

**Company:** Lamont Doherty

**Well:** ODP Leg 204, Site 1244E

**Field:** Hydrate Ridge

**Ocean:** Pacific **State:** Oregon

## Natural Gamma Ray Spectroscopy

Ocean: Pacific		Elev.: K.B. 11.3 m	
Field: Hydrate Ridge		G.L. 0 m	
Location: W 125° 7.1703'		D.F. 11 m	
Well: ODP Leg 204, Site 1244E		Elev.: 0 m	
Company: Lamont Doherty		11.3 m above Perm. Datum	
<b>LOCATION</b>			
W 125° 7.1703'		Elev.: K.B. 11.3 m	
N 44° 35.1694'		G.L. 0 m	
D.F. 11 m		Elev.: 0 m	
Permanent Datum: MSL		11.3 m above Perm. Datum	
Log Measured From: RKB			
Drilling Measured From: RKB			
API Serial No.	Max. Hole Devi.	Longitude	Latitude

Logging Date	20-Aug-2002		
Run Number	1		
Depth Driller	1155 m		
Schlumberger Depth	1155 m		
Bottom Log Interval	1123 m		
Top Log Interval	905 m		
Casing Driller Size @ Depth	0.000 in @ 977 m		
Casing Schlumberger	976 m @		
Bit Size	11.438 in		
Type Fluid In Hole	Sepiolite Salt Water Base		

Type Fluid In Hole		Density		Viscosity	
Fluid Loss		1.1 g/cm3		PH	
Source Of Sample		Mud Pit			
RM @ Measured Temperature		0.322 ohm.m @		27 degC @	
RMF @ Measured Temperature		@		@	
RMC @ Measured Temperature		@		@	
Source RMF		RMC			
RM @ MRT		0.407 @ 17		@ 17	
Maximum Recorded Temperatures		17 degC		@ 17	
Circulation Stopped		20-Aug-2002		13:00	
Logger On Bottom		20-Aug-2002		17:30	
Unit Number		99		Houston-ODP	
Recorded By		K. Swain			
Witnessed By		G. Guerin, S. Barr, T. Collett			

Logging Date	Run 1	Run 2	Run
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth			
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
Density			
Fluid Loss			
Source Of Sample			
RM @ Measured Temperature			
RMF @ Measured Temperature			
RMC @ Measured Temperature			
Source RMF			
RM @ MRT			
Maximum Recorded Temperatures			
Circulation Stopped			
Logger On Bottom			
Unit Number			
Recorded By			
Witnessed By			

Type Fluid In Hole		Density		Viscosity	
Fluid Loss				PH	
Source Of Sample					
RM @ Measured Temperature				@	
RMF @ Measured Temperature		@		@	
RMC @ Measured Temperature		@		@	
Source RMF		RMC			
RM @ MRT		0.407 @ 17		@ 17	
Maximum Recorded Temperatures		17 degC		@ 17	
Circulation Stopped		20-Aug-2002		13:00	
Logger On Bottom		20-Aug-2002		17:30	
Unit Number		99		Houston-ODP	
Recorded By		K. Swain			
Witnessed By		G. Guerin, S. Barr, T. Collett			

**DISCLAIMER**

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

**OTHER SERVICES1**  
 OS1: WST3  
 OS2: FMS/DSST  
 OS3: IPL  
 OS4:  
 OS5:

**OTHER SERVICES2**  
 OS1:  
 OS2:  
 OS3:  
 OS4:  
 OS5:

**REMARKS: RUN NUMBER 1**  
 Depths in meters below rig floor.  
 Drill pipe SLB at 976 mbrf.  
 Sea Floor SLB at 905 mbrf.

**REMARKS: RUN NUMBER 2**

**RUN 1**  
 SERVICE ORDER #:  
 PROGRAM VERSION: 10C0-306  
 FLUID LEVEL:

**RUN 2**  
 SERVICE ORDER #:  
 PROGRAM VERSION:  
 FLUID LEVEL:

LOGGED INTERVAL	START	STOP



LOGGED INTERVAL	START	STOP

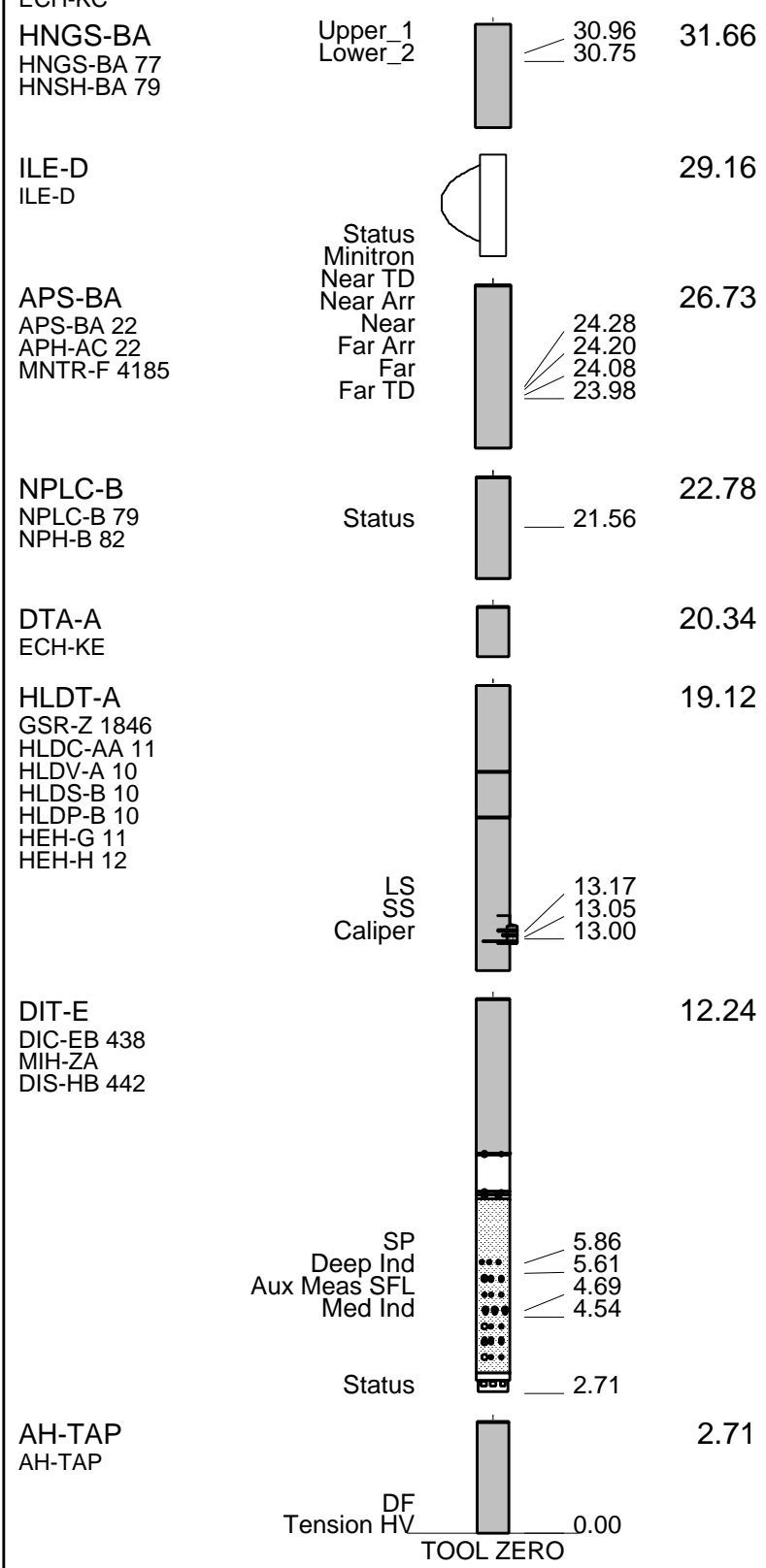
**EQUIPMENT DESCRIPTION**

**RUN 1**  
**SURFACE EQUIPMENT**  
 SFT-281 24  
 SFT-178 4722  
 GSR-U 135  
 WITM (DTS)-A

**RUN 2**

**DOWNHOLE EQUIPMENT**

LEH-QT		34.84
LEH-QT		
AH-QSST		33.95
AH-QSST		
DTC-H	CTEM	32.30
ECH-KC	TelStatus	31.66
	ToolStatu	



