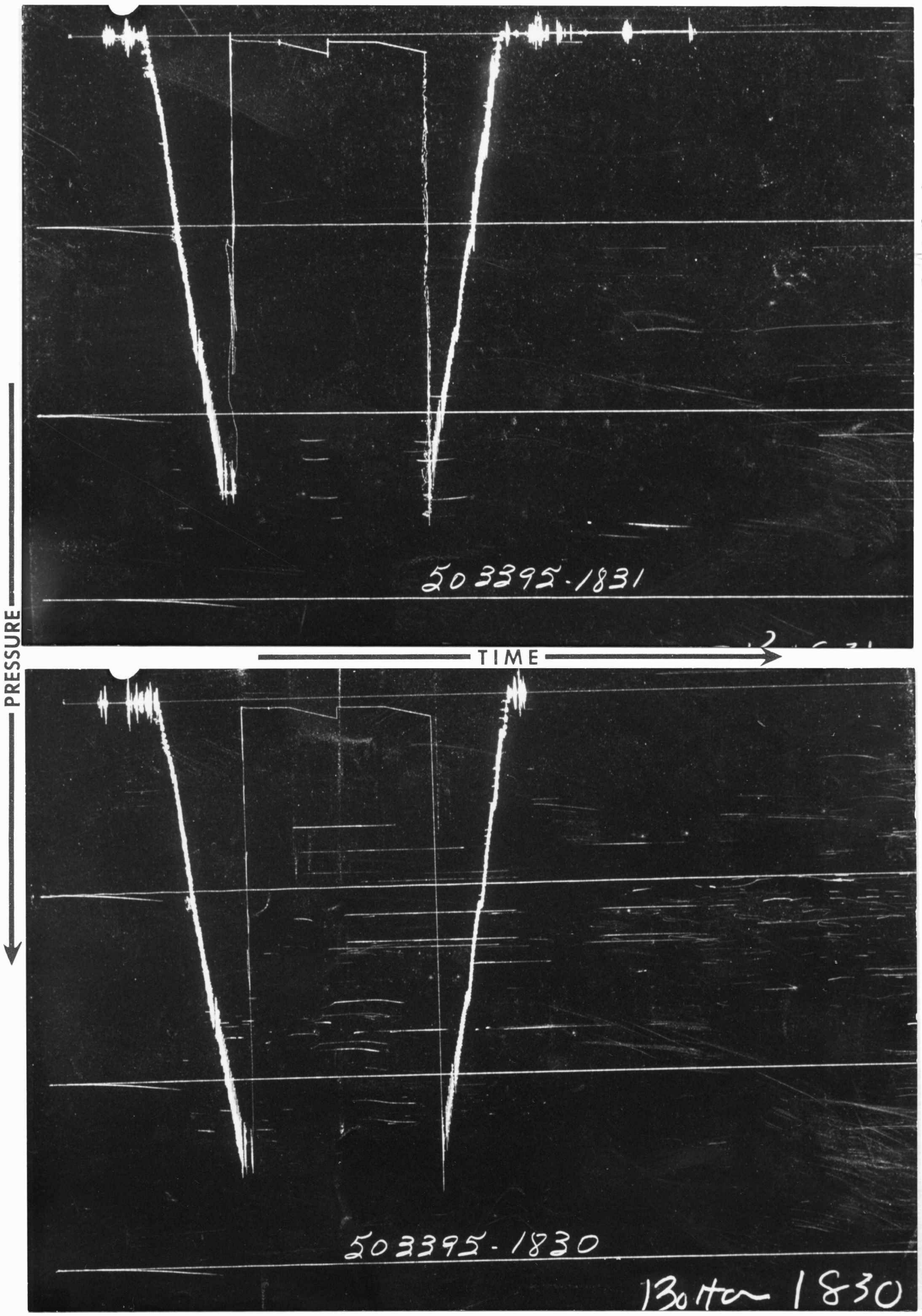
