



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.

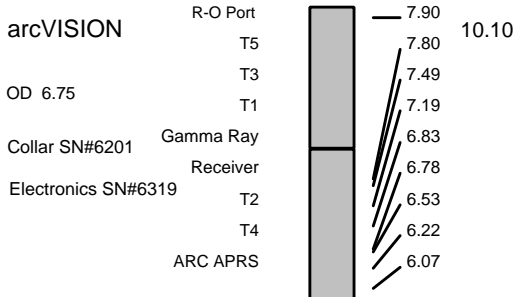
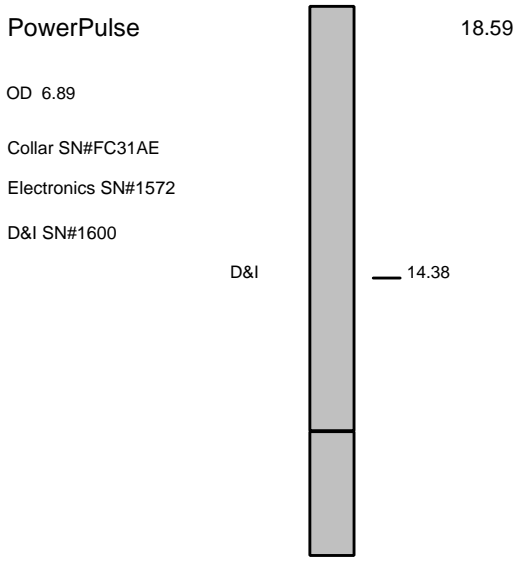
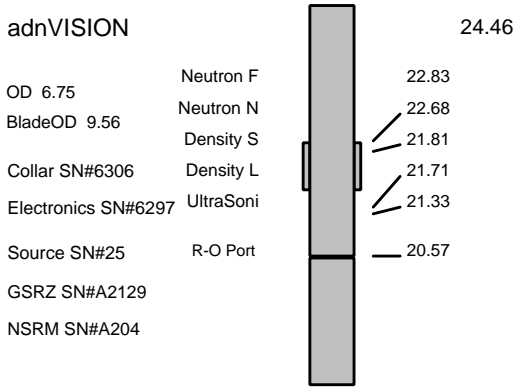
## EQUIPMENT DESCRIPTION

RUN1

RUN

RUN

### DOWNHOLE EQUIPMENT





Variable Name	Variable Description	Run Name & Value
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Run Number 1

General Information

BHT_RM	Bottom Hole Temperature (RM)	44.599998
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)	67.900002
MW_RM	Mud Weight (RM)	8.570000
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)	0.205000
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)	-4.000000
TD_RM	Total Measured Depth (RM)	5318.000000
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	-0.027120	
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	0.082396	
BITBHCB	RAB: Bit B Borehole Factor	0.000000	
BIT_K_FACT	RAB: Bit K Factor	3.347531	
BMBHCA	RAB: Button Medium Borehole A Factor	0.038731	
BMBHCB	RAB: Button Medium Borehole B Factor	0.000000	
BSBHCA	RAB: Button Shallow Borehole A Factor	0.070727	
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	0.004579	
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	3.520024	
MAG_INCL_R	RAB: Magnetic Dip	56.969997	
MBUTTON_K	RAB: Button Medium K Factor	0.004846	
OBM	RAB: Oil base Mud	NO	
ORIENTATIO	Rab Image Orientation	NORTH	
RABBDA0	RAB: Button Deep A0 Coeff	-0.030963	
RABBDA1	RAB: Button Deep A1 Coeff	0.016396	
RABBDA2	RAB: Button Deep A2 Coeff	-0.004268	
RABBDA3	RAB: Button Deep A3 Coeff	0.000480	
RABBDA4	RAB: Button Deep A4 Coeff	-0.000019	
RABBDA5	RAB: Button Deep A5 Coeff	0.000000	
RABBDMIN	RAB: Button Deep Minimum Value	0.050743	
RABBITA0	RAB: Bit A0 Coeff	0.482825	
RABBITA1	RAB: Bit A1 Coeff	-0.370525	
RABBITA2	RAB: Bit A2 Coeff	0.168749	
RABBITA3	RAB: Bit A3 Coeff	-0.033884	
RABBITA4	RAB: Bit A4 Coeff	0.002445	
RABBITA5	RAB: Bit A5 Coeff	0.000000	
RABBITMIN	RAB: Bit Minimum Value	18.398521	
RABBMA0	RAB: Button Medium A0 Coeff	-0.043974	
RABBMA1	RAB: Button Medium A1 Coeff	0.023310	
RABBMA2	RAB: Button Medium A2 Coeff	-0.006046	
RABBMA3	RAB: Button Medium A3 Coeff	0.000676	
RABBMA4	RAB: Button Medium A4 Coeff	-0.000027	
RABBMA5	RAB: Button Medium A5 Coeff	0.000000	
RABMMIN	RAB: Button Medium Minimum Value	0.056764	
RABBSA0	RAB: Button Shallow A0 Coeff	-0.062404	
RABBSA1	RAB: Button Shallow A1 Coeff	0.032478	
RABBSA2	RAB: Button Shallow A2 Coeff	-0.008230	
RABBSA3	RAB: Button Shallow A3 Coeff	0.000898	
RABBSA4	RAB: Button Shallow A4 Coeff	-0.000034	
RABBSA5	RAB: Button Shallow A5 Coeff	0.000000	
RABBSMIN	RAB: Button Shallow Minimum Value	0.078912	
RABDHS	RAB Down Hole Software	4.000000	
RABEC	RAB: Resistivity Env-Cor	YES	
RABRNGA0	RAB: RING A0 Coeff	-0.025740	
RABRNGA1	RAB: RING A1 Coeff	0.014541	
RABRNGA2	RAB: RING A2 Coeff	-0.003918	
RABRNGA3	RAB: RING A3 Coeff	0.000451	
RABRNGA4	RAB: RING A4 Coeff	-0.000018	
RABRNGA5	RAB: RING A5 Coeff	0.000000	
RABRNGMIN	RAB: Ring Minimum Value	1.605735	
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	7.286919
RINGBHCA	RAB: Ring Borehole A Factor	0.296259
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	0.152829
SBUTTON_K_	RAB: Button Shallow K Factor	0.006581
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_%

