

KANSAS

FLUID SAMPLE DATA						Date 3-9-77	Ticket Number 085518
Sampler Pressure _____ P.S.I.G. at Surface						Kind of Job OPEN HOLE	Halliburton District HAYS
Recovery: Cu. Ft. Gas _____ cc. Oil _____ cc. Water _____ cc. Mud _____ Tot. Liquid cc. _____						Tester L. NUTTING	Witness ORLIN PHELPS
Gravity _____ ° API @ _____ ° F.						Drilling Contractor STOEPPLEWERTH DRILLING COMPANY	DR
Gas/Oil Ratio _____ cu. ft./bbl. RESISTIVITY CHLORIDE CONTENT						EQUIPMENT & HOLE DATA	
Formation Tested _____						Lower Kansas City	
Elevation _____						3111'	
Net Productive Interval _____						6'	
All Depths Measured From _____						Kelly Bushing	
Total Depth _____						4123'	
Main Hole/Casing Size _____						7 7/8"	
Drill Collar Length _____						I.D. 2.76"	
Drill Pipe Length _____						I.D. 3.826"	
Packer Depth(s) _____							
Depth Tester Valve _____							
Mud Weight 9.5 vis 55 sec.cp							
Cushion TYPE AMOUNT						Surface Choke	Bottom Choke
Ft. Pres. Valve						.25"	.75"
Recovered 1250 Feet of muddy salt water with scum of oil						Meas. From Tester Valve	
Recovered Feet of							
Recovered Feet of							
Recovered Feet of							
Recovered Feet of							
Remarks SEE PRODUCTION TEST DATA SHEET							
TEMPERATURE	Gauge No. 7342 Depth: 4061 Ft.	Gauge No. 7341 Depth: 4120 Ft.	Gauge No. Depth:			TIME	
Est. °F.	Blanked Off NO	Blanked Off YES	Hour Clock			Tool A.M.	
Actual 115°F.						Opened 2020 P.M.	
						Bypass 2320 P.M.	
	Pressures	Pressures	Pressures			Reported Minutes	Computed Minutes
Initial Hydrostatic	Field Office	Field Office	Field Office				
First Period Flow	Initial	2103	2111	2131			
	Final	24	75	56			
	Closed in	383	420	430			
Second Period Flow	Initial	1027	1044	1052			
	Final	394	401	421			
	Closed in	584	597	608			
Third Period Flow	Initial	1016	1035	1043			
	Final						
	Closed in						
Final Hydrostatic		2071	2074	2104			

Casing perms. _____ Bottom choke _____ Surf. temp. _____ °F Ticket No. 085518
 Gas gravity _____ Oil gravity _____ GOR _____
 Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED.

