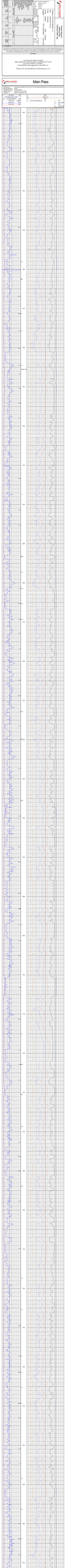


Comments

Log Run Quality: Acceptable
Depth Control: Depth control was carried out to a GR log run on 14-OCT-2012.
Cased Hole: Main Pass was logged up cased hole.
Tortuosity: Hole was logged in both directions.

Thank you for choosing Weatherford Wireline Services, LLC!

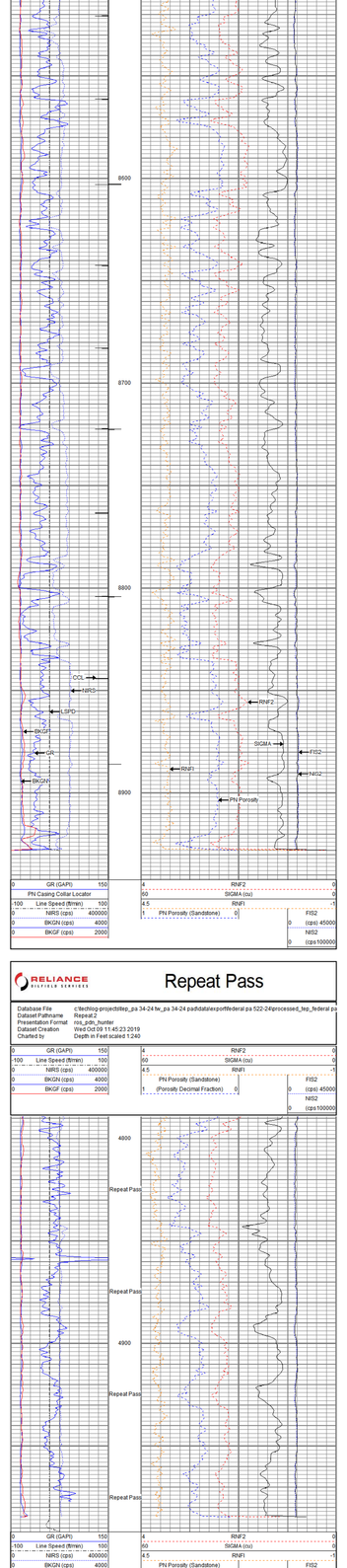
Main Pass

Interval: 10,000.00 ft to 15,000.00 ft

Log Header Data	
Service Order Number	1234567890
Run Number	1
Log Date	14-OCT-2012
Operating Rig Time	12:00
Log Unit Number	1234
Log Engineer	J. SMITH
Max Log Depth (MD)	15,000.00 ft
Max Log Depth (TVD)	9,842.52 ft
Bottom Log Interval	15,000.00 ft
Top Log Interval	10,000.00 ft
Casing Driller Size	9.625 in
Casing Driller Depth	10,000.00 ft
Casing Logger Depth	10,000.00 ft
Bit Size	8.500 in
Drilling Fluid Type	WBM
Drilling Fluid Density	10.2 ppg
Drilling Fluid Viscosity	48 s
Drilling Fluid pH	9.5
Drilling Fluid Resistivity	0.18 ohm-m @ 68 °F
Drilling Fluid Temperature	120 °F
Max Recorded Temperature	185 °F
Max Recorded Pressure	9,850 psi

Tool Strings	
Tool String 1	GR-CCL-CALI-NPHI-RHOB-DRHO-PEF-RT-RM-RS
Tool String 2	GR-CCL-CBL-VDL
Tool String 3	GR-CCL-PERF

