

Schlumberger

Company: Integrated Ocean Drilling Program

Well: IODP Exp 308 Hole U1324A
Field: Mississippi Canyon Block 897
Rig: Joides Resolution State: Louisiana

GeoVISION Service 1 : 200 Measured Depth Recorded Mode Log

Rig: Joides Resolution		Field: Mississippi Canyon Block 897		Location: Ursa Basin		Well: IODP Exp 308 Hole U1324A		Company: Integrated Ocean Drilling Program	
Depth logged: 1066.1 m To 1677 m				Mag decl: 0.21 deg.		Other services:			
Date logged: 17-Jun-05 To 19-Jun-05				Mag dip: 58.28 deg.					
Bore hole record					Casing record				
Hole size	from	to	Size	Density	from	to			
9.875 in.	1066.1 m	1678 m							

Location		Total depth:		1678 m		K.B. Top Drive			
Spud date:		17-Jun-2005		G.L. -1055.5 m		D.F. 10.6 m			
Runs:		3 To 3		Mean Sea Level		Elev.: 0 m			
Permanent datum:		Drill Floor		10.6 m above Perm. datum		Driller's Depth			
Log measured from:		Depth reference:		Service Order no.		NAD 27			
40012055		UTM Zone 15N		Longitude		Latitude			
W89.13931		N28.07974		Mud record		Borehole deviation record			
Type		from		to		Min		Max	
Seawater		1066.1 m		1544 m		0.18 deg.		5.47 deg.	
WBM		1544 m		1678 m		1066.1 m		1678 m	
Surface equipment		TWIS		IDEAL Wis		10_OC_04.1		Software record	
Depth system		Geograph		SPM		10_1C_05		See Remarks	
Unit		MWD		8.0c00					

DISCLAIMER		
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OTHER SERVICES FOR RUN 3 Annular Pressure While Drilling	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
REMARKS: RUN NUMBER 3 Run Objective: Drill and log site U1324A Source of data: Recorded Mode Reason POOH: Complete LWD Runs geoVISION gamma ray is corrected for mud weight and bit size. arcVISION gamma ray is not environmentally corrected Resistivity is borehole compensated and environmentally corrected for bit size and mud resistivity. Neutron porosity was computed using a sandstone matrix of 2.65 g/cc and is corrected for bit size, temperature, borehole salinity and mud hydrogen index	REMARKS: RUN NUMBER	REMARKS: RUN NUMBER

Tool Record Rates:
 adnVISION Density & Neutron @ 10 Sec
 arcVISION Res & GR @ 6 sec, Pres @ 10 sec
 geoVISION Res = 5 sec, GR @ 10 sec

Tools software versions:
 PowerPulse (8.0C00) ; adnVISION (8.3A02)
 arcVISION (6.4B01) ; geoVISION (6.2B01)
 Crew: Hoong, K. & Domalakes, D.

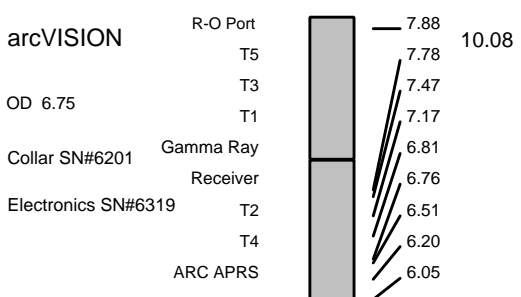
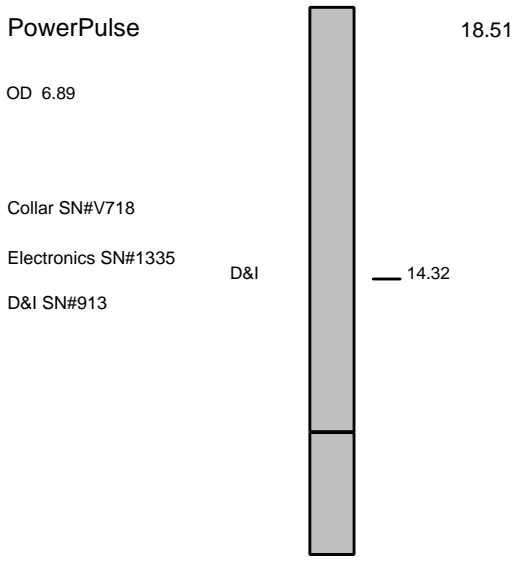
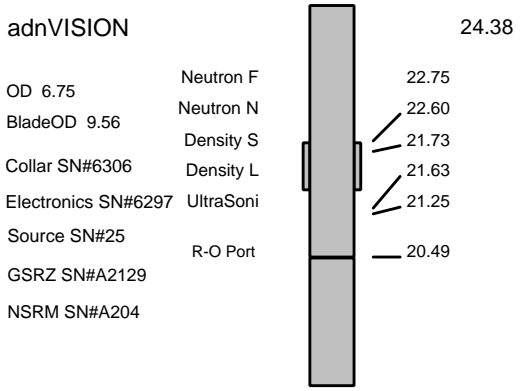
EQUIPMENT DESCRIPTION

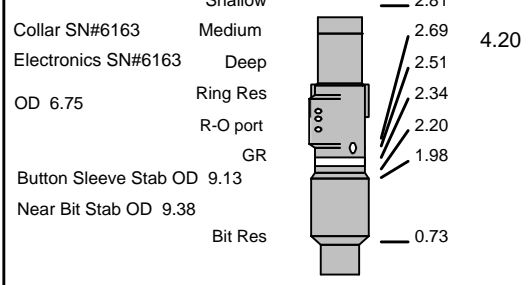
RUN3

RUN

RUN

DOWNHOLE EQUIPMENT





Collar SN#6163 Medium
 Electronics SN#6163 Deep
 OD 6.75 Ring Res
 Button Sleeve Stab OD 9.13 R-O port
 Near Bit Stab OD 9.38 GR
 Bit Res

Milled Tooth Bit
 OD 9.88 SN#495FM

Maximum string diameter 9.88 in.
 All lengths in Meters

Bit Run Summary

Run number		3								
Bit size	in.	9.875								
Bit start depth	m	1066.1								
Bit end depth	m	1678								
Top interval logged	m	1066.1								
Bottom interval logged	m	1677								
Begin log: time		16:07								
Begin log: date		17-Jun-05								
End log: time		04:09								
End log: date		19-Jun-05								
Mud data										
Depth	m	1678								
Type		WBM								
Mud weight	ppg	10.0								
Solids	%	2								
Chlorides	ppk	36.72								
Rm	ohm-m@degF	0.225@69.5								
Rmf	ohm-m@degF	0.190@67.7								
Rmc	ohm-m@degF	0.425@68.0								
Potassium		-								
Environmental data										
GR										
Mud weight	ppg	10.0								
Bit size	in.	9.875								
Resistivity										
Neutron porosity										
Hole Size	in.	9.875								
Mud weight	ppg	10.0								
Temperature	deg F	51.8								
Mud salinity	ppk	36.72								
Formation salinity	ppk	-								
Recording rate 1	SEC	GVR-5,10								
Recording rate 2	SEC	ARC-6,ADN-10								
Filtering GR		3 pt								
Filtering density		3 pt								
Filtering Neutron		3 pt								
Company representative		Ron Grout								
Schlumberger D&M Personnel		Hoong, K.								

Variable Name	Variable Description	Run Name & Value
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Run Number 3

General Information

BHT_RM	Bottom Hole Temperature (RM)	51.799999
BSAL_RM	Mud Salinity (RM)	0.000000
BS_RM	Bit Size (RM)	9.875000
COEF_M	User Defined FEXP in Clean Sand	1.650000
C_WS	Overpressure correction to Sw and M	1.000000
FEXP	Formation Factor Exponent(RM)	2.000000
FNUM	Formation Factor Enumerator(RM)	1.000000
FPHI_RM	Formation Factor Porosity Source (RM)	XPLOT
MST_RM	Mud Sample temperature (RM)	69.500000
MW_RM	Mud Weight (RM)	10.000000
OBMF_RM	Oil Based Mud (RM)	NO
RHOF_RM	Mud Filtrate Density (RM)	1.000000
RHOM_RM	Matrix density (RM)	2.650000
RMS_RM	Resistivity of Mud Sample (RM)	0.225000
RWA_COMP_M	Rwa computation model	BASIC
RWA_DEN_AD	Rwa Density Input ADN	RHOB
RWA_DEN_CD	Rwa Density Input CDN	RHOB
RWA_DEN_IN	Rwa Density Input	RHOB
RWA_FORM_M	Rwa computation formation model	CLASTIC
RWA_RES_IN	Rwa computation resistivity input	RT
RWS_RM	Resistivity of Connate Water (RM)	1.000000
SHT_RM	Surface Hole Temperature (RM)	7.000000
TD_RM	Total Measured Depth (RM)	5505.000000
TWS_RM	Temperature of Connate Water (RM)	75.000000
VF_ILLI	Fraction of illite in shales	0.500000
VF_KAOL	Fraction of kaolinite in shales	0.500000
VF_MONT	Fraction of montmorillonite in shales	0.000000
XPDM_RM	Cross plot density porosity multiplier	0.675000
XPNM_RM	Cross plot neutron porosity multiplier	0.325000

ADN

LWD_RM/STATION_FILE/PARAMETER	Station Time-frame file name		Station
ADN_CHASSI	ADN Chassis Type String	ADN	
ADN_COLLAR	ADN Collar Type String	ADN	
ADN_STAB_S	ADN Stabilizer Type String	ADN	
ALPHA_COMP	Perform Density Enhanced Vertical Resolution process ?		YES
ALPHA_COMP	Perform Neutron Enhanced Vertical Resolution process ?		YES
AVE_ADN	ADN/Array Channels: perform averaging(RM) :		YES
A_DHS	ADN Down Hole Software Version String		YES
CHI_RM	Caliper High limit from BS (RM)	3.000000	
CLO_RM	Caliper Low limit from BS (RM)	0.000000	
DEVI	Well Section Deviation	0.100000	
DTIK_SEL	ADN: Density Tick Channel Name	LSAZ	
DTMUD	Delta-T for Mud	196.000000	
DYN_IMG_CO	Generate Dynamic Normalized Image?		YES
ECC_CORR_A	Perform Eccentering Correction for TNPH?		YES
ENVCOR	Neutron Quadrant Processing: Environmental Correction?		YES
EVRL	EVR Process averaging number of samples (RM)	49	
GCSE	Generalized Caliper Selection	BS	
HPS	ADSE-EB (High Pressure Inconel Chassis)?	NO	
IBS	Intergal Blade Stabilizer Collar?	NO	
IDQT	Image Derived Quality Threshold	0.500000	
IHVS	Integrated Hole Volume Start Value(RM)	0.000000	
IMAGE_MAX_	Image SOA (Quadrant) Right Scale	2.500000	
IMAGE_MAX_	Image PEF(Segment) Right Scale	6.000000	
IMAGE_MAX_	Image RHOB(Segment) Right Scale	2.650000	
IMAGE_MIN_	Image SOA (Quadrant) Left Scale	0.000000	
IMAGE_MIN_	Image PEF(Segment) Left Scale	2.000000	
IMAGE_MIN_	Image RHOB(Segment) Left Scale	2.050000	
LITHO_TYPE	Lithology (RM)	SAND	
N1FTU_6_RM	ADN: Neutron Bank 1 Far Tubes used :	1-2-3	
N2FTU_6_RM	ADN: Neutron Bank 2 Far Tubes used :	1-2-3	
NNTU_RM	ADN Neutron Near Banks Used	1-2	
NTIK_SEL	ADN: Neutron Tick Channel Name	FR11	
SOCNL	Standoff Distance of the CNL Tool	1.000000	
SSIZ_ADN	ADN Stabilizer Size	9.625000	
STOH	ADN Density Top of Hole Sector (Left Boundary):	SECTOR_0	
TRPM_RM	Average Tool Rotational Speed	20.000000	
USMIN_RM	ADN:Minimum Ultrasonic standoff (RM)	0.180000	
USWF_RM	ADN:Process Ultrasonic Waveform?	YES	
VERS_ADN	ADN Downhole Software Version	8.300000	
WSDI	Window Size of Dynamic Normalization Image	15.000000	

RAB

RAB/BTN_SLV_SIZE/PARAMETER	RAB: Button Sleeve Diameter		RAB6:
RAB/STAB_SIZE/PARAMETER	RAB: Stabilizer Diameter		RAB6:
BDBHCA	RAB: Button Deep Borehole A Factor	-0.027323	
BDBHCB	RAB: Button Deep Borehole B Factor	0.000000	
BHA_COEF_V	RAB: BHA Coef Generator Version	2.000000	
BITBHCA	RAB: Bit A Borehole Factor	0.082085	
BITBHCB	RAB: Bit B Borehole Factor	0.000000	
BIT_K_FACT	RAB: Bit K Factor	3.318215	
BMBHCA	RAB: Button Medium Borehole A Factor	0.038504	
BMBHCB	RAB: Button Medium Borehole B Factor	0.000000	
BSBHCA	RAB: Button Shallow Borehole A Factor	0.070418	
BSBHCB	RAB: Button Shallow Borehole B Factor	0.000000	
BUT_KIMP_A	RAB: Button Impedance Coeff A	0.000000	