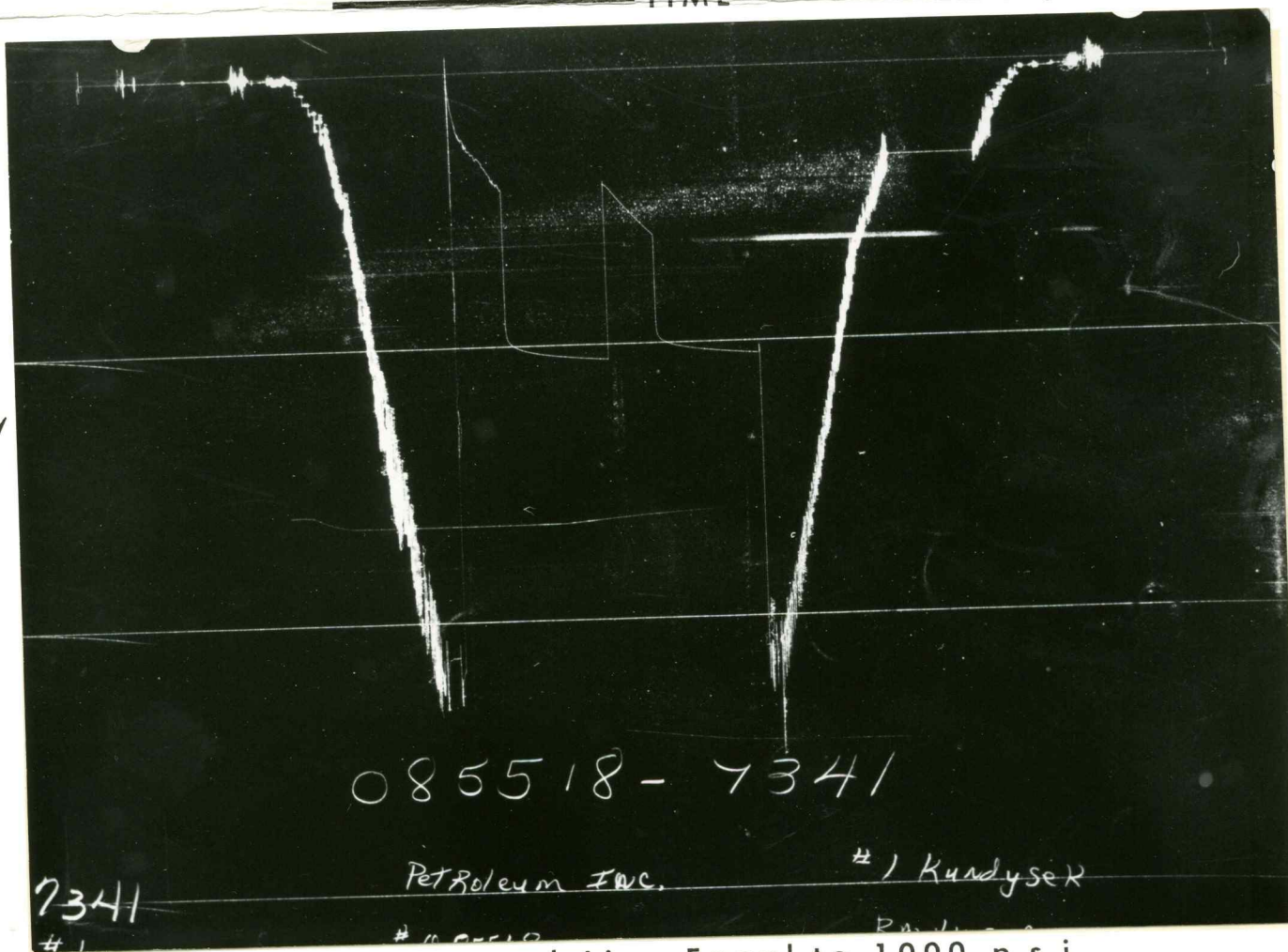
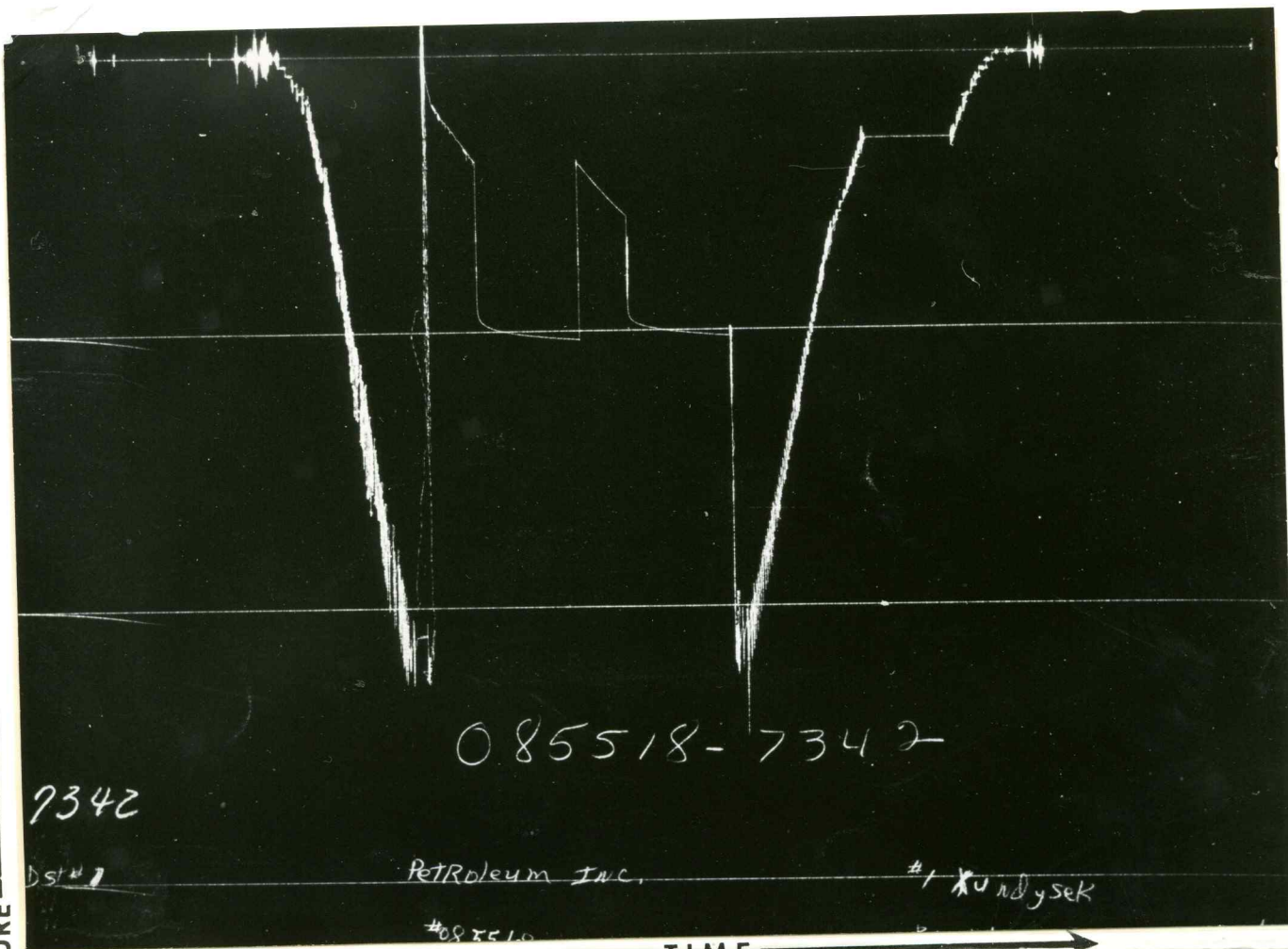
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Gauge No.		7342		Depth		4061'		Clock No.		-		12 hour		Ticket No.		085518	
First Flow Period		Closed In Pressure		Second Flow Period		Closed In Pressure		Third Flow Period		Closed In Pressure		Third Flow Period		Closed In Pressure		Third Flow Period	
Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\log \frac{t+\theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\log \frac{t+\theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\log \frac{t+\theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\log \frac{t+\theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.
0 .000	24	.000		.000	394	.000		.000		.000		.000	584				
1 .0337	175	.0268		.0271	417	.0271		.0329		.0329		.0329	968*				
2 .0673	224	.0536		.0543	448	.0543		.0592		.0592		.0592	978				
3 .1010	258	.0804		.0814	479	.0814		.0855		.0855		.0855	985				
4 .1347	302	.1072		.1086	506	.1086		.1117		.1117		.1117	990				
5 .1684	347	.1340		.1357	531	.1357		.1380		.1380		.1380	994				
6 .2020	383	.1608		.1628	558	.1628		.1643		.1643		.1643	998				
7		.1876		.1900	584	.1900		.1906		.1906		.1906	1000				
8		.2144						.2169		.2169		.2169	1003				
9		.2412						.2432		.2432		.2432	1006				
10		.2680						.2695		.2695		.2695	1008				
11		.2948						.2958		.2958		.2958	1010				
12		.3216						.3221		.3221		.3221	1012				
13		.3484						.3484		.3484		.3484	1015				
14		.3752						.3746		.3746		.3746	1016				
15		.4020						.4010		.4010		.4010	1016				

Gauge No.		7341		Depth		4120'		Clock No.		-		hour 12	
First Flow Period		Closed In Pressure		Second Flow Period		Closed In Pressure		Third Flow Period		Closed In Pressure		Third Flow Period	
Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\log \frac{t+\theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\log \frac{t+\theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.	Time Defl. .000"	$\log \frac{t+\theta}{\theta}$	Time Defl. .000"	PSIG Temp. Corr.
0 .000	56	.000		.000	421	.000		.000		.000		.000	608
1 .202	430	.0368		.0271	442	.0333		.0333		.0333		.0333	993*
2		.0536		.0543	476	.0599		.0599		.0599		.0599	1005
3 Plugging		.0804		.0814	505	.0865		.0865		.0865		.0865	1010
4		.1072		.1086	532	.1131		.1131		.1131		.1131	1015
5		.1340		.1357	557	.1398		.1398		.1398		.1398	1020
6		.1608		.1628	583	.1664		.1664		.1664		.1664	1023
7		.1876		.1900	608	.1930		.1930		.1930		.1930	1026
8		.2144				.2196		.2196		.2196		.2196	1029
9		.2412				.2462		.2462		.2462		.2462	1032
10		.2680				.2729		.2729		.2729		.2729	1034
11		.2948				.2995		.2995		.2995		.2995	1036
12		.3216				.3261		.3261		.3261		.3261	1038
13		.3484				.3527		.3527		.3527		.3527	1040
14		.3752				.3793		.3793		.3793		.3793	1041
15		.4020				.4060		.4060		.4060		.4060	1043
Reading Interval	5		4		4		4		4		4		4
REMARKS: * - 5 minutes.													

