15-039-20226 26-4s-27w

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 48		cp

Date 2-29-72 Ticket Number 514031
Kind of Job OPEN HOLE Halliburton District HAYS
Tester MR. JOSLIN Witness MR. KLEIN
Drilling Contractor DREILING OIL COMPANY DR S

EQUIPMENT & HOLE DATA

Formation Tested Tarkio
Elevation 2517' KB Ft.
Net Productive Interval 8' Net Pay Ft.
All Depths Measured From Kelly Bushing
Total Depth 3162' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 756' I.D. 2.76"
Drill Pipe Length 2338' I.D. 3.826"
Packer Depth(s) 3098'-3103' Ft.
Depth Tester Valve 3093' Ft.

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

Recovered 30 Feet of mud with specks of oil
Recovered 100 Feet of slightly oil cut mud
Recovered 110 Feet of medium heavy oil cut mud
Recovered 90 Feet of oil cut muddy water
Recovered Feet of

Meas. From Tester Valve

Remarks Opened tool for 19 minute first flow with a weak blow to fair blow in 15 minutes, lasting throughout flow. Closed tool for 31 minute first closed in pressure. Reopened tool for 60 minute second flow with a fair blow throughout. Closed tool for 45 minute second closed in pressure.

TEMPERATURE	Gauge No. 738 Depth: 3104 Ft.	Gauge No. 272 Depth: 3158 Ft.	Gauge No. Depth: Ft.	TIME
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened 01:10 A.M.
Est. °F.	Blanked Off No	Blanked Off Yes	Blanked Off	Tool Closed 03:45 A.M.
Actual 100 °F.	Pressures	Pressures	Pressures	

	Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		1572	1623	1597				
First Period Flow Initial		16	36	44			____	____
First Period Flow Final		79	107	115			20	19
First Period Closed in		1029	1051	1050			30	31
Second Period Flow Initial		92	107	112			____	____
Second Period Flow Final		205	223	226			60	60
Second Period Closed in		978	1006	999			45	45
Third Period Flow Initial							____	____
Third Period Flow Final								
Third Period Closed in								
Final Hydrostatic		1564	1605	1586			____	____

Legal Location Sec. - Twp. - Rng. 26-4-27
Lease Name PETRACEK
Well No. 3
Test No. 1
Tested Interval 3103'-3162'
Field Area JENNINGS N.W.
County DECATUR
State KANSAS
Lease Owner/Company Name MESSMAN-RINEHART OIL COMPANY

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FORMATION TEST DATA

LITTLE'S

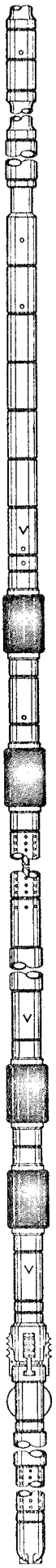
Gauge No.	738		Depth	3104'	Clock No.	3227	12hour	Ticket No.	514031	

	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	16	.000		79	.000	92	.000		205					
1	.0278	32	.0198		860	.0663	119	.0334		763					
2	.0556	48	.0396		915	.1326	138	.0668		848					
3	.0834	60	.0594		950	.1989	156	.1002		890					
4	.1112	72	.0792		971	.2652	176	.1336		913					
5	.1320	79*	.0990		988	.3315	190	.1670		933					
6			.1188		999	.3980	205	.2004		949					
7			.1386		1011			.2338		960					
8			.1584		1019			.2672		969					
9			.1782		1026			.3010		978					
10			.2050		1029 **										
11															
12															
13															
14															
15															

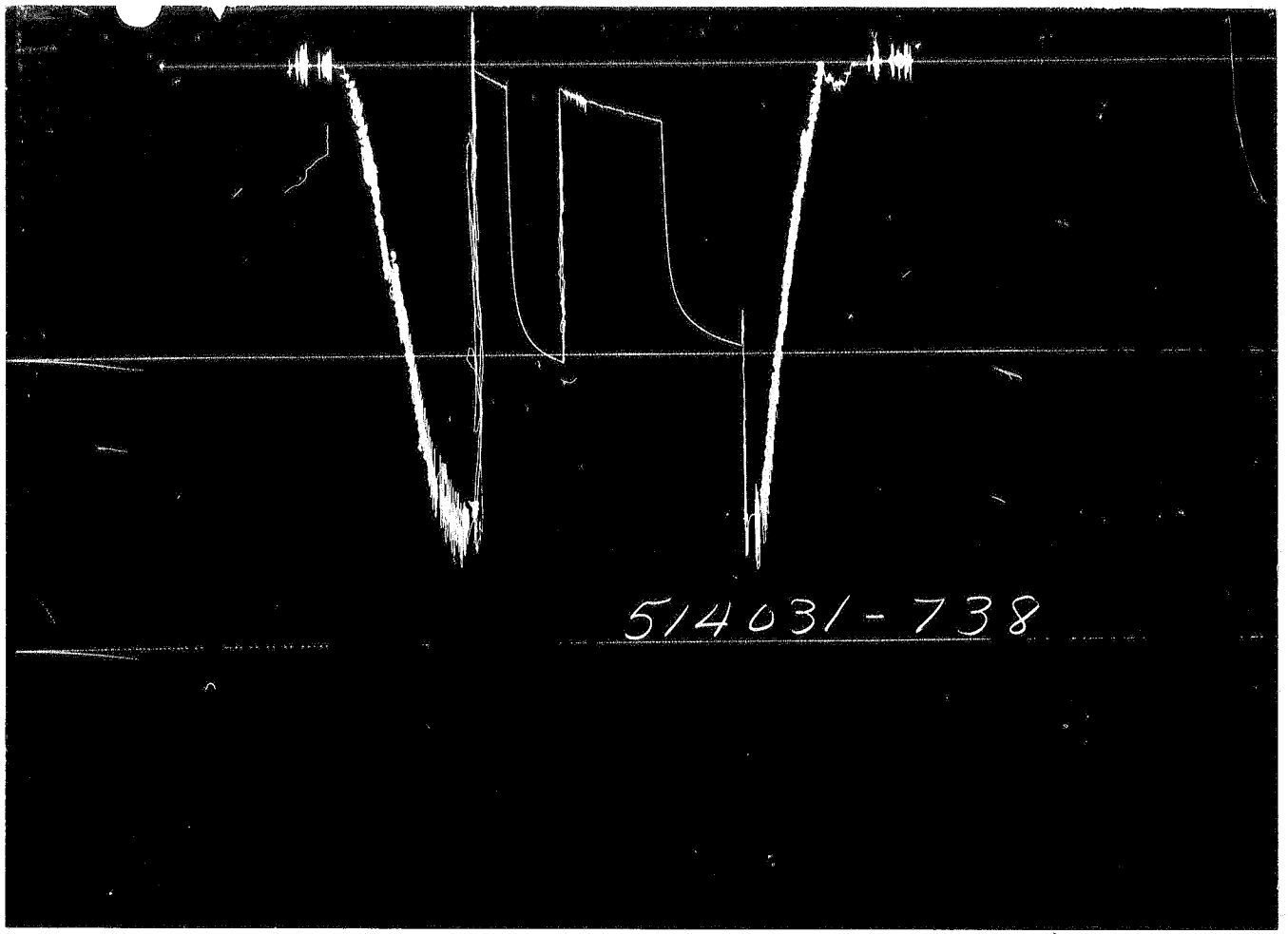
Gauge No.	272		Depth	3158'	Clock No.	2414	12 hour			
0	.000	44	.000	115	.000	112	.000	226		
1	.028	57	.0204	786	.0683	154	.0345	786		
2	.056	72	.0408	894	.1366	163	.0690	870		
3	.084	86	.0612	946	.2049	183	.1035	908		
4	.112	105	.0816	975	.2732	198	.1380	935		
5	.136	115*	.1020	997	.3415	210	.1725	954		
6			.1224	1013	.4100	226	.2070	969		
7			.1428	1025			.2415	979		
8			.1632	1034			.2760	988		
9			.1836	1042			.3110	999		
10			.2110	1050**						
11										
12										
13										
14										
15										
Reading Interval	4		3		10		5			Minutes

REMARKS: * Last interval equal to 3 minutes **-4 minutes.

514031

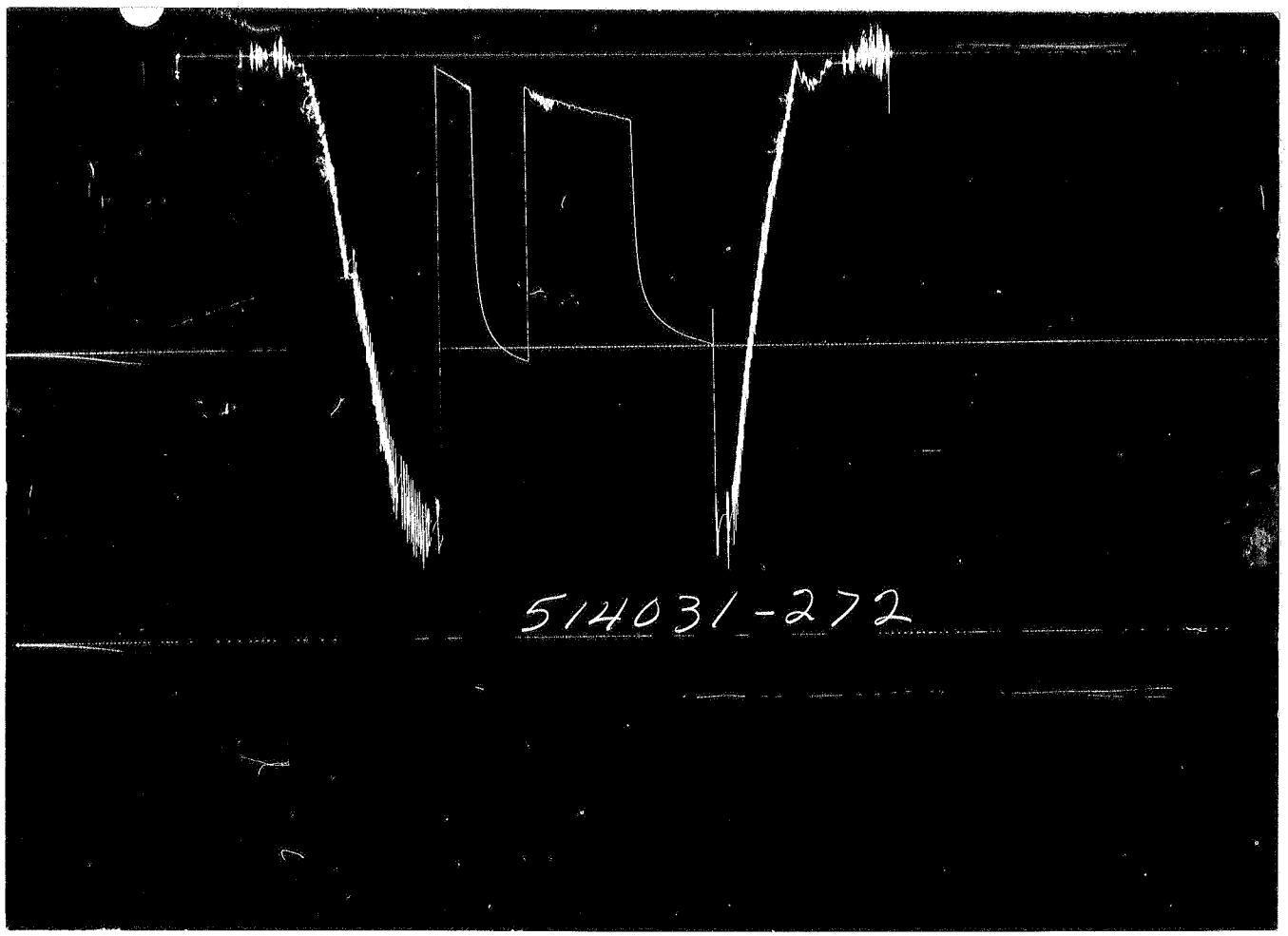


	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4½"	3.826"	2338'	
Drill Collars		2.76"	756'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3093'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3098'
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3103'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	3.06"	4'	3104'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars	4½"	2.76"	32'	
Flush Joint Anchor	5"	2.76"	18'	
Blanked-Off B.T. Running Case w/temp.	5"		5'	3158'