BUT_KIMP_B	RAB: Button Impedance Coeff B	0.000000	
DBUTTON_K	RAB: Button Deep K factor	0.004582	
GR_BHC_TOO	RAB: Gamma-Ray Borehole Coeff 1	6.750000	
IMAGE_MAX_	RAB: GR Image Maximum Scale Value	120.000000	
IMAGE_MAX_	RAB: Image Maximum Resistivity Value	100.000000	
IMAGE_MIN_	RAB: GR Image Minimum Scale Value	20.000000	
IMAGE_MIN_	RAB: Image Minimum Resistivity Value	1.000000	
JSD_RAB	RAB Acquisition start date	1.000000	
MAG_DECL_R	RAB: Magnetic Declination	0.209989	
MAG_INCL_R	RAB: Magnetic Dip	58.280010	
MBUTTON_K	RAB: Button Medium K Factor	0.004849	
OBM	RAB: Oil base Mud	NO	
ORIENTATIO	Rab Image Orientation	NORTH	
RABBDA0	RAB: Button Deep A0 Coeff	-0.030037	
RABBDA1	RAB: Button Deep A1 Coeff	0.015701	
RABBDA2	RAB: Button Deep A2 Coeff	-0.004064	
RABBDA3	RAB: Button Deep A3 Coeff	0.000456	
RABBDA4	RAB: Button Deep A4 Coeff	-0.000018	
RABBDA5	RAB: Button Deep A5 Coeff	0.000000	
RABBDMIN	RAB: Button Deep Minimum Value	0.050763	
RABBITA0	RAB: Bit A0 Coeff	0.481148	
RABBITA1	RAB: Bit A1 Coeff	-0.370718	
RABBITA2	RAB: Bit A2 Coeff	0.168757	
RABBITA3	RAB: Bit A3 Coeff	-0.033832	
RABBITA4	RAB: Bit A4 Coeff	0.002435	
RABBITA5	RAB: Bit A5 Coeff	0.000000	
RABBITMIN	RAB: Bit Minimum Value	18.321678	
RABBMA0	RAB: Button Medium A0 Coeff	-0.043001	
RABBMA1	RAB: Button Medium A1 Coeff	0.022553	
RABBMA2	RAB: Button Medium A2 Coeff	-0.005824	
RABBMA3	RAB: Button Medium A3 Coeff	0.000649	
RABBMA4	RAB: Button Medium A4 Coeff	-0.000025	
RABBMA5	RAB: Button Medium A5 Coeff	0.000000	
RABBMMIN	RAB: Button Medium Minimum Value	0.056786	
RABBSA0	RAB: Button Shallow A0 Coeff	-0.061686	
RABBSA1	RAB: Button Shallow A1 Coeff	0.032021	
RABBSA2	RAB: Button Shallow A2 Coeff	-0.008112	
RABBSA3	RAB: Button Shallow A3 Coeff	0.000885	
RABBSA4	RAB: Button Shallow A4 Coeff	-0.000034	
RABBSA5	RAB: Button Shallow A5 Coeff	0.000000	
RABBSMIN	RAB: Button Shallow Minimum Value	0.078942	
RABDHS	RAB Down Hole Software	4.000000	
RABEC	RAB: Resistivity Env-Cor	YES	
RABRNGA0	RAB: RING A0 Coeff	-0.024827	
RABRNGA1	RAB: RING A1 Coeff	0.013861	
RABRNGA2	RAB: RING A2 Coeff	-0.003718	
RABRNGA3	RAB: RING A3 Coeff	0.000427	
RABRNGA4	RAB: RING A4 Coeff	-0.000017	
RABRNGA5	RAB: RING A5 Coeff	0.000000	
RABRNGMIN	RAB: Ring Minimum Value	1.606465	
RAB_BIT_EC	Bit Resistivity for ECAL_RAB?	YES	
RAB_BIT_IN	Input Bit Resistivity for Inversion? (Recommended at the bit)	NO	
RAB_CALIPE	Compute ECAL_RAB?	YES	
RAB_DEEPBT	Deep Button Resistivity for ECAL_RAB?	YES	
RAB_DEEPBT	Input Deep Button Resistivity for Inversion?	YES	
RAB_INVERS	Perform Rt Inversion?	NO	
RAB_INVERS	RAB Bit Sensor Weight for Inversion[0,1]	0.000000	
RAB_INVERS	Ending Depth for GR Cutoff in Zone1 (default through the whole well)	100000.000000	
RAB_INVERS	Continuity Multiplier[0,1]	0.500000	
RAB_INVERS	RAB Deep Button Sensor Weight for Inversion[0,1]	1.000000	
RAB_INVERS	RAB inversion for Dh?	NO	
RAB_INVERS	RAB inversion for Di?	YES	
RAB_INVERS	GR Cutoff for Shale Formation	75.000000	
RAB_INVERS	GR Cutoff for Shale Formation in Zone1(default through the whole well)	75.000000	
RAB_INVERS	GR Cutoff in Zone10	75.000000	
RAB_INVERS	GR Cutoff in Zone2	75.000000	
RAB_INVERS	GR Cutoff in Zone3	75.000000	
RAB_INVERS	GR Cutoff in Zone4	75.000000	
RAB_INVERS	GR Cutoff in Zone5	75.000000	
RAB_INVERS	GR Cutoff in Zone6	75.000000	
RAB_INVERS	GR Cutoff in Zone7	75.000000	
RAB_INVERS	GR Cutoff in Zone8	75.000000	
RAB_INVERS	GR Cutoff in Zone9	75.000000	
RAB_INVERS	RAB Medium Button Sensor Weight for Inversion[0,1]	1.000000	
RAB_INVERS	Resistivity Cutoff for Shale Formation	2.000000	
RAB_INVERS	Resistive Invasion Allowed	NO	
RAB_INVERS	RAB Ring Sensor Weight for Inversion[0,1]	0.000000	
RAB_INVERS	RAB inversion for Rmud?	NO	
RAB_INVERS	RAB inversion for Rt?	YES	
RAB_INVERS	Rt to R-deepest separation penalty multiplier[0,1]	0.500000	
RAB_INVERS	RAB inversion for Rxo?	YES	
RAB_INVERS	RAB Shallow Button Sensor Weight for Inversion[0,1]	1.000000	
RAB_INVERS	Inversion Threshold[0, 0.3]	0.010000	
RAB_INVERS	Formation Water Resistivity	0.100000	
RAB_INVERS	Formation Water Temperature	150.000000	
RAB_MEDIUM	Medium Button Resistivity for ECAL_RAB?	YES	
RAB_MEDIUM	Input Medium Button Resistivity for Inversion?	YES	
RAB_QUAD	RAB: Process Quadrant data ?	YES	
RAB_RIGMOD	Bit on Bottom?	YES	
RAB_RING_E	Ring Resistivity for ECAL_RAB?	YES	
RAB_RING_I	Input RING Resistivity for Inversion?	NO	
RAB_SHALLO	Shallow Button Resistivity for ECAL_RAB?	YES	
RAB_SHALLO	Input Shallow Button Resistivity for Inversion?	YES	
RAB_TAB	RAB: Compute TAB ?	YES	
RAB_TECHLO	RAB: Generate Techlog ?	YES	
RAB_TEMP_S	RAB Temperature Selection	MEASURED	

RAB_TEMP_S	RAB Temperature Selection	MEASURED
RAB_TICKS	RAB: Generate Ticks ?	YES
READOUT_PO	RAB: ROP to Bit Face Distance	7.221128
RINGBHCA	RAB: Ring Borehole A Factor	0.296005
RINGBHCB	RAB: Ring Borehole B Factor	0.000000
RING_KIMP_	RAB: Ring Impedance Coeff A	0.000000
RING_KIMP_	RAB: Ring Impedance Coeff B	0.000000
RING_K_FAC	RAB: Ring K Factor	0.152936
SBUTTON_K_	RAB: Button Shallow K Factor	0.006585
SCALE_IMAG	RAB: Process Image Data	YES
STAB	RAB: Run with Stabilizer	YES
TFF_OFFSET	RAB Time-Frame File Time Offset	0.000000
TIMEFRAME_	RAB: Time Frame File Name	0.000000
TOOLTYPE	RAB: Azimuthal Tool	YES
VRAB6	Rab Tool type (ENP/PILOT)	RAB6_C_SERIES
WIN_SIZE_D	RAB: Window Size for Scaling Dynamic Image	5.000000

ARC

A12A	ARC Air Cal Attenuation From T1 at 2 MHz	8.232080
A14A	ARC Air Cal Attenuation From T1 at 400 KHz	8.256890
A22A	ARC Air Cal Attenuation From T2 at 2 MHz	6.810180
A24A	ARC Air Cal Attenuation From T2 at 400 KHz	6.791850
A32A	ARC Air Cal Attenuation From T3 at 2 MHz	4.826260
A34A	ARC Air Cal Attenuation From T3 at 400 KHz	4.843570
A42A	ARC Air Cal Attenuation From T4 at 2 MHz	4.708000
A44A	ARC Air Cal Attenuation From T4 at 400 KHz	4.687440
A52A	ARC Air Cal Attenuation From T5 at 2 MHz	3.381080
A54A	ARC Air Cal Attenuation From T5 at 400 KHz	3.408180
ABNT	Abnormal Transmitter Indicator	No_Tx_Failed
ADHS	ARC Down Hole Software Version	No_Tx_Failed
ANISO_COMP	Anisotropy Computation Option	YES
APICG	ARC5 Gamma Ray Gain Factor	1.038700
APIG	ARC Gamma Ray API Gain Factor	-1.000000
ATMP_ARC	ARC Select Temperature Channel	Annulus_Temp
ATRN	ARC Tool Run Number	Annulus_Temp
ATSN	ARC Tool Serial Number	Annulus_Temp
AZMF	Formation DIP Azimuth	0.000000
BH_COMPUTE	Borehole Inversion Computation Option	YES
CALG	ARC Gamma Ray Cal Gain Factor	1.038700
CALI_SLCT	ARC Caliper Selection	BITSIZE
CDPTH_ARC	Process Start Depth	100.000000
DIELEC_COM	Dielectric Computation Option	YES
DIPF	Formation DIP Angle	0.000000
ERRCT	Percentage Error Cutoff	4.500000
GRSH	GR Shale (Invasion Computation Cutoff)	1000.000000
HIGH_BLEND	High Resistivity Threshold for Blending	2.000000
INCLIN_B0	ARC Bias Constant (mg)	0.000000
INCLIN_B1	ARC Bias First-order Coefficient (mg/degC)	0.000000
INCLIN_B2	ARC Bias Second-order Coefficient (mg/degC)	0.000000
INCLIN_B3	ARC Bias Third-order Coefficient (mg/degC)	0.000000
INCLIN_C0	ARC Current Scale Factor Constant (mA/g)	1.000000
INCLIN_C1	ARC Scale First-order Coefficient (mA/g/degC)	0.000000
INCLIN_C2	ARC Scale Second-order Coefficient (mA/g/degC)	0.000000
INCLIN_C3	ARC Scale Third-order Coefficient (mA/g/degC)	0.000000
INVAS_COMP	Invasion Computation Option	YES
JSD_ARC	ARC Acquisition start date	YES
KPER	Potassium Concentration (RM)	0.000000
LOW_BLEND	Low Resistivity Threshold for Blending	1.000000
MSWS	ARC Wizard Model Switch Window	5.000000
MULTIEFFEC	Multi Effect Option	YES
P12A	ARC Air Cal Phase-Shift From T1 at 2 MHz	0.742475
P14A	ARC Air Cal Phase-Shift From T1 at 400 KHz	-0.688361
P22A	ARC Air Cal Phase-Shift From T2 at 2 MHz	-0.644164
P24A	ARC Air Cal Phase-Shift From T2 at 400 KHz	0.624656
P32A	ARC Air Cal Phase-Shift From T3 at 2 MHz	0.656164
P34A	ARC Air Cal Phase-Shift From T3 at 400 KHz	-0.680148
P42A	ARC Air Cal Phase-Shift From T4 at 2 MHz	-0.707656
P44A	ARC Air Cal Phase-Shift From T4 at 400 KHz	0.588475
P52A	ARC Air Cal Phase-Shift From T5 at 2 MHz	0.629033
P54A	ARC Air Cal Phase-Shift From T5 at 400 KHz	-0.684902
POFFSET_AR	ARC: Pressure Offset	0.000000
PRTD	Preferred Resistivity Log for Rt Display while Multi-Effects	P34B
PSOF_ADJ_T	ARC: User Input Phase offset	0.000000
RESTIK	ARC resistivity tick source	Phase
SHIG	ARC High Shock Risk Level	0.500000
SMED	ARC Medium Shock Risk Level	0.330000
SMIN	ARC Minimum Shock Risk Level	0.160000
SUPD	ARC Real Time Shock Update Rate	30.000000
TCODE_ARC	ARC Tool File Code	30.000000
TSIZ_ARC	ARC Tool Size	6.750000
UNIFORM_CO	Uniform Rock Option	YES
VERS_ARC	ARC Down hole software version Number	6.400000
WRK	Way to Report Potassium Concentration (RM)	K_by_Wgt_%

