Schlumberger

Company:	**Santos Limited**
Well:	**Henry 2**
Field:	**Otway**
Rig:	**Ocean Patriot**
State:	**Victoria**

Rig:	Ocean Patriot
Field:	Otway
Location:	Otway Basin
Well:	Henry 2
Company:	Santos Limited

VISION Resistivity
1:500 True Vertical Depth
Recorded Mode Log

Location

Total depth:	2042 m	K.B.	Top Drive
Spud date:	25−Aug−08	G.L.	−67 m
Runs:	3 – 5	D.F.	20.8 m

Elevation

Permanent datum:	Mean Sea Level	Elev.:	0 m
Log measured from:	Rotary Table	20.8 m	above Perm. datum
Depth reference:	Driller's Depth		

Job serial no.	X= E 142 37' 14.55''	Longitude	Latitude
08ASQ0011	Y = S 38 42' 14.55''	E 142° 37' 13.056''	S 38°42'14.5573''

Depth logged: 657.00 m To 2030.51 m	Mag decl: 10.772 deg.	Other services:
Date logged: 5−Sept−08 To 12−Sept−08	Mag dip: −69.86 deg.	See Remarks

Bore hole record / **Casing record**

Hole size	from	to	Size	Density	from	to
36.0 in.	0 m	131.7 m	30 in.	N/A	Wellhead	131.7 m
17.5 in.	131.7 m	657 m	13.375 in.	101kg/m	Wellhead	657 m
12.25 in.	657 m	2042 m				

Mud record / **Borehole deviation record**

Type	from	to	Min	Max	from	to
Seawater	0 m	131.7 m	0.04 deg.	1.91 deg.	87 m	657 m
Pac−R	131.7 m	657 m	0.10 deg.	4.67 deg.	657 m	1560 m
KCl/PHPA/Glycol	657 m	2042 m	39.48 deg.	60.08 deg.	657 m	2042 m

Surface equipment / **Software record**

Unit	A3518−1/06	IDEAL Wis	id13_0c_11
Depth system	Geolograph+GTE+CLT	HSPM	13_0c_03
		LWD	See Remarks
		MWD	See Remarks

Bit Run Summary

Run number		3	4	5
Bit size	in	12.25	12.25	12.25
Bit start depth	m	657.00	1560.00	1560.00
Bit end depth	m	1560.00	1560.00	2042.00
Top interval logged	m	657.00	1549.23	1549.23
Bottom interval logged	m	1549.23	1560.00	2031.23
Begin log: time		10:00	21:20	01:00
Begin log: date		6−Sept−08	9−Sept−08	10−Sept−08
End log: time		19:20	23:00	18:10
End log: date		9−Sept−08	9−Sept−08	12−Sept−08
Mud data				
Depth	m	1560.00	1560.00	2042
Type		KGLY	KGLY	KGLY
Mud weight	ppg	10.1	10.1	11.1
Solids	%	6.48	6.48	10.17
Chlorides	mg/L	56000	56000	59000
Rm	Ohm.m@°C	1.00@18.0	0.08@29.1	0.08@29.1
Rmf	Ohm.m@°C	0.07@22.1	0.07@22.1	0.08@25.4
Rmc	Ohm.m@°C	0.20@22.4	0.20@22.4	0.10@25.2

Potassium	%	4.375	4.375	3.403							
Environmental data											
GR											
Mud weight	ppg	10.1	10.1	11.1							
Bit size	in	12.25	12.25	12.25							
Resistivity											
Neutron porosity											
Hole Size	in	12.25	12.25	12.25							
Mud weight	ppg	10.1	10.1	11.1							
Temperature	°C	28	28	28							
Mud salinity	ppk	38.33	91.11	91.11							
Formation salinity		NA	NA	NA							
Recording rate 1	SEC	6 ARC	5 ADN	10 SONIC							
Recording rate 2	SEC			1 SONIC							
Filtering GR		3 PTS	3 PTS	3 PTS							
Filtering density		3 PTS	3 PTS	3 PTS							
Filtering Neutron		3 PTS	3 PTS	3 PTS							
Company representative		Chris Roots	Nathan Peri	Peter Devine	Rohan Richardson						
Anadrill personnel		Anagh Kohli	Nai−Xun Zhang	Uzma Hassan	Agus Partono	Matt Blacker	Chris Skiba	Mike van Kampen			

OTHER SERVICES FOR RUN3
- Directional Drilling.
- Directional Survey.
- Washout Detection.
- Annular Pressure While Drilling (APWD)

OTHER SERVICES FOR RUN4
- Directional Drilling.
- Directional Survey.
- Washout Detection.
- Annular Pressure While Drilling (APWD)

OTHER SERVICES FOR RUN5
- Directional Drilling.
- Directional Survey.
- Washout Detection.
- Annular Pressure While Drilling (APWD)

REMARKS: RUN NUMBER 3

Depth is referenced to driller's depth.

ARC Gamma ray is corrected for mud weight, bit size, tool collar size and potassium content.

ADN Thermal Neutron Porosity (TNPH) is corrected for effects of bit size, temperature, mud salinity and mud hydrogen index.

Neutron porosity is calculated using a limestone matrix with a matrix density of 2.71 g/cm3.

sonicVISION delta−T is borehole compensated.

POOH due to TD at 1560m to change bit and BHA.

Blocky Data from 718−925m due to High ROP.

REMARKS: RUN NUMBER 4

Depth is referenced to driller's depth.

ARC Gamma ray is corrected for mud weight, bit size, tool collar size and potassium content.

ADN Thermal Neutron Porosity (TNPH) is corrected for effects of bit size, temperature, mud salinity and mud hydrogen index.

Neutron porosity is calculated using a limestone matrix with a matrix density of 2.71 g/cm3.

sonicVISION delta−T is borehole compensated.

POOH due to change of bit after being unable to pass through swedge.

REMARKS: RUN NUMBER 5

Depth is referenced to driller's depth.

ARC Gamma ray is corrected for mud weight, bit size, tool collar size and potassium content.

ADN Thermal Neutron Porosity (TNPH) is corrected for effects of bit size, temperature, mud salinity and mud hydrogen index.

Neutron porosity is calculated using a limestone matrix with a matrix density of 2.71 g/cm3.

sonicVISION delta−T is borehole compensated.

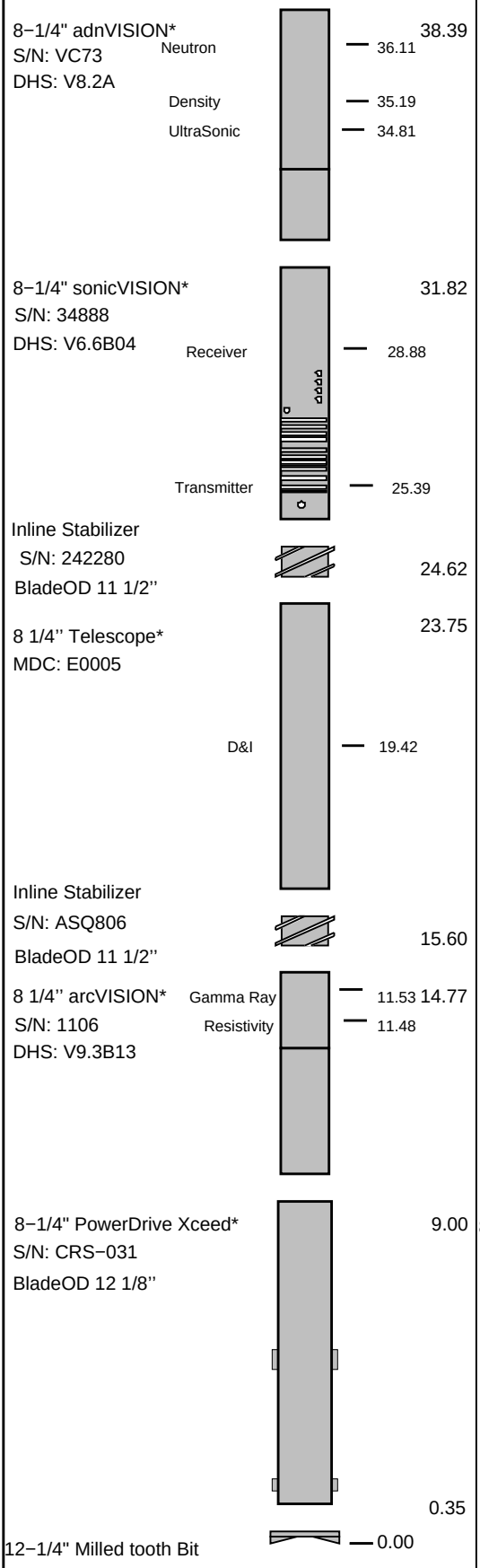
POOH after reaching TD at 2042m.

EQUIPMENT DESCRIPTION

RUN3 | RUN4 | RUN5

DOWNHOLE EQUIPMENT | DOWNHOLE EQUIPMENT | DOWNHOLE EQUIPMENT

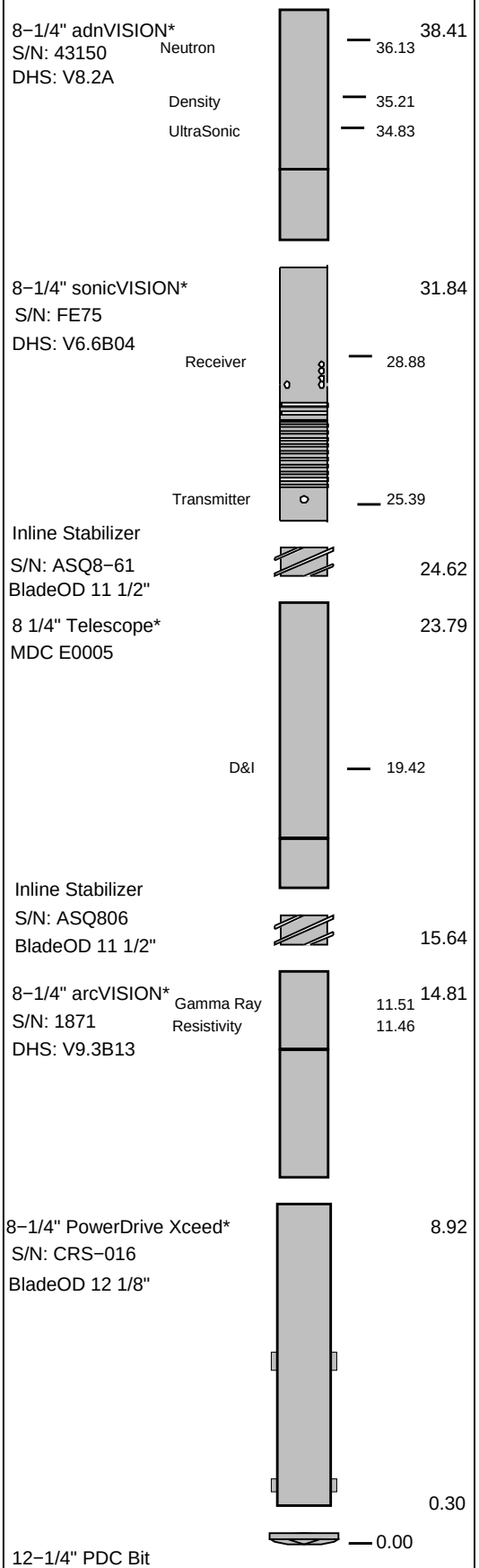
DOWNHOLE EQUIPMENT



Maximum string diameter 12.25 in.

