Schlumberger

Company: **Lamont Doherty**

Well: **ODP Leg 204 Site 1251A**
Field: **Hydrate Ridge**
Ocean: **Pacific** State: **Oregon**

Ocean: Pacific
Field: Hydrate Ridge
Location: 44.57033 E ; 125.07421 W
Well: ODP Leg 204 Site 1251A
Company: Lamont Doherty

GeoVISION Resistivity
1 cm : 2 m
Measured Depth

Location

Total depth:	1608.6 m
Spud date:	22-Jul-02
Runs:	1 To 1

Elevation

K.B.	11 m
G.L.	-1205.8 m
D.F.	11 m

Permanent datum:	Mean Sea Level	Elev.:	0 m
Log measured from:	Drill Floor	11 m	above Perm. datum
Depth reference:	Driller's Pipe Tally		

Service Order no.	Longitude	Latitude
40007682	-125.07421	+44.57033

Depth logged: 1216.8 m To 1607.3 m	Mag decl: 66.41 deg.	Other services:
Date logged: 22-Jul-02 To 22-Jul-02	Mag dip: 17.70 deg.	DWOB, DTOR, MVC

Bore hole record

Hole size	from	to
9.875 in.	1216.8 m	1608.6 m

Casing record

Size	Density	from	to

Mud record

Type	from	to
Seawater	1216.8 m	1608.6 m

Borehole deviation record

Min	Max	from	to
0 deg.	0 deg.	1216.8 m	1608.6 m

Surface equipment

Unit	Downhole Lab
Depth system	PDE

Software record

IDEAL Wis	7.0_c2		
SPM	7_0c_09		
LWD	6.1, 8.0, 6.9		
MWD	6.1		

OTHER SERVICES FOR RUN
Downhole weight-on-bit (DWOB)
Downhole torque (DTOR)
Multi-axis vibrational chassis (MVC)

OTHER SERVICES FOR RUN

OTHER SERVICES FOR RUN

REMARKS: RUN NUMBER

REMARKS: RUN NUMBER

REMARKS: RUN NUMBER

REMARKS: RUN NUMBER1
The well was drilled without riser.
Drilling fluid was seawater.
Rm = 0.19 ohm.m @ 75 deg F.

Gamma ray, resistivity, and density data are not environmentally corrected.

Neutron porosity data are corrected for bit size, temperature, pressure, mud hydrogen index, and salinity.

Downhole tools software versions:
GVR: 6.1
PowerPulse: 6.1
VADN: 6.9

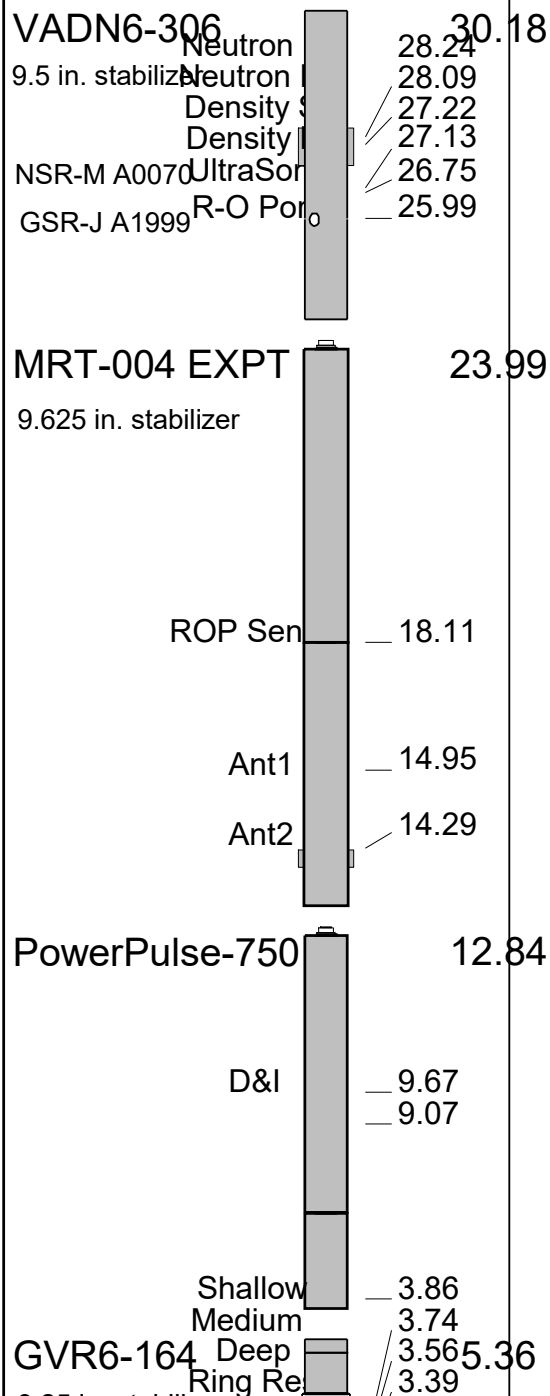
IDEAL software version: 7.0c02 (cp1)

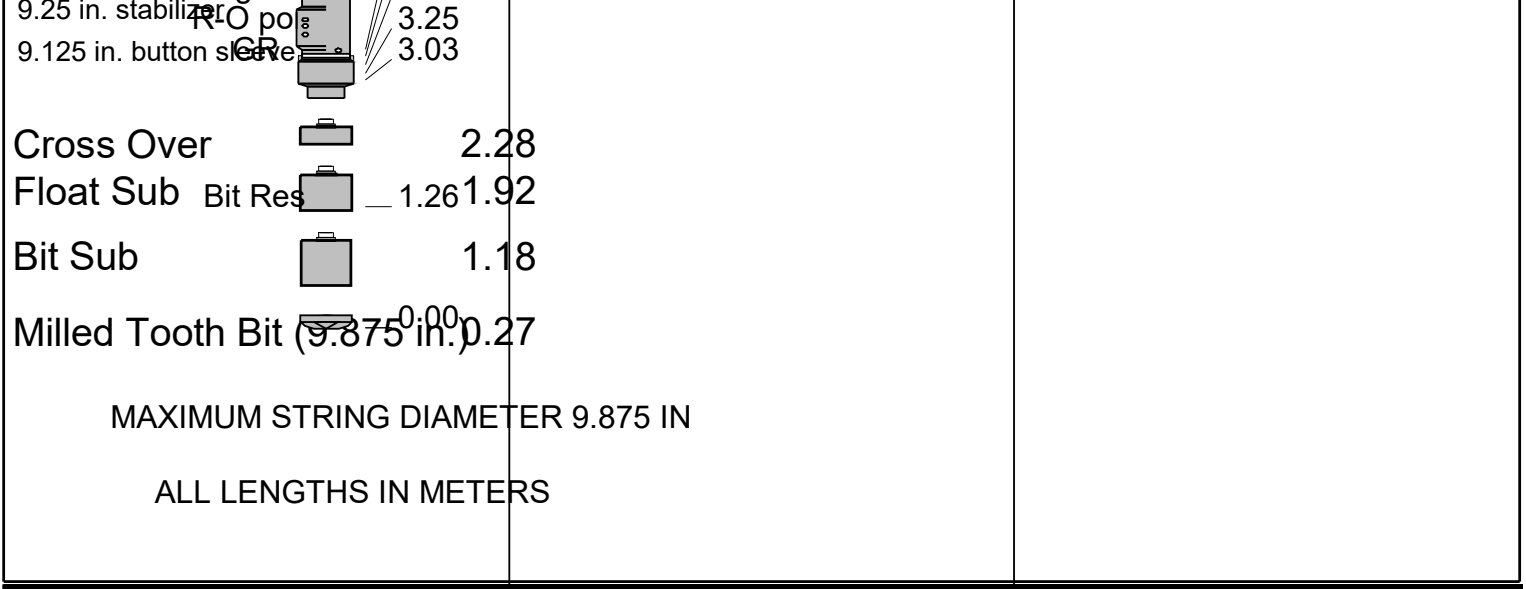
Drilling and Measurements crew:
Khaled Moudjeber
Stefan Mrozewski