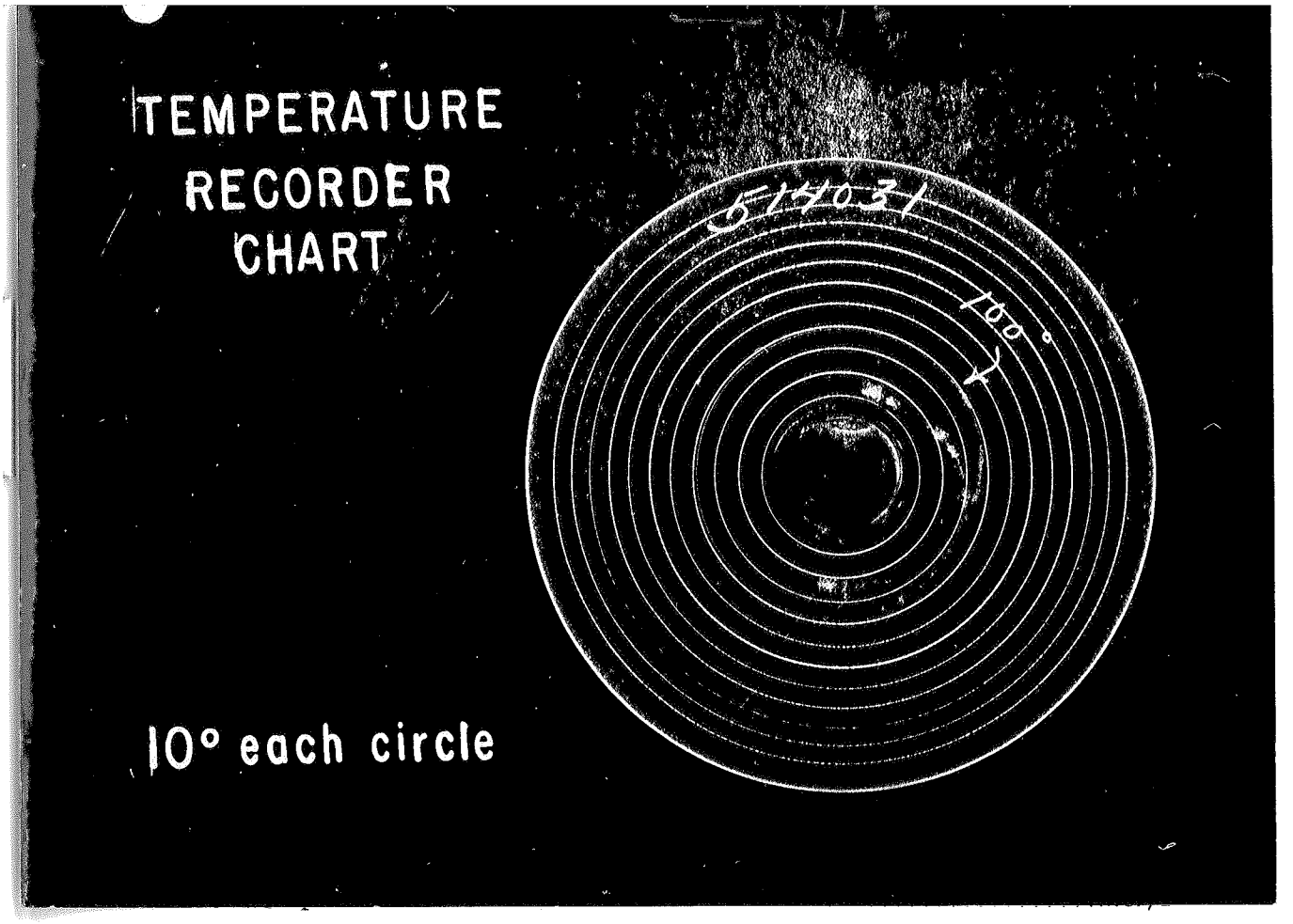


PRESSURE

TIME



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



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.

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 48		cp

Date 2-29-72 Ticket Number 514032
Kind of Job OPEN HOLE Halliburton District HAYS
Tester MR. JOSLIN Witness MR. KLEIN
Drilling Contractor DREILING OIL INCORPORATED IC S

EQUIPMENT & HOLE DATA

Formation Tested Tarkio
Elevation 2517' KB Ft.
Net Productive Interval 12' Ft.
All Depths Measured From Kelly Bushing
Total Depth 3182' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 787' I.D. 2.764" WP
Drill Pipe Length 2361' I.D. 3.826"
Packer Depth(s) 3165' - 3170' Ft.
Depth Tester Valve 3156' Ft.

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

Recovered 30 Feet of Oil cut mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Mea. From Tester Valve

Remarks Opened tool for 20 minute first flow with a weak blow for 15 minutes. Closed tool for 31 minute initial closed in pressure. Reopened tool for 31 minute second flow with a weak blow for 9 minutes. Closed tool for 28 minute second closed in pressure.

TEMPERATURE	Gauge No. 738	Gauge No. 272	Gauge No.	TIME
	Depth: 3158' Ft.	Depth: 3178' Ft.	Depth: Ft.	
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool XXM.
Est. °F.	Blanked Off NO	Blanked Off YES	Blanked Off	Opened 12:05 P.M.
3177'@				Tool XXM.
Actual 98 °F.	Pressures	Pressures	Pressures	Closed 13:55 P.M.

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		-	1590	1659	1600				
First Period	Flow Initial	-	15	27	23			____	____
	Flow Final	-	16	36	25			20	20
	Closed in	-	1015	1113	1024			30	31
Second Period	Flow Initial	-	27	36	35			____	____
	Flow Final	-	26	36	35			30	31
	Closed in	-	909	926	917			30	28
Third Period	Flow Initial							____	____
	Flow Final								
	Closed in								
Final Hydrostatic		-	1575	1641	1584			____	____

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FORMATION TEST DATA

LITTLE'S

Legal Location Sec. - Twp. - Rng. 26 - 4 - 27
Lease Name PETRACEK
Well No. 3
Test No. 2
Tested Interval 3170' - 3182'
Field Area JENNINGS - NORTHWEST
County DECATUR
State KANSAS
Lease Owner/Company Name MESSMAN - RINEHART OIL COMPANY

Gauge No.	738	Depth	3158'	Clock No.	3227	12 hour	Ticket No.	514032

	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	15	.000		16	.000	27	.000		26					
1	.128	16	.0201		188	.210	26	.020		81					
2			.0402		568			.040		295					
3			.0603		732			.060		543					
4			.0804		821			.080		675					
5			.1005		879			.100		754					
6			.1206		922			.120		810					
7			.1407		953			.140		849					
8			.1608		977			.160		878					
9			.1809		996			.180		901					
10			.2080		1015*			.187		909**					
11															
12															
13															
14															
15															

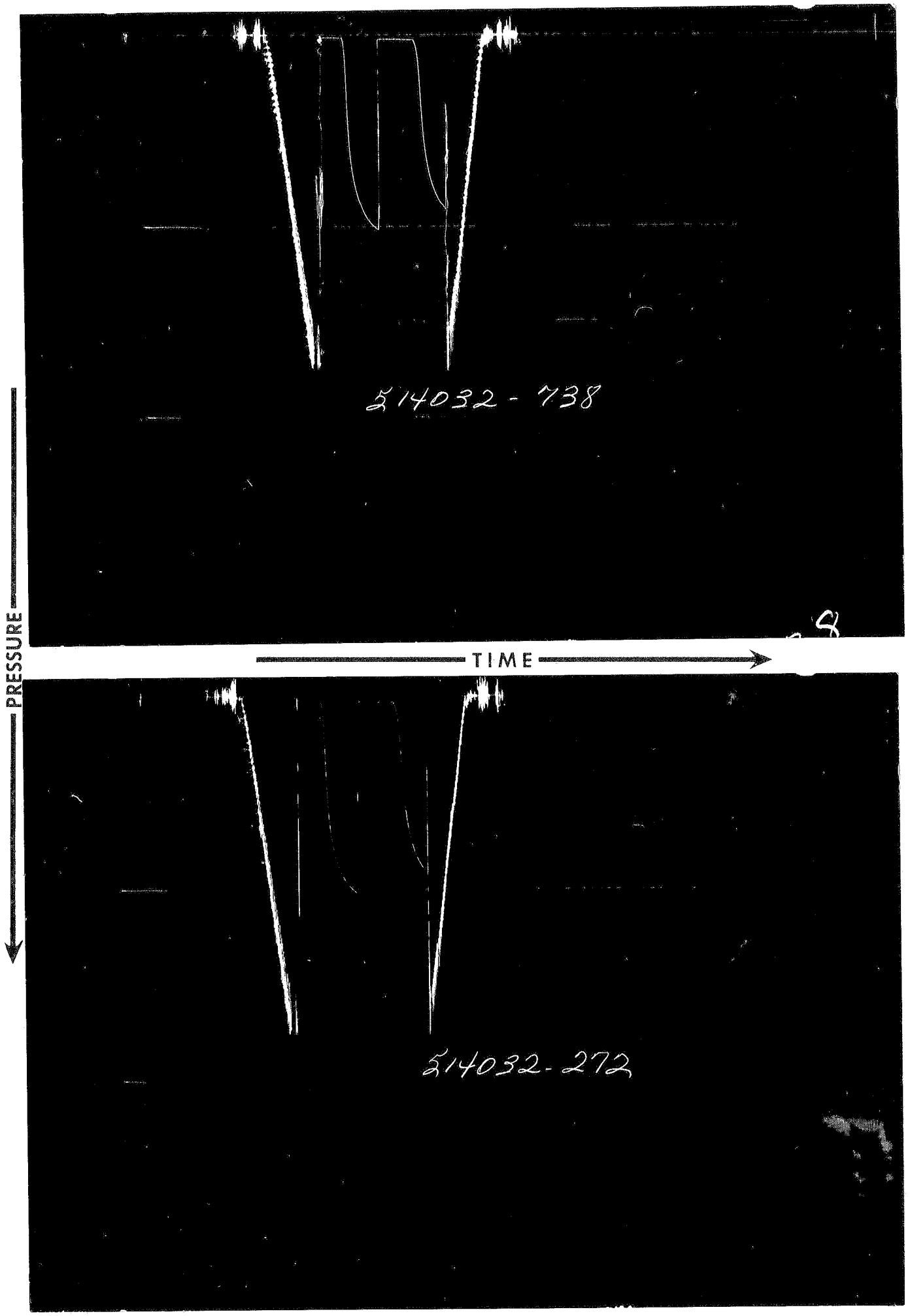
Gauge No.	272	Depth	3178'	Clock No.	2414	12hour								
0	.000	23	.000		25	.000	35	.000		35					
1	.136	25	.0209		170	.216	35	.0208		88					
2			.0418		564			.0415		292					
3			.0627		738			.0623		551					
4			.0836		830			.0830		684					
5			.1045		888			.1038		762					
6			.1254		931			.1245		818					
7			.1463		962			.1453		858					
8			.1672		986			.1660		888					
9			.1881		1004			.1868		910					
10			.2160		1024*			.1940		917**					
11															
12															
13															
14															
15															
Reading Interval			3					3							Minutes

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

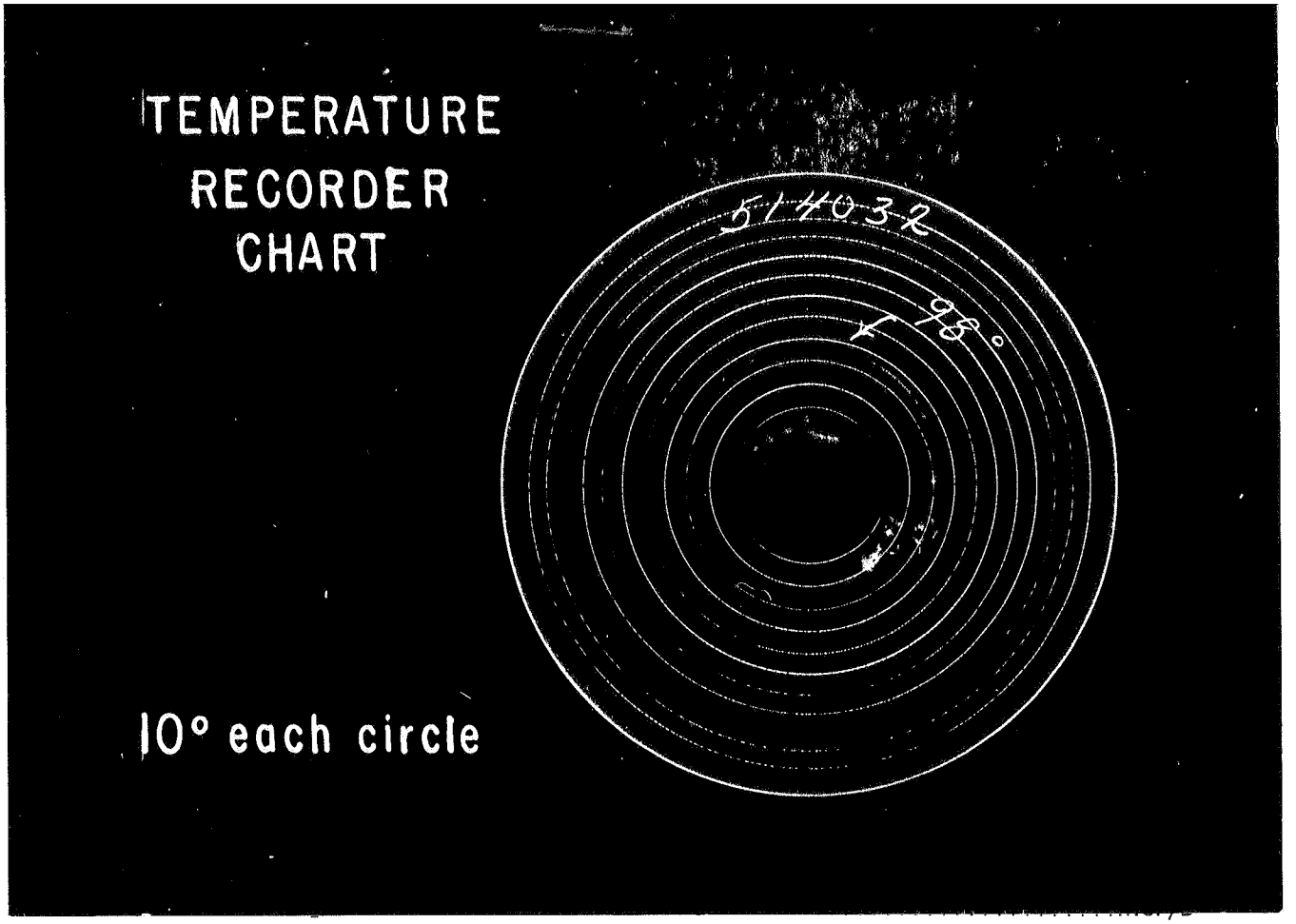
SPECIAL PRESSURE DATA

514032

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4 1/2"	3.826"	2361'	
Drill Collars	4 1/2"	2.764"	787' WEIGHT PIPE	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3156'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	3.06"	4'	3158'
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3165'
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3170'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.76"	7'	
Blanked-Off B.T. Running Case W/TEMP.	5"		5'	3178'



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



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.

