Schlumberger

Company: RAZ OIL AND GAS, L.L.C

Well: YO STATE SWD 1

Field: OSUDO SOUTH MORROW

County: LEA State: New Mexico

County: LEA
Field: OSUDO SOUTH MORROW
Location: SECTION: 15, TOWNSHIP: T21S, RANGE: R35E
Well: YO STATE SWD 1
Company: RAZ OIL AND GAS, L.L.C

NEUTRON GAMMA RAY

THRUBIT LEVEL 1

REAL TIME LOG

Location:				
SECTION: 15, TOWNSHIP: T21S, RANGE: R35E 660' FNL TO 840' FWL		Elev.:	K.B.	3603.00 ft
			G.L.	3587.00 ft
			D.F.	3603.00 ft
Permanent Datum:	Ground Level	Elev.:		3587.00 f
Log Measured From:	Kelly Bushing	16.00 ft		above Perm.Datum
Drilling Measured From:	Kelly Bushing			

API Serial No.	Section:	Township:	Range:
30-025-38162	15	T21S	R35E

Logging Date		21-Jun-2017				
Run Number		1				
Depth Driller		14347.00 ft				
Schlumberger Depth		14347.00 ft				
Bottom Log Interval		14347.00 ft				
Top Log Interval		13962.00 ft				
Casing Driller Size @ Depth		5 in @ 13962.00 ft				
Casing Schlumberger		13972 ft				
Bit Size		3.875 in				
Type Fluid In Hole		Fresh Water				
MUD Density	Viscosity	10 lbm/gal				
MUD Fluid Loss	PH					
MUD Source of Sample		Active Tank				
RM @ Meas Temp		0.2 ohm.m @ 68 degF				
RMF @ Meas Temp		0.15 ohm.m @ 68 degF				
RMC @ Meas Temp						
Source RMF	RMC		Pressed			
RM @ BHT	RMF @ BHT	0.08 @ 186	0.06 @ 186			
Max Recorded Temperatures		186 degF				
Circulation Stopped	Time	21-Jun-2017	12:00:00			
Logger on Bottom	Time	21-Jun-2017	12:13:00			
Unit Number	Location:	2136	MIDLAND			
Recorded By		MASSIEL DIEZ				
Witnessed By		BEN THOMPSON				

Disclaimer

Contents

Operational Run Summary

Parameter (unit)	1					
Date Log Started	21-Jun-2017					
Time Log Started	14:48:47					
Date Log Finished						
Time Log Finished						
Top Log Interval (ft)						
Bottom Log Interval (ft)						
Total Depth (ft)	14347.00					
Max Hole Deviation (deg)						
Azimuth of Max Deviation (deg)						
Bit Size (in)	3.875					
Logging Unit Number	2136					
Logging Unit Location	MIDLAND					
Recorded By	MASSIEL DIEZ					
Witnessed By	BEN THOMPSON					
Service Order Number	DUU2-00004					

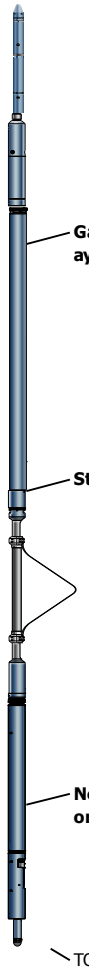
Borehole Fluids

Parameter(unit)	1					
Fluid Type	Water					
Fluid Name	Fresh Water					
Max Recorded Temperatures (degF)	186					
Source of Sample	Active Tank					
Salinity (ppm)	0					
Density (lbm/gal)	10					
Funnel Viscosity (s)						
Fluid Loss (cm3)						
PH						
Date/Time Circulation Stopped	21-Jun-2017 12:00:00					
Date Logger on Bottom	21-Jun-2017					
Time Logger on Bottom	12:13:00					
Source RMF						
RMC	Pressed					
RM @ Meas Temp (ohm.m@degF)	0.2 @ 68					
RMF @ Meas Temp (ohm.m@degF)	0.15 @ 68					

RMC @ Meas Temp (ohm.m@degF)						
RM @ BHT (ohm.m@degF)	0.08 @ 186					
RMF @ BHT (ohm.m@degF)	0.06 @ 186					
RMC @ BHT (ohm.m@degF)	NaN @ 186					
Total Solid (%)						
High Gravity Solids (%)						

Remarks and Equipment Summary

1: Toolstring



Lengths are in ft
Maximum Outer Diameter = 2.125 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

1: Remarks
Thank you for choosing Schlumberger!
Crew: M.Diez, R.Dowdell, N.Ismael, D.Medranos
Thrubit Level 1; Neutron / GR
All tools run as per toolsketch
No Mud Info, Ph, Visc, Den
Log from TD-CS
Correlated to Schlumberger Wireline Logs Dated: Apr-13-2017

Depth Summary

	1		
Depth Measuring Device			
Type	IDW-B		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Calibration Cable Type			
Wheel Correction 1	0		
Wheel Correction 2	0		
Tension Device			
Type	CMTD-B/A		

Serial Number			
Calibration Date			
Calibrator Serial Number			
Number of Calibration Points	0		

Logging Cable

Type	7-46P-XS		
Serial Number			
Length	24000.00 ft		
Conveyance Type	Wireline		
Rig Type	Pulling Unit		

1:Depth Control Parameters		Depth Control Remarks
Log Sequence	Subsequent Trip To the Well	All Schlumberger Depth Procedure Followed
Reference Log Name		IDW used as primary depth control measurement.
Reference Log Run Number		Z-Chart used as secondary depth control measurement.
Reference Log Date		
Subsequent Trip Down Log Correction		

1

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
ICV	Integrated Cement Volume	GCSE_UP_PASS, FCD	0	ft3
IHV	Integrated Hole Volume	GCSE_UP_PASS	31.37	ft3

Software Version

Acquisition System	Version
Maxwell 2017 SP1	7.1.82245.3100
Application Patch	Wireline_Hotfix-ASLT-QSLT-SSLT-2017SP1_7.1.83025
	Wireline_Hotfix-AuxTool-2017SP1_7.1.83719
	Wireline_Hotfix-Induction-2017SP1_7.1.85987
	Wireline_Hotfix-UBI-2017SP1_7.1.83745
	Wireline_TestKit-CMR-NG-2017SP1_7.1.84491

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1	Log[4]:Up	Up	13004.58 ft	14355.13 ft	21-Jun-2017 5:09:15 PM	21-Jun-2017 5:46:47 PM	ON	-8.12 ft	No

All depths are referenced to toolstring zero

Log

Company:RAZ OIL AND GAS, L.L.C Well:YO STATE SWD 1

1: Log[4]:Up:S010

Description: ThruBit_Nuclear_RT Format: Log (ThruBit_Nuclear_RT) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 21-Jun-2017 18:23:19

IHV - Integrated Hole Volume every 10.00 (ft3)

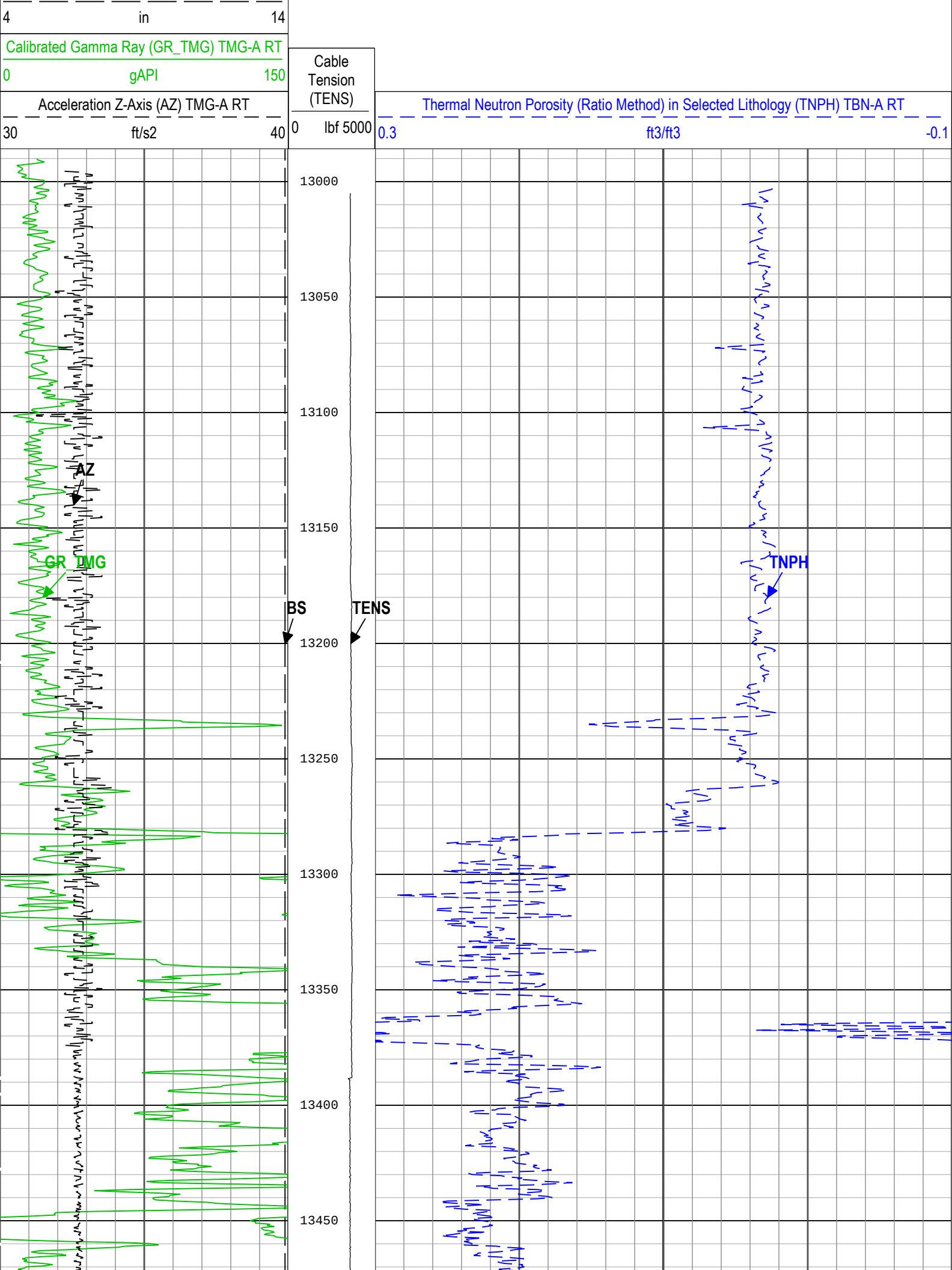
TIME_1900 - Time Marked every 60.00 (s)