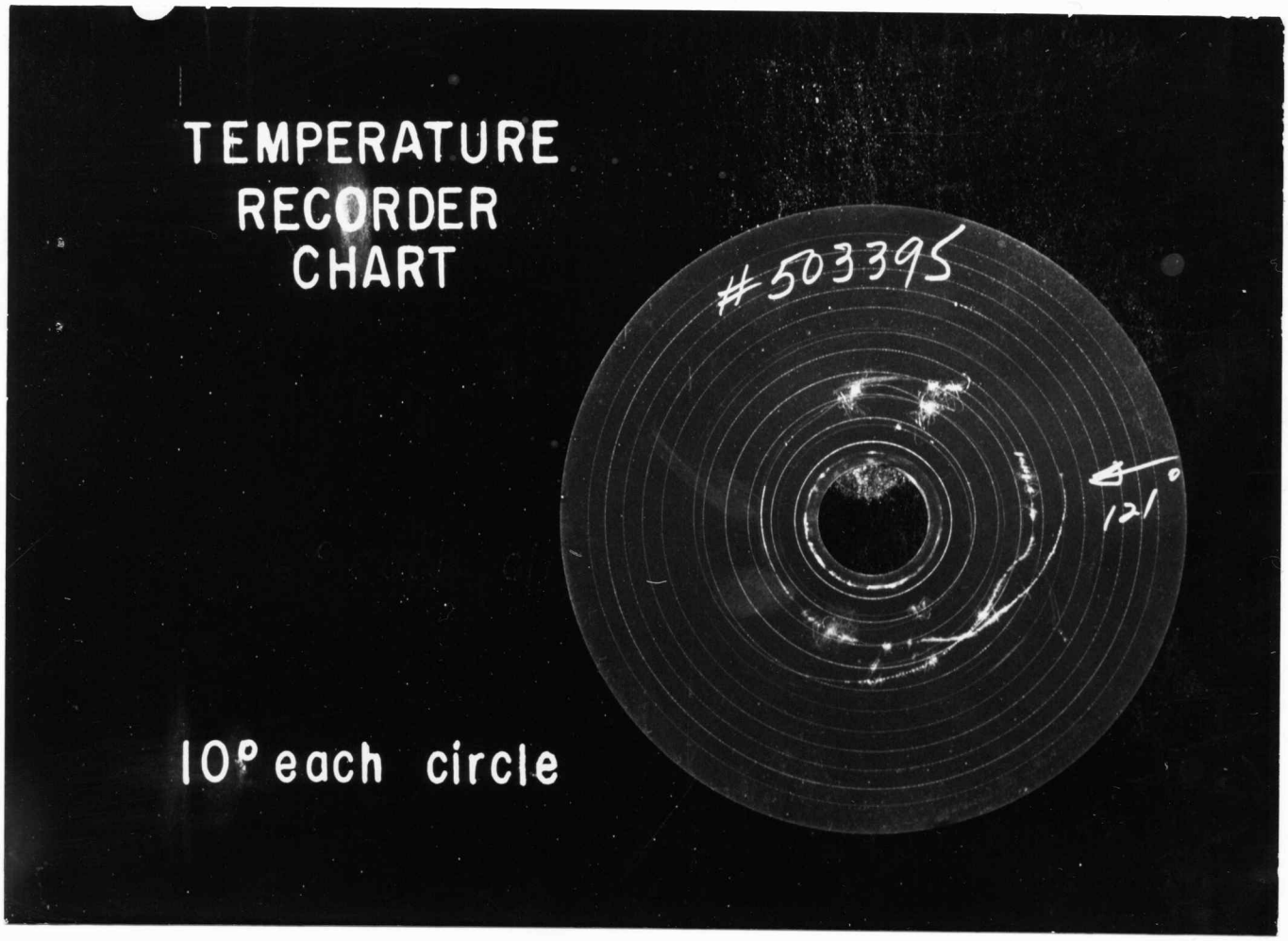
EQUIPMENT DATA