MAXIMUM STRING DIAMETER 3.88 IN  
 MEASUREMENTS RELATIVE TO TOOL ZERO  
 ALL LENGTHS IN METERS

## Output DLIS Files

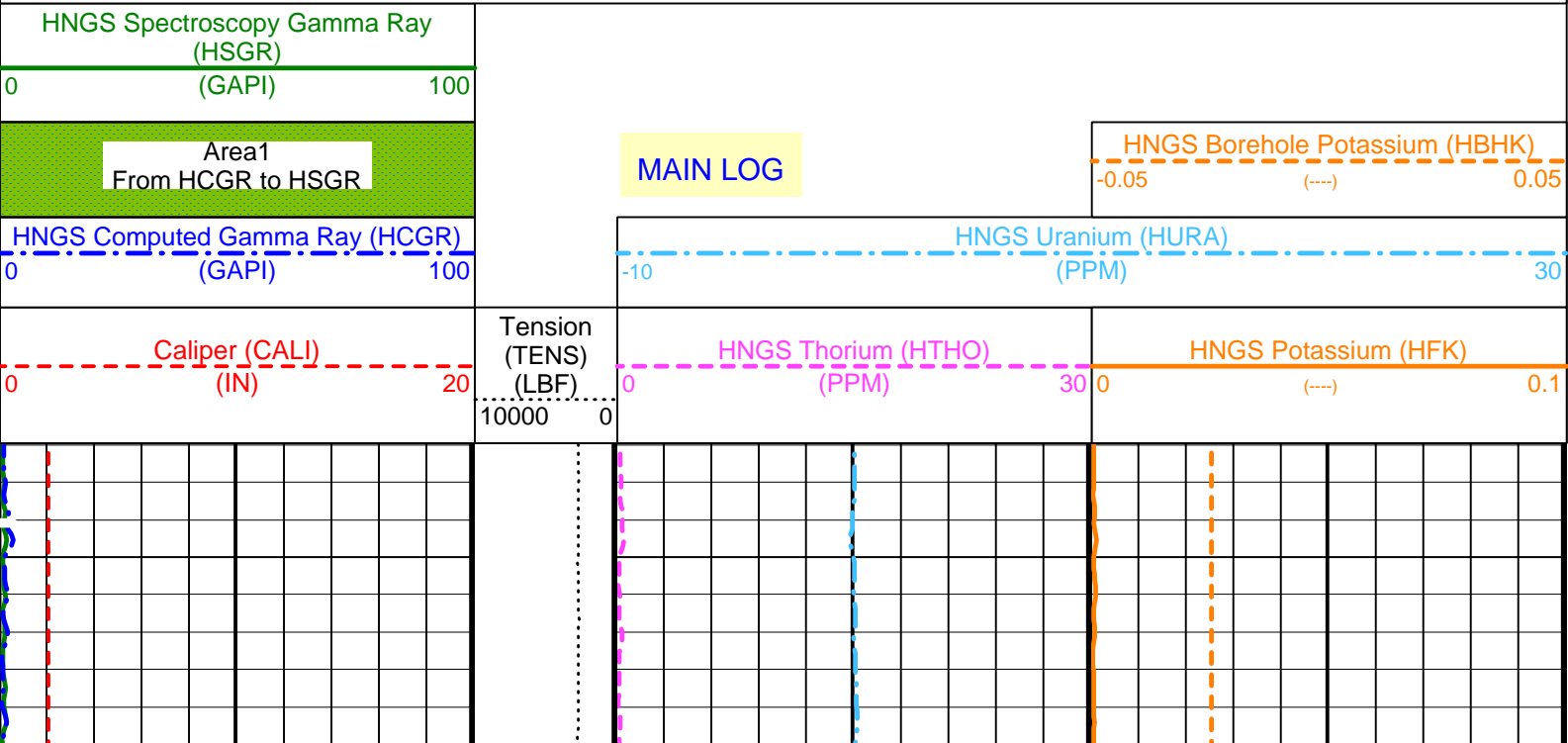
DEFAULT	PI_LDL_APS_NGS_006LUP	FN:7	PRODUCER	20-Aug-2002 17:27	
REDUCE	PI_LDL_APS_NGS_006LUP	FN:8	PRODUCER	20-Aug-2002 17:27	1154.4 M 886.9 M