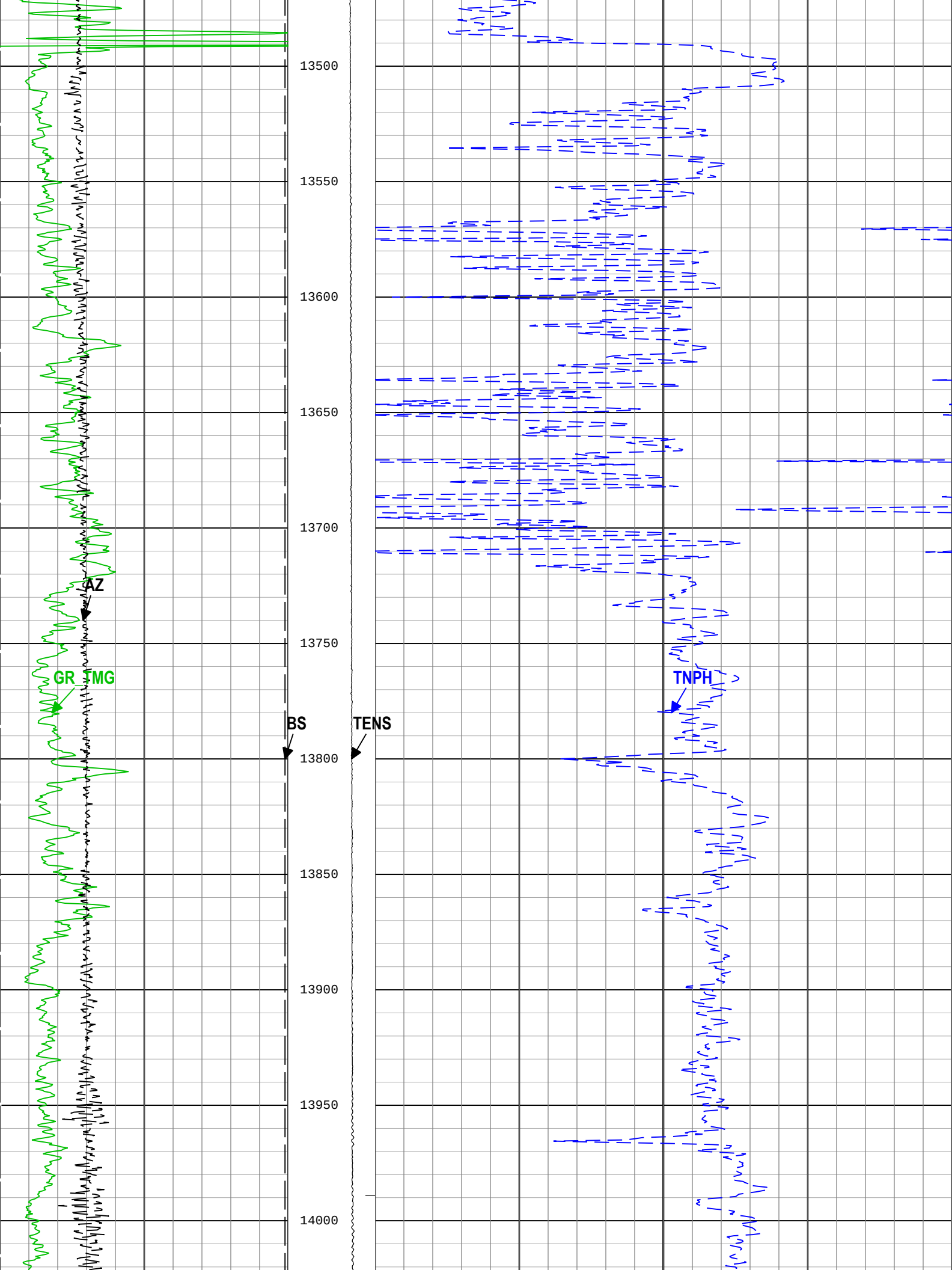
IHV - Integrated Hole Volume every 100.00 (ft3)

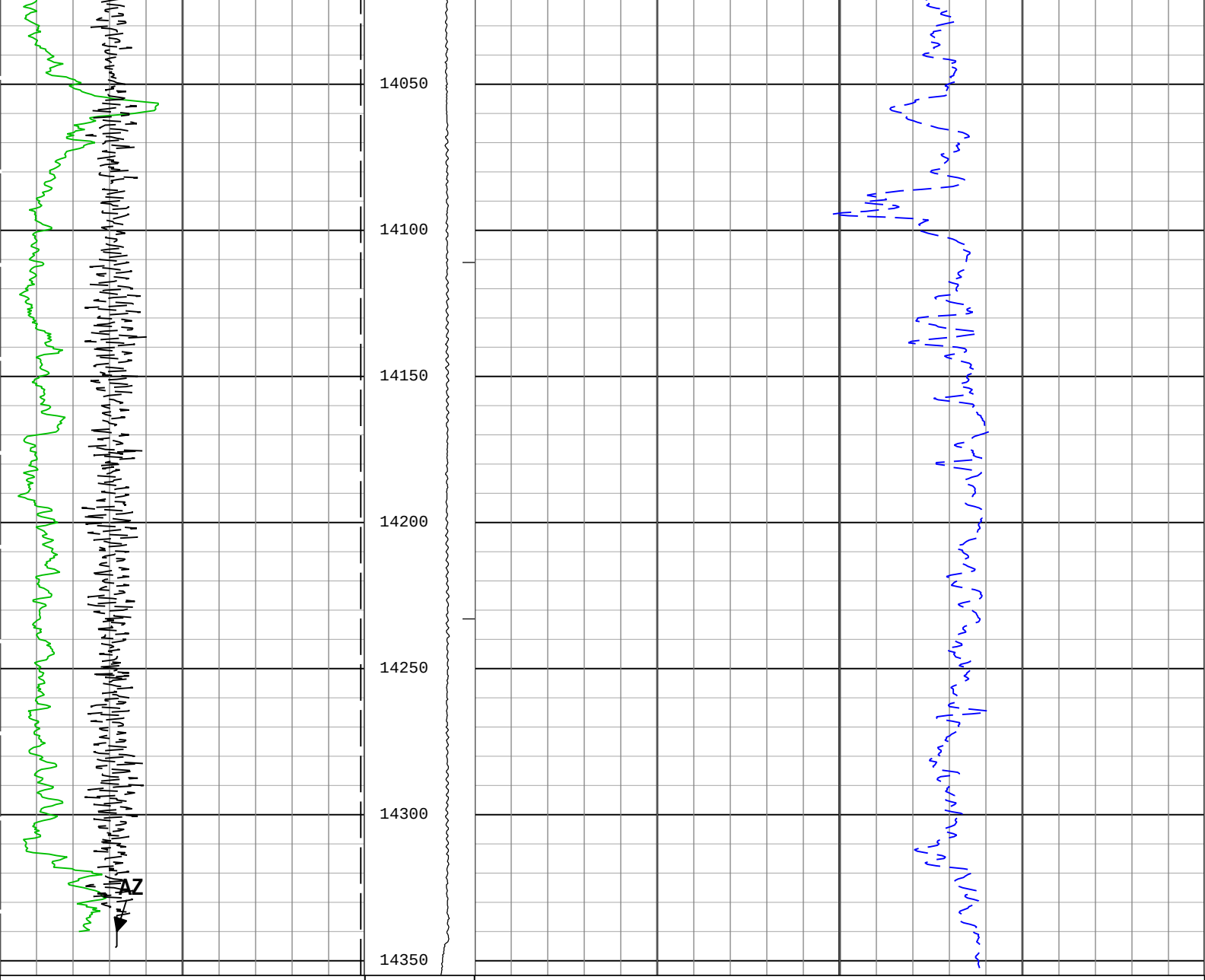
ICV - Integrated Cement Volume every 10.00 (ft3)

ICV - Integrated Cement Volume every 100.00 (ft3)

Bit Size (BS) RT


4
in
14
Calibrated Gamma Ray (GR_TMG) TMG-A RT
0
gAPI
150
Acceleration Z-Axis (AZ) TMG-A RT
30
ft/s2
40
Cable Tension (TENS)
0
lbf 5000
Thermal Neutron Porosity (Ratio Method) in Selected Lithology (TNPH) TBN-A RT
0.3
ft3/ft3
-0.1
13000
13050
13100
13150
13200
13250
13300
13350
13400
13450
AZ
GR_TMG
BS
TENS
TNPH