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	48 cp	

Date 3-1-72 Ticket Number 514033
Kind of Job OPEN HOLE Halliburton District HAYS
Tester MR. JOSLIN Witness MR. KLEIN
Drilling Contractor DREILING OIL INCORPORATED IC S

EQUIPMENT & HOLE DATA

Formation Tested Howard
Elevation 2517' KB Ft.
Net Productive Interval 7' Net Pay Ft.
All Depths Measured From Kelly Bushing
Total Depth 3213' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 787' WP I.D. 2.764" WP
Drill Pipe Length 2393' I.D. 3.826"
Packer Depth(s) 3193' - 3198' Ft.
Depth Tester Valve 3188' Ft.

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

Recovered 60 Feet of Thin mud
Recovered 60 Feet of Watery mud
Recovered 60 Feet of Muddy water
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

Remarks Opened tool for 30 minute first flow with a weak blow lasting throughout test. Closed tool for 30 minute initial closed in pressure. Reopened tool for 45 minute second flow with a weak blow lasting throughout test. Closed tool for 45 minute second closed in pressure.

TEMPERATURE	Gauge No. 738	Gauge No. 272	Gauge No.	TIME
	Depth: 3199' Ft.	Depth: 3209' Ft.	Depth: Ft.	
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened 22:30 A.M. P.M.
Est. °F.	Blanked Off NO	Blanked Off YES	Blanked Off	
Actual 98 °F.	Pressures	Pressures	Pressures	Tool Closed 01:00 A.M. P.M.

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		-	1618	1632	1624				
First Period	Flow Initial	-	22	27	23			___	___
	Flow Final	-	52	62	60			30	30
	Closed in	-	763	757	770			30	30
Second Period	Flow Initial	-	65	62	70			___	___
	Flow Final	-	101	107	109			45	45
	Closed in	-	748	757	758			45	45
Third Period	Flow Initial							___	___
	Flow Final								
	Closed in								
Final Hydrostatic		-	1611	1623	1619			___	___

Legal Location Sec. - Twp. - Rng. 26 - 4 - 27
Lease Name PETRACEK Well No. 3 Test No. 3
Field Area JENNINGS NORTHWEST
County DECATUR State KANSAS
Tested Interval 3198' - 3213'
Lease Owner/Company Name MESSMAN - RINEHART OIL COMPANY

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FORMATION TEST DATA

LITTLE'S

5

Gauge No.	738	Depth	3199'	Clock No.	3227	12 hour	Ticket No.	514033

	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	22	.000		52	.000	65	.000		101					
1	.0333	26	.0204		542	.0614	67	.0272		534					
2	.0666	32	.0408		638	.1228	76	.0544		621					
3	.0999	38	.0612		676	.1842	84	.0816		658					
4	.1332	42	.0816		699	.2456	92	.1088		681					
5	.1665	47	.1020		717	.3070	101	.1360		696					
6	.2000	52	.1224		730			.1632		711					
7			.1428		740			.1904		721					
8			.1632		750			.2176		729					
9			.1836		757			.2448		736					
10			.2040		763			.2720		742					
11								.3060		748*					
12															
13															
14															
15															

Gauge No.	272	Depth	3209'	Clock No.	2414	12 hour

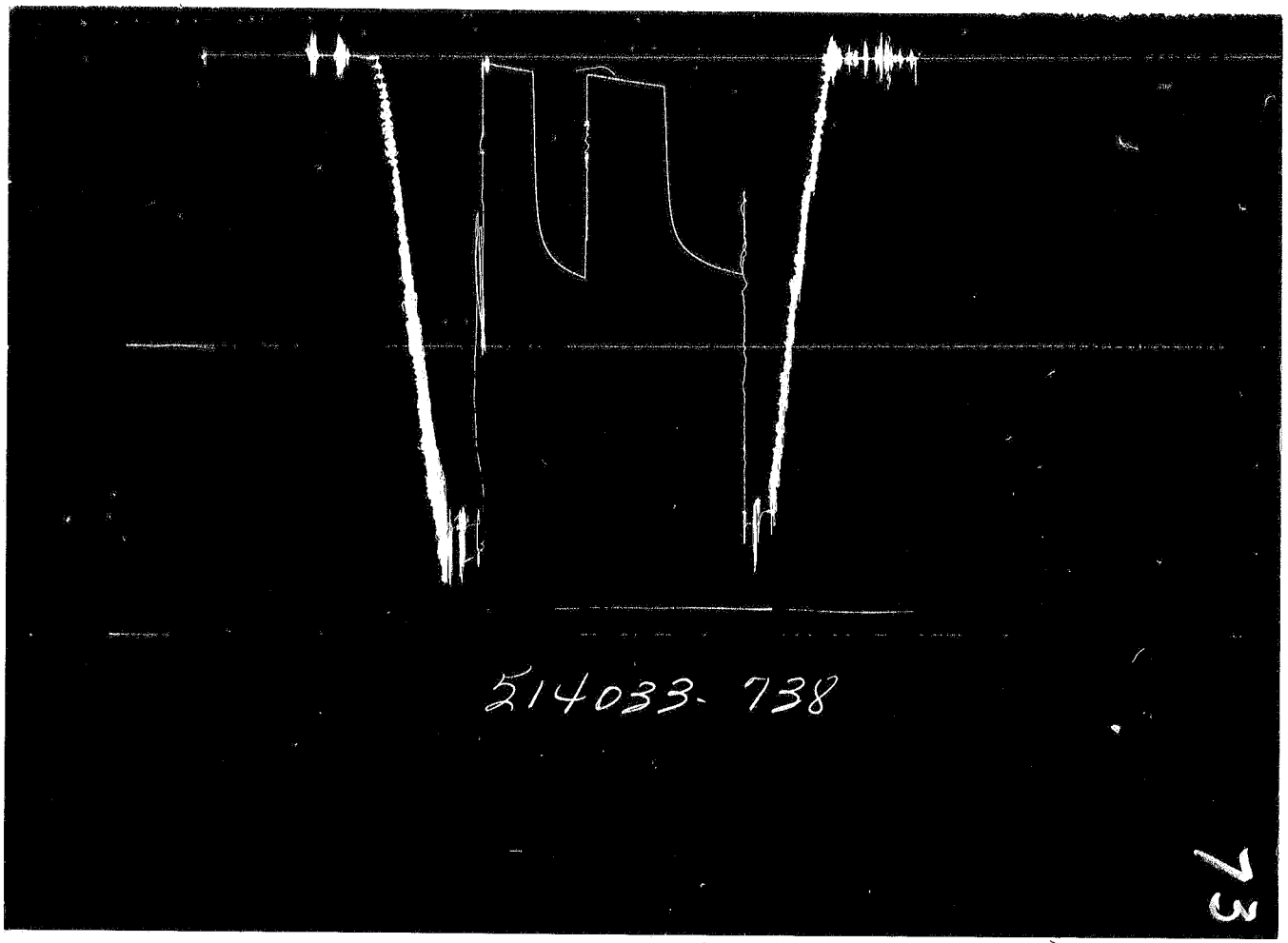
0	.000	23	.000		60	.000	70	.000		109					
1	.035	35	.0209		552	.0636	74	.0277		544					
2	.070	40	.0418		647	.1272	83	.0554		630					
3	.105	45	.0627		684	.1908	92	.0831		665					
4	.140	50	.0836		709	.2544	100	.1108		690					
5	.175	54	.1045		726	.3180	109	.1385		706					
6	.210	60	.1254		739			.1662		719					
7			.1463		749			.1939		729					
8			.1672		758			.2216		738					
9			.1881		765			.2493		745					
10			.2090		770			.2770		751					
11								.3120		758*					
12															
13															
14															
15															

Reading Interval	5	3	9	4			Minutes

REMARKS: *Last interval equal to 5 minutes

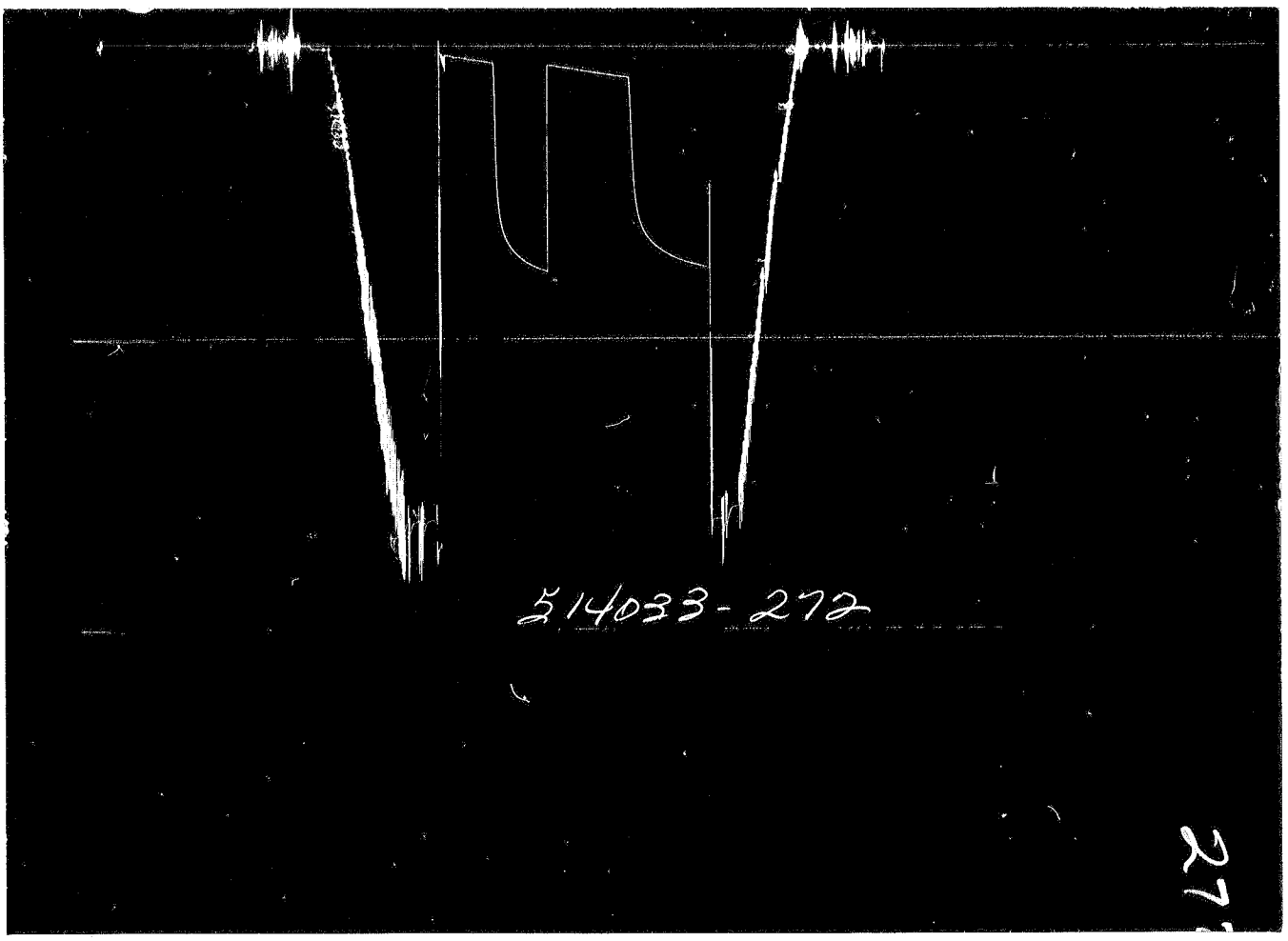
514033

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4 1/2"	3.826"	2393'	
Drill Collars	4 1/2"	2.764"	787' WEIGHT PIPE	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3188'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3193'
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3198'
Flush Joint Anchor				
Pressure Equalizing Tube				
AP ~~XXXXXXXXXX~~ T. Running Case	5"	3.06"	4'	3199'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.76"	6'	
Blanked-Off B.T. Running Case W/TEMP.	5"		5'	3209'