Schlumberger Drilling & Measurements

Parameter Insert Header Software version 2.0c

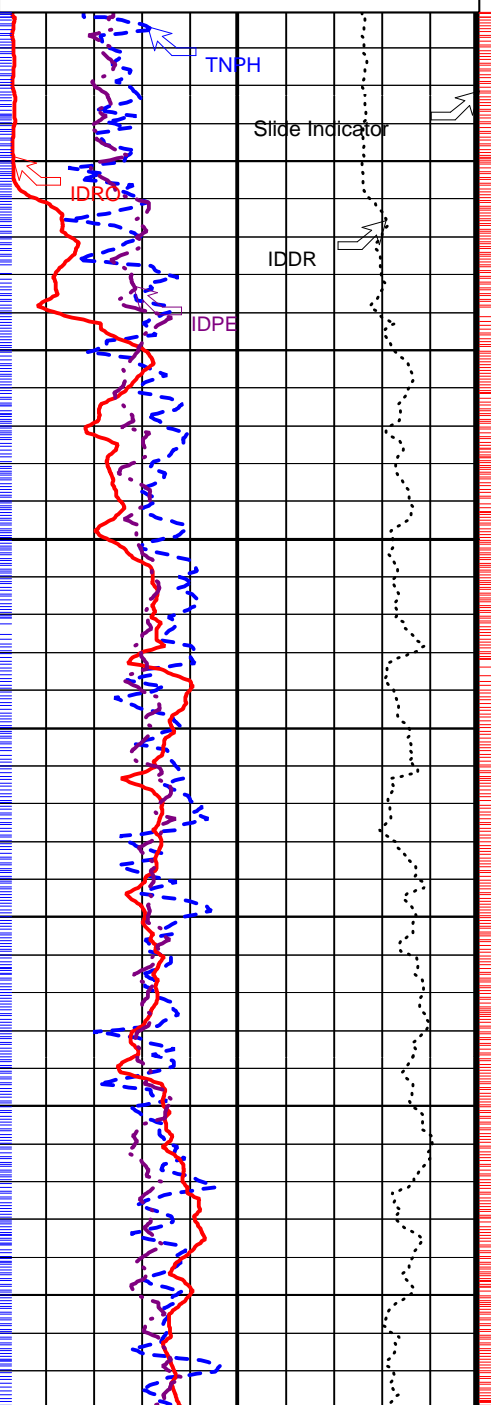
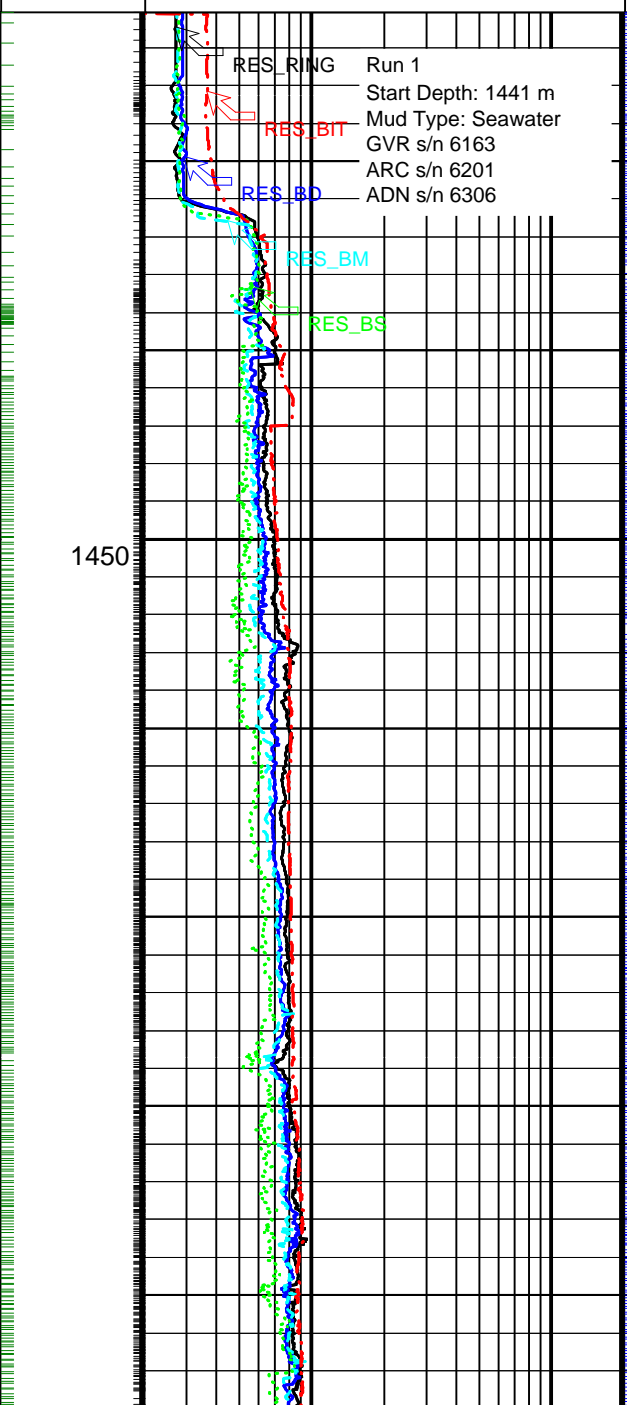
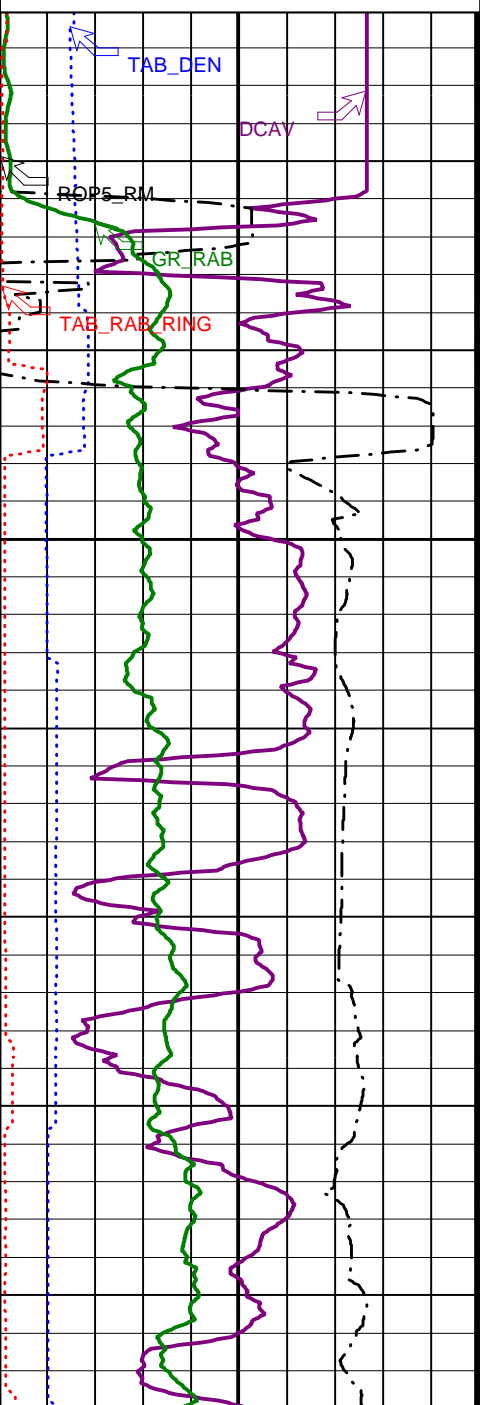