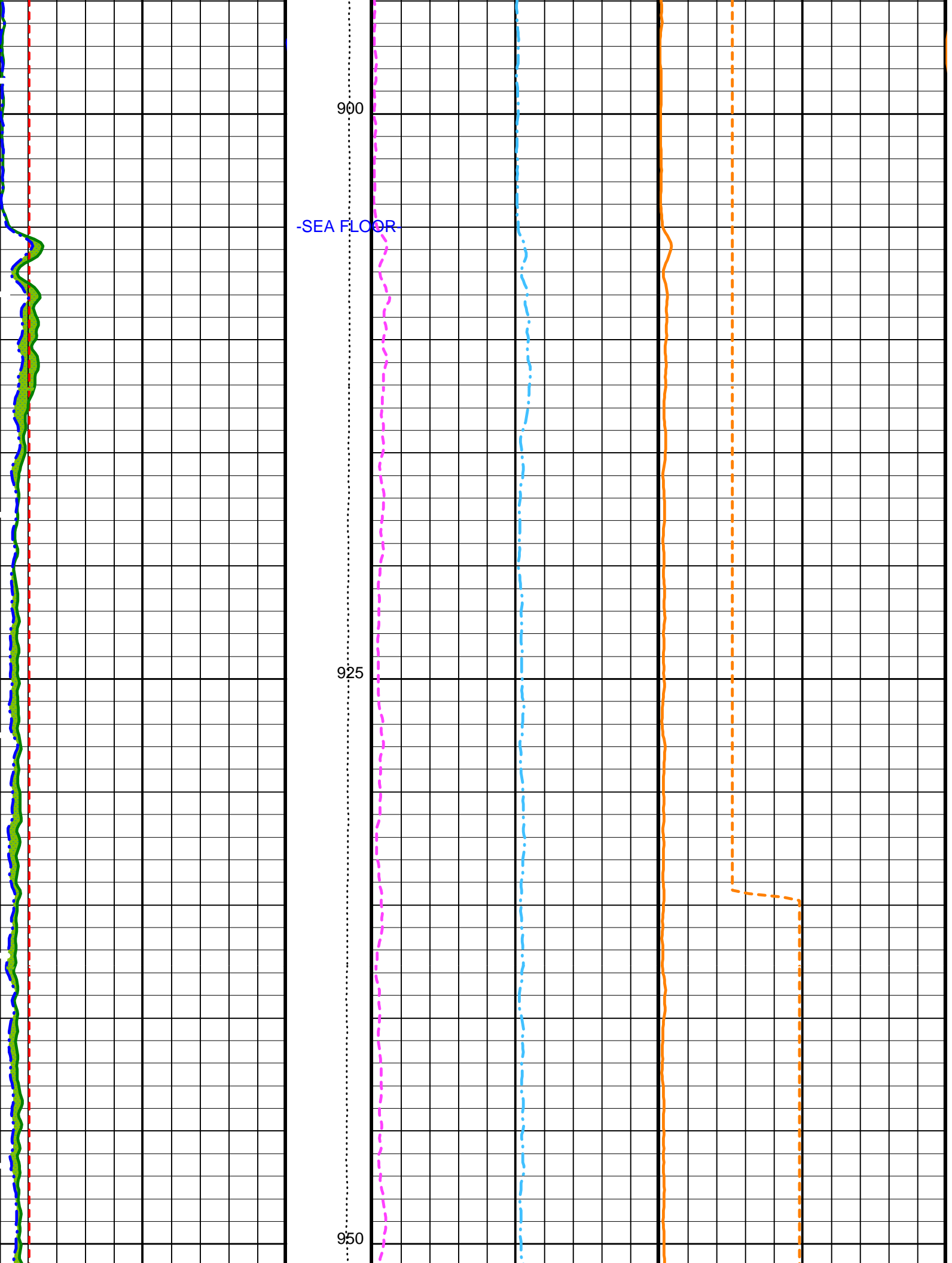
## OP System Version: 10C0-306 MCM

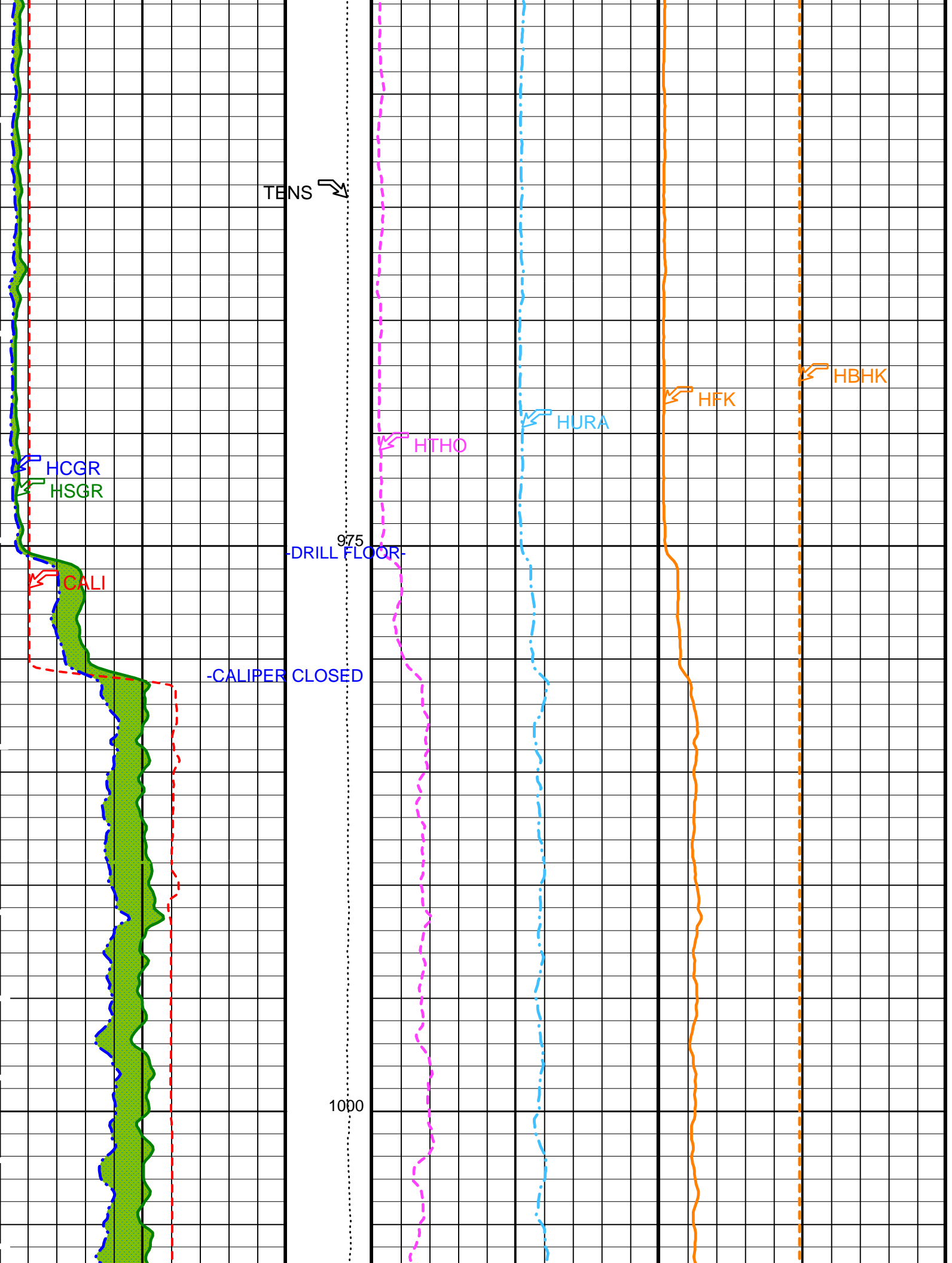
DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	OP10-KP1
APS-BA	OP10-KP1	HNGS-BA	OP10-KP1
DTC-H	10C0-306		

