

Company: LAMONT DOHERTY EARTH OBSERVATORY

Well: TW #3

Field: WILDCAT

County: ROCKLAND State: NEW YORK

GENERAL PURPOSE INCLINOMETRY TOOL

CONTINUOUS DIRECTIONAL SURVEY

County:	ROCKLAND	State:	NEW YORK
Well:	TW #3		
Field:	WILDCAT		
Location:	LAT: 41.00398 LONG: -73.91268	Elev.:	K.B. 380.00 ft G.L. 380.00 ft D.F. 380.00 ft
Well:	TW #3		
Company:	LAMONT DOHERTY EARTH OBSERVATORY		
Location:	Permanent Datum: _____ Log Measured From: _____ Drilling Measured From: _____	Ground Level _____ Ground Level _____ Ground Level _____	Elev.: _____ 0.00 ft above Perm.Datum
API Serial No.	31-087-27015-00-00	Section: 1	Township: ORANGETOWN Quadrangle NYACK
Logging Date	02-Oct-2013		

Run Number	1B		
Depth Driller	1500.00 ft		
Schlumberger Depth	1500.00 ft		
Bottom Log Interval	1494.00 ft		
Top Log Interval	20.00 ft		
Casing Driller Size @ Depth	7 in @ 23.00 ft		
Casing Schlumberger	20 ft		
Bit Size	6.25 in		
Type Fluid In Hole	Air		
Density	0.1 lbm/gal		
Viscosity			
PH			
Source of Sample	Active Tank		
RM @ Meas Temp	500 ohm.m @ 68 degF		
RMF @ Meas Temp	NAN ohm.m @ 68 degF		
RMC @ Meas Temp			
Source RMC	Calculated	Calculated	
RM @ BHT	553.28 @ 60.8	NAN @ 60.8	
Max Recorded Temperatures	60.8 degF		
Circulation Stopped	Time		
Logger on Bottom	Time		
Unit Number	377	Location:	15:50:27 BRADFORD
Recorded By	TIMOTHY ZOTARA		
Witnessed By	NICK MALKIEWICZ / DAN COLLINS		

Disclaimer

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

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Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	8.75	6.25				
Top Driller (ft)	0	23				
Top Logger (ft)	0	23				
Bottom Driller (ft)	23	1500				
Bottom Logger (ft)	23	1500				
Casing						
Size (in)	7					
Weight (lbm/ft)	18.01					
Inner Diameter (in)	6.512					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	23					
Bottom Logger (ft)	20					

Operational Run Summary

Parameter (unit)	1B					
Date Log Started	02-Oct-2013					
Time Log Started	13:59:40					
Date Log Finished	02-Oct-2013					
Time Log Finished	17:01:39					
Top Log Interval (ft)	20.00					
Bottom Log Interval (ft)	1494.00					
Total Depth (ft)	1500.00					
Max Hole Deviation (deg)	4.99					
Azimuth of Max Deviation (deg)	98.73					
Bit Size (in)	6.250					
Logging Unit Number	377					
Logging Unit Location	BRADFORD					
Recorded By	TIMOTHY ZOTARA					
Witnessed By	NICK MALKEWICZ / DAN COLLINS					
Service Order Number	BXW0-00330					

Borehole Fluids

Parameter(unit)	1B					
Fluid Type	Zoned					

Max Recorded Temperatures (degF)	60.8				
Source of Sample	Active Tank				
Salinity (ppm)	0				
Density (lbm/gal)	Zoned				
Funnel Viscosity (s)					
Fluid Loss (cm3)					
PH					
Date/Time Circulation Stopped	NaN				
Date Logger on Bottom	02-Oct-2013				
Time Logger on Bottom	15:50:27				
Source RMF	Calculated				
RMC	Calculated				
RM @ Meas Temp (ohm.m@degF)	N/A				
RMF @ Meas Temp (ohm.m@degF)	N/A				
RMC @ Meas Temp (ohm.m@degF)	N/A				
RM @ BHT (ohm.m@degF)	N/A				
RMF @ BHT (ohm.m@degF)	N/A				
RMC @ BHT (ohm.m@degF)	N/A				
Total Solid (%)					
High Gravity Solids (%)					

Zoned Borehole Fluids

1B

Parameter	Value	Start
Fluid Type	Gas - Air	56.52
Fluid Type	Water - Fresh Water	350
Density	0.1	56.52
Density	8.4	350

Remarks and Equipment Summary

1B: Toolstring				1B: Remarks
Equip name LEH-QT LEH-QT	Length 69.68	MP name	Offset	THANK YOU FOR CHOOSING SCHLUMBERGER
				TOOLS RUN AS PER TOOLSKETCH, W/ILE BOWSPRING
				ALL WELLSITE DATA AS PER SLB CARBON SERVICES REP
EDTC-B:8298 EDTH-B:8288 EDTG-A EDTC-B:8298	66.76			TOOLS ZEROED @ HEAD @ GL
		CTEM	63.26	NO MUD SAMPLE AVAILABLE, FLEV @ 350', 8.4LBS/GAL FRESH WATER. PARAMETERS ZONED @ 350', WATER BEL
		ACCZ	0.00	
		HV	0.00	NO MUD REPORT AVAILABLE, FRESH WATER
		Gamma Ray	61.39	
		TeIStatus	60.26	WELL FLUID NOT CIRCULATED. HEADER SHOWS AIR HOLE, DUE TO AIR @ TOP OF WELL, MW HEADER LIMITATION, NO SAMPLE TAKEN OF FLUID
PPC-B:8239 PPC-B:8239	60.26			SSCAN RUN IN STD MODE
		PPC-B Calipers	59.12	VERTICAL CASING CHECK NOT PERFORMED, CD TOO SHALLOW @ 20'
				PPC CENTERING W/POWER LEVEL 2
				2 CMEZ ON MAXS

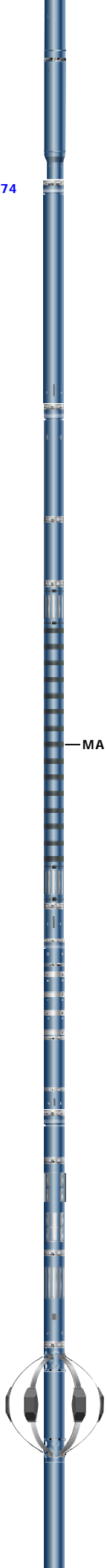
LOGS ON MARKS

GPIT RUN W/ NONMAGS ABOVE/BELOW

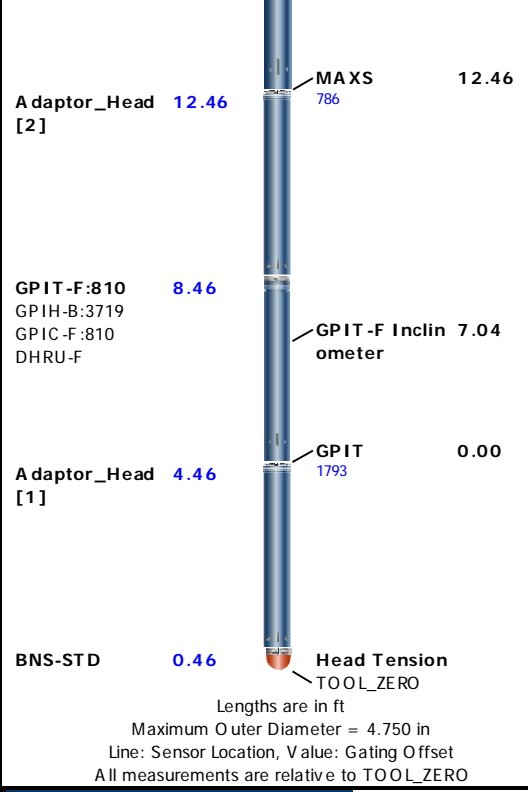
LOGS ACQUIRED @ 1400'/HR

PPC HOLE VOLUME COMPUTED FROM
HD1 / HD2 AREA

MAST-B:8105 53.74
ECH-SF:8101
MAPC-BA:8101
MAMS-BA:8105
MASS-BA:8066
MAXS-BA:8009



MAMS 38.3



Depth Summary

Depth Control Parameters	1B		
Conveyance Type	Wireline		
Log Sequence	SUBSEQUENT		
Stretch Correction (ft)	1.00		
Tool Zero Reference Check at Surface (ft)	0.50		
Reference Log Date	30-Aug-2010		
Reference Log Name	USGS MFT		
Reference Log Run Number	4		
Rig Type	MAST		
Depth Remark Parameters	1B		
Depth Remark 1	ALL SCHLUMBERGER DEPTH CONTROL POLICIES FOLLOWED		
Depth Remark 2	IDW USED AS PRIMARY DEPTH CONTROL		
Depth Remark 3	DRUM COUNTER USED AS SECONDARY DEPTH CONTROL		
Depth Remark 4	TOOLS ZEROED @ HEAD @ GL		
Depth Remark 5	RUN1 CORRELATED TO REF LOG AS PER CLIENT REQUEST		
Depth Measuring Device	1B		
Type	IDW-B		
Serial Number	6204		
Calibrator Serial Number	33		
Calibration Cable Type	7-39P-LXS		
Wheel Correction 1	1		
Wheel Correction 2	0		
Tension Device	1B		
Type	CMTD-B/A		
Serial Number	2013		
Calibration Date	03-SEP-2013		
Calibrator Serial Number	412906		
Calibration Point	16		

Calibration Points	0		
Calibration RMS	7		
Calibration Peak Error	16		
Logging Cable	1B		
Type	7-39P-LXS		
Serial Number	710017		
Logging Cable Length (ft)	5500.00		

Survey Record

Survey Calculation			
Method :	Minimum Radius of Curvature	DLS Method :	Lubinski
North Reference :	True North	Total Correction Formula :	Magnetic Dec

Rig Location			
Latitude :	41.003980 degrees	Longitude :	-73.912680 degrees

Tie In Point					
Measured Depth:	20.00 ft	Inclination:	0.00 deg	Azimuth:	0.00 deg
True Vertical Depth:	20.00 ft	North Displacement:	0.00 ft	East Displacement:	0.00 ft

