

14th May 2019

Prepared by: Dmitry Avdeev

DRILLING OPERATIONS

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NNE Boggess 3H– Job Summary. Outline.

- Section 01 (Vertical),
 - Pass01 (main drill)
- Section 02 (Lateral),
 - Pass01 (drill, part 1)
 - Pass02 (drill, part 2)
 - Pass03 (drill, part 3)



- Section 01 (Vertical),
 - Pass01 (main drill)



NNE Boggess 3H– Job Summary. Section01. Pass01.





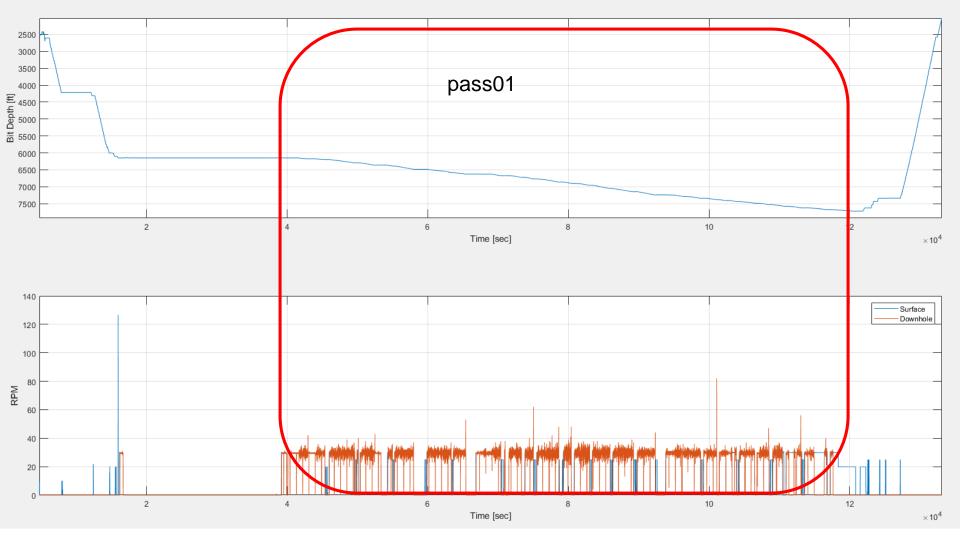
⁴ Customer provided data, not acquired by PetroMar

NNE Boggess 3H– Job Summary. Section01. Pason. On Bottom Status.





NNE Boggess 3H– Job Summary. Section01. Pass01 (zoom).



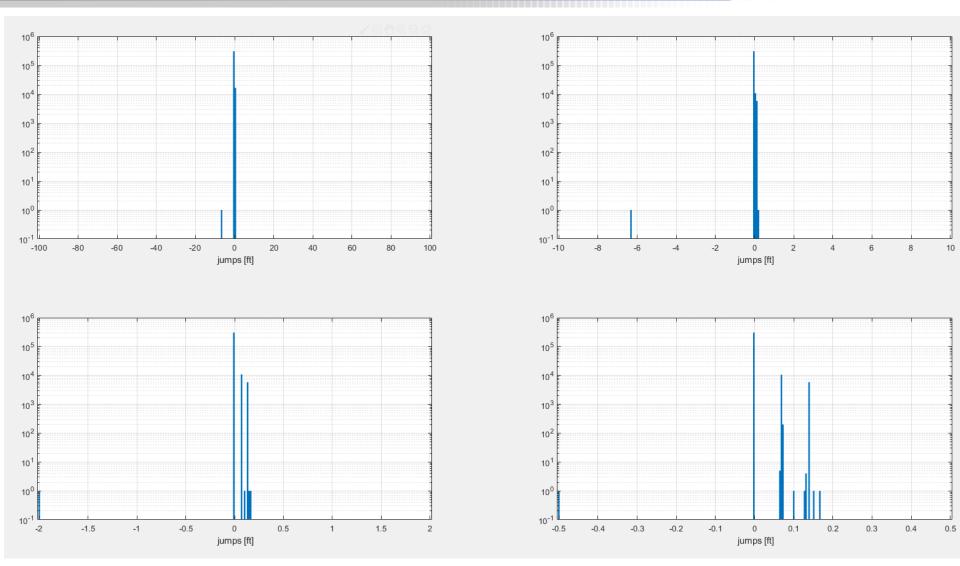


⁶ Customer provided data, not acquired by PetroMar

Pason TD Curve Irregularities



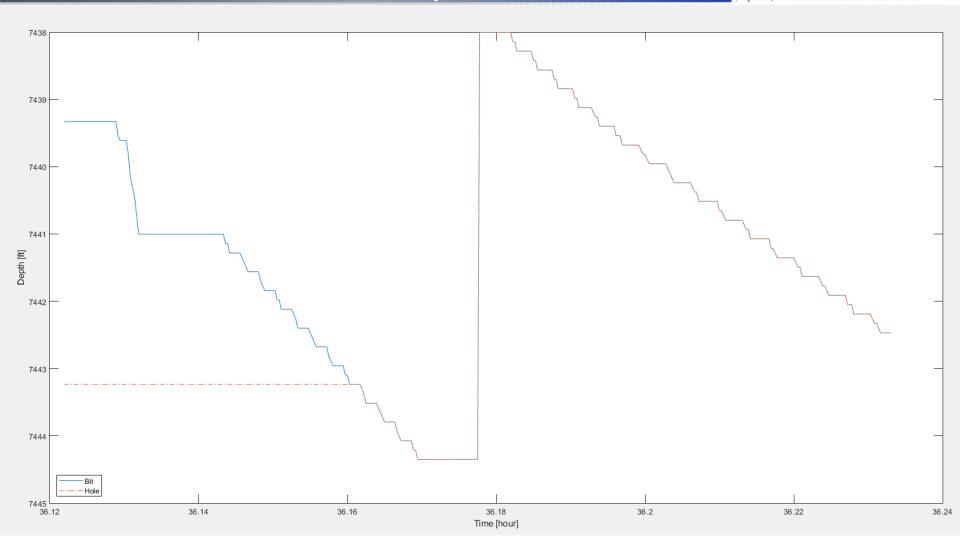
NNE Boggess 3H– Job Summary. Section01. Pason. TD Hole Depth Jumps Histogram.





⁸ Customer provided data, not acquired by PetroMar

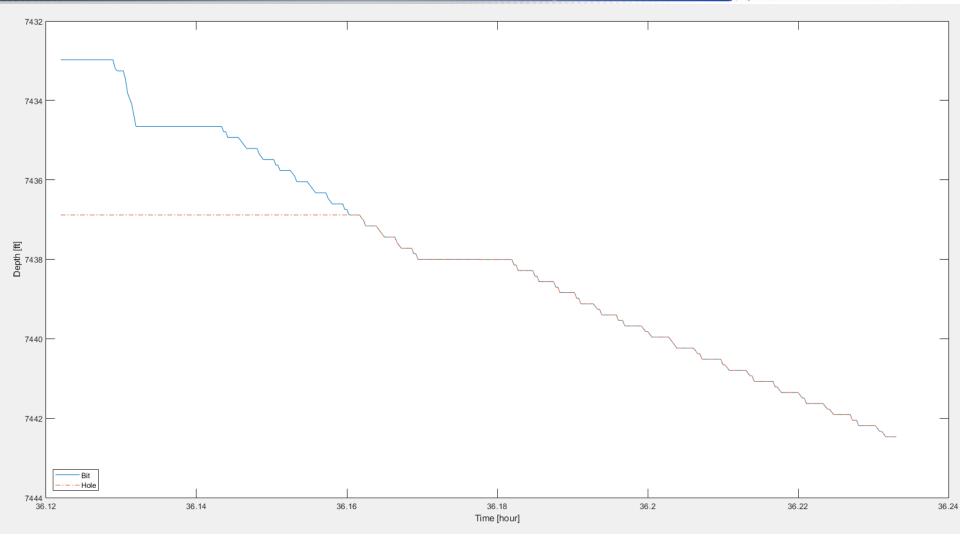
NNE Boggess 3H– Job Summary. Section01. Pason. Jumps >0.25 ft.