PIP SUMMARY

Density Ticks, 0.1-ft

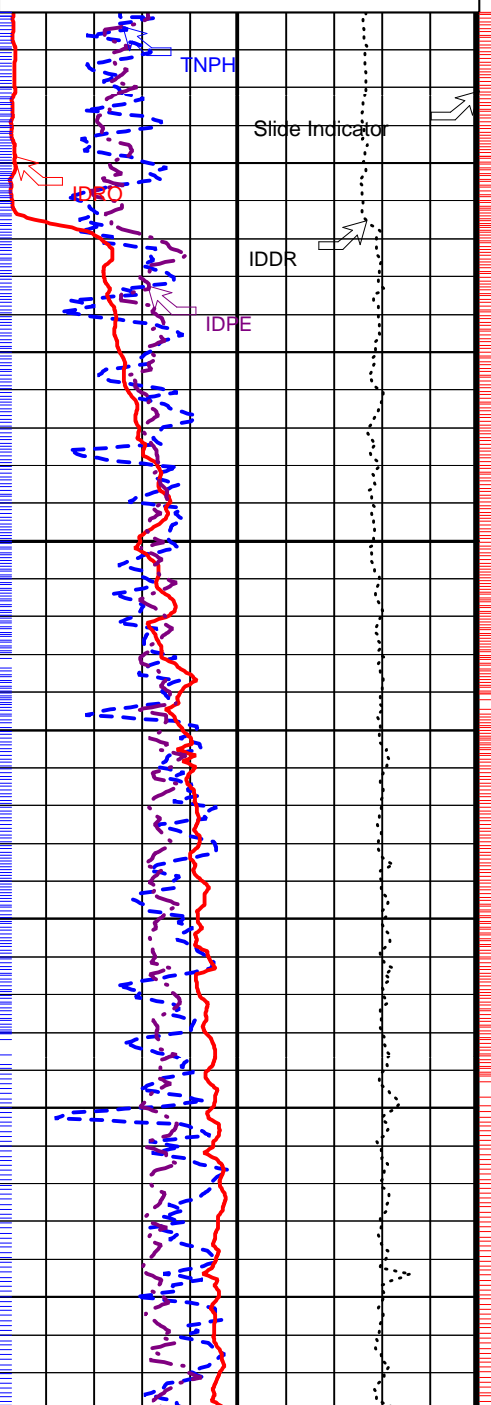
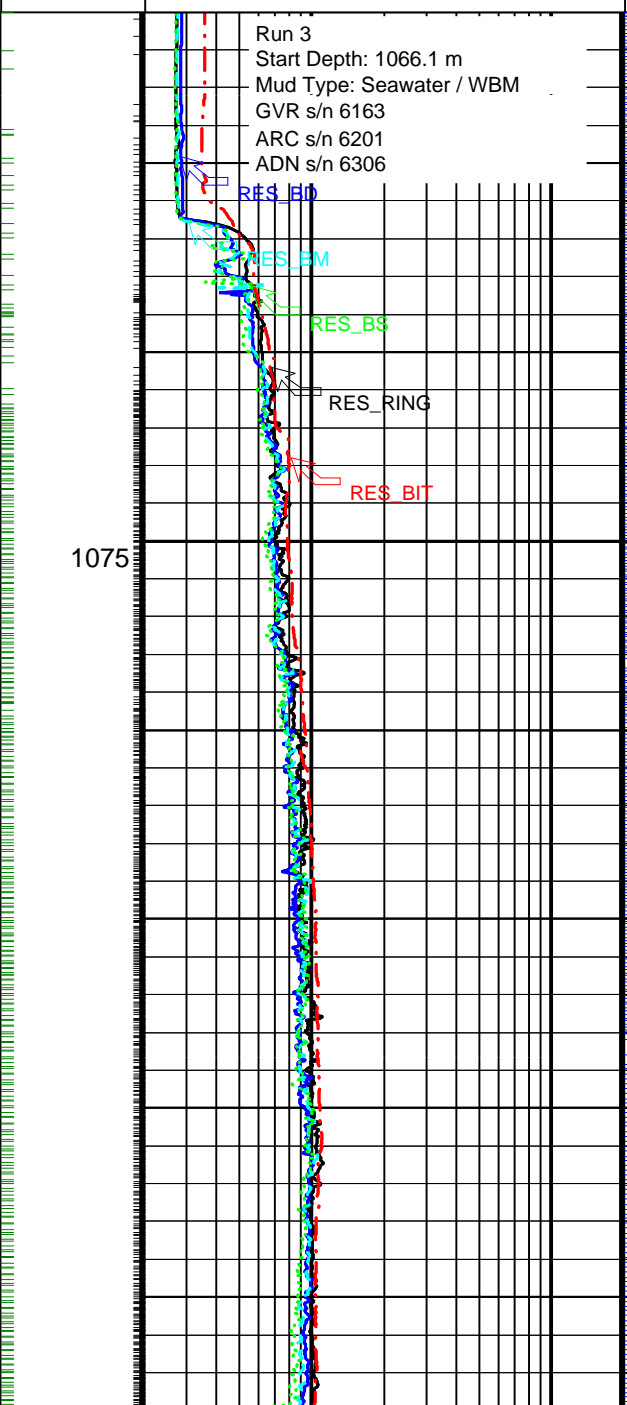
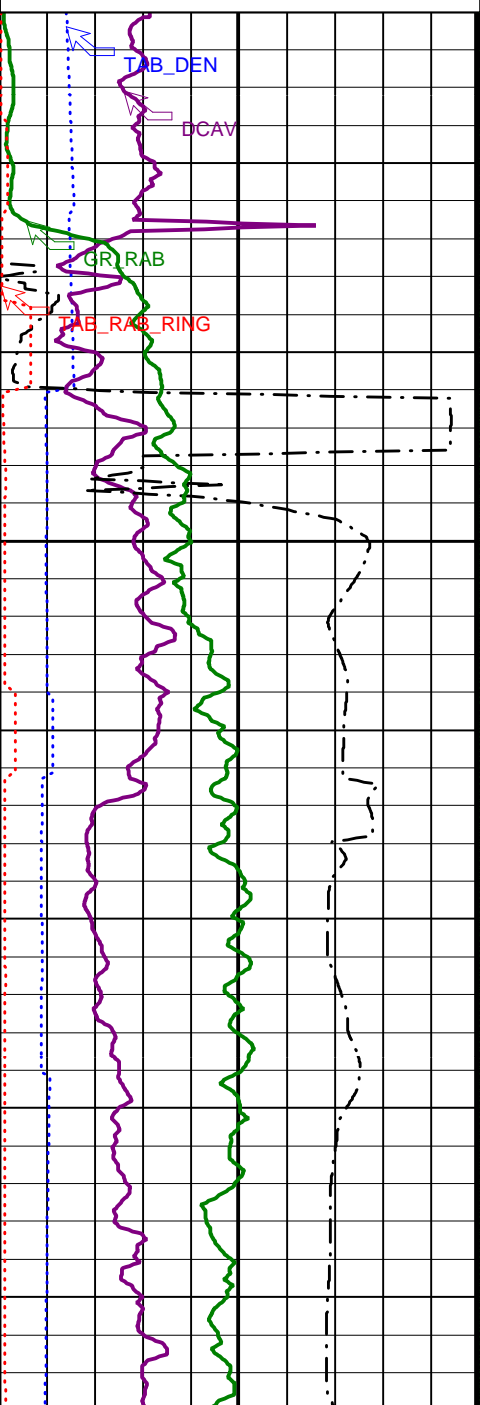
Neutron Ticks, 0.1 ft

Ring Samples
Gamma Ray Samples

Ring Resistivity Time After Bit (TAB_RAB_RING) (HR)	0	10
Rate of Penetration, Averaged over Last 5ft (ROP5_RM) (M/HR)	100	0
RAB Gamma Ray (GR_RAB) (GAPI)	0	150
Density Caliper, Average (DCAV) (IN)	9	19
Density Time After Bit (TAB_DEN) (HR)	0	10

Shallow Button Resistivity (RES_BS) (OHMM)	0.2	20
Medium Button Resistivity (RES_BM) (OHMM)	0.2	20
Deep Button Resistivity (RES_BD) (OHMM)	0.2	20
Bit Resistivity (RES_BIT) (OHMM)	0.2	20
Ring Resistivity (RES_RING) (OHMM)	0.2	20

Image Derived Photoelectric Factor (IDPE) (---)	0	10
Image Derived Density Correction (IDDR) (G/C3)	-0.8	0.2
Image Derived Density (IDRO) (G/C3)	1	2.65
Thermal Neutron Porosity (TNPH) (PU)	100	0

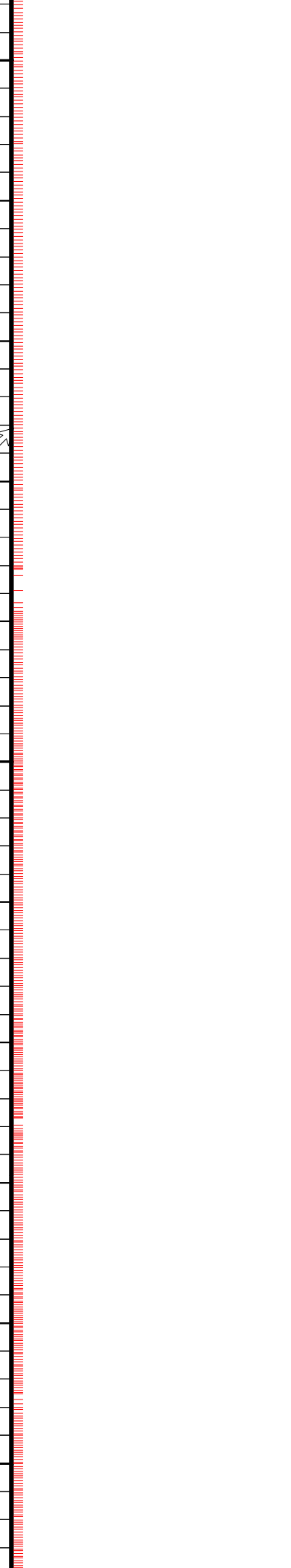
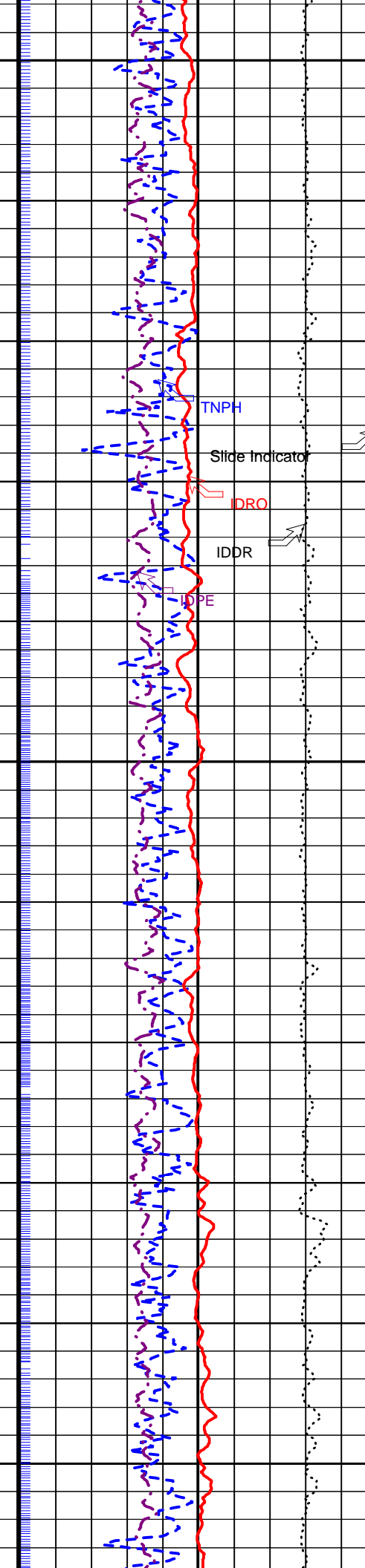
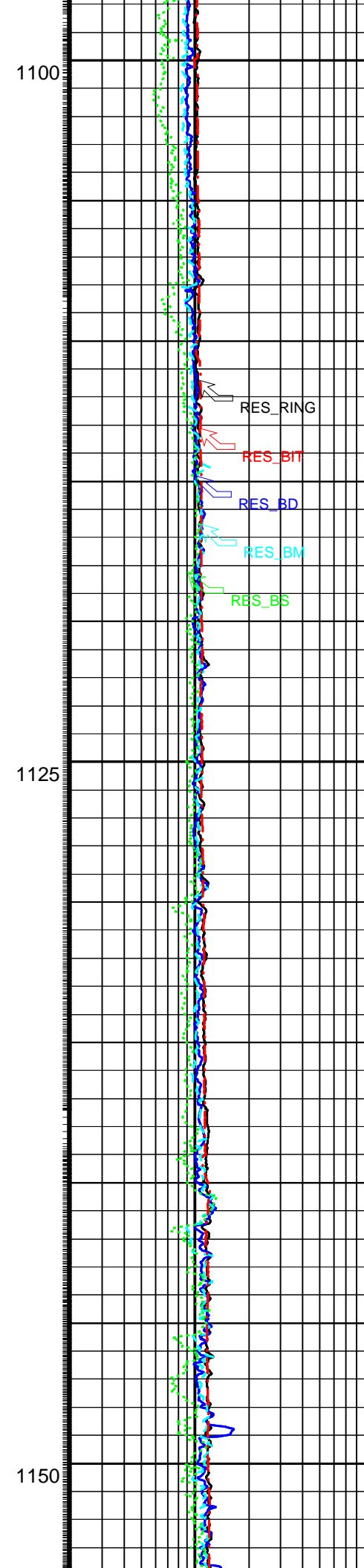
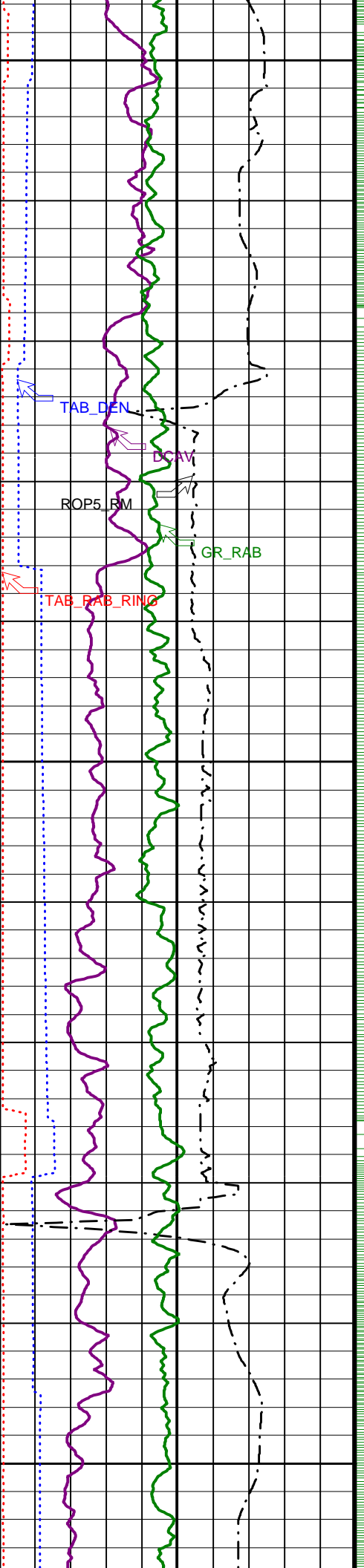