Survey Quality Index	
9 : Manual	28 : Tie-In Point

Survey Correction Index	
0 : No correction	

Survey Description Index	
0 : Not Flagged Survey	

Seq	MD (ft)	Incl (deg)	Azim (deg)	Course (ft)	TVD (ft)	V Sec (ft)	N/ -S (ft)	E/ -W (ft)	Closure (ft)	at Azim (deg)	DLS deg/100ft	Tool Type	QI	CI	DI
1	20.00	0.00	0.00	----	20.00	0.00	0.00	0.00	0.00	90.00	0.00	TIP	28	0	0
2	64.00	0.17	348.57	44.00	64.00	0.07	0.07	-0.01	0.07	348.57	0.40	GPIT-F	9	0	0
3	94.00	0.09	44.83	30.00	94.00	0.13	0.13	-0.01	0.13	357.50	0.48	GPIT-F	9	0	0
4	124.00	0.34	99.41	30.00	124.00	0.13	0.13	0.10	0.16	37.60	1.00	GPIT-F	9	0	0
5	154.00	0.24	135.02	30.00	154.00	0.07	0.07	0.23	0.23	73.03	0.68	GPIT-F	9	0	0
6	184.00	0.23	88.47	30.00	184.00	0.03	0.03	0.34	0.33	85.15	0.61	GPIT-F	9	0	0
7	214.00	0.16	123.30	30.00	214.00	0.01	0.01	0.43	0.43	89.15	0.44	GPIT-F	9	0	0
8	244.00	0.32	86.41	30.00	244.00	-0.01	-0.01	0.55	0.56	91.24	0.72	GPIT-F	9	0	0
9	274.00	0.51	106.53	30.00	274.00	-0.04	-0.04	0.76	0.75	93.36	0.79	GPIT-F	9	0	0
10	304.00	0.62	107.85	30.00	304.00	-0.13	-0.13	1.05	1.05	97.23	0.37	GPIT-F	9	0	0
11	334.00	0.84	108.18	30.00	333.99	-0.25	-0.25	1.41	1.44	100.11	0.73	GPIT-F	9	0	0
12	364.00	0.78	104.73	30.00	363.99	-0.37	-0.37	1.82	1.87	101.57	0.26	GPIT-F	9	0	0
13	394.00	0.95	105.98	30.00	393.99	-0.49	-0.49	2.26	2.30	102.33	0.55	GPIT-F	9	0	0
14	424.00	1.03	104.83	30.00	423.98	-0.63	-0.63	2.76	2.82	102.88	0.28	GPIT-F	9	0	0
15	454.00	1.19	98.16	30.00	453.98	-0.74	-0.74	3.32	3.41	102.61	0.68	GPIT-F	9	0	0
16	484.00	1.37	98.39	30.00	483.97	-0.84	-0.84	3.99	4.07	101.90	0.61	GPIT-F	9	0	0
17	514.00	1.11	104.62	30.00	513.96	-0.97	-0.97	4.62	4.72	101.80	0.97	GPIT-F	9	0	0
18	544.00	1.61	101.35	30.00	543.95	-1.12	-1.12	5.32	5.45	101.92	1.67	GPIT-F	9	0	0
19	574.00	1.42	98.30	30.00	573.94	-1.26	-1.26	6.10	6.23	101.66	0.67	GPIT-F	9	0	0
20	604.00	1.75	98.56	30.00	603.93	-1.38	-1.38	6.92	7.05	101.28	1.10	GPIT-F	9	0	0
21	634.00	1.79	90.65	30.00	633.92	-1.45	-1.45	7.84	7.97	100.50	0.83	GPIT-F	9	0	0
22	664.00	1.79	98.29	30.00	663.90	-1.53	-1.53	8.78	8.89	99.87	0.79	GPIT-F	9	0	0
23	694.00	1.84	95.04	30.00	693.89	-1.64	-1.64	9.72	9.84	99.56	0.39	GPIT-F	9	0	0
24	724.00	1.72	98.30	30.00	723.87	-1.74	-1.74	10.64	10.79	99.31	0.53	GPIT-F	9	0	0
25	754.00	2.02	102.49	30.00	753.86	-1.92	-1.92	11.61	11.78	99.41	1.09	GPIT-F	9	0	0
26	784.00	2.26	112.58	30.00	783.84	-2.26	-2.26	12.67	12.86	100.14	1.48	GPIT-F	9	0	0
27	814.00	2.43	105.96	30.00	813.81	-2.67	-2.67	13.82	14.07	100.92	1.08	GPIT-F	9	0	0
28	844.00	2.54	97.72	30.00	843.78	-2.93	-2.93	15.10	15.39	100.99	1.24	GPIT-F	9	0	0
29	874.00	2.56	93.22	30.00	873.75	-3.06	-3.06	16.42	16.70	100.55	0.67	GPIT-F	9	0	0
30	904.00	2.70	98.40	30.00	903.72	-3.20	-3.20	17.79	18.08	100.19	0.92	GPIT-F	9	0	0

31	934.00	3.30	97.42	30.00	933.68	-3.41	-3.41	19.35	19.65	100.01	2.01	GPIT-F	9	0	0
32	964.00	3.30	97.95	30.00	963.63	-3.65	-3.65	21.07	21.39	99.82	0.10	GPIT-F	9	0	0
33	994.00	3.79	97.67	30.00	993.57	-3.90	-3.90	22.90	23.23	99.66	1.63	GPIT-F	9	0	0
34	1024.00	4.33	95.66	30.00	1023.50	-4.14	-4.14	25.01	25.36	99.40	1.85	GPIT-F	9	0	0
35	1054.00	4.23	96.79	30.00	1053.41	-4.38	-4.38	27.24	27.59	99.14	0.43	GPIT-F	9	0	0
36	1084.00	4.32	100.31	30.00	1083.33	-4.72	-4.72	29.45	29.82	99.10	0.92	GPIT-F	9	0	0
37	1114.00	4.57	99.94	30.00	1113.24	-5.12	-5.12	31.74	32.15	99.17	0.83	GPIT-F	9	0	0
38	1144.00	4.87	98.51	30.00	1143.14	-5.52	-5.52	34.17	34.61	99.18	1.09	GPIT-F	9	0	0
39	1174.00	4.99	98.73	30.00	1173.03	-5.91	-5.91	36.72	37.20	99.14	0.40	GPIT-F	9	0	0
40	1204.00	4.70	101.63	30.00	1202.92	-6.35	-6.35	39.21	39.73	99.20	1.27	GPIT-F	9	0	0
41	1234.00	4.68	103.36	30.00	1232.82	-6.88	-6.88	41.60	42.16	99.39	0.47	GPIT-F	9	0	0
42	1264.00	4.54	103.74	30.00	1262.72	-7.45	-7.45	43.95	44.59	99.62	0.50	GPIT-F	9	0	0
43	1294.00	4.68	106.84	30.00	1292.63	-8.08	-8.08	46.27	46.98	99.91	0.96	GPIT-F	9	0	0
44	1324.00	4.83	108.15	30.00	1322.52	-8.83	-8.83	48.64	49.44	100.29	0.63	GPIT-F	9	0	0
45	1354.00	4.72	109.54	30.00	1352.42	-9.64	-9.64	51.01	51.90	100.70	0.54	GPIT-F	9	0	0
46	1384.00	4.62	111.28	30.00	1382.32	-10.49	-10.49	53.30	54.33	101.13	0.59	GPIT-F	9	0	0
47	1414.00	4.53	114.14	30.00	1412.22	-11.41	-11.41	55.50	56.66	101.62	0.81	GPIT-F	9	0	0
48	1444.00	4.46	113.40	30.00	1442.13	-12.36	-12.36	57.66	58.96	102.10	0.31	GPIT-F	9	0	0
49	1474.00	4.46	114.23	30.00	1472.04	-13.30	-13.30	59.79	61.25	102.54	0.22	GPIT-F	9	0	0
50	1504.00	4.46	114.03	30.00	1501.95	-14.26	-14.26	61.92	63.55	102.96	0.05	GPIT-F	9	0	0