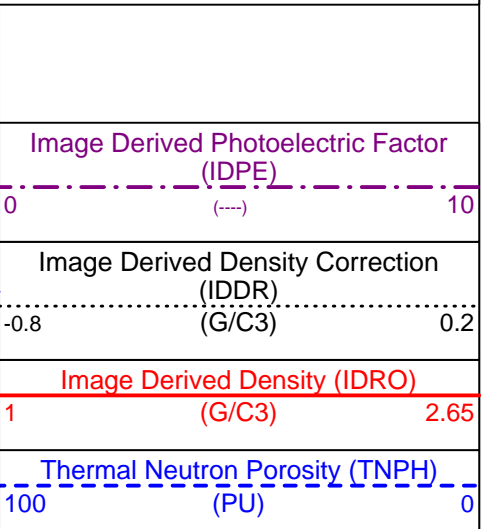
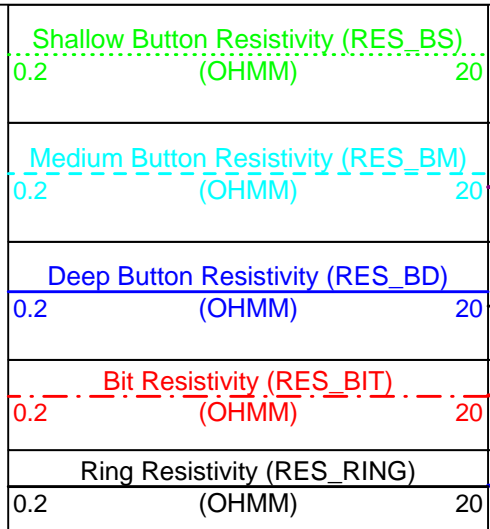
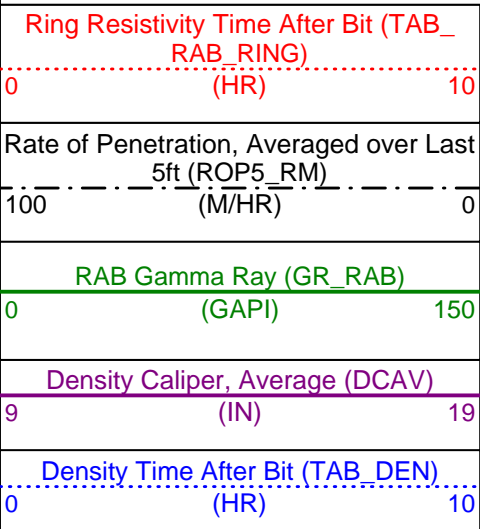
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IDF