13500
13550
13600
13650
13700
13750
13800
13850
13900
13950
14000
AZ
GR_TMG
BS
TENS
TNPH



Bit Size (BS) RT
4 in 14

Cable Tension (TENS)
0 lbf 5000

Thermal Neutron Porosity (Ratio Method) in Selected Lithology (TNPH) TBN-A RT
0.3 ft3/ft3 -0.1

Calibrated Gamma Ray (GR_TMG) TMG-A RT
0 gAPI 150

Acceleration Z-Axis (AZ) TMG-A RT
30 ft/s2 40

ICV - Integrated Cement Volume every 100.00 (ft3)

ICV - Integrated Cement Volume every 10.00 (ft3)

IHV - Integrated Hole Volume every 100.00 (ft3)

TIME_1900 - Time Marked every 60.00 (s)

IHV - Integrated Hole Volume every 10.00 (ft3)

Description: ThruBit_Nuclear_RT Format: Log (ThruBit_Nuclear_RT) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 21-Jun-2017 18:23:19

Channel Processing Parameters

1: Parameters

Parameter	Description	Tool	Value	Unit
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	3.875	in

BSAL	Borehole Salinity	Borehole	0	ppm
BSCO	Borehole Salinity Correction Option	TBN-A	No	
CBLO	Casing Bottom (Logger)	WLSESSION	13972	ft
CQCO	Cement Quality Correction Option	TBN-A	No	
CSAL	Cement Salinity	TBN-A	0	ppm
CSCOR	Cement Salinity Correction Option	TBN-A	No	
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	5	in
DFD	Drilling Fluid Density	Borehole	10	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
ECCO	Eccentricity Coorection Option	TBN-A	No	
FCD	Future Casing (Outer) Diameter	WLSESSION	0	in
FSAL	Formation Salinity	Borehole	0	ppm
FSCO	Formation Salinity Correction Option	TBN-A	No	
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
HSCOT	Hole Size Correction Option (None, Bit Size, Density Caliper, GCSE)	TBN-A	GCSE	
TBN_WPRE	Well Pressure for Horizontal Section	TBN-A	0	psi
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	LIMESTONE	
MWCO	Mud Weight Correction Option	TBN-A	No	
PTCO	Pressure Temperature Correction Option	TBN-A	No	
RB_OFFSET	Additional RB offset (degrees)	TMG-A	0	deg
SOCN	Standoff Distance	TBN-A	0.125	in
SOCO	Standoff Correction Option	TBN-A	No	
TBN_ALGO	TBN Porosity Algorithm Option	TBN-A	Schmid_McKeon	

Tool Control Parameters

1

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
ICV	Integrated Cement Volume	GCSE_UP_PASS, FCD	0	ft3
IHV	Integrated Hole Volume	GCSE_UP_PASS	31.37	ft3

Software Version

Acquisition System	Version
Maxwell 2017 SP1	7.1.82245.3100
Application Patch	Wireline_Hotfix-ASLT-QSLT-SSLT-2017SP1_7.1.83025
	Wireline_Hotfix-AuxTool-2017SP1_7.1.83719
	Wireline_Hotfix-Induction-2017SP1_7.1.85987
	Wireline_Hotfix-UBI-2017SP1_7.1.83745
	Wireline_TestKit-CMR-NG-2017SP1_7.1.84491

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1	Log[4]:Up	Up	13004.58 ft	14355.13 ft	21-Jun-2017 5:09:15 PM	21-Jun-2017 5:46:47 PM	ON	-8.12 ft	No

All depths are referenced to toolstring zero

Log

Company:RAZ OIL AND GAS, L.L.C Well:YO STATE SWD 1

1: Log[4]:Up:S010

Description: ThruBit_Nuclear_RT Format: Log (ThruBit_Nuclear_RT) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation

Description: ThruBit_Nuclear_RT Format: Log (ThruBit_Nuclear_RT) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 21-Jun-2017 18:23:21

IHV - Integrated Hole Volume every 10.00 (ft3)

IHV - Integrated Hole Volume every 100.00 (ft3)

TIME_1900 - Time Marked every 60.00 (s)

ICV - Integrated Cement Volume every 10.00 (ft3)

ICV - Integrated Cement Volume every 100.00 (ft3)

Bit Size (BS) RT

4 in 14

Calibrated Gamma Ray (GR_TMG) TMG-A RT

0 gAPI 150

Acceleration Z-Axis (AZ) TMG-A RT

30 ft/s2 40

Cable Tension (TENS)