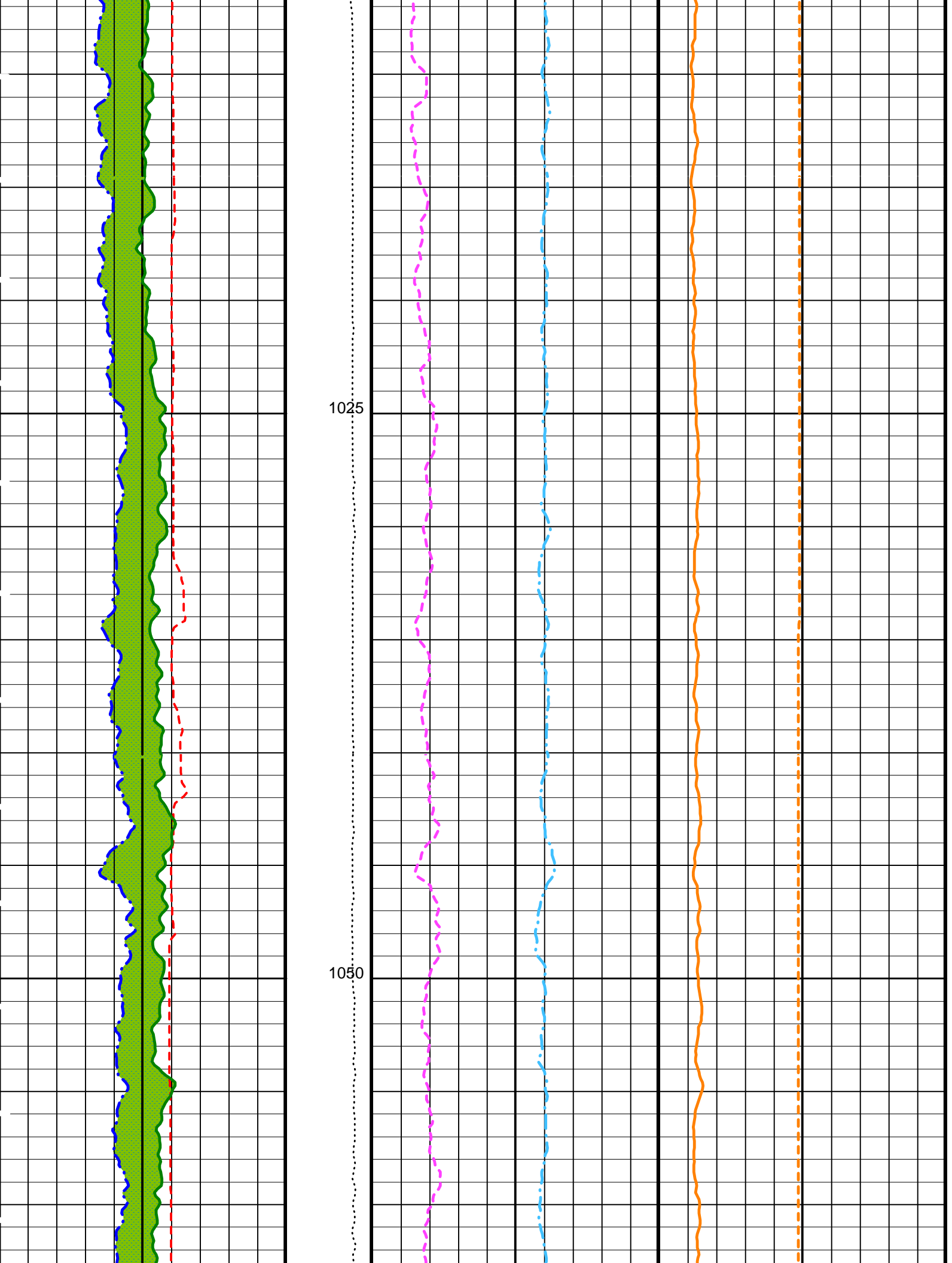
### PIP SUMMARY

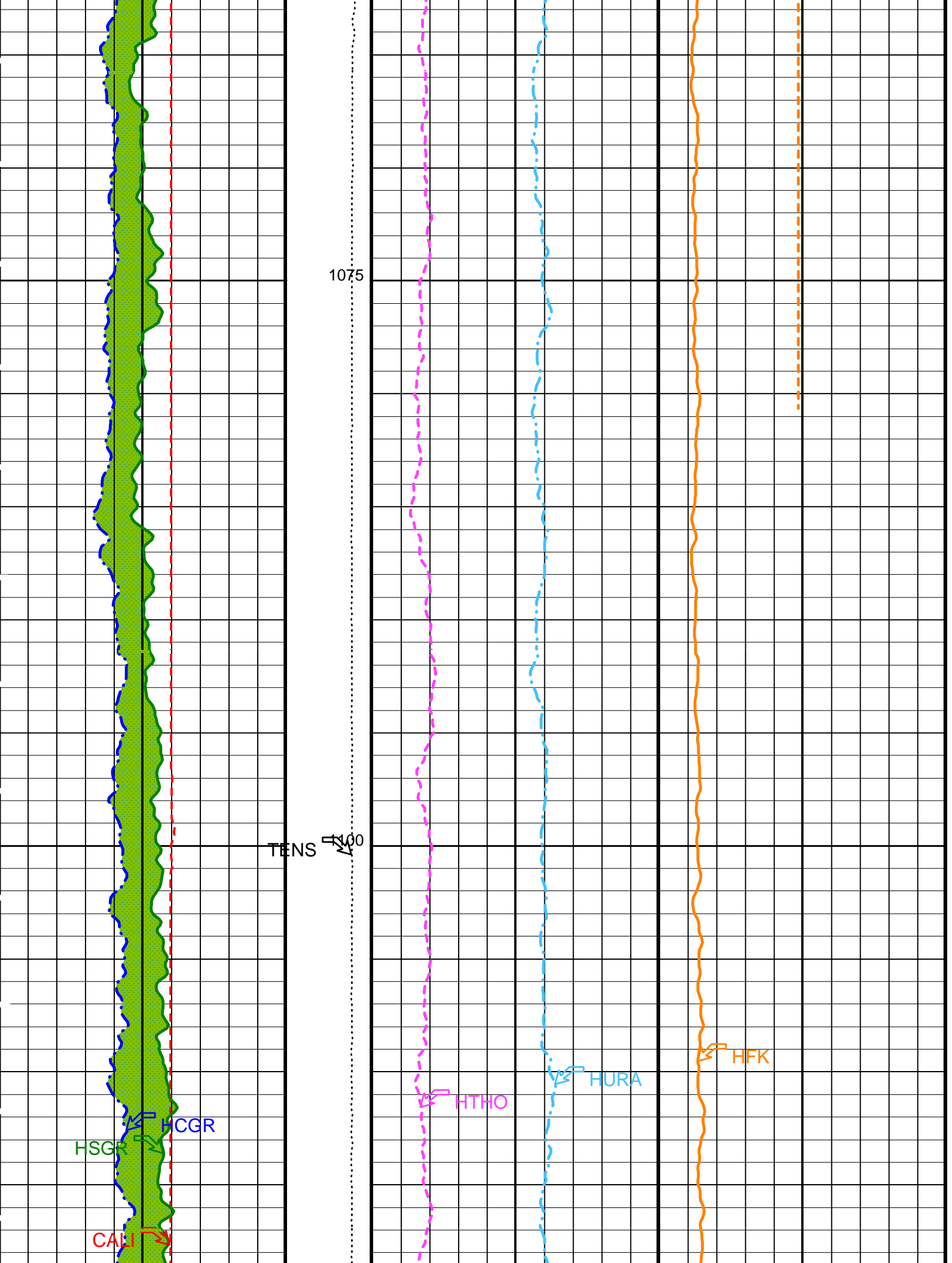
Time Mark Every 60 S



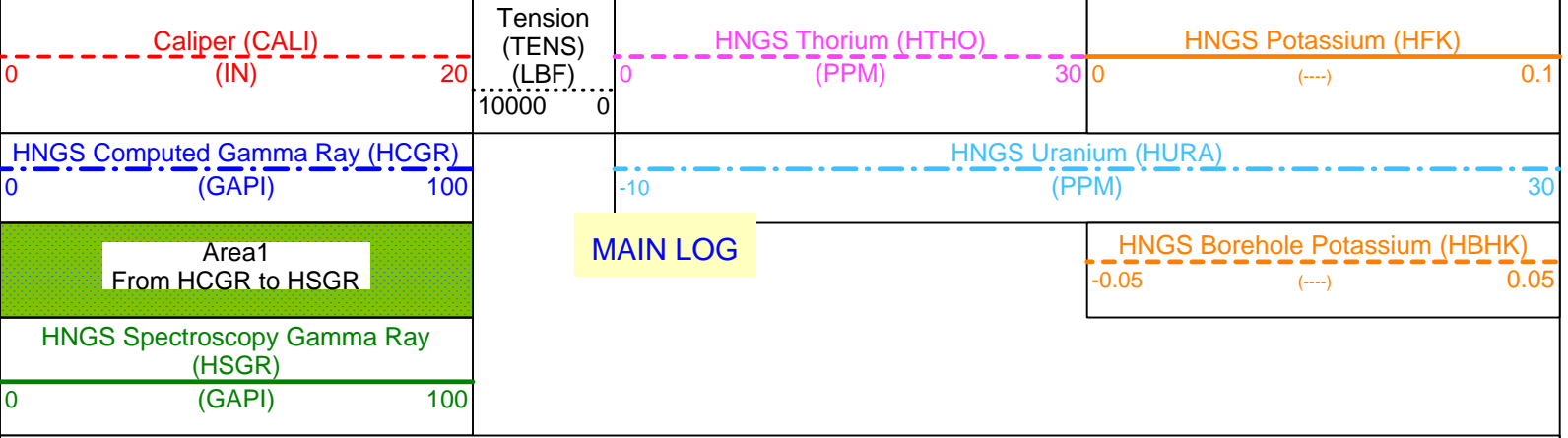
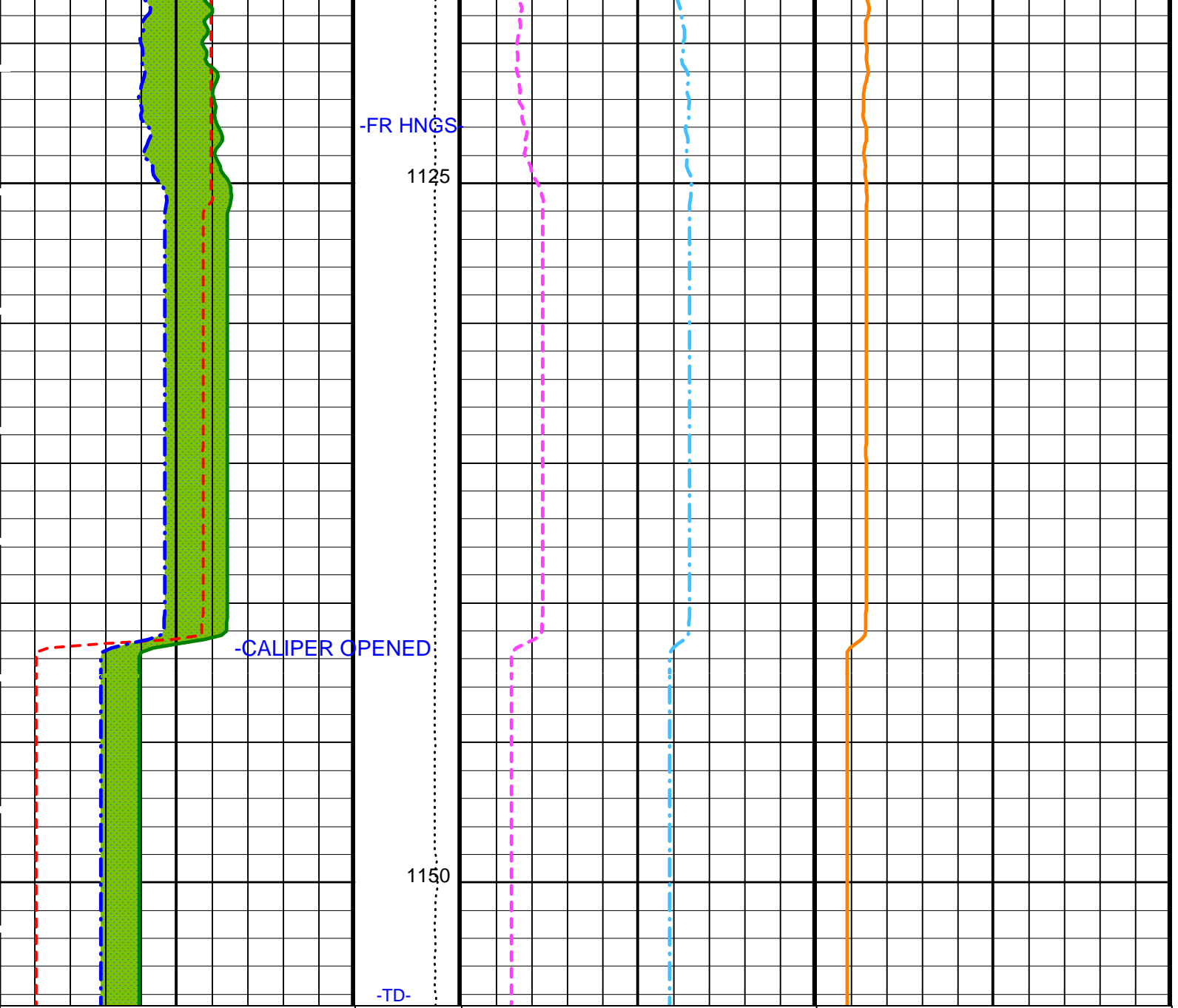