LITTLE'S 83431 15M 4/69—15.



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


TEMPERATURE
RECORDER
CHART
#503395
121°
10° each circle

FLUID SAMPLE DATA

Sampler Pressure _____ P.S.I.G. at Surface
Recovery: Cu. Ft. Gas _____
cc. Oil _____
cc. Water _____
cc. Mud _____
Tot. Liquid cc. _____
Gravity _____ ° API @ _____ °F.
Gas/Oil Ratio _____ cu. ft./bbl.

		RESISTIVITY	CHLORIDE CONTENT
Recovery Water	____ @ ____ °F.		____ ppm
Recovery Mud	____ @ ____ °F.		
Recovery Mud Filtrate	____ @ ____ °F.		____ ppm
Mud Pit Sample	____ @ ____ °F.		
Mud Pit Sample Filtrate	____ @ ____ °F.		____ ppm
Mud Weight	10.1 vis	38 cp	

Date 9-11-71 Ticket Number 503014
Kind of Job OPEN HOLE Halliburton District GREAT BEND
Tester STRADDLE MR. WILLINGER Witness MR. CLARK
Drilling Contractor COMPANY TOOLS DR S

EQUIPMENT & HOLE DATA

Formation Tested -
Elevation - Ft.
Net Productive Interval 5' Ft.
All Depths Measured From Kelly Bushing
Total Depth 4445' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 466' WP I.D. 2.764"
Drill Pipe Length 2333' I.D. 3.826"
Packer Depth(s) 2799'-2834' Ft.
Depth Tester Valve 2791' Ft.

Cushion TYPE AMOUNT Ft. Depth Back Pres. Valve Surface Choke 1" Bottom Choke 3/4"

Recovered 60 Feet of gas
Recovered 706 Feet of muddy water
Recovered Feet of
Recovered Feet of
Recovered Feet of

Mea. From Tester Valve

Remarks Opened tool for 29 minute first flow with a fair blow increasing to a good blow. Closed tool for 31 minute first closed in pressure. Reopened tool for 29 minute second flow with a fair blow. Closed tool for 31 minute second closed in pressure.

TEMPERATURE	Gauge No. 1463	Gauge No. 396	Gauge No. 297	TIME
	Depth: 2792 Ft.	Depth: 2826 Ft.	Depth: 2852 Ft.	
	12 Hour Clock	12 Hour Clock	12 Hour Clock	Tool - ~~A.M.~~
Est. °F.	Blanked Off No	Blanked Off Yes	Blanked Off Yes	Opened 7:08 P.M.
2825'				Tool - ~~A.M.~~
Actual 97 °F.	Pressures	Pressures	Pressures	Closed 9:08 P.M.

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic			1503	1521	1522		1535		
First Period	Flow Initial		28	43	50			———	———
	Flow Final		242	252	259			30	29
	Closed in		922	928	938	HYDROSTATIC		30	31
Second Period	Flow Initial		247	252	268	RELEASE: 1067		———	———
	Flow Final		346	365	363			30	29
	Closed in		913	928	929			30	31
Third Period	Flow Initial							———	———
	Flow Final								
	Closed in								
Final Hydrostatic			1503	1513	1522		1535	———	———

KOETT Lease Name | 1 Well No. | 9 Test No. | 2799'-2834' Tested Interval | Legal Location Sec. - Twp. - Rng. 4-25-16 | Field Area | County EDWARDS | State KANSAS | D. R. LAUCK OIL COMPANY Lease Owner/Company Name

Gauge No.	1463		Depth	2792'		Clock No.	-		12 hour		Ticket No.	503014	
	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	.000	28	.000		242	.000	247		.000		346						
1	.0340	73	.0202		806	.0340	264		.0199		807						
2	.0680	119	.0404		852	.0680	282		.0398		848						
3	.1020	160	.0606		872	.1020	301		.0597		866						
4	.1360	202	.0808		887	.1360	318		.0796		879						
5	.1700	229	.1010		895	.1700	334		.0995		887						
6	.1970	242*	.1212		901	.1970	346*		.1194		893						
7			.1414		907				.1393		900						
8			.1616		912				.1592		905						
9			.1818		916				.1791		908						
10			.2090		922*				.2060		913*						
11																	
12																	
13																	
14																	
15																	

Gauge No.	396		Depth	2826'		Clock No.	-		12 hour								
0	.000	50	.000		259	.000	268		.000		363						
1	.0345	90	.0207		806	.0336	283		.0203		822						
2	.0690	136	.0414		858	.0672	302		.0406		861						
3	.1035	177	.0621		883	.1008	317		.0609		880						
4	.1380	218	.0828		898	.1344	334		.0812		895						
5	.1725	245	.1035		909	.1680	350		.1015		903						
6	.2000	259*	.1242		917	.1950	363*		.1218		910						
7			.1449		923				.1421		916						
8			.1656		928				.1624		921						
9			.1863		932				.1827		925						
10			.2140		938*				.2100		929*						
11																	
12																	
13																	
14																	
15																	

