



00252394

WELL REPORT

POLFAM EXPLORATION COMPANY

Monroe #13-13

RECEIVED

JAN 24 1984

COLO. OIL & GAS CONS. COMM.

BY: TED SHELDON

OPERATOR: POLFAM EXPLORATION CO.
WELL NAME & NUMBER: Monroe #13-13
LOCATION: NW SW Section 13-8N/54W, Logan County, CO
ELEVATION: 4229' GL; 4242' KB
SPUDED: January 3, 1992
DRILL RIG RELEASED: January 8, 1992
STATUS: Plugged and abandoned
TOTAL DEPTH: 5208'
CASING: 130' 8-5/8" 24# @ 142' w/115 sx Cem w/3% Calc Chloride
HOLE SIZE: 12¼" 0-150'; 7-7/8" 150'-T.D
DRILLING CONTRACTOR: New Orbit Drilling Co. (Rig 3)
MUD ENGINEERING: Quality Drilling Fluids, Fred Rothauge, Engr.
LOGS: Schlumberger, Dual-Induction/SFL-GR 142'-5202'
Compensated Neutron/Density -GR 4000'-5202'
LOST CIRCULATION: None
JUNK IN HOLE: None
PLUGGING DATA: 30 Sx @ 142' (half in/half out surf csg.)
15 Sx @ 10' below GL.
45 Sx total

FORMATION TOPS

Niobrara	4146'
"A" porosity	4165'-4192'
"B" porosity	4281'-4348'
Ft. Hays ls	4473'
Carlile sh	4525'
Greenhorn ls	4807'
Bentonite "X" marker	4884'
"D" ss	4979'
"J" siltstone	5060'
"J" ss (U)	5081'
₁ porosity	5084'-5090'
	5092'-5098'
"J" ss (L)	5101'
₁ porosity	5116'-5126'
"J" ss	5129'
"J" ss	5144'
₃ porosity	5144'-5157'
	5162'-5166'
Skull Creek sh	5166'

DRILL STEM TEST

DST#1 5075'-5104'
(Straddle)

Open 2 hours, shut in 1 hour. Single flow period, opened with a weak blow, slowly increased to 1/2" in 10 minutes and 3 1/2" at end flow period. Recovered 80' slightly water cut mud (.4 Bbl), 975 ppm Chloride. Sampler recovered 2150 cc mud w/trc water and scum oil, trc gas (pressure 20#) IHMP 2637#, FHMP 2063#, FP 36#-50#, SIP 110#. SIP indicates that test did not extend past mud damaged zone.

BIT RECORD

<u>Bit#</u>	<u>Size</u>	<u>Make</u>	<u>Type</u>	<u>Jet Size</u>	<u>Depth Out</u>	<u>Feet</u>	<u>Hours</u>
1A	12 1/4	SMITH	FDS	3-16s	150	150	1 1/4
1	7-7/8	HUGHES	J-1	3-12s	3014	2864	19
2	7-7/8	SMITH	FDS+	2-14s	5208	2194	60 1/4
				1-13s			

<u>HISTORY</u>	<u>1/2/1992</u>	<u>1/3/1992</u>	<u>1/4/1992</u>	<u>1/5/1992</u>
Depths		0-1350'	1350-3600	3600-4602
Drlg Survey & Trip Hours		8½	23-3/4	24
Circ. Hours		1/4		
Repair Hours			1-1/4	
Other Oper. & Hours	Rig up 8 Hrs	Rig up-8 Hrs Run 8-5/8" csg & cem=1-3/4 Hrs. WOC 5½ Hrs		
Remarks				Made short trip thru Niobrara
Hole Size		12¼" to 150' 7-7/8" fr 150'	7-7/8"	7-7/8"
Weight on Bit		20,000	25-30,000	30-35,000
Pump Pressure		900-1100	1100-1400	1200-1300
Rotary RPM		120	120	90-100
Hole Deviation		1/4°@150 1/2°@ 1026	3/4° @ 1524 1-1/2°@ 2019 1-1/2°@ 2517 1-3/4°@ 3014 2° @ 3544	
<u>MUD PROPERTIES</u>				
Weight (# gal)		W	W	8.8-9.5
Viscosity (sec/qt)		A	T	29-35
Water Loss (cc)		T	T	12.6
pH		E	E	8.8
Chlorides (mg/L)		R	R	300
Gel Strength				1/2
<u>MUD ADDITIVES</u>				
Gel - 100# Sx		30*	15*	25* 67
Sodium Acid Pyro Phosphate		1		
Lignite 50# Sx				10
Drlg Detergent				5
Caustic -50# Sx		2*		2
Starch -50# Sx		40*		
Soda Ash -100Sx				
Mica -50#Sx		15*		