PIP SUMMARY

Time Mark Every 60 S

### Parameters

DLIS Name	Description	Value
BHS	DIT-E: Dual Induction - E	
GCSE	Borehole Status	OPEN
	Generalized Caliper Selection	CALI
	APS-BA: Accelerator-Porosity Tool	

BHS	Accelerator Grossity Tool			
GCSE	Generalized Caliper Selection		OPEN	
	HNGS-BA: Hostile Natural Gamma Ray Sonde		CALI	
BAR1	HNGS Detector 1 Barite Constant		1	
BAR2	HNGS Detector 2 Barite Constant		1	
BHK	HNGS Borehole Potassium Correction Concentration		0	
BHS	Borehole Status		OPEN	
CSD1	Inner Casing Outer Diameter		0	IN
CSD2	Outer Casing Outer Diameter		0	IN
CSW1	Inner Casing Weight		0	LB/F
CSW2	Outer Casing Weight		0	LB/F
DBCC	HNGS Barite Constant Correction Flag		NONE	
GCSE	Generalized Caliper Selection		CALI	
H1P	HNGS Detector 1 Allow/Disallow In Processing		ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing		ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.000467756		
HALF	HNGS Alpha Filter Length		60	IN
HCRB	HNGS Apply Borehole Potassium Correction		NONE	
HMWM	Mud Weighting Material		NATU	
HNPE	HNGS Processing Enable		YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate		1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate		1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag		YES	
TPOS	Tool Position		ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.964262		
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.983536		
	System and Miscellaneous			
BS	Bit Size		11.438	IN
DFD	Drilling Fluid Density		1.10	G/C3

Format: HNGSYields    Vertical Scale: 1:200    Graphics File Created: 20-Aug-2002 17:28

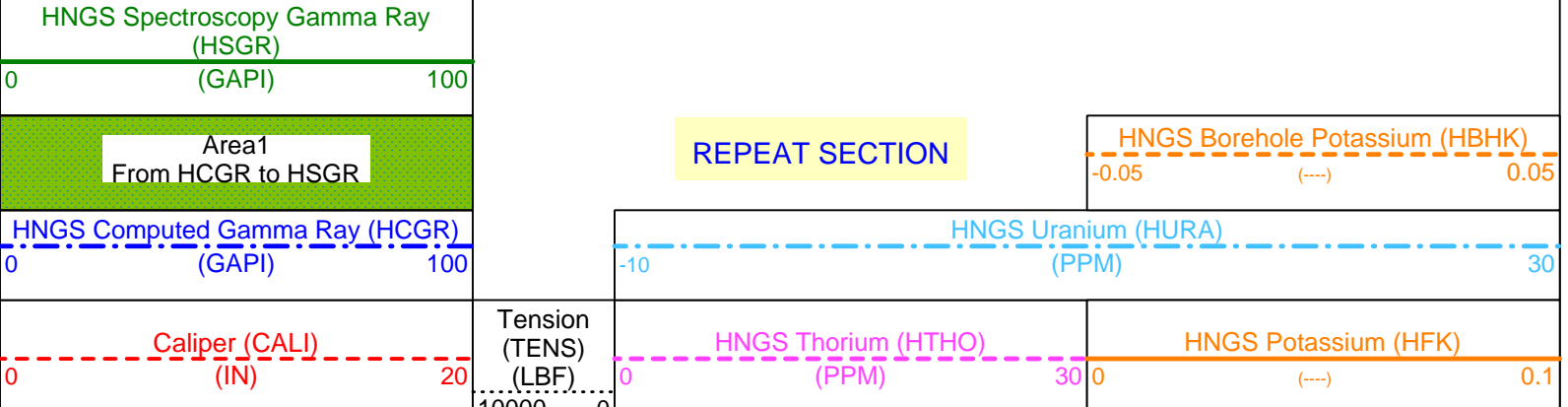
<b>OP System Version: 10C0-306</b>			
MCM			
DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	OP10-KP1
APS-BA	OP10-KP1	HNGS-BA	OP10-KP1
DTC-H	10C0-306		