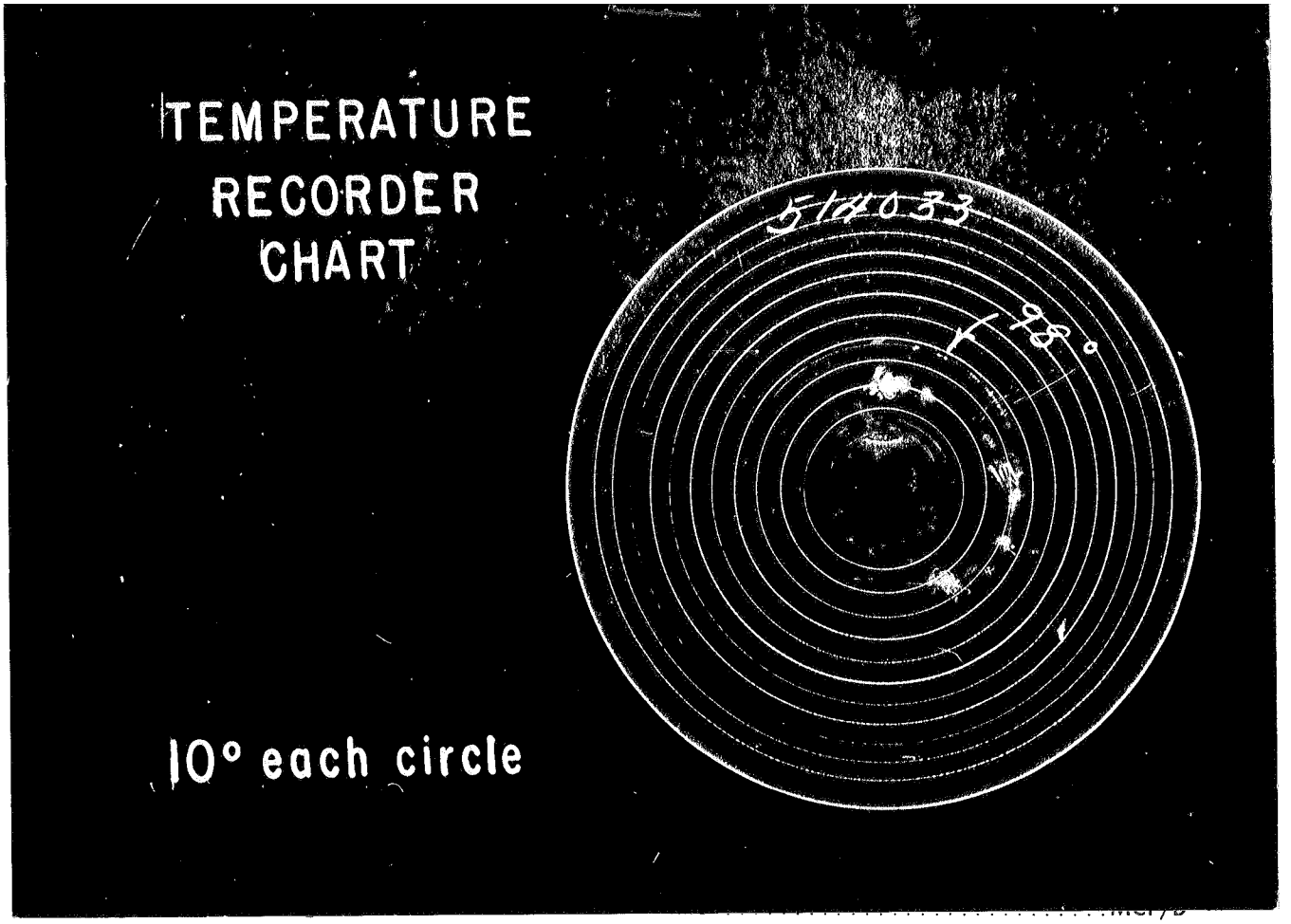


PRESSURE

TIME



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



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.

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 48		cp

Date 3-2-72 Ticket Number 514034
Kind of Job OPEN HOLE Halliburton District HAYS
Tester MR. JOSLIN Witness MR. KLEIN
Drilling Contractor DREILING OIL, INCORPORATED RC S

EQUIPMENT & HOLE DATA

Formation Tested Lower Kansas City
Elevation 2517' KB Ft.
Net Productive Interval 6' Net Pay Ft.
All Depths Measured From Kelly Bushing
Total Depth 3469' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 787' WP I.D. 2.764"
Drill Pipe Length 2626' I.D. 3.826"
Packer Depth(s) 3427' Ft.
Depth Tester Valve 3422' Ft.

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

Recovered 40 Feet of Mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

Remarks See Production test data sheet.

TEMPERATURE	Gauge No. 738	Gauge No. 272	Gauge No.	TIME
	Depth: 3428 Ft.	Depth: 3465 Ft.	Depth: Ft.	
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool ~~A.M.~~
Est. °F.	Blanked Off No	Blanked Off Yes	Blanked Off	Opened 2340 P.M.
3464' @				Tool A.M.
Actual 99 °F.	Pressures	Pressures	Pressures	Closed 0140 ~~P.M.~~

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		-	1796	1911	1817				
First Period	Flow Initial	-	14	36	36			____	____
	Flow Final	-	22	45	42			30	30
	Closed in	-	915	935	932			30	29
Second Period	Flow Initial	-	30	45	47			____	____
	Flow Final	-	33	62	52			30	30
	Closed in	-	862	882	882			30	31
Third Period	Flow Initial							____	____
	Flow Final								
	Closed in								
Final Hydrostatic		-	1796	1857	1817			____	____

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FORMATION TEST DATA

LITTLE'S

5

Legal Location Sec. - Twp. - Rng. 26 - 4 - 27
Field Area JENNINGS N.W.
County DECATUR
State KANSAS

PETRACEK — Lease Name
3 — Well No.
4 — Test No.
3427' - 3469' — Tested Interval
MESSMAN-RINEHART OIL COMPANY — Lease Owner/Company Name

Casing perfs. Bottom choke Surf. temp 20 °F Ticket No. 514034

Gas gravity Oil gravity GOR

Spec. gravity Chlorides ppm Res. @ °F

Date Time a.m. p.m.	Choke Size	Surface Pressure psi	Gas Rate MCF	Liquid Rate BPD	Remarks
1500					On Location
2100					Unloaded, picked up and made up tool
2240					Started in hole
2340					On bottom, tool opened with a weak
					blow, lasting throughout
0010					Closed
0040					Opened with a weak blow for 5 minutes
0110					Closed
0140					Off bottom
0230					Tool broke and laid down

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PRODUCTION TEST DATA

LITTLE'S

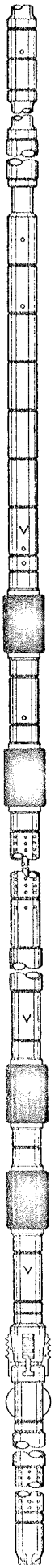
5

Gauge No. 738			Depth 3428'			Clock No. 3227			12 hour	Ticket No. 514034				
	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	14	.0000		22	.0000	30	.0000		33					
1	.1970	22	.0214		49	.1980	33	.0204		58					
2			.0428		102			.0408		96					
3			.0642		197			.0613		151					
4			.0856		375			.0817		263					
5			.1071		551			.1021		416					
6			.1285		679			.1225		546					
7			.1499		777			.1429		657					
8			.1713		851			.1634		743					
9			.1927		899			.1838		804					
10			.2070		915*			.2110		862**					
11															
12															
13															
14															
15															

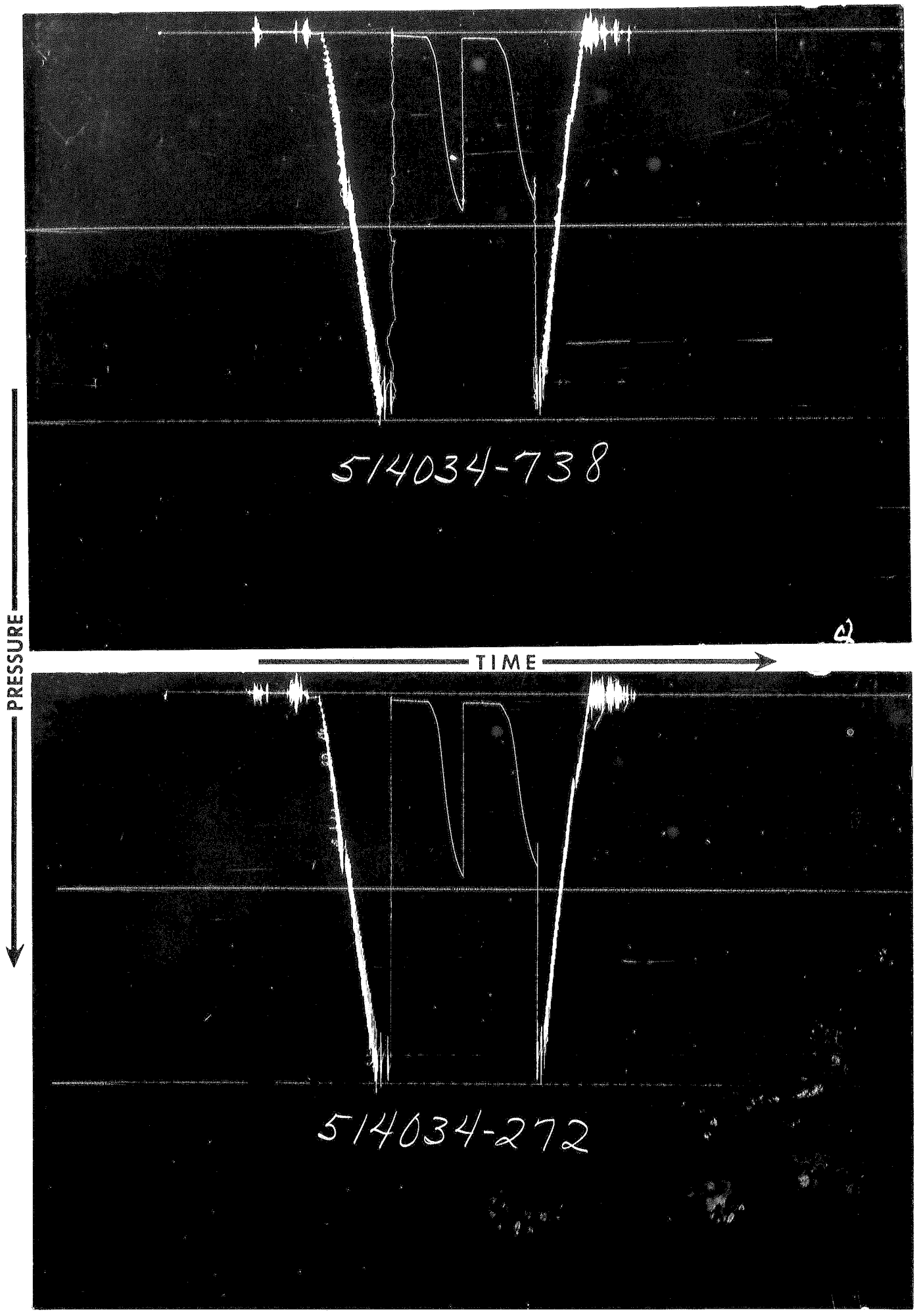
Gauge No. 272			Depth 3465'			Clock No. 2414			12 hour					
0	.0000	36	.0000		42	.0000	47	.0000		52				
1	.2120	42	.0214		65	.2130	52	.0213		78				
2			.0428		111			.0426		116				
3			.0642		186			.0639		176				
4			.0856		350			.0852		291				
5			.1071		533			.1065		445				
6			.1285		666			.1277		576				
7			.1499		775			.1490		684				
8			.1713		853			.1703		764				
9			.1927		908			.1916		827				
10			.2070		932*			.2200		882**				
11														
12														
13														
14														
15														
Reading Interval					3					3				Minutes