⁹ Customer provided surface data, not acquired by PetroMar

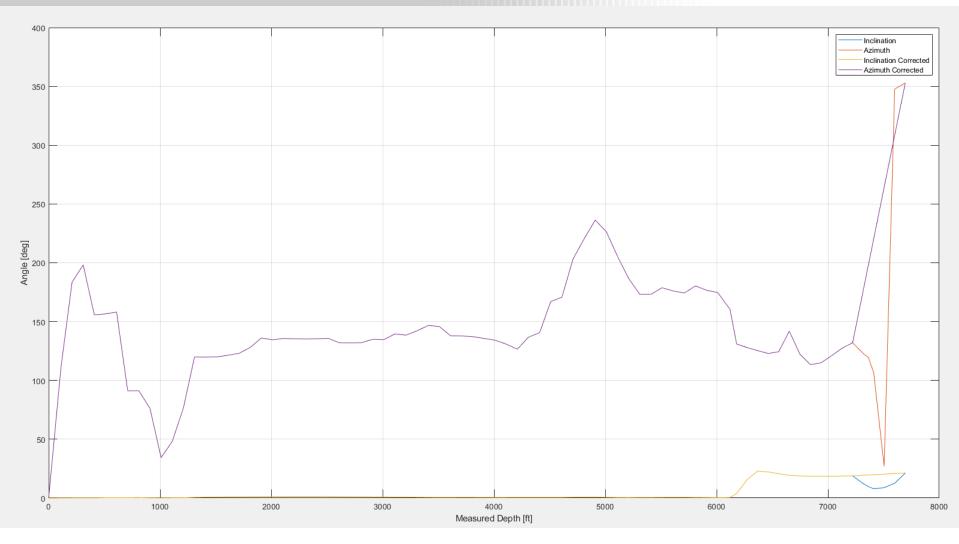
NNE Boggess 3H– Job Summary. Section01. Pason. Tracer Jumps Fixed.





¹⁰ Customer provided surface data, not acquired by PetroMar

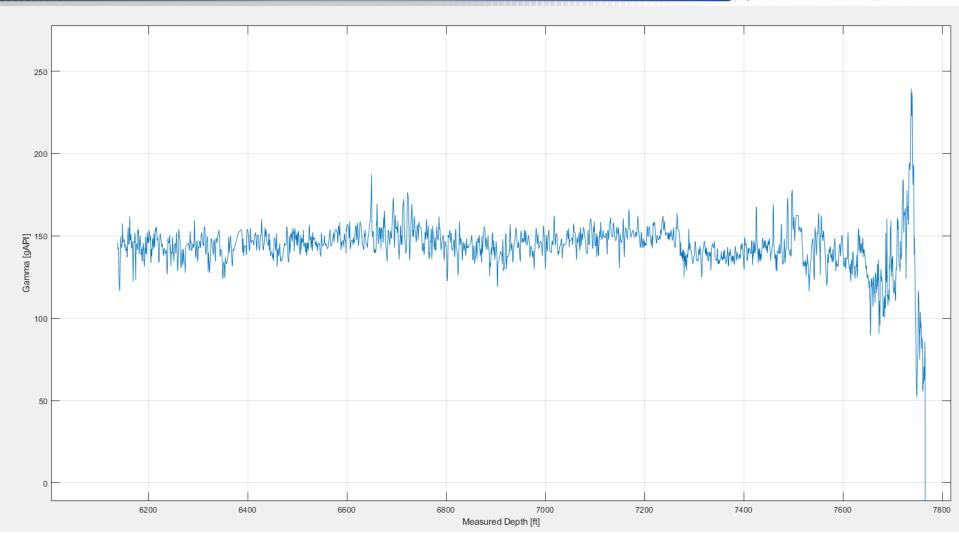
NNE Boggess 3H– Job Summary. Section01. MWD. Inclination & Azimuth.





¹¹ Customer provided surface data, not acquired by PetroMar

NNE Boggess 3H– Job Summary. Section01. MWD. Gamma API.



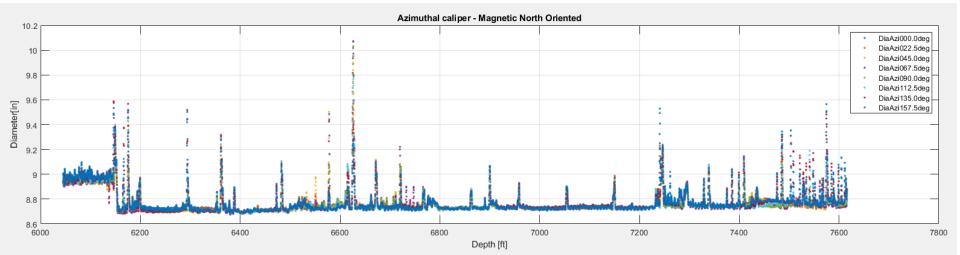
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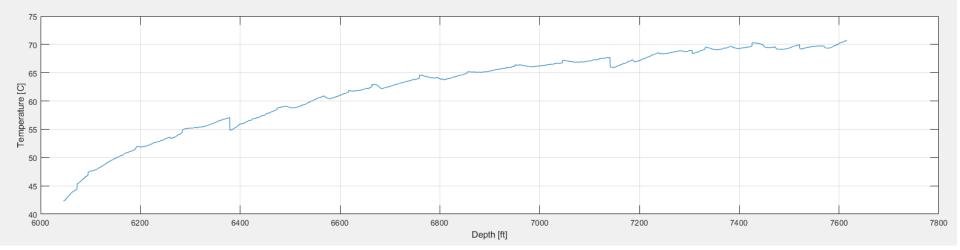
¹² Customer provided surface data, not acquired by PetroMar

- FV Sensor at 6,046 to 7,615 ft
- FV Sensor to Bit Distance ~105 ft
- Severe Stick-Slip !



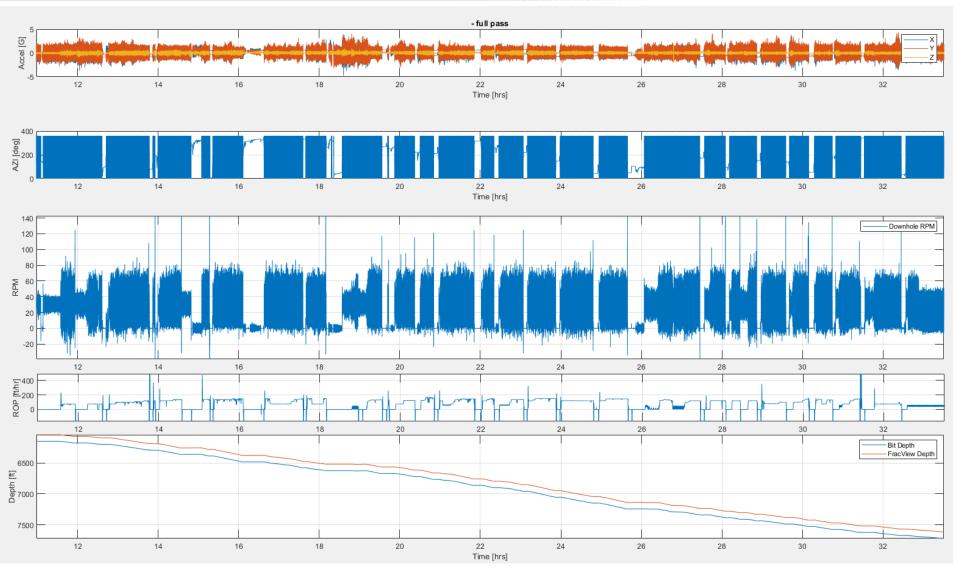
NNE Boggess 3H– Job Summary. Section01. Pass01. Azimuthal Calipers.