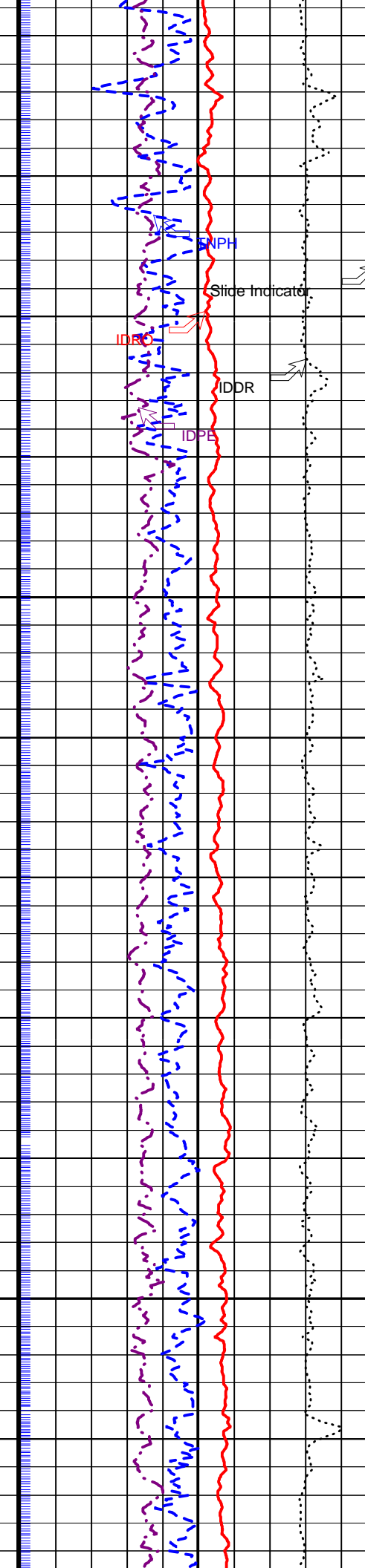
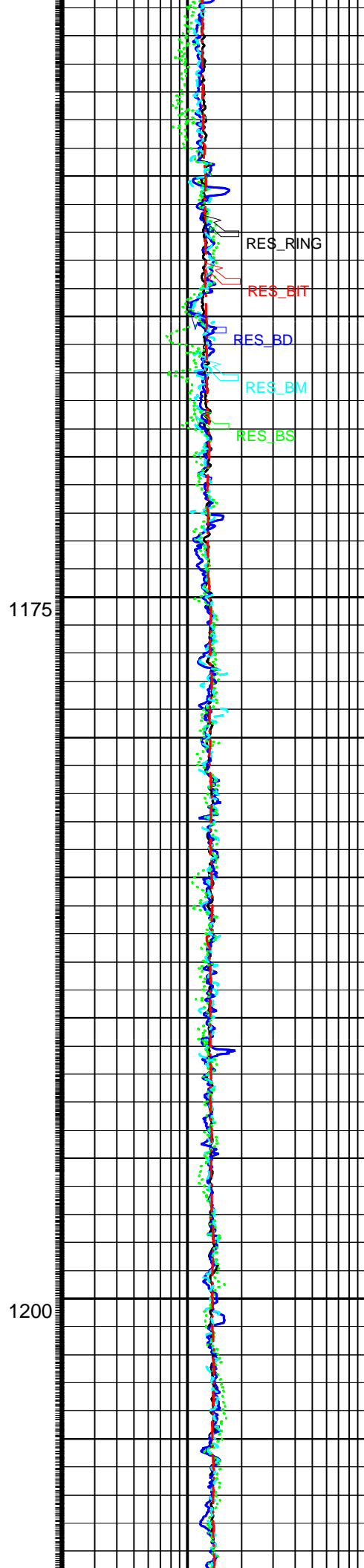
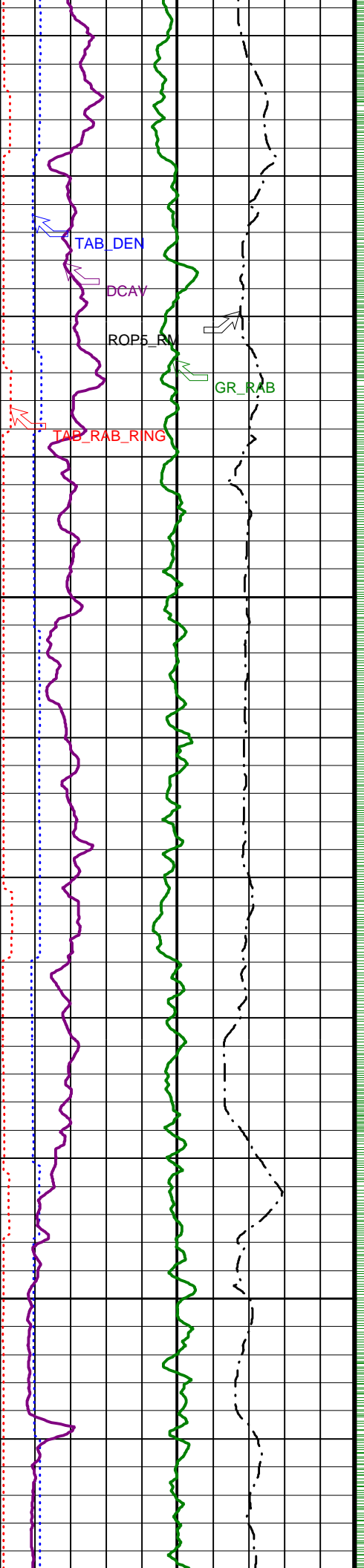
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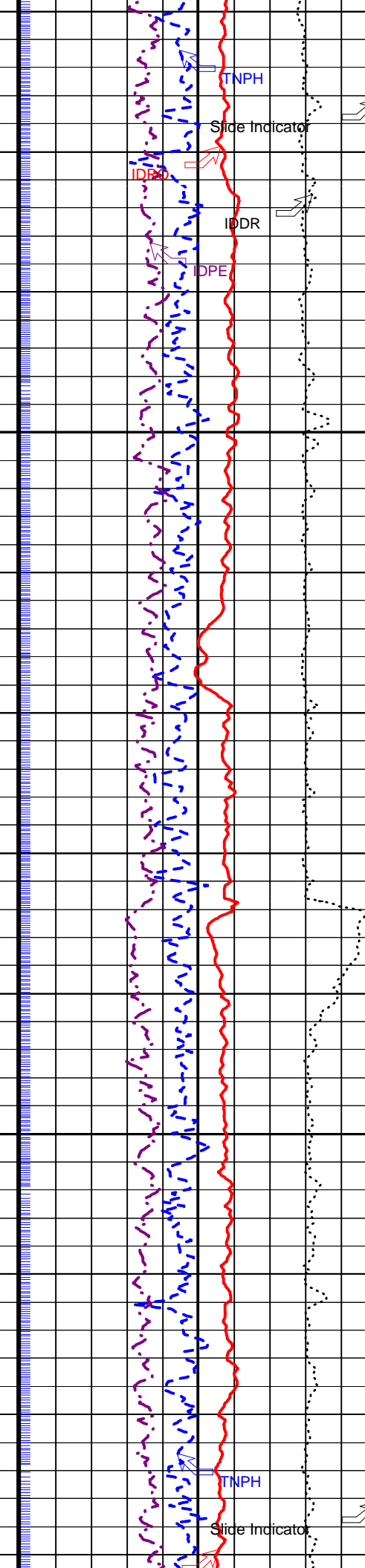
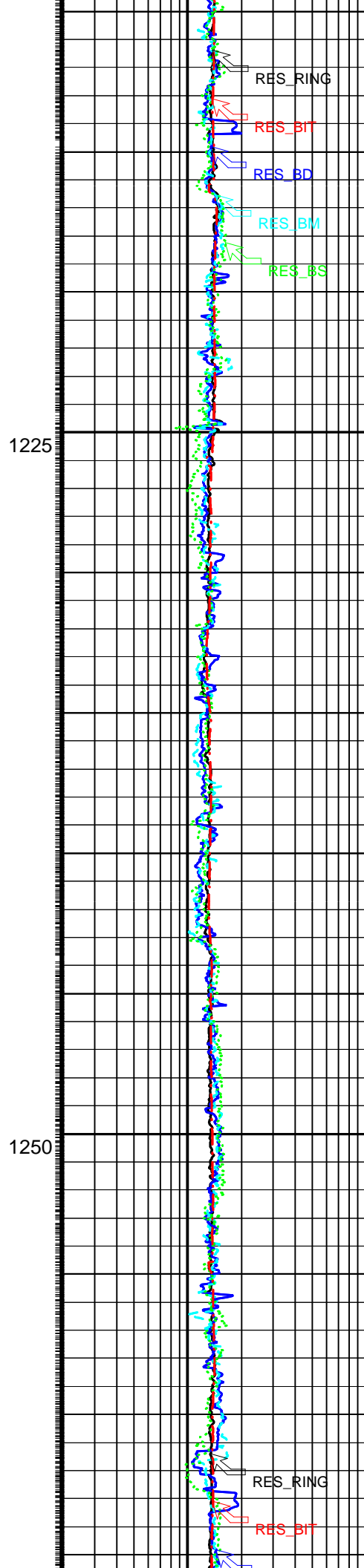
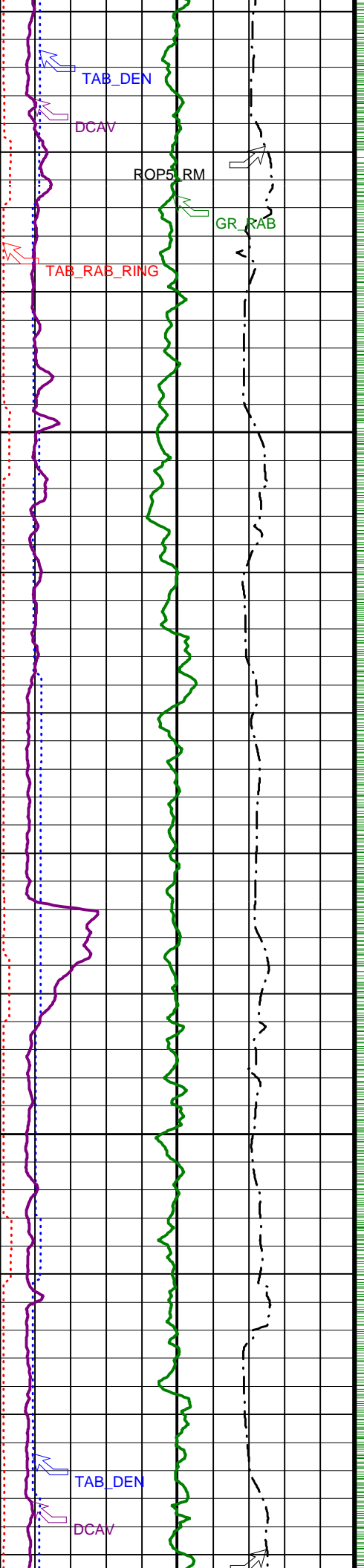
Slide Indicator

IDDR

IDPE

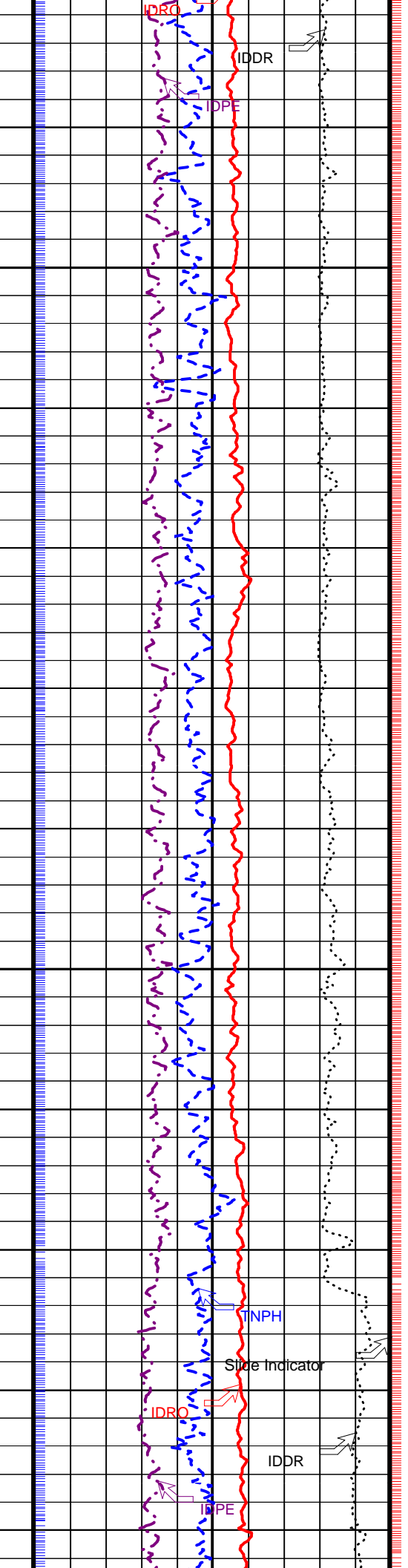
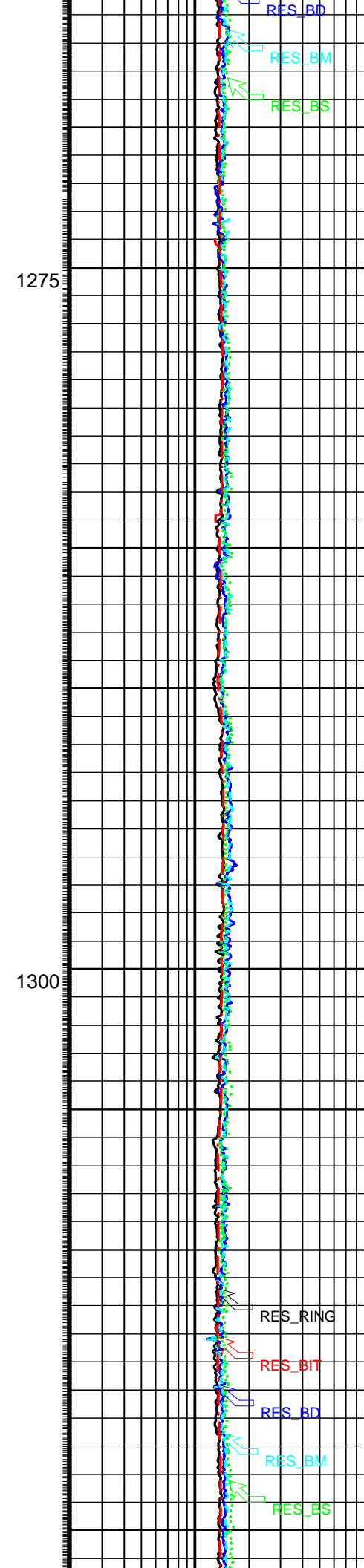
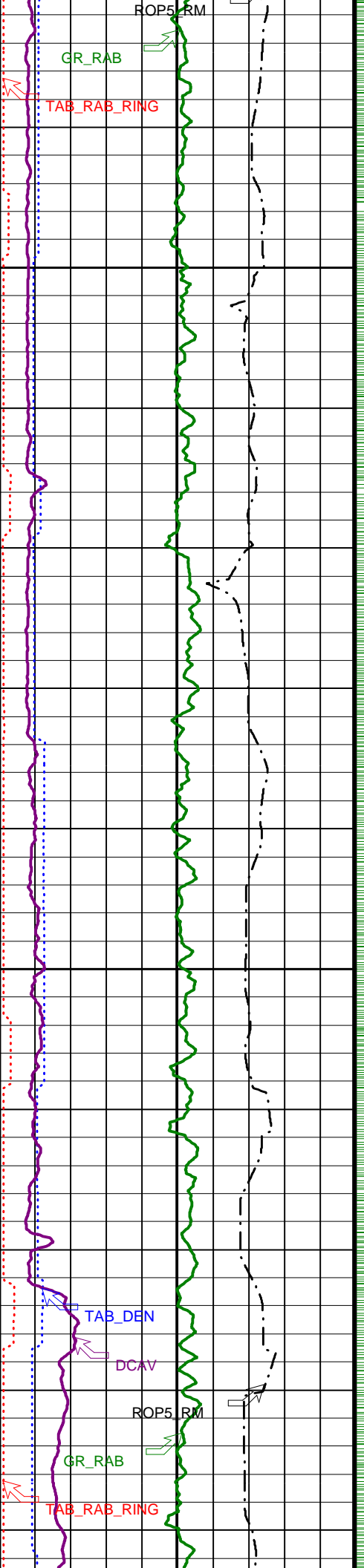