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing	5.75"	2.75"	1'	3924'
Reversing Sub				
Water Cushion Valve				
Drill Pipe	4 $\frac{1}{2}$ "	3.826"	3742'	
Drill Collars		2.76"	305'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	4050'
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	4055'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	22.5"	4'	4061'
Hydraulic Jar				
VR Safety Joint	5"	1.00"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53"	6'	4071'
Distributor	5"	2.37"	2'	
Packer Assembly	6.75"	1.53"	4'	4079'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.37"	39'	
HT-500	5"	3.06"	1'	4118'
Blanked-Off B.T. Running Case	5"	2.44"	4'	4120'
Total Depth				4123'

PRESSURE



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

TEMPERATURE
RECORDER
CHART

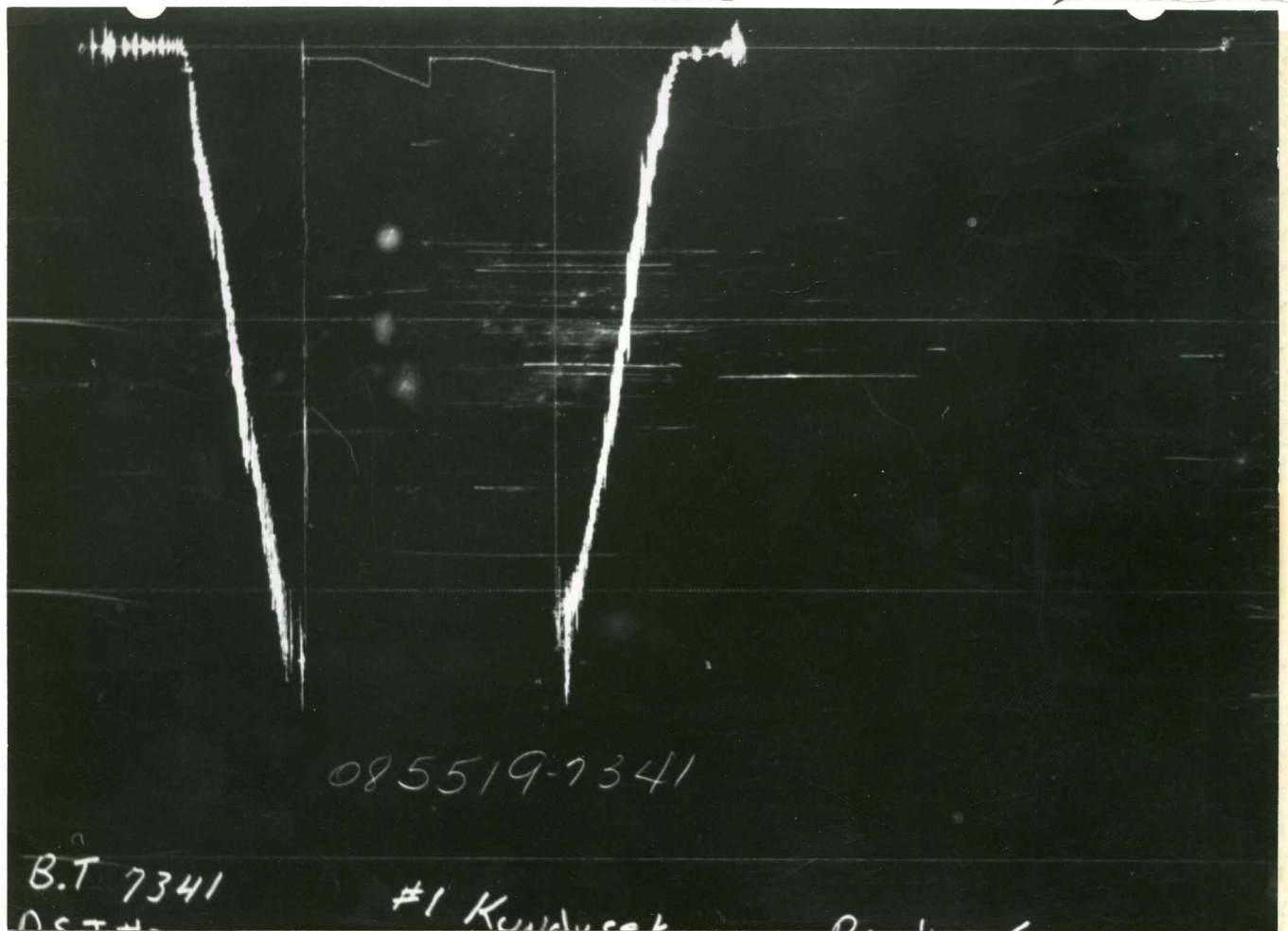
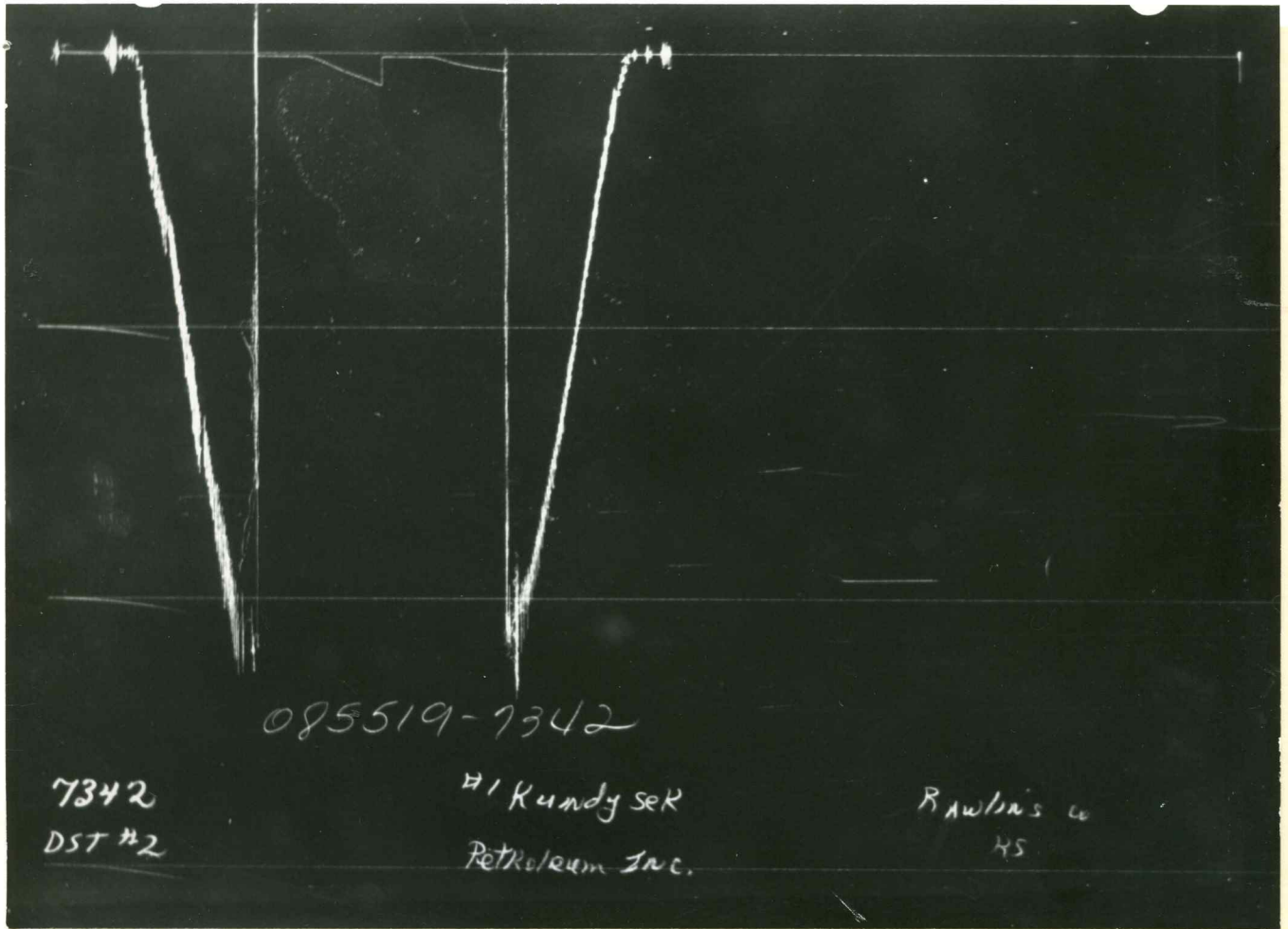


10° each circle

INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED.