EQUIPMENT DESCRIPTION

RUN1	RUN	RUN

DOWNHOLE EQUIPMENT





Bit Run Summary

Run number		1									
Bit size	in	9.875									
Bit start depth	m	1214.0									
Bit end depth	m	1608.6									
Top interval logged	m	1216.8									
Bottom interval logged	m	1607.3									
Begin log: time		18:20									
Begin log: date		22-Jul-02									
End log: time		08:00									
End log: date		23-Jul-02									
Mud data											
Depth	m	806									
Type		Seawater									
Mud weight	ppg	8.33									
Solids											
Chlorides											
Rm	ohm.m@degF	0.19@75									
Rmf											
Rmc											
Potassium											
Environmental data											
GR											
Mud weight	ppg	8.33									
Bit size	in	9.875									
Resistivity											
Neutron porosity											
Hole Size	in	9.875									
Mud weight	ppg	8.33									
Temperature	deg F	75									
Mud salinity											
Formation salinity											
Recording rate 1	SEC	5									
Recording rate 2	SEC	5									
Filtering GR		3 pt									
Filtering density		3 pt									
Filtering Neutron		3 pt									
Company representative		Goldberg									
Anadrill personnel		Mrozewski									

Variable Name	Variable Description	Run Name & Value
		Run #0
	RAB: Button Sleeve Diameter	RAB6:81/8IN
	RAB: Stabilizer Diameter	RAB6:9.62-9.88IN
A_DHS	ADN Down Hole Software Version String	YES
ALPHA_COMP	Perform Density Enhanced Vertical Resolution process ?	NO
ALPHA_COMP	Perform Neutron Enhanced Vertical Resolution process ?	NO
AVE_ADN	ADN/Array Channels: perform averaging(RM) :	YES
BDBHCA	RAB: Button Deep Borehole A Factor	-0.027352
BDBHCB	RAB: Button Deep Borehole B Factor	0.000000
BHA_COEF_V	RAB: BHA Coef Generator Version	62011.000000
BHT_RM	Bottom Hole Temperature (RM)	75.000000
BIT_K_FACT	RAB: Bit K Factor	4.876850
BITBHCA	RAB: Bit A Borehole Factor	0.082292
BITBHCB	RAB: Bit B Borehole Factor	0.000000
BMBHCA	RAB: Button Medium Borehole A Factor	0.038770
BMBHCB	RAB: Button Medium Borehole B Factor	0.000000
BS_RM	Bit Size (RM)	9.875000
BSAL_RM	Mud Salinity (RM)	60.000000
BSBHCA	RAB: Button Shallow Borehole A Factor	0.071293
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
C_WS	Overpressure correction to Sw and M	1.000000
CHI_RM	Caliper High limit from BS (RM)	2.000000
CLO_RM	Caliper Low limit from BS (RM)	0.000000
COEF_M	User Defined FEXP in Clean Sand	1.650000
DBUTTON_K_	RAB: Button Deep K factor	0.004493
DEVI	Well Section Deviation	0.200000
DHS_VERSIO	RAB: DownHole Software Version	6.101400
DTIK_SEL	ADN: Density Tick Channel Name	LSAZ
DTMUD	Delta-T for Mud	205.435196
DYN_IMG_CO	Generate Dynamic Normalized Image?	YES
ENVCOR	Neutron Quadrant Processing: Environmental Correction?	YES
EVRL	EVR Process averaging number of samples (RM)	49
FEXP	Formation Factor Exponent(RM)	2.000000
FNUM	Formation Factor Enumerator(RM)	1.000000
FPHI_RM	Formation Factor Porosity Source (RM)	XPLOT
GCSE	Generalized Caliper Selection	BS
GR_BHC_TOO	RAB: Gamma-Ray Borehole Coeff 1	6.750000
HPS	ADSE-EB (High Pressure Inconel Chassis)?	YES
IBS	Intergal Blade Stabilizer Collar?	NO
IDQT	Image Derived Quality Threshold	2.000000
IHVS	Integrated Hole Volume Start Value(RM)	0.000000
IMAGE_MAX_	Image PEF(Segment) Right Scale	6.000000
IMAGE_MAX_	Image RHOB(Segment) Right Scale	2.650000
IMAGE_MAX_	Image SOA (Quadrant) Right Scale	2.500000
IMAGE_MAX_	RAB: GR Image Maximum Scale Value	120.000000
IMAGE_MAX_	RAB: Image Maximum Resistivity Value	3.000000
IMAGE_MIN_	Image PEF(Segment) Left Scale	2.000000
IMAGE_MIN_	Image RHOB(Segment) Left Scale	2.050000
IMAGE_MIN_	Image SOA (Quadrant) Left Scale	0.000000
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
LITHO_TYPE	Lithology (RM)	SAND
MAG_DECL_R	RAB: Magnetic Declination	17.699999
MAG_INCL_R	RAB: Magnetic Dip	66.409988
MBUTTON_K_	RAB: Button Medium K Factor	0.004767
MST_RM	Mud Sample temperature (RM)	75.000000
MW_RM	Mud Weight (RM)	8.330000
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
OBM	RAB: Oil base Mud	NO
OBMF_RM	Oil Based Mud	NO
ORIENTATIO	Rab Image Orientation	NORTH
RAB_BIT_EC	Bit Resistivity for ECAL_RAB?	YES
RAB_BIT_IN	Input Bit Resistivity for Inversion?	YES
RAB_CALIPE	Compute ECAL_RAB?	NO
RAB_DEEPBT	Deep Button Resistivity for ECAL_RAB?	YES
RAB_DEEPBT	Input Deep Button Resistivity for Inversion?	YES
RAB_INVERS	Continuity Multiplier[0,1]	0.500000
RAB_INVERS	Ending Depth for GR Cutoff in Zone1	100000.000000
RAB_INVERS	Ending Depth of Zone10	-999.250000
RAB_INVERS	Ending Depth of Zone2	-999.250000
RAB_INVERS	Ending Depth of Zone3	-999.250000
RAB_INVERS	Ending Depth of Zone4	-999.250000
RAB_INVERS	Ending Depth of Zone5	-999.250000
RAB_INVERS	Ending Depth of Zone6	-999.250000
RAB_INVERS	Ending Depth of Zone7	-999.250000
RAB_INVERS	Ending Depth of Zone8	-999.250000
RAB_INVERS	Ending Depth of Zone9	-999.250000
RAB_INVERS	Formation Water Resistivity	0.100000
RAB_INVERS	Formation Water Temperature	150.000000