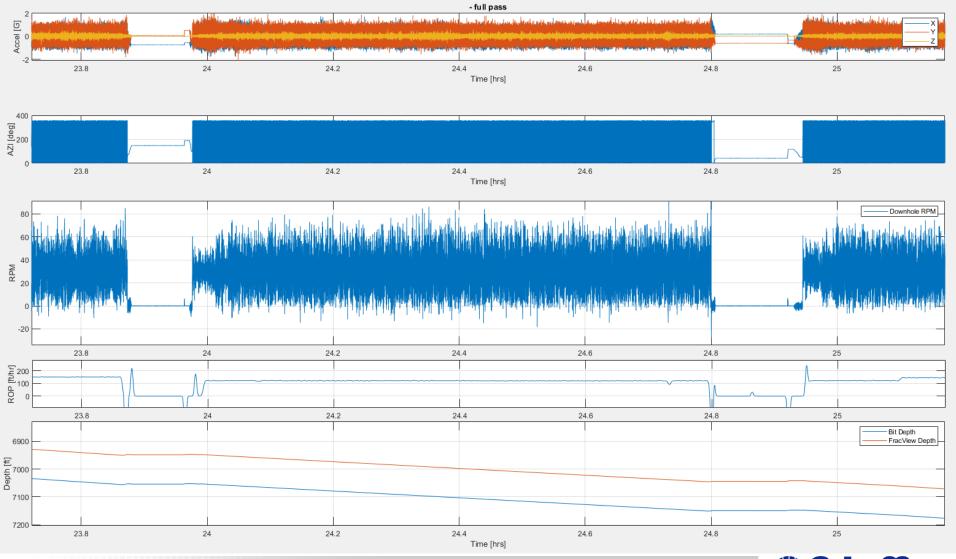


NNE Boggess 3H– Job Summary. Section01. Pass01. Motion Dynamics. Stick-S p.



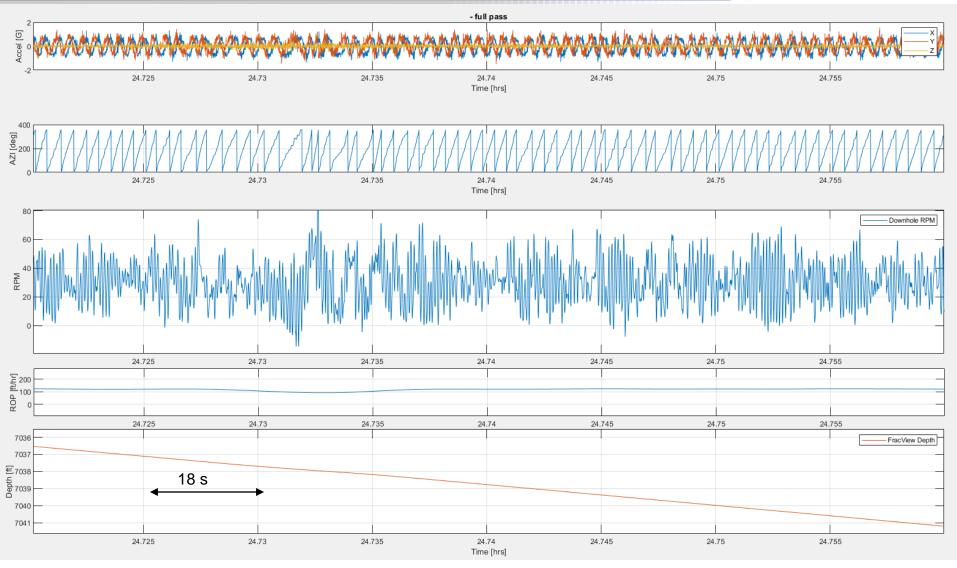


NNE Boggess 3H– Job Summary. Section01. Pass01. Motion Dynamics (zoom)



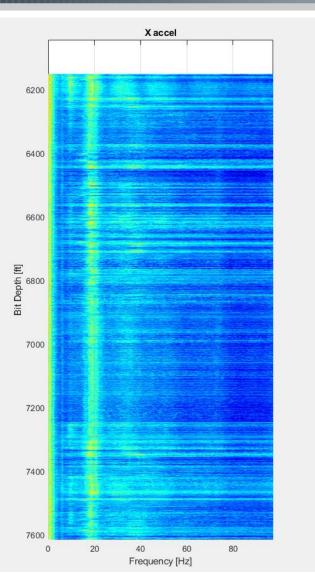


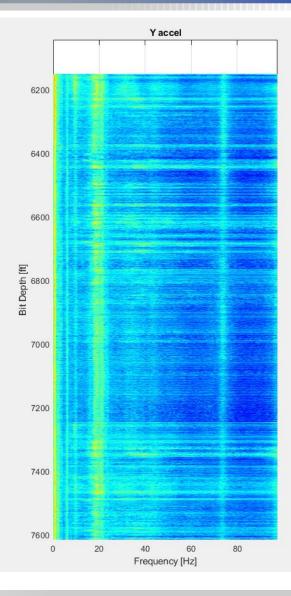
NNE Boggess 3H– Job Summary. Section01. Pass01. Motion Dynamics (zoom)