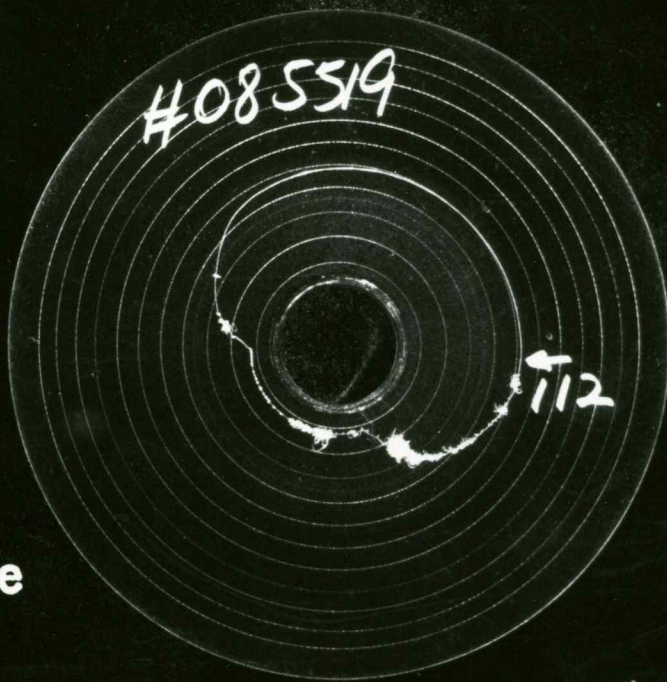
FORM 182-R1—PRINTED IN U.S.A.

	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing	5.75"	2.75"	1'	3975'
Reversing Sub				
Water Cushion Valve				
Drill Pipe	4 $\frac{1}{2}$ "	3.826"	3796'	
Drill Collars	6"	2.25"	126'	
Handling Sub & Choke Assembly	5"	.87"	5'	4101'
Dual CIP Valve				
Dual CIP Sampler	5"	.75"	5'	4106'
Hydro-Spring Tester				
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	2.25"	4'	4112'
Hydraulic Jar				
VR Safety Joint	5"	1"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53"	6'	4122'
Distributor				
Packer Assembly	6.75"	1.53"	4'	4128'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.37"	35'	
HT 500 Temp gauge	5"	3.06"	1'	4163'
Blanked-Off B.T. Running Case	5"	2.44"	4'	4165'
Total Depth				4168'



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

TEMPERATURE
RECORDER
CHART



10° each circle

FLUID SAMPLE DATA				Date		Ticket Number	
Sampler Pressure _____ P.S.I.G. at Surface				3-11-77		085520	
Recovery: Cu. Ft. Gas _____				Kind of Job		Halliburton District	
cc. Oil _____				OPEN HOLE TEST		HAYS	
cc. Water _____				Tester		Witness	
cc. Mud _____				L. NUTTING		ORLIN PHELPS	
Tot. Liquid cc. _____				Drilling Contractor		S	
Gravity _____ ° API @ _____ ° F.				STOEPPLEWERTH DRILLING COMPANY TH			
Gas/Oil Ratio _____ cu. ft./bbl.				EQUIPMENT & HOLE DATA			
RESISTIVITY _____ CHLORIDE CONTENT _____				Formation Tested			
Recovery Water @ _____ ° F. _____ ppm				Lower Kansas City			
Recovery Mud @ _____ ° F. _____ ppm				Elevation			
Recovery Mud Filtrate @ _____ ° F. _____ ppm				3111' _____ Ft.			
Mud Pit Sample @ _____ ° F. _____ ppm				Net Productive Interval			
Mud Pit Sample Filtrate @ _____ ° F. _____ ppm				6' _____ Ft.			
Mud Weight 9.6 vis 46 SEC. XX				All Depths Measured From			
				Kelly Bushing			
				Total Depth			
				4216' _____ Ft.			
				Main Hole/Casing Size			
				7 7/8"			
				Drill Collar Length			
				305' I.D. 2.25"			
				Drill Pipe Length			
				3835' I.D. 3.826"			
				Packer Depth(s)			
				4162' - 4168' _____ Ft.			
				Depth Tester Valve			
				4144' _____ Ft.			
TYPE		AMOUNT		Depth Back		Surface	
Cushion				Ft. Pres. Valve		Choke	
						.25" Bottom Choke .75"	
Recovered		180 Feet of		slightly oil cut mud.			
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Recovered		Feet of					
Remarks		See Production Test Data Sheet . . .					
TEMPERATURE		Gauge No. 7342		Gauge No. 7341		Gauge No.	
Depth: 4150 Ft.		Depth: 4212 Ft.		Depth: _____ Ft.		TIME	
Est. _____ ° F.		12 Hour Clock		12 Hour Clock		Hour Clock	
Blanked Off NO		Blanked Off YES		Blanked Off		Tool _____ A.M.	
4211						Opened 0720 P.M.	
Actual 117° F.		Pressures		Pressures		Opened _____ A.M.	
		Pressures		Pressures		Bypass 1140 P.M.	
		Field Office		Field Office		Field Office	
Initial Hydrostatic		2123		2187		2154	
First Period Flow Initial		10		37		42	
Flow Final		110		131		145	
Closed in		1190		1156		1221	
Second Period Flow Initial		115		149		147	
Flow Final		214		243		243	
Closed in		1172		1137		1201	
Third Period Flow Initial							
Flow Final							
Closed in							
Final Hydrostatic		2108		2149		2137	

Casing perms. _____ Bottom choke _____ Surf. temp _____ °F Ticket No. 085520
 Gas gravity _____ Oil gravity _____ GOR _____
 Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F
 INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED _____