PIP SUMMARY

Density Ticks, 0.1-ft

Neutron Ticks, 0.1 ft

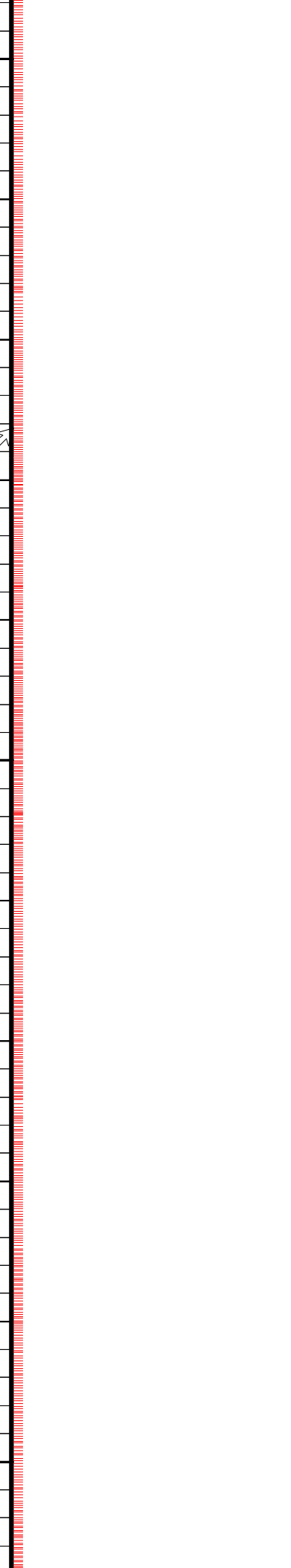
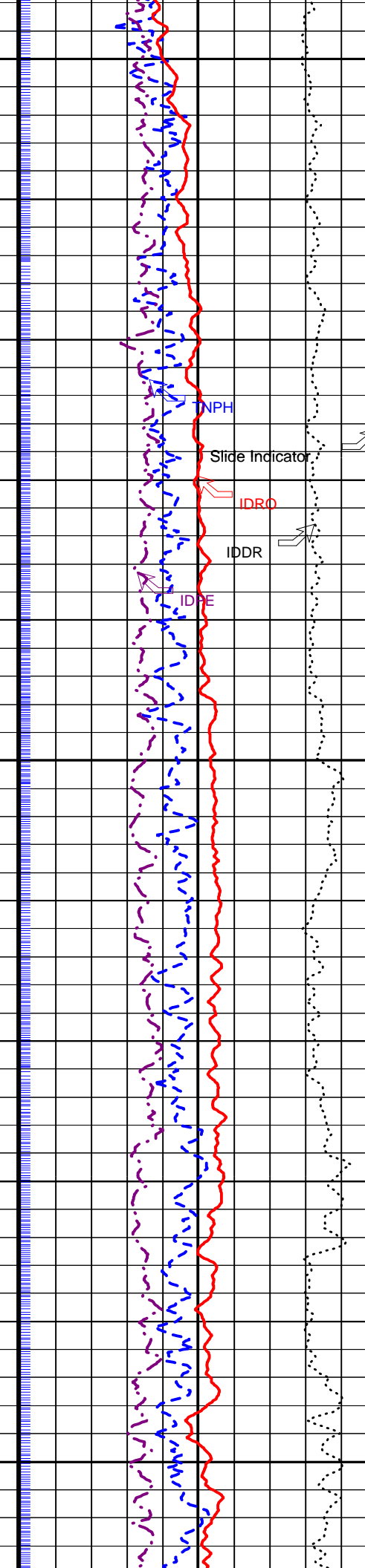
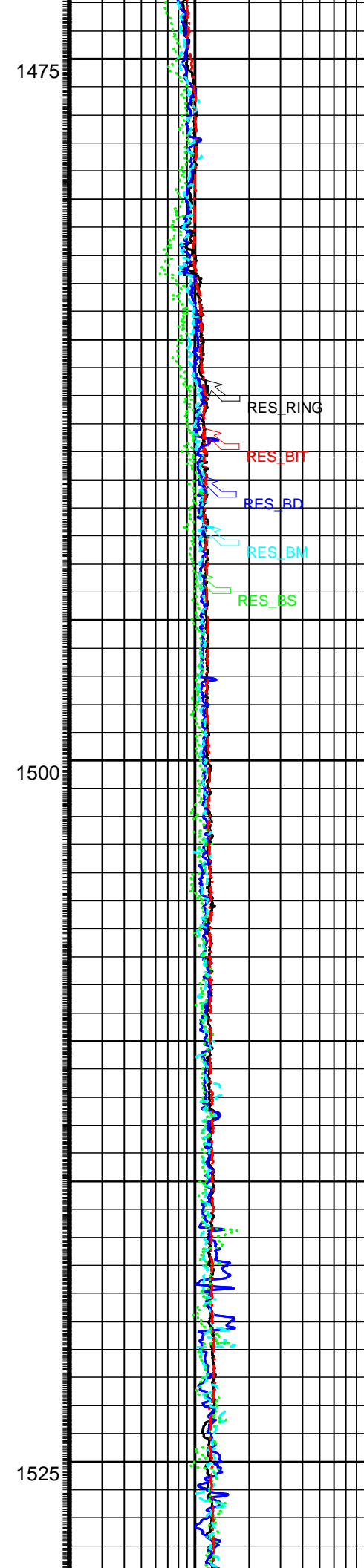
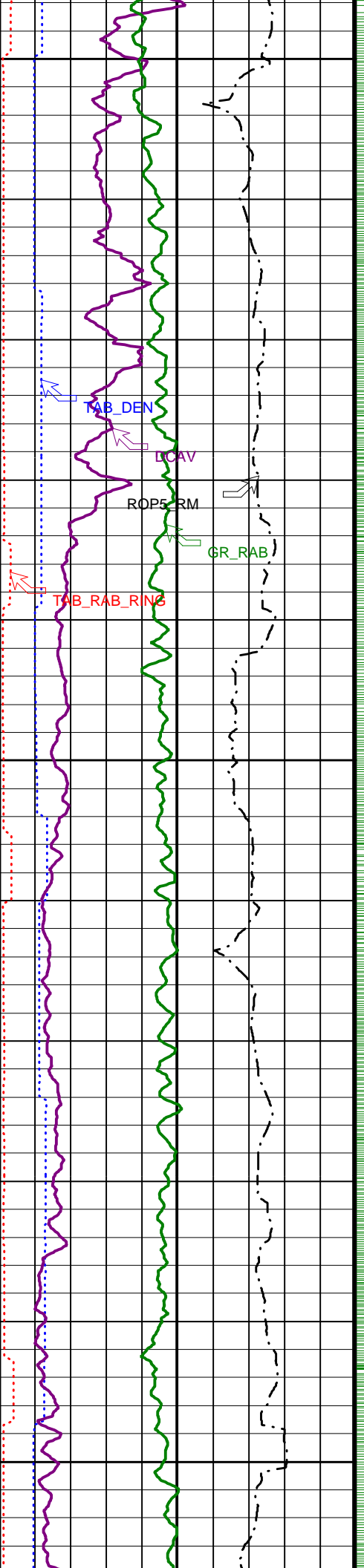
┆ Ring Samples  
┆ Gamma Ray Samples