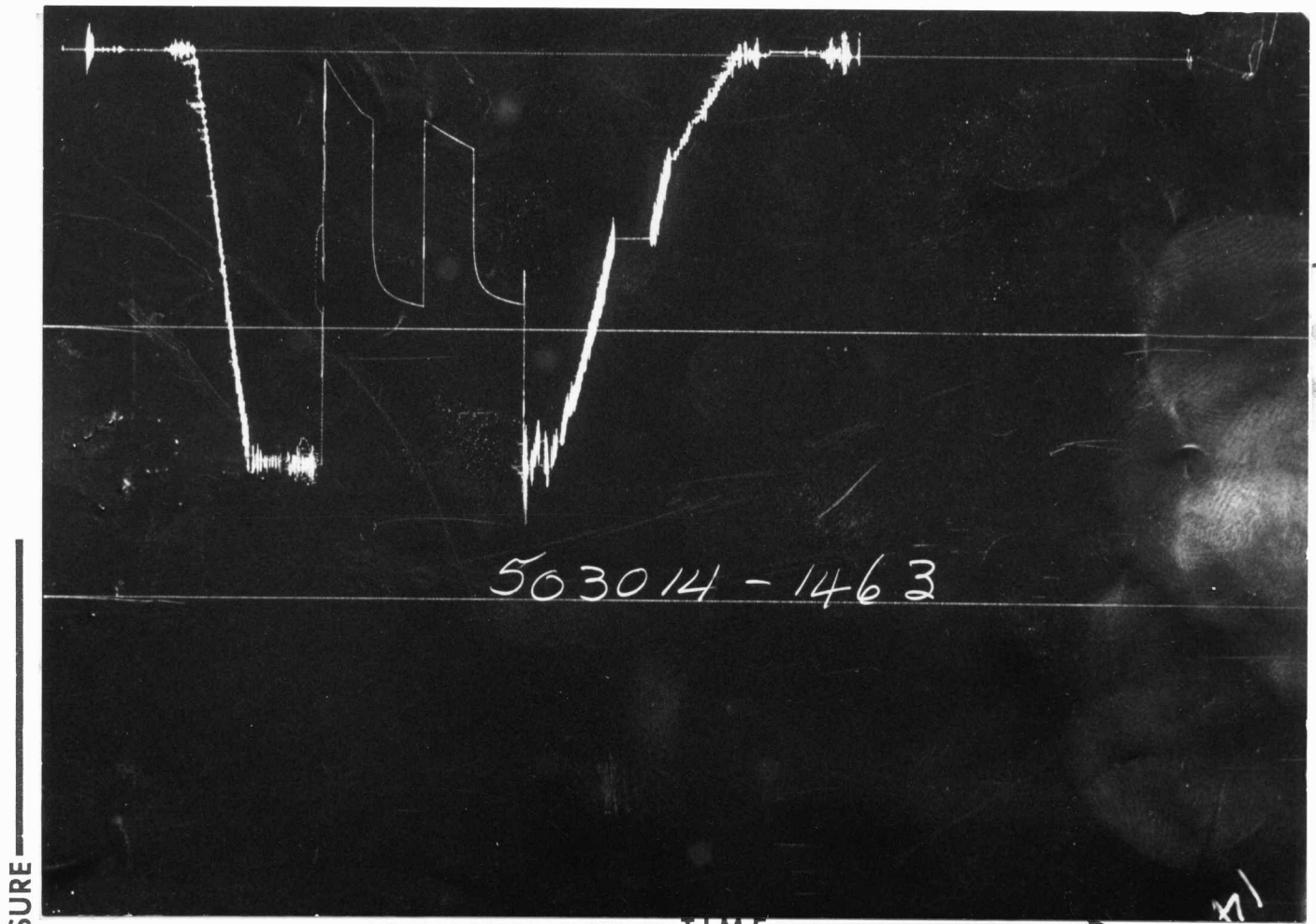
Reading Interval 5 | 3 | 5 | 3 | Minutes

REMARKS: * Last interval equal to 4 minutes.