XYZ

1B: Log[3]:Up

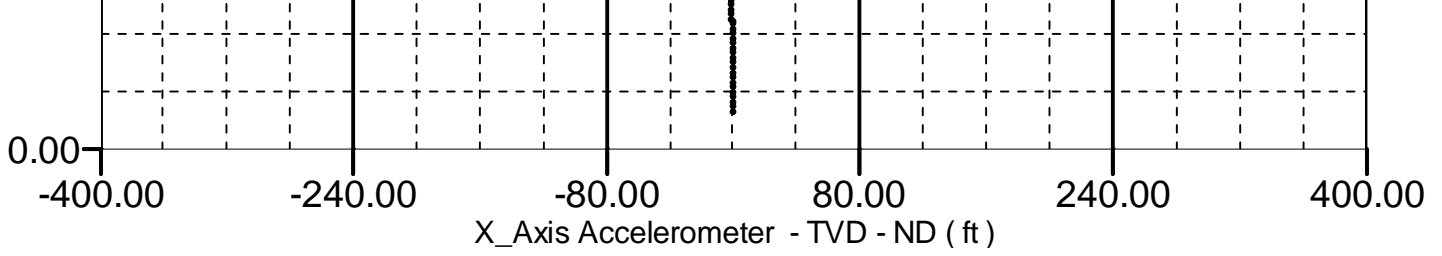
TVD vs North

2D Cross Plot

Index Range: From 1512.00 to 57.00 ft

● ND-TVD





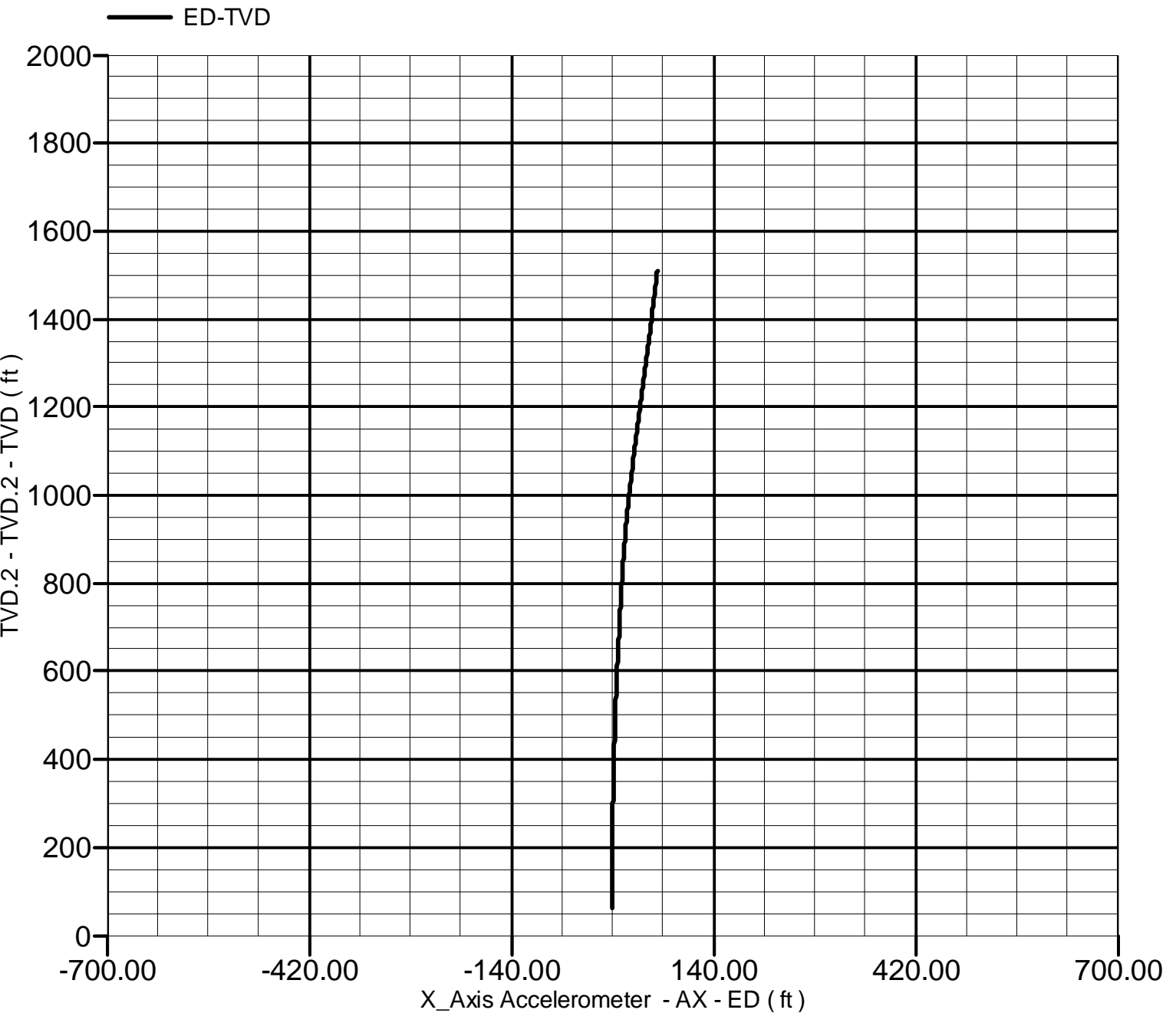
XYZ

1B: Log[3]:Up

TVD vs. East

2D Cross Plot

Index Range: From 1512.00 to 57.00 ft



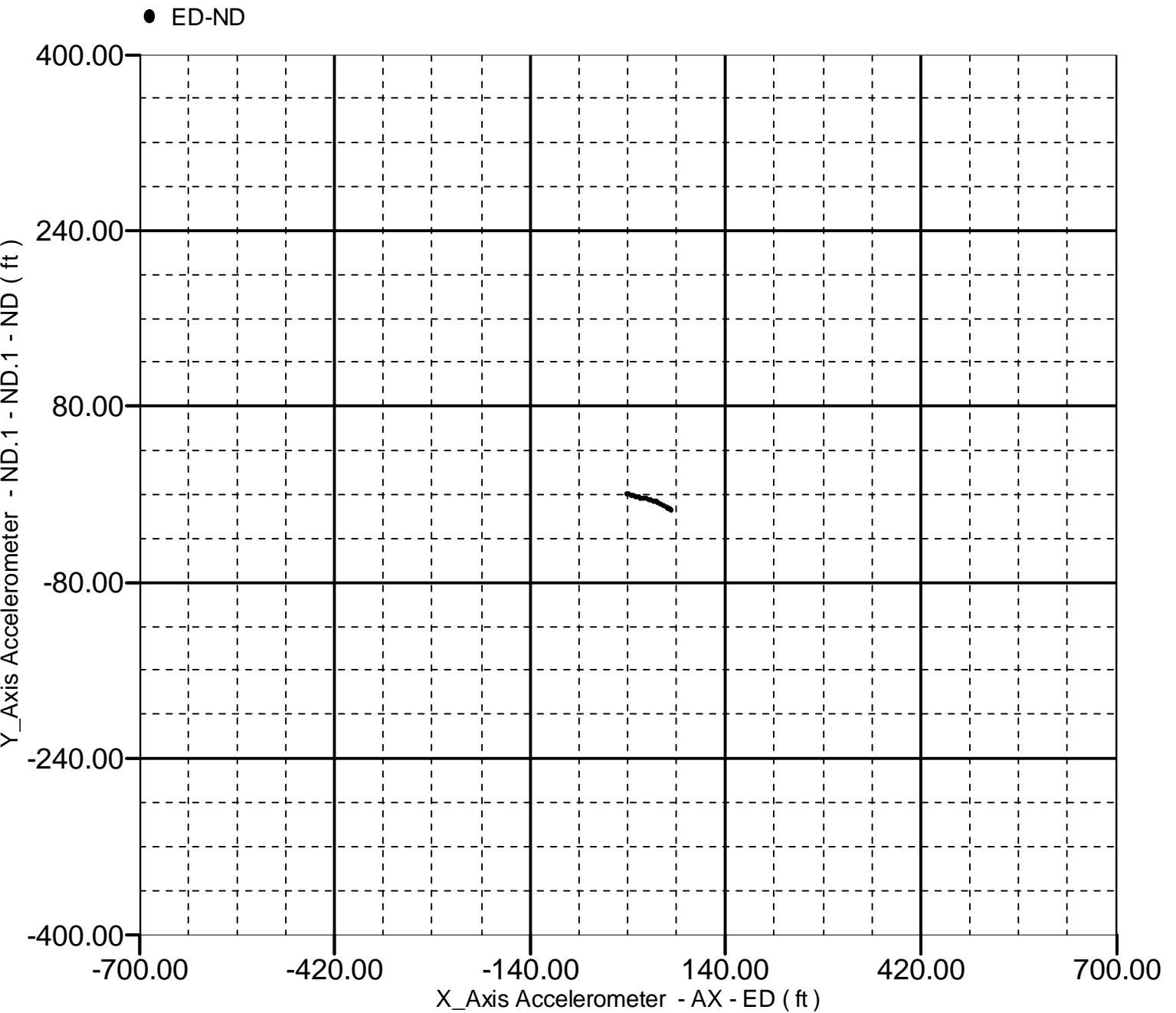
XYZ

1B: Log[3]:Up

North vs. East

2D Cross Plot

Index Range: From 1512.00 to 57.00 ft



XYZ

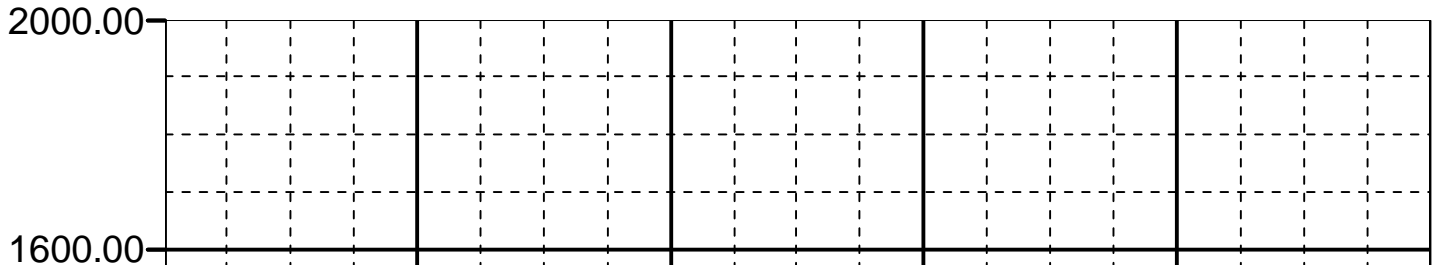
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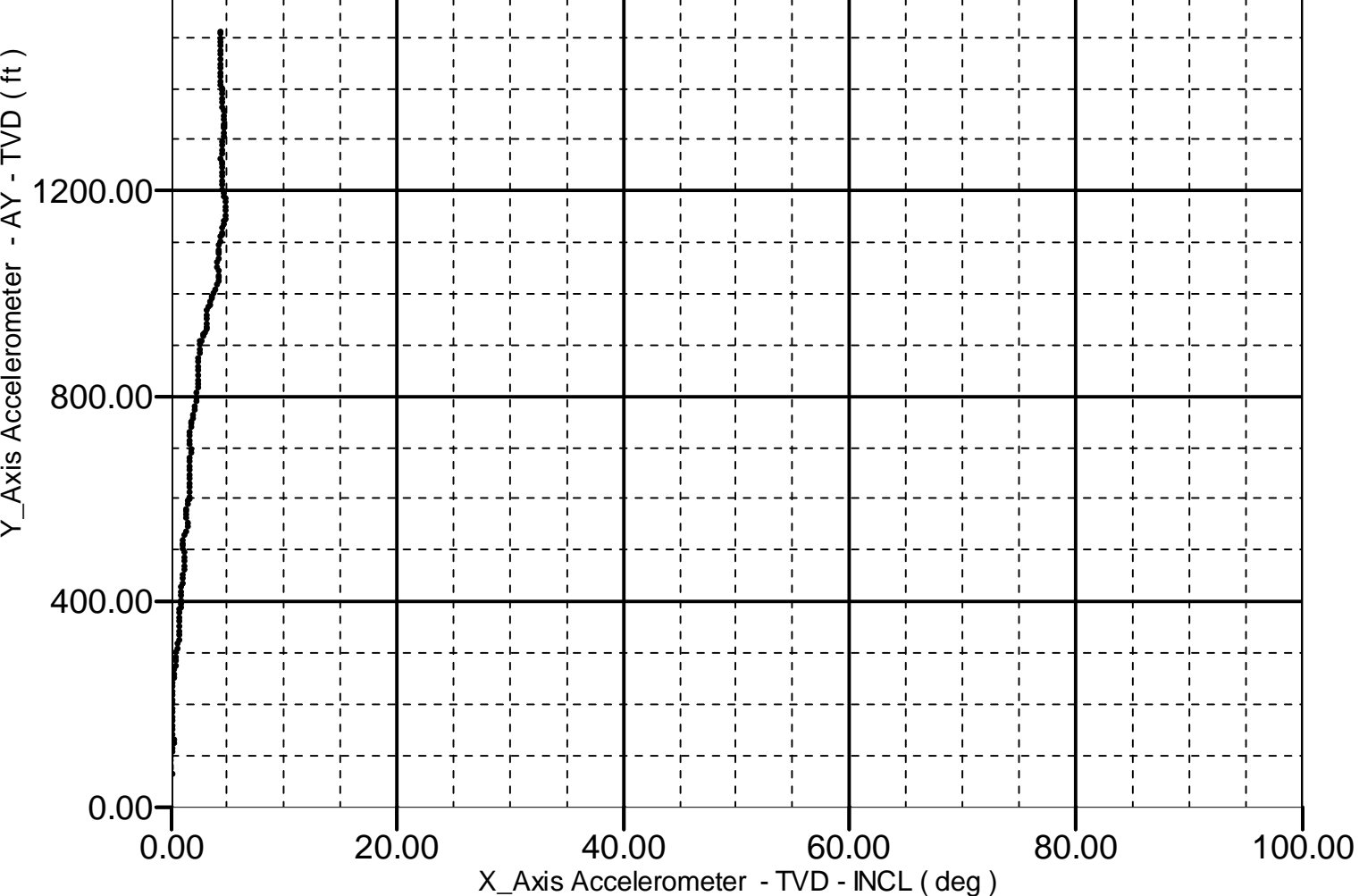
TVD vs. Deviation