All lengths in Meters

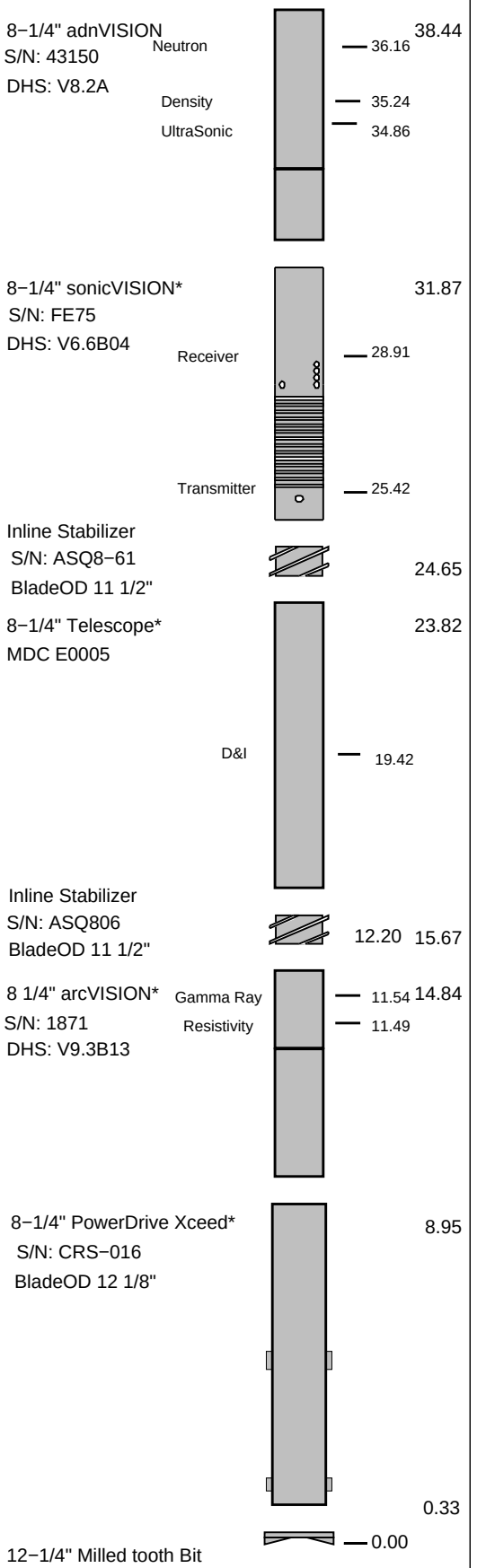
DOWNHOLE EQUIPMENT



Maximum string diameter 12.25 in.

All lengths in Meters

DOWNHOLE EQUIPMENT



Maximum string diameter 12.25 in.

All lengths in Meters

Variable Name	Variable Description	Run Name & Value			
	Run Number		3	4	5
	General Information				
BHT_RM	Bottom Hole Temperature (RM)	DEGC	28.000	28.000	82.000
BSAL_RM	Mud Salinity (RM)	PPK	38.335	91.113	91.113
BS_RM	Bit Size (RM)	IN	12.250	12.250	12.250
COEF_M	User Defined FEXP in Clean Sand	----	1.650	1.650	1.650
C_WS	Overpressure correction to Sw and M	----	1.000	1.000	1.000
FEXP	Formation Factor Exponent(RM)	----	2.000	2.000	2.000
FNUM	Formation Factor Enumerator(RM)	----	1.000	1.000	1.000
FPHI_RM	Formation Factor Porosity Source (RM)	----	XPLOT	XPLOT	XPLOT
MST_RM	Mud Sample temperature (RM)	DEGC	18.000	29.100	29.100
MW_RM	Mud Weight (RM)	LB/G	8.700	11.000	11.000
OBMF_RM	Oil Based Mud (RM)	----	NO	NO	NO
RHOF_RM	Mud Filtrate Density (RM)	G/C3	1.000	1.000	1.000
RHOM_RM	Matrix density (RM)	G/C3	2.710	2.710	2.710
RMS_RM	Resistivity of Mud Sample (RM)	OHMM	0.100	0.088	0.088
RWA_COMP_M	Rwa computation model				
RWA_DEN_AD	Rwa Density Input ADN				
RWA_DEN_CD	Rwa Density Input CDN				
RWA_DEN_IN	Rwa Density Input				
RWA_FORM_M	Rwa computation formation model				
RWA_RES_IN	Rwa computation resistivity input				
RWS_RM	Resistivity of Connate Water (RM)	OHMM	1.000	1.000	1.000
SHT_RM	Ground Level Temperature (Mud-Line When Offshore) (RM)	DEGC	10.000	10.000	10.000
TD_RM	Total Measured Depth (RM)	M	932.000	1560.000	2042.000
TWS_RM	Temperature of Connate Water (RM)	DEGC	23.889	23.889	29.100
VF_ILLI	Fraction of illite in shales	----	0.500	0.500	0.500
VF_KAOL	Fraction of kaolinite in shales	----	0.500	0.500	0.500
VF_MONT	Fraction of montmorillonite in shales	----	0.000	0.000	0.000
XPDM_RM	Cross plot density porosity multiplier	----	0.675	0.675	0.675
XPNM_RM	Cross plot neutron porosity multiplier	----	0.325	0.325	0.325
	ARC				
A12A	ARC Air Cal Attenuation From T1 at 2 MHz	DB	8.569	8.288	8.288
A14A	ARC Air Cal Attenuation From T1 at 400 KHz	DB	8.553	8.320	8.320
A22A	ARC Air Cal Attenuation From T2 at 2 MHz	DB	6.137	6.362	6.362
A24A	ARC Air Cal Attenuation From T2 at 400 KHz	DB	6.158	6.340	6.340
A32A	ARC Air Cal Attenuation From T3 at 2 MHz	DB	5.265	5.012	5.012
A34A	ARC Air Cal Attenuation From T3 at 400 KHz	DB	5.247	5.037	5.037
A42A	ARC Air Cal Attenuation From T4 at 2 MHz	DB	4.087	4.319	4.319
A44A	**ARC Air Cal Attenuation From T4 at 400 KHz**	**DB**	**4.104**	**4.302**	**4.302**
A52A	**ARC Air Cal Attenuation From T5 at 2 MHz**	**DB**	**3.849**	**3.602**	**3.602**
A54A	ARC Air Cal Attenuation From T5 at 400 KHz	DB	3.841	3.639	3.639
ABNT	Abnormal Transmitter Indicator	----	No_Tx_Failed	No_Tx_Failed	No_Tx_Failed
ADHS	ARC Down Hole Software Version	----	V9.3B13	V9.3B13	V9.3B13
AM2A	ARC Air Cal Amplitude Offset at 2 MHz	----	-50000.000	-50000.000	-50000.000
ANISO_COMPUTE	Anisotropy Computation Option	----	YES	YES	YES
APICG	ARC5 Gamma Ray Gain Factor	----	1.028	1.064	1.064
APIG	ARC Gamma Ray API Gain Factor	----	-1.000	-1.000	-1.000
ARC_DATA_FIX	ARC: Create A Corrected ARC Time Data File	----	NO	NO	NO
ARC_DATA_LTB	ARC: Create An ARC LTB Data File	----	NO	NO	NO
ATMP_ARC	ARC Select Temperature Channel	----	Annulus_Temp	Annulus_Temp	Annulus_Temp
ATRN	ARC Tool Run Number	----	3	4	5
ATSN	ARC Tool Serial Number	----	1106	1871	1871
AZMF	Formation DIP Azimuth	DEG	0.000	0.000	0.000
BH_COMPUTE	Borehole Inversion Computation Option	----	YES	YES	YES
CALG	ARC Gamma Ray Cal Gain Factor	----	1.028	1.064	1.064
CALI_SLCT_ARC	ARC Caliper Selection	----	BITSIZE	BITSIZE	BITSIZE
CDPTH_ARC	Process Start Depth	M	657	1560	1560
DIELEC_COMPUTE	Dielectric Computation Option	----	YES	YES	YES
DIPF	Formation DIP Angle	DEG	0.000	0.000	0.000
ERRCT	Percentage Error Cutoff	----	4.500	4.500	4.500
GRSH	GR Shale (Invasion Computation Cutoff)	GAPI	1000.000	1000.000	1000.000
HIGH_BLEND	High Resistivity Threshold for Blending	OHMM	2.000	2.000	2.000
INCLIN_B0	ARC Bias Constant (mg)	----	0.000	0.000	0.000
INCLIN_B1	ARC Bias First-order Coefficient (mg/degC)	----	0.000	0.000	0.000
INCLIN_B2	ARC Bias Secod-order Coeeficient (mg/degC)	----	0.000	0.000	0.000
INCLIN_B3	ARC Bias Third-order Coeeficient (mg/degC)	----	0.000	0.000	0.000
INCLIN_C0	ARC Current Scale Factor Constant (mA/g)	----	1.000	1.000	1.000
INCLIN_C1	ARC Scale First-order Coeeficient (mA/g/degC)	----	0.000	0.000	0.000
INCLIN_C2	ARC Scale Second-order Coeeficient (mA/g/degC)	----	0.000	0.000	0.000
INCLIN_C3	ARC Scale Third-order Coeeficient (mA/g/degC)	----	0.000	0.000	0.000
INVAS_COMPUTE	Invasion Computation Option	----	YES	YES	YES
JSD_ARC	ARC Acquisition start date	----	5-Sep-08	9-Sep-08	9-Sep-08
KPER	Potassium Concentration (RM)	----	0.000	3.402	3.402
LOW_BLEND	Low Resistivity Threshold for Blending	OHMM	1.000	1.000	1.000
MSWS	ARC Wizard Model Switch Window	M	1.524	1.524	1.524
MULTIEFFECT_COM	Multi Effect Option	----	YES	YES	YES
P11AC_RM	ARC: Air Calibration For Phase T1 to R1	DEG	-999.250	-999.250	-999.250
P12A	ARC Air Cal Phase-Shift From T1 at 2 MHz	DEG	0.545	2.991	2.991
P14A	ARC Air Cal Phase-Shift From T1 at 400 KHz	DEG	0.362	-1.569	-1.569
P22A	ARC Air Cal Phase-Shift From T2 at 2 MHz	DEG	-0.438	-2.875	-2.875
P24A	ARC Air Cal Phase-Shift From T2 at 400 KHz	DEG	-0.422	1.403	1.403
P32A	ARC Air Cal Phase-Shift From T3 at 2 MHz	DEG	0.432	2.903	2.903
P34A	ARC Air Cal Phase-Shift From T3 at 400 KHz	DEG	0.389	-1.514	-1.514
P42A	ARC Air Cal Phase-Shift From T4 at 2 MHz	DEG	-0.545	-2.905	-2.905
P44A	ARC Air Cal Phase-Shift From T4 at 400 KHz	DEG	-0.444	1.425	1.425
P52A	ARC Air Cal Phase-Shift From T5 at 2 MHz	DEG	0.414	2.873	2.873
P54A	ARC Air Cal Phase-Shift From T5 at 400 KHz	DEG	0.375	-1.540	-1.540