<u>HISTORY</u>	<u>1/6/1992</u>	<u>1/7/1992</u>	<u>1/8/1992</u>
Depths	4602-5132	5132-5208	5208
Drlg Survey & Trip Hours	231/4	14	
Circ. Hours		2	
Repair Hours	3/4		
Other Oper & Hours		Logging 3½ Hrs Testing 4½ Hrs	Testing 6 Hrs Plugging 10 Hrs.
Remarks		Made trip to collars before logging	Rig Released, 3PM
Hole Size	7-7/8"	7-7/8	
Weight on Bit	30-35,000	30,000	
Pump Pressure	1250-1300	1250	
Rotary RPM	60-90	80	
Hole Deviation		1° @ 5208	
<u>MUD PROPERTIES</u>			
Weight (#gal)	8.8-9.5	9.0-9.1	9.0
Viscosity (sec/qt)	35-63	62-98	80
Water Loss (cc)	4.0-4.4	5.2	6.0
pH	8.5-9.0	8.0	8.5
Chlorides (mg/L)	300	300	300
Gel Strength	2/8	15/38	20/40
<u>MUD ADITIVES</u>			
Gel - 100#sx	61	61	
Sodium Acid Pyro Phosphate			
Lignite			
Drlg Detergent			
Caustic			
Starch - 50# Sx	6	6	
Soda Ash -100# Sx			
Mica -50# Sx	5	5	

* Added to pre-mix tank, pre-mixed mud used prior to penetration of "D" ss.

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Sample Description:

<u>Unlagged Depths</u>	<u>Lagged Depths (using 1 minute per 100' of Depth)</u>	<u>Description</u>
4950'-60'	4896'-4907'	<u>Sh</u> , dk gry to grysh blk, blk frags. Trc crm calcite vnlt to 1.25 mm in width. Trc v lt gry/wh bent, soft. Sli trc lt gry micro micaceous qtzse siltst, nil eff p & p, soft, non calc. V sli trc lt brnsh gry clst/clysh.
4960'-70'	4907'-4916'	A/a but few pieces <u>ss</u> , brnsh gry, vf/f to silt sz qtz grains, pred sub rndd to sub ang, cal cem, poor p & p, no shows.
4970'-80'	4916'-4954'	A/a, but sli trc hard olive gry marl, ang frags, nil <u>ss and siltst</u> , a/a.
<u>"D" Sandstone</u> - drill time top 4976'		
4980'-90'	4954'-4977'	<u>Ss</u> , wh/crm, f, well sorted, sub rndd, no calc, minor silic cem, fri, gd to excellent p & p, <u>no flu or flu cut</u> , comprises stg trc in smpl. <u>Ss</u> , lt gry/med lt gry, vf to crs qtzse silt w/minor f grains, hd, nil eff por, silic cem, sub ang/sub rndd, p/f sorting, <u>no flu or flu cut</u> , minor f blk carb frags, comprises stg trc in smpl. One piece ss shows cln ss fnly lam with silty ss, several pieces show bioturbation, one piece shows calc worm tube lining. Majority of smpl (95%) still dk gry to grysh blk <u>sh</u> a/a.
4990'-5000'	4977'-4987'	<u>Ss</u> , both types a/a, still 95% dk gry to grysh blk <u>ah</u> a/a. Minor pale grnsh gry f rndd grains in cln ss. <u>No flu or flu cut fr ss</u> . Couple pieces sh have abunt micro/vf pyrite xls. One piece of msv qtz vnlt?
5000'-5010'	4987'-4994'	<u>Ss</u> , both types, a/a, but nil evidence of bioturbation. Sample still 95% dk gry to grysh blk <u>sh</u> a/a. Couple pieces crm tt <u>ls</u> (Ft. Hays?) <u>No flu or flu cut fr ss except for one piece ss that gave wk yel flu cut.</u>
5010'-5020'	4994'-5000'	<u>Ss</u> , both types, a/a, but local carb stks in sdy siltst/silty vf ss. Sample still 95% dk gry to grysh blk sh a/a. <u>No ls. No flu or flu cut fr ss.</u>