REMARKS: *Interval = 2 minutes **Interval = 4 minutes

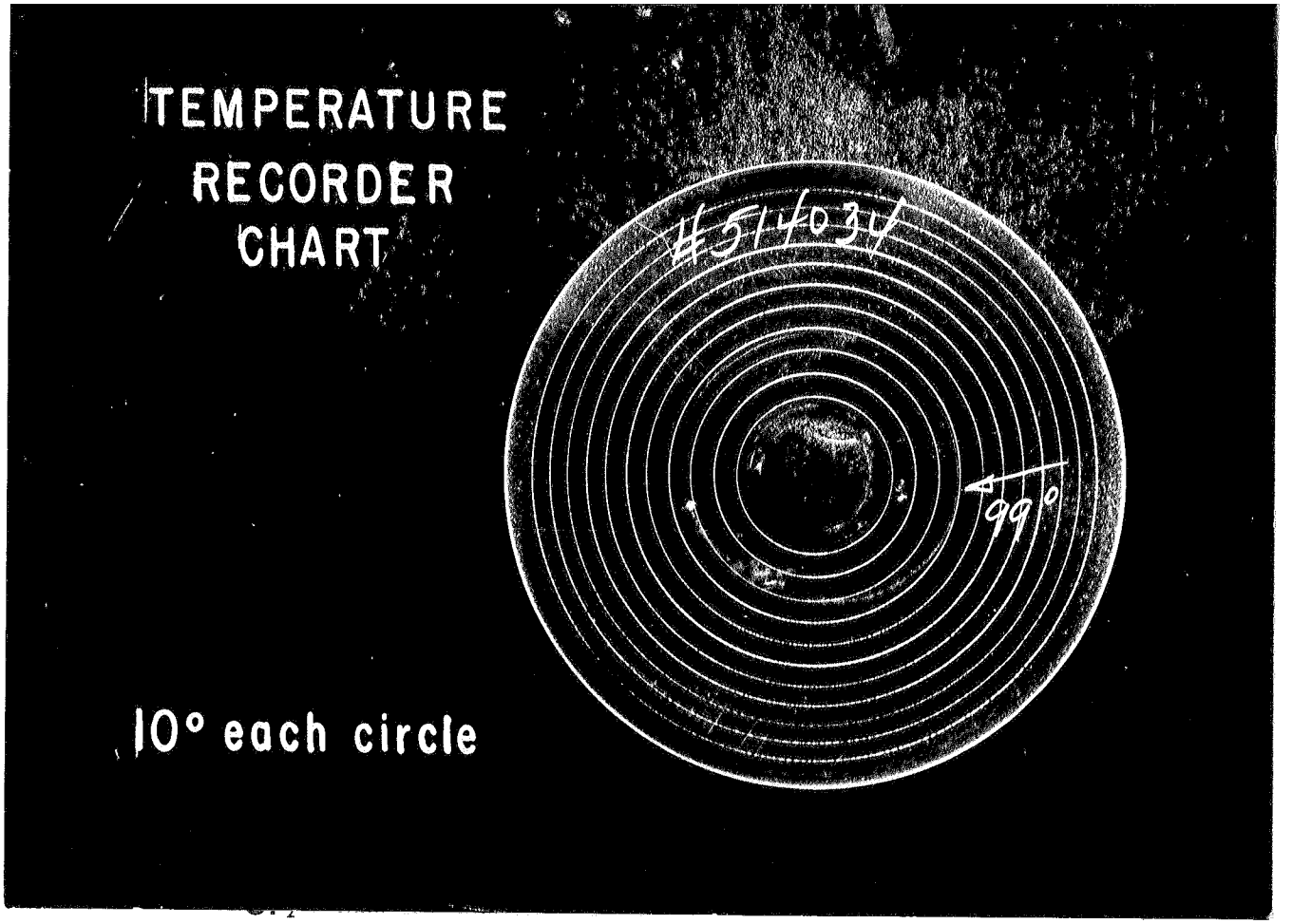
514034



	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4½"	3.826"	2626'	
Drill Collars Weight Pipe	4½"	2.764"	787'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3422'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly				
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3427'
Flush Joint Anchor				
Pressure Equalizing Tube				
~~Blanked-Off~~ B.T. Running Case				3428'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.76"	33'	
Blanked-Off B.T. Running Case W/Temp.	5"		5'	3465'



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



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.

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	9.9 vis 46 cp	

Date 3-2-72 Ticket Number 514035
Kind of Job OPEN HOLE Halliburton District HAYS
Tester MR. JOSLIN Witness MR. KLEIN
Drilling Contractor DREILING OIL INCORPORATED DR S

EQUIPMENT & HOLE DATA

Formation Tested Lower Kansas City
Elevation 2517' KB Ft.
Net Productive Interval 6' Net pay Ft.
All Depths Measured From Kelly Bushing
Total Depth 3506' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 787' WP I.D. 2.764"
Drill Pipe Length 2663' I.D. 3.826"
Packer Depth(s) 3464' Ft.
Depth Tester Valve 3459' Ft.

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

Recovered 70 Feet of mud
Recovered 40 Feet of thin mud
Recovered Feet of
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

Remarks Opened tool for 30 minute first flow with a weak blow throughout flow. Closed tool for 31 minute first closed in pressure. Reopened tool for 60 minute second flow with a weak intermittent blow lasting throughout flow. Closed tool for 44 minute second closed in pressure.

TEMPERATURE	Gauge No. 738	Gauge No. 272	Gauge No.	TIME
	Depth: 3465' Ft.	Depth: 3502' Ft.	Depth: Ft.	
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened A.M. 13:55 P.M.
Est. °F.	Blanked Off No	Blanked Off Yes	Blanked Off	
3501' Actual 100 °F.	Pressures	Pressures	Pressures	Tool Closed A.M. 16:40 P.M.

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic			1826	1929	1851				
First Period	Flow Initial		16	36	37			———	———
	Flow Final		32	52	50			30	30
	Closed in		779	793	795			30	31
Second Period	Flow Initial		41	54	61			———	———
	Flow Final		65	80	85			60	60
	Closed in		735	757	752			45	44
Third Period	Flow Initial							———	———
	Flow Final								
	Closed in								
Final Hydrostatic			1805	1857	1824			———	———

Legal Location Sec. - Twp. - Rng. 26-4-27
Lease Name PETRACEK
Well No. 3
Test No. 5
Tested Interval 3464'-3506'
Field Area JENNINGS N.W.
County DECATUR
State KANSAS
Lease Owner/Company Name MESSMAN-RINEHART OIL COMPANY

Gauge No.	738		Depth	3465'	Clock No.	3227		12 hour	Ticket No.	514035				
	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	16	.000		32	.000	41	.000		65					
1	.032	18	.0200		403	.0667	42	.0269		438					
2	.064	21	.0400		621	.1334	47	.0538		589					
3	.096	25	.0600		678	.2001	52	.0807		640					
4	.128	28	.0800		708	.2668	56	.1076		666					
5	.160	30	.1000		729	.3335	61	.1345		684					
6	.192	32	.1200		743	.4000	65	.1614		696					
7			.1400		754			.1883		707					
8			.1600		763			.2152		715					
9			.1800		771			.2421		723					
10			.2070		779*			.2690		730					
11								.2960		735					
12															
13															
14															
15															

Gauge No.	272		Depth	3502'	Clock No.	2414		12 hour						
0	.000	37	.000		51	.000	61	.000		85					
1	.034	37	.0207		432	.0693	61	.0278		463					
2	.068	39	.0414		639	.1386	66	.0556		619					
3	.102	44	.0621		698	.2079	70	.0834		664					
4	.136	47	.0828		726	.2772	75	.1112		688					
5	.170	48	.1035		746	.3465	78	.1390		704					
6	.204	50	.1242		762	.4160	85	.1668		716					
7			.1449		772			.1946		726					
8			.1656		781			.2224		734					
9			.1863		788			.2502		740					
10			.2140		795*			.2780		747					
11								.3060		752					
12															
13															
14															
15															
Reading Interval	5		3			10		4							Minutes

REMARKS: * Last interval equal to 4 minutes

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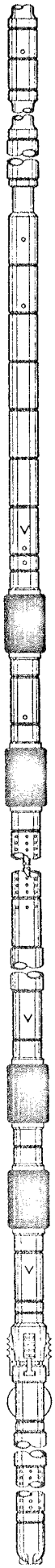
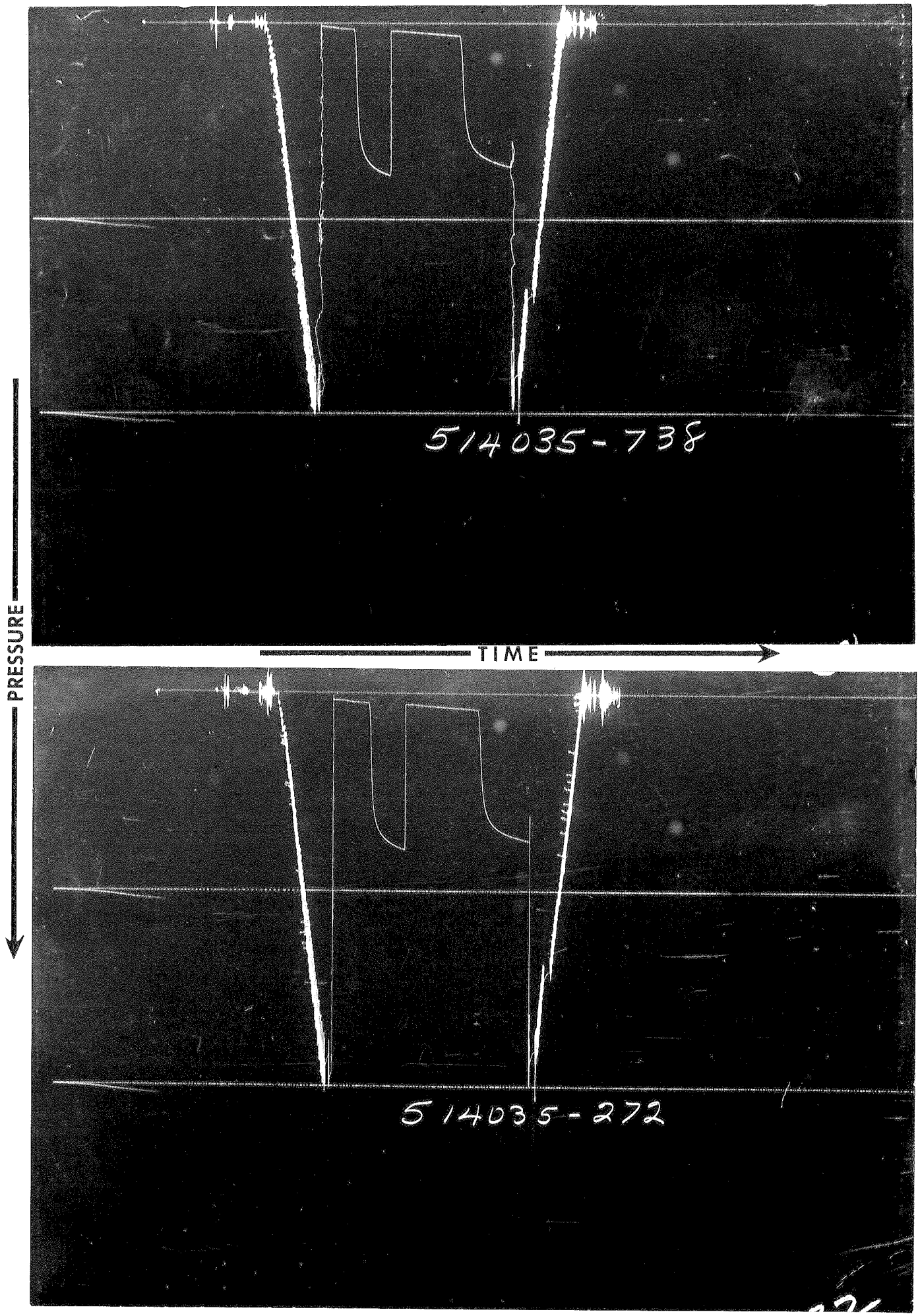
SPECIAL PRESSURE DATA