POFFSET_ARC	ARC: Pressure Offset	PSI	0.000	0.000	0.000
PRTD	Preferred Resistivity Log for Rt Display while Multi-Effects	----	P34B	P34B	P34B
PSOF_ADJ_T1	ARC: User Input Phase offset	DEG	0.000	0.000	0.000
RESTIK	ARC resistivity tick source	----	Phase	Phase	Phase
RSD	LWD run start date dd-mmm-yy	----	5-Sep-08	9-Sep-08	9-Sep-08
RWA_COMP_MOD	Rwa computation model	----	BASIC	BASIC	BASIC
RWA_DEN_ADN	Rwa Density Input	----	RHOB	RHOB	RHOB
RWA_DEN_CDN	Rwa Density Input	----	RHOB	RHOB	RHOB
RWA_DEN_INPUT	Rwa Density Input	----	RHOB	RHOB	RHOB
RWA_FORM_MOD	Rwa computation formation model	----	CLASTIC	CLASTIC	CLASTIC
RWA_RES_INPUT	Rwa computation resistivity input	----	RT	RT	RT
SHIG	ARC High Shock Risk Level	CPS	0.500	0.500	0.500
SMED	ARC Medium Shock Risk Level	CPS	0.330	0.330	0.330
SMIN	ARC Minimum Shock Risk Level	CPS	0.160	0.160	0.160
SUPD	ARC Real Time Shock Update Rate	S	30.000	30.000	30.000
TCODE_ARC	ARC Tool File Code	S	30.000	30.000	30.000
TSIZ_ARC	ARC Tool Size	IN	8.250	8.250	8.250
UNIFORM_COMPUTE	Uniform Rock Option	----	YES	YES	YES
VERS_ARC	ARC Down hole software version Number	----	V9.3B13	V9.3B13	V9.3B13
WRK	to Report Potassium Concentration (RM)	----	K_by_Wgt_%	K_by_Wgt_%	K_by_Wgt_%
	ADN				
ADN_DATA_FIX	ADN: Create A Corrected ADN Time Data File	----	NO	NO	NO
ADN_DATA_LTB	ADN: Create An ADN LTB Data File	----	NO	NO	NO
ALPHA_COMPUTE_D	Perform Density Enhanced Vertical Resolution process ?	----	NO	NO	NO
ALPHA_COMPUTE_N	Perform Neutron Enhanced Vertical Resolution process ?	----	NO	NO	NO
AVE_ADN	ADN/Array Channels: perform averaging(RM) :	----	YES	YES	YES
A_DHS	ADN Down Hole Software Version String	----	V8.2A	V8.2A	V8.2A
CHI_RM	Caliper High limit from BS (RM)	IN	3.000	3.000	3.000
CLO_RM	Caliper Low limit from BS (RM)	IN	0.000	0.000	0.000
DEVI	Well Section Deviation	DEG	0.100	30.630	30.630
DTIK_SEL	ADN: Density Tick Channel Name	----	LSAZ	LSAZ	LSAZ
DTMUD	Delta-T for Mud	US/F	199.000	188.800	188.800
DYN_IMG_COMPUTE	Generate Dynamic Normalized Image?	----	NO	NO	NO
ENVCOR	Neutron Processing: Environmental Correction?	----	YES	YES	YES
EVRL	EVR Process averaging number of samples (RM)	----	49	49	49
FAZ1_AVAIL	ADN8 Neutron Far Tube 1 Available?	----	YES	YES	YES
FAZ2_AVAIL	ADN8 Neutron Far Tube 2 Available?	----	YES	YES	YES
FAZ3_AVAIL	ADN8 Neutron Far Tube 3 Available?	----	YES	YES	YES
FAZ4_AVAIL	ADN8 Neutron Far Tube 4 Available?	----	YES	YES	YES
FAZ5_AVAIL	ADN8 Neutron Far Tube 5 Available?	----	YES	YES	YES
FCD	Future Casing (Outer) Diameter	IN	0.000	0.000	0.000
GCSE	Generalized Caliper Selection	----	BS	BS	BS
IDQT	Image Derived Quality Threshold	----	1.000	2.000	1.000
IHVS	Integrated Hole Volume Start Value(RM)	F3	0.000	0.000	0.000
IMAGE_MAX_SOA	Image SOA (Quadrant) Right Scale	IN	2.500	2.500	2.500
IMAGE_MAX_SPEF	Image PEF(Segment) Right Scale	----	6.000	6.000	6.000
IMAGE_MAX_SRHOB	**Image RHOB(Segment) Right Scale**	**G/C3**	**2.650**	**2.650**	**2.650**
IMAGE_MIN_SOA	**Image SOA (Quadrant) Left Scale**	**IN**	**0.000**	**0.000**	**0.000**
IMAGE_MIN_SPEF	Image PEF(Segment) Left Scale	----	2.000	2.000	2.000
IMAGE_MIN_SRHOB	Image RHOB(Segment) Left Scale	G/C3	2.050	2.050	2.050
JSD_ADN	ADN Acquisition start date	----	5-Sep-08	9-Sep-08	9-Sep-08
LITHO_TYPE_ADN	Lithology (RM)	----	LIME	LIME	LIME
N1FTU_6_RM	ADN: Neutron Bank 1 Far Tubes used :	----	1-2-3	1-2-3	1-2-3
N2FTU_6_RM	ADN: Neutron Bank 2 Far Tubes used :	----	1-2-3	1-2-3	1-2-3
NNTU_8_RM	ADN: Neutron Near Tube used :	----	1-2-3	1-2-3	1-2-3
NTIK_SEL	ADN: Neutron Tick Channel Name	----	FAZ1	FAZ1	FAZ1
SOCNL	Standoff Distance of the CNL Tool	----	1.000	1.000	1.000
SSIZ_ADN	ADN Stabilizer Size	IN	8.250	8.250	8.250
STOH	ADN Density Top of Hole Sector (Left Boundary):	----	SECTOR_0	SECTOR_0	SECTOR_0
TRPM_RM	Average Tool Rotational Speed	RPM	20.000	20.000	20.000
USMIN_RM	ADN:Minimum Ultrasonic standoff (RM)	IN	0.180	0.180	0.180
USWF_RM	ADN:Process Ultrasonic Waveform?	----	YES	YES	YES
VERS_ADN	ADN Downhole Software Version	----	V8.2A	V8.2A	V8.2A
WSDI	Window Size of Dynamic Normalization Image	M	4.572	4.572	4.572

Henry 2 VISION Resistivity RM 500TVD

ARC8A−AA	**id13_0c_02**	**SON825**	**id13_0c_02**
ADN	**id13_0c_02**		

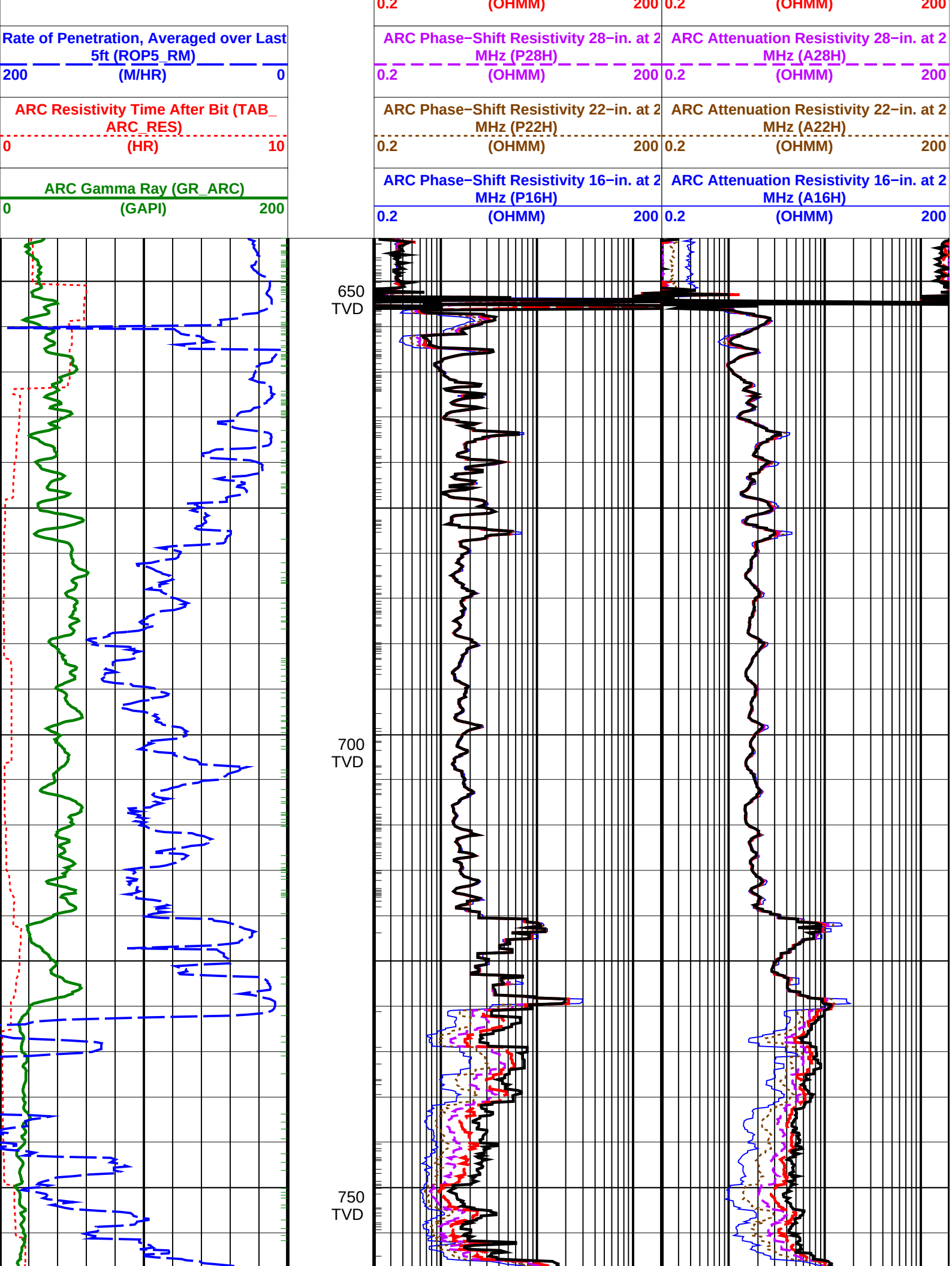
Format: VISION Resistivity 2MHz **Vertical Scale: 1:500** **Graphics File Created: 22−Sep−2008 15:32**