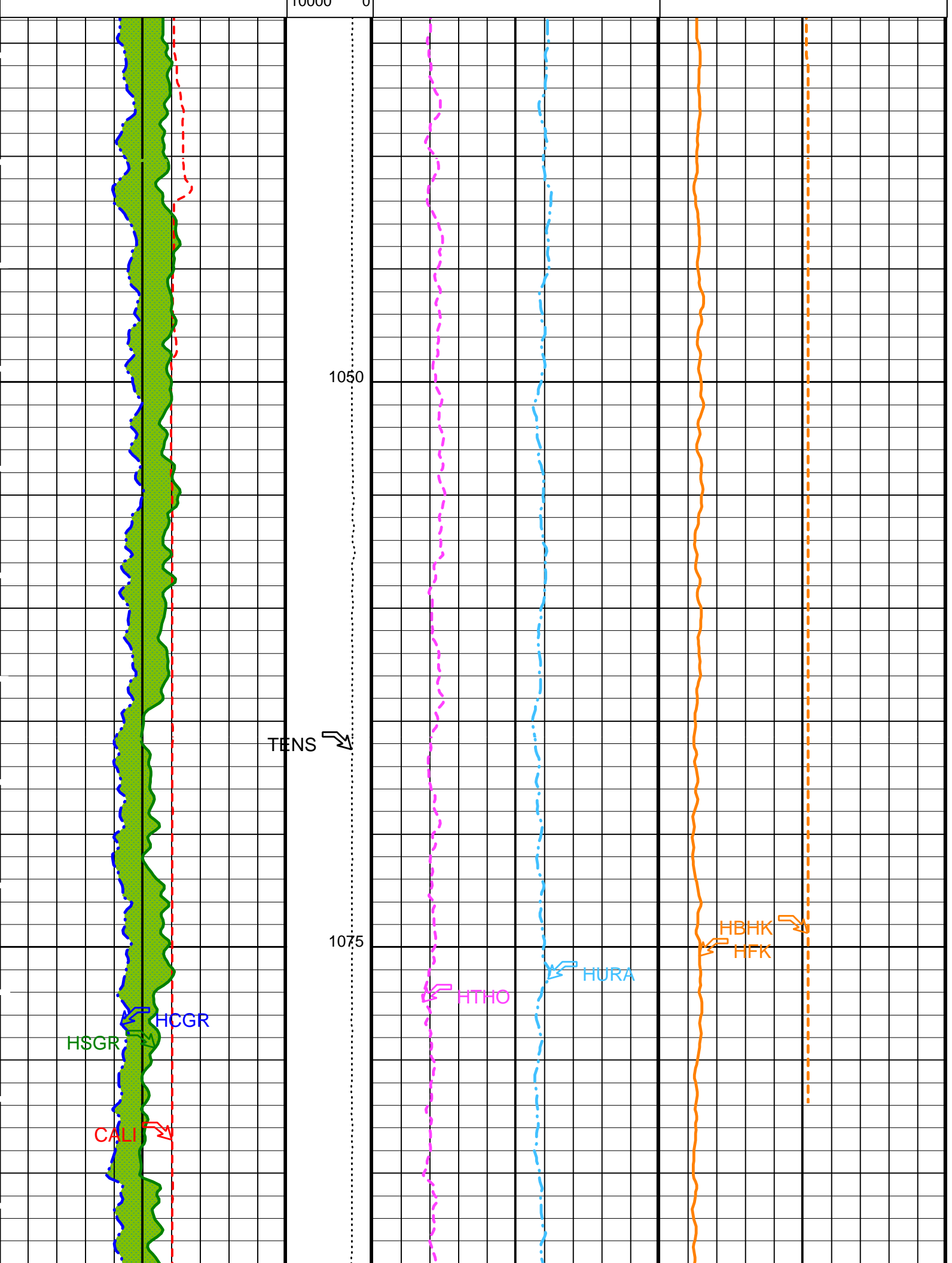
<b>Output DLIS Files</b>				
DEFAULT	PI_LDL_APS_NGS_006LUP	FN:7	PRODUCER	20-Aug-2002 17:27
REDUCE	PI_LDL_APS_NGS_006LUP	FN:8	PRODUCER	20-Aug-2002 17:27

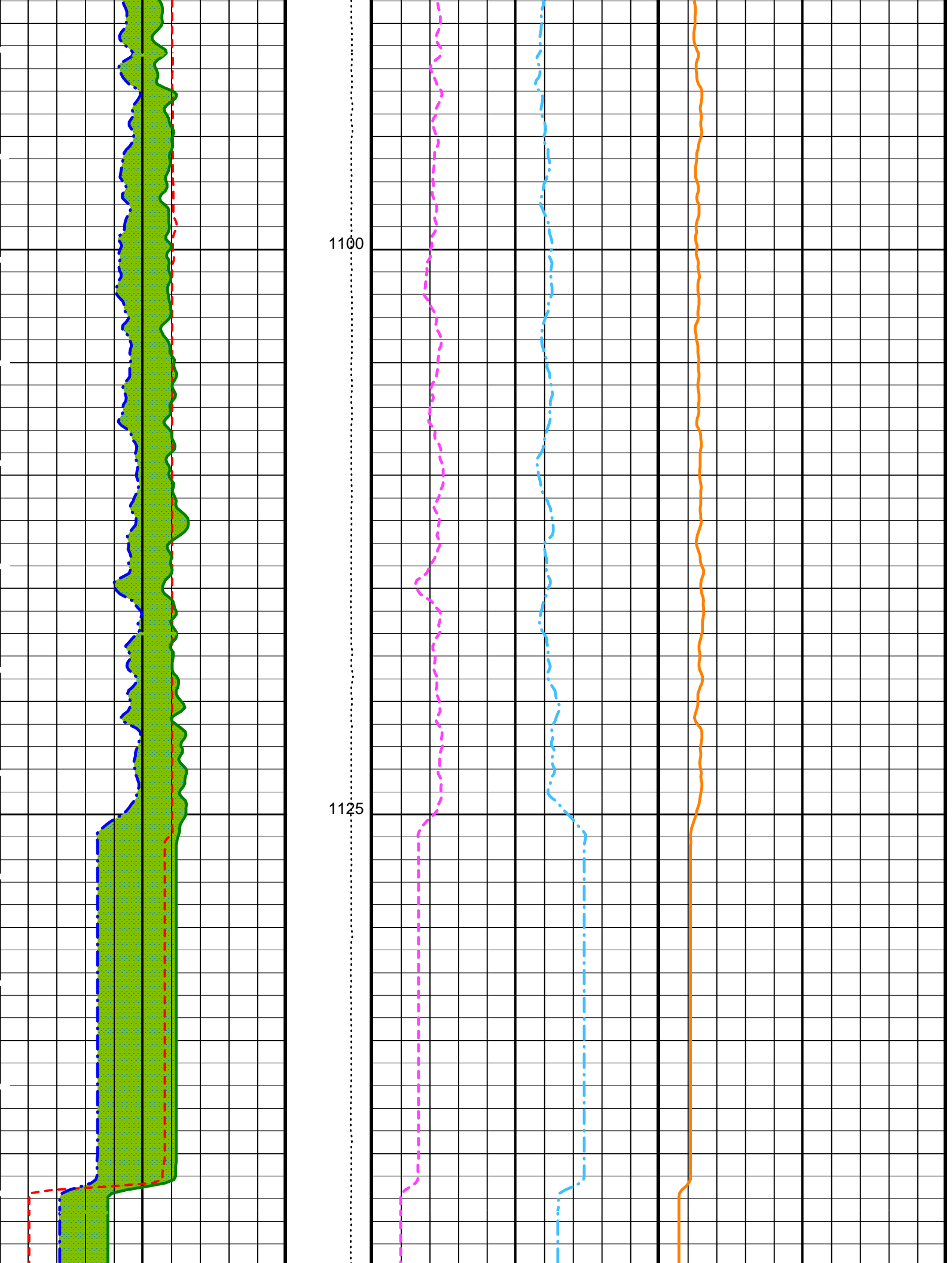
<b>Output DLIS Files</b>						
DEFAULT	PI_LDL_APS_NGS_008LUP	FN:10	PRODUCER	20-Aug-2002 18:27	1154.4 M	1033.9 M
REDUCE	PI_LDL_APS_NGS_008LUP	FN:11	PRODUCER	20-Aug-2002 18:27	1154.4 M	1033.9 M