0 lbf 5000

Thermal Neutron Porosity (Ratio Method) in Selected Lithology (TNPH) TBN-A RT

0.3 ft3/ft3 -0.1

12990

13000

13010

13020

13030

13040

13050

13060

13070

13080

13090

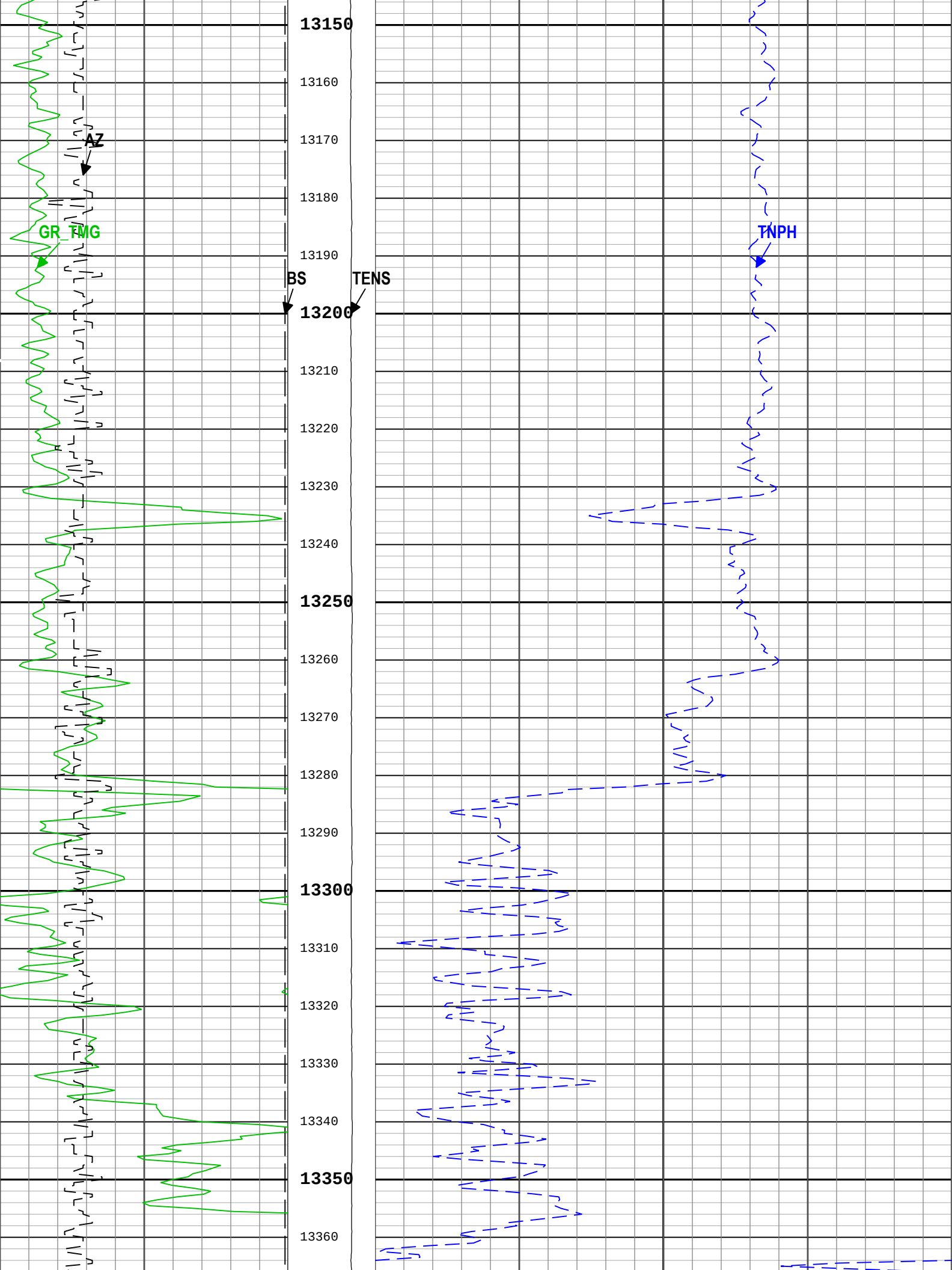
13100

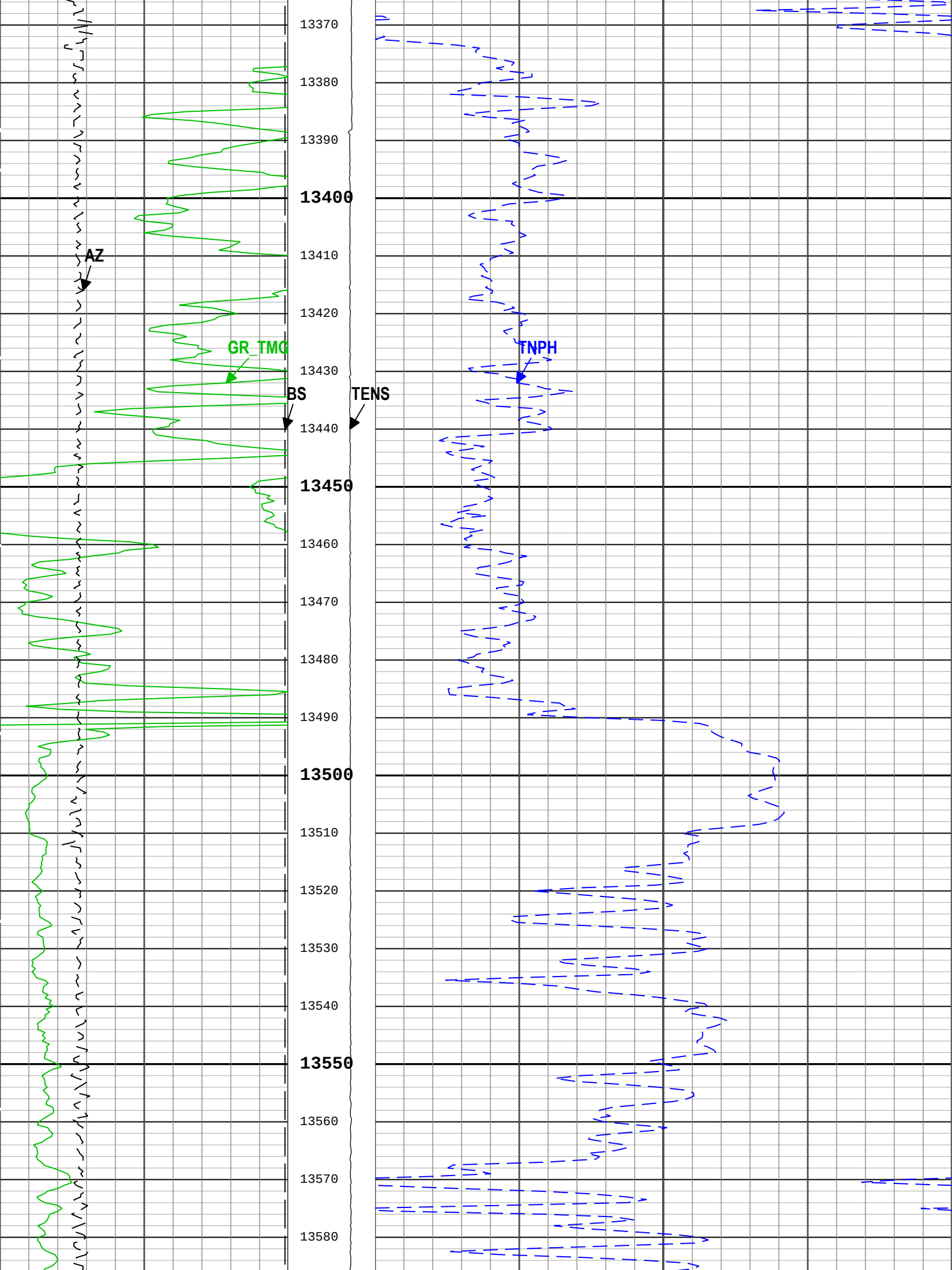
13110

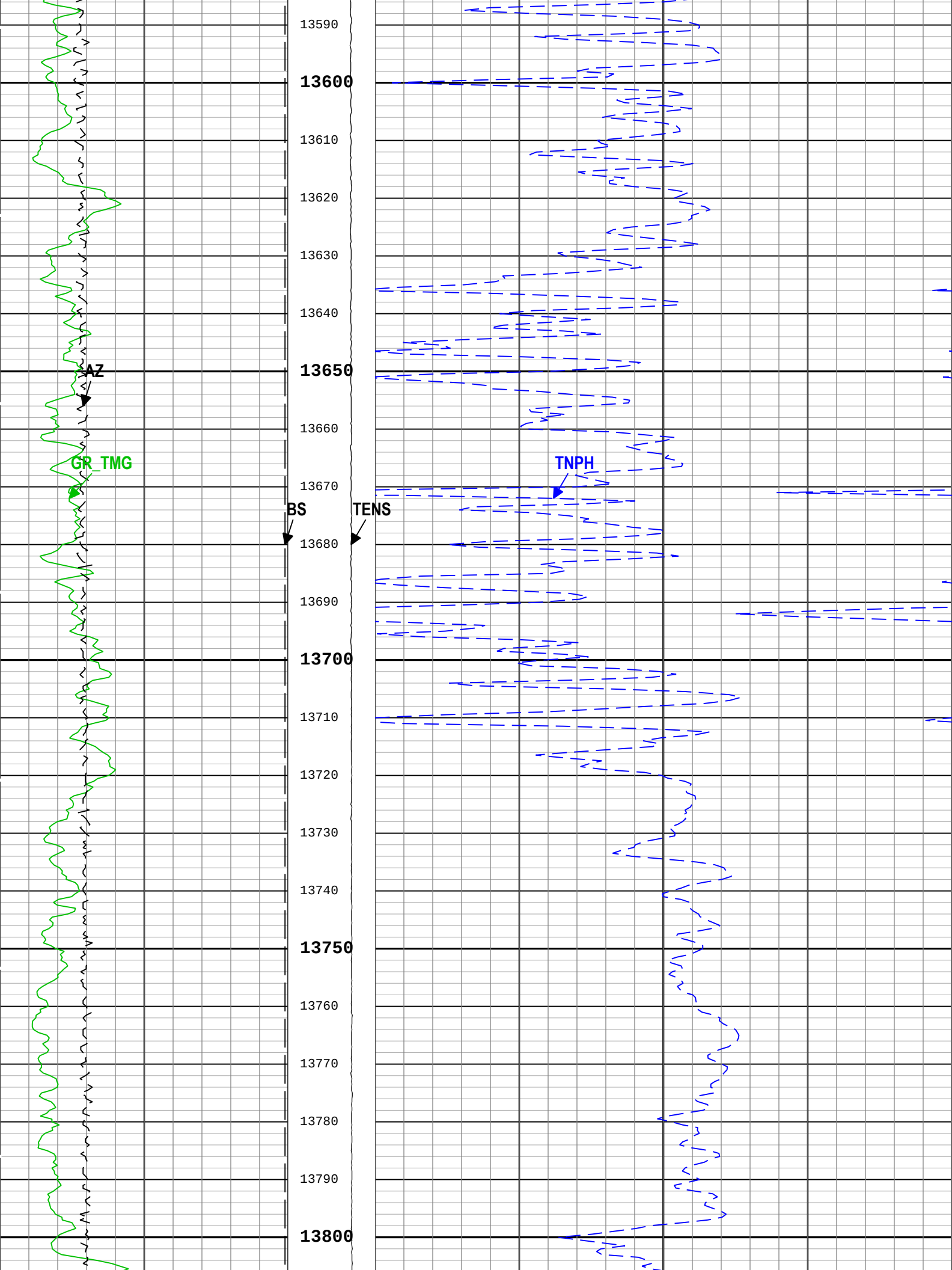
13120

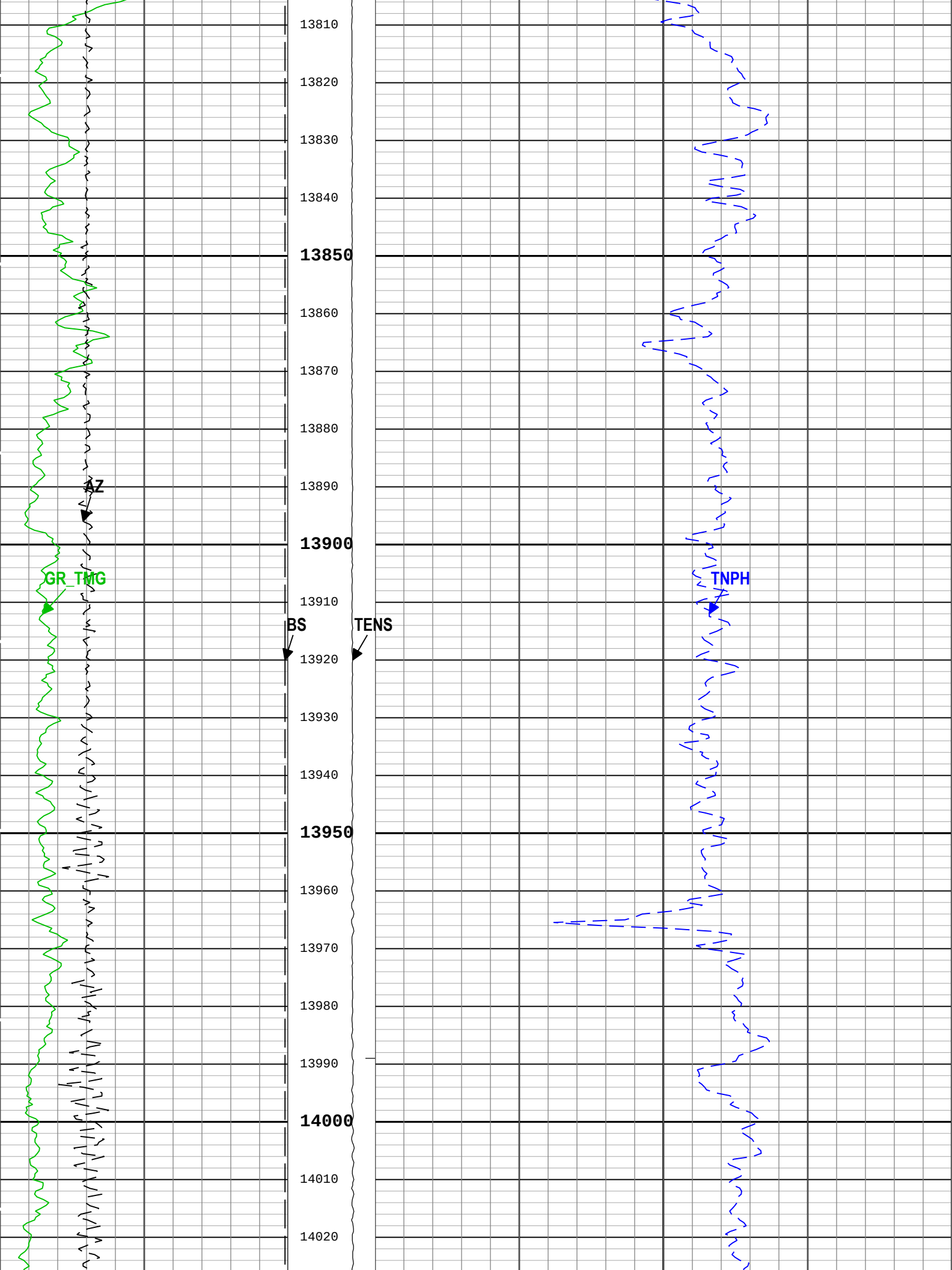
13130

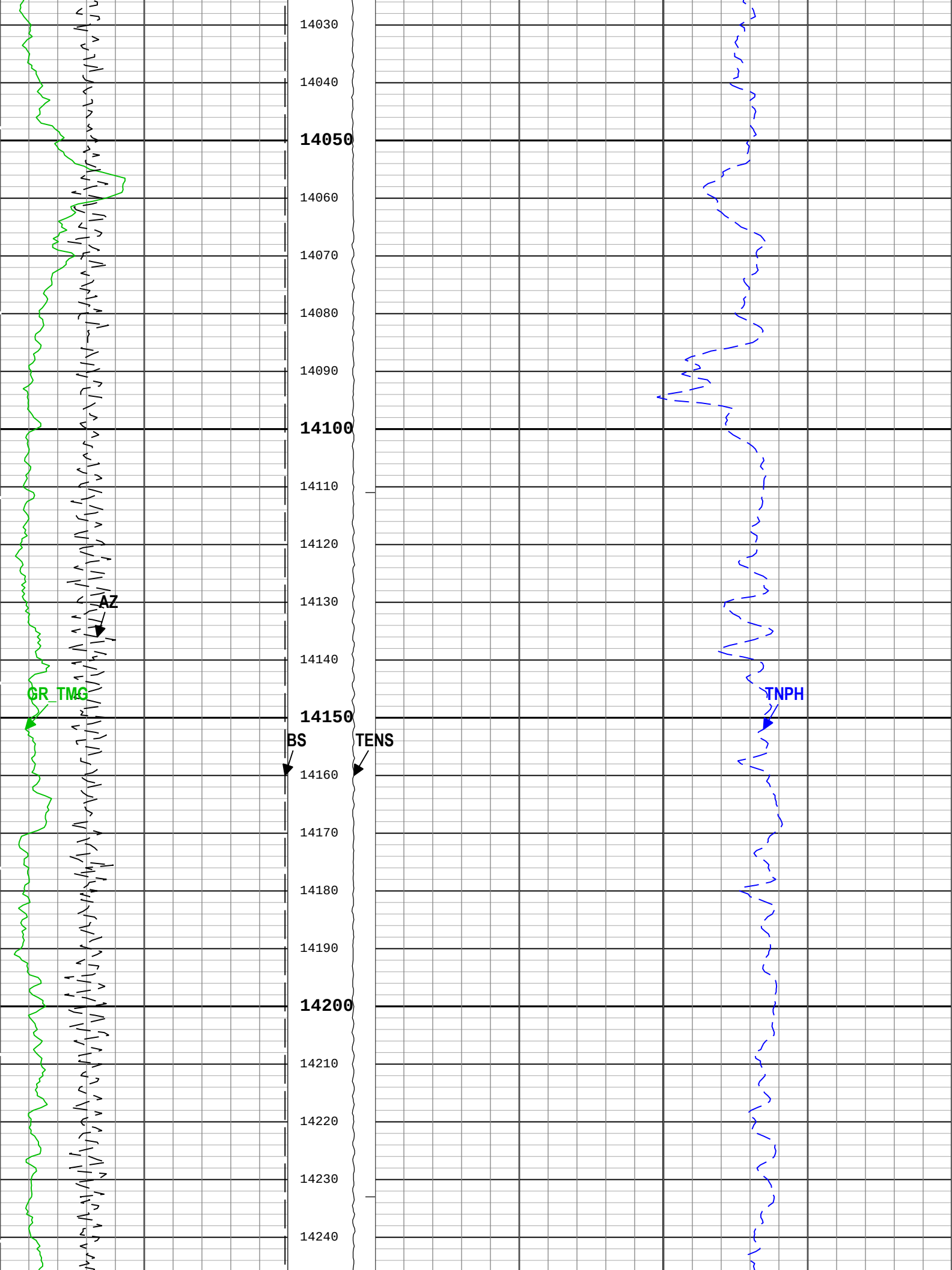
13140

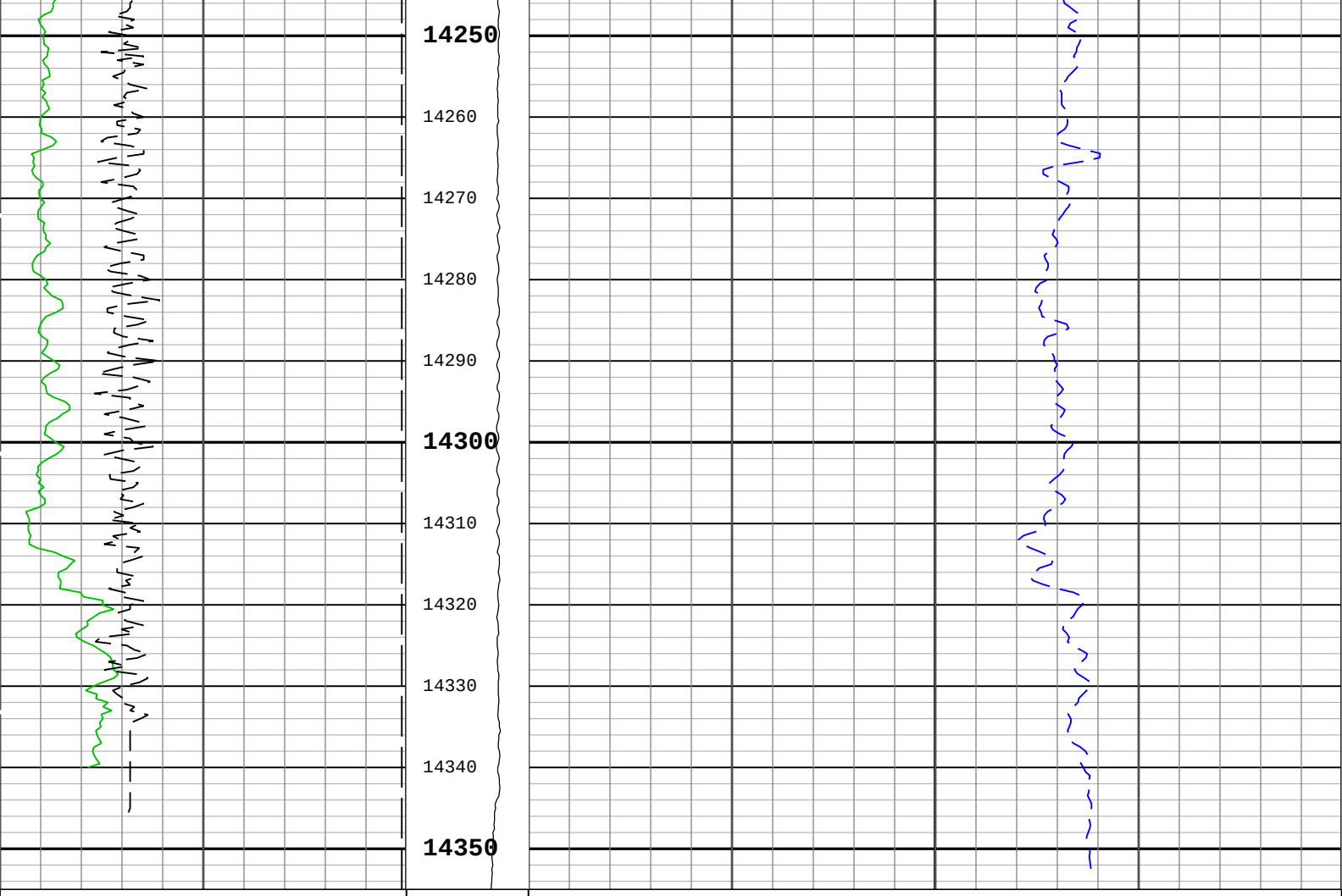

13150
13160
13170
AZ
13180
GR_TMG
13190
BS
TENS
13200
TNPH
13210
13220
13230
13240
13250
13260
13270
13280
13290
13300
13310
13320
13330
13340
13350
13360


13370
13380
13390
13400
13410
13420
13430
13440
13450
13460
13470
13480
13490
13500
13510
13520
13530
13540
13550
13560
13570
13580
AZ
GR_TMC
BS
TENS
TNPH


13590
13600
13610
13620
13630
13640
13650
13660
13670
13680
13690
13700
13710
13720
13730
13740
13750
13760
13770
13780
13790
13800
AZ
GR_TMG
BS
TENS
TNPH


13810
13820
13830
13840
13850
13860
13870
13880
13890
13900
13910
13920
13930
13940
13950
13960
13970
13980
13990
14000
14010
14020
AZ
GR_TMG
BS
TENS
TNPH