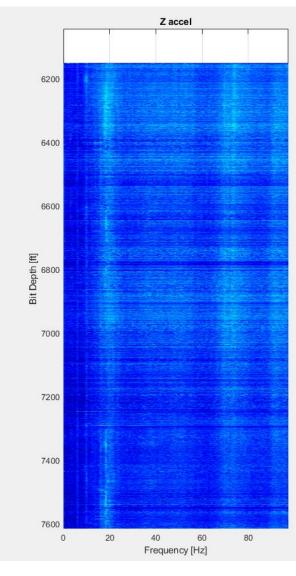




NNE Boggess 3H– Job Summary. Section01. Pass01. PSD







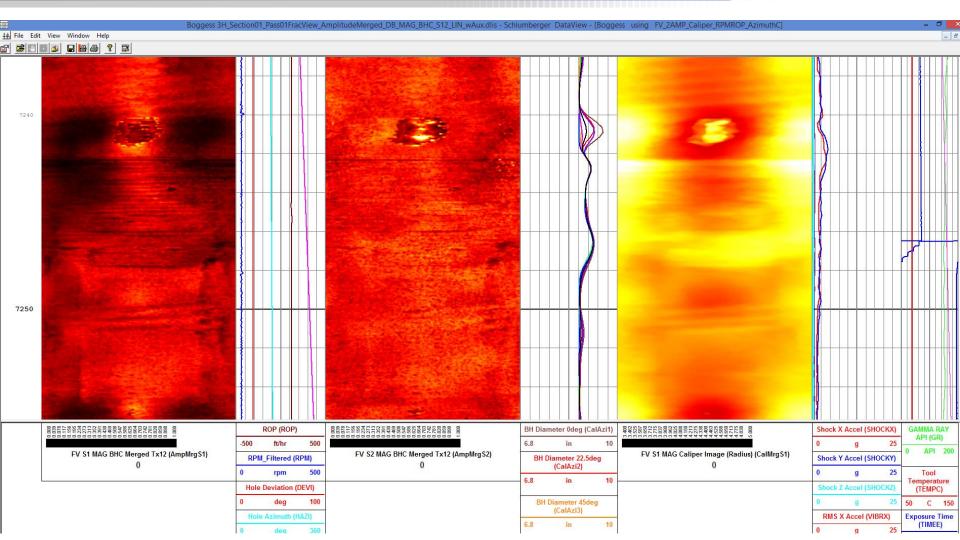


I	Roddess 3H Sr	ection01 Pass01FracView 4	AmplitudeMerged_DB_MAG_BHC_S12_LIN_wAux.dlis - Sc	hlumberger DataView - IBogg	ess using FV 2AMP Caliper RPMROP AzimuthC1		_ 8
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6170							
	0,000 0,1117 0,1	ROP (ROP)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BH Diameter 0deg (CalAzi1)	5 000	Shock X Accel (SHOCK)	API (GR)
	FV S1 MAG BHC Merged Tx12 (AmpMrgS1) ()	-500 ft/hr 500	FV S2 MAG BHC Merged Tx12 (AmpMrgS2)	6.8 in 10	FV S1 MAG Caliper Image (Radius) (CalMrgS1)	0 g 2	0 API 200
		RPM_Filtered (RPM) 0 rpm 500	0	(CalAzi2) ()		Shock Y Accel (SHOCKY 0 g 2	7) 25 Tool
		Hole Deviation (DEVI)		6.8 in 10		Shock Z Accel (SHOCKZ	Temperature
		0 deg 100		BH Diameter 45deg (CalAzi3)		0 g 2	
		Hole Azimuth (HAZI)		6.8 in 10		RMS X Accel (VIBRX)	(TIMEE)
J		0 deg 360	1	1		0 g 2	5

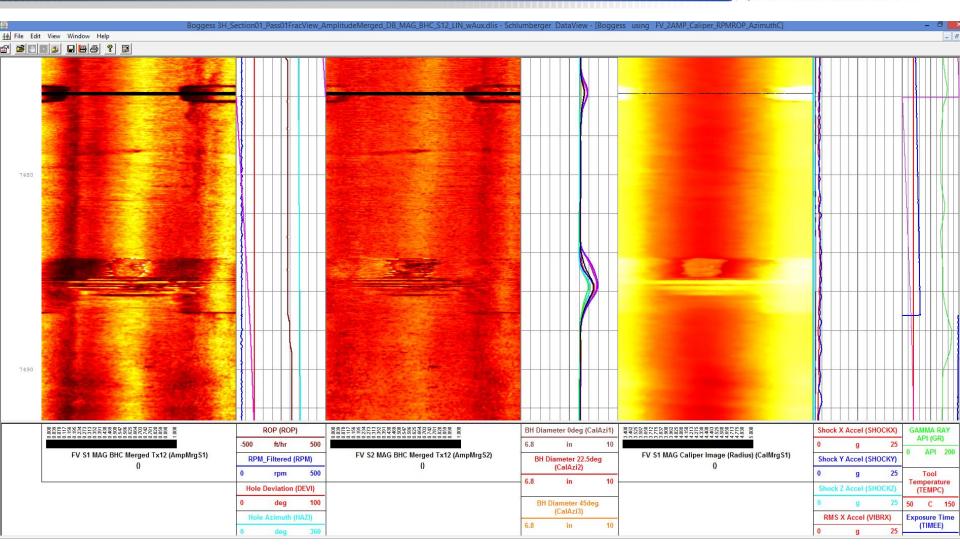


	ection01_Pass01FracView_A	mplitudeMerged_DB_MAG_BHC_\$12_LIN_wAux.dlis - Sch	umberger DataView - [Bogg	ess using FV_2AMP_Caliper_RPMROP_AzimuthC]		- 8 🍢
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0 000 0 117 0 117	ROP (ROP)	0.000 0.773 0.1117 0.11	BH Diameter Odeg (CalAzi1)	3.440 2.452	Shock X Accel (SHOCKX)	GAMMA RAY API (GR)
FV S1 MAG BHC Merged Tx12 (AmpMrgS1) ()	-500 ft/hr 500 RPM_Filtered (RPM)	FV S2 MAG BHC Merged Tx12 (AmpMrgS2) ()	6.8 in 10 BH Diameter 22.5deg (CalAzi2)	FV S1 MAG Caliper Image (Radius) (CalMrgS1) ()	0 g 25 Shock Y Accel (SHOCKY) 0 API 20	
	0 rpm 500 Hole Deviation (DEVI)	U	- 6.8 in 10		0 g 25 Shock Z Accel (SHOCKZ)	Tool Temperature (TEMPC)
	0 deg 100		BH Diameter 45deg		0 g 25	
	Hole Azimuth (HAZI) 0 deg 360		(CalAzi3) 6.8 in 10		RMS X Accel (VIBRX) 0 g 25	Exposure Time







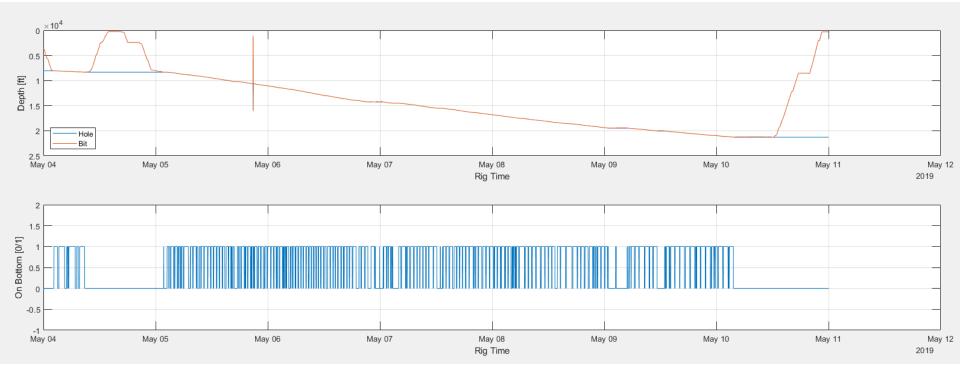




- Section 02 (Lateral),
 - Pass01 (drill, part 1)
 - Pass02 (drill, part 2)
 - Pass03 (drill,part 3)
 - FV675007



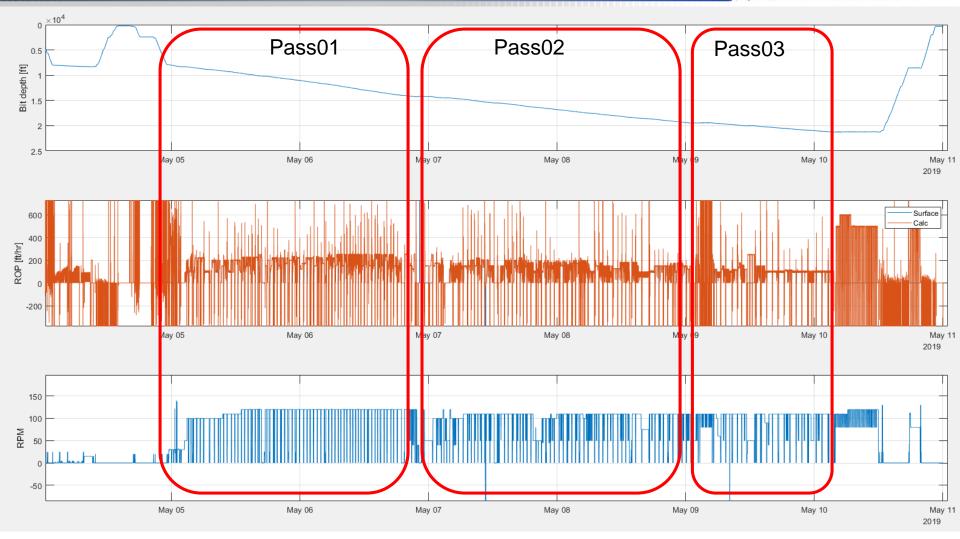
NNE Boggess 3H– Job Summary. Section02. Pason. On Bottom Status.