2D Cross Plot

Index Range: From 1512.00 to 57.00 ft

● INCL-TVD





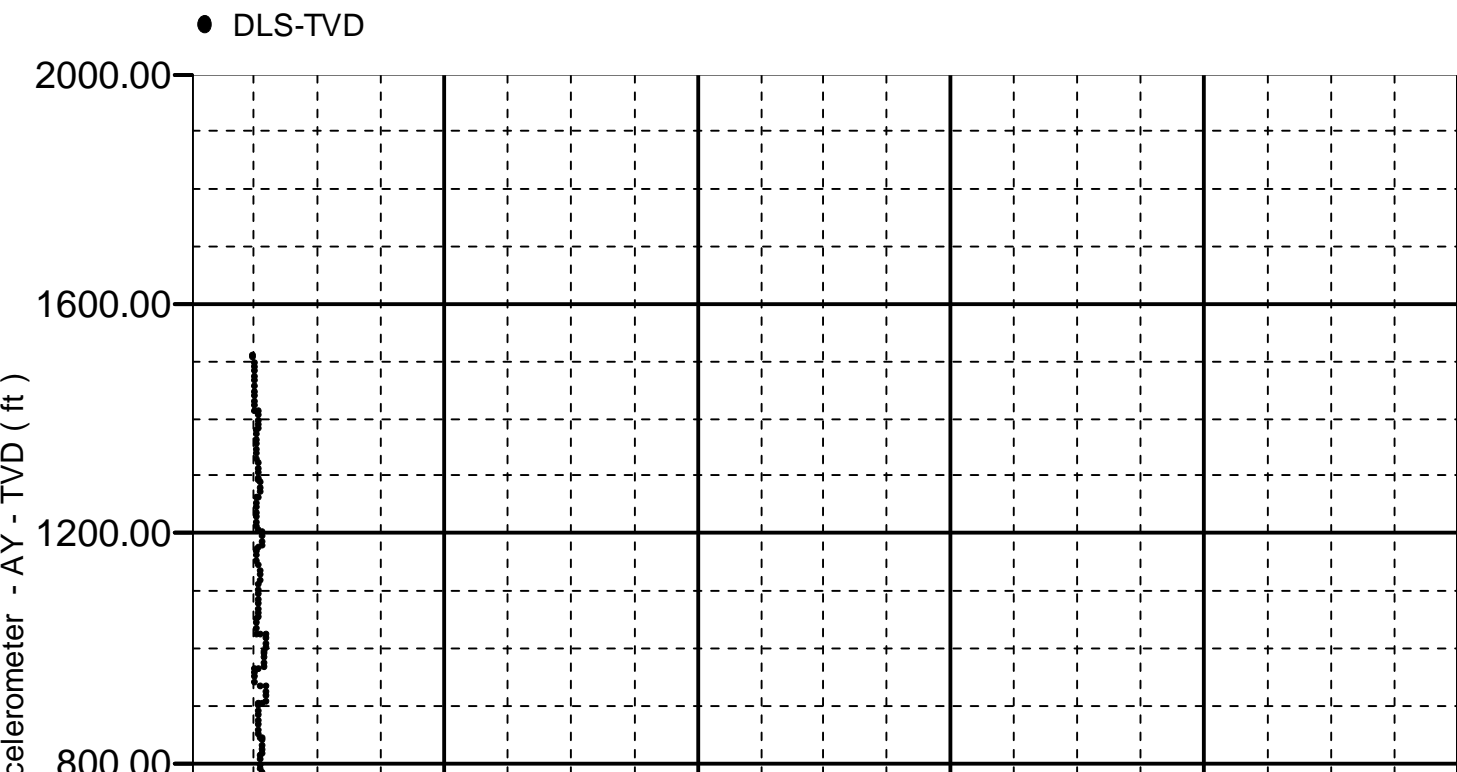
XYZ

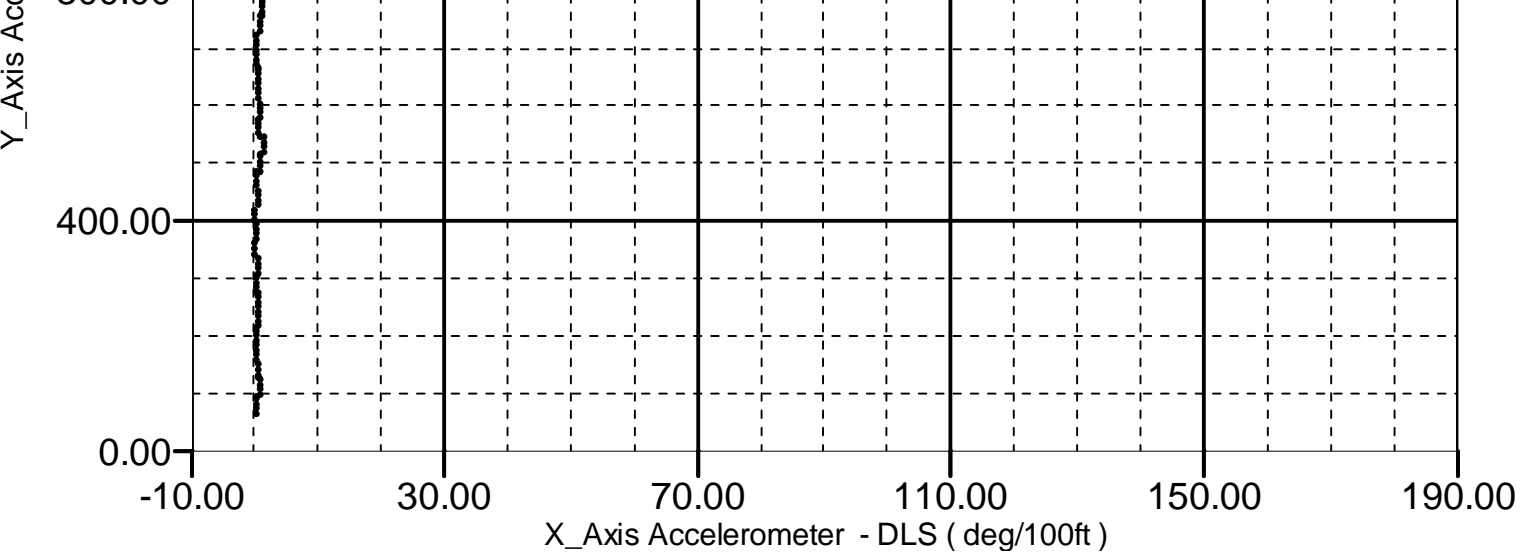
1B: Log[3]:Up

TVD vs. Dog Leg Severity

2D Cross Plot

Index Range: From 1512.00 to 57.00 ft





Calibration Report

GPIT-F (General-Purpose Inclinometer Tool) Calibration - Run 1B

Primary Equipment :

GPIT DHRU Sensor Block - F

DHRU-F

GPIT-F Accelerometers Master Calibration - Signals and Temperature Correction for Accelerometers

Master (EEPROM): 00:00:00 27-Feb-2007

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Accelero X Model[0,0]		Master	----	----	-0.01215934	----		
GPIT-F Accelero X Model[0,1]		Master	----	----	0.0006714027	----		
GPIT-F Accelero X Model[1,0]		Master	----	----	-0.0004417299	----		
GPIT-F Accelero X Model[1,1]		Master	----	----	-1.019631E-07	----		
GPIT-F Accelero X Model[2,0]		Master	----	----	1.200702E-05	----		
GPIT-F Accelero X Model[2,1]		Master	----	----	8.112073E-10	----		
GPIT-F Accelero X Model[3,0]		Master	----	----	-4.763767E-08	----		
GPIT-F Accelero X Model[3,1]		Master	----	----	-4.183312E-12	----		
GPIT-F Accelero Y Model[0,0]		Master	----	----	-0.001189725	----		
GPIT-F Accelero Y Model[0,1]		Master	----	----	-0.0006641162	----		
GPIT-F Accelero Y Model[1,0]		Master	----	----	-1.763025E-05	----		
GPIT-F Accelero Y Model[1,1]		Master	----	----	1.119691E-07	----		
GPIT-F Accelero Y Model[2,0]		Master	----	----	-5.266633E-06	----		
GPIT-F Accelero Y Model[2,1]		Master	----	----	-8.86384E-10	----		
GPIT-F Accelero Y Model[3,0]		Master	----	----	3.013527E-08	----		
GPIT-F Accelero Y Model[3,1]		Master	----	----	4.225287E-12	----		
GPIT-F Accelero Z Model[0,0]		Master	----	----	-0.01878055	----		
GPIT-F Accelero Z Model[0,1]		Master	----	----	0.0006625591	----		
GPIT-F Accelero Z Model[1,0]		Master	----	----	-0.0003628666	----		
GPIT-F Accelero Z Model[1,1]		Master	----	----	-1.129283E-07	----		
GPIT-F Accelero Z Model[2,0]		Master	----	----	7.598594E-06	----		
GPIT-F Accelero Z Model[2,1]		Master	----	----	8.967209E-10	----		
GPIT-F Accelero Z Model[3,0]		Master	----	----	-2.784502E-08	----		
GPIT-F Accelero Z Model[3,1]		Master	----	----	-4.327554E-12	----		