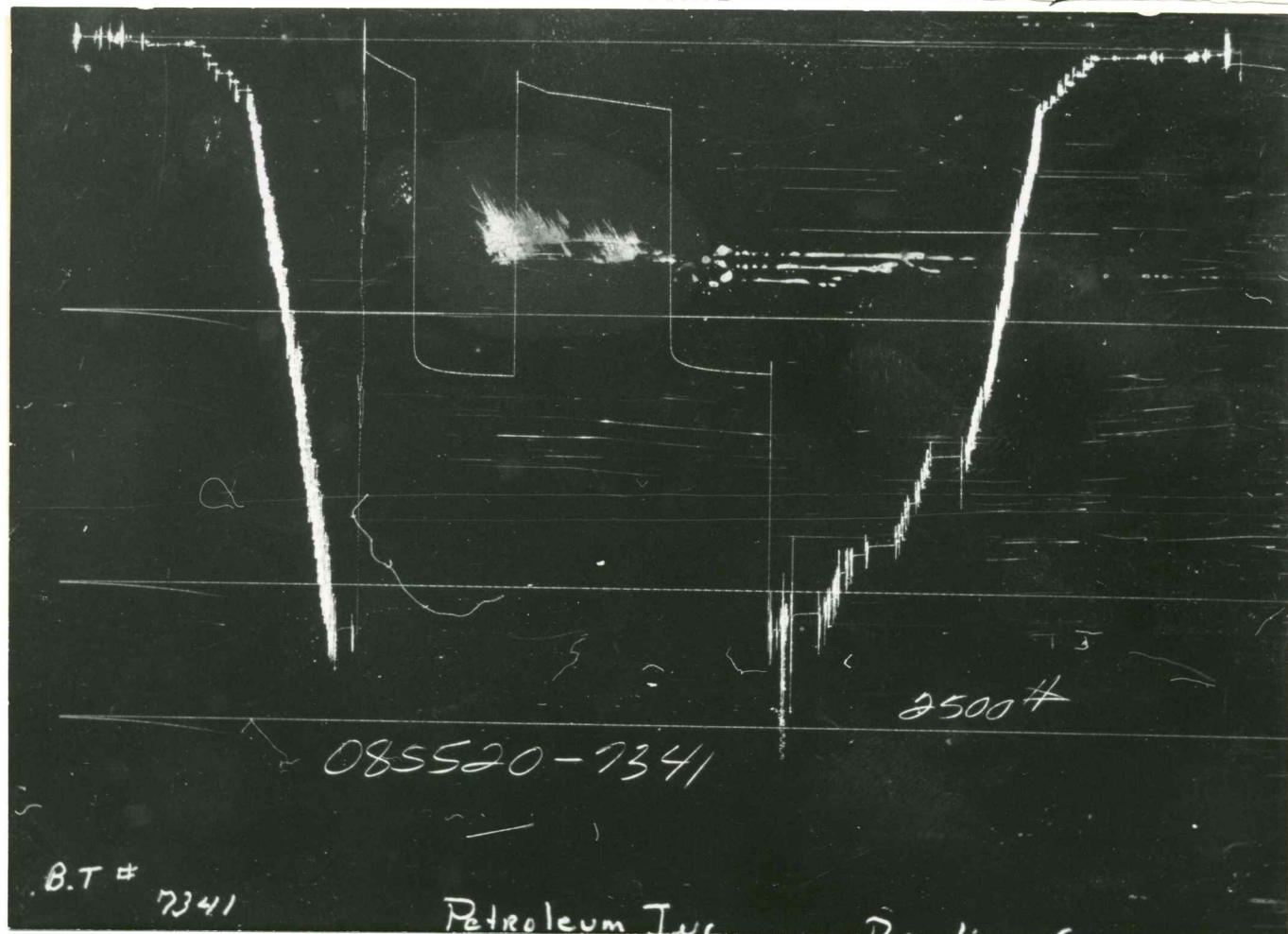
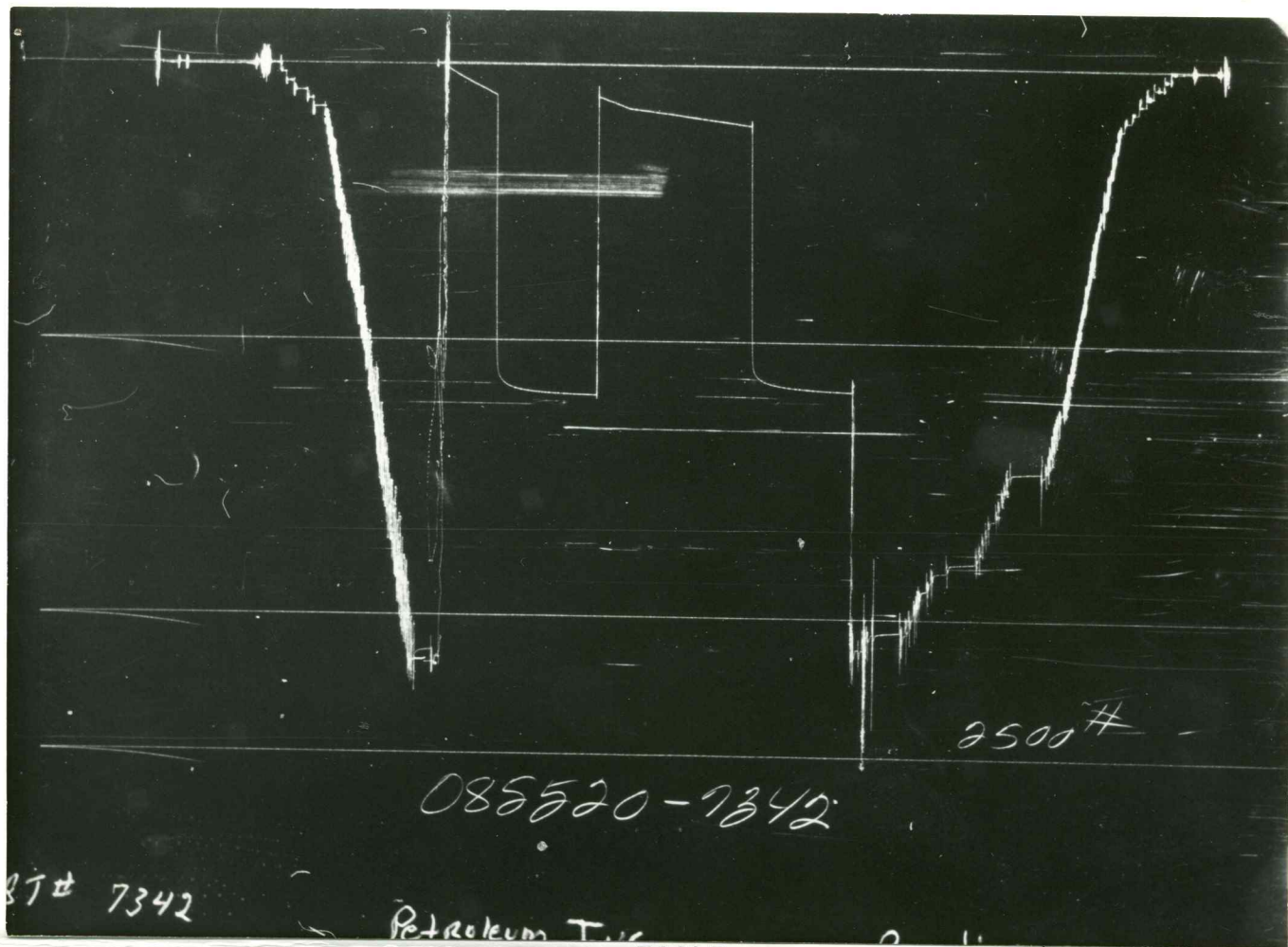
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Gauge No. 7342				Depth 4150				Clock No.				12 hour				Ticket No. 085520							
First Flow Period				First Closed In Pressure				Second Flow Period				Second Closed In Pressure				Third Flow Period				Third Closed In Pressure			
	Time Defl. .000"	PSIG Temp. Corr.		Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.		Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.		Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.		Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.		Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.	
0	.0000	10		.0000		110		.0000		115		.0000		214									
1	.0342	28		.0269		1138		.1003		159		.0269		1118									
2	.0683	46		.0537		1160		.2007		165		.0537		1137									
3	.1025	63		.0806		1169		.3010		177		.0806		1146									
4	.1366	78		.1074		1174		.4013		190		.1074		1151									
5	.1708	94		.1343		1179		.5017		202		.1343		1156									
6	.2050	110		.1612		1182		.6020		214		.1612		1159									
7				.1880		1184						.1880		1161									
8				.2149		1186						.2149		1163									
9				.2417		1187						.2417		1165									
10				.2686		1188						.2686		1167									
11				.2955		1189						.2955		1168									
12				.3223		1189						.3223		1169									
13				.3492		1190						.3492		1170									
14				.3760		1191						.3760		1171									
15				.4030		1190						.4030		1172									