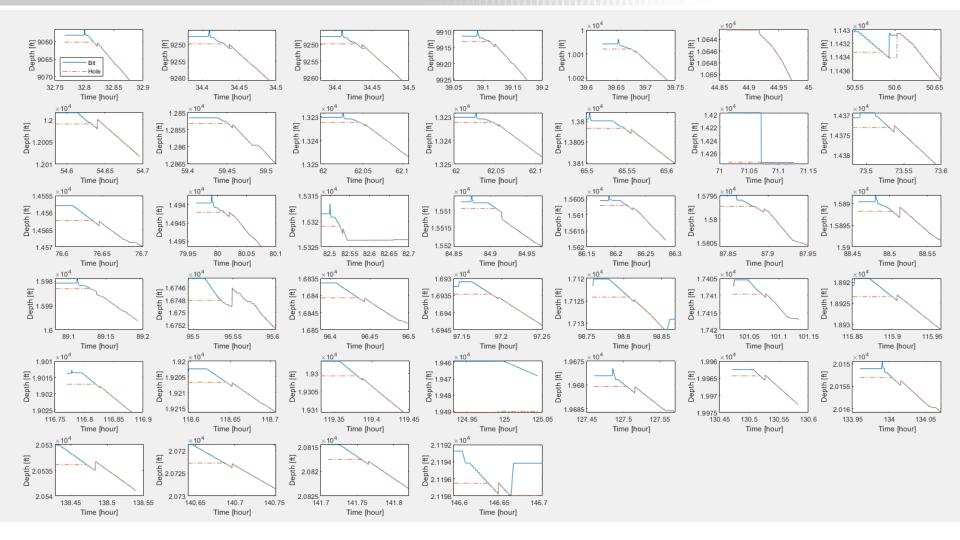
²⁴ Customer provided data, not acquired by PetroMar

NNE Boggess 3H– Job Summary. Section02. Passes.





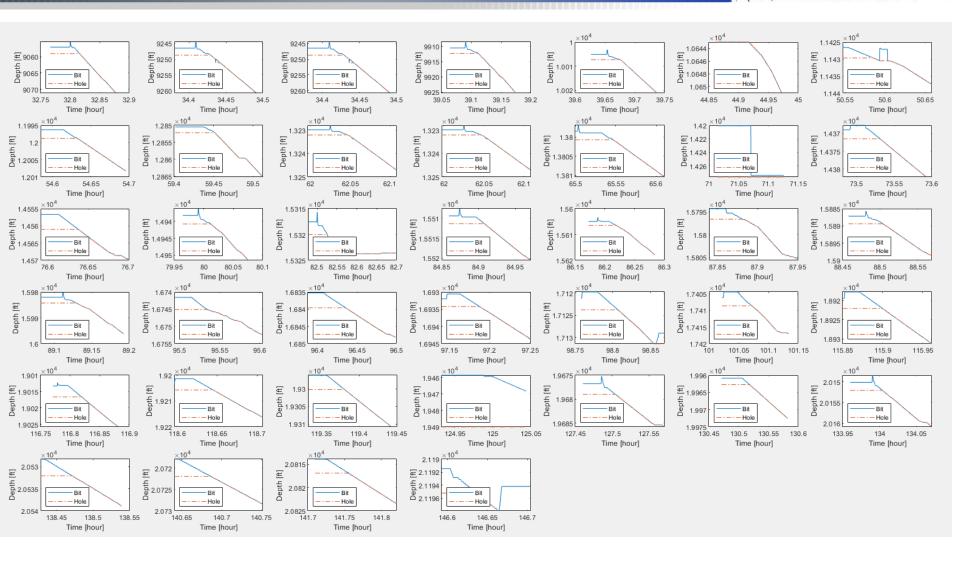
NNE Boggess 3H– Job Summary. Section02. Pason. Hole Depth Jumps >0.3 ft





²⁶ Customer provided data, not acquired by PetroMar

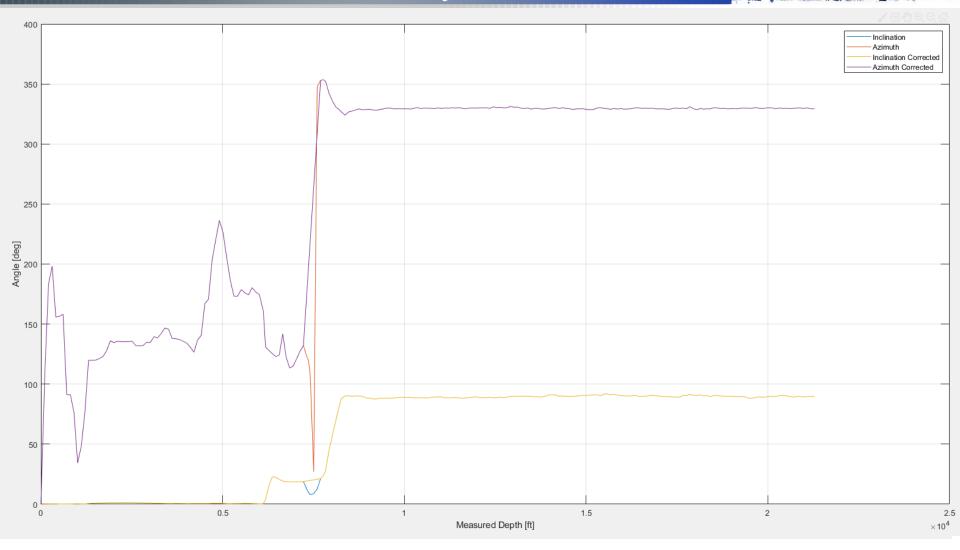
NNE Boggess 3H– Job Summary. Section02. Pason. Hole Depth Jumps >0.5 ft Correction