GPIT-F Accelerometers Master Calibration - Perpendicular Correction for Accelerometers

Master (EEPROM): 00:00:00 27-Feb-2007

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Accelero Axis Model[0,0]		Master	----	----	0.001468503	----		
GPIT-F Accelero Axis Model[0,1]		Master	----	----	0.0007086783	----		
GPIT-F Accelero Axis Model[0,2]		Master	----	----	0.0008603798	----		
GPIT-F Accelero Axis Model[0,3]		Master	----	----	6.433531E-05	----		
GPIT-F Accelero Axis Model[0,4]		Master	----	----	-0.0001623442	----		
GPIT-F Accelero Axis Model[0,5]		Master	----	----	-3.363089E-05	----		
GPIT-F Accelero Axis Model[0,6]		Master	----	----	0	----		
GPIT-F Accelero Axis Model[1,0]		Master	----	----	4.295974E-06	----		
GPIT-F Accelero Axis Model[1,1]		Master	----	----	-4.250208E-06	----		

GPIT-F Accelero Axis Model[1,2]		Master	----	----	-4.600836E-06	----		
GPIT-F Accelero Axis Model[1,3]		Master	----	----	4.951463E-07	----		
GPIT-F Accelero Axis Model[1,4]		Master	----	----	2.38704E-06	----		
GPIT-F Accelero Axis Model[1,5]		Master	----	----	-7.386622E-08	----		
GPIT-F Accelero Axis Model[1,6]		Master	----	----	0	----		

GPIT-F Magnetometers Master Calibration - Signals and Temperature Correction for Magnetometer

Master (EEPROM): 00:00:00 27-Feb-2007								
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Magneto X Model[0,0]		Master	----	----	-27.54471	----		
GPIT-F Magneto X Model[0,1]		Master	----	----	4.868039	----		
GPIT-F Magneto X Model[1,0]		Master	----	----	1.002521	----		
GPIT-F Magneto X Model[1,1]		Master	----	----	-0.0006035295	----		
GPIT-F Magneto X Model[2,0]		Master	----	----	-0.009039386	----		
GPIT-F Magneto X Model[2,1]		Master	----	----	7.765441E-06	----		
GPIT-F Magneto X Model[3,0]		Master	----	----	2.81839E-06	----		
GPIT-F Magneto X Model[3,1]		Master	----	----	-2.919831E-08	----		
GPIT-F Magneto Y Model[0,0]		Master	----	----	-83.41712	----		
GPIT-F Magneto Y Model[0,1]		Master	----	----	-4.929654	----		
GPIT-F Magneto Y Model[1,0]		Master	----	----	2.745293	----		
GPIT-F Magneto Y Model[1,1]		Master	----	----	0.0007309241	----		
GPIT-F Magneto Y Model[2,0]		Master	----	----	-0.04057886	----		
GPIT-F Magneto Y Model[2,1]		Master	----	----	-8.903169E-06	----		
GPIT-F Magneto Y Model[3,0]		Master	----	----	0.0001780532	----		
GPIT-F Magneto Y Model[3,1]		Master	----	----	3.311676E-08	----		
GPIT-F Magneto Z Model[0,0]		Master	----	----	-159.163	----		
GPIT-F Magneto Z Model[0,1]		Master	----	----	4.876642	----		
GPIT-F Magneto Z Model[1,0]		Master	----	----	4.802216	----		
GPIT-F Magneto Z Model[1,1]		Master	----	----	-0.0007067518	----		
GPIT-F Magneto Z Model[2,0]		Master	----	----	-0.05983768	----		
GPIT-F Magneto Z Model[2,1]		Master	----	----	8.678178E-06	----		
GPIT-F Magneto Z Model[3,0]		Master	----	----	0.0002176119	----		
GPIT-F Magneto Z Model[3,1]		Master	----	----	-3.134327E-08	----		

GPIT-F Magnetometers Master Calibration - Perpendicular Correction for Magnetometer

Master (EEPROM): 00:00:00 27-Feb-2007								
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Magneto Axis Model[0,0]		Master	----	----	0.004401677	----		
GPIT-F Magneto Axis Model[0,1]		Master	----	----	-0.0001281268	----		
GPIT-F Magneto Axis Model[0,2]		Master	----	----	0.003649965	----		
GPIT-F Magneto Axis Model[0,3]		Master	----	----	0.00370262	----		
GPIT-F Magneto Axis Model[0,4]		Master	----	----	0.00384905	----		
GPIT-F Magneto Axis Model[0,5]		Master	----	----	-0.001539347	----		
GPIT-F Magneto Axis Model[0,6]		Master	----	----	0	----		
GPIT-F Magneto Axis Model[1,0]		Master	----	----	-3.40389E-06	----		
GPIT-F Magneto Axis Model[1,1]		Master	----	----	1.151872E-05	----		
GPIT-F Magneto Axis Model[1,2]		Master	----	----	-1.155403E-06	----		
GPIT-F Magneto Axis Model[1,3]		Master	----	----	2.947939E-06	----		
GPIT-F Magneto Axis Model[1,4]		Master	----	----	-2.848171E-06	----		
GPIT-F Magneto Axis Model[1,5]		Master	----	----	1.396234E-06	----		
GPIT-F Magneto Axis Model[1,6]		Master	----	----	0	----		

GPIT-F DHRU102 Master Calibration -

Master (EEPROM): 00:00:00 26-Feb-2007								
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Electronic Coeff 1[0,0]		Master	----	----	0.2103209	----		
GPIT-F Electronic Coeff 1[0,1]		Master	----	----	249.8629	----		
GPIT-F Electronic Coeff 1[1,0]		Master	----	----	-0.02052607	----		
GPIT-F Electronic Coeff 1[1,1]		Master	----	----	0.03443145	----		
GPIT-F Electronic Coeff 1[2,0]		Master	----	----	0.0005390499	----		
GPIT-F Electronic Coeff 1[2,1]		Master	----	----	-0.0005127604	----		
GPIT-F Electronic Coeff 1[3,0]		Master	----	----	-5.663779E-06	----		
GPIT-F Electronic Coeff 1[3,1]		Master	----	----	3.081511E-06	----		
GPIT-F Electronic Coeff 1[4,0]		Master	----	----	1.916082E-08	----		
GPIT-F Electronic Coeff 1[4,1]		Master	----	----	-7.219608E-09	----		
GPIT-F Electronic Coeff 2[0,0]		Master	----	----	0.2934815	----		

GPIT-F Electronic Coeff 2[0,1]		Master	----	----	250.1966	----	
GPIT-F Electronic Coeff 2[1,0]		Master	----	----	0.0005622077	----	
GPIT-F Electronic Coeff 2[1,1]		Master	----	----	0.01222562	----	
GPIT-F Electronic Coeff 2[2,0]		Master	----	----	0.0001697335	----	
GPIT-F Electronic Coeff 2[2,1]		Master	----	----	-0.0001466679	----	
GPIT-F Electronic Coeff 2[3,0]		Master	----	----	-2.597074E-06	----	
GPIT-F Electronic Coeff 2[3,1]		Master	----	----	8.028966E-07	----	
GPIT-F Electronic Coeff 2[4,0]		Master	----	----	1.004148E-08	----	
GPIT-F Electronic Coeff 2[4,1]		Master	----	----	-2.414145E-09	----	
GPIT-F Electronic Coeff 3[0,0]		Master	----	----	-1.820499	----	
GPIT-F Electronic Coeff 3[0,1]		Master	----	----	250.3474	----	
GPIT-F Electronic Coeff 3[1,0]		Master	----	----	-0.01876183	----	
GPIT-F Electronic Coeff 3[1,1]		Master	----	----	0.009902835	----	
GPIT-F Electronic Coeff 3[2,0]		Master	----	----	0.000515678	----	
GPIT-F Electronic Coeff 3[2,1]		Master	----	----	-0.000194925	----	
GPIT-F Electronic Coeff 3[3,0]		Master	----	----	-5.136801E-06	----	
GPIT-F Electronic Coeff 3[3,1]		Master	----	----	1.671684E-06	----	
GPIT-F Electronic Coeff 3[4,0]		Master	----	----	1.691397E-08	----	
GPIT-F Electronic Coeff 3[4,1]		Master	----	----	-5.427613E-09	----	

GPIT-F DHRU102 Master Calibration -

Master (EEPROM): 00:00:00 26-Feb-2007

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
GPIT-F Electronic Coeff 4[0,0]		Master	----	----	-0.4937484	----	
GPIT-F Electronic Coeff 4[0,1]		Master	----	----	0.1280767	----	
GPIT-F Electronic Coeff 4[1,0]		Master	----	----	-0.00639528	----	
GPIT-F Electronic Coeff 4[1,1]		Master	----	----	5.040809E-06	----	
GPIT-F Electronic Coeff 4[2,0]		Master	----	----	0.0002286763	----	
GPIT-F Electronic Coeff 4[2,1]		Master	----	----	-1.131637E-07	----	
GPIT-F Electronic Coeff 4[3,0]		Master	----	----	-2.155446E-06	----	
GPIT-F Electronic Coeff 4[3,1]		Master	----	----	9.623765E-10	----	
GPIT-F Electronic Coeff 4[4,0]		Master	----	----	6.795482E-09	----	
GPIT-F Electronic Coeff 4[4,1]		Master	----	----	-2.955224E-12	----	
GPIT-F Electronic Coeff 5[0,0]		Master	----	----	-0.4937484	----	
GPIT-F Electronic Coeff 5[0,1]		Master	----	----	0.1280767	----	
GPIT-F Electronic Coeff 5[1,0]		Master	----	----	-0.00639528	----	
GPIT-F Electronic Coeff 5[1,1]		Master	----	----	5.040809E-06	----	
GPIT-F Electronic Coeff 5[2,0]		Master	----	----	0.0002286763	----	
GPIT-F Electronic Coeff 5[2,1]		Master	----	----	-1.131637E-07	----	
GPIT-F Electronic Coeff 5[3,0]		Master	----	----	-2.155446E-06	----	
GPIT-F Electronic Coeff 5[3,1]		Master	----	----	9.623765E-10	----	
GPIT-F Electronic Coeff 5[4,0]		Master	----	----	6.795482E-09	----	
GPIT-F Electronic Coeff 5[4,1]		Master	----	----	-2.955224E-12	----	
GPIT-F Electronic Coeff 6[0,0]		Master	----	----	-0.4937484	----	
GPIT-F Electronic Coeff 6[0,1]		Master	----	----	0.1280767	----	
GPIT-F Electronic Coeff 6[1,0]		Master	----	----	-0.00639528	----	
GPIT-F Electronic Coeff 6[1,1]		Master	----	----	5.040809E-06	----	
GPIT-F Electronic Coeff 6[2,0]		Master	----	----	0.0002286763	----	
GPIT-F Electronic Coeff 6[2,1]		Master	----	----	-1.131637E-07	----	
GPIT-F Electronic Coeff 6[3,0]		Master	----	----	-2.155446E-06	----	
GPIT-F Electronic Coeff 6[3,1]		Master	----	----	9.623765E-10	----	
GPIT-F Electronic Coeff 6[4,0]		Master	----	----	6.795482E-09	----	
GPIT-F Electronic Coeff 6[4,1]		Master	----	----	-2.955224E-12	----	