Gauge No. 7341				Depth 4212				Clock No.				12 hour							
	Time Defl. .000"	PSIG Temp. Corr.		Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.		Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.		Time Defl. .000"	$\text{Log } \frac{t + \theta}{\theta}$	PSIG Temp. Corr.					
0	.0000	42		.0000		145		.0000		147		.0000		243					
1	.0340	62		.0269		1171		.1013		178		.0269		1150					
2	.0680	80		.0537		1191		.2027		195		.0539		1168					
3	.1020	97		.0806		1199		.3040		206		.0808		1175					
4	.1360	113		.1074		1205		.4053		218		.1077		1180					
5	.1700	130		.1343		1208		.5067		231		.1347		1184					
6	.2040	145		.1612		1211		.6080		243		.1616		1188					
7				.1880		1213						.1885		1190					
8				.2149		1215						.2154		1193					
9				.2417		1216						.2424		1194					
10				.2686		1217						.2693		1196					
11				.2955		1219						.2962		1196					
12				.3223		1220						.3232		1198					
13				.3492		1220						.3501		1199					
14				.3760		1221						.3770		1200					
15				.4030		1221						.4040		1201					
Reading Interval 5				4				15				4				Minutes			
REMARKS:																			

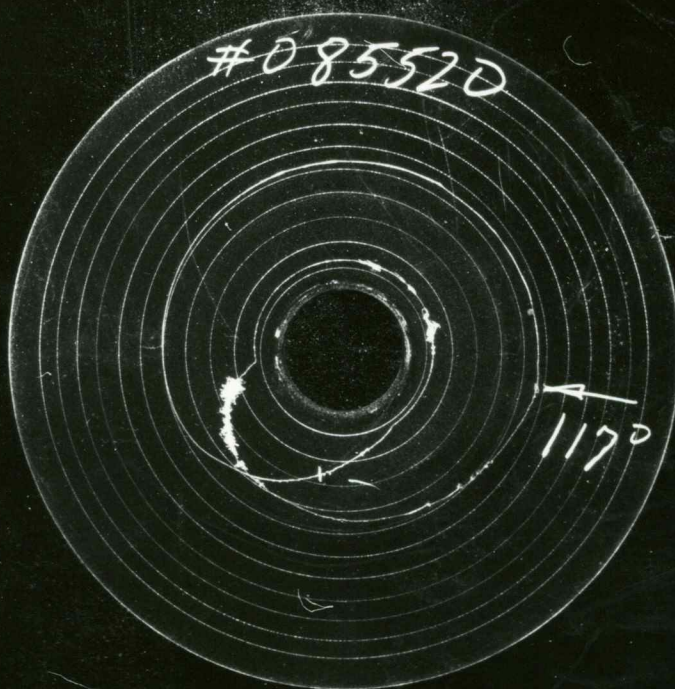
	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing				
Reversing Sub	5.75"	2.75"	1'	4019'
Water Cushion Valve				
Drill Pipe	4 1/2"	3.826"	3835'	
Drill Collars		2.25"	305'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	4139'
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	4144'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	2.25"	5'	4150'
Hydraulic Jar				
VR Safety Joint	5"	1"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53"	6'	4162'
Distributor				
Packer Assembly	6.75"	1.53"	4'	4168'
Flush Joint Anchor				
Pressure Equalizing Tube				
Blanked-Off B.T. Running Case				
Drill Collars				
Anchor Pipe Safety Joint				
Packer Assembly				
Distributor				
Packer Assembly				
Anchor Pipe Safety Joint				
Side Wall Anchor				
Drill Collars				
Flush Joint Anchor	5"	2.37"	43'	
Ht-500	5"	3.06"	1'	4211'
Blanked-Off B.T. Running Case	5"	2.44"	4'	4212'
Total Depth				4216'

↓ PRESSURE



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

TEMPERATURE
RECORDER
CHART



FLUID SAMPLE DATA				Date		Ticket Number	
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. _____ ppm Recovery Mud Filtrate _____ @ _____ °F. _____ ppm Mud Pit Sample _____ @ _____ °F. _____ ppm Mud Pit Sample Filtrate _____ @ _____ °F. _____ ppm Mud Weight 9.6 vis 72 SECp				3-15-77 STRADDLE TEST OPEN HOLE NUTTING & MONDERO Drilling Contractor STOEPPELWERTH DRILLING COMPANY NM		085521 Halliburton District HAYS Witness JONES EQUIPMENT & HOLE DATA S	
				Formation Tested _____ Lower Kansas City Elevation _____ 3111' _____ Ft. Net Productive Interval _____ 6' _____ Ft. All Depths Measured From _____ Kelly Bushing Total Depth _____ 4300' _____ Ft. Main Hole/Casing Size _____ 7 7/8" Drill Collar Length _____ 243' I.D. 2.25" Drill Pipe Length _____ 3891' I.D. 3.826" Packer Depth(s) _____ 4161' - 4213' _____ Ft. Depth Tester Valve _____ 4140' _____ Ft.			
Cushion		TYPE	AMOUNT	Depth Back	Surface	Bottom	
			NONE	Ft. Pres. Valve	Choke	.25"	Choke .75"
Recovered		315'	Feet of	salty drilling mud - no show			
Recovered		315'	Feet of	muddy salt water			
Recovered			Feet of				
Recovered			Feet of				
Recovered			Feet of				
Remarks		SEE PRODUCTION TEST DATA SHEET...					
		UTR = UNABLE TO READ..					
TEMPERATURE		Gauge No. 7342	Gauge No. 7341	Gauge No. 5575	TIME		
Depth:		4146' Ft.	4205' Ft.	4296' Ft.			
Est. °F.		12 Hour Clock	12 Hour Clock	12 Hour Clock	Tool A.M.		
Blanked Off		NO	NO	YES	Opened 0910 P.M.		
4295' @						Opened A.M.	
Actual 122 °F.						Bypass 1615 P.M.	
		Pressures		Pressures		Pressures	
	Field	Office	Field	Office	Field	Office	Reported
Initial Hydrostatic	-	2041	2168	2083	-	2125	Minutes
First Period Flow	Initial	7	37	39	-	-	Minutes
	Final	192	205	218	-	-	120
	Closed in	1168	1194	1195	-	-	60
Second Period Flow	Initial	196	215	223	-	-	120
	Final	294	317	323	-	-	125
	Closed in	1152	1166	1181	HYDROSTATIC 1487		60
Third Period Flow	Initial				RELEASE:		
	Final						
Closed in							
Final Hydrostatic	-	UTR	2149	2062	-	UTR	

 Legal Location
 Sec. - Twp. - Rng.