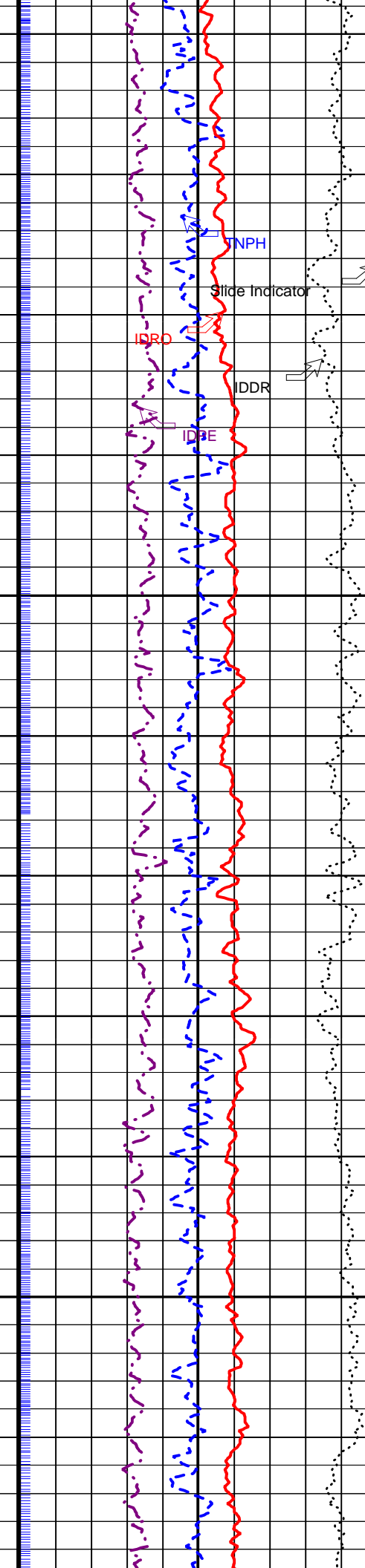
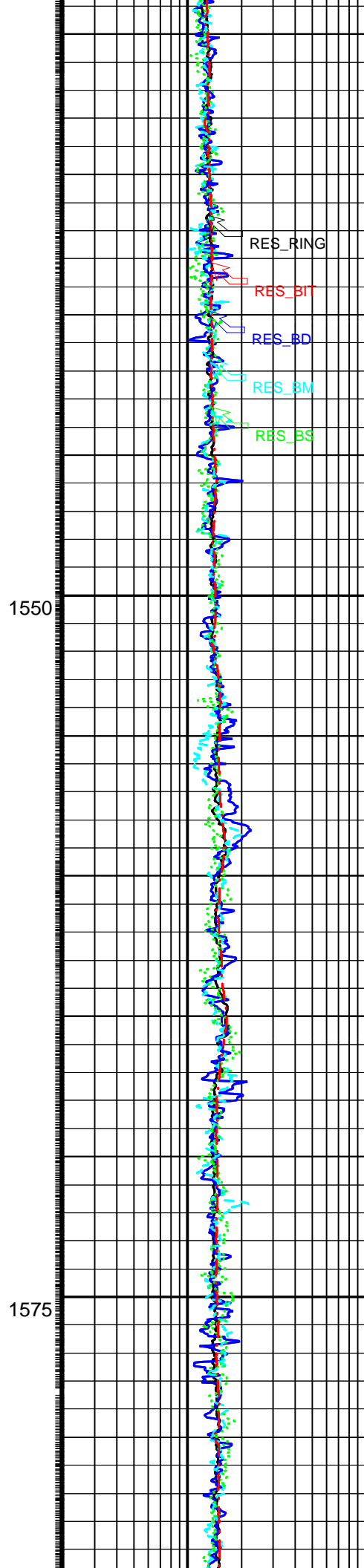
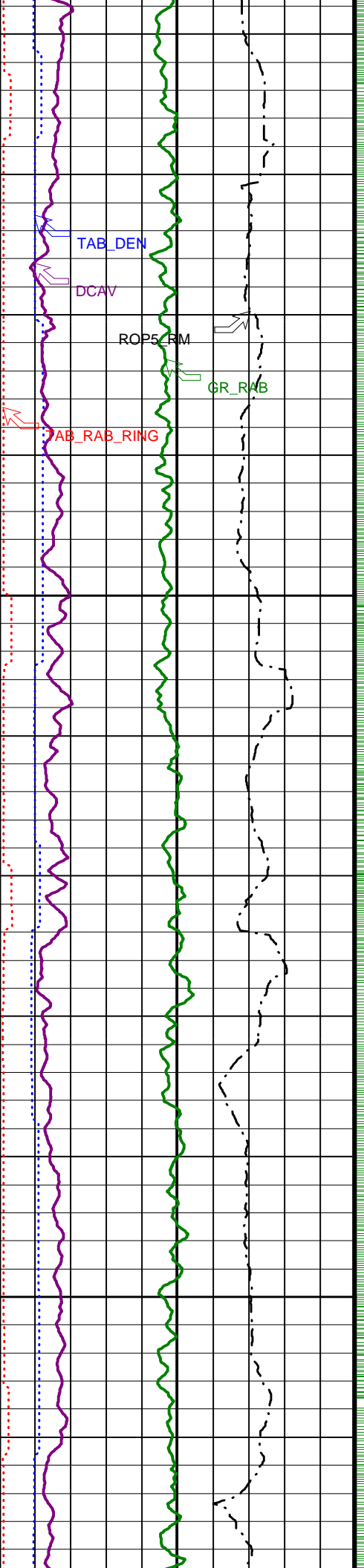
1450