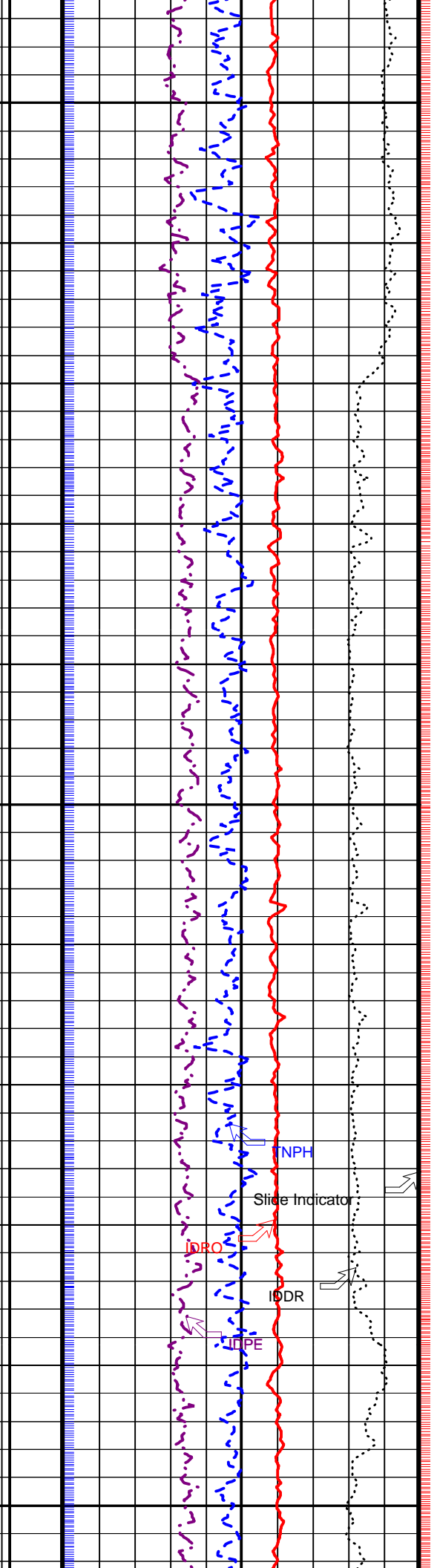
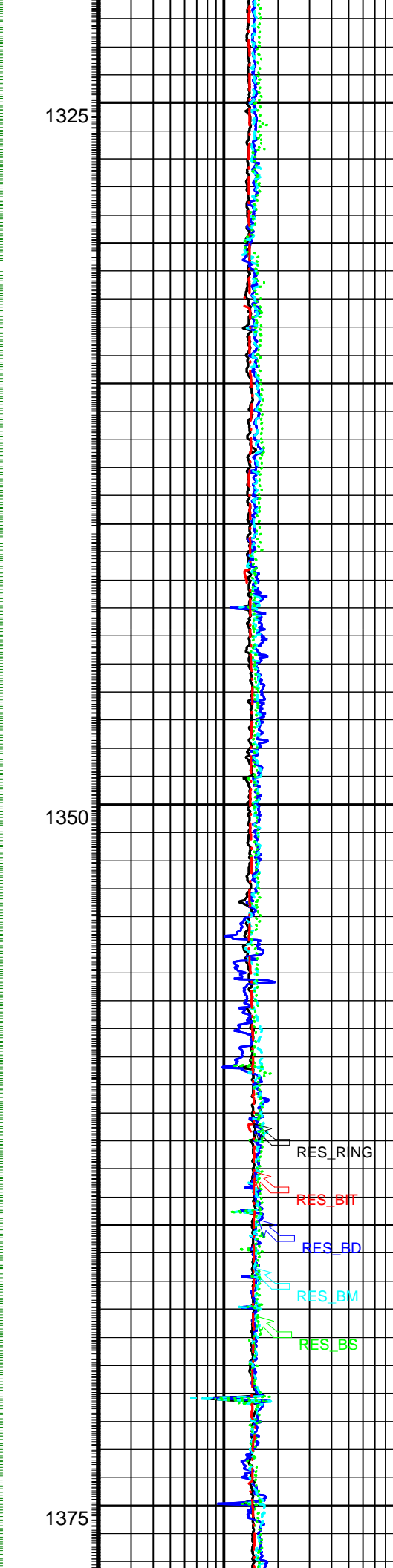
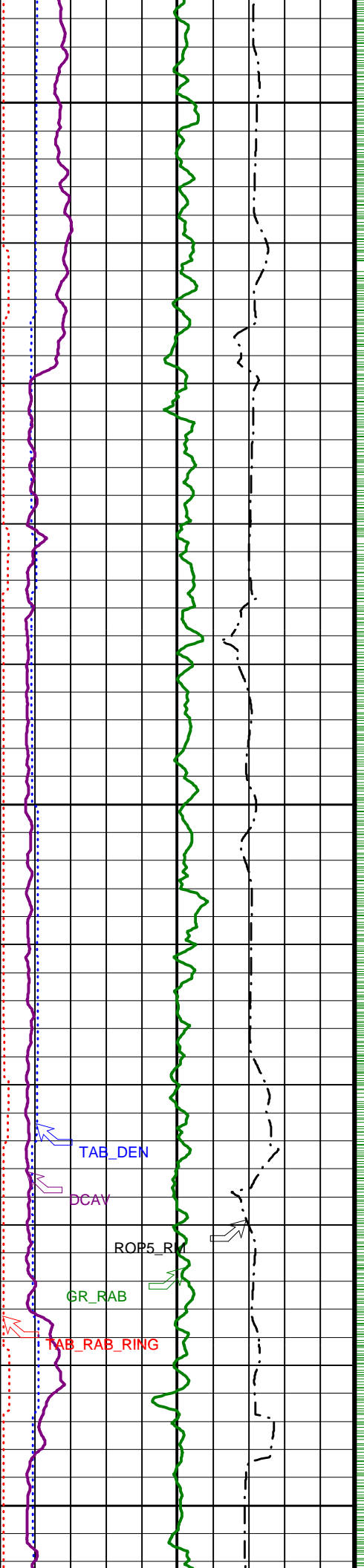
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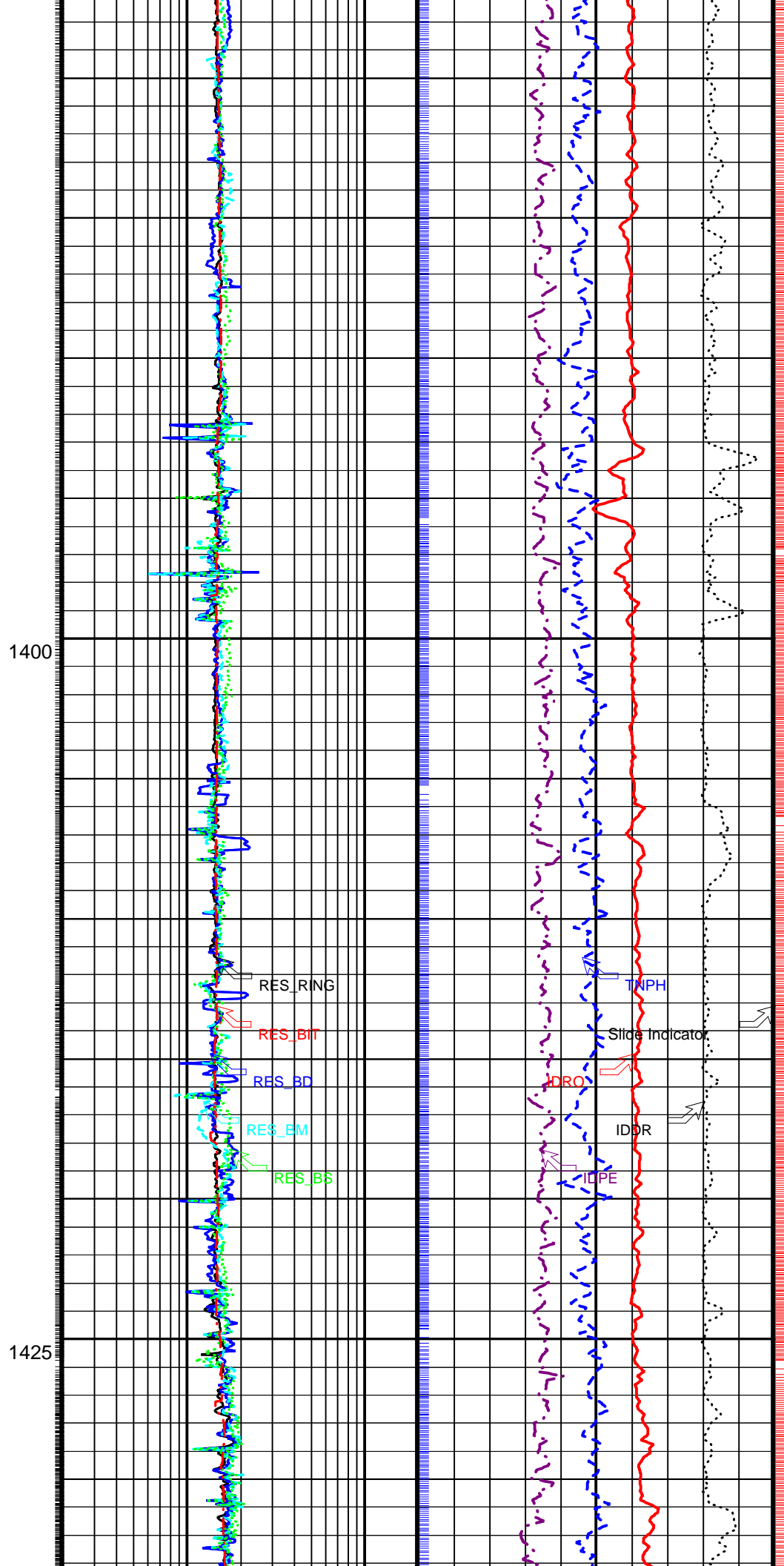
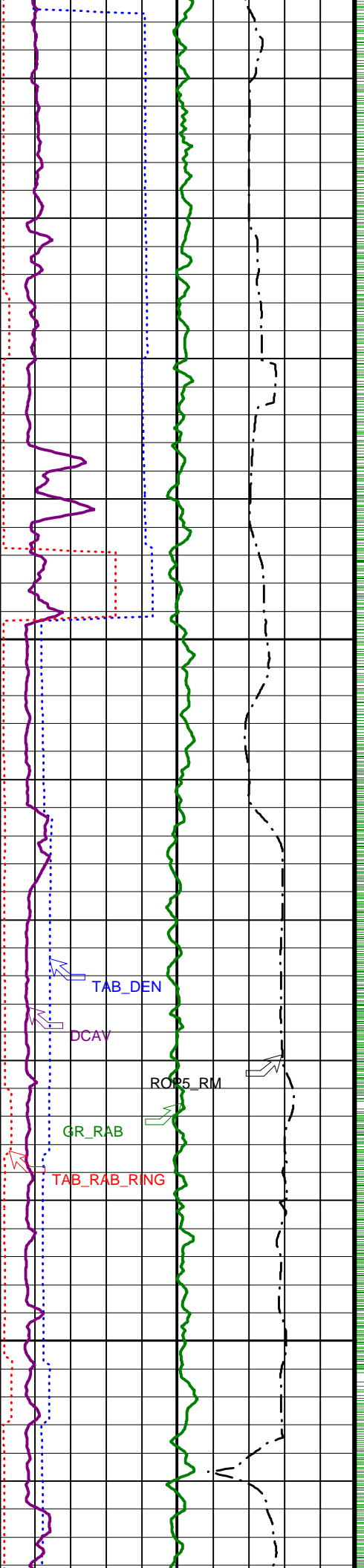
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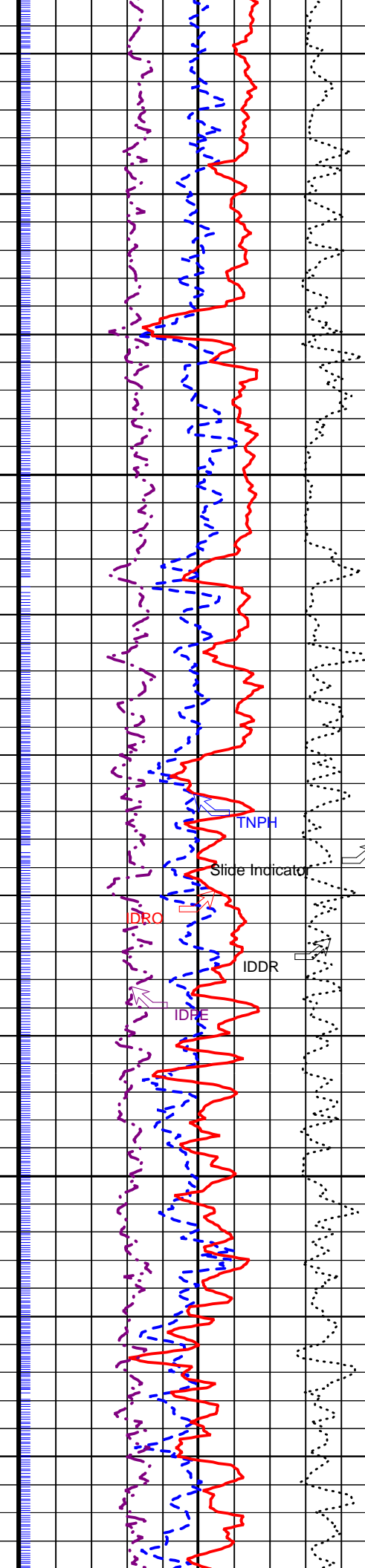
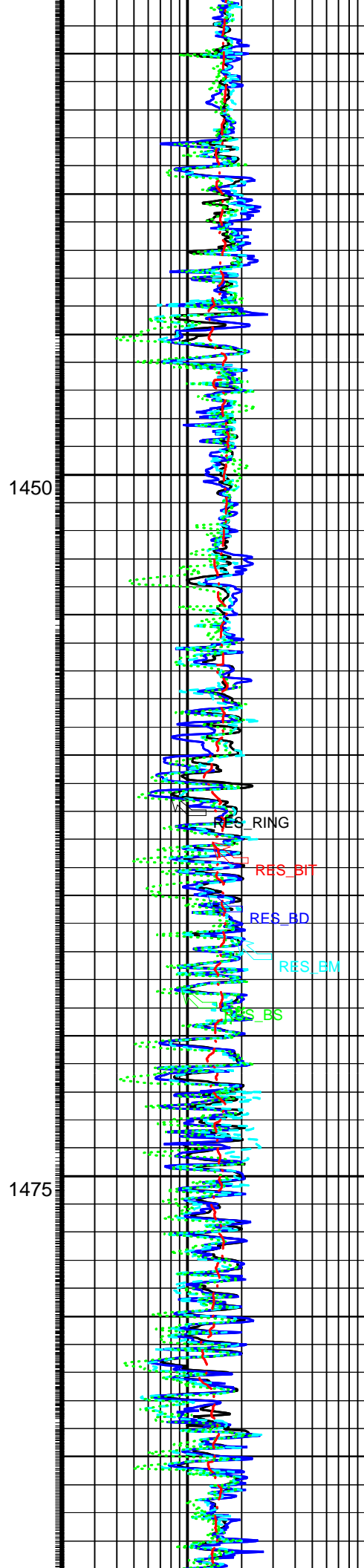
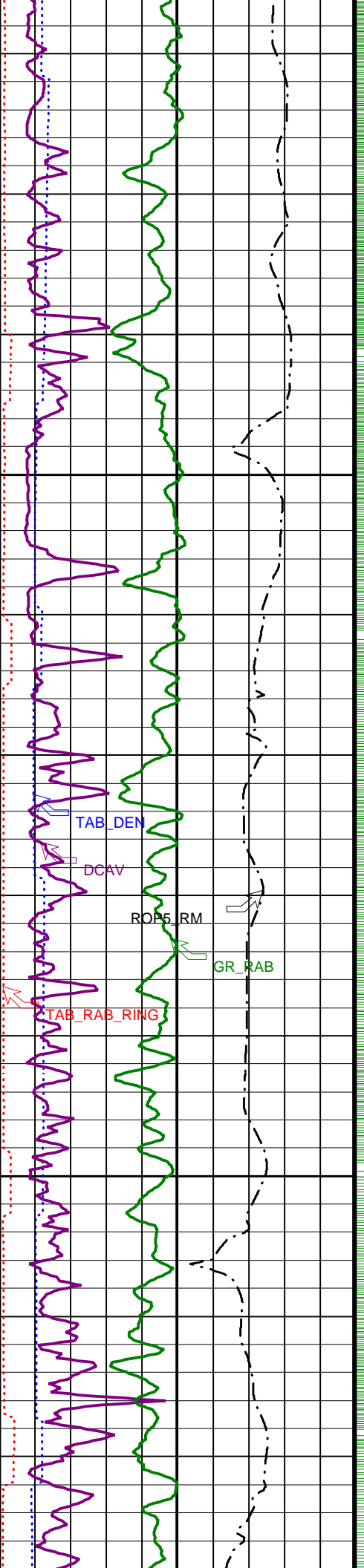