 Lease Name
 22 - 15 - 34W

 Well No.
 1

 Test No.
 4

 Field Area
 CHEOY

 Tested Interval
 4161' - 4213'

 County
 RAWLINS

 State
 KANSAS

 Lease Owner/Company Name
 PETROLEUM, INCORPORATED

Casing perms. _____ Bottom choke _____ Surf. temp. _____ °F Ticket No. 085521
 Gas gravity _____ Oil gravity _____ GOR _____
 Spec. gravity _____ Chlorides _____ ppm Res. _____ @ _____ °F

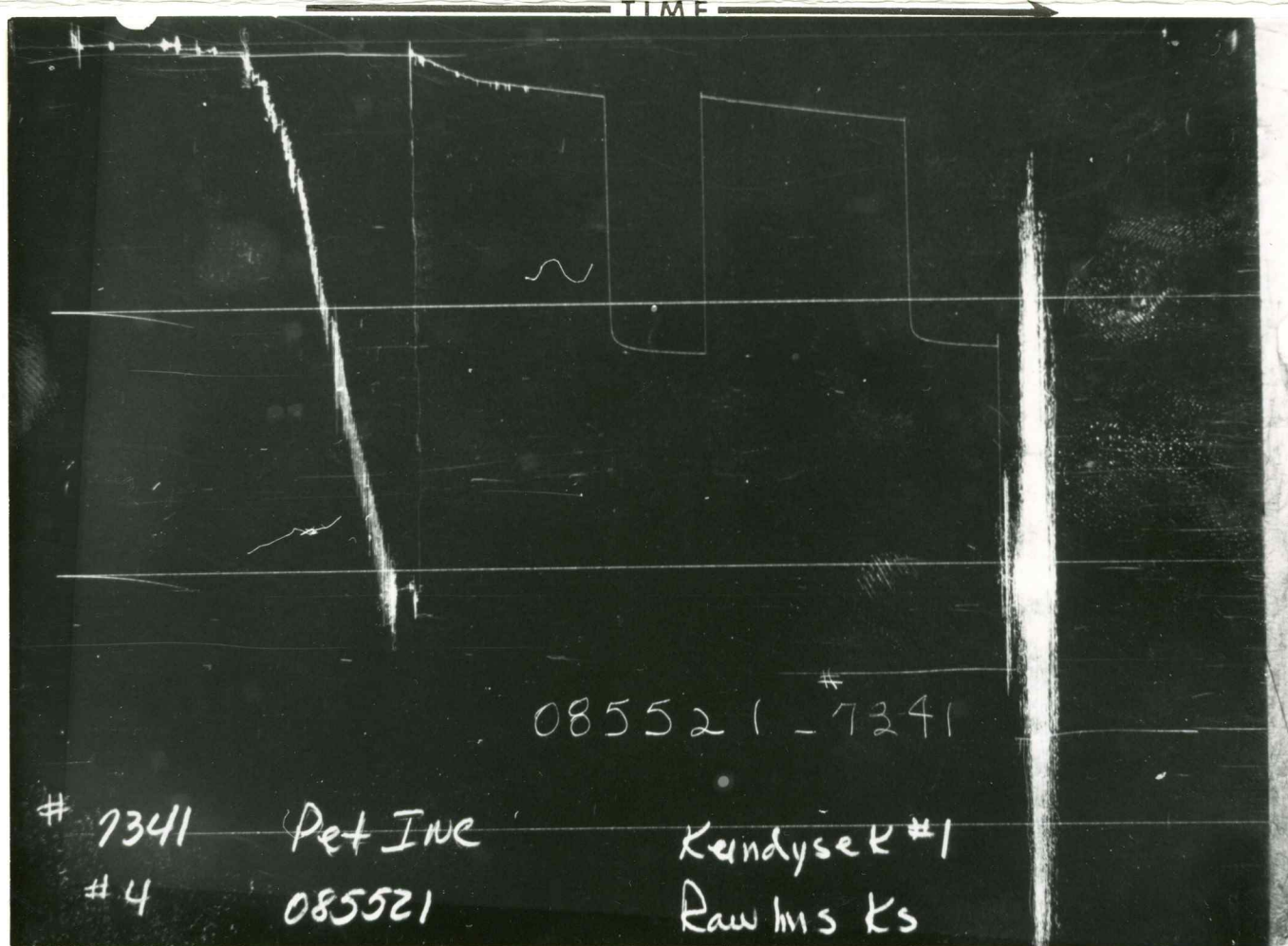
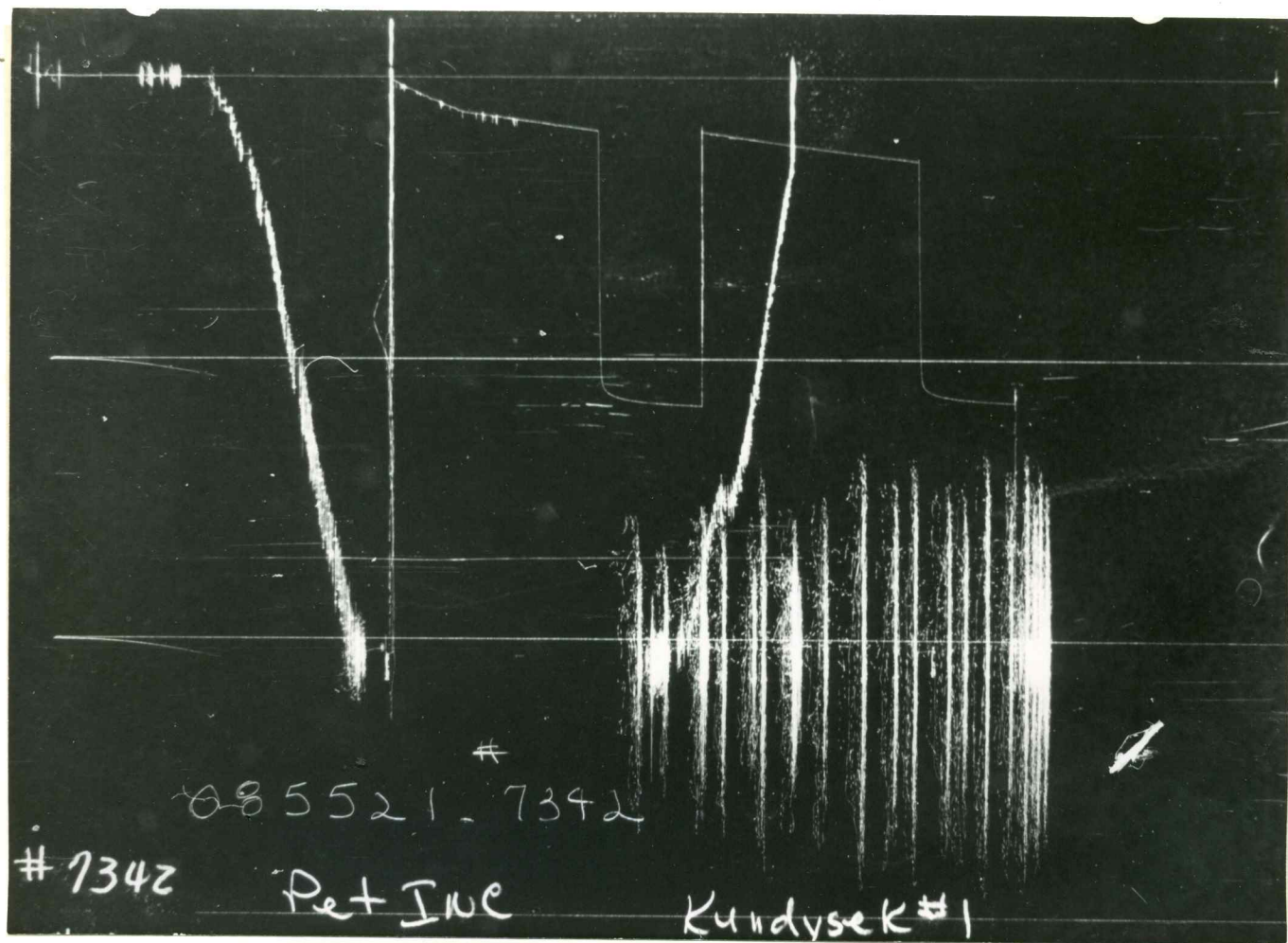
INDICATE TYPE AND SIZE OF GAS MEASURING DEVICE USED