RES\_RING Run 1  
Start Depth: 1441 m  
Mud Type: Seawater  
GVR s/n 6163  
ARC s/n 6201  
ADN s/n 6306

TNPH  
Slide Indicator  
IDDR  
IDPE

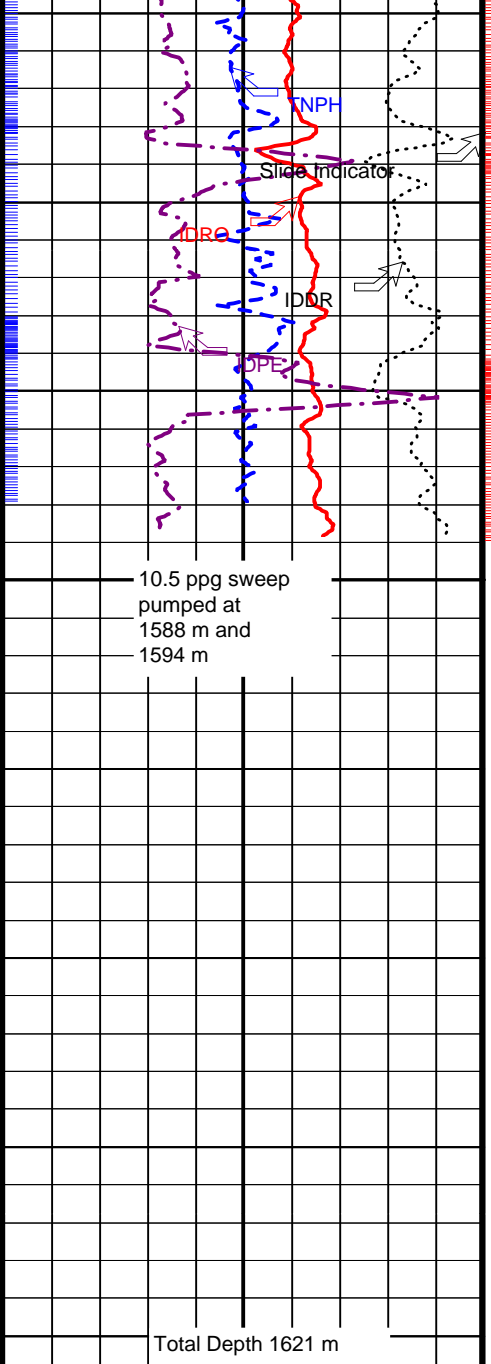
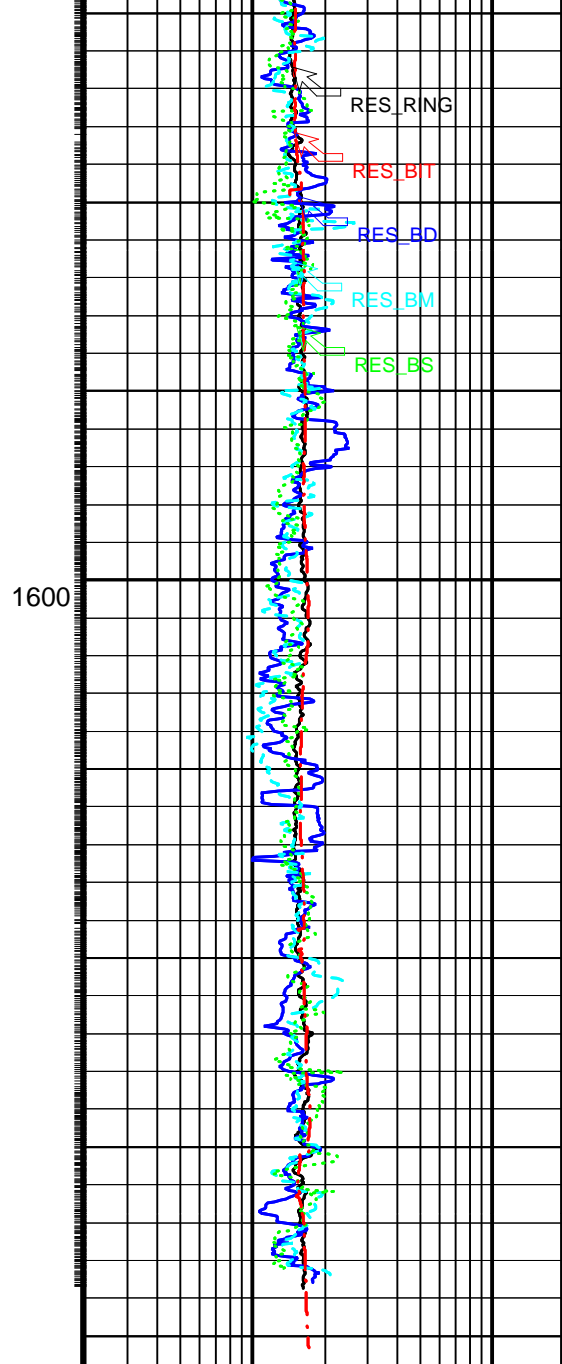
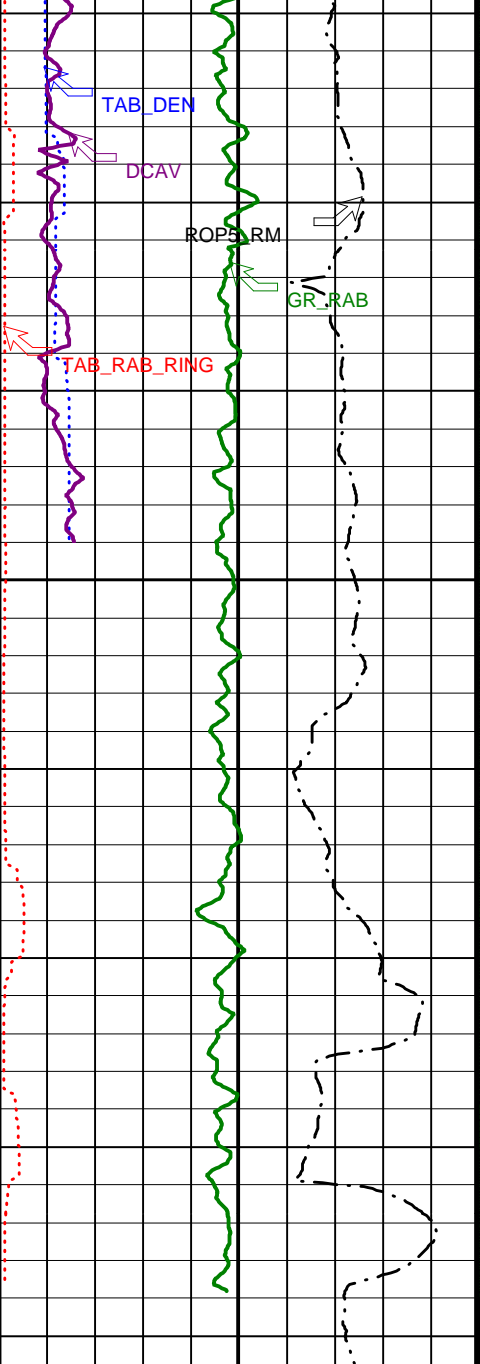






1550

1575



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

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

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

PIP SUMMARY

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

6.75-in. Azimuthal Density Neutron / Equipment Identification

Primary Equipment:  
Tool Name and Serial Number  
Collar Type and Serial Number  
Chassis Type and Serial Number  
Stabilizer Type and Serial Number  
Neutron Logging Source  
Density Logging Source  
Stabilizer Size  
Calibration Status

ADN6 - CA 6306  
ADDC - AA  
ADSE - EA  
- 1  
NSR - M 204  
GSR - J/Z 2129  
9.63 - in.  
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)	

Master: 8-Jun-2005 18:38

6.75-in. Azimuthal Density Neutron Calibration

Density: Aluminum Block

Phase	LS window 3 - Al CPS	Value	Phase	SS window 1 - Al CPS	Value	Phase	SS window 3 - Al 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
	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)	

Master:	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		
Master				18.03						4.589		
Master:	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		
Master				471.4						749.5		
Master:	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		
Master				478.2						748.8		
Master:	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 H2O Point Measure CPS			Value			Phase Near 2 tube 1 H2O Point Measure CPS			Value		
Master				333.1						333.7		

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:			RAB6 - CA				6163		
Tool Name and Serial Number			Auto						
Calibration Status									

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)			
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)			
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)			
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)			

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 22:45:40 Page 1 of 2

Client.....: Integrated Ocean Drilling Program  
Field.....: East Breaks Block 735

Well.....: IODP Exp 308 Hole U1319B Spud date.....: 12-Jun-05  
Site.....: Brazos Trinity Basin Last survey date.....: 12-Jun-05  
Engineer.....: Hoong, K. Total accepted surveys...: 5  
MD of first survey.....: 1441.00 m  
Rig.....: Joides Resolution MD of last survey.....: 1621.00 m  
State.....: Texas