SPECIAL PRESSURE DATA

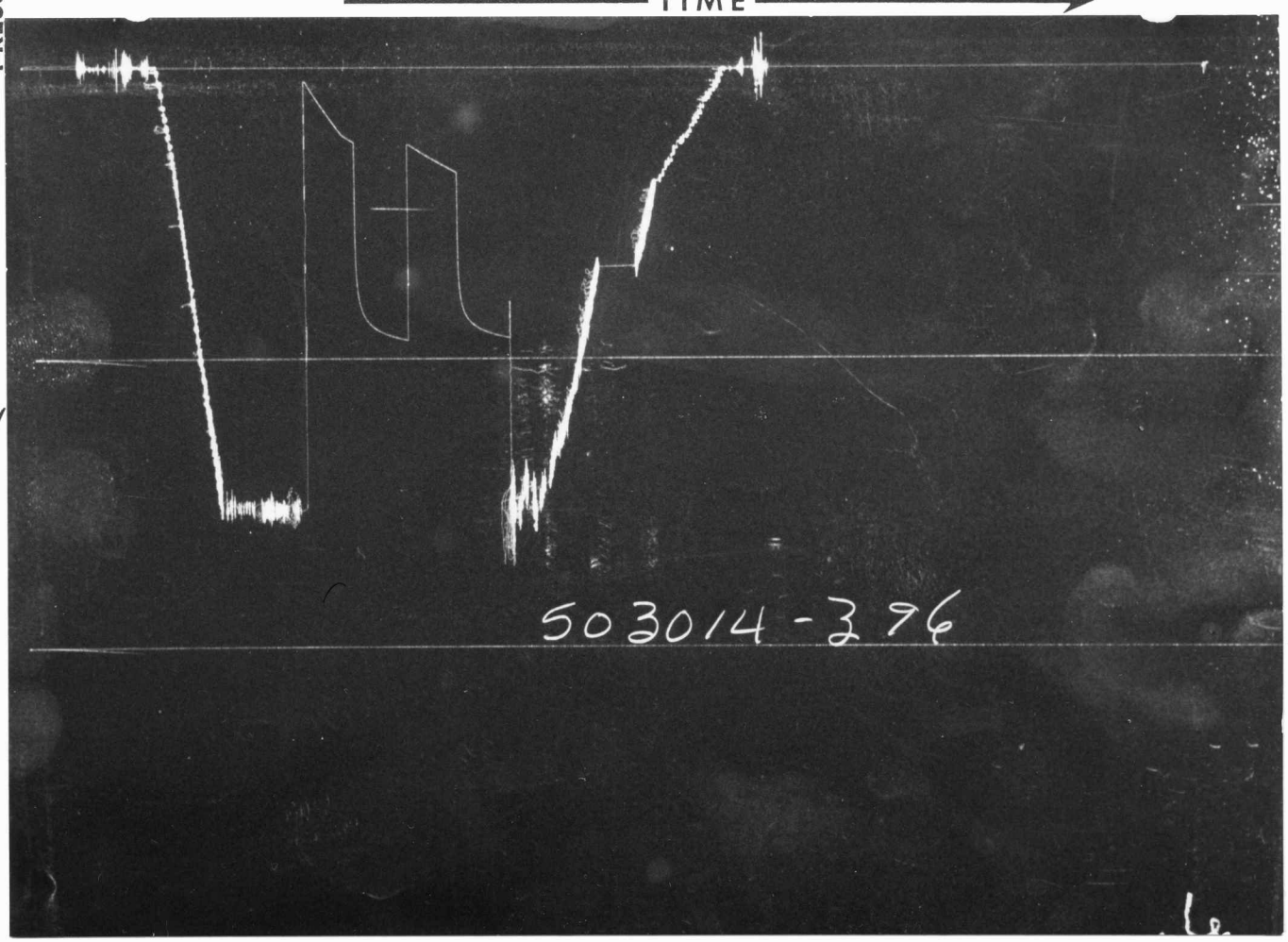
503014

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5.75"	2.75"	12'	
Water Cushion Valve				
Drill Pipe	4.50"	3.826"	2333'	
Drill Collars	4.50"	2.764"	466' WP	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	48.92"	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	60.21"	2791'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	3.06"	49.36"	2792'
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly				
Distributor				
Packer Assembly	6 3/4"	1.53"	48.89"	2799'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	2.37"	49.63"	2826'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly	6 3/4"	1.53"	48.89"	2834'
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor	9"	1.62"	62.57"	2848'
Drill Collars				
Flush Joint Anchor				
Blanked-Off B.T. Running Case	5"	3.06"	49.63'	2852'