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Sample Description - Continued

<u>Unlagged Depths</u>	<u>Lagged Depths (using 1 minute per 100' of Depth)</u>	<u>Description</u>
5020'-5030'	5000'-5011'	A/a, but sli lesser amt <u>ss</u> a/a, no <u>flu</u> or <u>flu cut</u> fr <u>ss</u> , most of sh prob cvgs.
5030'-5040'	5011'-5019'	A/a, but only couple pieces <u>ss</u> a/a.
5040'-5050'	5019'-5024'	A/a, v sli trc crm calc "specks" in <u>sh</u> (cvgs?)
5050'-5060'	5024'-5040'	A/a, still trc <u>ss</u> a/a, sli trc pnksh gry tt silic cem ss w/vf glauc grain and ang frags brnsh gry crypto xln dolo (?) and black hornblende like frags - poss pyroclastic in origin ??
5060'-5070'	5040'-5062'	A/a, but nil <u>ss</u> a/a, no "odd ball" pnksh gry tt <u>ss</u> a/a. Much cvgs.
5070'-5080'	5062'-5067'	A/a, but 10% smpl hard angular crypto xln brnsh gry <u>dolo</u> appearing frags. Stg trc med lt gry qtzse <u>siltst</u> , no eff p & p.
5080'-5090'	5067'-5074'	A/a, but only 5% brnsh gry <u>dolo</u> appearing frags. Incr in <u>siltst</u> a/a, smpl still pred <u>sg</u> cvgs a/a. Few pieces silty vf qtzse ss w/nil eff p & p, <u>no flu or flu cut.</u>
: "J" Sandstone - drill time top 5077'		
5090'-5100'	5074'-5089'	<u>Ss</u> , silty, lt tanish gry, vf/f to loc m sli calc, some silic (?) cem, hd, med sort, nil eff p & p, <u>no flu or flu cut.</u> <u>Ss</u> , lt gry, vf, well sorted, sli s & p, qtzse, good/v gd por, <u>excellent yel wh flu and strmg flu cut</u> , gas bubbles observed rising thru solvent fr not dried sample - <u>Good show.</u> Unfortunately smpl mostly cvgs/carryover a/a; ss frags only stg trc in smpl.
5100'-5110'	5089'-5101'	<u>Ss</u> , a/a, bcmg pred vf well sorted w/ <u>excellent yel wh flu and strmg flu cut.</u> Pt bcmg clean crs qtzse silty vf <u>ss with clay</u> , has no shows. Still ss less than 5% of smpl due to abundant cvgs/carryover.

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Sample Description: - Continued