RAB_INVERS	GR Cutoff for Shale Formation	75.000000
RAB_INVERS	GR Cutoff for Shale Formation in Zone1	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	GR of Clean Sand Formation	-999.250000
RAB_INVERS	GR of Shale Formation	-999.250000
RAB_INVERS	Inversion Threshold[0, 0.3]	0.010000
RAB_INVERS	Perform Rt Inversion?	NO
RAB_INVERS	RAB Bit Sensor Weight for Inversion[0,1]	1.000000
RAB_INVERS	RAB Deep Button Sensor Weight for Inversion[0,1]	1.000000
RAB_INVERS	RAB inversion for Dh?	YES
RAB_INVERS	RAB inversion for Di?	YES
RAB_INVERS	RAB inversion for Rmud?	NO
RAB_INVERS	RAB inversion for Rt?	YES
RAB_INVERS	RAB inversion for Rxo?	YES
RAB_INVERS	RAB Medium Button Sensor Weight for Inversion[0,1]	1.000000
RAB_INVERS	RAB Ring Sensor Weight for Inversion[0,1]	1.000000
RAB_INVERS	RAB Shallow Button Sensor Weight for Inversion[0,1]	1.000000
RAB_INVERS	Resistive Invasion Allowed	NO
RAB_INVERS	Resistivity Cutoff for Shale Formation	2.000000
RAB_INVERS	Rt to R-deepest separation penalty multiplier[0,1]	0.500000
RAB_MEDIUM	Input Medium Button Resistivity for Inversion?	YES
RAB_MEDIUM	Medium Button Resistivity for ECAL_RAB?	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	Imput RING Resistivity for Inversion?	YES
RAB_SHALLO	Input Shallow Button Resistivity for Inversion?	YES
RAB_SHALLO	Shallow Button Resistivity for ECAL_RAB?	YES
RAB_TAB	RAB: Compute TAB ?	YES
RAB_TECHLO	RAB: Generate Techlog ?	YES
RAB_TEMP_S	RAB Temperature Selection	INTERPOLATE
RAB_TICKS	RAB: Generate Ticks ?	YES
RABBDA0	RAB: Button Deep A0 Coeff	-0.031054
RABBDA1	RAB: Button Deep A1 Coeff	0.012039
RABBDA2	RAB: Button Deep A2 Coeff	-0.002520
RABBDA3	RAB: Button Deep A3 Coeff	0.000234
RABBDA4	RAB: Button Deep A4 Coeff	-0.000008
RABBDA5	RAB: Button Deep A5 Coeff	0.000000
RABBDMIN	RAB: Button Deep Minimum Value	0.049941
RABBITA0	RAB: Bit A0 Coeff	0.743216
RABBITA1	RAB: Bit A1 Coeff	-0.670579
RABBITA2	RAB: Bit A2 Coeff	0.381407
RABBITA3	RAB: Bit A3 Coeff	-0.095540
RABBITA4	RAB: Bit A4 Coeff	0.008718
RABBITA5	RAB: Bit A5 Coeff	0.000000
RABBITMIN	RAB: Bit Minimum Value	21.288700
RABBMA0	RAB: Button Medium A0 Coeff	-0.042657
RABBMA1	RAB: Button Medium A1 Coeff	0.017752
RABBMA2	RAB: Button Medium A2 Coeff	-0.003932
RABBMA3	RAB: Button Medium A3 Coeff	0.000387
RABBMA4	RAB: Button Medium A4 Coeff	-0.000014
RABBMA5	RAB: Button Medium A5 Coeff	0.000000
RABBMMIN	RAB: Button Medium Minimum Value	0.055926
RABBSA0	RAB: Button Shallow A0 Coeff	-0.058381
RABBSA1	RAB: Button Shallow A1 Coeff	0.024466
RABBSA2	RAB: Button Shallow A2 Coeff	-0.005376
RABBSA3	RAB: Button Shallow A3 Coeff	0.000526
RABBSA4	RAB: Button Shallow A4 Coeff	-0.000018
RABBSA5	RAB: Button Shallow A5 Coeff	0.000000
RABBSMIN	RAB: Button Shallow Minimum Value	0.077776
RABDHS	RAB Down Hole Software	4.000000
RABEC	RAB: Resistivity Env-Cor	YES
RABRNGA0	RAB: RING A0 Coeff	-0.025301
RABRNGA1	RAB: RING A1 Coeff	0.009433
RABRNGA2	RAB: RING A2 Coeff	-0.001901
RABRNGA3	RAB: RING A3 Coeff	0.000167
RABRNGA4	RAB: RING A4 Coeff	-0.000005
RABRNGA5	RAB: RING A5 Coeff	0.000000
RABRNGMIN	RAB: Ring Minimum Value	1.578150
READOUT_PO	RAB: ROP to Bit Face Distance	10.662729
RHOF_RM	Mud Filtrate Density (RM)	1.000000
RHOM_RM	Matrix density (RM)	2.650000
RING_K_FAC	RAB: Ring K Factor	0.149539
RING_KIMP_	RAB: Ring Impedance Coeff A	0.000000
RING_KIMP_	RAB: Ring Impedance Coeff B	0.000000
RINGBHCA	RAB: Ring Borehole A Factor	0.295893
RINGBHCB	RAB: Ring Borehole B Factor	0.000000
RMS_RM	Resistivity of Mud Sample (RM)	0.190000
RWA_COMP_M	Rwa computation model	BASIC
RWA_DEN_AD	Rwa Density Input	RHOB
RWA_DEN_CD	Rwa Density Input	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
SBUTTON_K_	RAB: Button Shallow K Factor	0.006487
SCALE_IMAG	RAB: Process Image Data	YES
SHT_RM	Surface Hole Temperature (RM)	-115.000000
SOCNL	Standoff Distance of the CNL Tool	1.000000
SSIZ_ADN	ADN Stabilizer Size	9.500000
STAB	RAB: Run with Stabilizer	YES
STOH	ADN Density Top of Hole Sector (Left Boundary):	SECTOR_0

TD_RM	Total Measured Depth (RM)	5278.871094
TFF_OFFSET	RAB Time-Frame File Time Offset	0.000000
TIMEFRAME_	RAB: Time Frame File Name	0.000000
TOOLTYPE	RAB: Azimuthal Tool	YES
TRPM_RM	Average Tool Rotational Speed	20.000000
TS_VERSION	RAB: ToolScope Software Version	6.101400
TWS_RM	Temperature of Connate Water (RM)	75.000000
USMIN_RM	ADN:Minimum Ultrasonic standoff (RM)	0.300000
USWF_RM	ADN:Process Ultrasonic Waveform?	YES
VERS_ADN	ADN Downhole Software Version	6.900000
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
VRAB6	Rab Tool type (ENP/PILOT)	RAB6_C_SERIES
WIN_SIZE_D	RAB: Window Size for Scaling Dynamic Image	3.000000
WSDI	Window Size of Dynamic Normalization Image	15.000000
XPDM_RM	Cross plot density prosity multiplier	0.675000
XPNM_RM	Cross plot neutron prosity multiplier	0.325000

Schlumberger Drilling & Measurements

Parameter Insert Header Software version 1.