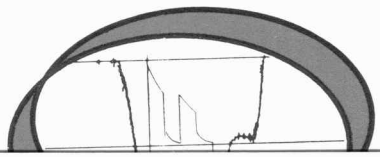
PRESSURE

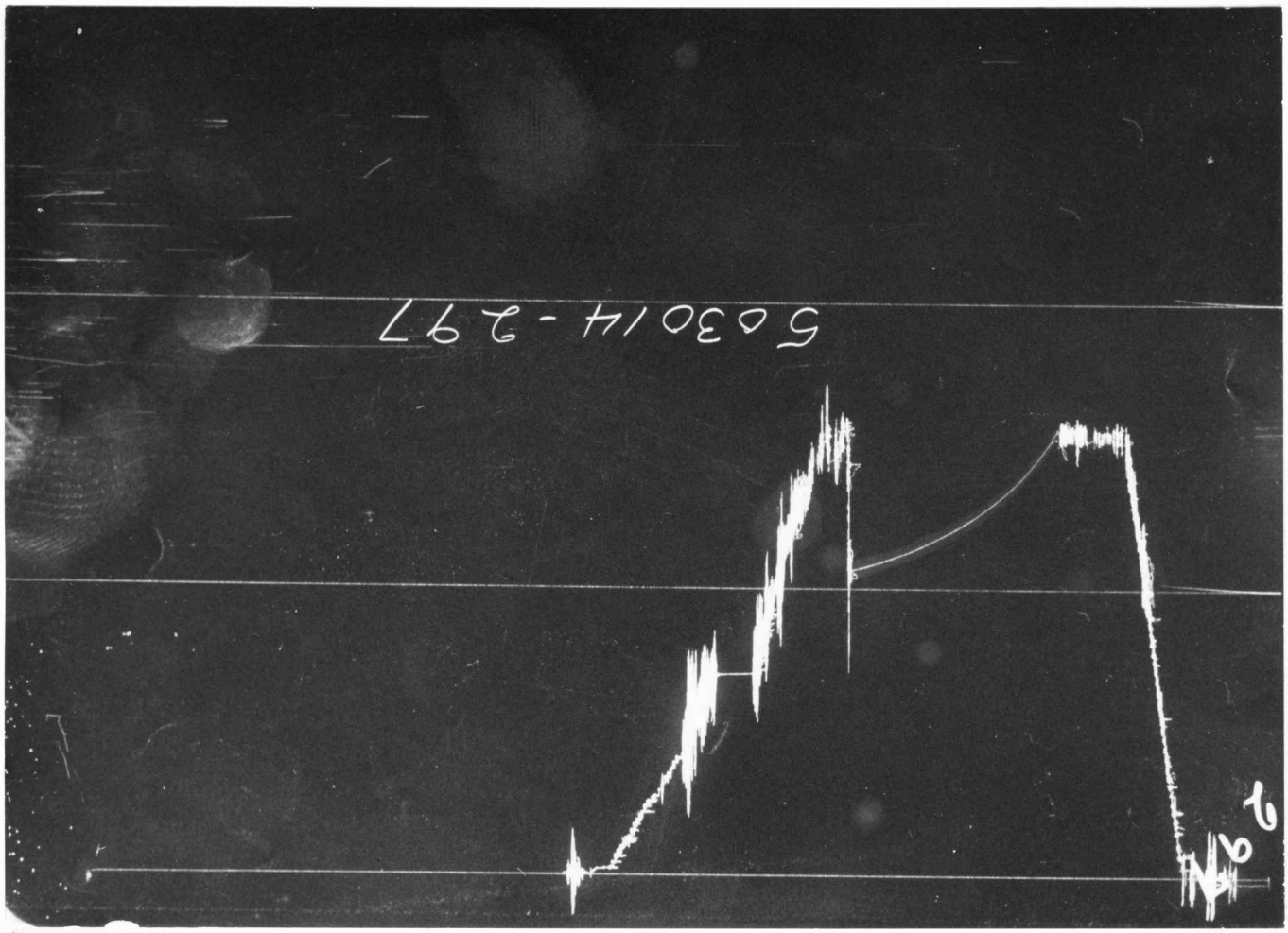
TIME

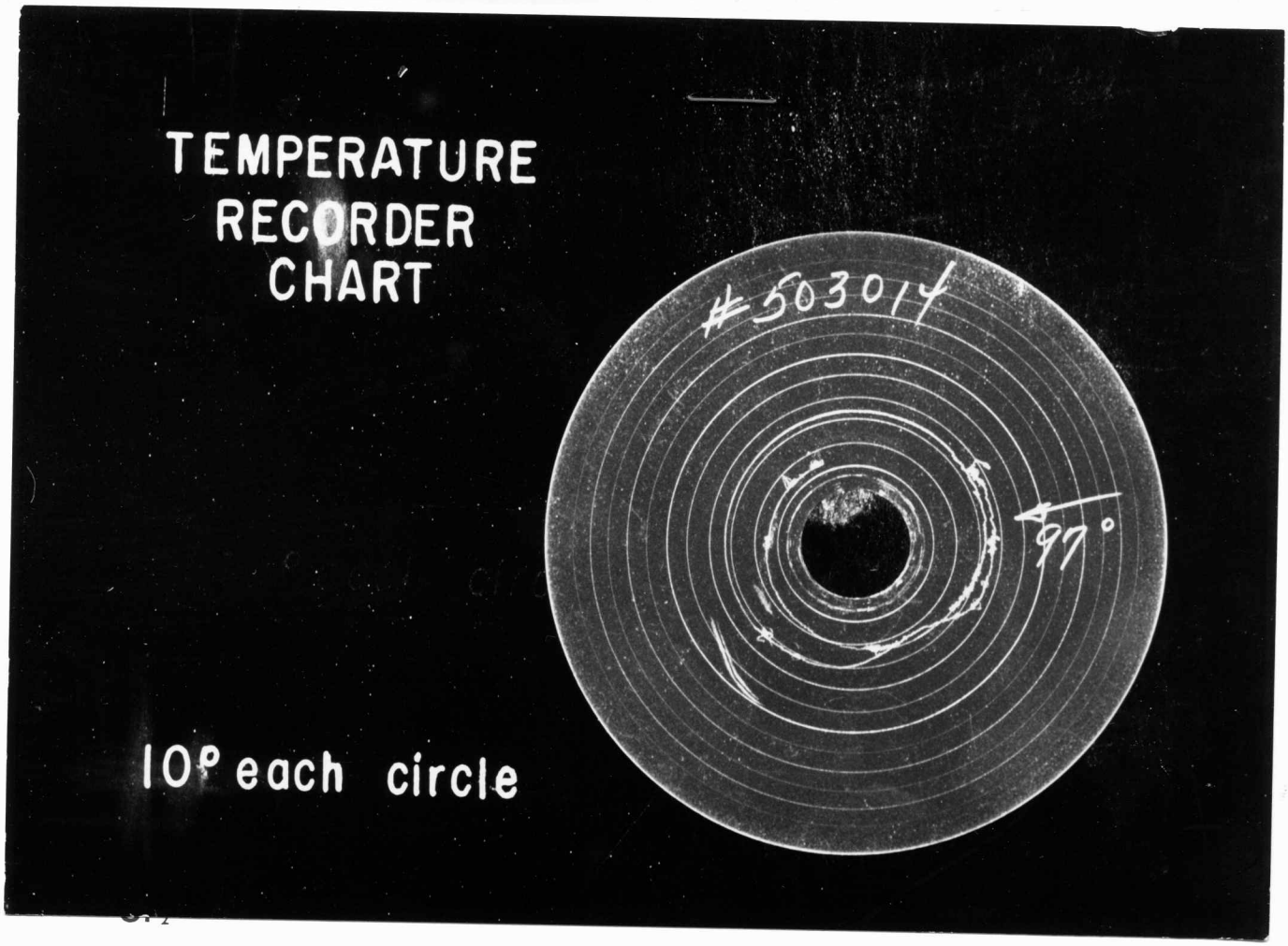


Each Horizontal Line Equal to 1000 p.s.i.

Formation Testing Service Report







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 . . . . . ——

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.