14030
14040
14050
14060
14070
14080
14090
14100
14110
14120
14130
14140
14150
14160
14170
14180
14190
14200
14210
14220
14230
14240
AZ
GR_TMG
BS
TENS
TNPH



Bit Size (BS) RT
4 in 14

Calibrated Gamma Ray (GR_TMG) TMG-A RT
0 gAPI 150

Acceleration Z-Axis (AZ) TMG-A RT
30 ft/s2 40

Cable Tension (TENS)
0 lbf 5000

Thermal Neutron Porosity (Ratio Method) in Selected Lithology (TNPH) TBN-A RT
0.3 ft3/ft3 -0.1

ICV - Integrated Cement Volume every 100.00 (ft3)
ICV - Integrated Cement Volume every 10.00 (ft3)
TIME_1900 - Time Marked every 60.00 (s)
IHV - Integrated Hole Volume every 100.00 (ft3)
IHV - Integrated Hole Volume every 10.00 (ft3)

Description: ThruBit_Nuclear_RT Format: Log (ThruBit_Nuclear_RT) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 21-Jun-2017 18:23:21

Channel Processing Parameters

1: Parameters

Parameter	Description	Tool	Value	Unit
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	3.875	in
BSAL	Borehole Salinity	Borehole	0	ppm
BSCO	Borehole Salinity Correction Option	TBN-A	No	
CBLO	Casing Bottom (Logger)	WLSESSION	13972	ft
CQCO	Cement Quality Correction Option	TBN-A	No	
CSAL	Cement Salinity	TBN-A	0	ppm

CSCOR	Cement Salinity Correction Option	TBN-A	No	
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	5	in
DFD	Drilling Fluid Density	Borehole	10	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
ECCO	Eccentricity Coorection Option	TBN-A	No	
FCD	Future Casing (Outer) Diameter	WLSESSION	0	in
FSAL	Formation Salinity	Borehole	0	ppm
FSCO	Formation Salinity Correction Option	TBN-A	No	
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
HSCOT	Hole Size Correction Option (None, Bit Size, Density Caliper, GCSE)	TBN-A	GCSE	
TBN_WPRE	Well Pressure for Horizontal Section	TBN-A	0	psi
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	LIMESTONE	
MWCO	Mud Weight Correction Option	TBN-A	No	
PTCO	Pressure Temperature Correction Option	TBN-A	No	
RB_OFFSET	Additional RB offset (degrees)	TMG-A	0	deg
SOCN	Standoff Distance	TBN-A	0.125	in
SOCO	Standoff Correction Option	TBN-A	No	
TBN_ALGO	TBN Porosity Algorithm Option	TBN-A	Schmid_McKeon	

Tool Control Parameters

1

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1	Log[3]:Up	Up	14101.78 ft	14360.82 ft	21-Jun-2017 4:54:44 PM	21-Jun-2017 5:04:00 PM	ON	-4.24 ft	No
1	Log[4]:Up	Up	13004.58 ft	14355.13 ft	21-Jun-2017 5:09:15 PM	21-Jun-2017 5:46:47 PM	ON	-8.12 ft	No

All depths are referenced to toolstring zero

Log

Company:RAZ OIL AND GAS, L.L.C Well:YO STATE SWD 1

1: Log[4]:Up:S010

Description: ThruBit_Nuclear_RT Format: Log (ThruBit_Nuclear_RT RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 21-Jun-2017 18:23:25

IHV - Integrated Hole Volume every 10.00 (ft3)

IHV - Integrated Hole Volume every 100.00 (ft3)

TIME_1900 - Time Marked every 60.00 (s)

ICV - Integrated Cement Volume every 10.00 (ft3)

ICV - Integrated Cement Volume every 100.00 (ft3)