IDEAL Version: ID7_0C_02

IDF

Format: GEOVIS_RES_5MD **Vertical Scale: 1:200** **Graphics File Created: 13-Aug-2002 13:38**

PIP SUMMARY

Gamma Ray Samples

Ring Samples

Ring Resistivity (RES_RING)
0.2 (OHMM) 200

Bit Resistivity (RES_BIT)
0.2 (OHMM) 200

Ring Resistivity Time After Bit (TAB_RAB_RING)
0 (HR) 5

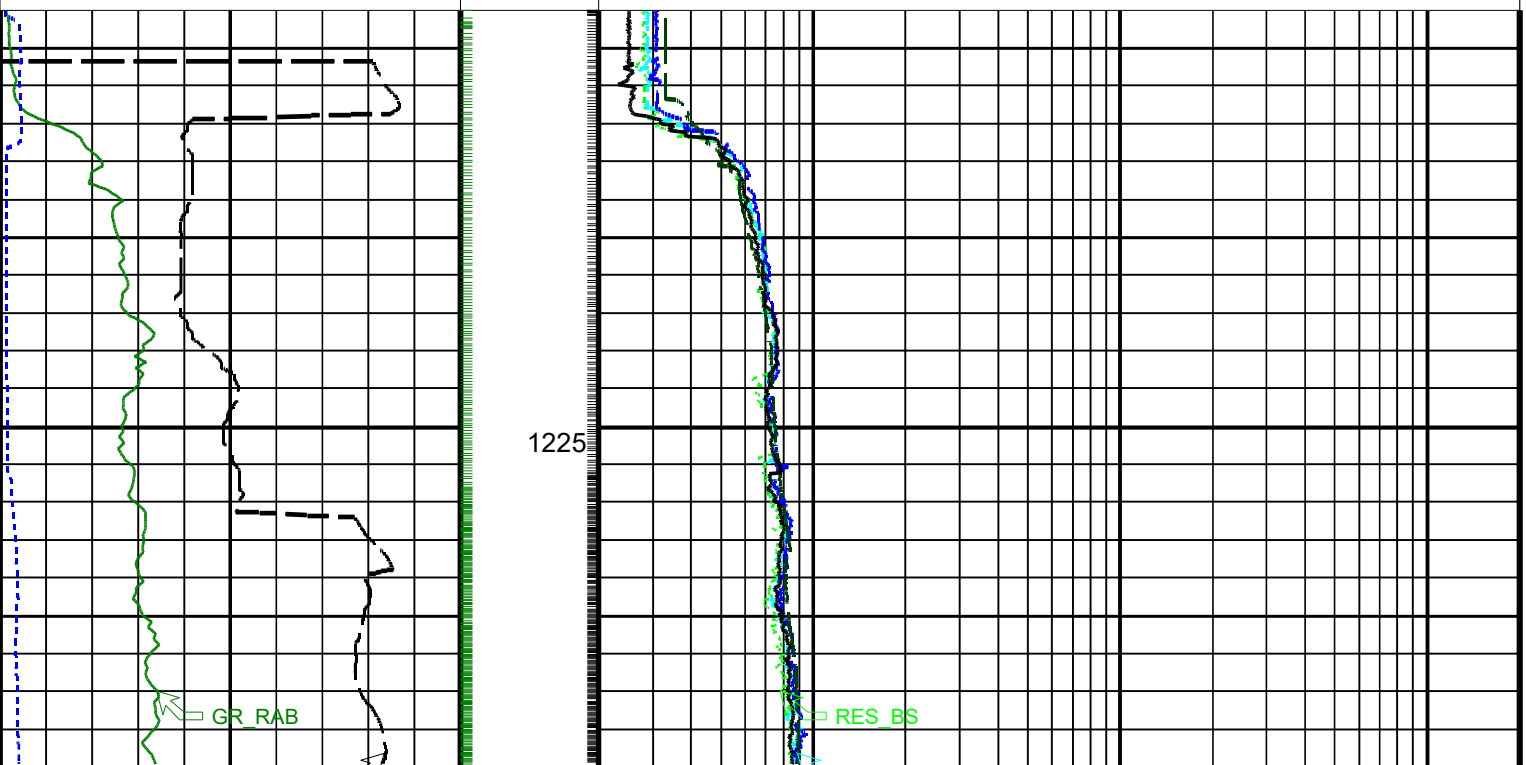
Deep Button Resistivity (RES_BD)
0.2 (OHMM) 200

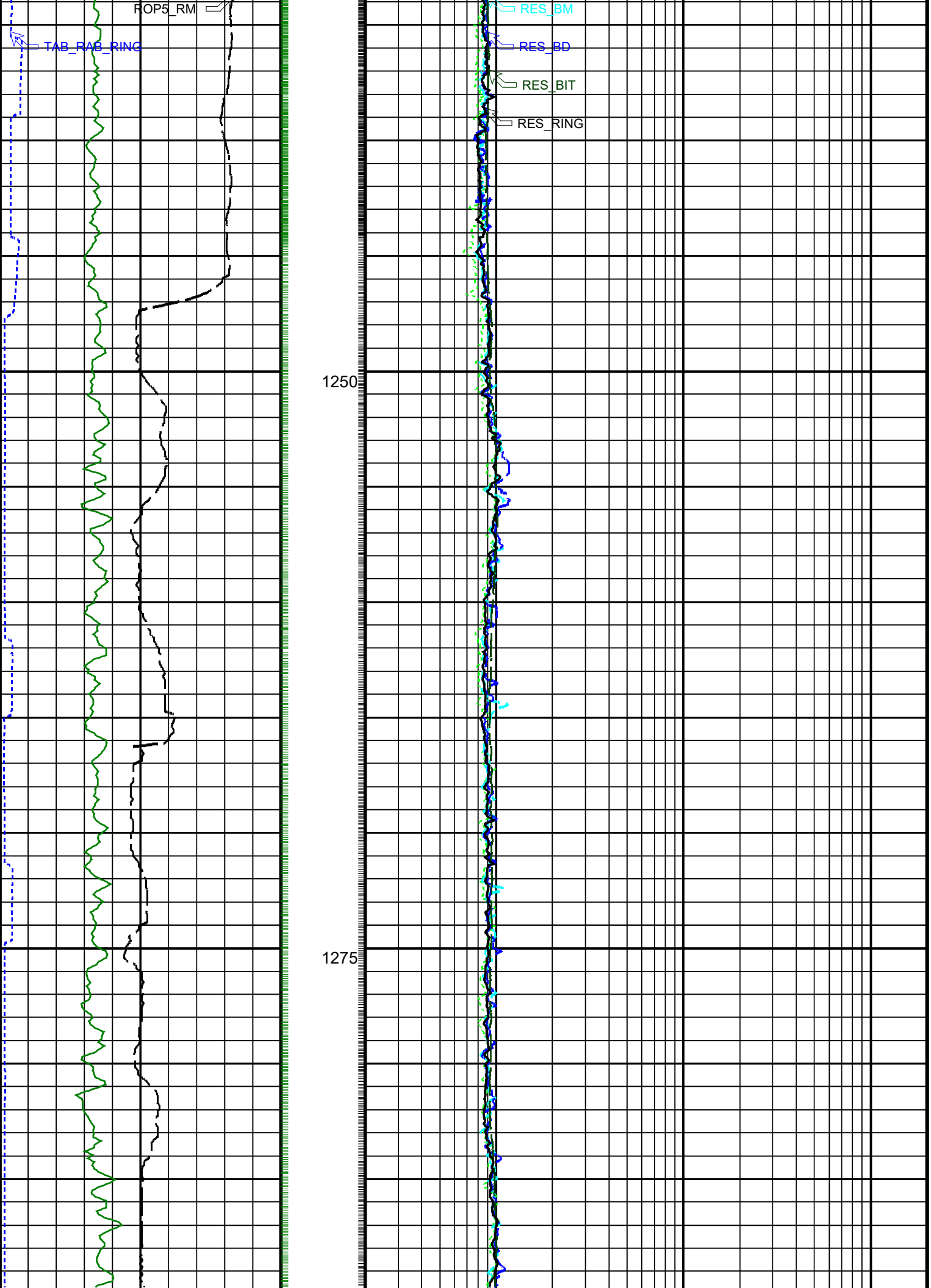
ROP: 5 Feet Average (ROP5_RM)
100 (M/HR) 0