----- Survey calculation methods----- ----- Geomagnetic data -----  
Method for positions.....: Minimum curvature Magnetic model.....: BGGM version 2004  
Method for DLS.....: Mason & Taylor Magnetic date.....: 12-Jun-2005  
Magnetic field strength..: 937.38 HCNT  
----- Depth reference -----  
Permanent datum.....: Mean Sea Level Magnetic dec (+E/W-).....: 3.52 degrees  
Depth reference.....: Drill Floor Magnetic dip.....: 56.97 degrees  
GL above permanent.....: -1430.60 m ----- MWD survey Reference Criteria -----  
KB above permanent.....: 10.40 m Reference G.....: 999.11 mGal  
DF above permanent.....: 10.40 m Reference H.....: 937.38 HCNT  
Reference Dip.....: 56.97 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-).....: 3.52 degrees  
Departure (+E/W-).....: 0.00 m Grid convergence (+E/W-)..: -0.64 degrees  
Total az corr (+E/W-).....: 4.16 degrees  
Azimuth from Vsect Origin to target: 0.00 degrees (Total az corr = magnetic dec - grid conv)  
Survey Correction Type ...:  
I=Sag Corrected Inclination  
----- Coordinate System-----  
Geodetic Datum.....: NAD 27 M=Schlumberger Magnetic Correction  
Projection Identification: UTM Zone 15 N S=Shell Magnetic Correction  
F=Failed Axis Correction  
R=Magnetic Resonance Tool Correction  
D=Dmag Magnetic Correction

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SCHLUMBERGER Survey Report

28-Jun-2005 22:45:40

Page 2 of 2

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Seq Measured Incl Azimuth Course TVD Vertical Displ Displ Total At DLS Srvy Tool
# depth angle angle length depth section +N/S- +E/W- displ Azim (deg/ tool Corr
- (m) (deg) (deg) (m) (m) (m) (m) (m) (m) (deg) 10m) type (deg)
=====
1 1441.00 0.00 0.00 0.00 1441.00 0.00 0.00 0.00 0.00 0.00 0.00 TIP None
2 1505.50 1.03 182.64 64.50 1505.50 -0.58 -0.58 -0.03 0.58 182.64 0.16 MWD_M None
3 1534.50 0.66 179.60 29.00 1534.49 -1.01 -1.01 -0.04 1.01 182.14 0.13 MWD_M None
4 1605.60 0.62 182.12 71.10 1605.59 -1.80 -1.80 -0.05 1.80 181.56 0.01 MWD_M None
5 1621.00 0.62 182.12 15.40 1620.99 -1.97 -1.97 -0.06 1.97 181.60 0.00 Proj to TD
=====

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[(c)2005 IDEAL ID10\_OC\_04]

Company: Integrated Ocean Drilling Program

Well: IODP Exp 308 Hole U1319B  
 Field: East Breaks Block 735  
 Rig: Joides Resolution  
 State: Texas

GeoVISION Service  
 1 : 200 Measured Depth  
 Recorded Mode Log

Geomarket	NGC	Location	Brazos Trinity Basin
Job Date	19-Jun-05	Customer	Integrated Ocean Drilling Program
Rig	Joides Resolution	Field/Well	East Breaks Block 735
Engineer	Hoong, K.	Job Number	40012055

Type of  
 Res GR

### Operation

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	6	6
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	90

### Environmental effects

Irregular Operation		
Excessive ROP or speed, high deviation, shocks, vibrations, sticking conditions	1	1
Borehole Geometry Shape (caves, etc), rugosity, spiralled hole, mud induced fractures. Casing, tubing conditions	2	2
Borehole Fluid Barite, KCl, salinity, additives, gas cut, unstable	5	3.5
Interferences External noise, nearby casing or drillpipe, debris, unusual formation composition		
Operation Outside Tool Specifications Geomarker/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

# Data Quality Report

APWD	Neu	Den	When data does not meet standards, put a number in the column corresponding to the measurement with a corresponding number and remark below. Use additional pages for remarks Positive remarks are welcome; do not append them with a number.
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### Remarks

- Excessive ROP while extending heave compensator piston after a connection causes low data density.
- Borehole washouts causes resistivity curve separation; geoVISION gamma ray and adv/VISION neutron porosity is only corrected for bit size. Large borehole washouts causes low density readings.
- Barite in the mud attenuates the formation gamma ray response.
- ECD measurements are recalculated using seawater density derived annulus pressure measured from the sea floor and actual sea floor depth measured on logs.
- Zoned parameters were used for processing where borehole fluid changed from seawater to weighted mud. Borehole fluid changes are annotated on logs.
- 6 meters depth discrepancy between Real-Time and Recorded Mode data is caused by drillers pipe tally error.

6	6	6
90	90	90

1	1	1
4	5	5
60	40	40

Cell Manager:	Hoong, K.	FSM:	Vijay Moras
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Geomarket	NGC	Location	Brazos Trinity Basin
Job Date	19-Jun-05	Customer	Integrated Ocean Drilling Program
Rig	Joides Resolution	Field/Well	East Breaks Block 735
Engineer	Hoong, K.	Job Number	40012055

Res	GR
-----	----

### Operation

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

### 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

# Data Quality Report

APWD	Neu	Den

When data does not meet standards, put a number in the column corresponding to the measurement with a corresponding number and remark below. Use additional pages for remarks  
Positive remarks are welcome; do not append them with a number.

Remarks






Cell Manager: \_\_\_\_\_

Hoong, K. \_\_\_\_\_

FSM: \_\_\_\_\_

Vijay Moras \_\_\_\_\_