<u>Unlagged Depths</u>	<u>Lagged Depths (using 1 minute per 100' of Depth)</u>	<u>Description</u>
5110'-5120'	5101'-5014'	<p><u>Ss, a/a. cln por ss still w/gd shows. It silty ss a/a, some wh clay, restricted pore throats has no shows. About 1/2 of clean lt gry ss to silty ss has oil shows. All porous "clean" ss appears to have show. Blk carb lam occ in silty ss w/nil eff por. Distinction between ss with & without shows apparent looking at dried samples when clay infill more noticable. Clean ss aprx 10% of smpl, bal pred sh cvgs/carryover.</u></p>
5120'-5130'	5014'-5022'	<p><u>Ss, only several pieces of pred vf "clean" Ss with good shows a/a. Ss predominately medium grained very lt gry, loc partially wh cly infill, qtzse, well sorted, sub rndd silic cem, secondary qtz growth on sand grains, appears to have acceptable p & p but has no flu or flu cut. Lagging sample back to 5114' to 5122' means shows confined to porous "J" in the interval above 5114'. Sample predominately cvgs/ carry over that do not represent interval drld.</u></p>
5130'-5140'	5022'-5033'	<p><u>Ss, a/a, med grained (loc bcmg vf/f/ m poorly sorted) w/ secondary qtz growth on grains poor to gd por depending on amt of cly infill, no flu or flu cut. Frac faces evident on some ss frag. Clean ss aprx 20% of smpl. Siltst med lt grylt brnsh gry about 15% of smpl, qtzse w/common blk carb frags and f blk carb lam, some cleaner lt gry vf/f sdy siltst, no flu or flu cut. Balance sample appears to be cvgs/ carryover a/a. Trc micro pyrite xls (loose). Only flu and flu cut fr vf/f "clean" ss a/a - probably carryover.</u></p>
5140'-5150'	5033'-5140'	<p><u>Ss, a/a, pred med w/vary amt wh cly infill, 5% of smpl. Siltst, a/a, sli over 15% of smpl. Balance cvgs/carryover. No shows except fr vf/f "clean" ss carryover (6 pieces).</u></p>
5150'-5160'	5140'-5150'	<p><u>Ss, a/a, less than 10% of smpl. Many types of ss 1) incl the pred m grained clean silic cem ss w/ sec xl growth on sd grains, 2) the vf/f m grained qtzse sli s & p, ptly silic ptly wh cly filled ss w/ blk carb lam and frags, 3) the brnsh gry vf/f qtzse ss w/f/p por. None of the ss has flu or gives flu cut even with eff porosity present. Siltst, a/a, about 25% of</u></p>

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Sample Description: - Continued

<u>Unlagged Depths</u>	<u>lagged Depths (using 1 minute per 100' of Depth)</u>	<u>Description</u>
		sample, lt gry/med lt gry/med gry/lt brnsh gry, ptly w/ finely disem carb frags, ptly w/vf sand grains, ptly w/carb blk lam, all indicative of several types of low energy level environments, <u>no shows</u> . Balance smpl pred sh cvgs a/a. <u>Couple pieces of vf ss w/ flu & flu cut believed to be carryover fr top of "J"</u> .
5160'-5170'	5150'-5163'	<u>SS</u> , a/a, less than 10% of smpl, main type brnsh gry, med grained, sub ang, well sorted, qtzse, minor cly in fill, gd p & p, grades to poorly sorted, vf/f/m, w/abundant blk carb frags and lam; minor types incl lt tanish gry, vf/f, wh cly infill varies which when abund there is no eff p & p, when nil the fair to good p & p, silic and calc cem, ss w/good p & p <u>appears to have oil film (acid beads on surface), give excellent yel wh flu and immed yel wh strmg flu cut</u> . Since this type of ss not in previous smpl it must be assumed that this ss is from the interval caught. Minor amts of vf v lt gry ss w/wh cly infill, some qtz cem, appears to be carryover from overlying J sands, <u>no shows Siltst</u> a/a incl those found in previous smpl as well as brnsh gry v/f calc fos hash.
<u>Skull Creek Shale</u> - drill rate top 4962'		
5170'-5180'	5163'-5171'	<u>Sh</u> , dk gry/grysh blk w/v thin stks of crs qtzse <u>siltst</u> v lt gry, loc w/scat vf glauc grains less than 5% of smpl. Less than 5% <u>ss</u> , a/a; lt tanish gry m grained <u>ss w/ gd flu & flu cut</u> only a trc in smpl. <u>Siltst</u> , a/a, still abt 25% of smpl.
5180'-5190'	5171'-5184'	<u>Sh</u> , dk gry/grysh blk a/a, abt 5% of smpl. Stg trc <u>ss</u> , crm/v lt gry, vf/f silic cem, varying amts wh cly infill. <u>Siltst</u> , a/a. Mud visc being raised to cln hole to log, accordingly most of smpl is cavings/carryover. <u>No shows</u> except one piece carryover <u>ss</u> .