1275

1300

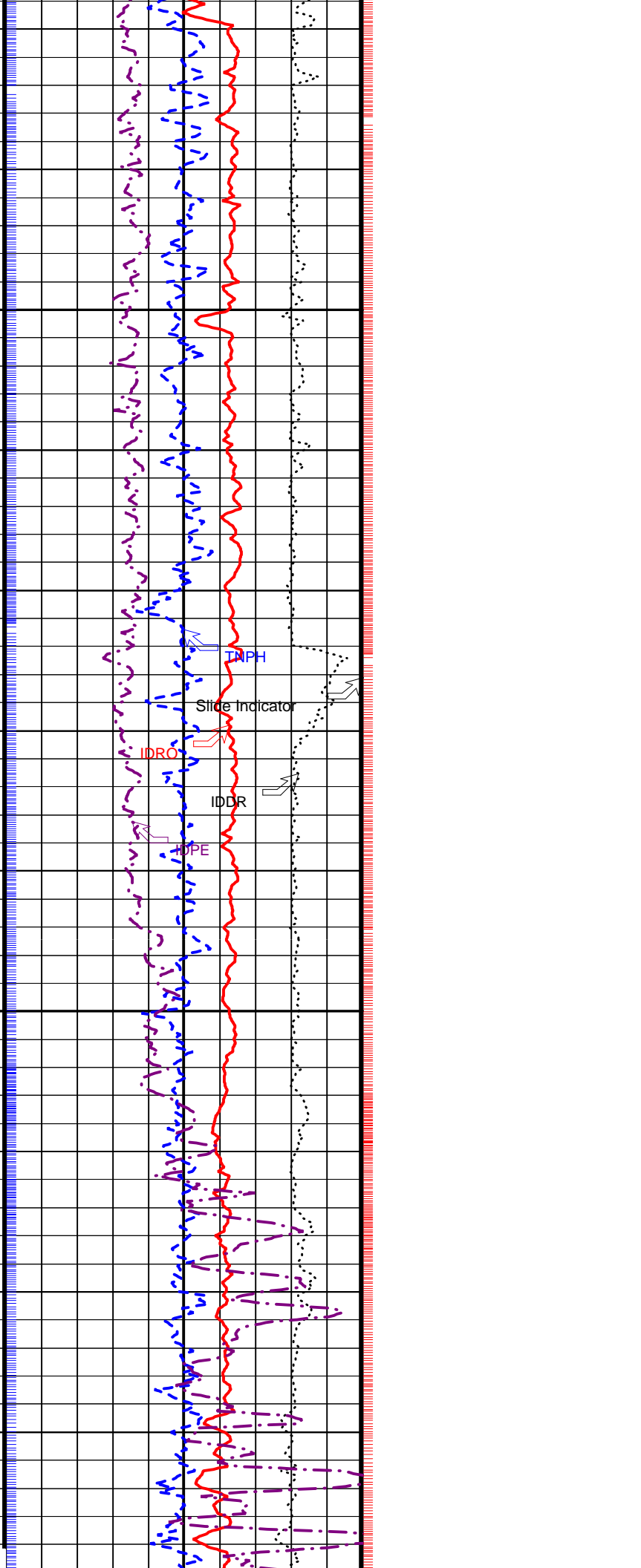
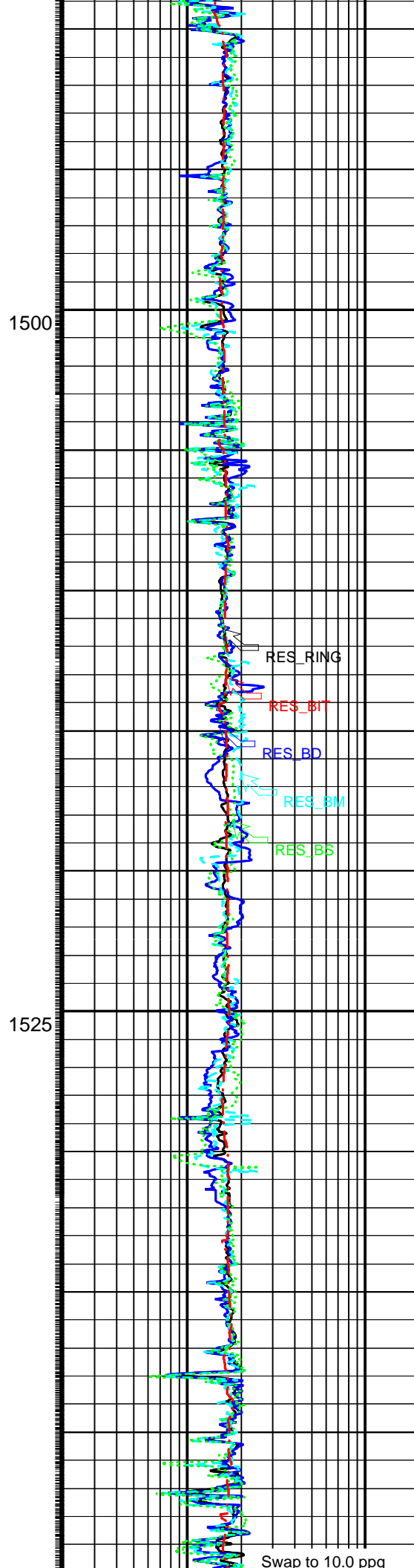
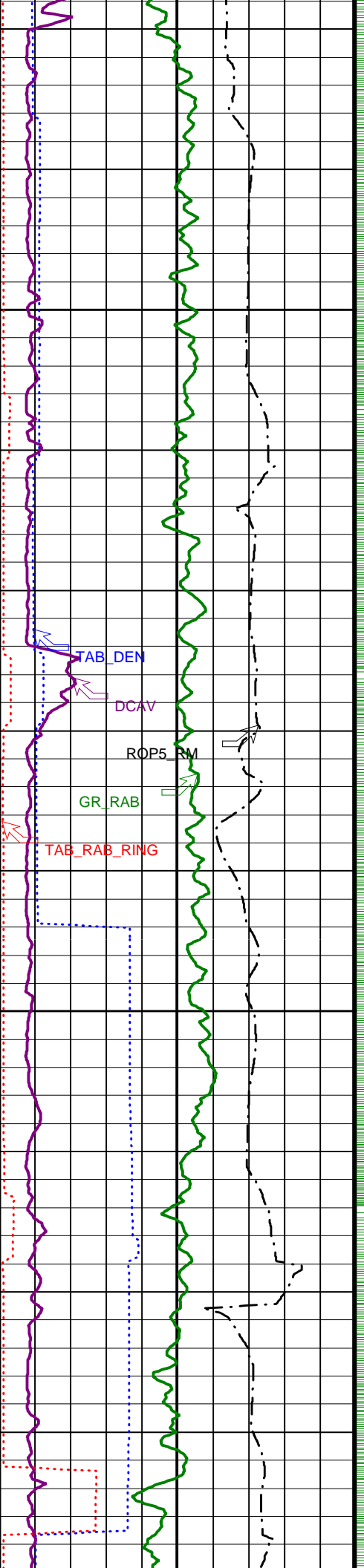




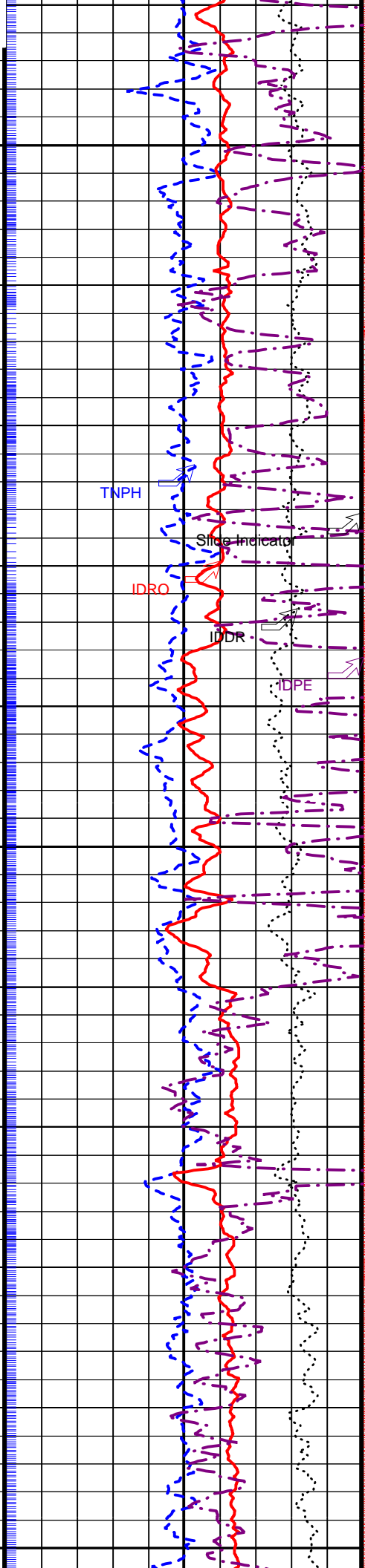
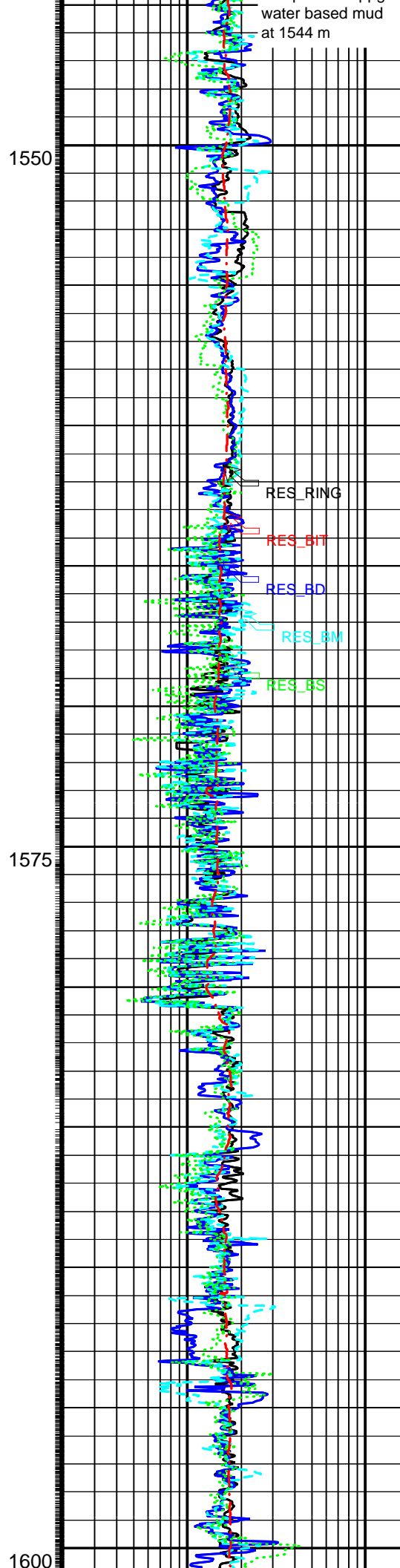
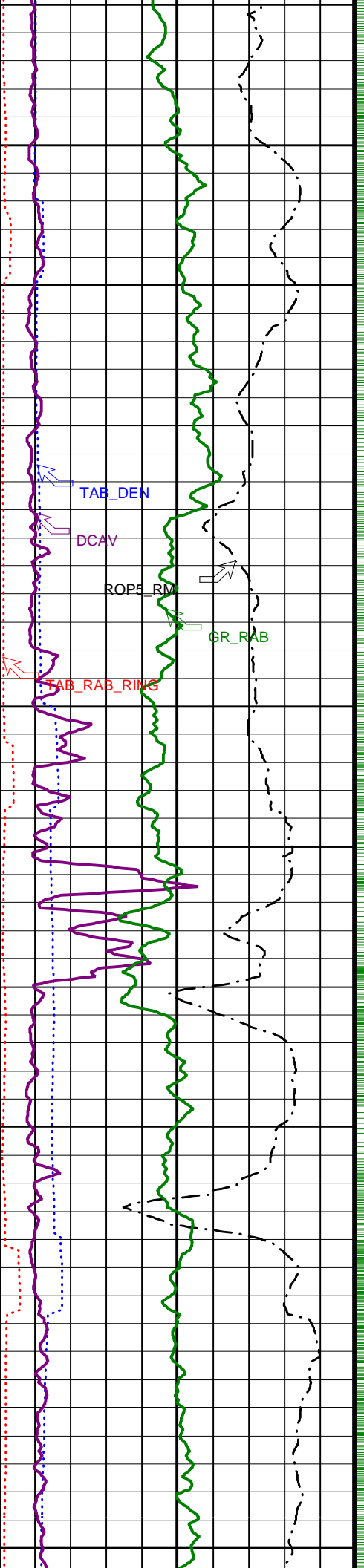