LITTLE'S

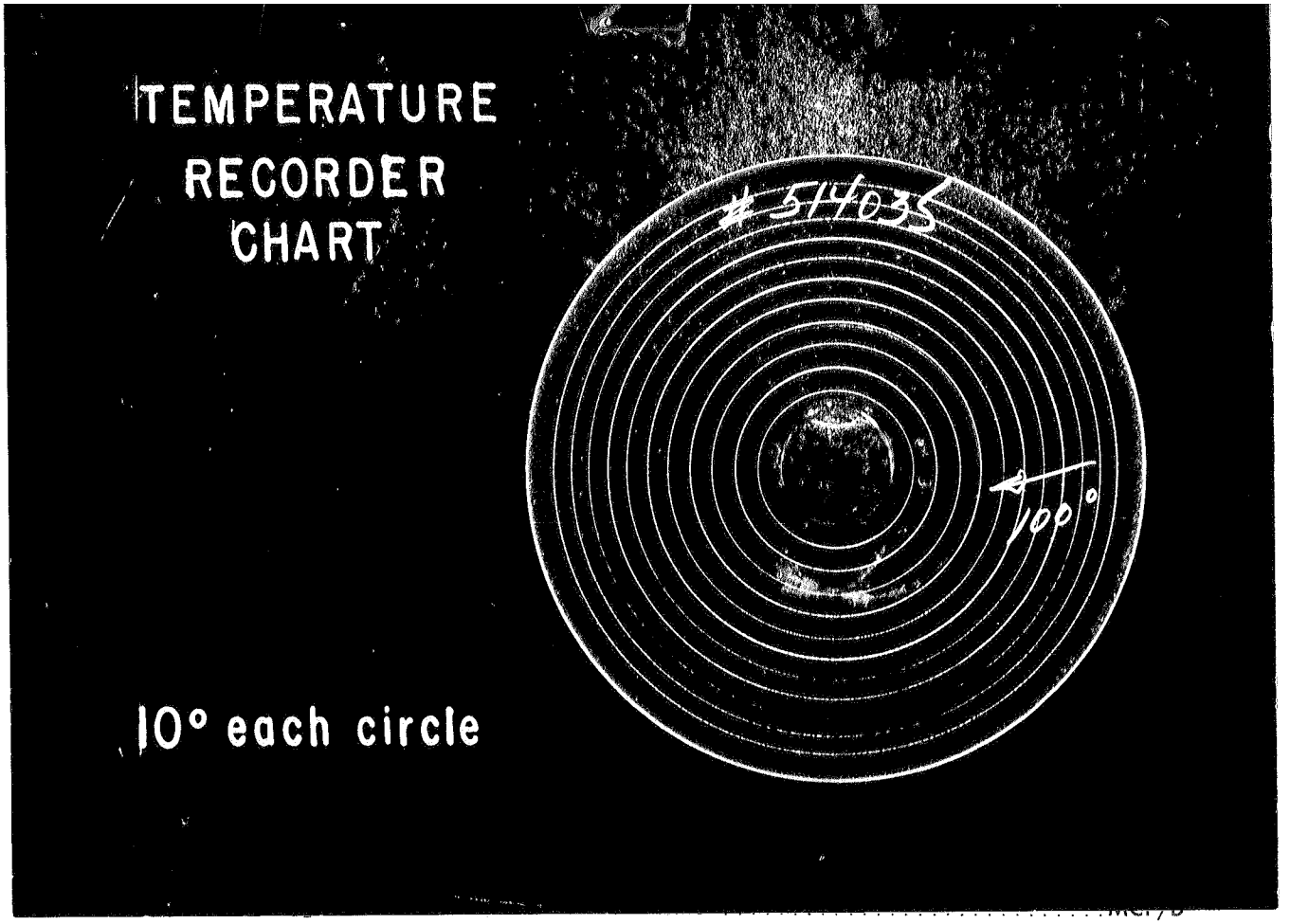
514035



	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4½"	3.826"	2663'	
Drill Collars	4½"	2.764"	787' WP	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3459'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3464'
Distributor				
Packer Assembly				
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case AP	5"	3.06"	4'	3465'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.76"	33'	
Blanked-Off B.T. Running Case w/ temp.	5"		5'	3502'



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



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.

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.	54,600 ppm
Recovery Mud	_____	@ _____	°F.	
Recovery Mud Filtrate	_____	@ _____	°F.	_____ ppm
Mud Pit Sample	_____	@ _____	°F.	
Mud Pit Sample Filtrate	_____	@ _____	°F.	_____ ppm
Mud Weight	9.1	vis 42		cp

Date 3-3-72 Ticket Number 514036
Kind of Job OPEN HOLE Halliburton District HAYS
Tester MR. JOSLIN Witness MR. KLEIN
Drilling Contractor DREILING OIL INCORPORATED BCIC S

EQUIPMENT & HOLE DATA

Formation Tested Lower Kansas City
Elevation 2517' KB Ft.
Net Productive Interval 4' Net Pay Ft.
All Depths Measured From Kelly Bushing
Total Depth 3516' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 787' WP I.D. 2.764" WP
Drill Pipe Length 2712' I.D. 3.826"
Packer Depth(s) 3503' Ft.
Depth Tester Valve 3498' Ft.

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

Recovered 100 Feet of Muddy water
Recovered 240 Feet of Water 1.065 specific gravity
Recovered Feet of
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

Remarks Opened tool for 20 minute first flow with a weak to strong blow in 20 minutes. Closed tool for 29 minute initial closed in pressure. Reopened tool for 31 minute second flow with a strong blow throughout test. Closed tool for 45 minute second closed in pressure.

TEMPERATURE	Gauge No. 738 Depth: 3504' Ft.	Gauge No. 272 Depth: 3512' Ft.	Gauge No. Depth: Ft.	TIME
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened 03:35 A.M.
Est. °F.	Blanked Off NO	Blanked Off YES	Blanked Off	Tool Closed 05:40 A.M.
3511' @ Actual 103° F.	Pressures	Pressures	Pressures	

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic		-	1773	1839	1775				
First Period	Flow Initial	-	20	27	21			———	———
	Flow Final	-	80	71	84			20	20
	Closed in	-	1062	1069	1068			30	29
Second Period	Flow Initial	-	86	71	89			———	———
	Flow Final	-	170	178	175			30	31
	Closed in	-	1041	1042	1046			45	45
Third Period	Flow Initial							———	———
	Flow Final								
	Closed in								
Final Hydrostatic		-	1773	1839	1775			———	———

Legal Location Sec. - Twp. - Rng. 26 - 4 - 27
Lease Name PETRACEK Well No. 3 Test No. 6
Field Area JENNINGS N.W. Tested Interval 3503' - 3516'
County DECATUR State KANSAS
Lease Owner/Company Name MESSMAN - RINEHART OIL COMPANY

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FORMATION TEST DATA

LITTLE'S

Gauge No.	738	Depth	3504'	Clock No.	3227	12 hour	Ticket No.	514036

	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	20	.0000		80	.0000	86	.0000		170					
1	.0268	28	.0209		982	.0323	100	.0269		946					
2	.0536	42	.0418		1009	.0645	113	.0539		977					
3	.0804	55	.0627		1024	.0968	127	.0808		992					
4	.1072	67	.0836		1034	.1290	142	.1077		1003					
5	.1340	80	.1045		1043	.1613	154	.1347		1011					
6			.1254		1049	.2000	170**	.1616		1017					
7			.1463		1053			.1885		1023					
8			.1672		1057			.2154		1028					
9			.1881		1061			.2424		1032					
10			.2020		1062*			.2693		1035					
11								.3030		1041***					
12															
13															
14															
15															

Gauge No.	272	Depth	3512'	Clock No.	2414	12 hour

0	.000	21	.000		84	.000	89	.000		175					
1	.0286	29	.021		988	.0345	105	.0278		956					
2	.0572	45	.042		1016	.0690	118	.0556		984					
3	.0858	59	.063		1032	.1036	131	.0835		1000					
4	.1144	70	.084		1041	.1381	145	.1113		1010					
5	.1430	84	.105		1048	.1726	160	.1391		1018					
6			.126		1054	.2140	175**	.1669		1025					
7			.147		1060			.1947		1029					
8			.168		1063			.2226		1033					
9			.189		1066			.2504		1038					
10			.203		1068*			.2782		1041					
11								.3130		1046***					
12															
13															
14															
15															

Reading Interval	4	3	5	4	Minutes

REMARKS: *Last interval equal to 2 minutes **Last interval equal to 6 minutes ***Last interval equal to 5 minutes

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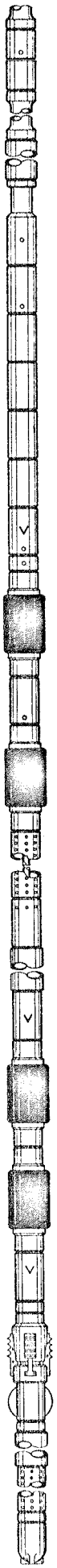
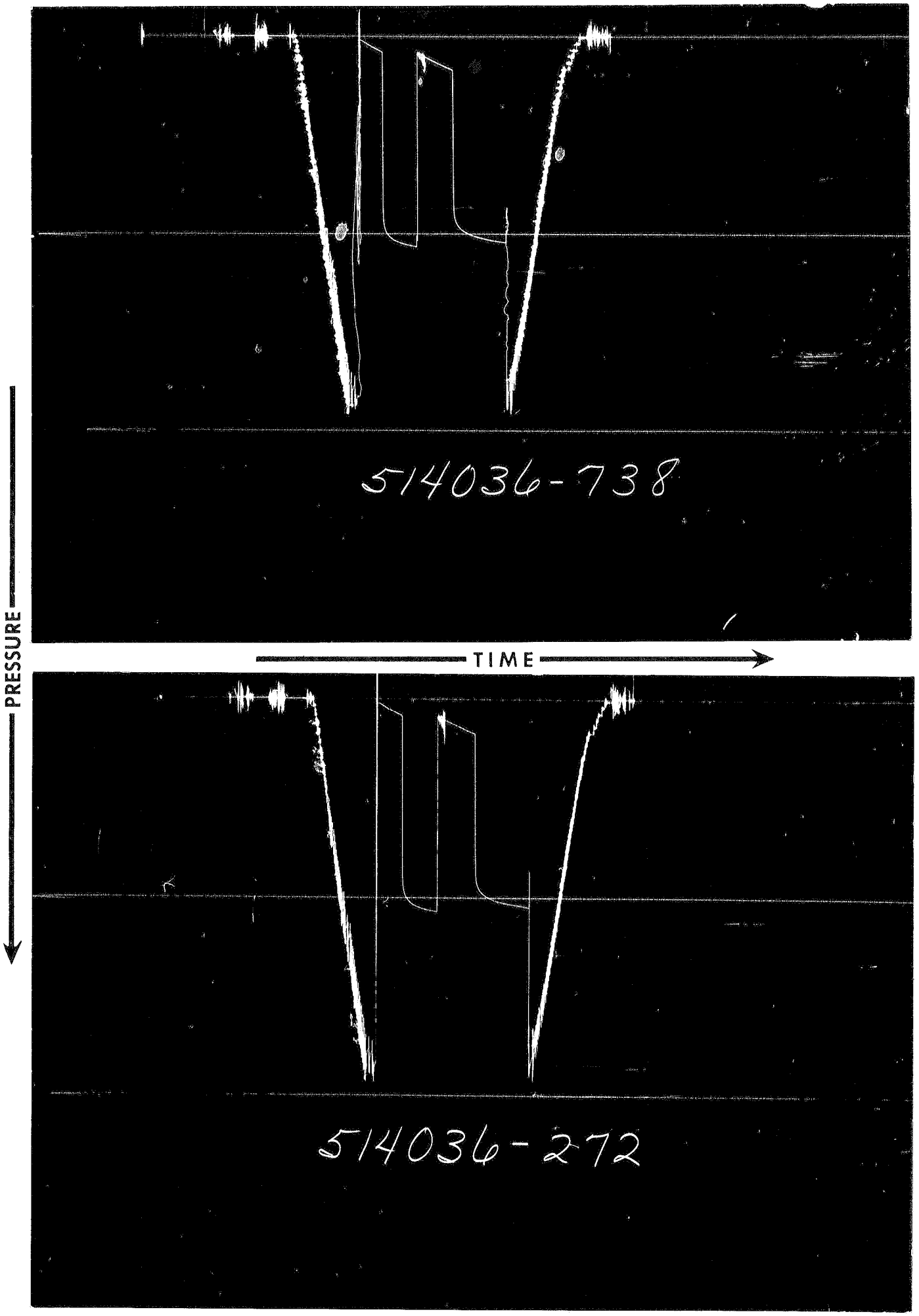
SPECIAL PRESSURE DATA