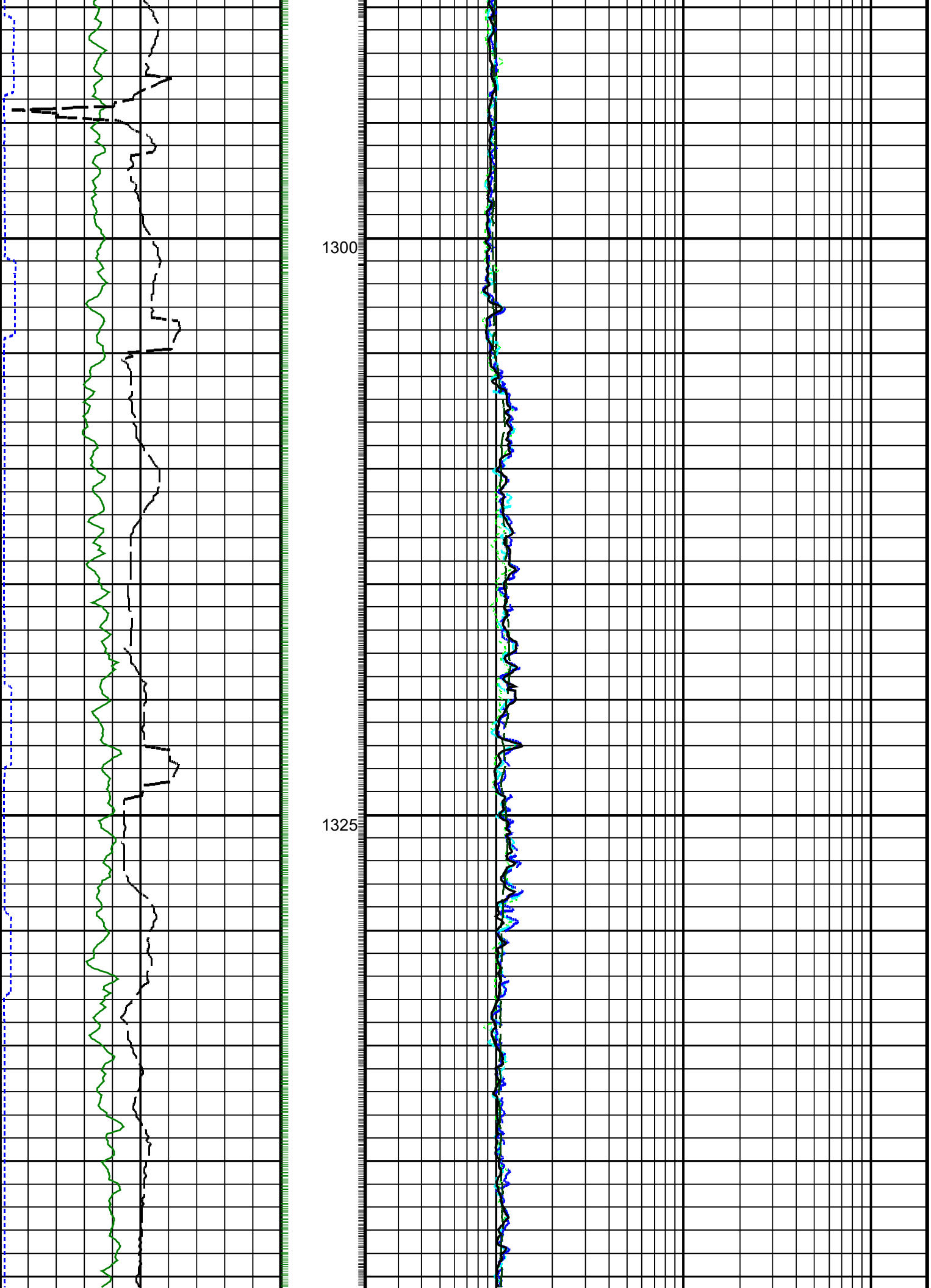
Medium Button Resistivity (RES_BM)
0.2 (OHMM) 200