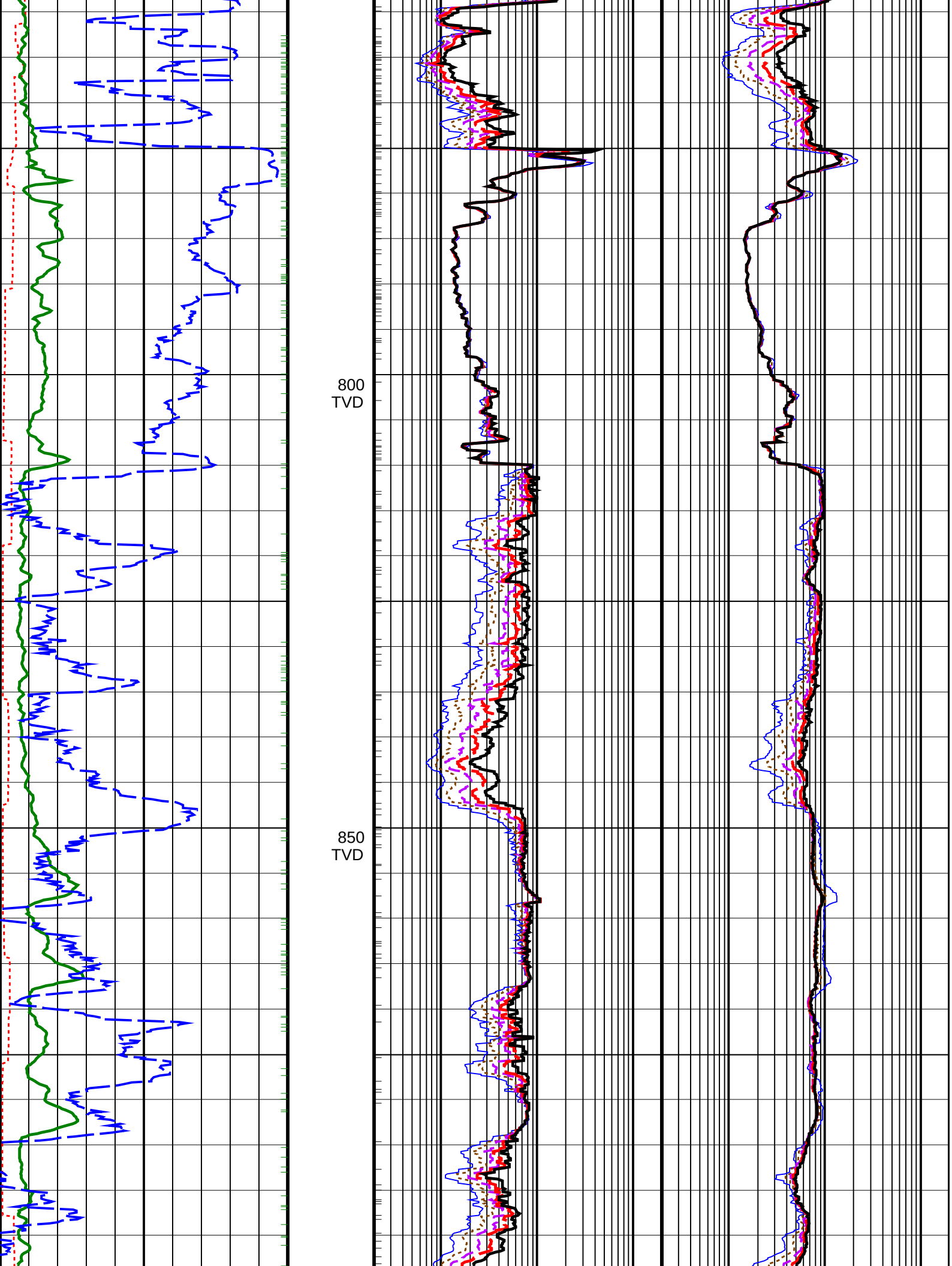
PIP SUMMARY

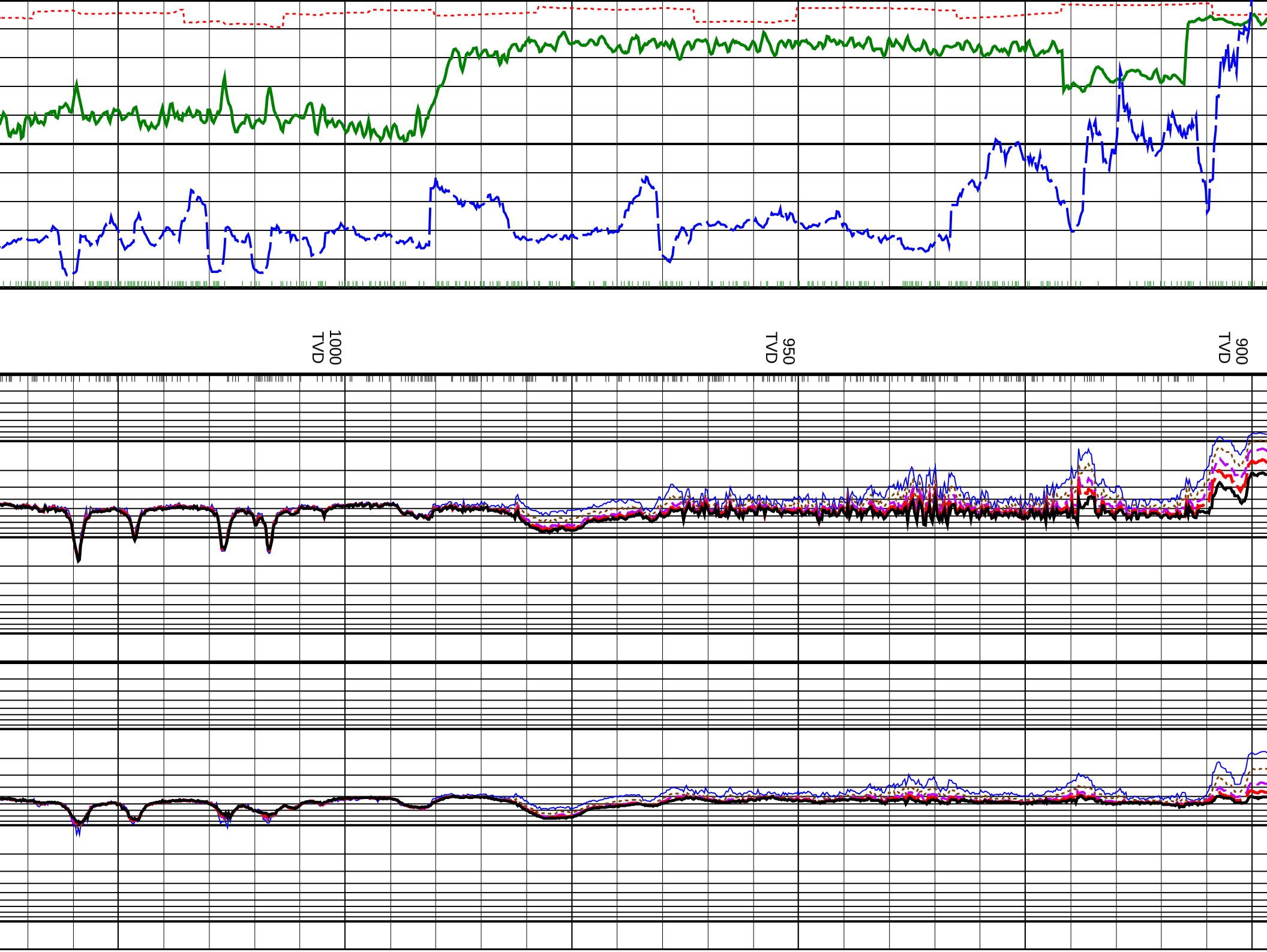
ARC Gamma Ray Samples

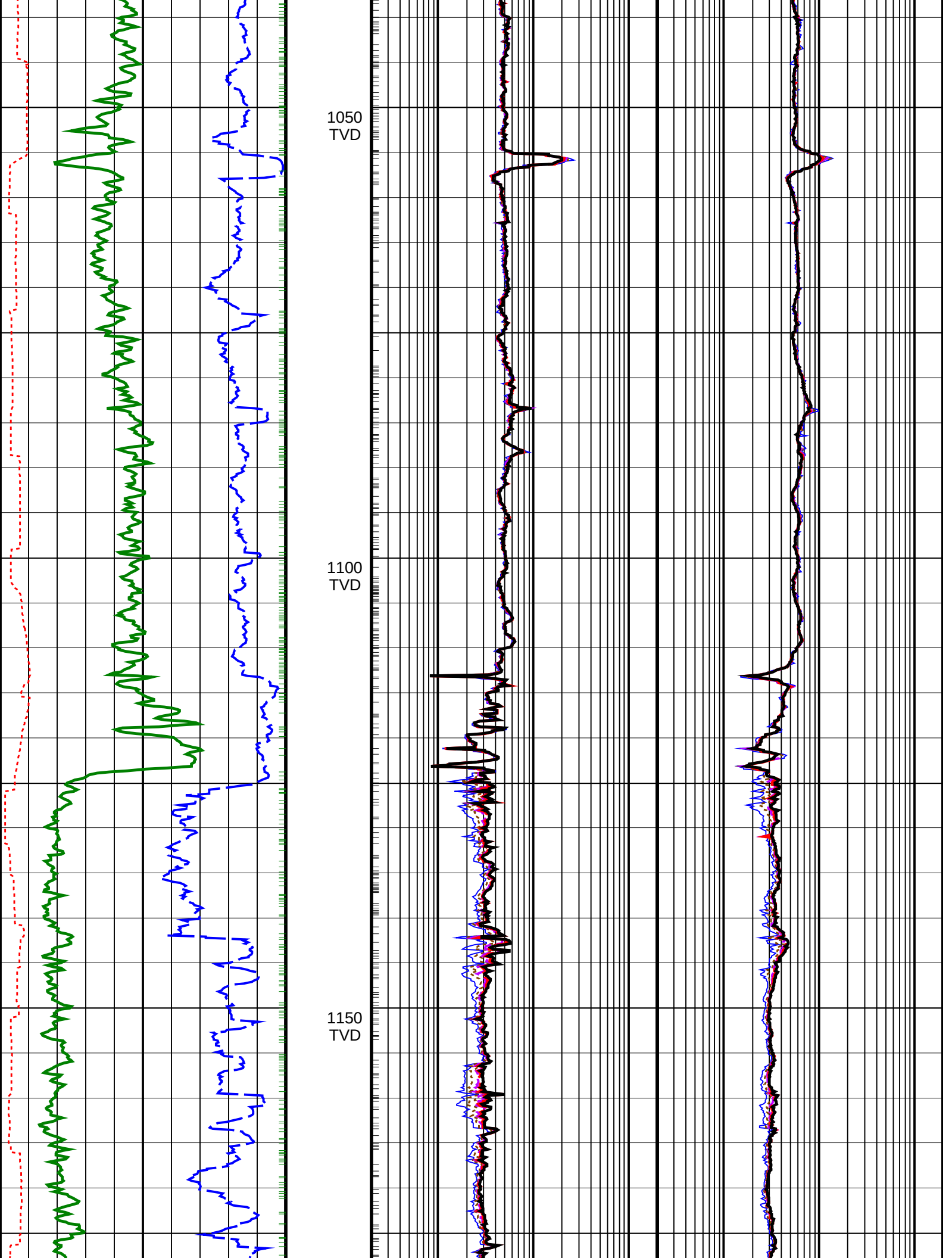
ARC Resistivity Samples

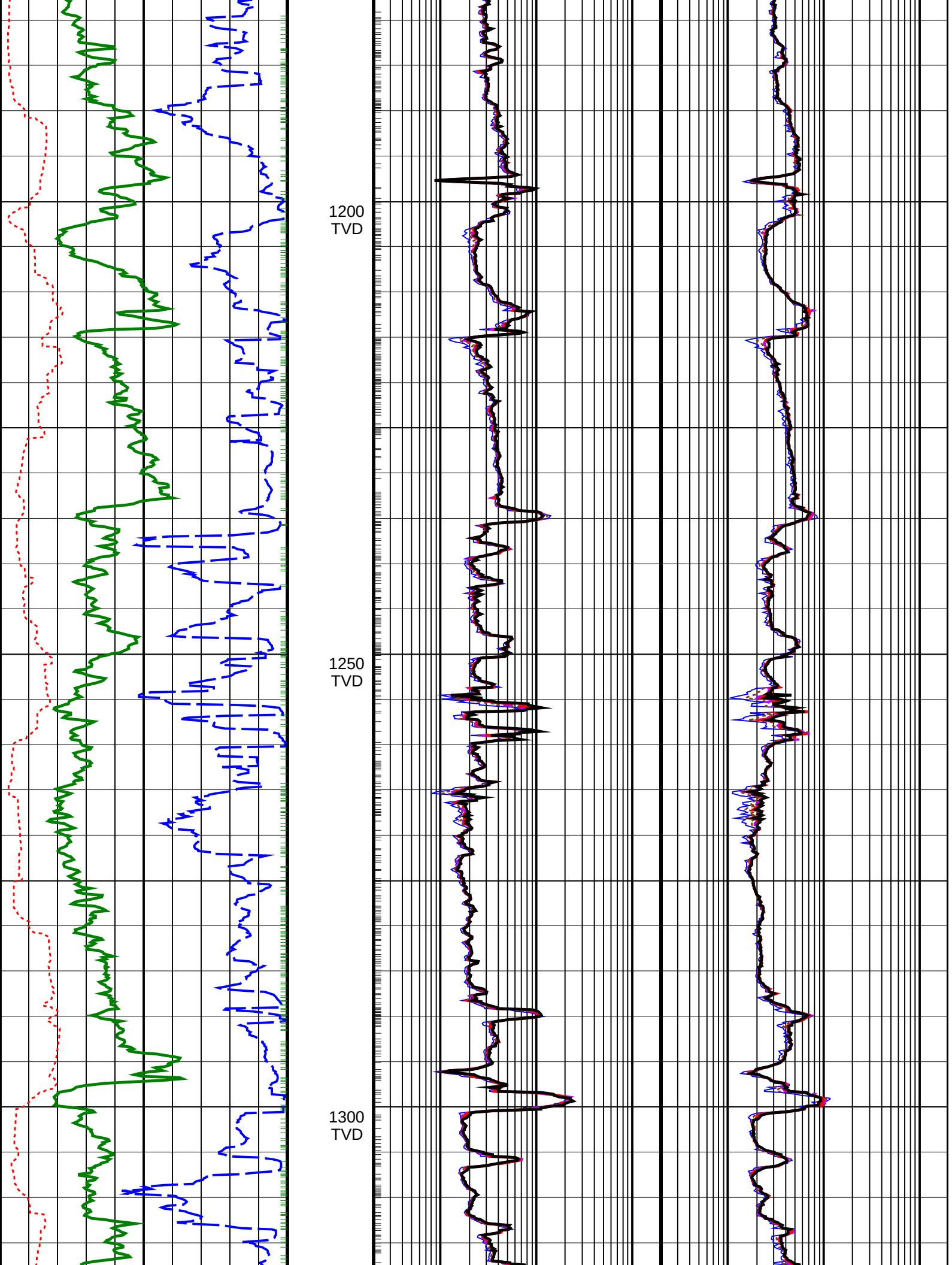
ARC Phase−Shift Resistivity 40−in. at 2 MHz (P40H)			ARC Attenuation Resistivity 40−in. at 2 MHz (A40H)		
0.2	(OHMM)	200	0.2	(OHMM)	200
ARC Phase−Shift Resistivity 34−in. at 2 MHz (P34H)			ARC Attenuation Resistivity 34−in. at 2 MHz (A34H)		

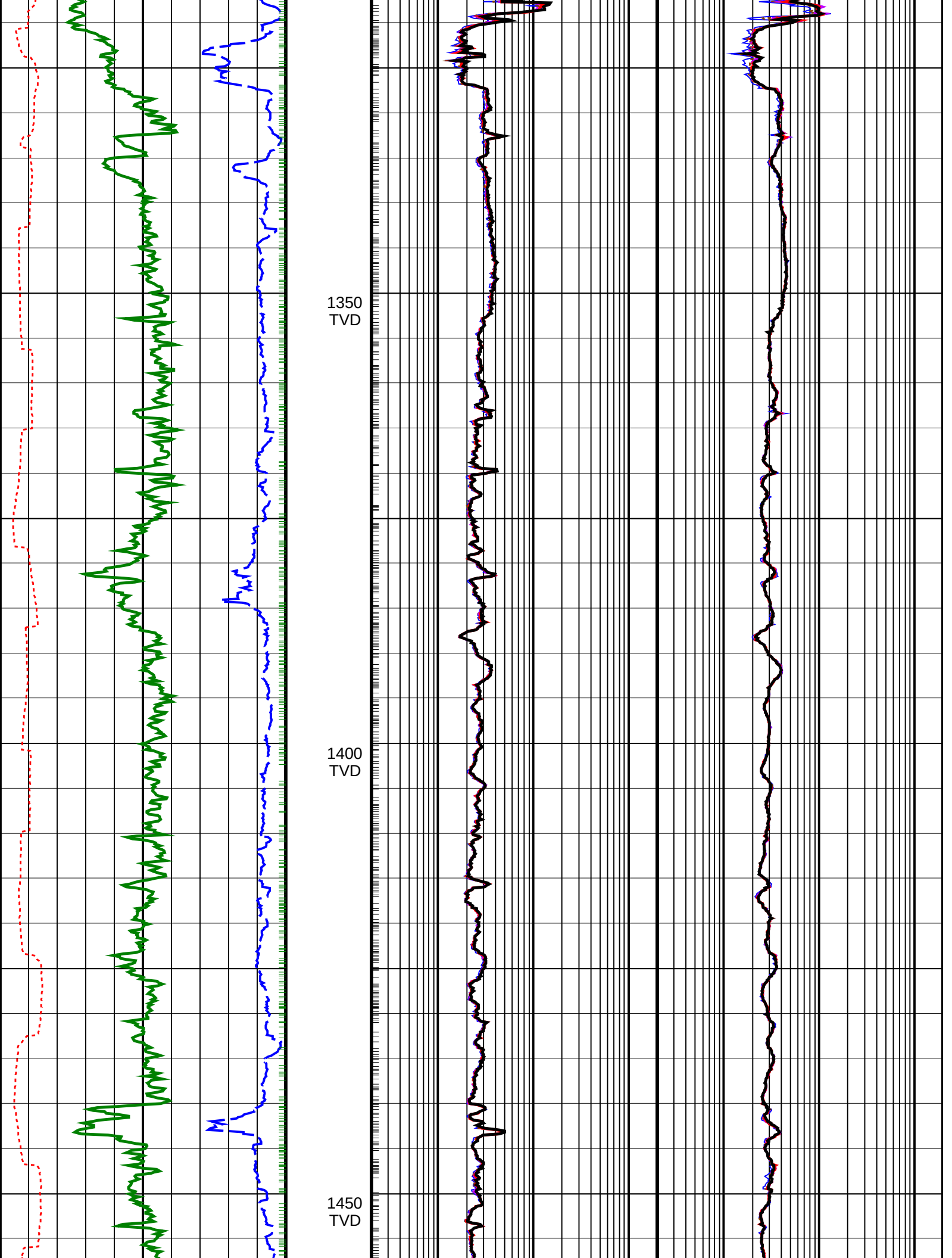

0.2 (OHMM) 200
0.2 (OHMM) 200
Rate of Penetration, Averaged over Last 5ft (ROP5_RM)
200 (M/HR) 0
ARC Phase−Shift Resistivity 28−in. at 2 MHz (P28H)
0.2 (OHMM) 200
ARC Attenuation Resistivity 28−in. at 2 MHz (A28H)
0.2 (OHMM) 200
ARC Resistivity Time After Bit (TAB_ARC_RES)
0 (HR) 10
ARC Phase−Shift Resistivity 22−in. at 2 MHz (P22H)
0.2 (OHMM) 200
ARC Attenuation Resistivity 22−in. at 2 MHz (A22H)
0.2 (OHMM) 200
ARC Gamma Ray (GR_ARC)
0 (GAPI) 200
ARC Phase−Shift Resistivity 16−in. at 2 MHz (P16H)
0.2 (OHMM) 200
ARC Attenuation Resistivity 16−in. at 2 MHz (A16H)
0.2 (OHMM) 200
650 TVD
700 TVD
750 TVD