Main To Repeat

Repeat To Main

Acceleration Z-Axis (AZ) TMG-A RT

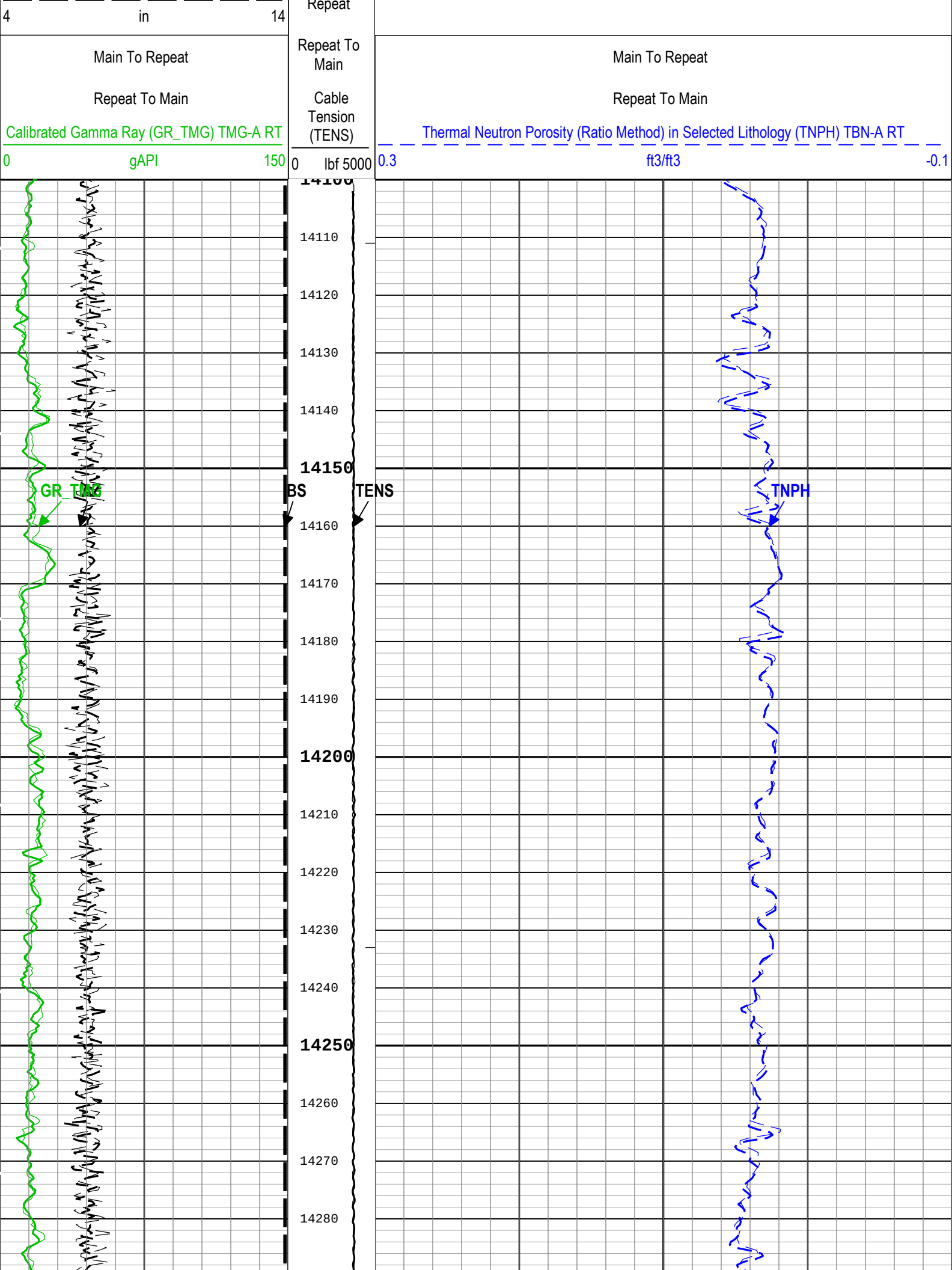
30 ft/s2 40

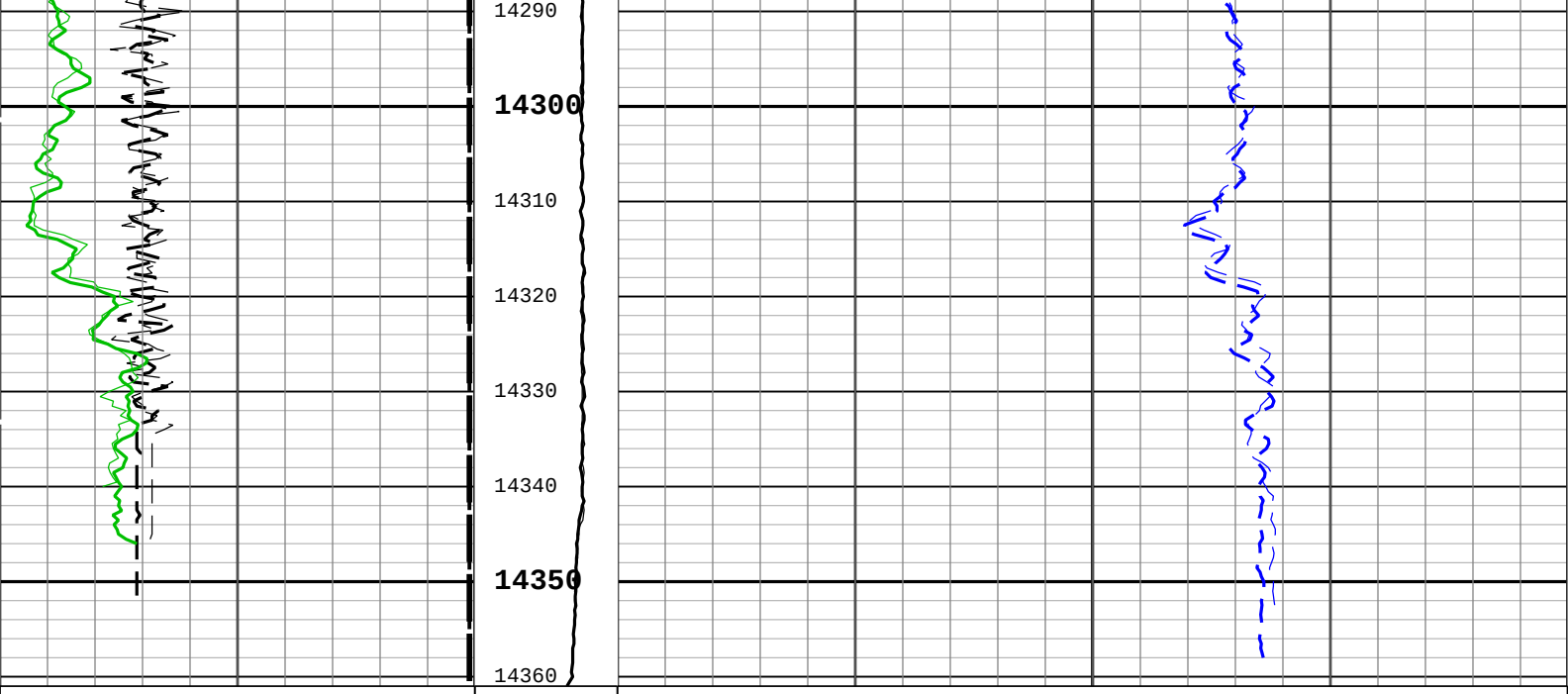
Main To Repeat

Repeat To Main

Bit Size (BS) RT

Main To


4
in
14
Repeat
Main To Repeat
Repeat To Main
Calibrated Gamma Ray (GR_TMG) TMG-A RT
0
gAPI
150
Repeat To Main
Main
Cable Tension (TENS)
0
lbf 5000
Main To Repeat
Repeat To Main
Thermal Neutron Porosity (Ratio Method) in Selected Lithology (TNPH) TBN-A RT
0.3
ft3/ft3
-0.1
14110
14120
14130
14140
14150
14160
14170
14180
14190
14200
14210
14220
14230
14240
14250
14260
14270
14280
GR_TMG
BS
TENS
TNPH



Main To Repeat

Repeat To Main

Acceleration Z-Axis (AZ) TMG-A RT

30 ft/s2 40

Main To Repeat

Repeat To Main

Cable Tension (TENS)

0 lbf 5000

Main To Repeat

Repeat To Main

Thermal Neutron Porosity (Ratio Method) in Selected Lithology (TNPH) TBN-A RT

0.3 ft3/ft3 -0.1

Main To Repeat

Repeat To Main

Bit Size (BS) RT

4 in 14

Main To Repeat

Repeat To Main

Calibrated Gamma Ray (GR_TMG) TMG-A RT

0 gAPI 150

ICV - Integrated Cement Volume every 100.00 (ft3)

ICV - Integrated Cement Volume every 10.00 (ft3)

TIME_1900 - Time Marked every 60.00 (s)

IHV - Integrated Hole Volume every 100.00 (ft3)

IHV - Integrated Hole Volume every 10.00 (ft3)

Description: ThruBit_Nuclear_RT Format: Log (ThruBit_Nuclear_RT RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 21-Jun-2017 18:23:25

Calibration Report

TBN-A (ThruBit Neutron Tool version A) Calibration - Run 1

Primary Equipment :

ThruBit Neutron Sonde Version A	TBN-A	46

Auxiliary Equipment :

Neutron Logging Source Version EWA	NNLS-EWA	4620

TBN Nuclear Calibration - Neuclear Coefficients

Master (File): 09:10:35 30-May-2017

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	

TANK + Al Sleeve Count Rate Ratio		Master	11.128	10.528	11.642	11.728
TANK + Al Sleeve Porosity	ft3/ft3	Master			0.1519	
TANK Count Rate Ratio		Master	2.630	2.030	2.761	3.230

TBN Nuclear Calibration - Nuclear Accumulations

Master (File): 09:10:35 30-May-2017

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Background Long Spacing Count Rate - TNF	1/s	Master	1.000	0	0.251	2.000
Background Short Spacing Count Rate - TNN	1/s	Master	1.000	0	0.104	2.000
TANK + Al Sleeve Long Spacing Count Rate - TNF	1/s	Master	1750.0	580.0	1033.5	3500.0
TANK + Al Sleeve Short Spacing Count Rate - TNN	1/s	Master	18350.0	6100.0	12031.5	36700.0
TANK Long Spacing Count Rate - TNF	1/s	Master	27990.0	9330.0	18466.1	56000.0
TANK Short Spacing Count Rate - TNN	1/s	Master	69600.0	23200.0	50991.1	139200.0

TMG-A (ThruBit Telemetry Memory Gamma - 2 1/8in - 10 pin) Calibration - Run 1

Primary Equipment :

ThruBit Telemetry Gamma Sonde Version A TMG-A 40

TMG Gamma-Ray Calibration - Gamma-Ray Coefficients

Master (File): 16:41:28 03-Jun-2017

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Gamma-Ray Gain		Master	1.000	0.800	1.095	1.200
Gamma-Ray Jig Minus Background	gAPI	Master	165.0	132.0	150.6	198.0

TMG Gamma-Ray Calibration - Gamma-Ray Accumulations

Master (File): 16:41:28 03-Jun-2017

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Gamma-Ray Background	gAPI	Master	30.00	0	55.29	120.00
Gamma-Ray Jig	gAPI	Master			205.9	

TMG Inclinometry Calibration - Inclinometry Coefficients

Master (Manual Entry): 18:18:45 21-Jun-2017

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Relative Bearing Offset	deg	Master	0	-360.000	-39.481	360.000
Accelerometer X-Axis Gain		Master	1.000		1.021	
Accelerometer X-Axis Offset	ft/s2	Master	0		-1.64	
Accelerometer Y-Axis Gain		Master	1.000		1.015	
Accelerometer Y-Axis Offset	ft/s2	Master	0		-0.82	
Accelerometer Z-Axis Gain		Master	1.000		1.002	
Accelerometer Z-Axis Offset	ft/s2	Master	0		0.32	

TMG Inclinometry Calibration - Inclinometry Accumulations

Master (Manual Entry): 18:18:45 21-Jun-2017

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Minimum AX - 0	ft/s2	Master	-----	-----	-----	-----
Maximum AX - 0	ft/s2	Master	-----	-----	-----	-----
Minimum AY - 0	ft/s2	Master	-----	-----	-----	-----
Maximum AY - 0	ft/s2	Master	-----	-----	-----	-----
Minimum AZ - 0	ft/s2	Master	-----	-----	-----	-----
Maximum AZ - 0	ft/s2	Master	-----	-----	-----	-----

1

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
ICV	Integrated Cement Volume	GCSE_UP_PASS, FCD	0	ft3
IHV	Integrated Hole Volume	GCSE_UP_PASS	31.37	ft3

Software Version

Acquisition System	Version
Maxwell 2017 SP1	7.1.82245.3100
Application Patch	Wireline_Hotfix-ASLT-QSLT-SSLT-2017SP1_7.1.83025
	Wireline_Hotfix-AuxTool-2017SP1_7.1.83719
	Wireline_Hotfix-Induction-2017SP1_7.1.85987
	Wireline_Hotfix-UBI-2017SP1_7.1.83745
	Wireline_TestKit-CMR-NG-2017SP1_7.1.84491

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1	Log[4]:Up	Up	13004.58 ft	14355.13 ft	21-Jun-2017 5:09:15 PM	21-Jun-2017 5:46:47 PM	ON	-8.12 ft	No

All depths are referenced to toolstring zero

Log

Company:RAZ OIL AND GAS, L.L.C Well:YO STATE SWD 1

1: Log[4]:Up:S010

Description: ThruBit_Nuclear_RT Format: Log (ThruBit_Nuclear_RT) Index Scale: 1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 21-Jun-2017 18:23:28

IHV - Integrated Hole Volume every 10.00 (ft3)

IHV - Integrated Hole Volume every 100.00 (ft3)

ICV - Integrated Cement Volume every 10.00 (ft3)

TIME_1900 - Time Marked every 60.00 (s)

ICV - Integrated Cement Volume every 100.00 (ft3)