MAST-B (Multimode Array Sonic Service Tool) Calibration - Run 1B

Primary Equipment :

MAMS-BA Multimode Array Sonic Minimum Service Sonde

MAMS-BA

8105

MAST Master Characterization Coefficients - Characterization Coefficients Summary

Master (EEPROM): 17:24:00 30-Jul-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Sensor Sensitivity Correction Factor Minimum		Master	1.000	0.500	0.935	1.700	
Sensor Sensitivity Correction Factor Maximum		Master	1.000	0.500	1.084	1.700	
Sensor Time Delay Factor Minimum	us	Master	0	-2.000	-0.839	2.000	

Sensor Time Delay Factor Maximum	us	Master	0	-2.000	0.516	2.000	
Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio Minimum		Master	1.000	0.900	0.936	1.700	
Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio Maximum		Master	1.000	0.900	1.058	1.700	

Characterization Coefficients

Master (EEPROM): 17:24:00 30-Jul-2013

CALI_SSCF (Master) Sensor Sensitivity Correction Factor

Minimum/Nominal/Maximum 0.500/1.000/1.700

Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	0.998	1.000	0.982	1.046	1.056	0.969	1.039	0.967
SO2	0.967	1.068	1.009	1.034	1.013	1.033	0.979	0.969
SO3	1.029	1.002	1.003	0.949	0.993	1.037	0.935	0.955
SO4	0.986	1.083	0.969	0.997	1.028	1.084	0.973	0.991
SO5	0.999	1.037	0.976	1.031	1.034	1.018	0.994	0.954
SO6	1.043	0.976	0.977	1.047	1.008	0.973	1.032	1.028
SO7	0.993	1.005	0.997	1.021	1.080	1.058	0.980	0.982
SO8	1.003	1.023	0.951	0.999	1.019	1.003	0.982	0.975
SO9	1.028	1.002	0.950	0.962	1.002	1.004	1.012	0.995
SO10	0.985	0.975	1.025	1.007	0.974	1.000	0.962	1.028
SO11	0.986	0.985	1.000	0.964	1.009	0.984	0.993	0.976
SO12	1.049	1.024	0.995	1.003	0.981	1.074	1.007	0.985
SO13	1.017	1.005	1.033	0.992	1.005	0.965	0.949	0.975

CALI_STDF (Master) Sensor Time Delay Factor

Minimum/Nominal/Maximum -2.000/0/2.000

Unit

us

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	0.009	0.277	0.484	-0.009	0.203	-0.357	-0.631	-0.656
SO2	-0.113	0.140	0.285	0.197	0.113	-0.443	-0.839	-0.666
SO3	-0.017	0.249	0.414	0.017	0.163	-0.112	-0.494	-0.448
SO4	-0.128	0.128	0.136	0.028	0.185	-0.009	-0.505	-0.766
SO5	0.143	-0.116	0.174	-0.007	0.283	-0.025	-0.308	-0.220
SO6	-0.095	0.039	0.365	0.157	0.171	-0.118	-0.155	-0.417
SO7	-0.044	0.247	0.276	0.044	0.200	-0.145	-0.347	-0.412
SO8	0.245	0.321	0.052	-0.017	-0.022	-0.234	-0.188	-0.038
SO9	0.337	0.221	0.068	-0.136	-0.160	-0.176	-0.134	0.160
SO10	0.349	0.319	0.103	-0.148	-0.132	-0.196	-0.240	0.139
SO11	0.192	-0.070	-0.007	-0.182	-0.015	0.091	0.143	0.007
SO12	0.034	-0.003	0.059	-0.215	-0.103	0.003	0.014	-0.097
SO13	0.054	-0.280	-0.304	-0.358	0.516	0.513	-0.039	0.039

CALI_SSCR (Master) Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio

Minimum/Nominal/Maximum 0.900/1.000/1.700

Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	1.028	1.001	1.002	0.960	0.954	0.970	0.982	1.007
SO2	1.038	1.050	1.004	0.979	0.953	1.004	1.016	1.029
SO3	1.039	1.031	0.998	0.936	0.948	0.984	0.988	1.023
SO4	1.058	1.034	1.002	0.978	0.988	1.028	1.038	1.021
SO5	1.036	1.002	0.973	0.950	0.975	1.005	1.017	1.029
SO6	1.019	0.969	0.961	0.941	0.966	1.011	1.016	1.009
SO7	0.991	1.010	1.017	1.007	1.037	1.029	0.990	0.981

SO7								
SO8	0.997	1.009	1.010	1.011	1.002	0.998	0.988	0.992
SO9	1.008	1.002	1.004	1.015	1.009	0.999	0.984	0.991
SO10	1.002	0.993	0.999	1.009	0.986	0.984	0.979	0.997
SO11	0.992	1.000	1.017	1.023	1.016	1.013	1.008	0.986
SO12	1.011	1.010	1.038	1.019	0.998	1.013	0.987	0.989
SO13	0.992	1.001	1.009	1.002	0.991	0.986	0.976	0.982

CALI_SSCTF (Master) Sensor Sensitivity Correction Transmitter Failure Flag									
Minimum/Nominal/Maximum							0/0/0	Unit	
Monopole Upper Transmitter						0			
Monopole Lower Transmitter						0			

CALI_SSCHF (Master) Sensor Sensitivity Correction High Frequency Diagnostic Failure Flag									
Minimum/Nominal/Maximum							0/0/0	Unit	
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	0	0	0	0	0	0	0	0	
SO2	0	0	0	0	0	0	0	0	
SO3	0	0	0	0	0	0	0	0	
SO4	0	0	0	0	0	0	0	0	
SO5	0	0	0	0	0	0	0	0	
SO6	0	0	0	0	0	0	0	0	
SO7	0	0	0	0	0	0	0	0	
SO8	0	0	0	0	0	0	0	0	
SO9	0	0	0	0	0	0	0	0	
SO10	0	0	0	0	0	0	0	0	
SO11	0	0	0	0	0	0	0	0	
SO12	0	0	0	0	0	0	0	0	
SO13	0	0	0	0	0	0	0	0	

CALI_SSCLF (Master) Sensor Sensitivity Correction Low Frequency Diagnostic Failure Flag									
Minimum/Nominal/Maximum							0/0/0	Unit	
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	0	0	0	0	0	0	0	0	
SO2	0	0	0	0	0	0	0	0	
SO3	0	0	0	0	0	0	0	0	
SO4	0	0	0	0	0	0	0	0	
SO5	0	0	0	0	0	0	0	0	
SO6	0	0	0	0	0	0	0	0	
SO7	0	0	0	0	0	0	0	0	
SO8	0	0	0	0	0	0	0	0	
SO9	0	0	0	0	0	0	0	0	
SO10	0	0	0	0	0	0	0	0	
SO11	0	0	0	0	0	0	0	0	
SO12	0	0	0	0	0	0	0	0	
SO13	0	0	0	0	0	0	0	0	

CALI_SSCHA (Master) Sensor Sensitivity Correction High Frequency Normalized Amplitudes									
Minimum/Nominal/Maximum							----/1.000/----	Unit	
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	1.001	0.999	1.017	0.955	0.946	1.031	0.962	1.034	
SO2	1.045	0.947	1.002	0.977	0.998	0.979	1.033	1.043	
SO3	0.970	0.995	0.994	1.051	1.005	0.962	1.067	1.045	

SO3	0.976	0.993	0.994	1.031	1.003	0.962	1.007	1.043
SO4	1.009	0.918	1.026	0.998	0.967	0.917	1.021	1.004
SO5	1.009	0.972	1.033	0.978	0.975	0.991	1.014	1.057
SO6	0.976	1.043	1.041	0.972	1.009	1.046	0.986	0.991
SO7	1.008	0.996	1.005	0.981	0.927	0.946	1.021	1.020
SO8	0.996	0.976	1.051	1.000	0.981	0.996	1.017	1.025
SO9	0.975	1.000	1.055	1.041	1.000	0.998	0.989	1.007
SO10	1.008	1.019	0.969	0.986	1.020	0.992	1.032	0.965
SO11	0.999	1.001	0.985	1.022	0.977	1.001	0.992	1.010
SO12	0.958	0.981	1.010	1.002	1.024	0.936	0.998	1.021
SO13	0.982	0.993	0.967	1.006	0.994	1.035	1.052	1.025

CALI_SSCLA (Master) Sensor Sensitivity Correction Low Frequency Normalized Amplitudes

Minimum/Nominal/Maximum							----/1.000/----		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	1.029	1.000	1.019	0.916	0.903	1.000	0.945	1.041	
SO2	1.085	0.994	1.006	0.956	0.952	0.983	1.050	1.073	
SO3	1.008	1.026	0.992	0.984	0.952	0.947	1.054	1.069	
SO4	1.067	0.949	1.028	0.975	0.955	0.943	1.060	1.025	
SO5	1.045	0.974	1.005	0.929	0.950	0.995	1.031	1.088	
SO6	0.995	1.011	1.001	0.915	0.975	1.057	1.002	0.999	
SO7	0.999	1.006	1.021	0.987	0.961	0.974	1.011	1.001	
SO8	0.993	0.984	1.061	1.011	0.983	0.995	1.005	1.017	
SO9	0.983	1.002	1.060	1.056	1.008	0.997	0.973	0.998	
SO10	1.010	1.012	0.968	0.995	1.005	0.976	1.010	0.963	
SO11	0.991	1.000	1.002	1.045	0.993	1.014	1.000	0.996	
SO12	0.968	0.991	1.048	1.021	1.022	0.948	0.986	1.009	
SO13	0.974	0.994	0.976	1.008	0.985	1.020	1.027	1.006	