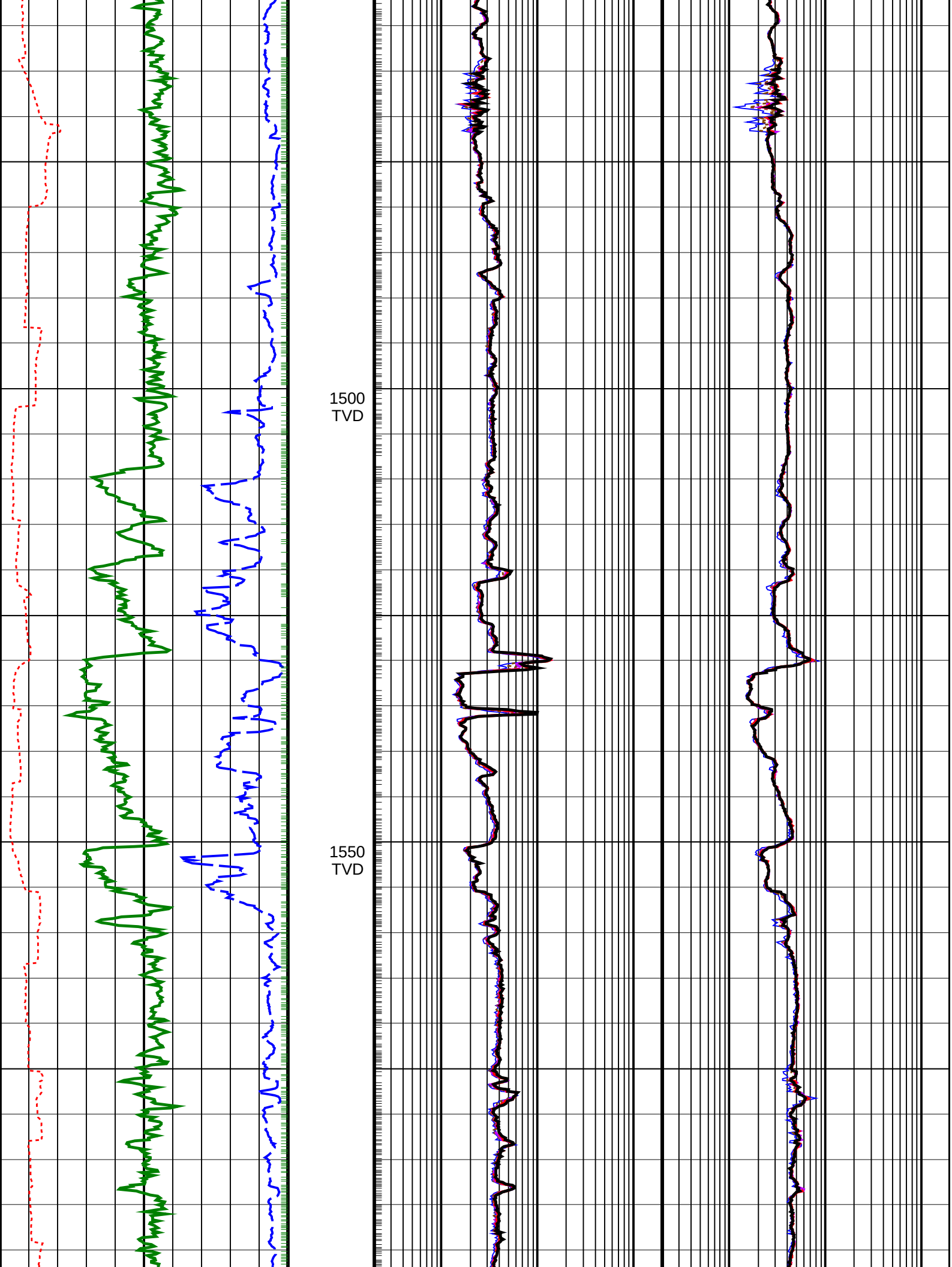

800
TVD
850
TVD

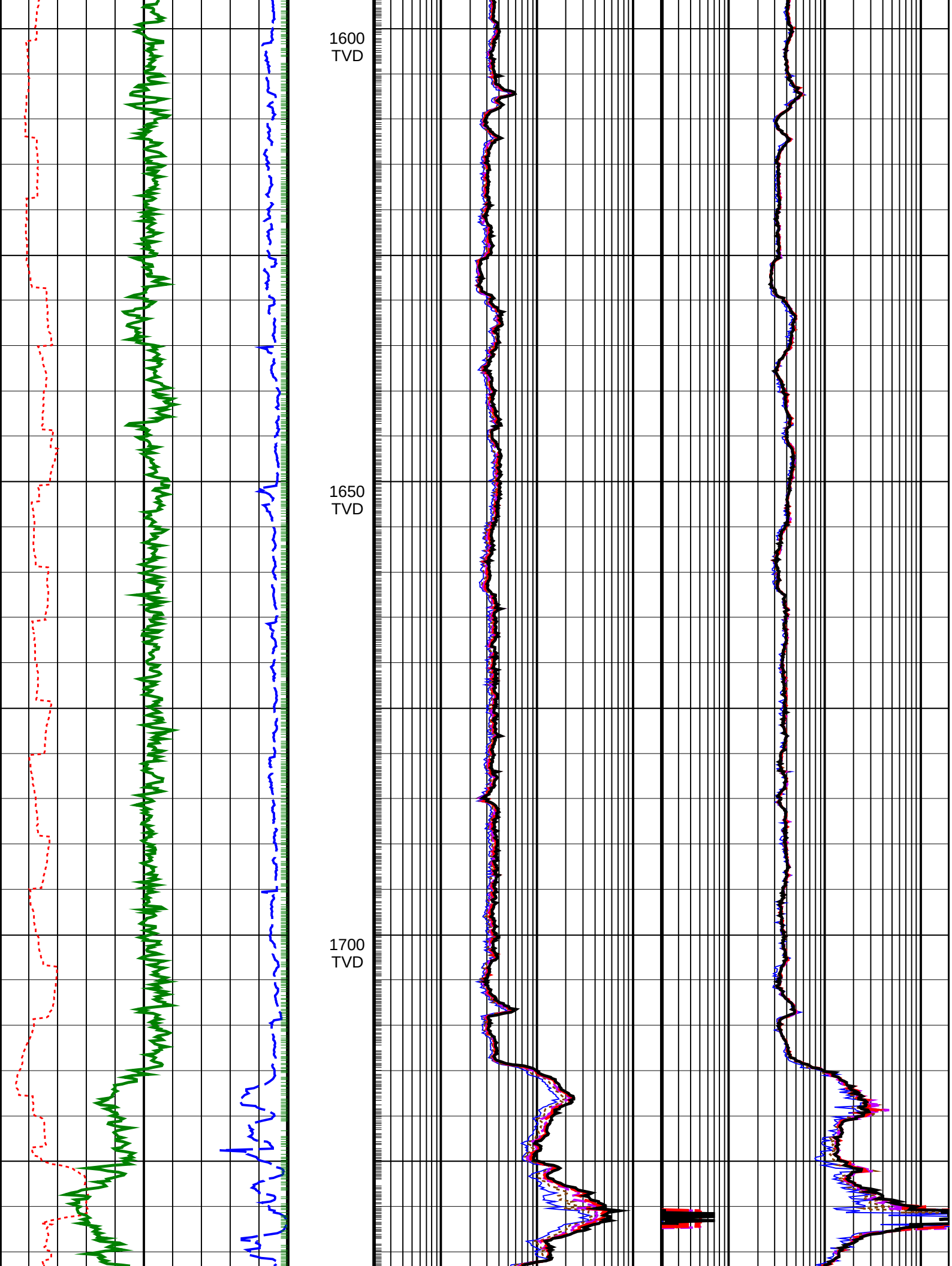

1000
TVD
950
TVD
900
TVD

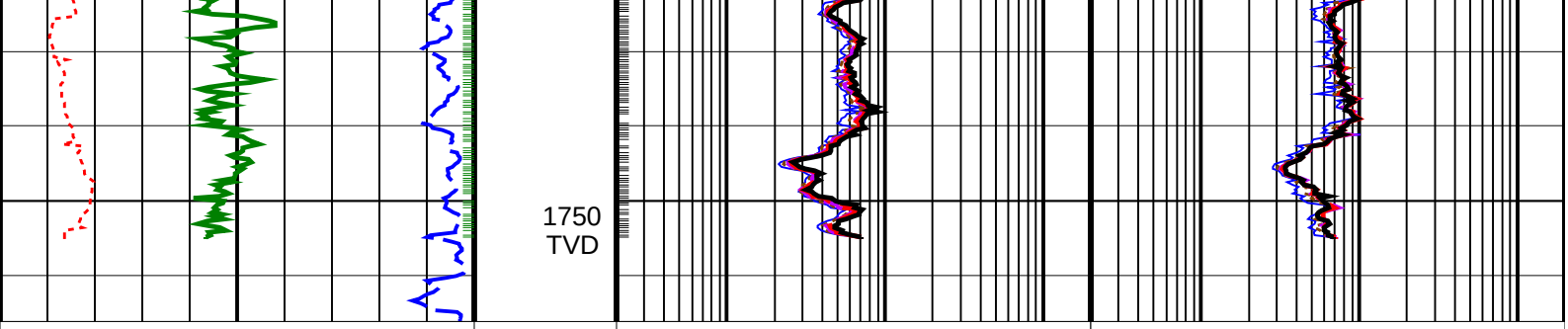

1050
TVD
1100
TVD
1150
TVD


1200
TVD
1250
TVD
1300
TVD


1350
TVD
1400
TVD
1450
TVD


1500
TVD
1550
TVD


1600
TVD
1650
TVD
1700
TVD



ARC Gamma Ray (GR_ARC)		
0	(GAPI)	200

ARC Resistivity Time After Bit (TAB_ARC_RES)		
0	(HR)	10

Rate of Penetration, Averaged over Last 5ft (ROP5_RM)		
200	(M/HR)	0

ARC Phase−Shift Resistivity 16−in. at 2 MHz (P16H)		
0.2	(OHMM)	200

ARC Attenuation Resistivity 16−in. at 2 MHz (A16H)		
0.2	(OHMM)	200

ARC Phase−Shift Resistivity 22−in. at 2 MHz (P22H)		
0.2	(OHMM)	200

ARC Attenuation Resistivity 22−in. at 2 MHz (A22H)		
0.2	(OHMM)	200

ARC Phase−Shift Resistivity 28−in. at 2 MHz (P28H)		
0.2	(OHMM)	200

ARC Attenuation Resistivity 28−in. at 2 MHz (A28H)		
0.2	(OHMM)	200

ARC Phase−Shift Resistivity 34−in. at 2 MHz (P34H)		
0.2	(OHMM)	200

ARC Attenuation Resistivity 34−in. at 2 MHz (A34H)		
0.2	(OHMM)	200

ARC Phase−Shift Resistivity 40−in. at 2 MHz (P40H)		
0.2	(OHMM)	200

ARC Attenuation Resistivity 40−in. at 2 MHz (A40H)		
0.2	(OHMM)	200

PIP SUMMARY

ARC Gamma Ray Samples

ARC Resistivity Samples

IDEAL Version: ID13_0C_11

IDF

ARC8A−AA	**id13_0c_02**	**SON825**	**id13_0c_02**
ADN	**id13_0c_02**		

8.25−in. Azimuthal Density Neutron / Equipment Identification

Primary Equipment:		
Tool Name and Serial Number	ADN8 − AA	VC73
Neutron Logging Source	NSR − M	N400
Density Logging Source	GSR − J/Z	7793B
Stabilizer Size	NONE	
Calibration Status	AUTO−	

Master: 21−Aug−2008 19:47

8.25−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		1897	Master		5721	Master		14200
250.0 (Minimum)	4125 (Nominal)	8000 (Maximum)	700.0 (Minimum)	9350 (Nominal)	18000 (Maximum)	2500 (Minimum)	23750 (Nominal)	45000 (Maximum)

Master: 21−Aug−2008 19:47

8.25−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		313.2	Master		3185	Master		9408
50.00 (Minimum)	725.0 (Nominal)	1400 (Maximum)	500.0 (Minimum)	4250 (Nominal)	8000 (Maximum)	1500 (Minimum)	15750 (Nominal)	30000 (Maximum)

Master: 21−Aug−2008 19:47

8.25−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		50.06	Master		116.8	Master		504.2
	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: 21−Aug−2008 19:47

8.25−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		1.051	Master		1.170
	1.026 (Minimum) 1.043 (Nominal) 1.059 (Maximum)			1.112 (Minimum) 1.155 (Nominal) 1.198 (Maximum)	

Master: 21−Aug−2008 19:47

8.25−in. Azimuthal Density Neutron Calibration

Neutron: 3−Point Calibration

Phase	Far Tube 1 Air Point Measure CPS	Value	Phase	Far Tube 1 Rod Point Measure CPS	Value	Phase	Far Tube 1 Water Point Measure CPS	Value
Master		134.4	Master		27.29	Master		17.83
	110.0 (Minimum) 140.3 (Nominal) 170.0 (Maximum)			23.00 (Minimum) 31.16 (Nominal) 37.00 (Maximum)			15.00 (Minimum) 20.65 (Nominal) 25.00 (Maximum)	
Phase	Far Tube 2 Air Point Measure CPS	Value	Phase	Far Tube 2 Rod Point Measure CPS	Value	Phase	Far Tube 2 Water Point Measure CPS	Value
Master		149.2	Master		29.35	Master		19.04
	120.0 (Minimum) 150.4 (Nominal) 180.0 (Maximum)			24.00 (Minimum) 32.40 (Nominal) 38.00 (Maximum)			15.00 (Minimum) 21.52 (Nominal) 26.00 (Maximum)	
Phase	Far Tube 3 Air Point Measure CPS	Value	Phase	Far Tube 3 Rod Point Measure CPS	Value	Phase	Far Tube 3 Water Point Measure CPS	Value
Master		151.6	Master		30.01	Master		19.46
	120.0 (Minimum) 151.5 (Nominal) 180.0 (Maximum)			24.00 (Minimum) 32.40 (Nominal) 38.00 (Maximum)			15.00 (Minimum) 21.53 (Nominal) 26.00 (Maximum)	
Phase	Far Tube 4 Air Point Measure CPS	Value	Phase	Far Tube 4 Rod Point Measure CPS	Value	Phase	Far Tube 4 Water Point Measure CPS	Value
Master		142.4	Master		28.47	Master		18.52
	120.0 (Minimum) 150.4 (Nominal) 180.0 (Maximum)			24.00 (Minimum) 32.40 (Nominal) 38.00 (Maximum)			15.00 (Minimum) 21.52 (Nominal) 26.00 (Maximum)	
Phase	Far Tube 5 Air Point Measure CPS	Value	Phase	Far Tube 5 Rod Point Measure CPS	Value	Phase	Far Tube 5 Water Point Measure CPS	Value
Master		143.3	Master		29.38	Master		18.97
	110.0 (Minimum) 140.3 (Nominal) 170.0 (Maximum)			23.00 (Minimum) 31.16 (Nominal) 37.00 (Maximum)			15.00 (Minimum) 20.65 (Nominal) 25.00 (Maximum)	
Phase	Near Tube 1 Air Point Measure CPS	Value	Phase	Near Tube 1 Rod Point Measure CPS	Value	Phase	Near Tube 1 Water Point Measure CPS	Value
Master		1532	Master		2066	Master		1080
	1300 (Minimum) 1605 (Nominal) 1900 (Maximum)			1800 (Minimum) 2375 (Nominal) 2800 (Maximum)			900.0 (Minimum) 1288 (Nominal) 1500 (Maximum)	
Phase	Near Tube 2 Air Point Measure CPS	Value	Phase	Near Tube 2 Rod Point Measure CPS	Value	Phase	Near Tube 2 Water Point Measure CPS	Value
Master		998.9	Master		895.4	Master		464.6
	800.0 (Minimum) 1027 (Nominal) 1200 (Maximum)			600.0 (Minimum) 989.1 (Nominal) 1200 (Maximum)			300.0 (Minimum) 532.3 (Nominal) 700.0 (Maximum)	
Phase	Near Tube 3 Air Point Measure CPS	Value	Phase	Near Tube 3 Rod Point Measure CPS	Value	Phase	Near Tube 3 Water Point Measure CPS	Value
Master		1553	Master		2216	Master		1154
	1300 (Minimum) 1605 (Nominal) 1900 (Maximum)			1800 (Minimum) 2375 (Nominal) 2800 (Maximum)			900.0 (Minimum) 1288 (Nominal) 1500 (Maximum)	