LITTLE'S

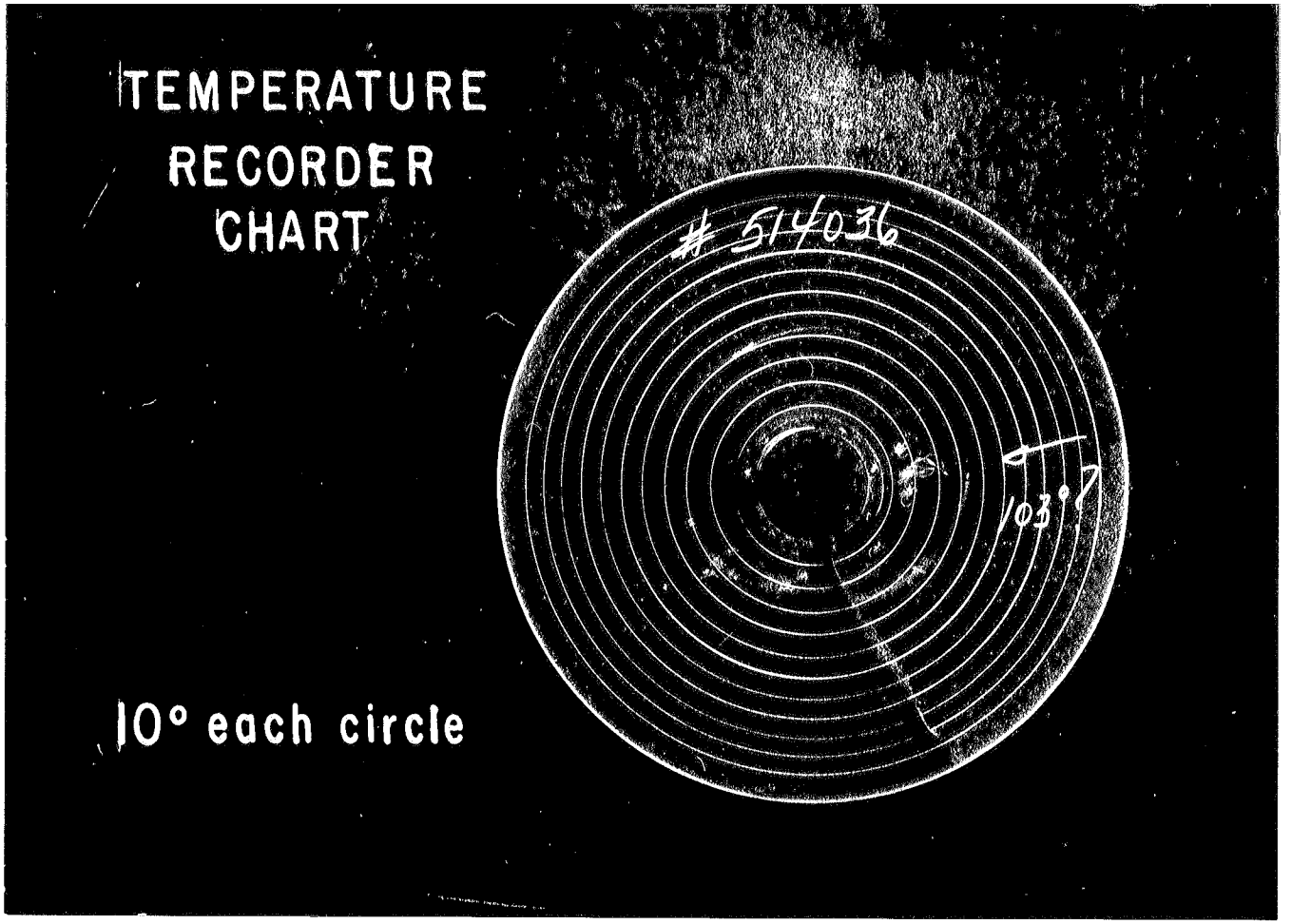
514036



	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4 1/2"	3.826"	2712'	
Drill Collars	4 1/2"	2.764"	787' WEIGHT PIPE	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3498'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly				
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3503'
Flush Joint Anchor				
Pressure Equalizing Tube				
AP ~~Blanked-Off B.T.~~ Running Case	5"	3.06"	4'	3504'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.76"	4'	
Blanked-Off B.T. Running Case W/TEMP.	5"		5'	3512'



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



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.

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	9.3	vis 44		cp

Date 3-3-72 Ticket Number 514037
Kind of Job OPEN HOLE Halliburton District HAYS
Tester MR. JOSLIN Witness MR. KLEIN
Drilling Contractor DREILING OIL INCORPORATED DR S

EQUIPMENT & HOLE DATA

Formation Tested Lower Kansas City
Elevation 2517' KB Ft.
Net Productive Interval 8' Net Pay Ft.
All Depths Measured From Kelly Bushing
Total Depth 3584' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 756' I.D. 2.76"
Drill Pipe Length 2762' I.D. 3.826"
Packer Depth(s) 3532' Ft.
Depth Tester Valve 3527' Ft.

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

Recovered 200 Feet of mud
Recovered 125 Feet of muddy water
Recovered Feet of CHARTS INDICATE PARTIAL PLUGGING OF TOOLS DURING INITIAL
Recovered Feet of FLOW AND EARLY PART OF SECOND FLOW. INITIAL CLOSED IN
Recovered Feet of PRESSURE QUESTIONABLE.

Meas. From Tester Valve

Remarks On location, unload-pickup and make up tool. Start in hole, slid tool 6' to bottom. Opened tool for 31 minute first flow with a weak blow throughout flow. Closed tool for 29 minute first closed in pressure. Reopened tool for 60 minute second flow with a weak blow lasting throughout flow. Closed tool for 45 minute second closed in pressure. UTR-UNABLE TO READ

TEMPERATURE	Gauge No. 738 Depth: 3533 Ft.	Gauge No. 272 Depth: 3580 Ft.	Gauge No. Depth: Ft.	TIME
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened A.M. 17:20 P.M.
Est. °F.	Blanked Off No	Blanked Off Yes	Blanked Off	
3579' Actual 100 °F.	Pressures	Pressures	Pressures	Tool Closed A.M. 20:05 P.M.

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic			1801	1893	1820				
First Period	Flow Initial		UTR	45	UTR			———	———
	Flow Final		74	107	118			30	31
	Closed in		909	935	933			30	29
Second Period	Flow Initial		UTR	107	UTR			———	———
	Flow Final		185	205	205			60	60
	Closed in		896	917	918			45	45
Third Period	Flow Initial							———	———
	Flow Final								
	Closed in								
Final Hydrostatic			1793	1821	1811			———	———

PETRACEK — Lease Name
3 — Well No.
7 — Test No.
3532'-3584' — Tested Interval
MESSMAN-RINEHART OIL COMPANY — Lease Owner/Company Name
Legal Location Sec. - Twp. - Rng. 26-4-27
Field Area JENNINGS N.W.
County DECATOR
State KANSAS

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FORMATION TEST DATA

LITTLE'S

5

Gauge No.	738	Depth	3533'	Clock No.	3227	12 hour	Ticket No.	514037

	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	UTR	.000		74	.000	UTR	.000		185					
1	.206	74	.0204		656	.067	121	.0339		727					
2			.0408		702	.134	128	.0678		791					
3			.0612		760	.201	143	.1017		828					
4	PLUGGING		.0816		804	.268	158	.1356		850					
5			.1020		848	.335	171	.1695		864					
6			.1224		880	.402	185	.2034		876					
7			.1428		895			.2373		884					
8			.1632		901			.2712		890					
9			.1836		906			.3050		896					
10			.1970		909*										
11															
12															
13															
14															
15															

Gauge No.	272		Depth	3580'	Clock No.	2414	12hour					
0	.000	UTR	.000	118	.000	UTR	.000	205				
1	.214	118	.0211	666	.0693	143	.0348	746				
2			.0422	716	.1386	151	.0696	811				
3	PLUGGING		.0633	770	.2709	163	.1044	846				
4			.0844	820	.2772	176	.1392	867				
5			.1055	863	.3465	192	.1740	882				
6			.1266	898	.4160	205	.2088	893				
7			.1477	911			.2436	903				
8			.1688	922			.2784	912				
9			.1899	930			.3130	918				
10			.2040	933*								
11												
12												
13												
14												
15												

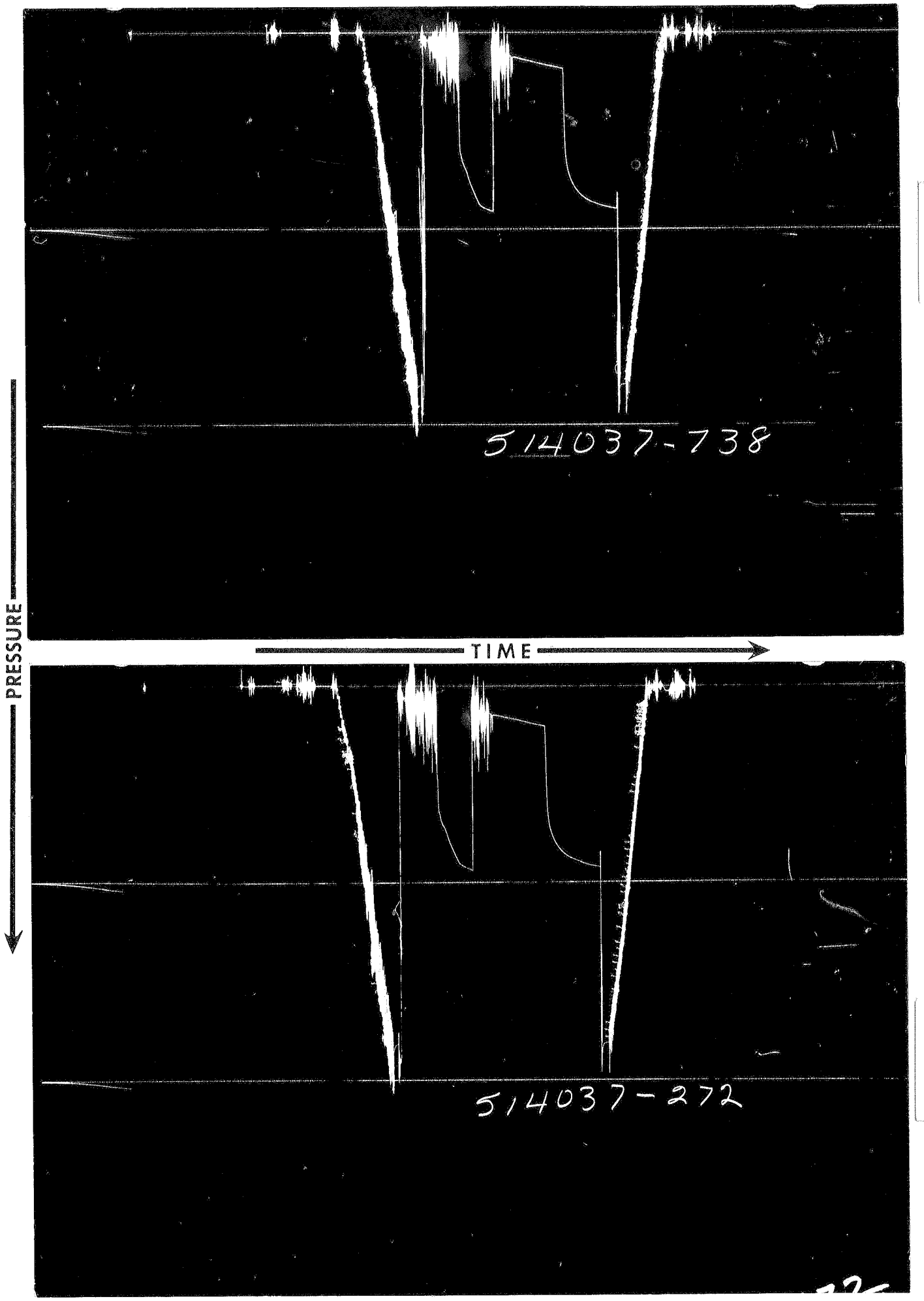
Reading Interval	3	10	5		Minutes

REMARKS: * Last interval equal to 2 minutes UTR-UNABLE TO READ

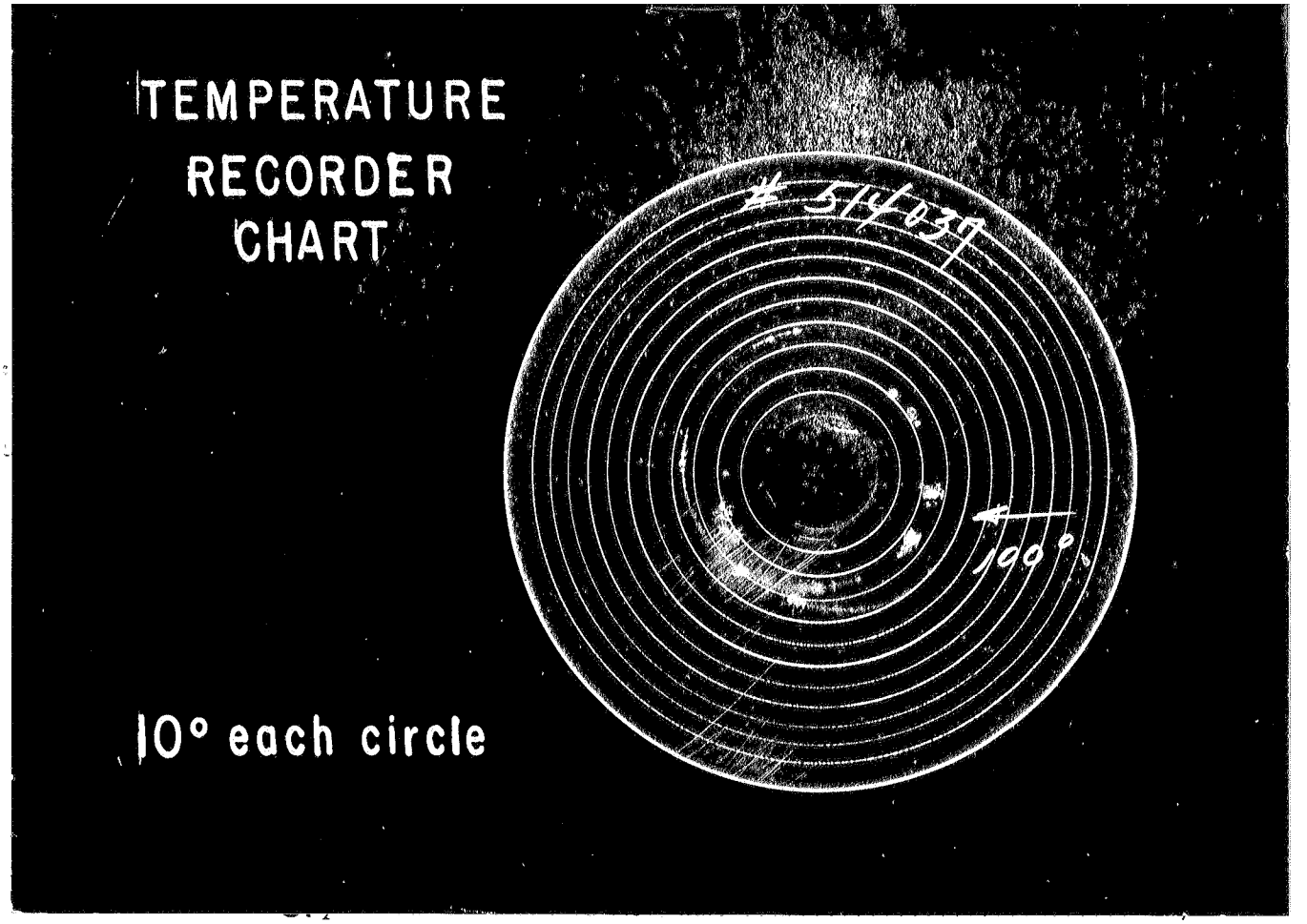
SPECIAL PRESSURE DATA

514037

	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4½"	3.826"	2762'	
Drill Collars		2.76"	756'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3527'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly				
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3532'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	3.06"	4'	3533'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars 1 Joint	4½ FHWP	2.76"	32'	
Flush Joint Anchor	5"	2.76"	11'	
Blanked-Off B.T. Running Case W/temp.	5"		5'	3580'



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



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.