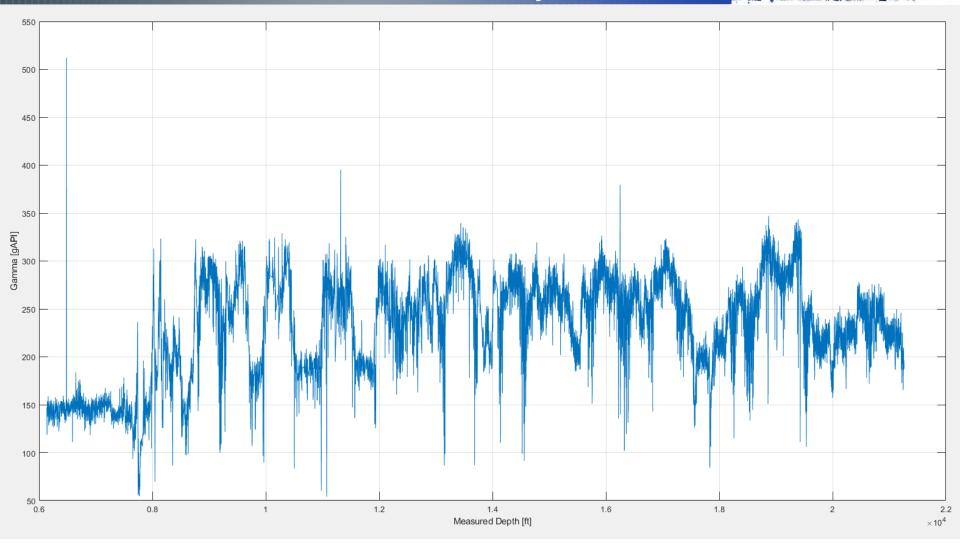
²⁷ Customer provided data, not acquired by PetroMar

NNE Boggess 3H– Job Summary. Section02. MWD. Survey





NNE Boggess 3H– Job Summary. Section02. MWD. Gamma Ray



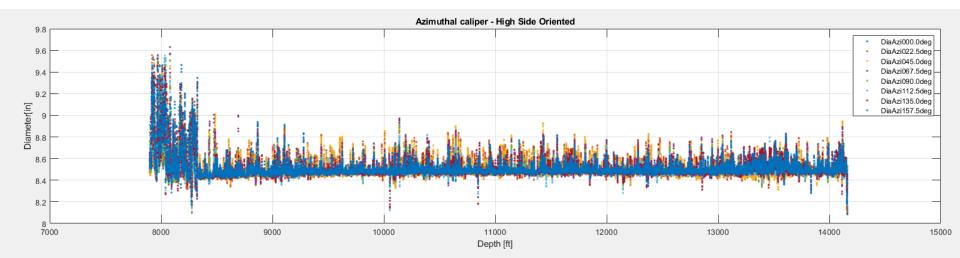


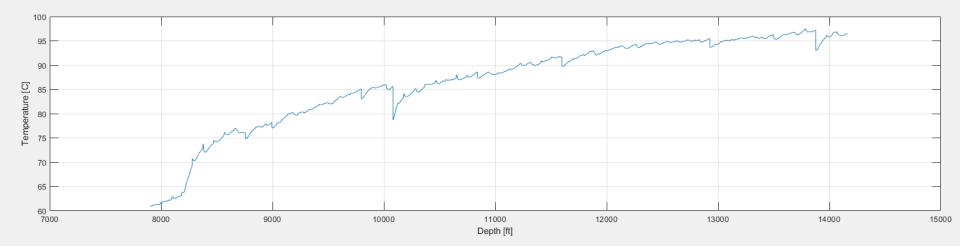
²⁹ Customer provided data, not acquired by PetroMar

- FV Sensor at 7,900 to 14,147 ft
- FV Sensor to Bit Distance ~115 ft



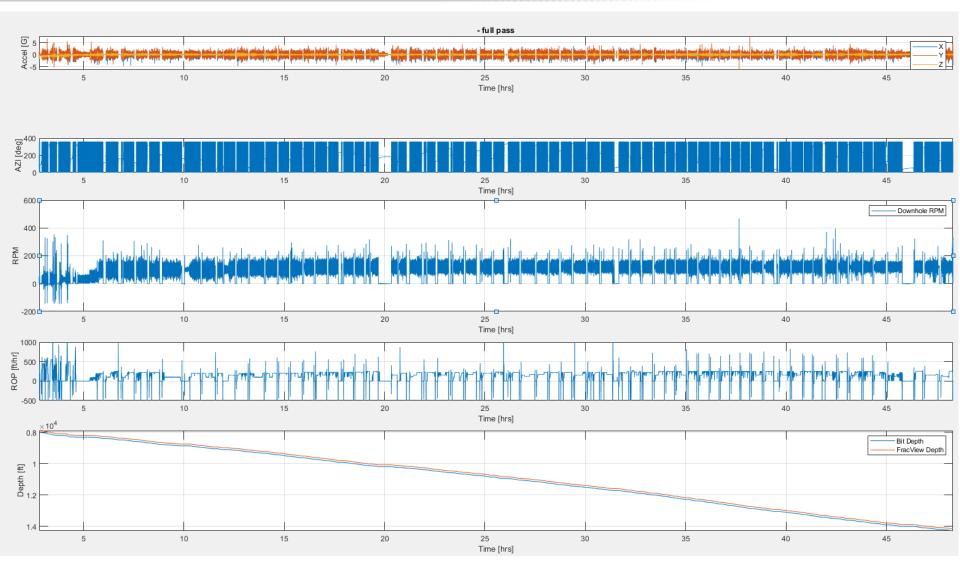
NNE Boggess 3H– Job Summary. Section02. Pass01. Azimuthal Calipers.





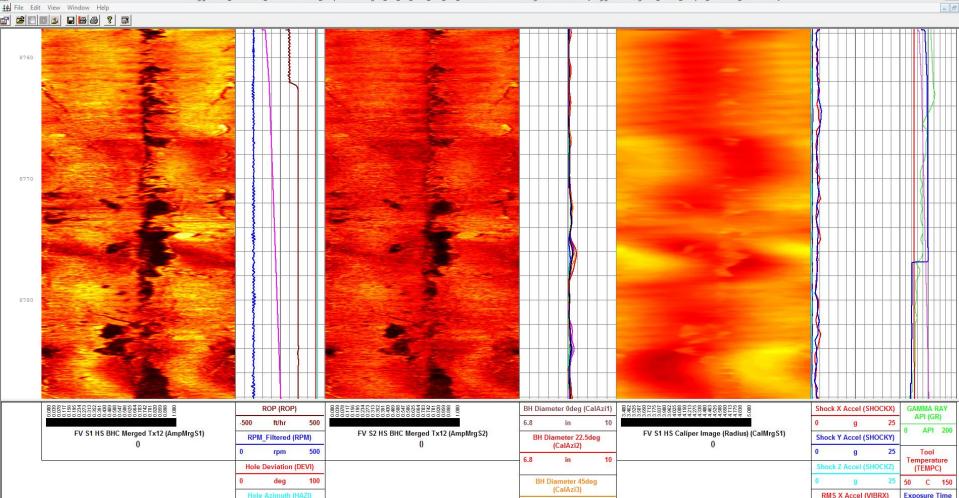


NNE Boggess 3H– Job Summary. Section02. Pass01. Motion Dynamics.