RAB Gamma Ray (GR_RAB)
0 (GAPI) 150

Shallow Button Resistivity (RES_BS)
0.2 (OHMM) 200




ROP5_RM
TAB_RAB_RING
RES_BM
RES_BD
RES_BIT
RES_RING
1250
1275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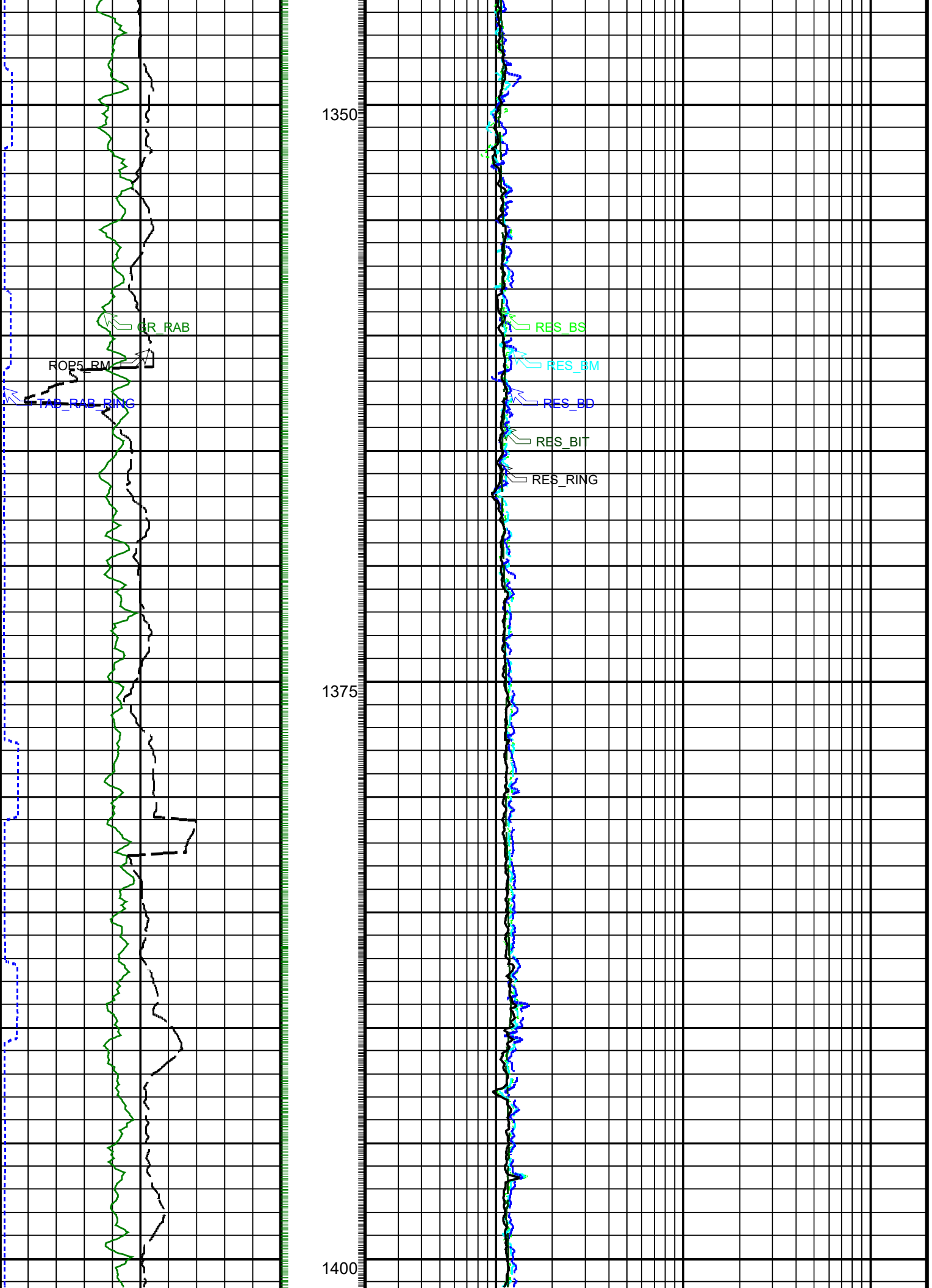
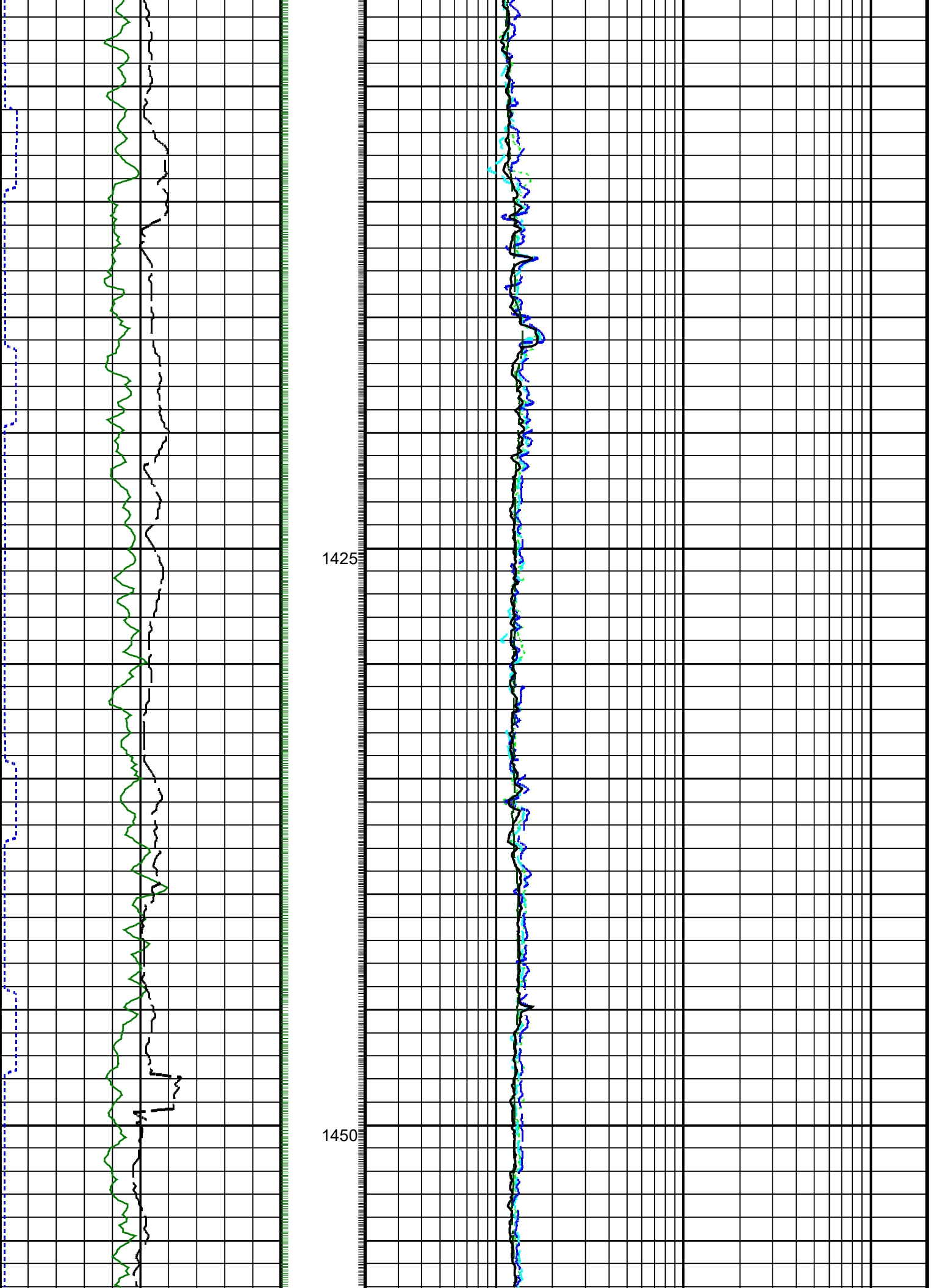
1325