Master: 21−Aug−2008 19:47

8.25−in. Azimuthal Density Neutron Calibration

Neutron: Water Block Check

Phase	Far Neutron water porosity PU	Value
Master		93.99
	90.00 (Minimum) 100.0 (Nominal) 120.0 (Maximum)	

8.25−in. Azimuthal Density Neutron / Equipment Identification

Primary Equipment:

Tool Name and Serial Number	ADN8 − AA	43150
Neutron Logging Source	NSR − M	N400
Density Logging Source	GSR − J/Z	7793B
Stabilizer Size	NONE	

Calibration Status	AUTO−

Master: 20−Aug−2008 6:52

8.25−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		1866	Master		5971	Master		14120
	250.0 (Minimum) 4125 (Nominal) 8000 (Maximum)			700.0 (Minimum) 9350 (Nominal) 18000 (Maximum)			2500 (Minimum) 23750 (Nominal) 45000 (Maximum)	

Master: 20−Aug−2008 6:52

8.25−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		310.0	Master		3339	Master		9393
	50.00 (Minimum) 725.0 (Nominal) 1400 (Maximum)			500.0 (Minimum) 4250 (Nominal) 8000 (Maximum)			1500 (Minimum) 15750 (Nominal) 30000 (Maximum)	

Master: 20−Aug−2008 6:52

8.25−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		50.70	Master		112.9	Master		481.7
	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: 20−Aug−2008 6:52

8.25−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		1.044	Master		1.171
	1.026 (Minimum) 1.043 (Nominal) 1.059 (Maximum)			1.112 (Minimum) 1.155 (Nominal) 1.198 (Maximum)	

Master: 20−Aug−2008 6:52

8.25−in. Azimuthal Density Neutron Calibration

Neutron: 3−Point Calibration

Phase	Far Tube 1 Air Point Measure CPS	Value	Phase	Far Tube 1 Rod Point Measure CPS	Value	Phase	Far Tube 1 Water Point Measure CPS	Value
Master		135.6	Master		28.60	Master		18.43
	110.0 (Minimum) 140.3 (Nominal) 170.0 (Maximum)			23.00 (Minimum) 31.16 (Nominal) 37.00 (Maximum)			15.00 (Minimum) 20.65 (Nominal) 25.00 (Maximum)	
Phase	Far Tube 2 Air Point Measure CPS	Value	Phase	Far Tube 2 Rod Point Measure CPS	Value	Phase	Far Tube 2 Water Point Measure CPS	Value
Master		150.2	Master		31.13	Master		20.05
	120.0 (Minimum) 150.4 (Nominal) 180.0 (Maximum)			24.00 (Minimum) 32.40 (Nominal) 38.00 (Maximum)			15.00 (Minimum) 21.52 (Nominal) 26.00 (Maximum)	
Phase	Far Tube 3 Air Point Measure CPS	Value	Phase	Far Tube 3 Rod Point Measure CPS	Value	Phase	Far Tube 3 Water Point Measure CPS	Value
Master		149.2	Master		30.38	Master		19.74
	120.0 (Minimum) 151.5 (Nominal) 180.0 (Maximum)			24.00 (Minimum) 32.40 (Nominal) 38.00 (Maximum)			15.00 (Minimum) 21.53 (Nominal) 26.00 (Maximum)	
Phase	Far Tube 4 Air Point Measure CPS	Value	Phase	Far Tube 4 Rod Point Measure CPS	Value	Phase	Far Tube 4 Water Point Measure CPS	Value
Master		143.9	Master		29.23	Master		18.90
	120.0 (Minimum) 150.4 (Nominal) 180.0 (Maximum)			24.00 (Minimum) 32.40 (Nominal) 38.00 (Maximum)			15.00 (Minimum) 21.52 (Nominal) 26.00 (Maximum)	
Phase	Far Tube 5 Air Point Measure CPS	Value	Phase	Far Tube 5 Rod Point Measure CPS	Value	Phase	Far Tube 5 Water Point Measure CPS	Value
Master		138.5	Master		29.68	Master		19.24
	110.0 (Minimum) 140.3 (Nominal) 170.0 (Maximum)			23.00 (Minimum) 31.16 (Nominal) 37.00 (Maximum)			15.00 (Minimum) 20.65 (Nominal) 25.00 (Maximum)	
Phase	Near Tube 1 Air Point Measure CPS	Value	Phase	Near Tube 1 Rod Point Measure CPS	Value	Phase	Near Tube 1 Water Point Measure CPS	Value
Master		1532	Master		2095	Master		1089
	1300 (Minimum) 1605 (Nominal) 1900 (Maximum)			1800 (Minimum) 2375 (Nominal) 2800 (Maximum)			900.0 (Minimum) 1288 (Nominal) 1500 (Maximum)	
Phase	Near Tube 2 Air Point Measure CPS	Value	Phase	Near Tube 2 Rod Point Measure CPS	Value	Phase	Near Tube 2 Water Point Measure CPS	Value
Master		980.1	Master		900.5	Master		467.7
	800.0 1027 1200			600.0 989.1 1200			300.0 532.3 700.0	

Phase	Near Tube 3 Air Point Measure CPS	Value
Master		1535
1300 (Minimum)	1605 (Nominal)	1900 (Maximum)

Phase	Near Tube 3 Rod Point Measure CPS	Value
Master		2132
1800 (Minimum)	2375 (Nominal)	2800 (Maximum)

Phase	Near Tube 3 Water Point Measure CPS	Value
Master		1113
900.0 (Minimum)	1288 (Nominal)	1500 (Maximum)

Master: 20−Aug−2008 6:52

8.25−in. Azimuthal Density Neutron Calibration

Neutron: Water Block Check

Phase	Far Neutron water porosity PU	Value
Master		101.9
90.00 (Minimum)	100.0 (Nominal)	120.0 (Maximum)

8.25−in. Array Resistivity Compensated / Equipment Identification

Primary Equipment:

Tool Name and Serial Number	ARC8 − AA	1106
ARC825 Calibration Status	—	

Master: 20−Aug−2008 15:09

8.25−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Phase−Shift T1	Value
Master		0.5449
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T2	Value
Master		−0.4380
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T3	Value
Master		0.4321
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T4	Value
Master		−0.5454
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T5	Value
Master		0.4138
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T1 at 400KHz	Value
Master		0.3618
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T2 at 400KHz	Value
Master		−0.4216
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T3 at 400KHz	Value
Master		0.3890
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T4 at 400KHz	Value
Master		−0.4442
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T5 at 400KHz	Value
Master		0.3747
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Master: 20−Aug−2008 15:09

8.25−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Attenuation T1	Value
Master		8.569
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2	Value
Master		6.137
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3	Value
Master		5.265
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4	Value
Master		4.087
2.600 (Minimum)	4.600 (Nominal)	6.600 (Maximum)

Phase	Attenuation T5	Value
Master		3.849
1.600 (Minimum)	3.600 (Nominal)	5.600 (Maximum)

Phase	Attenuation T1 at 400KHz	Value
Master		8.553
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2 at 400KHz	Value
Master		6.158
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3 at 400KHz	Value
Master		5.247
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4 at 400KHz	Value
Master		4.104
2.600 (Minimum)	4.600 (Nominal)	6.600 (Maximum)

Phase	Attenuation T5 at 400KHz	Value
Master		3.841
1.600 (Minimum)	3.600 (Nominal)	5.600 (Maximum)

Master: 20−Aug−2008 10:20

8.25−in. Array Resistivity Compensated Calibration

Gamma Ray: Blanket

Phase	Gamma ray factor (equals Calibration Gain multiplied by API Gain Factor) CPS			Value
Master				7.399
	4.960 (Minimum)	7.200 (Nominal)	9.650 (Maximum)	

8.25−in. Array Resistivity Compensated / Equipment Identification

Primary Equipment:		
Tool Name and Serial Number	ARC8 − AA	1871
ARC825 Calibration Status	—	

Master: 28−Jul−2008 20:41

8.25−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Phase−Shift T1	Value
Master		2.991
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T2	Value
Master		−2.875
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T3	Value
Master		2.903
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T4	Value
Master		−2.905
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T5	Value
Master		2.873
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T1 at 400KHz	Value
Master		−1.569
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T2 at 400KHz	Value
Master		1.403
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T3 at 400KHz	Value
Master		−1.514
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T4 at 400KHz	Value
Master		1.425
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Phase	Phase−Shift T5 at 400KHz	Value
Master		−1.540
	−3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	

Master: 28−Jul−2008 20:41

8.25−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Attenuation T1	Value
Master		8.288
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2	Value
Master		6.362
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3	Value
Master		5.012
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4	Value
Master		4.319
2.600 (Minimum)	4.600 (Nominal)	6.600 (Maximum)

Phase	Attenuation T5	Value
Master		3.602
1.600 (Minimum)	3.600 (Nominal)	5.600 (Maximum)

Phase	Attenuation T1 at 400KHz	Value
Master		8.320
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2 at 400KHz	Value
Master		6.340
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3 at 400KHz	Value
Master		5.037
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4 at 400KHz	Value
Master		4.302
2.600 (Minimum)	4.600 (Nominal)	6.600 (Maximum)

Phase	Attenuation T5 at 400KHz	Value
Master		3.639
1.600 (Minimum)	3.600 (Nominal)	5.600 (Maximum)

Master: 28−Jul−2008 14:35

8.25−in. Array Resistivity Compensated Calibration

Gamma Ray: Blanket

Phase	Gamma ray factor (equals Calibration Gain multiplied by API Gain Factor) CPS	Value
Master		7.658
4.960 (Minimum)	7.200 (Nominal)	9.650 (Maximum)

SCHLUMBERGER

Survey report

Client.....: Santos Limited
Field.....: Otway

Well.....: Henry-2
API number.....: 08ASQ0011
Engineer.....: Anagh Kohli

Spud date.....: 25-Aug-08
Last survey date.....: 13-Sep-08
Total accepted surveys...: 72

Engineer.....: Anagh Rohit
Rig.....: Ocean Patriot
STATE:.....: Victoria

Total accepted surveys...: 72
MD of first survey.....: 0.00 m
MD of last survey.....: 2042.00 m