Boggess 3H Section02 Pass01FracView AmplitudeMerged DB HS BHC S12 LIN wAux.dlis - Schlumberger DataView - [Boggess using FV 2AMP Caliper RPMROP AzimuthCa]





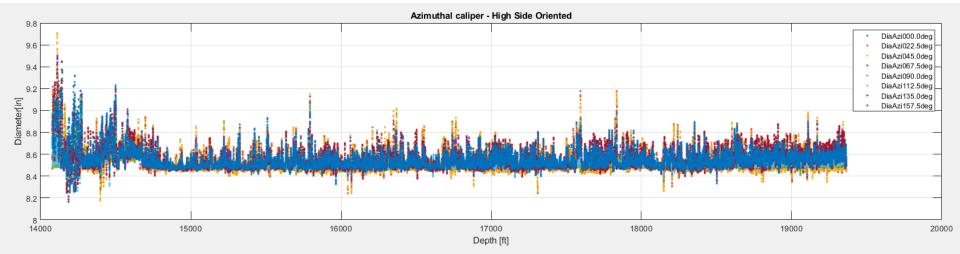
Boggess 3H_Section02_Pass01FracView_AmplitudeMerged_DB_HS_BHC_S12_LIN_wAux.dlis - Schlumberger DataView - [Boggess using FV_2AMP_Caliper_RPMROP_AzimuthCa] Boggess 3H Section02 Pass01FracView AmplitudeMerged DB HS BHC S12 LIN wAux.dlis - Schlumberger DataView - [Boggess using FV 2AMP Caliper RPMROP AzimuthCa] H File Edit View Window Help 🖆 🖻 🗉 😰 🖬 🖉 🚳 🔋 🖼 8760 8770 8780 ROP (ROP) BH Diameter 0deg (CalAzi1) Shock X Accel (SHOCKX) GAMMA RAY API (GR) 500 6.8 500 ft/hr in 10 25 g API 20 FV S1 HS BHC Merged Tx12 (AmpMrgS1) FV S2 HS BHC Merged Tx12 (AmpMrgS2) FV S1 HS Caliper Image (Radius) (CalMrgS1) RPM Filtered (RPM) BH Diameter 22.5deg Shock Y Accel (SHOCKY) 0 () () (CalAzi2) 500 25 rpm g Tool 6.8 **Femperature** Hole Deviation (DEVI) Shock Z Accel (SHOCKZ) (TEMPC) dea 100 **BH Diameter 45deg** 50 C (CalAzi3) RMS X Accel (VIBRX) Hole Azimuth (HAZI) Exposure Time

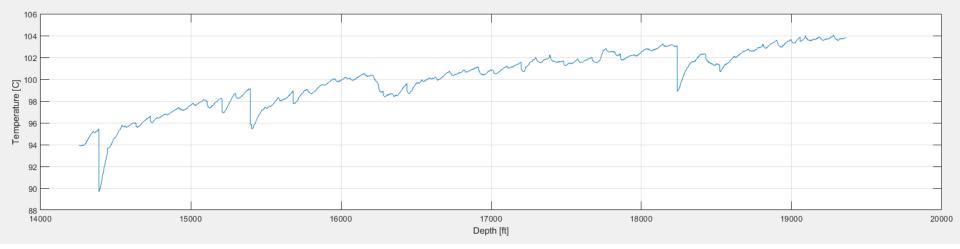


- FV Sensor at 14,078 to 19,365 ft
- FV Sensor to Bit Distance ~115 ft



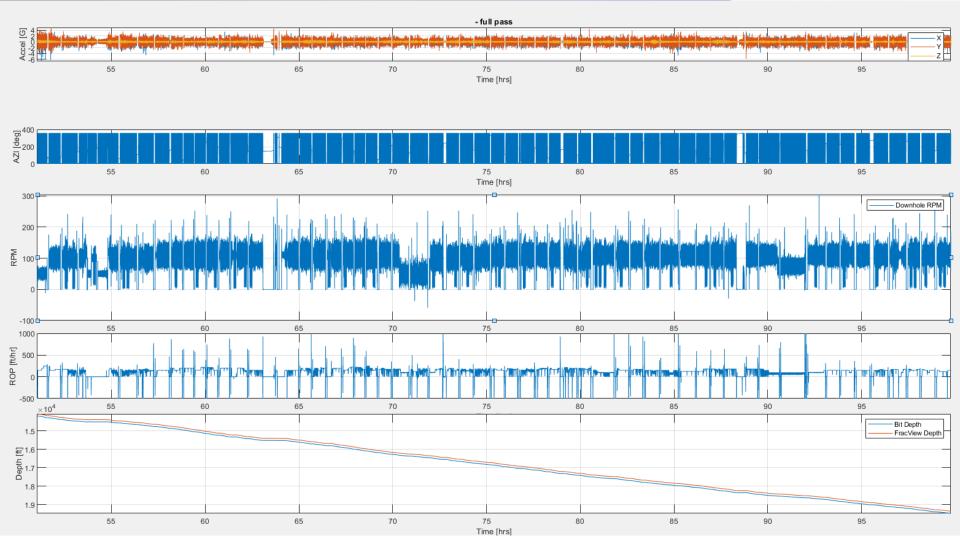
NNE Boggess 3H– Job Summary. Section02. Pass02. Azimuthal Calipers.







NNE Boggess 3H– Job Summary. Section02. Pass02. Motion Dynamics.





NNE Boggess 3H– Job Summary. Section02. Pass02. BHC HS S1 vs S2

Boggess 3H_Section02_Pass02FracView_AmplitudeMerged_DB_HS_BHC_S12_LIN_wAux.dlis - Schlumberger DataView - [Boggess using FV_2AMP_Caliper_RPMROP_AzimuthCa] H File Edit View Window Help 18820 18840 ROP (ROP) BH Diameter Odeg (CalAzi1) Shock X Accel (SHOCKX) SAMMA RA API (GR) 500 500 6.8 in 10 25 ft/hr API FV S2 HS BHC Merged Tx12 (AmpMrgS2) FV S1 HS Caliper Image (Radius) (CalMrgS1) FV S1 HS BHC Merged Tx12 (AmpMrgS1) **RPM Filtered (RPM)** BH Diameter 22.5deg Shock Y Accel (SHOCKY) 0 () (CalAzi2) 0 500 25 Too rpm q 6.8 Temperatu Hole Deviation (DEVI) Shock 7 Accel (SHOCK7) (TEMPC dog 100 DU Dias

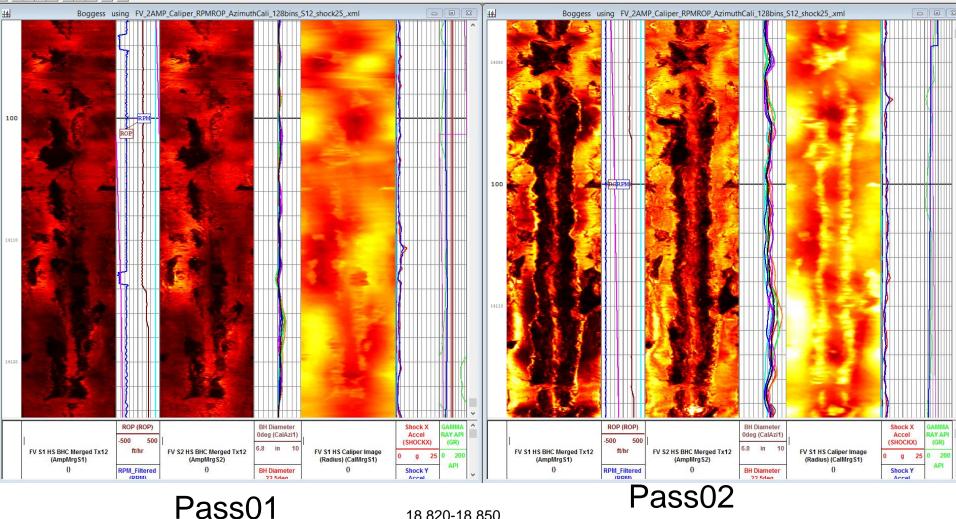
18,820-18,850



NNE Boggess 3H– Job Summary. Section02. Pass02 vs Pass01

Boggess 3H_Section02_Pass01FracView_AmplitudeMerged_DB_HS_BHC_S12_LIN_wAux.dlis - Schlumberger DataView