1450

1475



Swap to 10.0 ppa



water based mud
at 1544 m

1550

1575

1600

TAB_DEN

DCAV

ROPE_RM

GR_RAB

TAB_RAB_RING

RES_RING

RES_BIT

RES_BD

RES_BM

RES_BS

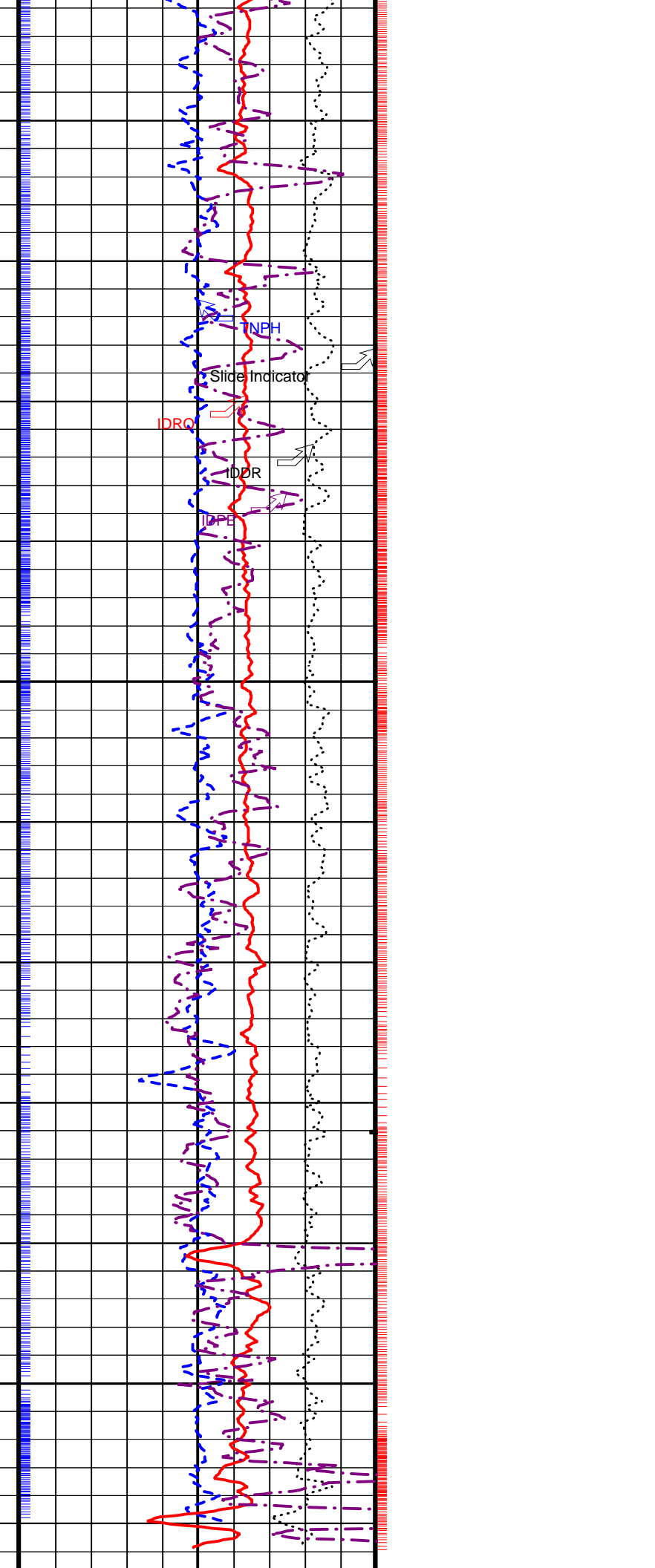
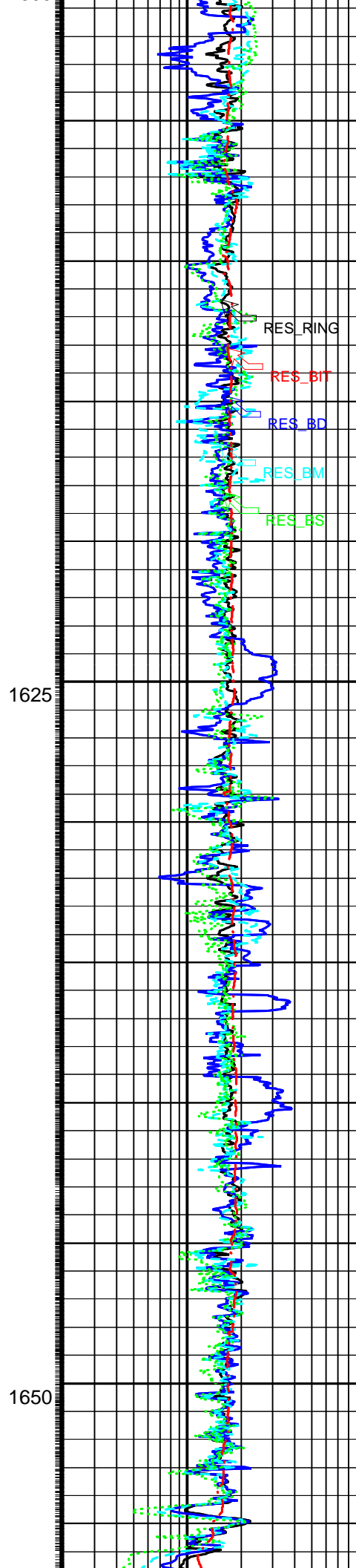
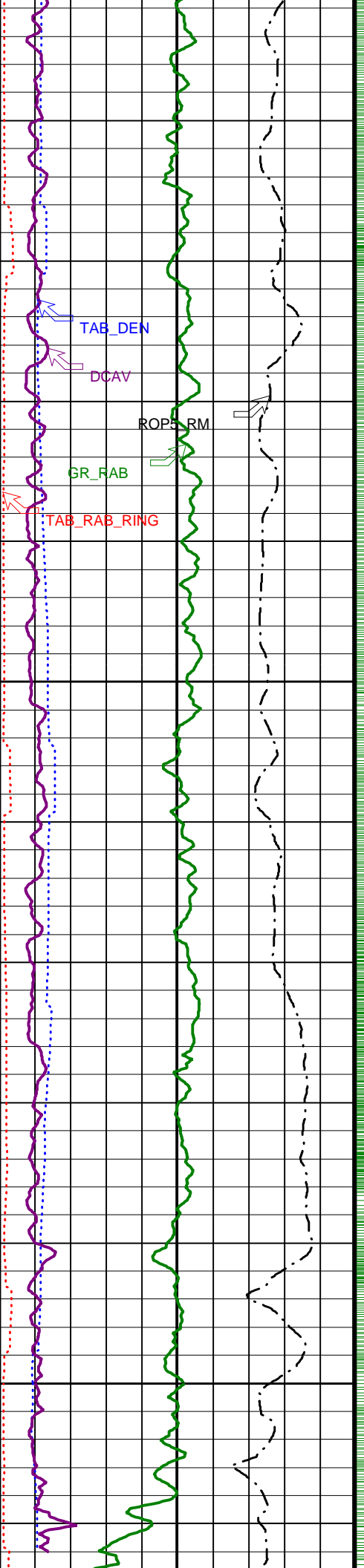
TNPH

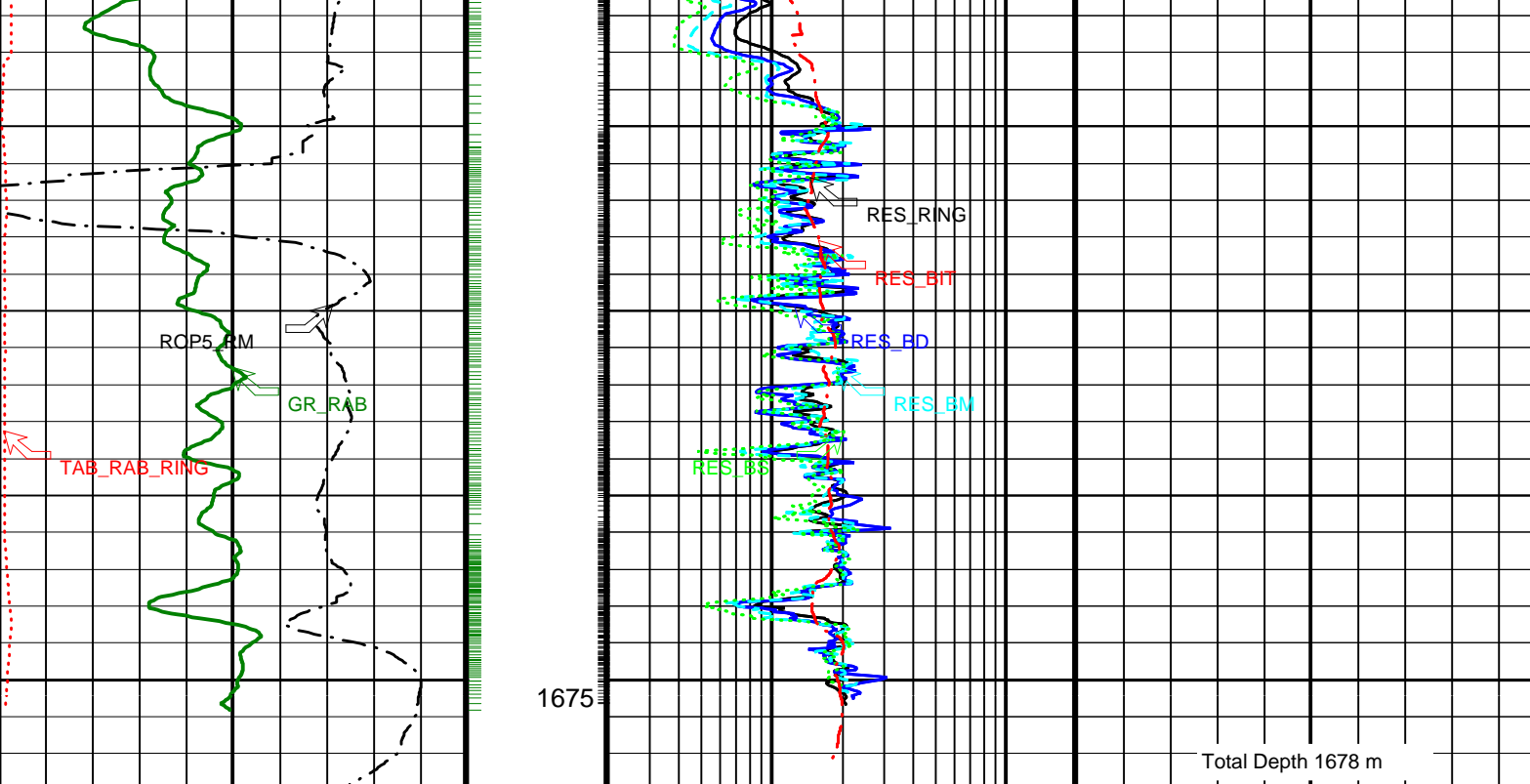
IDRO

IDDR

IDPE

Slide Indicator





Density Time After Bit (TAB_DEN) (HR)	0	10	Ring Resistivity (RES_RING) (OHMM)	0.2	20	Thermal Neutron Porosity (TNPH) (PU)	100	0
Density Caliper, Average (DCAV) (IN)	9	19	Bit Resistivity (RES_BIT) (OHMM)	0.2	20	Image Derived Density (IDRO) (G/C3)	1	2.65
RAB Gamma Ray (GR_RAB) (GAPI)	0	150	Deep Button Resistivity (RES_BD) (OHMM)	0.2	20	Image Derived Density Correction (IDDR) (G/C3)	-0.8	0.2
Rate of Penetration, Averaged over Last 5ft (ROP5_RM) (M/HR)	100	0	Medium Button Resistivity (RES_BM) (OHMM)	0.2	20	Image Derived Photoelectric Factor (IDPE) (---)	0	10
Ring Resistivity Time After Bit (TAB_RAB_RING) (HR)	0	10	Shallow Button Resistivity (RES_BS) (OHMM)	0.2	20			

PIP SUMMARY

Density Ticks, 0.1-ft ↑
 Neutron Ticks, 0.1 ft ↑
 ↑ Ring Samples
 ↑ Gamma Ray Samples

IDEAL Version: ID10_0C_04
IDF

6.75-in. Azimuthal Density Neutron / Equipment Identification

Primary Equipment:		
Tool Name and Serial Number	ADN6 - CA	6306
Collar Type and Serial Number	ADDC - AA	
Chassis Type and Serial Number	ADSE - EA	
Stabilizer Type and Serial Number		1
Neutron Logging Source	NSR - M	204
Density Logging Source	GSR - J/Z	2129
Stabilizer Size	9.63 - in.	
Calibration Status	Auto	

Master: 8-Jun-2005 18:38

6.75-in. Azimuthal Density Neutron Calibration

Density: Magnesium Block

Phase	LS window 3 - Mg CPS	Value	Phase	SS window 1 - Mg CPS	Value	Phase	SS window 3 - Mg CPS	Value
Master		758.6	Master		2063	Master		5381

250.0 (Minimum)	4125 (Nominal)	8000 (Maximum)	700.0 (Minimum)	9350 (Nominal)	18000 (Maximum)	2500 (Minimum)	23750 (Nominal)	45000 (Maximum)
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Master: 8-Jun-2005 18:38														
6.75-in. Azimuthal Density Neutron Calibration														
Density: Aluminum Block														
Phase	LS window 3 - AI CPS			Value	Phase	SS window 1 - AI CPS			Value	Phase	SS window 3 - AI CPS			Value
Master				124.0	Master				1229	Master				3832
	50.00 (Minimum)	725.0 (Nominal)	1400 (Maximum)			500.0 (Minimum)	4250 (Nominal)	8000 (Maximum)			1500 (Minimum)	15750 (Nominal)	30000 (Maximum)	


Master: 8-Jun-2005 18:38														
6.75-in. Azimuthal Density Neutron Calibration														
Density: Background														
Phase	LS window 3 - Background CPS			Value	Phase	SS window 1 - Background CPS			Value	Phase	SS window 3 - Background CPS			Value
Master				54.19	Master				118.2	Master				508.0
	15.00 (Minimum)	82.50 (Nominal)	150.0 (Maximum)			40.00 (Minimum)	220.0 (Nominal)	400.0 (Maximum)			150.0 (Minimum)	825.0 (Nominal)	1500 (Maximum)	

Master: 8-Jun-2005 18:38									
6.75-in. Azimuthal Density Neutron Calibration									
Density: Water Block Check									
Phase	Long spacing water density G/C3			Value	Phase	Short spacing water density G/C3			Value
Master				1.022	Master				1.119
	1.001 (Minimum)	1.016 (Nominal)	1.031 (Maximum)			1.079 (Minimum)	1.109 (Nominal)	1.139 (Maximum)	