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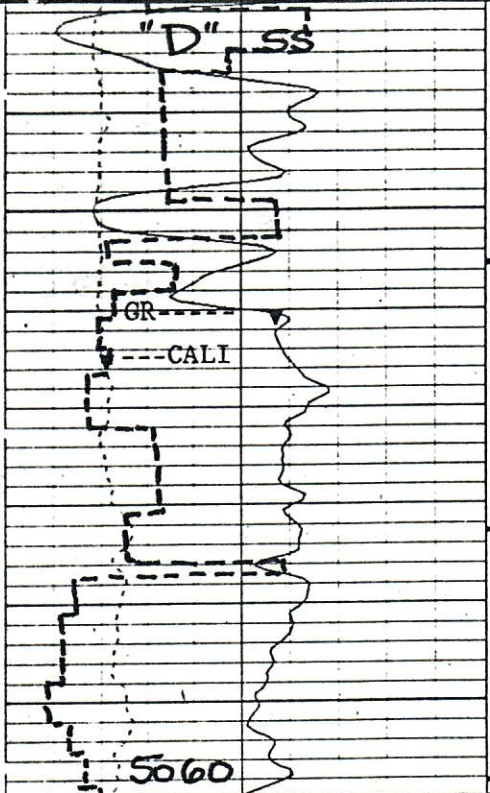
<u>Unlaged Depths</u>	<u>Lagged Depths (using 1 minute per 100' of Depth)</u>	<u>Description</u>
5190'-5200'	5184'-5193'	<u>Sh</u> , med dk gry/dk gry, silt & cly sz particles w/v lt gry crs qtzse <u>siltst</u> stks lo \bar{c} , loc abd micro pyr xls assoc w/ fos hash. Trc <u>ss</u> , a/a. <u>Siltst</u> continues a/a but most likely rep cvgs/ carryover.
5200'-5208'	5193'-5200'	A/a, except trc tansh gry vf silty qtzse <u>ss</u> w/ crs floating frosted sd grains and micro <u>pyrite</u> xl clusters. <u>No shows</u> except fr piece lt gry tan vf Ss, prob carryover. Heaving hole precludes gd samples.

NOTE:

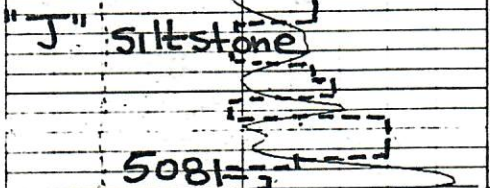
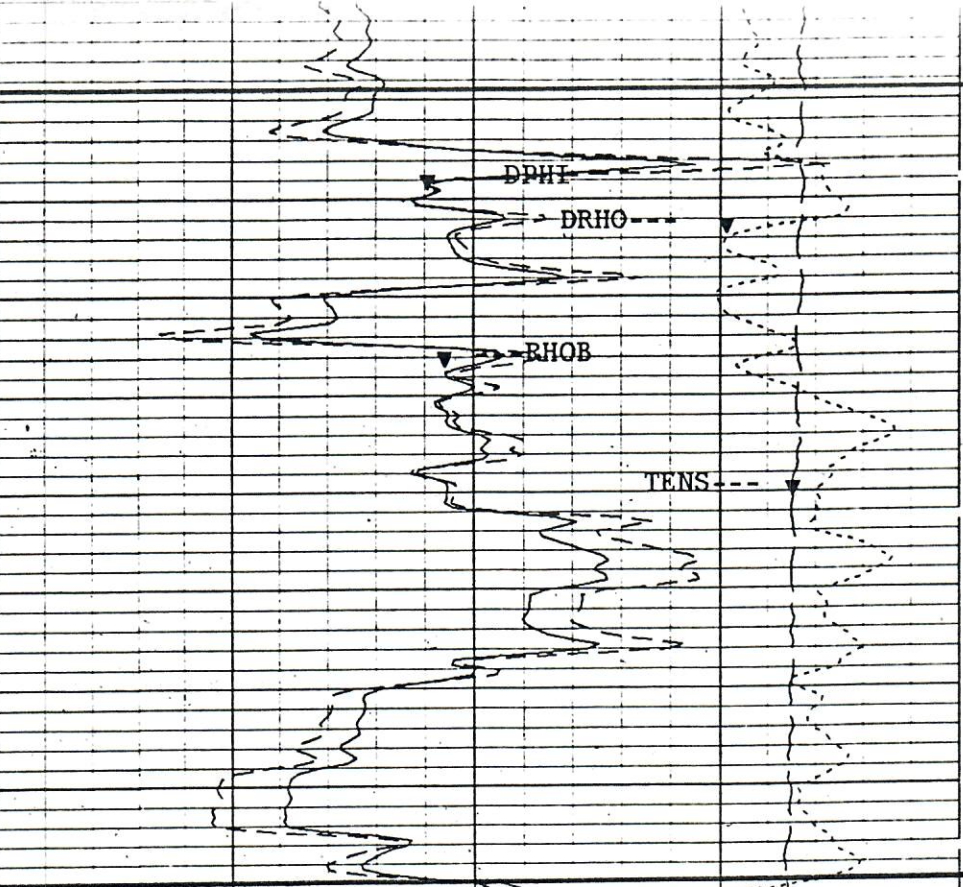
After Schlumberger open hole logs were run it was determined that drill rate curve had to be moved down hole 4' to 5' to match the logs, accordingly 4' to 5' should be added from the lagged depths shown to more accurately match log depths.