1350
1375
1400
GR_RAB
ROP5_RM
TAB_RAB_RING
RES_BS
RES_BM
RES_BD
RES_BIT
RES_RING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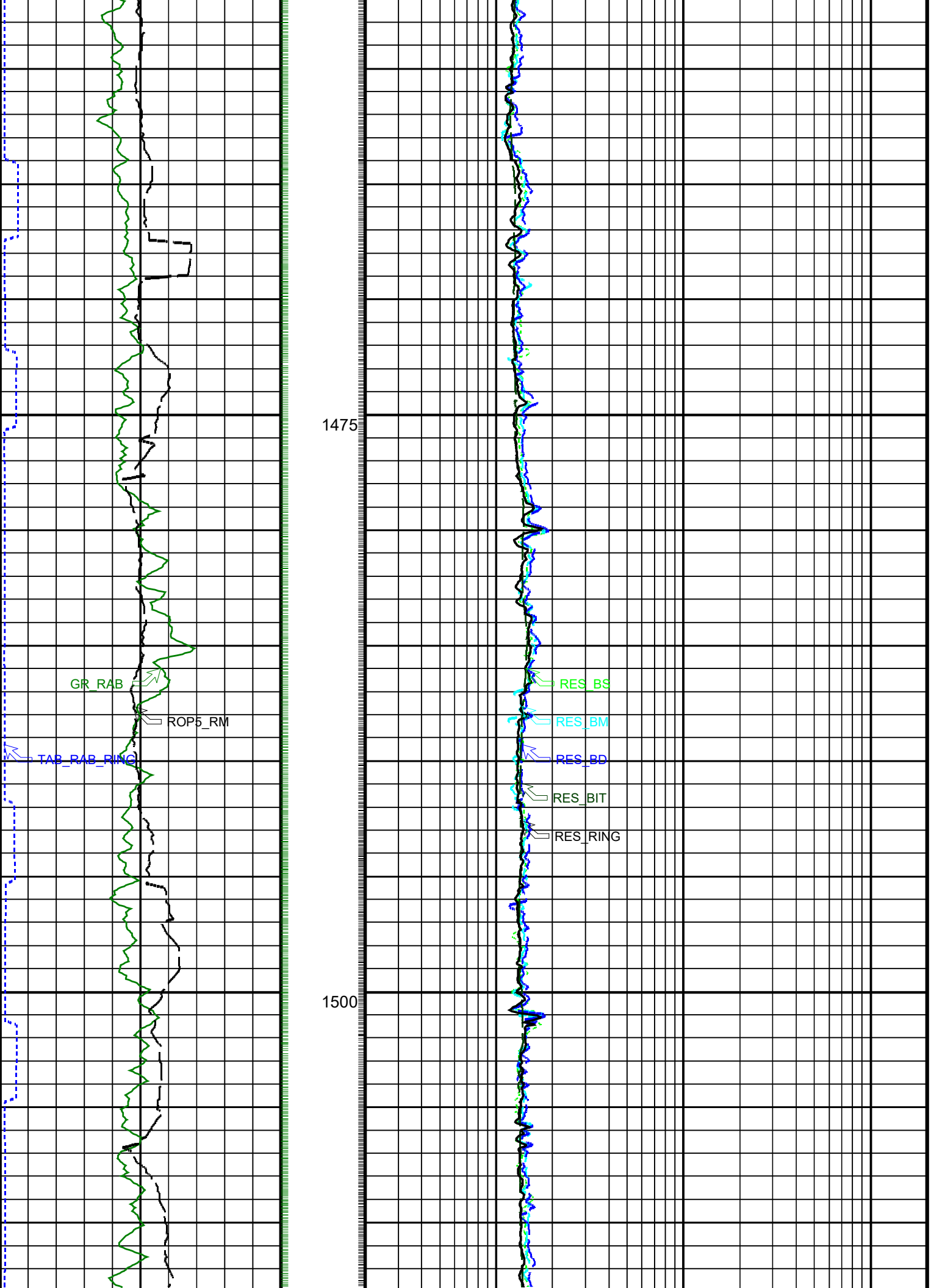
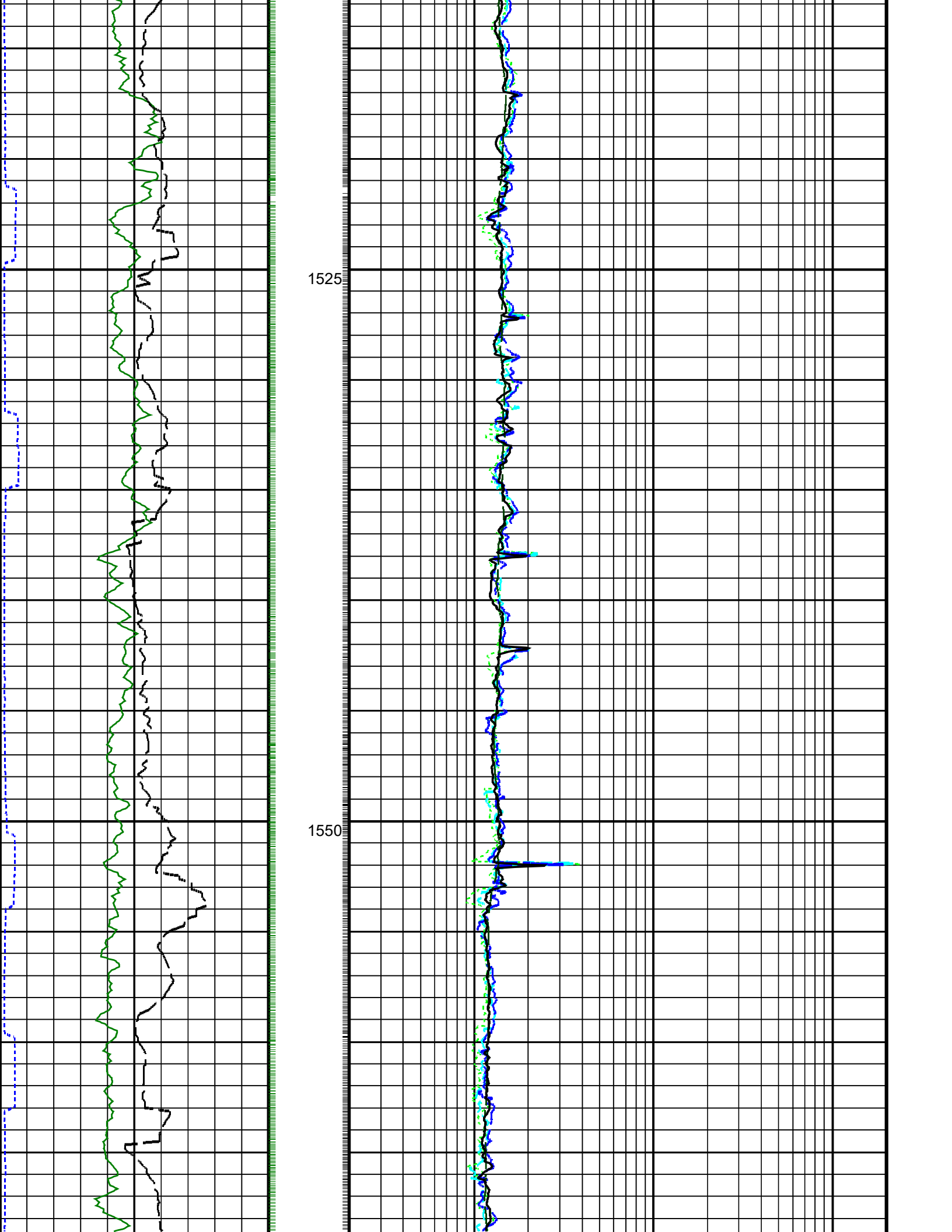
1450