CALI_SSTRS (Master) Sensor Sensitivity Correction Transmitter-Receiver Spacing

Minimum/Nominal/Maximum							----/4.000/----		Unit	ft
Monopole Upper Transmitter					4.000					
Monopole Lower Transmitter					4.000					

CALI_TTMUH (Master) Sensor Sensitivity Transit Time from Monopole Upper Transmitter High Frequency Firing

Minimum/Nominal/Maximum							0/0/5000.000		Unit	us
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8		
SO1	501.513	501.245	501.038	501.531	501.319	501.879	502.153	502.178		
SO2	472.504	472.251	472.107	472.194	472.278	472.834	473.230	473.057		
SO3	443.617	443.350	443.186	443.582	443.437	443.711	444.094	444.047		
SO4	414.937	414.333	414.308	414.462	414.472	414.697	415.297	415.603		
SO5	385.771	385.718	385.535	385.594	385.439	385.802	386.206	386.178		
SO6	356.907	356.723	356.586	356.600	356.658	357.066	357.020	357.245		
SO7	327.823	327.540	327.411	327.746	327.657	327.960	328.146	328.211		
SO8	298.541	298.620	298.972	299.051	298.996	299.151	299.235	298.944		
SO9	269.517	269.750	269.829	269.996	270.152	270.203	270.128	269.711		
SO10	240.673	240.653	240.906	241.249	241.310	241.403	241.310	240.908		
SO11	211.566	211.856	212.023	212.418	212.358	212.437	212.451	212.059		
SO12	182.715	182.758	182.941	183.166	183.262	183.429	183.188	182.969		
SO13	153.516	153.778	153.728	153.612	153.354	153.274	153.568	153.732		

CALI_TTMLH (Master) Sensor Sensitivity Transit Time from Monopole Lower Transmitter High Frequency Firing

Minimum/Nominal/Maximum								0/0/5000.000	Unit	us
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8		
SO1	153.496	153.316	153.065	153.347	153.239	153.969	154.063	154.139		
SO2	182.885	182.604	182.422	182.598	182.629	183.016	183.289	183.205		
SO3	211.429	211.174	211.485	211.849	211.589	211.670	211.717	211.861		
SO4	240.081	240.174	240.183	240.245	239.921	240.084	240.476	240.692		
SO5	268.497	269.067	268.672	268.976	268.549	268.802	268.964	268.818		
SO6	298.618	298.535	298.019	298.421	298.334	298.505	298.624	298.924		
SO7	327.420	327.121	327.192	327.320	327.097	327.485	327.702	327.767		
SO8	356.114	355.882	356.069	356.128	356.192	356.461	356.286	356.276		
SO9	385.171	385.169	385.395	385.637	385.529	385.511	385.501	385.330		
SO10	414.182	414.264	414.443	414.600	414.508	414.543	414.723	414.368		
SO11	443.125	443.387	443.324	443.499	443.332	443.226	443.174	443.309		
SO12	472.129	472.167	472.104	472.378	472.267	472.160	472.149	472.260		
SO13	500.935	501.269	501.293	501.347	500.473	500.476	501.028	500.950		

CALI_AMP MUH (Master)										
Sensor Sensitivity First Break Amplitude from Monopole Upper Transmitter High Frequency Firing										
Minimum/Nominal/Maximum								-50000.000/0/50000.000		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8		
SO1	5146.242	5136.799	5230.729	4908.755	4864.930	5299.755	4946.278	5313.921		
SO2	5586.852	5062.637	5355.456	5225.173	5336.198	5233.125	5523.110	5575.491		
SO3	5527.936	5674.279	5668.541	5992.107	5726.364	5483.179	6084.946	5956.443		
SO4	6073.742	5477.983	6152.631	5998.753	5841.253	5568.900	6155.324	6090.399		
SO5	6295.854	6028.679	6449.966	6120.152	6145.677	6176.929	6351.000	6565.101		
SO6	6289.616	6672.854	6728.451	6302.656	6536.664	6798.009	6343.225	6392.522		
SO7	6963.756	6899.875	6914.005	6795.735	6458.379	6592.724	7126.328	7093.938		
SO8	7338.933	7148.649	7755.404	7392.857	7295.526	7408.763	7545.793	7572.928		
SO9	7422.956	7686.476	7993.587	7942.768	7717.720	7697.047	7660.148	7766.141		
SO10	8127.310	8220.269	7855.471	8022.423	8318.270	8116.378	8372.179	7812.224		
SO11	8569.334	8693.708	8523.369	8862.992	8433.320	8512.855	8575.748	8688.086		
SO12	8598.036	8770.915	9061.270	8718.142	8565.037	7953.676	8434.041	8949.510		
SO13	8654.483	8975.695	8461.624	8093.473	7785.146	7997.998	8499.429	8771.947		

CALI_AMP MLH (Master)										
Sensor Sensitivity First Break Amplitude from Monopole Lower Transmitter High Frequency Firing										
Minimum/Nominal/Maximum								-50000.000/0/50000.000		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8		
SO1	8322.278	7997.593	8084.918	7666.849	7919.925	9108.438	8553.551	8986.291		
SO2	8828.262	7909.559	8185.195	8157.400	8339.918	8381.960	8960.701	8961.146		
SO3	7962.909	8134.268	8161.377	8465.979	8185.814	7968.433	8709.098	8629.437		
SO4	7891.980	7249.491	8062.157	7818.374	7542.164	7120.526	7987.466	7796.312		
SO5	7420.581	7192.170	7582.003	7162.541	7088.761	7284.996	7422.454	7806.644		
SO6	6820.723	7339.489	7254.805	6753.801	7016.184	7238.863	6902.429	6908.593		
SO7	6791.554	6689.849	6795.125	6587.313	6193.010	6321.223	6813.085	6824.595		
SO8	6317.951	6233.255	6657.333	6321.904	6168.715	6267.260	6412.653	6485.117		
SO9	5958.253	6052.965	6481.475	6353.832	6028.553	6022.030	5949.136	6079.364		
SO10	5921.037	5983.189	5664.789	5748.635	5923.247	5752.155	6030.659	5655.906		
SO11	5551.285	5559.736	5474.728	5678.235	5426.158	5561.955	5510.827	5610.010		
SO12	4961.275	5081.337	5229.697	5189.031	5304.191	4847.763	5170.815	5286.408		
SO13	4869.340	4922.813	4793.686	4988.208	4926.077	5129.808	5216.309	5078.806		

CALI_AMP MUL (Master)									
Sensor Sensitivity First Break Amplitude from Monopole Upper Transmitter Low Frequency Firing									

Minimum/Nominal/Maximum								-50000.000/0/50000.000		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8		
SO1	-8119.010	-7773.179	-7649.829	-6993.304	-7164.570	-8077.578	-7787.497	-8380.044		
SO2	-8447.972	-7414.062	-7383.489	-7183.690	-7542.121	-7799.215	-8186.128	-8244.643		
SO3	-8492.315	-8316.295	-8216.079	-8430.741	-8297.771	-8254.679	-9135.998	-9046.379		
SO4	-10539.640	-9431.392	-10486.740	-10149.590	-9887.094	-9562.116	-10832.140	-10453.090		
SO5	-12566.990	-11927.130	-12845.800	-12133.260	-11958.290	-12346.230	-12689.430	-13283.680		
SO6	-13906.680	-14819.400	-15080.090	-13989.510	-14502.740	-15208.580	-14102.140	-13991.810		
SO7	-16075.170	-16175.110	-16431.100	-15879.550	-15459.900	-15666.670	-16262.320	-16097.180		
SO8	-21204.750	-21022.850	-22654.960	-21585.340	-20998.590	-21241.970	-21467.070	-21711.230		
SO9	-18658.640	-19016.100	-20116.790	-20055.580	-19144.360	-18923.360	-18471.520	-18950.940		
SO10	-20867.720	-20909.090	-20004.560	-20570.590	-20766.540	-20175.780	-20879.650	-19901.390		
SO11	-22710.660	-22928.920	-22962.710	-23957.630	-22749.310	-23234.450	-22912.660	-22826.890		
SO12	-23789.290	-24337.460	-25753.890	-25082.220	-25101.100	-23296.130	-24216.780	-24799.350		
SO13	-26957.050	-27497.900	-27014.580	-27892.850	-27264.950	-28239.670	-28433.970	-27851.490		

CALI_AMPMLL (Master)										Sensor Sensitivity First Break Amplitude from Monopole Lower Transmitter Low Frequency Firing										
Minimum/Nominal/Maximum										-50000.000/0/50000.000										Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8												
SO1	-25442.960	-24735.160	-25209.240	-22664.130	-22323.680	-24733.720	-23376.510	-25739.050												
SO2	-23558.210	-21595.150	-21838.810	-20771.640	-20666.320	-21346.130	-22801.460	-23304.620												
SO3	-19333.490	-19682.390	-19024.500	-18880.160	-18256.830	-18155.390	-20222.400	-20499.110												
SO4	-18347.130	-16318.530	-17672.920	-16771.100	-16423.950	-16222.890	-18235.260	-17620.980												
SO5	-16883.380	-15734.240	-16227.740	-14999.050	-15345.150	-16077.140	-16654.710	-17571.420												
SO6	-13970.160	-14196.050	-14056.590	-12847.810	-13686.760	-14840.610	-14076.010	-14029.200												
SO7	-15309.060	-15122.000	-14759.040	-14410.130	-13931.020	-14384.500	-16113.930	-16060.690												
SO8	-10483.290	-10111.580	-10495.070	-9954.338	-10584.480	-11168.520	-10969.900	-10756.660												
SO9	-9590.472	-9383.746	-9746.552	-9772.129	-9912.813	-10046.010	-10055.900	-10080.270												
SO10	-10031.880	-9654.435	-9418.357	-10074.790	-10526.160	-10485.440	-10831.560	-10011.140												
SO11	-7653.657	-7597.293	-8111.223	-9085.440	-8856.790	-8974.865	-8771.314	-8153.298												
SO12	-7008.213	-7104.097	-7860.061	-8175.452	-8625.854	-7836.529	-7861.252	-7616.085												
SO13	-6672.962	-6859.264	-7422.948	-8181.672	-8398.325	-8452.218	-8018.949	-7243.709												