4979

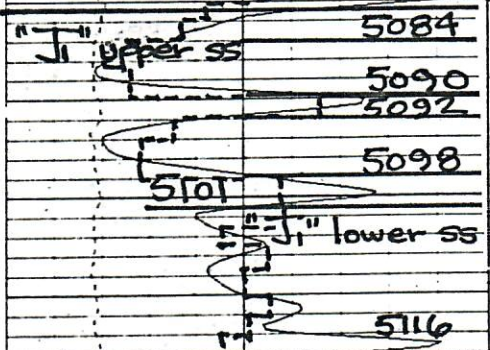
SS 2.65



5000

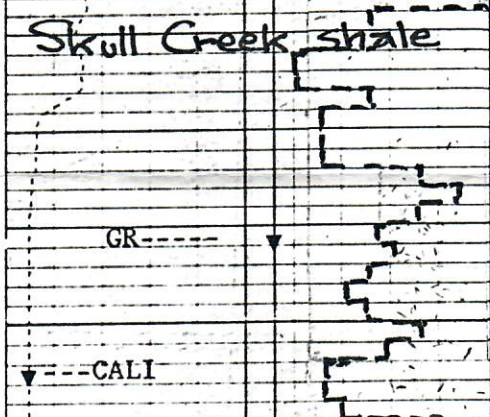
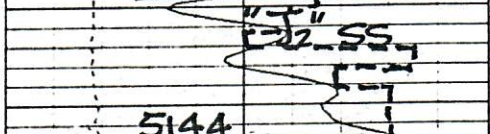
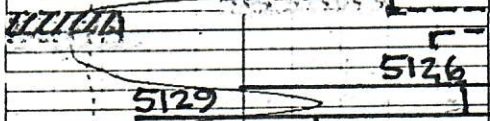
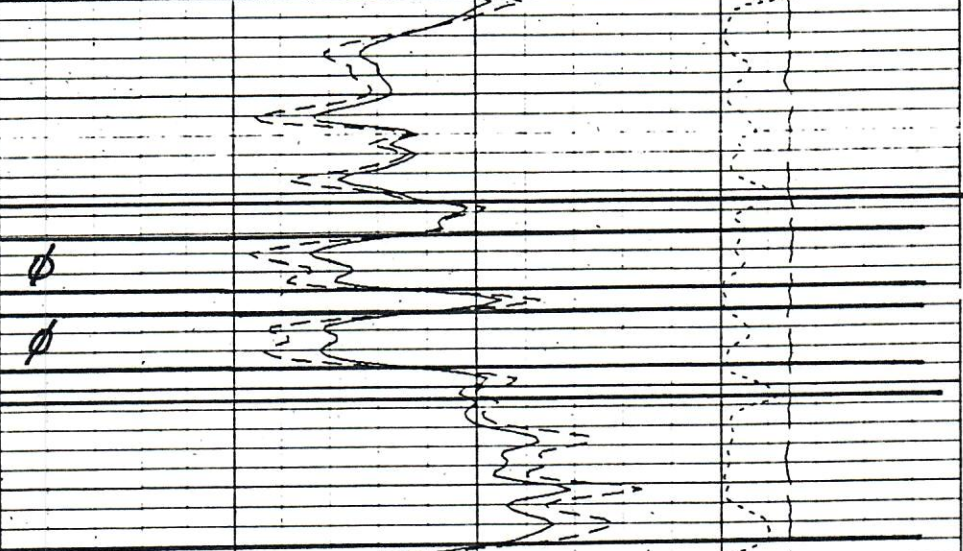