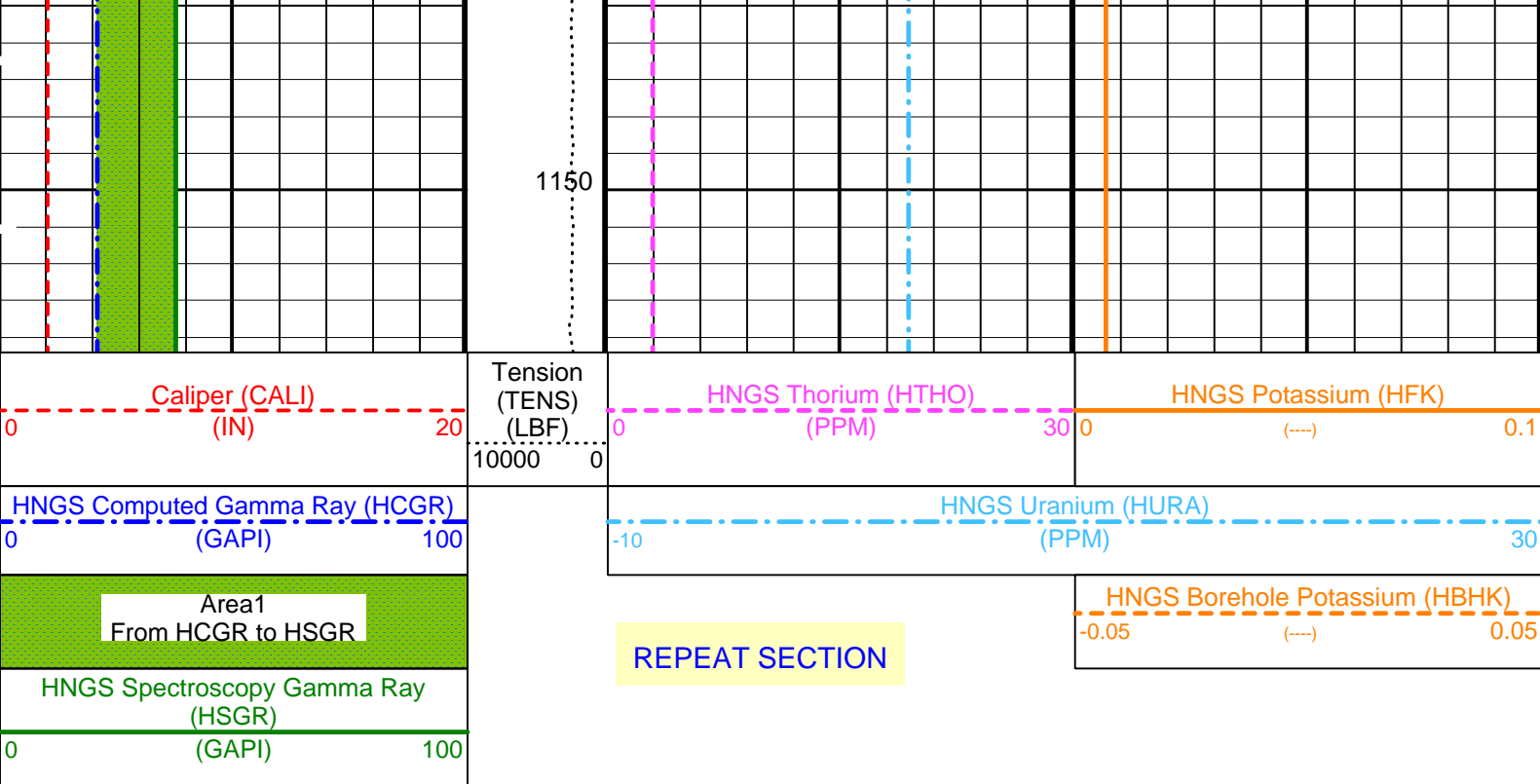
<b>OP System Version: 10C0-306</b>			
MCM			
DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	OP10-KP1
APS-BA	OP10-KP1	HNGS-BA	OP10-KP1
DTC-H	10C0-306		

PIP SUMMARY









PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	DIT-E: Dual Induction - E		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	CALI	
	APS-BA: Accelerator-Porosity Tool		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	CALI	
	HNGS-BA: Hostile Natural Gamma Ray Sonde		
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
CSD1	Inner Casing Outer Diameter	0	IN
CSD2	Outer Casing Outer Diameter	0	IN
CSW1	Inner Casing Weight	0	LB/F
CSW2	Outer Casing Weight	0	LB/F
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	CALI	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	-0.00756454	
HALF	HNGS Alpha Filter Length	60	IN
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.961934	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.981195	
	System and Miscellaneous		
BS	Bit Size	11.438	IN
DFD	Drilling Fluid Density	1.10	G/C3

Format: HNGSYields

Vertical Scale: 1:200

Graphics File Created: 20-Aug-2002 18:27

OP System Version: 10C0-306

MCM

DIT-E	10C0-306	HLDT-A	10C0-306
DTA-A	10C0-306	NPLC-B	OP10-KP1
APS-BA	OP10-KP1	HNGS-BA	OP10-KP1
DTC-H	10C0-306		

# Output DLIS Files

DEFAULT	PI_LDL_APS_NGS_008LUP	FN:10	PRODUCER	20-Aug-2002 18:27
REDUCE	PI_LDL_APS_NGS_008LUP	FN:11	PRODUCER	20-Aug-2002 18:27

## Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
<b>Hostile Environment Litho Density - A Wellsite Calibration - Background Measurement</b>							
Master: 11-Jun-2002 22:31 Before: 24-Jul-2002 15:39 After: 18-Aug-2002 1:47							
LSW1 Background	100.0	88.67	86.74	87.00	0.2697	0.03000	CPS
LSW2 Background	105.0	93.18	91.70	92.27	0.5778	0.03000	CPS
LSW3 Background	210.0	177.4	176.2	178.4	2.285	0.03000	CPS
LSW4 Background	290.0	236.8	236.6	234.4	-2.134	0.03000	CPS
LSW5 Background	610.0	518.0	517.3	519.6	2.307	0.03000	CPS
SSW1 Background	100.0	83.02	84.95	83.23	-1.720	0.03000	CPS
SSW2 Background	200.0	165.1	166.3	165.4	-0.9567	0.03000	CPS
SSW3 Background	530.0	440.7	439.6	439.0	-0.6002	0.03000	CPS
SSW4 Background	280.0	232.4	232.4	232.4	-0.07803	0.03000	CPS
SSW5 Background	205.0	174.0	173.3	174.2	0.8656	0.03000	CPS
<b>Hostile Environment Litho Density - A Wellsite Calibration - Tool Quality Control Information High Voltage</b>							
Master: 11-Jun-2002 22:31 Before: 24-Jul-2002 15:39 After: 18-Aug-2002 1:47							
LS Bkg. High Voltage	1133	1133	1130	1132	2.423	N/A	V
SS Bkg. High Voltage	1177	1177	1171	1173	2.729	N/A	V
<b>Hostile Environment Litho Density - A Wellsite Calibration - Detectors Resolution From BKG Measurements</b>							
Master: 11-Jun-2002 22:31 Before: 24-Jul-2002 15:39 After: 18-Aug-2002 1:47							
LS Background Resolution	1.000	1.032	1.032	1.045	0.01232	N/A	
SS Background Resolution	1.000	0.9430	0.9416	0.9470	0.005421	N/A	
<b>Hostile Environment Litho Density - A Wellsite Calibration - Caliper Calibration</b>							
Before: 24-Jul-2002 15:38							
Caliper Small Ring	12.00	N/A	17.14	N/A	N/A	N/A	IN
Caliper Large Ring	15.25	N/A	21.07	N/A	N/A	N/A	IN
<b>Accelerator-Porosity Tool Wellsite Calibration - Detector Background</b>							
Master: 24-Jul-2002 7:08 Before: 20-Aug-2002 19:27 After: 20-Aug-2002 20:30							
Near Det Bkg Cntrate	30.00	32.30	33.15	33.34	0.1836	N/A	CPS
Far Det Bkg Cntrate	30.00	33.62	31.94	34.76	2.821	N/A	CPS
Array-1 Det Bkg Cntrate	30.00	28.88	28.76	29.28	0.5171	N/A	CPS
Array-2 Det Bkg Cntrate	30.00	29.64	29.81	30.01	0.2002	N/A	CPS
Array Therm Det Bkg Cntrate	30.00	32.75	31.22	32.59	1.368	N/A	CPS
<b>Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios</b>							
Master: 24-Jul-2002 7:08							
Near/Far Calibration Ratio	0.9250	0.9076	N/A	N/A	N/A	N/A	
Near/Array Calibration Ratio	1.030	1.066	N/A	N/A	N/A	N/A	
Near/Array Cal Ratio Up/Down	1.000	1.006	N/A	N/A	N/A	N/A	
<b>Accelerator-Porosity Tool Wellsite Calibration - Tank Check</b>							
Master: 24-Jul-2002 7:09							
Array-1 Standoff Porosity	11.75	11.51	N/A	N/A	N/A	N/A	PU
Array-2 Standoff Porosity	11.75	11.19	N/A	N/A	N/A	N/A	PU
Average Slowing Down Time	6.000	5.884	N/A	N/A	N/A	N/A	US
Array-1 SDT Ratio Up/Down	1.000	0.9901	N/A	N/A	N/A	N/A	
Array-2 SDT Ratio Up/Down	1.000	0.9732	N/A	N/A	N/A	N/A	
Sigma Formation	27.50	27.88	N/A	N/A	N/A	N/A	CU
<b>Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check</b>							
Master: 13-Jul-2002 1:08 Before: 24-Jul-2002 10:59 After: 18-Aug-2002 1:42							
Na 511 Peak Loc	40.00	40.59	40.60	40.60	0.001640	1.000	
Na 511 Peak Res	15.50	16.79	16.89	16.43	-0.4574	2.000	%
High Voltage	1150	1224	1220	1220	0.04187	30.00	V
Na 1785 Peak Loc	142.6	145.1	146.3	145.2	-1.068	7.000	
Na 1785 Peak Res	8.500	10.40	8.694	9.013	0.3196	2.000	%
Temperature	15.50	24.98	22.43	20.67	-1.759	N/A	DEGC
Na Count Rate	45.00	50.31	49.89	49.45	-0.4335	8.000	CPS
<b>Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check</b>							
Master: 13-Jul-2002 1:08 Before: 24-Jul-2002 10:59 After: 18-Aug-2002 1:42							
Na 511 Peak Loc	40.00	40.58	40.59	40.64	0.05220	1.000	
Na 511 Peak Res	15.50	16.72	16.53	16.53	0.0008736	2.000	%