Vertical Casing Check Coefficients																				
Before (Measured):		13:32:29 27-Sep-2013				After:														
CALI_SVCNA (Before)										Sensor Vertical Casing Check Normalized Amplitudes (Before/After/BAChange)										
Minimum/Nominal/Maximum										0.900/1.000/1.100										Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8												
SO1	1.010	0.984	0.972	0.958	1.001	1.000	1.008	1.000												
SO2	1.018	1.026	0.989	0.984	0.998	1.014	1.002	0.992												
SO3	1.057	1.045	1.009	0.962	0.991	0.986	0.980	1.014												
SO4	1.050	1.063	1.013	0.993	1.007	0.985	0.973	0.983												
SO5	1.041	1.027	0.991	0.979	1.009	0.989	0.977	1.011												
SO6	1.031	1.005	0.989	0.980	1.002	0.998	0.997	1.008												
SO7	1.009	1.038	0.997	1.003	1.017	0.985	0.996	0.995												
SO8	1.017	1.021	0.980	0.975	1.015	1.003	0.995	0.997												
SO9	1.025	1.002	0.976	0.978	1.020	0.999	0.997	1.001												
SO10	1.047	1.010	0.966	0.965	0.977	1.002	0.998	1.029												
SO11	1.034	1.006	0.964	0.955	0.974	0.994	1.027	1.017												

SO11	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO12	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO13	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE

CALI_SVCLF (Before)		Sensor Vertical Casing Check Low Frequency Diagnostics Failure Flag (Before/After/BAChange)						
Minimum/Nominal/Maximum		0/0/0						Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SO13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

CALI_SVCLF (After)		Sensor Vertical Casing Check Low Frequency Diagnostics Failure Flag (Before/After/BAChange)						
Minimum/Nominal/Maximum		0/0/0						Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO2	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO3	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO4	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO5	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO6	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO7	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO8	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO9	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO10	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO11	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO12	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO13	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE

PPC-B (Powered Positioning device and Caliper.) Calibration - Run 1B

Primary Equipment :		
PPC-B Element is used for usual logging at wellsite and check/diagnostics.	PPC-B	8239
Auxiliary Equipment :		
PPC-B Element is used for usual logging at wellsite and check/diagnostics.	PPC-B	8239
Calibration Parameter :		
ZERO_REF (Small Size Ring)	3.500	
PLUS_REF (Large Size Ring)	8.000	
Equipment Properties :		
Caliper Arm Equipment Type for PPC	PPC_CAL_STD	

PPC Check - Downhole Electronics Test

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Positive Analog Voltage	V	Before		7	8.73516	9	
Minus Analog Voltage	V	Before		-9	-8.76475	-7	
Digital Voltage	V	Before		3.15	3.37538	3.45	
Digital Voltage for Analog Digital Converter	V	Before		4.5	5.02441	5.5	
Status Word of Analog Digital Converter Offset		Before		-8	1	8	

PPC Check - Cartridge Temperature Test

Before (Measured): 21:03:59 02-Oct-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Cartridge Temperature	degF	Before		-58	69.8466	482	

PPC Check - Power Control LVDT Test

Before (Measured): 21:03:59 02-Oct-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
LVDT5 Caliper Open Position	in	Before			-1.27979		
LVDT5 Full Power Position	in	Before			1.36316		

PPC Diagnostics - Arm Close Position Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Caliper-arm 1, radius raw - 0	in	Master	----	----	----	----	
Caliper-arm 2, radius raw - 0	in	Master	----	----	----	----	
Caliper-arm 3, radius raw - 0	in	Master	----	----	----	----	
Caliper-arm 4, radius raw - 0	in	Master	----	----	----	----	
Power Control LVDT - 0	in	Master	----	----	----	----	
LVDT excitation - 0	V	Master	----	----	----	----	

PPC Diagnostics - Downhole Electronics Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Positive Analog Voltage - 0	V	Master	----	----	----	----	
Minus Analog Voltage - 0	V	Master	----	----	----	----	
Digital Voltage - 0	V	Master	----	----	----	----	
Digital Voltage for Analog Digital Converter - 0	V	Master	----	----	----	----	
Status Word of Analog Digital Converter Offset - 0		Master	----	----	----	----	

PPC Diagnostics - RBS Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Relative Bearing - 0	deg	Master	----	----	----	----	
Potentiometer Excitation - 0	V	Master	----	----	----	----	

PPC Diagnostics - Cartridge Temperature Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Cartridge Temperature - 0	degF	Master	----	----	----	----	

PPC Diagnostics - Power Control LVDT Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
LVDT5 Caliper Open Position - 0	in	Master	----	----	----	----	
LVDT5 Full Power Position - 0	in	Master	----	----	----	----	

PPC LVDT5 Master Calibration - PPC CaliCoefficients

Master (EEPROM): 13:04:00 18-Sep-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CCS	in	Master	-1.51		-1.46399		
COP	in	Master	-1.31		-1.27979		
CPW	in	Master	1.41		1.36316		

PPC Caliper Calibration - PPC CaliCoefficients

Before (Measured): 14:56:55 25-Sep-2013

After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RD1_GAIN		Before	1	0.85	1.02194	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD2_GAIN		Before	1	0.85	1.04236	1.15	
		After	----	----	----	----	

RD2_GAIN		Before	1	0.85	1.04256	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD3_GAIN		Before	1	0.85	1.04763	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD4_GAIN		Before	1	0.85	1.02226	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD1_OFFSET	in	Before	0	-2.2	-0.795066	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD2_OFFSET	in	Before	0	-2.2	-0.689726	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD3_OFFSET	in	Before	0	-2.2	-0.999738	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD4_OFFSET	in	Before	0	-2.2	-0.522726	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	

PPC Caliper Calibration - PPC Accumulations

Before (Measured):		14:56:55 25-Sep-2013		After:			
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Caliper 1 Zero Radius	in	Before	3.5	1.2	4.20284	5.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 2 Zero Radius	in	Before	3.5	1.2	4.01946	5.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 3 Zero Radius	in	Before	3.5	1.2	4.29515	5.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 4 Zero Radius	in	Before	3.5	1.2	3.93515	5.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 1 Plus Radius	in	Before	8	6.1	8.60621	9.7	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 2 Plus Radius	in	Before	8	6.1	8.33659	9.7	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 3 Plus Radius	in	Before	8	6.1	8.59056	9.7	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 4 Plus Radius	in	Before	8	6.1	8.33718	9.7	
		After	----	----	----	----	
		After-Before	----	----	----	----	

EDTC-B (Enhanced Digital Telemetry Cartridge - Version B) Calibration - Run 1B

Primary Equipment :	Enhanced Digital Telemetry Cartridge - B	EDTC-B	8298
Calibration Parameter :	Plus Reference (Jig minus background reference)	165	

EDTC-B Accelerometer Calibration - EDTC-B Accelerometer Calibration

Before (Measured):	13:24:33 27-Sep-2013 Expired by 4 days						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
AZ Vertical Measurement	ft/s2	Before	32.19	31.53	32.04	32.84	

EDTC-B Memory Data - EDTC-B Memory Data

Master (EEPROM):	15:00:12 02-Oct-2013						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Initial PMT HV	V	Master			1388.000		
Accelerometer Serial Number		Master			358		
Accelerometer Coefficients		Master			2.018		

Accelerometer Coefficients - 0		Master	----	----	2.918	----	
Accelerometer Coefficients - 1		Master	----	----	0.000	----	
Accelerometer Coefficients - 2		Master	----	----	0.000	----	
Accelerometer Coefficients - 3		Master	----	----	0.000	----	
Accelerometer Coefficients - 4		Master	----	----	0.000	----	
Accelerometer Coefficients - 5		Master	----	----	0.000	----	
Accelerometer Coefficients - 6		Master	----	----	0.000	----	
Accelerometer Coefficients - 7		Master	----	----	-0.006	----	
Accelerometer Coefficients - 8		Master	----	----	0.000	----	
Accelerometer Coefficients - 9		Master	----	----	0.000	----	
Accelerometer Coefficients - 10		Master	----	----	0.000	----	
Accelerometer Coefficients - 11		Master	----	----	0.000	----	
Gamma-Ray Detector Serial Number		Master			7184		

EDTC-B Gamma-Ray Calibration - Gamma Ray Coefficients

Before (Measured):	15:29:19 25-Sep-2013	After:					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Gain		Before	1.000	0.900	1.039	1.100	
		After	----	----	----	----	
		After-Before	----	----	----	----	

EDTC-B Gamma-Ray Calibration - Gamma Ray Accumulations

Before (Measured):	15:29:19 25-Sep-2013	After:					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before		0	37.179	120.000	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RGR Plus Measurement	gAPI	Before	165.000	150.000	158.866	180.000	
		After			NOT DONE		
		After-Before	----	----	----	----	

LEH-QT (Logging Equipment Head - QT, 3-3/8 inch 31 pin HPHT with Tension Sensor) Calibration - Run 1B

Primary Equipment :	Logging Equipment Head - QT, 3-3/8 inch 31 pin HPHT with Tension Sensor	LEH-QT
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HTEN Master Calibration - HTEN Master Calibration

Master:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
HTEN Shop Gain		Master	1.000	0.800	NOT DONE	4.500	
HTEN Shop Offset	lbf	Master	0	-1000.000	NOT DONE	1000.000	

HTEN Before Calibration - HTEN Before Calibration

Before:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RHTE Zero Measurement - 0	lbf	Before	----	----	----	----	
RHTE Plus Measurement - 0	lbf	Before	----	----	----	----	
HTEN Gain - 0		Before	----	----	----	----	
HTEN Offset - 0	lbf	Before	----	----	----	----	

Company: LAMONT DOHERTY EARTH OBSERVATORY



Well: TW #3

Field: WILDCAT

County: ROCKLAND

State: NEW YORK

GENERAL PURPOSE INCLINOMETRY TOOL

CONTINUOUS DIRECTIONAL SURVEY