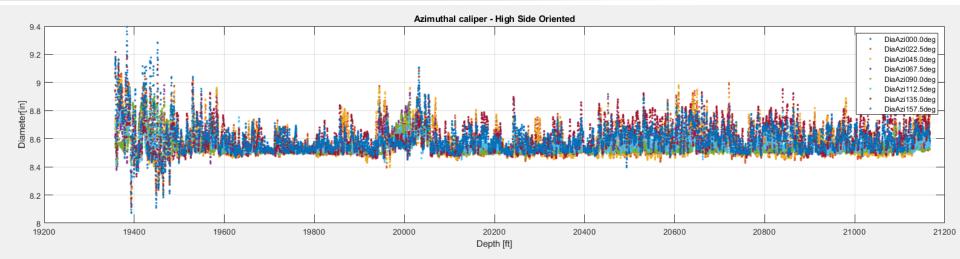
18,820-18,850

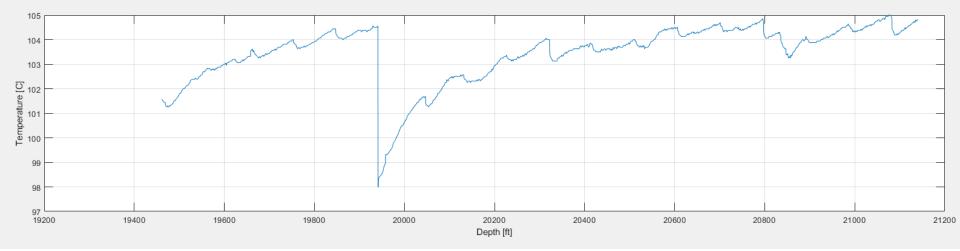


- FV Sensor at 19,360 to 21,167 ft
- FV Sensor to Bit Distance ~115 ft



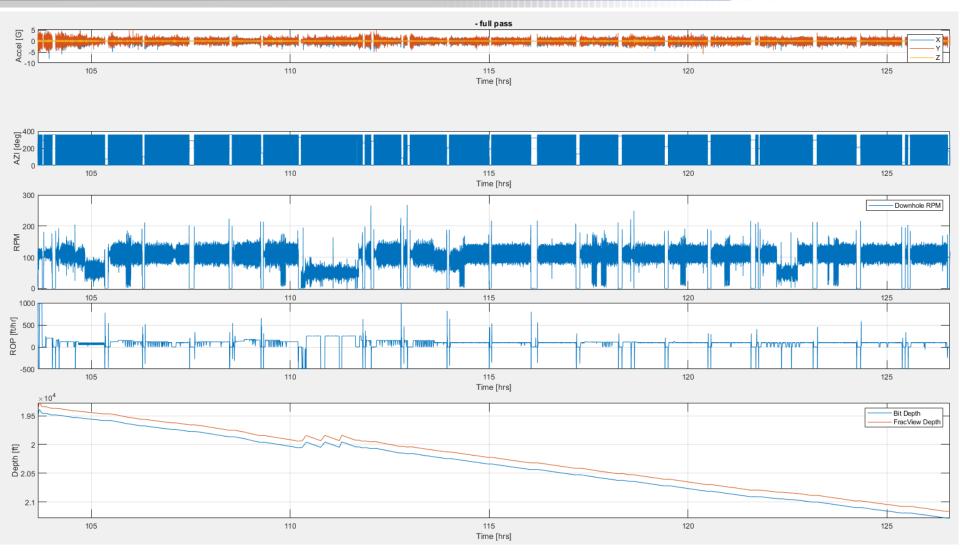
NNE Boggess 3H– Job Summary. Section02. Pass03. Azimuthal Calipers.





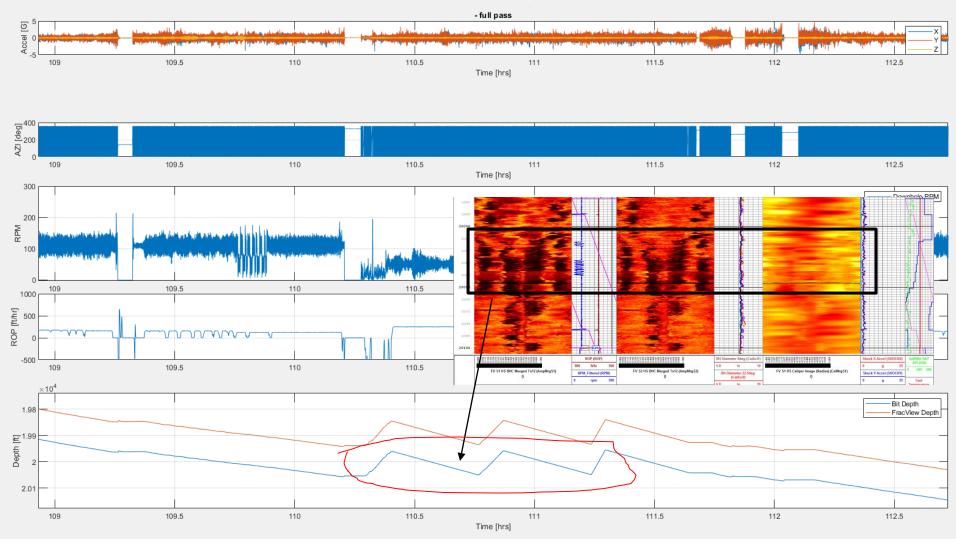


NNE Boggess 3H– Job Summary. Section02. Pass03. Motion Dynamics.



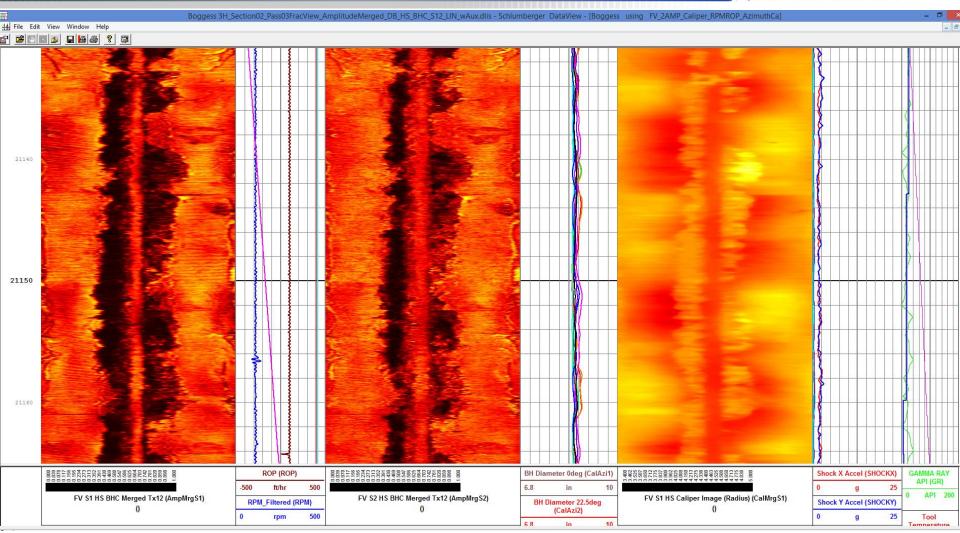


NNE Boggess 3H– Job Summary. Section02. Pass03. Motion Dynamics (zoom in).





NNE Boggess 3H– Job Summary. Section02. Pass03. BHC HS S1 vs S2



21,130-21,165



Thank You