Bit Size (BS) RT

4 in 14

Calibrated Gamma Ray (GR_TMG) TMG-A RT

0 gAPI 150

Acceleration Z-Axis (AZ) TMG-A RT

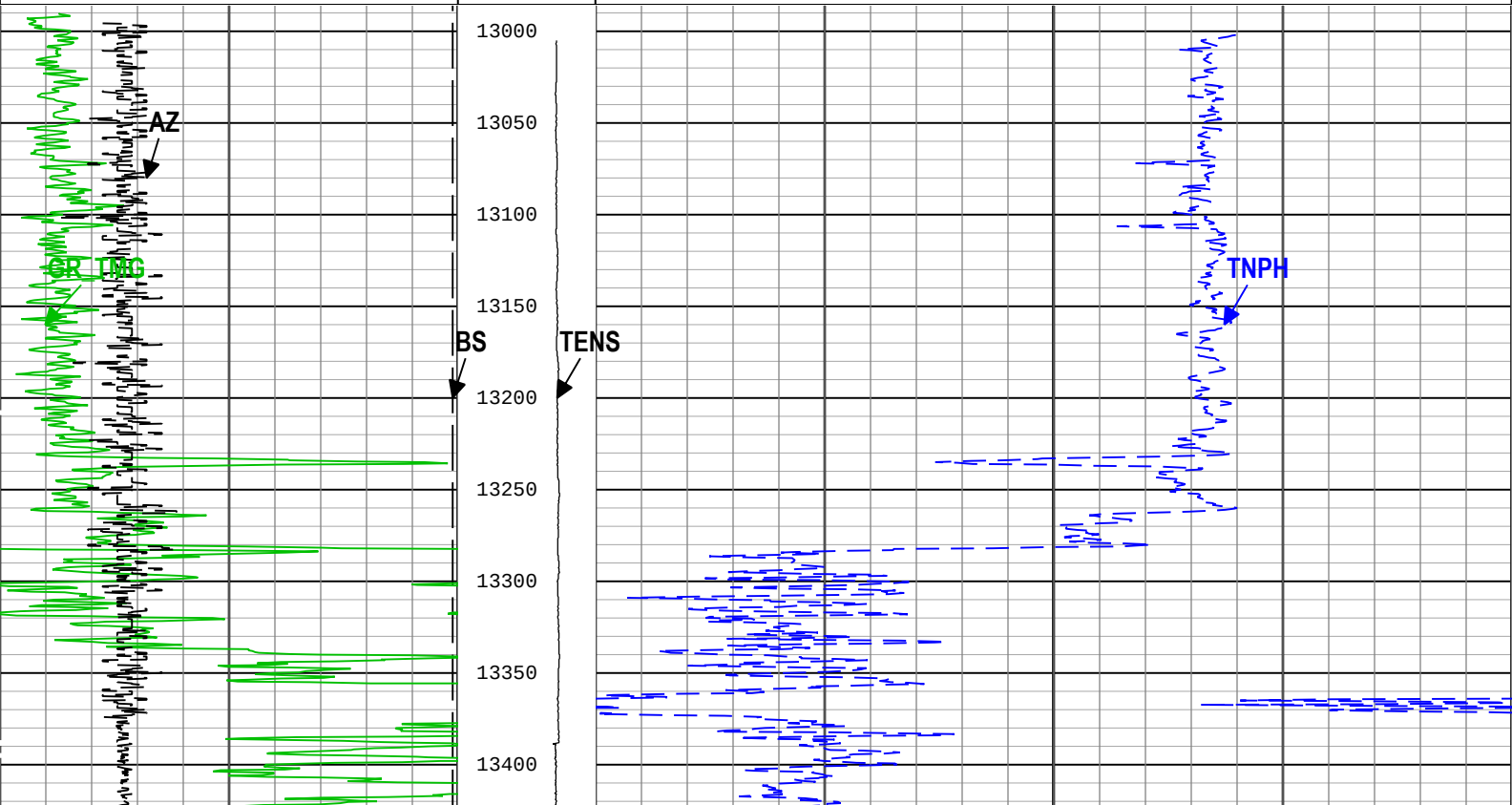
30 ft/s2 40

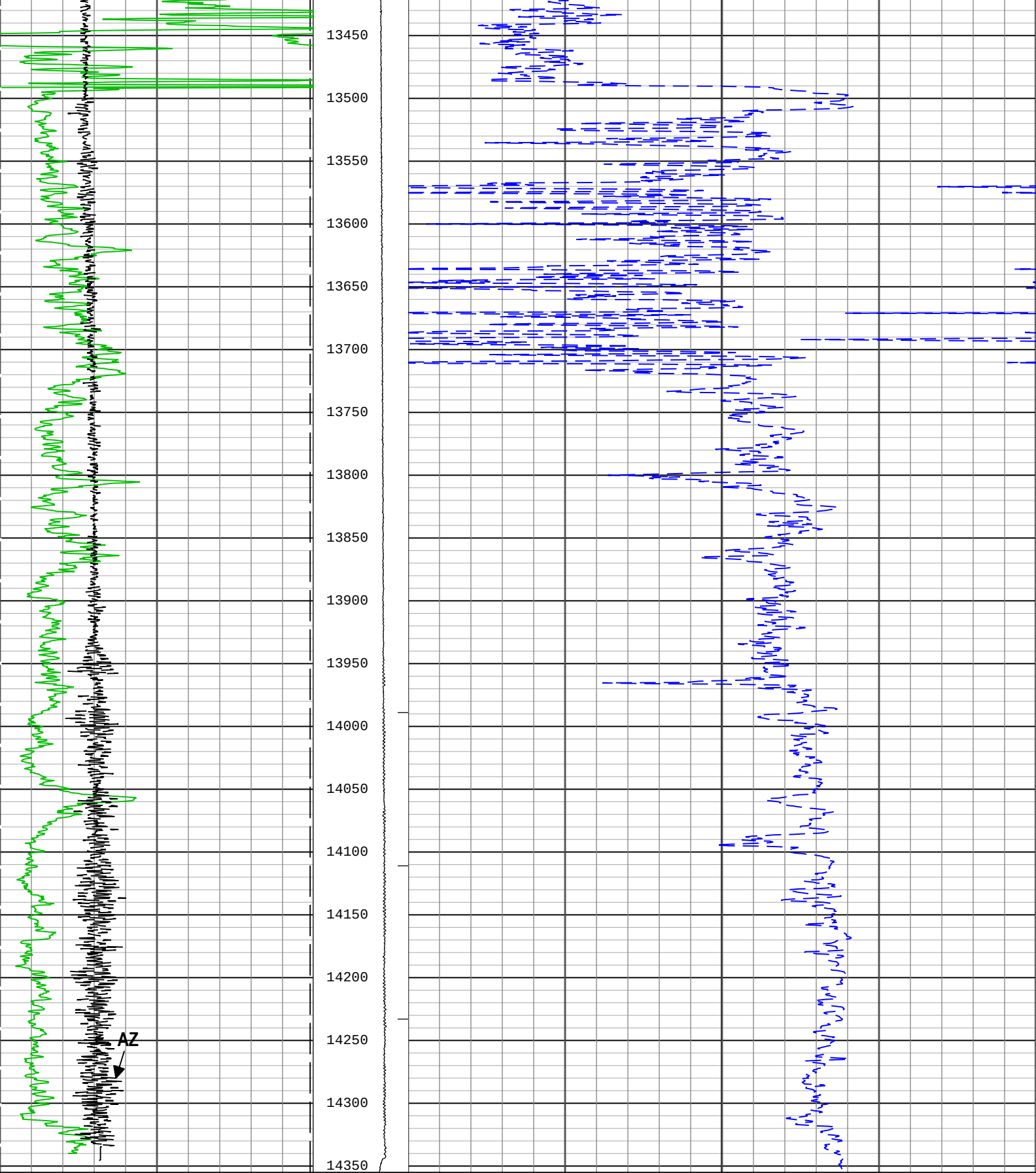
Cable Tension (TENS)

0 lbf 5000

Thermal Neutron Porosity (Ratio Method) in Selected Lithology (TNPH) TBN-A RT

0.3 ft3/ft3 -0.1





Bit Size (BS) RT
4 in 14

Calibrated Gamma Ray (GR_TMG) TMG-A RT
0 gAPI 150

Acceleration Z-Axis (AZ) TMG-A RT
30 ft/s2 40

Cable Tension (TENS)
0 lbf 5000

Thermal Neutron Porosity (Ratio Method) in Selected Lithology (TNPH) TBN-A RT
0.3 ft3/ft3 -0.1

ICV - Integrated Cement Volume every 100.00 (ft3)

TIME_1900 - Time Marked every 60.00 (s)

ICV - Integrated Cement Volume every 10.00 (ft3)

IHV - Integrated Hole Volume every 100.00 (ft3)

IHV - Integrated Hole Volume every 10.00 (ft3)

Description: ThruBit_Nuclear_RT Format: Log (ThruBit_Nuclear_RT) Index Scale: 1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 21-Jun-2017 18:23:28

Channel Processing Parameters

1: Parameters

Parameter	Description	Tool	Value	Unit
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	3.875	in
BSAL	Borehole Salinity	Borehole	0	ppm
BSCO	Borehole Salinity Correction Option	TBN-A	No	
CBLO	Casing Bottom (Logger)	WLSESSION	13972	ft
CQCO	Cement Quality Correction Option	TBN-A	No	
CSAL	Cement Salinity	TBN-A	0	ppm
CSCOR	Cement Salinity Correction Option	TBN-A	No	
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	5	in
DFD	Drilling Fluid Density	Borehole	10	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
ECCO	Eccentricity Coorection Option	TBN-A	No	
FCD	Future Casing (Outer) Diameter	WLSESSION	0	in
FSAL	Formation Salinity	Borehole	0	ppm
FSCO	Formation Salinity Correction Option	TBN-A	No	
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
HSCOT	Hole Size Correction Option (None, Bit Size, Density Caliper, GCSE)	TBN-A	GCSE	
TBN_WPRE	Well Pressure for Horizontal Section	TBN-A	0	psi
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	LIMESTONE	
MWCO	Mud Weight Correction Option	TBN-A	No	
PTCO	Pressure Temperature Correction Option	TBN-A	No	
RB_OFFSET	Additional RB offset (degrees)	TMG-A	0	deg
SOCN	Standoff Distance	TBN-A	0.125	in
SOCO	Standoff Correction Option	TBN-A	No	
TBN_ALGO	TBN Porosity Algorithm Option	TBN-A	Schmid_McKeon	

Tool Control Parameters

Company:	RAZ OIL AND GAS, L.L.C
Well:	YO STATE SWD 1
Field:	OSUDO SOUTH MORROW
County:	LEA
State:	New Mexico

Schlumberger

NEUTRON GAMMA RAY
THRUBIT LEVEL 1
REAL TIME LOG