High Voltage	1150	1253	1250	1247	-2.899	30.00	V
Na 1785 Peak Loc	142.6	144.7	144.3	144.9	0.6215	7.000	
Na 1785 Peak Res	8.500	9.766	9.897	9.235	-0.6618	2.000	%
Temperature	15.50	24.15	21.87	20.92	-0.9464	N/A	DEGC
Na Count Rate	45.00	50.19	49.39	49.20	-0.1973	8.000	CPS

Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2

Master: 13-Jul-2002 1:08 Before: 24-Jul-2002 10:59 After: 18-Aug-2002 1:42

Coincidence Count Rate Ratio	1.000	1.004	1.010	1.005	-0.004628	0.05000	
------------------------------	-------	-------	-------	-------	-----------	---------	--

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration

Master: 13-Jul-2002 1:01

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	208.9	--	--	--	--	
Th Peak Res	7.000	8.227	--	--	--	--	%
Background Count Rate	142.5	24.67	--	--	--	--	CPS
Gain Ratio	1.000	0.9793	--	--	--	--	

Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration

Master: 13-Jul-2002 1:01

Na 511 Peak Set Point	40.00	41.00	--	--	--	--	
Th Peak Loc	209.6	208.8	--	--	--	--	
Th Peak Res	7.000	8.191	--	--	--	--	%
Background Count Rate	142.5	22.68	--	--	--	--	CPS
Gain Ratio	1.000	0.9792	--	--	--	--	

Accelerator-Porosity Tool - Detector Plateau Settings :

Near Detector Plateau Setting	1748 V
Far Detector Plateau Setting	2052 V
Array Detector Plateau Setting	1969 V

Dual Induction - E / Equipment Identification

Primary Equipment:		
Dual Induction Sonde	DIS - HB	442
Dual Induction Cartridge	DIC - EB	438
Auxiliary Equipment:		
Mass Isolated Housing	MIH - ZA	417

Hostile Environment Litho Density - A / Equipment Identification

Primary Equipment:		
HOSTILE ENVIRONMENT LITHO DENSITY HIGH V	HLDV - A	10
HOSTILE ENVIRONMENT LITHO DENSITY CARTRI	HLDC - AA	11
Gamma Source Radioactive	GSR - Z	1846
Auxiliary Equipment:		
HOSTILE ENVIRONMENT LITHO DENSITY SONDE	HLDS - B	10
HOSTILE ENVIRONMENT ELECTRONICS CARTRIDG	HEH - H	12
HOSTILE ENVIRONMENT ELECTRONICS CARTRIDG	HEH - G	11
HOSTILE ENVIRONMENT LITHO DENSITY PAD	HLDP - B	10

Nuclear Porosity Lithology Cartridge - B / Equipment Identification

Primary Equipment:		
NPLC Cartridge	NPLC - B	79
Auxiliary Equipment:		
NPLC Housing	NPH - B	82

Accelerator-Porosity Tool / Equipment Identification

Primary Equipment:		
Accelerator-Porosity Sonde	APS - BA	22
APS Minित्रon	MNTR - E	4185

Auxiliary Equipment:

Accelerator-Porosity Housing  
 APS Calibration Water Tank  
 APS Aluminium Calibrator Sleeve

APH - AC 22  
 SFT - 178 4722  
 SFT - 281 24

Hostile Natural Gamma Ray Sonde / Equipment Identification

Primary Equipment:

HNGS Sonde

HNGS - BA 77

Auxiliary Equipment:

HNGS Sonde Housing  
 Gamma Source Radioactive

HNSH - BA 79  
 GSR - U 135

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 1 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		40.59	Master		16.79	Master		1224
Before		40.60	Before		16.89	Before		1220
After		40.60	After		16.43	After		1220
37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)		
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		145.1	Master		10.40	Master		24.98
Before		146.3	Before		8.694	Before		22.43
After		145.2	After		9.013	After		20.67
135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)		
Phase	Na Count Rate CPS	Value						
Master		50.31						
Before		49.89						
After		49.45						
10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)								
Master: 13-Jul-2002 1:08			Before: 24-Jul-2002 10:59			After: 18-Aug-2002 1:42		

Hostile Natural Gamma Ray Sonde Wellsite Calibration

Detector 2 Check

Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V	Value
Master		40.58	Master		16.72	Master		1253
Before		40.59	Before		16.53	Before		1250
After		40.64	After		16.53	After		1247
37.50 (Minimum) 40.00 (Nominal) 42.50 (Maximum)			12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum)			900.0 (Minimum) 1150 (Nominal) 1600 (Maximum)		
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC	Value
Master		144.7	Master		9.766	Master		24.15
Before		144.3	Before		9.897	Before		21.87
After		144.9	After		9.235	After		20.92
135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum)			7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum)			-28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum)		
Phase	Na Count Rate CPS	Value						
Master		50.19						
Before		49.39						
After		49.20						
10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum)								
Master: 13-Jul-2002 1:08			Before: 24-Jul-2002 10:59			After: 18-Aug-2002 1:42		



Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		1.004
Before		1.010
After		1.005
	0.9500 (Minimum)      1.000 (Nominal)      1.050 (Maximum)	
Master: 13-Jul-2002 1:08		
Before: 24-Jul-2002 10:59		
After: 18-Aug-2002 1:42		

Hostile Natural Gamma Ray Sonde Master Calibration								
Detector 1 Calibration								
Phase	Na 511 Peak Set Point	Value	Phase	Th Peak Loc	Value	Phase	Th Peak Res %	Value
Master		41.00	Master		208.9	Master		8.227
	38.00 (Minimum)      40.00 (Nominal)      42.00 (Maximum)			201.0 (Minimum)      209.6 (Nominal)      218.3 (Maximum)			5.000 (Minimum)      7.000 (Nominal)      9.000 (Maximum)	
Phase	Background Count Rate CPS	Value	Phase	Gain Ratio	Value			
Master		24.67	Master		0.9793			
	20.00 (Minimum)      142.5 (Nominal)      265.0 (Maximum)			0.9400 (Minimum)      1.000 (Nominal)      1.060 (Maximum)				
Master: 13-Jul-2002 1:01								

Hostile Natural Gamma Ray Sonde Master Calibration								
Detector 2 Calibration								
Phase	Na 511 Peak Set Point	Value	Phase	Th Peak Loc	Value	Phase	Th Peak Res %	Value
Master		41.00	Master		208.8	Master		8.191
	38.00 (Minimum)      40.00 (Nominal)      42.00 (Maximum)			201.0 (Minimum)      209.6 (Nominal)      218.3 (Maximum)			5.000 (Minimum)      7.000 (Nominal)      9.000 (Maximum)	
Phase	Background Count Rate CPS	Value	Phase	Gain Ratio	Value			
Master		22.68	Master		0.9792			
	20.00 (Minimum)      142.5 (Nominal)      265.0 (Maximum)			0.9400 (Minimum)      1.000 (Nominal)      1.060 (Maximum)				
Master: 13-Jul-2002 1:01								

Company:	Lamont Doherty	<b>Schlumberger</b>
Well:	ODP Leg 204, Site 1244E	
Field:	Hydrate Ridge	
Ocean:	Pacific	
State:	Oregon	
Natural Gamma Ray Spectroscopy		