1475
1500
GR_RAB
ROP5_RM
TAB_RAB_RING
RES_BS
RES_BM
RES_BD
RES_BIT
RES_RING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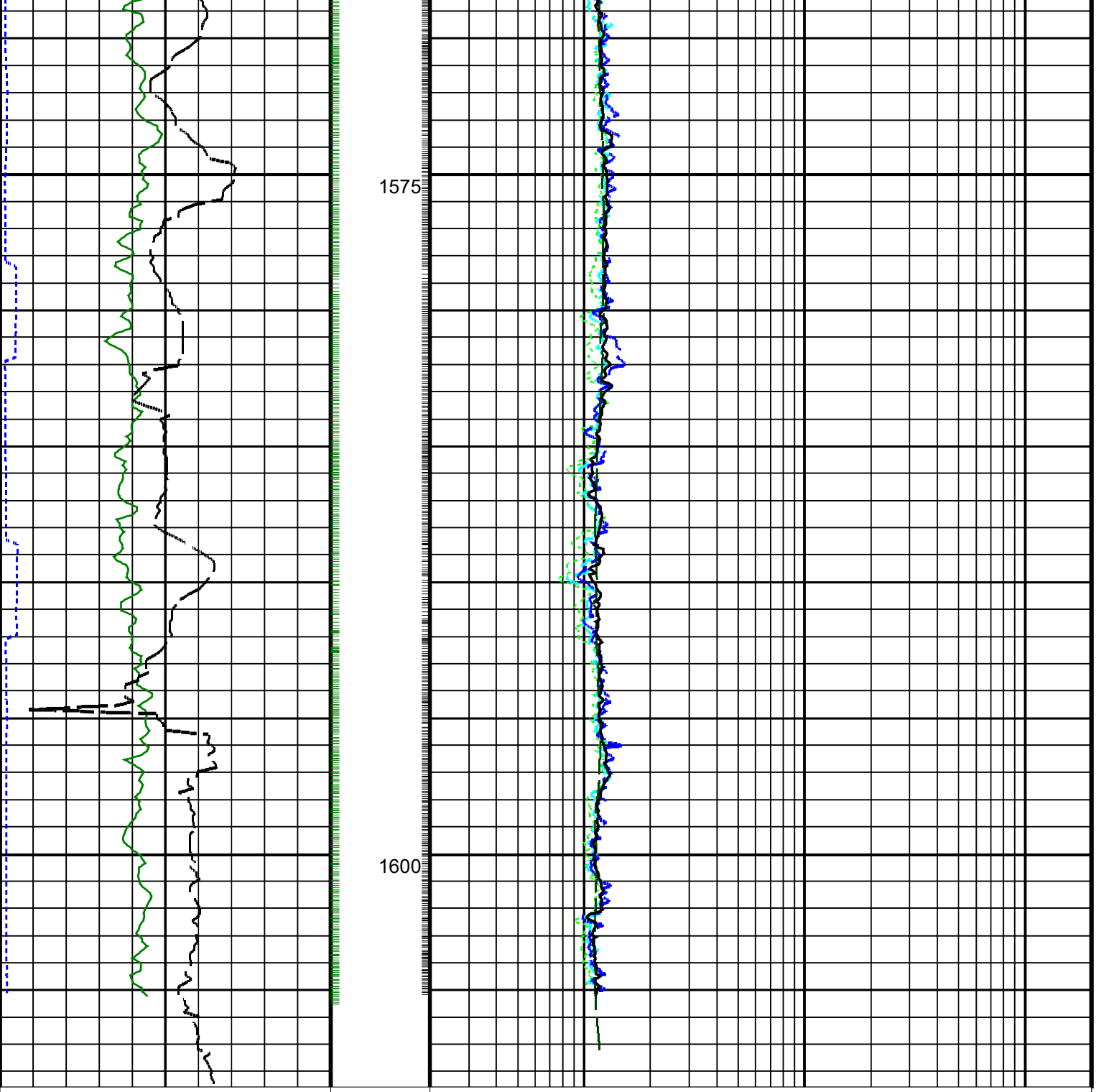

RAB Gamma Ray (GR_RAB) 0 (GAPI) 150	Shallow Button Resistivity (RES_BS) 0.2 (OHMM) 200
ROP: 5 Feet Average (ROP5_RM) 100 (M/HR) 0	Medium Button Resistivity (RES_BM) 0.2 (OHMM) 200
Ring Resistivity Time After Bit (TAB_RAB_RING) 0 (HR) 5	Deep Button Resistivity (RES_BD) 0.2 (OHMM) 200
	Bit Resistivity (RES_BIT) 0.2 (OHMM) 200
	Ring Resistivity (RES_RING) 0.2 (OHMM) 200

PIP SUMMARY

Gamma Ray Samples

Ring Samples

IDEAL Version: ID7_0C_02
IDF

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

Primary Equipment:		
Tool Name and Serial Number	GVR6 - CA	164
Calibration Status	Current	

Master: 3-Jul-2002 14:56

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	0.9937		Master	0.9984		Master	0.9966	
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	1.001		Master	1.001		Master	1.006	
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	1.003		Master	1.007		Master	1.005	
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	1.009		Master	1.000		Master	1.004	
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: 3-Jul-2002 14:56

6.75-in. Resistivity At-the-Bit Calibration

Gamma Ray: Blanket

Phase	Gamma ray factor	Value
Master		1.123
0.7500 (Minimum)	1.000 (Nominal)	1.250 (Maximum)

Company: **Lamont Doherty**

Schlumberger

Well: **ODP Leg 204 Site 1251A**

Field: **Hydrate Ridge**

Ocean: **Pacific**

State: **Oregon**

GeoVISION Resistivity

1 cm : 2 m

Measured Depth

Data Quality Report

Geomarket	NGC	Location	Youngsville
Job Date	8-AUG-2002	Customer	Lamont Doherty
Rig	JOIDES Resolution	Field/Well	Hydrate Ridge
Engineer	Khaled Moudjeber	Job Number	40007682

When data does not meet standards, put a number in the colum 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.

Operation	Type of Measurement					Remarks
Presentation	Res	GR	Den	Neu		
Description of Well - Names, Geometry, Services, Location and References; General Content Header, user of trademarks, directional data, well plot, order of components, spelling and style, units sensor to toolface angle recorded						
Equiment 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 relavant 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, descrepency 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	
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 GeomarketTemperature, 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	100	100	100	100	100	

Cell Manager: Stefan Mrozewski FSM: Laurent Barraud

DQR Header Utility ver 1.0c

Schlumberger Drilling & Measurements

Revised May 2001

Data Quality Report

Geomarket	NGC	Location	Youngsville
Job Date	8-AUG-2002	Customer	Lamont Doherty
Rig	JOIDES Resolution	Field/Well	Hydrate Ridge
Engineer	Khaled Moudjeber	Job Number	40007682

When data does not meet standards, put a number in the colum 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.

Operation	Type of Measurement					
Presentation	Res	GR	Den	Neu	Img	
Description of Well - Names, Geometry, Services, Location and References; General Content Header, user of trademarks, directional data, well plot, order of components, spelling and style, units sensor to toolface angle recorded						
Equiment 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 relavant 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, descrepency explained						
Operating Procedures						
Depth Control Comparison with driller's depth, other logs, other bit runs, between RT and RM. Depth summary listing	1	1	1	1	1	
Logging speed and sampling rates As recommended in reference manual or job planner. No loss of data or spatial resolution					2	
Data Comparison Between runs and passes, with data from nearby wells, other conveyance, mud log and markers	3	3				
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	80	80	90	90	80	
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 GeomarketTemperature, 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	100	100	100	100	100	

Remarks

1. Good depth control was difficult to achieve in large part because of imperfect heave compensation by the AHC. In addition, the well was spudded with only the PHC in use.

2. The well was spudded at low RPM resulting in very poor image quality.

3. Mudline depth did not match PDR estimates or the driller's torque gauge.

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