[illegible]

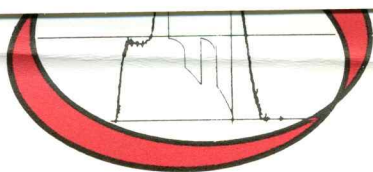
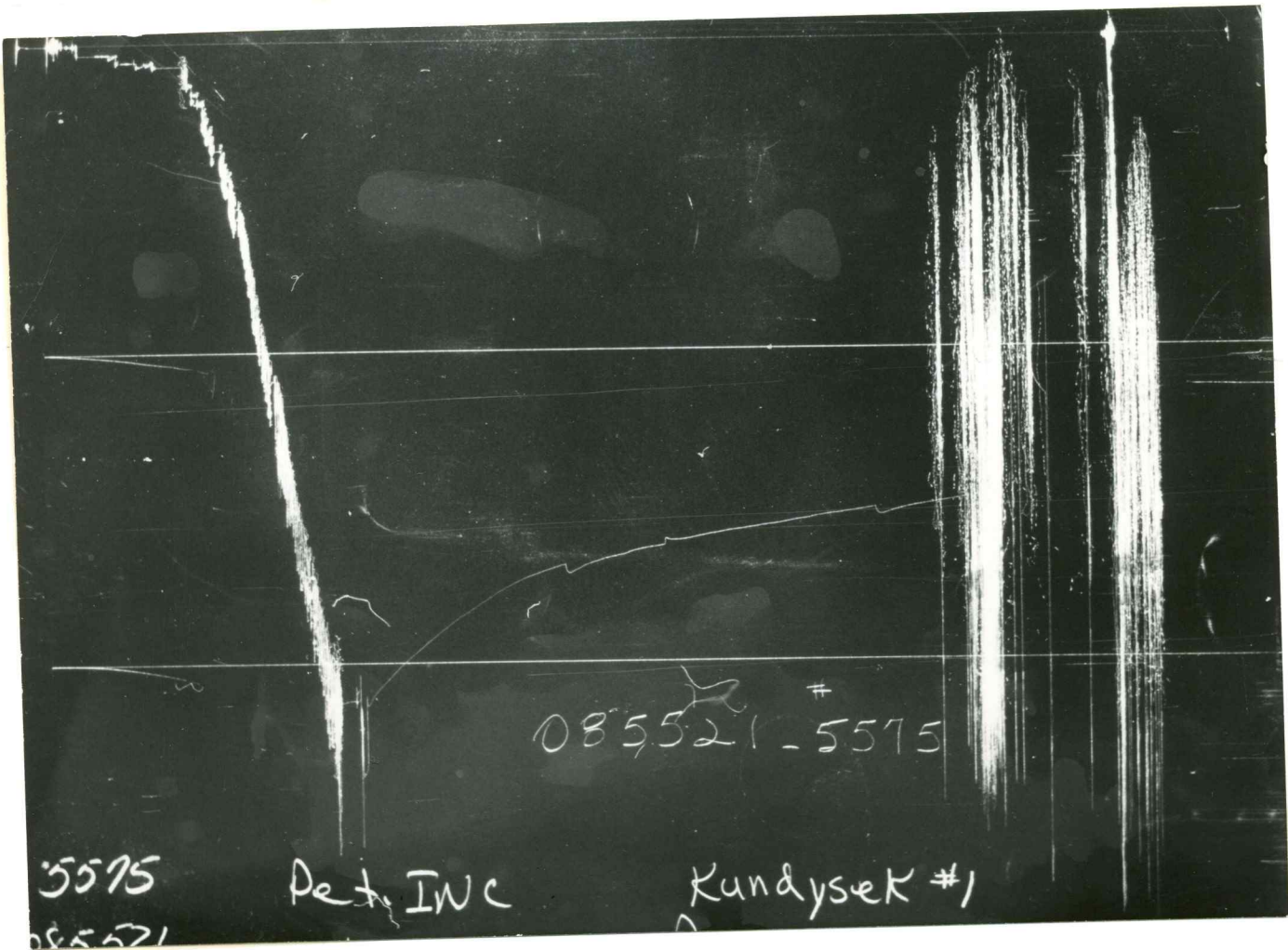


	O. D.	I. D.	LENGTH	DEPTH
Drill Pipe or Tubing	5.75"			4015'
Reversing Sub				
Water Cushion Valve				
Drill Pipe	4 1/2"	3.826"	3891'	
Drill Collars	6"	2.25"	243'	
Handling Sub & Choke Assembly				
Dual CIP Valve	5"	.87"	5'	4135'
Dual CIP Sampler				
Hydro-Spring Tester	5"	.75"	5'	4140'
Multiple CIP Sampler				
Extension Joint				
AP Running Case	5"	2.25"	4'	4146'
Hydraulic Jar	5"	1.75"	5'	
VR Safety Joint	5"	1.00"	3'	
Pressure Equalizing Crossover				
Packer Assembly	6.75"	1.53"	4'	4161'
	6.75"	1.53"	2'	
Distributor				
Packer Assembly				
Flush Joint Anchor				
Pressure Equalizing Tube				
AP				
Blanked-Off B.T. Running Case				
CROSS-OVER	5"	2.75"	1'	
PIPE	4.50"	3.82"	30'	
Anchor Pipe Safety Joint CROSS-OVER	5"	2.75"	1'	
Packer Assembly F. J. A.	5"	2.37"	10'	
AP RUNNING CASE	5"	2.44"	4'	4205'
Distributor BLANK OFF	5"	2.37"	1'	
Packer Assembly	6.75"	1.53"	4'	4213'
	6.75"	1.53"	2'	
Anchor Pipe Safety Joint CROSS-OVER	5.75"	2.75"	1'	
Side Wall Anchor				
Drill Collars	6"	2.25"	62'	
CROSS-OVER-----	5"	2.75"	1'	
Flush Joint Anchor	5"	2.37"	16'	
HT-500	5"	3.00"	1'	4295'
Blanked-Off B.T. Running Case	5"	2.44"	4'	4296'
Total Depth				4300

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



Formation Testing Service Report

TEMPERATURE
RECORDER
CHART

10° each circle