5180 = 5175 drlr

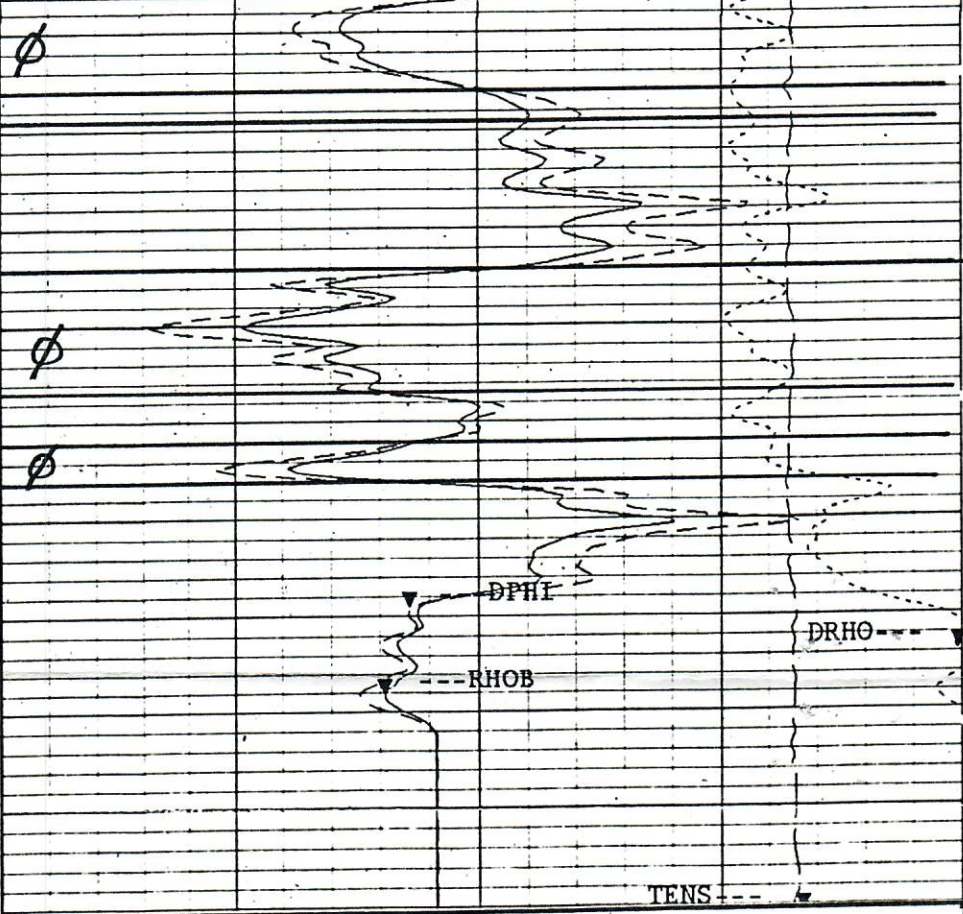


DST # 1

5109 = 5104 drlr



5200



0 5 10
DRILL RATE
(minutes/foot)

Drill rate shifted 5' downward to match log depths.

GR(GAPI)	00	200.00
CALI(IN)	6.0000	16.0000

DRHO(G/C3)	2500	25000
TENS(LBF)	10000	00
DPHI(V/V)	30000	-1000
RHOB(G/C3)	2.0000	3.0000