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	9.3	vis	46	cp

Date 3-4-72 Ticket Number 514038
Kind of Job OPEN HOLE Halliburton District HAYS
Tester MR. JOSLIN Witness MR. KLEIN
Drilling Contractor DREILING OIL INCORPORATED DR

EQUIPMENT & HOLE DATA

Formation Tested Lower Kansas City
Elevation 2517' KB Ft.
Net Productive Interval 8' Net pay Ft.
All Depths Measured From -
Total Depth 3625' Ft.
Main Hole/Casing Size 7 7/8"
Drill Collar Length 787' W P I.D. 2.76"
Drill Pipe Length 2760' I.D. 3.826"
Packer Depth(s) 3580'-3585' Ft.
Depth Tester Valve 3575' Ft.

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

Recovered 75 Feet of mud with spots of mud
Recovered Feet of
Recovered Feet of
Recovered Feet of
Recovered Feet of

Meas. From Tester Valve

Remarks Opened tool for 25 minute first flow with a weak blow. Closed tool for 30 minute first closed in pressure. Reopened tool for 30 minute second flow with no blow, flush anchor @ 10:20 with a weak blow for 1 minute. Closed tool for 30 minute second closed in pressure.

Slid tool 4' to bottom.

TEMPERATURE	Gauge No. 738	Gauge No. 272	Gauge No.	TIME
	Depth: 3586 Ft.	Depth: 3621 Ft.	Depth: Ft.	
	12 Hour Clock	12 Hour Clock	Hour Clock	Tool Opened 09:00 ~~P.M.~~ A.M.
Est. °F.	Blanked Off No	Blanked Off Yes	Blanked Off	
3620'				Tool Closed 10:55 ~~P.M.~~ A.M.
Actual 99 °F.	Pressures	Pressures	Pressures	

		Field	Office	Field	Office	Field	Office	Reported Minutes	Computed Minutes
Initial Hydrostatic			1846		1856				
First Period	Flow Initial		40		75			____	____
	Flow Final		40		59			25	
	Closed in		78		105			30	
Second Period	Flow Initial		45		64			____	____
	Flow Final		50		71			30	
	Closed in		98		118			30	
Third Period	Flow Initial							____	____
	Flow Final								
	Closed in								
Final Hydrostatic			1841		1851			____	____

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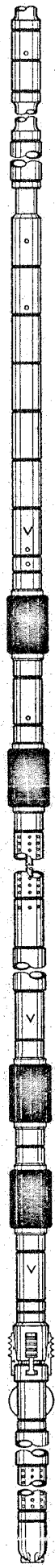
FORMATION TEST DATA

LITTLE'S

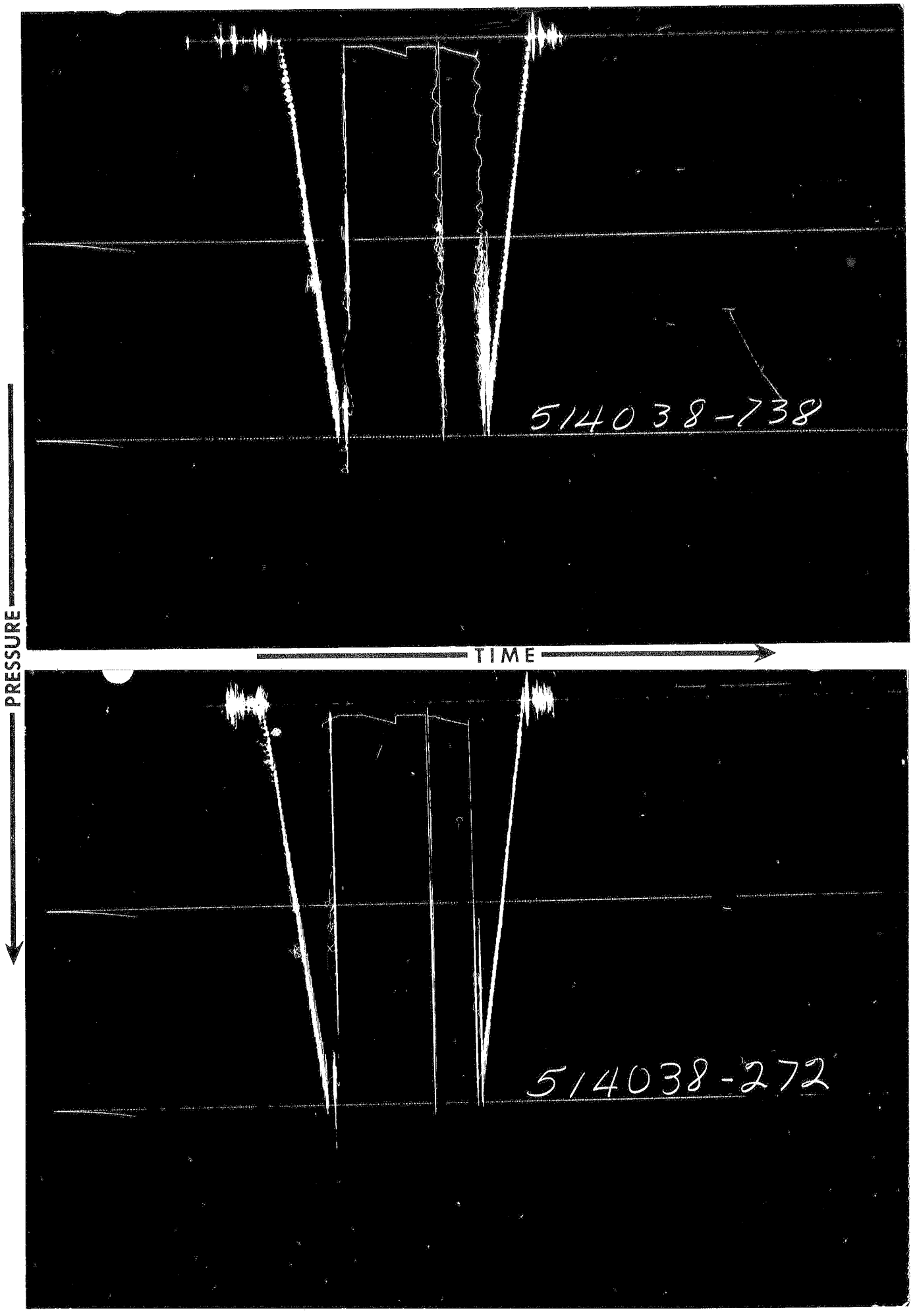
Legal Location Sec. - Twp. - Rng. 26-4-27
Lease Name PETROCEK
Well No. 3
Test No. 8
Tested Interval 3585'-3625'
Field Area JENNINGS N.W.
County DECATUR
State KANSAS
Lease Owner/Company Name MESSMAN-RINEHART OIL COMPANY

5

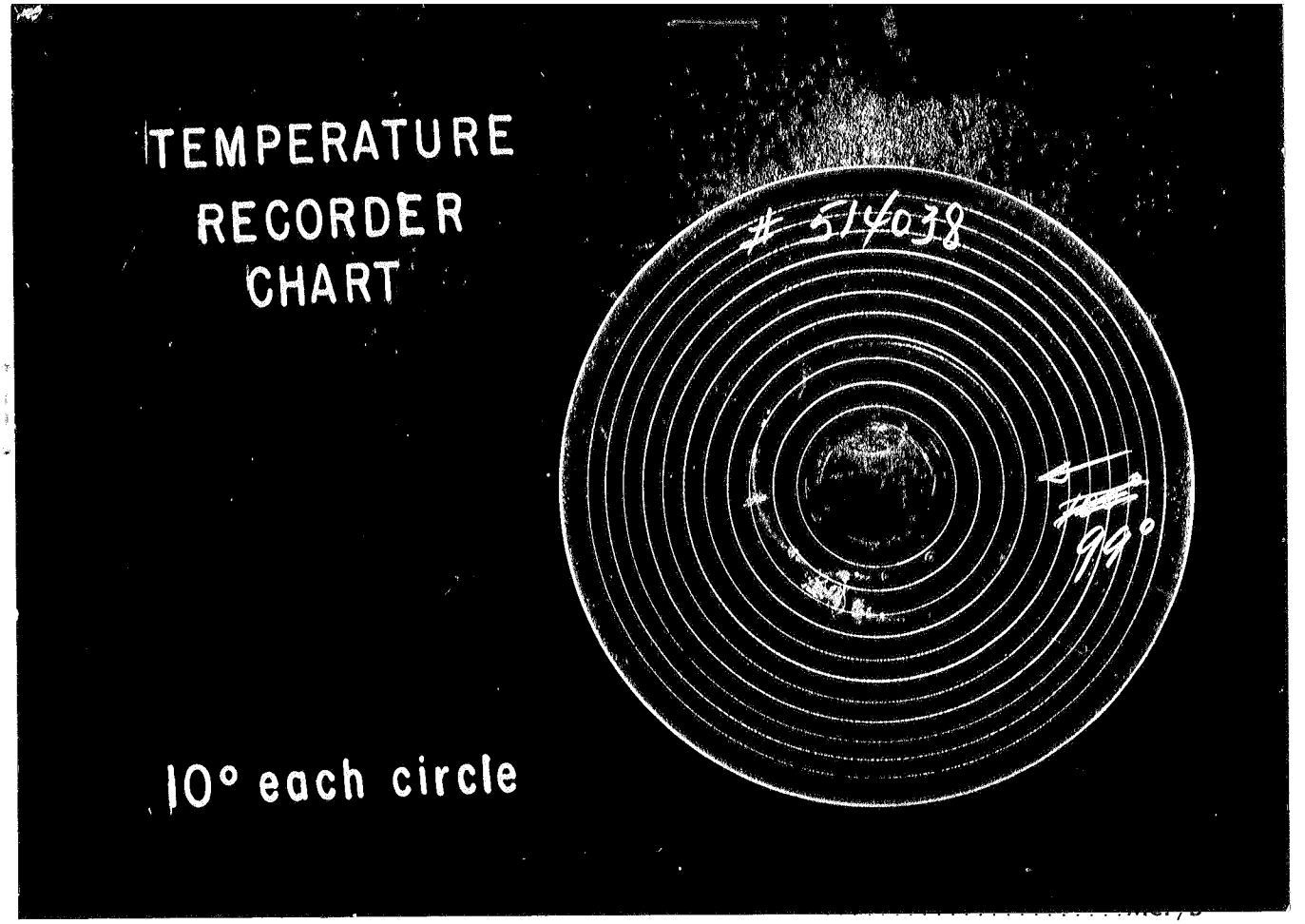
514038



	O. D.	I. D.	LENGTH	DEPTH
Reversing Sub	5 3/4"	2.50"	1'	
Water Cushion Valve				
Drill Pipe	4½"	3.826"	2760'	
Drill Collars	4½"	2.764"	787' WP	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	3575'
Multiple CIP Sampler				
Extension Joint				
AP Running Case				
Hydraulic Jar				
VR Safety Joint				
Pressure Equalizing Crossover				
Packer Assembly	6 3/4"	1.53"	4'	3580'
Distributor				
Packer Assembly	6 3/4"	1.53"	4'	3585'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case	5"	3.06"	4'	3586'
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.76"	31'	
Blanked-Off B.T. Running Case w/temp.	5"		5'	3621'



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



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.