----- Survey calculation methods-----
Method for positions.....: Minimum curvature
Method for DLS.....: Mason & Taylor

----- Depth reference -----
Permanent datum.....: MSL
Depth reference.....: Driller's Depth
GL above permanent.....: -67.00 m
KB above permanent.....: 20.80 m
DF above permanent.....: 20.80 m

----- Vertical section origin----
Latitude (+N/S-).....: 0.00 m
Departure (+E/W-).....: 0.00 m

----- Platform reference point----
Latitude (+N/S-).....:
Departure (+E/W-).....:

Azimuth from Vsect Origin to target: 119.01 degrees

----- Geomagnetic data -----
Magnetic model.....: BGGM version 2008
Magnetic date.....: 29-Aug-2008
Magnetic field strength..: 1216.32 HCNT
Magnetic dec (+E/W-).....: 10.77 degrees
Magnetic dip.....: -69.86 degrees

----- MWD survey Reference Criteria ---
Reference G.....: 1000.07 mGal
Reference H.....: 1216.32 HCNT
Reference Dip.....: -69.86 degrees
Tolerance of G.....: (+/-) 2.50 mGal
Tolerance of H.....: (+/-) 6.00 HCNT
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Corrections -----
Magnetic dec (+E/W-).....: 10.77 degrees
Grid convergence (+E/W-).: -1.01 degrees
Total az corr (+E/W-)....: 11.78 degrees
(Total az corr = magnetic dec - grid conv)
Survey Correction Type ...:
I=Sag Corrected Inclination
M=Schlumberger Magnetic Correction
S=Shell Magnetic Correction
F=Failed Axis Correction
R=Magnetic Resonance Tool Correction
D=Dmag Magnetic Correction

[(c)2008 IDEAL ID13_0C_11]
SCHLUMBERGER Survey Report

Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIP	None
2	87.00	0.00	0.00	87.00	87.00	0.00	0.00	0.00	0.00	0.00	0.00	MS	None
3	100.54	0.86	166.76	13.54	100.54	0.07	-0.10	0.02	0.10	166.76	1.94	MS	None
4	121.29	0.69	181.46	20.75	121.29	0.23	-0.38	0.06	0.38	171.55	0.38	MS	None
5	139.00	0.44	330.20	17.71	139.00	0.22	-0.42	0.02	0.42	177.40	1.88	MS	None
6	168.19	0.76	319.12	29.19	168.19	-0.06	-0.18	-0.16	0.24	222.29	0.35	MS	None
7	196.26	0.86	317.61	28.07	196.25	-0.43	0.12	-0.43	0.44	285.32	0.11	MS	None
8	224.34	0.90	318.13	28.08	224.33	-0.84	0.44	-0.72	0.84	301.38	0.04	MS	None
9	252.42	0.82	320.95	28.08	252.41	-1.23	0.76	-0.99	1.25	307.41	0.10	MS	None
10	280.48	0.85	321.06	28.06	280.46	-1.61	1.07	-1.25	1.65	310.75	0.03	MS	None
11	309.36	0.90	321.89	28.88	309.34	-2.02	1.42	-1.52	2.08	313.01	0.05	MS	None
12	338.11	0.88	317.75	28.75	338.09	-2.44	1.76	-1.81	2.53	314.22	0.07	MS	None
13	366.97	0.91	337.60	28.86	366.94	-2.83	2.14	-2.05	2.96	316.24	0.33	MS	None
14	395.76	0.18	193.03	28.79	395.73	-2.99	2.30	-2.14	3.15	317.07	1.12	MS	None
15	424.60	0.23	186.43	28.84	424.57	-2.96	2.20	-2.16	3.09	315.56	0.06	MS	None
16	453.40	0.22	174.07	28.80	453.37	-2.90	2.09	-2.16	3.01	314.05	0.05	MS	None
17	482.27	0.28	178.70	28.87	482.24	-2.84	1.96	-2.15	2.92	312.37	0.07	MS	None
18	511.15	0.30	175.17	28.88	511.12	-2.76	1.82	-2.15	2.81	310.29	0.03	MS	None
19	540.11	0.32	168.39	28.96	540.08	-2.66	1.66	-2.12	2.70	308.09	0.04	MS	None
20	568.89	0.41	174.22	28.78	568.86	-2.55	1.48	-2.10	2.57	305.27	0.10	MS	None
21	597.83	0.27	181.06	28.94	597.80	-2.46	1.31	-2.09	2.47	302.14	0.15	MS	None
22	626.63	0.41	176.71	28.80	626.60	-2.37	1.14	-2.08	2.37	298.71	0.15	MS	None
23	634.07	0.47	178.32	7.44	634.04	-2.34	1.08	-2.08	2.35	297.52	0.25	MS	None
24	681.58	0.29	157.36	47.51	681.55	-2.15	0.78	-2.03	2.17	290.99	0.14	PUP	None
25	740.06	0.45	140.43	58.48	740.03	-1.82	0.46	-1.82	1.88	284.28	0.10	PUP	None
26	768.28	0.83	157.79	28.22	768.24	-1.56	0.19	-1.68	1.69	276.46	0.46	PUP	None
27	797.08	2.50	141.89	28.80	797.03	-0.82	-0.50	-1.21	1.31	247.65	1.82	PUP	None
28	826.15	3.39	139.33	29.07	826.06	0.57	-1.65	-0.26	1.67	188.93	0.94	PUP	None
29	854.44	3.40	141.08	28.29	854.30	2.13	-2.94	0.81	3.05	164.52	0.11	PUP	None
30	883.67	3.87	140.62	29.23	883.47	3.85	-4.37	1.98	4.80	155.60	0.49	PUP	None

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Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
31	912.33	4.77	142.55	28.66	912.05	5.85	-6.07	3.32	6.92	151.30	0.97	PUP	None
32	940.43	6.91	146.93	28.10	940.01	8.41	-8.41	4.95	9.76	149.50	2.37	PUP	None
33	969.38	10.03	149.10	28.95	968.64	12.13	-12.03	7.20	14.02	149.11	3.30	PUP	None
34	998.24	13.64	148.11	28.86	996.88	17.28	-17.08	10.29	19.94	148.94	3.82	PUP	None
35	1026.48	16.66	146.70	28.24	1024.13	23.78	-23.29	14.27	27.32	148.50	3.28	PUP	None
36	1056.39	19.21	141.25	29.91	1052.59	32.13	-30.72	19.71	36.49	147.32	3.11	PUP	None
37	1084.97	21.95	138.51	28.58	1079.34	41.52	-38.39	26.19	46.47	145.69	3.10	PUP	None
38	1112.81	24.41	135.23	27.84	1104.94	51.95	-46.37	33.69	57.32	144.00	3.04	PUP	None
39	1141.90	25.91	132.79	29.09	1131.27	63.90	-54.95	42.59	69.53	142.23	1.91	PUP	None
40	1169.55	27.21	130.42	27.65	1156.00	75.96	-63.16	51.83	81.71	140.62	1.85	PUP	None
41	1198.94	28.27	128.23	29.39	1182.01	89.42	-71.82	62.42	95.15	139.01	1.52	PUP	None
42	1228.12	29.96	126.70	29.18	1207.50	103.46	-80.45	73.69	109.10	137.51	1.93	PUP	None
43	1257.97	31.15	125.30	29.85	1233.21	118.52	-89.37	85.97	124.00	136.11	1.42	PUP	None
44	1287.26	34.00	121.48	29.29	1257.89	134.24	-98.03	99.14	139.42	134.68	3.66	PUP	None
45	1315.37	36.85	115.74	28.11	1280.80	150.51	-105.79	113.44	155.12	133.00	4.75	PUP	None
46	1344.58	38.72	112.58	29.21	1303.89	168.34	-113.11	129.77	172.14	131.08	2.81	PUP	None
47	1374.02	39.86	112.30	29.44	1326.67	186.86	-120.22	147.00	189.90	129.28	1.19	PUP	None
48	1402.09	40.08	111.24	28.07	1348.18	204.75	-126.91	163.74	207.17	127.78	0.78	PUP	None

49	1431.69	39.39	110.89	29.60	1370.95	223.49	-133.71	181.40	225.36	126.39	0.75	PUP	None
50	1460.30	38.67	109.79	28.61	1393.17	241.30	-139.98	198.29	242.72	125.22	1.06	PUP	None
51	1488.25	37.49	109.07	27.95	1415.17	258.29	-145.71	214.55	259.35	124.18	1.37	PUP	None
52	1519.61	38.21	109.48	31.36	1439.93	277.26	-152.06	232.71	277.99	123.16	0.74	PUP	None
53	1537.83	38.05	110.01	18.22	1454.27	288.36	-155.86	243.30	288.94	122.64	0.61	PUP	None
54	1548.79	38.12	110.29	10.96	1462.89	295.04	-158.19	249.65	295.55	122.36	0.52	PUP	None
55	1577.82	39.48	111.06	29.03	1485.52	313.04	-164.62	266.66	313.38	121.69	1.52	PUP	None
56	1606.72	41.45	112.42	28.90	1507.50	331.64	-171.57	284.08	331.87	121.13	2.28	PUP	None
57	1634.98	43.80	113.39	28.26	1528.30	350.67	-179.02	301.71	350.82	120.68	2.63	PUP	None
58	1663.98	45.65	114.57	29.00	1548.90	371.00	-187.31	320.35	371.10	120.32	2.13	PUP	None
59	1692.29	47.20	115.52	28.31	1568.41	391.46	-196.00	338.93	391.52	120.04	1.83	PUP	None
60	1720.65	49.49	115.31	28.36	1587.26	412.61	-205.09	358.07	412.64	119.80	2.47	PUP	None

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SCHLUMBERGER Survey Report

Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
61	1751.15	52.16	116.21	30.50	1606.53	436.21	-215.37	379.36	436.23	119.58	2.76	PUP	None
62	1779.21	54.97	116.68	28.06	1623.19	458.76	-225.42	399.57	458.77	119.43	3.08	PUP	None
63	1807.62	57.42	116.67	28.41	1638.99	482.34	-236.02	420.66	482.35	119.30	2.63	PUP	None
64	1836.56	59.33	117.70	28.94	1654.17	506.97	-247.28	442.58	506.98	119.19	2.21	PUP	None
65	1865.80	59.29	117.83	29.24	1669.09	532.11	-258.99	464.83	532.11	119.13	0.12	PUP	None
66	1895.54	59.36	118.49	29.74	1684.27	557.69	-271.06	487.38	557.69	119.08	0.59	PUP	None
67	1924.23	60.08	118.95	28.69	1698.73	582.46	-282.97	509.11	582.46	119.07	0.87	PUP	None
68	1952.67	60.05	119.47	28.44	1712.92	607.11	-295.00	530.62	607.11	119.07	0.48	PUP	None
69	1980.36	59.99	119.22	27.69	1726.76	631.09	-306.75	551.53	631.09	119.08	0.25	PUP	None
70	2007.97	60.08	118.21	27.61	1740.55	655.01	-318.24	572.50	655.01	119.07	0.97	PUP	None
71	2022.07	60.26	118.69	14.10	1747.57	667.24	-324.07	583.26	667.24	119.06	0.98	PUP	None
72	2042.00	60.35	118.42	19.93	1757.44	684.55	-332.35	598.47	684.55	119.04	0.38	Proj. To TD	

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Company: **Santos Limited**

Schlumberger

Well: **Henry 2**

Field: **Otway**

Rig: **Ocean Patriot**

State: **Victoria**

VISION Resistivity
1:500 True Vertical Depth
Recorded Mode Log