

#7

CONFIDENTIAL
THIS ARTICLE ENTRUSTED TO

Schlumberger **FOUR - ARM
HIGH RESOLUTION
CONTINUOUS DIPMETER**

COUNTY FIELD or LOCATION WELL	COMPANY	COMPANY <u>STANDARD OIL COMPANY</u> <u>OF CALIFORNIA</u> P202764 WELL <u>HIGHLAND L&L #1</u> IBM FIELD <u>WILDCAT-NW CALDWELL AREA</u> COUNTY <u>PAYETTE</u> STATE <u>IDAHO</u> LOCATION <u>2210' FWL & 1650' FNL</u> Sec. <u>24</u> Twp. <u>6N</u> Rge. <u>5W</u>	Other Services:
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Permanent Datum: <u>GL</u> , Elev. <u>2631</u> Log Measured From <u>KB</u> , <u>16</u> Ft. Above Perm. Datum Drilling Measured From <u>KB</u>	Elev.: <u>K.B. 2647</u> D.F. _____ G.I. <u>2631</u>
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Date	3-15-73	4-12-73	5-3-73	5-23-73
Run No.	ONE	TWO	THREE	FOUR
Depth—Driller	3060	7423	10,669	11,947
Depth—Logger	3009	7421	10,682	
Btm. Log Interval	3008	7420	10,680	
Top Log Interval	1057	3030	7217	10,340
Casing—Driller	20 @1057	13 3/8 @3028	13 3/8 @3028	13 3/8 @3028
Casing—Logger	1057	3030	NA	NA
Bit Size	12 1/4	9 7/8	9 7/8	9 7/8
Type Fluid in Hole	DEXTRID-GEL	DEXTRID-GEL	DEXTRID-GEL	GEL-LIGNITE
Dens.	71	45	69.5	41
Visc.			76	50
pH	8.0	8.5	9.0	7.8
Fluid Loss	8.0	8.5 ml	9.0	7.8 ml
Source of Sample	FLOWLINE	FLOWLINE	CIRC.	CIRC.
R _m @ Meas. Temp.	3.22 @ 66 °F	4.69 @ 74 °F	4.32 @ 78 °F	.494 @ 114 °F
R _{mf} @ Meas. Temp.	2.62 @ 57 °F	4.85 @ 77 °F	3.56 @ 76 °F	.607 @ 74 °F
R _{mc} @ Meas. Temp.	4.89 @ 57 °F	2.4 @ 77 °F	3.47 @ 76 °F	.512 @ 74 °F
Source: R _{mf} R _{mc}	M M	M M	M M	M M
R _m @ BHT	1.7 @ 116 °F	1.2 @ 263 °F	1.35 @ 252 °F	@ °F
Time Since Circ.	7 HRS.	16 HRS	17 HRS	14 HRS
Max. Rec. Temp.	116 °F	284 °F	310 °F	°F
Equip. Location	7503 SAC	7503 SAC	7517 BKS	3714 BKS
Recorded By	FRIDLEY	WEEKS	DELAND	FRYT
Witnessed By	GILBERT	GILBERT	GILBERT	GILBERT

The well name, location and borehole reference data were furnished by the customer.

Changes in Mud Type or Additional Samples		Run No.	1	2	3	4
Date Sample No.			HDT-C		HDT-C	HDT-F
Depth—Driller			BAK		F-869 E	SAC
Type Fluid in Hole			SET			SET
Dens.	Visc.		D-777		D-888	
Ph	Fluid Loss	ml			F-14	
Source of Sample					16 1/2° E	16 1/2° E
R _m @ Meas. Temp.		@ °F				
R _{mf} @ Meas. Temp.		@ °F				
R _{mc} @ Meas. Temp.		@ °F				
Source: R _{mf}	R _{ms}					
R _m @ BHT		@ °F				
R _{mf} @ BHT		@ °F				
R _{ms} @ BHT		@ °F				

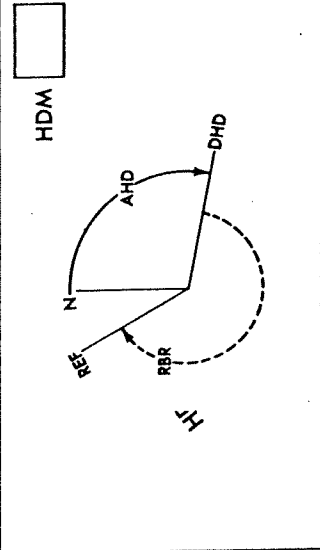
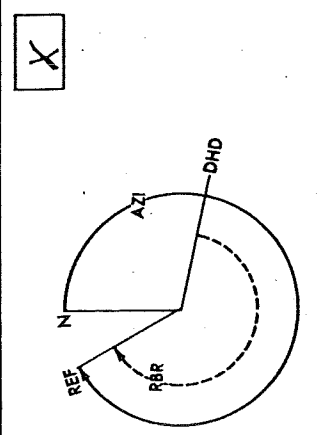
CHECK IF USED: UG CG SAH 5" FILM 10" FILM 60" RECORD ANALOG DIGITAL

REMARKS CIRC. STOPPED 1645 3-16
 OFF BOTTOM 2325 3-16
 NOTE: RUN 4 NOT RECEIVED FROM SCHLUMBERGER

TOOL AZIMUTH AND HOLE DIRECTION CALCULATION

DEFINITIONS

(DHD) HIGH SIDE OF TOOL = Direction from center of tool to upper side of tool.
 (N) NORTH = Direction from center of tool to Magnetic North.
 (REF) REFERENCE ELECTRODE = Direction from center of tool to #1 electrode.
 (AZI) AZIMUTH OF REFERENCE ELECTRODE = Clockwise angle from N to REF.
 (RBR) RELATIVE BEARING = Clockwise angle from DHD to REF.
 (AHD) AZIMUTH OF HOLE DEVIATION (TOOL AXIS) = Clockwise angle from N to DHD.



EXAMPLE

HDM - Low Angle Unit (0-36°)
 AZI = 330° - RBR = 330° - 230° = 100°
 AHD = AZI - RBR = 330° - 230° = 100°

EXAMPLE

HDM - High Angle Unit (0-72°)
 AHD = 100°
 RBR = 230°
 AZI = AHD + RBR = 100° + 230° = 330°

ROLL NO.	INTERVAL
1	7424 - 4708
2	4943 - 3006