Master: 8-Jun-2005 18:38														
6.75-in. Azimuthal Density Neutron Calibration														
Neutron: 3-Point Calibration														
Phase	Far 1 tube 1 Air Point Measure CPS			Value	Phase	Far 1 tube 1 Rod Point Measure CPS			Value	Phase	Far 1 tube 1 H2O Point Measure CPS			Value
Master				17.91	Master				4.522	Master				2.181
	15.00 (Minimum)	19.05 (Nominal)	21.00 (Maximum)			4.000 (Minimum)	4.857 (Nominal)	5.500 (Maximum)			1.900 (Minimum)	2.363 (Nominal)	2.700 (Maximum)	
Phase	Far 1 tube 2 Air Point Measure CPS			Value	Phase	Far 1 tube 2 Rod Point Measure CPS			Value	Phase	Far 1 tube 2 H2O Point Measure CPS			Value
Master				18.87	Master				4.699	Master				2.231
	16.00 (Minimum)	19.05 (Nominal)	22.00 (Maximum)			4.000 (Minimum)	4.857 (Nominal)	5.500 (Maximum)			1.900 (Minimum)	2.363 (Nominal)	2.800 (Maximum)	
Phase	Far 1 tube 3 Air Point Measure CPS			Value	Phase	Far 1 tube 3 Rod Point Measure CPS			Value	Phase	Far 1 tube 3 H2O Point Measure CPS			Value
Master				18.34	Master				4.639	Master				2.232
	15.00 (Minimum)	19.05 (Nominal)	21.00 (Maximum)			4.000 (Minimum)	4.857 (Nominal)	5.500 (Maximum)			1.900 (Minimum)	2.363 (Nominal)	2.700 (Maximum)	
Phase	Far 2 tube 1 Air Point Measure CPS			Value	Phase	Far 2 tube 1 Rod Point Measure CPS			Value	Phase	Far 2 tube 1 H2O Point Measure CPS			Value
Master				18.52	Master				4.630	Master				2.249
	15.00 (Minimum)	19.05 (Nominal)	21.00 (Maximum)			4.000 (Minimum)	4.857 (Nominal)	5.500 (Maximum)			1.900 (Minimum)	2.363 (Nominal)	2.700 (Maximum)	
Phase	Far 2 tube 2 Air Point Measure CPS			Value	Phase	Far 2 tube 2 Rod Point Measure CPS			Value	Phase	Far 2 tube 2 H2O Point Measure CPS			Value
Master				18.74	Master				4.528	Master				2.236
	16.00 (Minimum)	19.05 (Nominal)	22.00 (Maximum)			4.000 (Minimum)	4.857 (Nominal)	5.500 (Maximum)			1.900 (Minimum)	2.363 (Nominal)	2.800 (Maximum)	
Phase	Far 2 tube 3 Air Point Measure CPS			Value	Phase	Far 2 tube 3 Rod Point Measure CPS			Value	Phase	Far 2 tube 3 H2O Point Measure CPS			Value
Master				18.03	Master				4.589	Master				2.264
	15.00 (Minimum)	19.05 (Nominal)	21.00 (Maximum)			4.000 (Minimum)	4.857 (Nominal)	5.500 (Maximum)			1.900 (Minimum)	2.363 (Nominal)	2.700 (Maximum)	
Phase	Near 1 tube 1 Air Point Measure CPS			Value	Phase	Near 1 tube 1 Rod Point Measure CPS			Value	Phase	Near 1 tube 1 H2O Point Measure CPS			Value
Master				471.4	Master				749.5	Master				333.7
	400.0 (Minimum)	487.5 (Nominal)	540.0 (Maximum)			610.0 (Minimum)	768.8 (Nominal)	850.0 (Maximum)			270.0 (Minimum)	343.7 (Nominal)	390.0 (Maximum)	
Phase	Near 2 tube 1 Air Point Measure CPS			Value	Phase	Near 2 tube 1 Rod Point Measure CPS			Value	Phase	Near 2 tube 1 H2O Point Measure CPS			Value
Master				478.2	Master				748.8	Master				333.1
	400.0 (Minimum)	487.5 (Nominal)	540.0 (Maximum)			610.0 (Minimum)	768.8 (Nominal)	850.0 (Maximum)			270.0 (Minimum)	343.7 (Nominal)	390.0 (Maximum)	

Master: 8-Jun-2005 18:38									
6.75-in. Azimuthal Density Neutron Calibration									











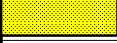

Neutron: Water Block Check

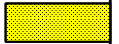
Phase	Far Neutron water porosity PU			Value
Master				97.10
	90.00 (Minimum)	100.0 (Nominal)	125.0 (Maximum)	

6.75-in. Resistivity At-the-Bit / Equipment Identification

Primary Equipment:
Tool Name and Serial Number
Calibration Status

RAB6 - CA
Auto
6163

Master: 7-Jun-2005 16:13														
6.75-in. Resistivity At-the-Bit Calibration														
Resistivity: Fixture														
Phase	Ring/T1 factor			Value	Phase	Ring/T2 factor			Value	Phase	M0/T1 factor			Value
Master				1.012	Master				1.005	Master				1.010
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)			0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)			0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	
Phase	M0/T2 factor			Value	Phase	M2/T1 factor			Value	Phase	M2/T2 factor			Value
Master				1.002	Master				1.008	Master				1.000
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)			0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)			0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	
Phase	BTN shallow/T1 factor			Value	Phase	BTN shallow/T2 factor			Value	Phase	BTN medium/T1 factor			Value
Master				1.008	Master				1.001	Master				1.012
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)			0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)			0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	
Phase	BTN medium/T2 factor			Value	Phase	BTN deep/T1 factor			Value	Phase	BTN deep/T2 factor			Value
Master				1.004	Master				1.018	Master				1.011
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)			0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)			0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	

Master: 7-Jun-2005 16:13				
6.75-in. Resistivity At-the-Bit Calibration				
Gamma Ray: Blanket				
Phase	Gamma ray factor			Value
Master				0.9430
	0.7500 (Minimum)	1.000 (Nominal)	1.250 (Maximum)	

SCHLUMBERGER

Survey report 28-Jun-2005 22:53:11 Page 1 of 2

Client.....: Integrated Ocean Drilling Program
 Field.....: Mississippi Canyon Block 897

Well.....: IODP Exp 308 Hole U1324A Spud date.....: 17-Jun-05
 Site.....: Ursa Basin Last survey date.....: 19-Jun-05
 Engineer.....: Hoong, K. Total accepted surveys...: 12
 MD of first survey.....: 1066.10 m
 Rig.....: Joides Resolution MD of last survey.....: 1678.00 m
 State.....: Louisiana

----- Survey calculation methods----- Geomagnetic data -----
 Method for positions.....: Minimum curvature Magnetic model.....: BGGM version 2004
 Method for DLS.....: Mason & Taylor Magnetic date.....: 17-Jun-2005
 Magnetic field strength..: 949.10 HCNT
 ----- Depth reference -----
 Permanent datum.....: Mean Sea Level Magnetic dip.....: 58.28 degrees
 Depth reference.....: Driller's Depth
 CL above permanent.....: 1055.50 m ----- MWD survey Reference Criteria -----
 RB above permanent.....: Top Drive Reference G.....: 999.17 mGal
 DF above permanent.....: 10.60 m Reference H.....: 949.10 HCNT
 Reference Dip.....: 58.28 degrees
 ----- Vertical section origin-----
 Latitude (+N/S-).....: 0.00 m Tolerance of G.....: (+/-) 2.50 mGal
 Departure (+E/W-).....: 0.00 m Tolerance of H.....: (+/-) 6.00 HCNT
 Tolerance of Dip.....: (+/-) 0.45 degrees

----- Platform reference point----- Corrections -----
 Latitude (+N/S-).....: 0.00 m Magnetic dec (+E/W-).....: 0.21 degrees
 Departure (+E/W-).....: 0.00 m Grid convergence (+E/W-)..: -1.01 degrees
 Total az corr (+E/W-).....: 1.22 degrees
 Azimuth from Vsect Origin to target: 0.00 degrees (Total az corr = magnetic dec - grid conv)
 Survey Correction Type
 ----- Coordinate System-----
 Geodetic Datum.....: NAD 27 I=Sag Corrected Inclination
 Projection Identification: UTM Zone 16 N M=Schlumberger Magnetic Correction
 S=Shell Magnetic Correction
 F=Failed Axis Correction
 R=Magnetic Resonance Tool Correction
 D=Dmag Magnetic Correction

[(c)2005 IDEAL ID10_OC_04]
 SCHLUMBERGER Survey Report 28-Jun-2005 22:53:11 Page 2 of 2

Seq #	Measured depth (m)	Incl angle (deg)	Azimuth (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg/10m)	DLS type	Srvy tool	Tool Corr
1	1066.10	0.00	0.00	0.00	1066.10	0.00	0.00	0.00	0.00	0.00	TIP	None	
2	1092.50	5.47	275.72	26.40	1092.46	0.13	0.13	-1.25	1.26	275.72	2.07	MWD	None
3	1111.50	4.26	274.75	19.00	1111.39	0.27	0.27	-2.86	2.87	275.48	0.64	MWD_M	None
4	1237.30	0.74	263.74	125.80	1237.05	0.57	0.57	-8.32	8.34	273.94	0.28	MWD	None
5	1353.00	0.47	255.07	115.70	1352.75	0.37	0.37	-9.52	9.53	272.22	0.02	MWD	None
6	1371.70	1.63	249.98	18.70	1371.44	0.26	0.26	-9.85	9.85	271.50	0.62	MWD	None
7	1438.70	0.38	256.75	67.00	1438.43	-0.12	-0.12	-10.96	10.96	269.38	0.19	MWD	None
8	1458.20	0.35	260.30	19.50	1457.93	-0.14	-0.14	-11.08	11.08	269.26	0.02	MWD	None
9	1469.40	0.55	272.09	11.20	1469.13	-0.15	-0.15	-11.17	11.17	269.24	0.20	MWD	None
10	1592.30	1.18	256.29	122.90	1592.02	-0.43	-0.43	-12.99	12.99	268.12	0.05	MWD	None
11	1662.10	1.34	239.98	69.80	1661.80	-1.00	-1.00	-14.39	14.43	266.01	0.06	MWD	None
12	1678.00	1.34	239.98	15.90	1677.69	-1.19	-1.19	-14.71	14.76	265.37	0.00	Proj to TD	

[(c)2005 IDEAL ID10_OC_04]

Company: Integrated Ocean Drilling Program


Well: IODP Exp 308 Hole U1324A

Field: Mississippi Canyon Block 897

Rig: Joides Resolution

State: Louisiana

GeoVISION Service



1 : 200 Measured Depth Recorded Mode Log

Geomarket	NGC	Location	Ursa Basin
Job Date	19-Jun-05	Customer	Integrated Ocean Drilling Program
Rig	Jodes Resolution	Field/Well	Mississippi Canyon Block 897
Engineer	Hoong, K.	Job Number	40012055

Operation

Presentation

Description of Well - Names, Geometry, Services, Location and References; General Content Header, user or trademarks, directional data, well plot, order of components, spelling and style, units sensor to toolface angle recorded						
Equipment and Software Description						
Tool sketch, equipment numbers, software versions, data rates, filtering weights						
Processing Traceability and Environment Description						
Acquisition environment, parameters and key constants for each run or zone, complete and relevant remarks						
Annotations, Presented Formats, QC Curves, Print Quality						
Documented splice points; data gap explanations, mud changes, movement indicator, color selection						

Calibration and Verifications

Calibration / Before survey verification / After survey verification						
Validity, completeness (includes equipment number), timeliness, unedited, discrepancy explained						

Operating Procedures

Depth Control						
Comparison with driller's depth, other logs, other bit runs, between RT and RM, Depth summary listing						
Logging speed and sampling rates						
As recommended in reference manual or job planner. No loss of data or spatial resolution						
Data Comparison						
Between runs and passes, with data from nearby wells, other conveyance, mud log and markers						
Operating Anomalies/Failure/Missing Data/Sensor Orientation/Transmission Losses						
Absence of noise and spurious variations, anomaly/repeated, corrected, reported or explained.						

Digital Delivery

Digital Products						
Labeled, verification listing with complete digital record, backup for archival; record matches hard copy.						

Job Quality Rating (JQR)

Number of boxes without number X 10

100	100	100	100	100	100
-----	-----	-----	-----	-----	-----

Environmental effects

Irregular Operation						
Excessive ROP or speed, high deviation, shocks, vibrations, sticking conditions						
Borehole Geometry						
Shape (caves, etc), rugosity, spiralled hole, mud induced fractures. Casing, tubing conditions						
Borehole Fluid						
Barite, KCl, salinity, additives, gas cut, unstable						
Interferences						
External noise, nearby casing or drillpipe, debris, unusual formation composition						
Operation Outside Tool Specifications						
Geomarket Temperature, pressure, hole size, hole deviation, dog-leg severity, flow rate, rpm, solids value of parameter						

Environmental Quality Rating (EQR)

Number of boxes without number X 20

40	40	60	40	40
----	----	----	----	----

Type of Measurement

Res	GR	APWD	Neu	Den
-----	----	------	-----	-----

Data

When data does not match with a corresponding Positive remarks are

- Excessive ROP which causes low data density
- Borehole washouts adn/V/ISON neutron causes low density
- Barite in the mud a
- ECD measurement pressure measured
- Zoned parameters seawater to weight

Cell Manager: HK

Quality Report

Sheet standards, put a number in the column corresponding to the measurement number and remark below. Use additional pages for remarks
 Welcome: do not append them with a number.

Remarks

the extending heave compensator piston after a connection
 nsity.
 causes resistivity curve separation. geoVISION gamma ray and
 porosity is only corrected for bit size. Large borehole washouts
 readings.
 attenuates the formation gamma ray response.
 s are recalculated using seawater density derived annulus
 from the sea floor and actual sea floor depth measured on logs.
 were used for processing where borehole fluid changed from
 ed mud. Borehole fluid changes are annotated on logs.

DQR Header Utility ver 1.1c

Schlumberger Drilling & Measurements

Revised January 2002

ng, K.

FSM:

Vijay Moras

Geomarket	NGC	Location	Usa Basin
Job Date	19-Jun-05	Customer	Integrated Ocean Drilling Program
Rig	Jodes Resolution	Field/Well	Mississippi Canyon Block 897
Engineer	Hoong, K.	Job Number	40012055

Type of Measurement				
Res	GR	APWD	Neu	Dent

When data does not r
 with a corresponding
 Positive remarks are

Data

Operation

Description of Well - Names, Geometry, Services, Location and References; General Content Header, user or trademarks, directional data, well plot, order or components, spelling and style, units sensor to toolface angle recorded
 Equipment and Software Description
 Tool sketch, equipment numbers, software versions, data rates, filtering weights
 Processing Traceability and Environment Description
 Acquisition environment, parameters and key constants for each run or zone, complete and relevant remarks
 Annotations, Presented Formats, QC Curves, Print Quality
 Documented splice points; data gap explanations, mud changes, movement indicator, color selection

Calibration and Verifications

Calibration / Before survey verification / After survey verification
 Validity, completeness (includes equipment number), timeliness, unedited, discrepancy explained

Operating Procedures

Depth Control
 Comparison with driller's depth, other logs, other bit runs, between RT and RML Depth summary listing
 Logging speed and sampling rates
 As recommended in reference manual or job planner. No loss of data or spatial resolution
 Data Comparison
 Between runs and passes, with data from nearby wells, other conveyance, mud log and markers
 Operating Anomalies/Failure/Missing Data/Sensor Orientation/Transmission Losses
 Absence of noise and spurious variations, anomaly/repeated, corrected, reported or explained.

Digital Delivery

Digital Products
 Labeled, verification listing with complete digital record, backup for archival; record matches hard copy.

Job Quality Rating (JQR)

Number of boxes without number X 10

Environmental effects

Irregular Operation
 Excessive ROP or speed, high deviation, shocks, vibrations, sticking conditions
 Borehole Geometry
 Shape (caves, etc), rugosity, spiralled hole, mud induced fractures. Casing, tubing conditions
 Borehole Fluid
 Barite, KCl, salinity, additives, gas cut, unstable
 Interferences
 External noise, nearby casing or drillpipe, debris, unusual formation composition
 Operation Outside Tool Specifications
 Geomarket/Temperature, pressure, hole size, hole deviation, dog-leg severity, flow rate, rpm, solids value of parameter

Environmental Quality Rating (EQR)

Number of boxes without number X 20

Cell Manager:

HR

a Quality Report

met standards. Put a number in the column corresponding to the measurement number and remark below. Use additional pages for remarks welcome; do not append them with a number.

Remarks

ong, K.

FSM:

Vijay Moras