Remarks
Run 1: Main Pass. Logged up cased hole.
Run 2: Repeat Section. Logged up cased hole.
Run 3: Log Header Data. Logged up cased hole.
Run 4: Tool Strings. Logged up cased hole.
Run 5: Remarks. Logged up cased hole.
Run 6: Comments. Logged up cased hole.
Run 7: Gamma Ray (GR). Logged up cased hole.
Run 8: Caliper (CALI). Logged up cased hole.
Run 9: Bit Size (BS). Logged up cased hole.
Run 10: Neutron Porosity (NPHI). Logged up cased hole.
Run 11: Bulk Density (RHOB). Logged up cased hole.
Run 12: Deep Resistivity (RT). Logged up cased hole.
Run 13: Medium Resistivity (RM). Logged up cased hole.
Run 14: Shallow Resistivity (RS). Logged up cased hole.
Run 15: Photoelectric Factor (PEF). Logged up cased hole.
Run 16: Delta Rho (DRHO). Logged up cased hole.
Run 17: Depth (MD). Logged up cased hole.
Run 18: Depth (TVD). Logged up cased hole.
Run 19: Rate of Penetration (ROP). Logged up cased hole.
Run 20: Weight on Bit (WOB). Logged up cased hole.
Run 21: Surface Torque (TQ). Logged up cased hole.
Run 22: Standpipe Pressure (SPP). Logged up cased hole.
Run 23: Flow In (FLOW). Logged up cased hole.
Run 24: Pump Strokes (STKS). Logged up cased hole.
Run 25: Mud Weight In (MWI). Logged up cased hole.
Run 26: Mud Weight Out (MWO). Logged up cased hole.
Run 27: Mud Temperature In (MTI). Logged up cased hole.
Run 28: Mud Temperature Out (MTO). Logged up cased hole.
Run 29: Mud Resistivity In (MRI). Logged up cased hole.
Run 30: Mud Resistivity Out (MRO). Logged up cased hole.
Run 31: Mud Type. Logged up cased hole.
Run 32: Mud Chlorides. Logged up cased hole.
Run 33: Mud Solids. Logged up cased hole.
Run 34: Mud Oil. Logged up cased hole.
Run 35: Mud Water. Logged up cased hole.
Run 36: Mud Gas. Logged up cased hole.
Run 37: Mud Pit Volume. Logged up cased hole.
Run 38: Mud Pit Volume Change. Logged up cased hole.
Run 39: Mud Flow Out. Logged up cased hole.
Run 40: Mud Flow In. Logged up cased hole.
Run 41: Mud Density. Logged up cased hole.
Run 42: Mud Viscosity. Logged up cased hole.
Run 43: Mud Yield Point. Logged up cased hole.
Run 44: Mud Gel Strength. Logged up cased hole.
Run 45: Mud Filtrate. Logged up cased hole.
Run 46: Mud Cake. Logged up cased hole.
Run 47: Mud pH. Logged up cased hole.
Run 48: Mud Alkalinity. Logged up cased hole.
Run 49: Mud Hardness. Logged up cased hole.
Run 50: Mud Calcium. Logged up cased hole.
Run 51: Mud Magnesium. Logged up cased hole.
Run 52: Mud Potassium. Logged up cased hole.
Run 53: Mud Sodium. Logged up cased hole.
Run 54: Mud Chloride. Logged up cased hole.
Run 55: Mud Sulfate. Logged up cased hole.
Run 56: Mud Carbonate. Logged up cased hole.
Run 57: Mud Bicarbonate. Logged up cased hole.
Run 58: Mud Iron. Logged up cased hole.
Run 59: Mud Manganese. Logged up cased hole.
Run 60: Mud Zinc. Logged up cased hole.
Run 61: Mud Copper. Logged up cased hole.
Run 62: Mud Lead. Logged up cased hole.
Run 63: Mud Nickel. Logged up cased hole.
Run 64: Mud Chromium. Logged up cased hole.
Run 65: Mud Cadmium. Logged up cased hole.
Run 66: Mud Arsenic. Logged up cased hole.
Run 67: Mud Mercury. Logged up cased hole.
Run 68: Mud Selenium. Logged up cased hole.
Run 69: Mud Barium. Logged up cased hole.
Run 70: Mud Strontium. Logged up cased hole.
Run 71: Mud Vanadium. Logged up cased hole.
Run 72: Mud Titanium. Logged up cased hole.
Run 73: Mud Aluminum. Logged up cased hole.
Run 74: Mud Silicon. Logged up cased hole.
Run 75: Mud Phosphorus. Logged up cased hole.
Run 76: Mud Sulfur. Logged up cased hole.
Run 77: Mud Chlorine. Logged up cased hole.
Run 78: Mud Argon. Logged up cased hole.
Run 79: Mud Scandium. Logged up cased hole.
Run 80: Mud Potassium. Logged up cased hole.
Run 81: Mud Calcium. Logged up cased hole.
Run 82: Mud Titanium. Logged up cased hole.
Run 83: Mud Vanadium. Logged up cased hole.
Run 84: Mud Chromium. Logged up cased hole.
Run 85: Mud Manganese. Logged up cased hole.
Run 86: Mud Iron. Logged up cased hole.
Run 87: Mud Cobalt. Logged up cased hole.
Run 88: Mud Nickel. Logged up cased hole.
Run 89: Mud Copper. Logged up cased hole.
Run 90: Mud Zinc. Logged up cased hole.
Run 91: Mud Gallium. Logged up cased hole.
Run 92: Mud Germanium. Logged up cased hole.
Run 93: Mud Arsenic. Logged up cased hole.
Run 94: Mud Selenium. Logged up cased hole.
Run 95: Mud Bromine. Logged up cased hole.
Run 96: Mud Krypton. Logged up cased hole.
Run 97: Mud Rubidium. Logged up cased hole.
Run 98: Mud Strontium. Logged up cased hole.
Run 99: Mud Yttrium. Logged up cased hole.
Run 100: Mud Zirconium. Logged up cased hole.
Run 101: Mud Niobium. Logged up cased hole.
Run 102: Mud Molybdenum. Logged up cased hole.
Run 103: Mud Technetium. Logged up cased hole.
Run 104: Mud Ruthenium. Logged up cased hole.
Run 105: Mud Rhodium. Logged up cased hole.
Run 106: Mud Palladium. Logged up cased hole.
Run 107: Mud Silver. Logged up cased hole.
Run 108: Mud Cadmium. Logged up cased hole.
Run 109: Mud Indium. Logged up cased hole.
Run 110: Mud Tin. Logged up cased hole.
Run 111: Mud Antimony. Logged up cased hole.
Run 112: Mud Tellurium. Logged up cased hole.
Run 113: Mud Iodine. Logged up cased hole.
Run 114: Mud Xenon. Logged up cased hole.
Run 115: Mud Cesium. Logged up cased hole.
Run 116: Mud Barium. Logged up cased hole.
Run 117: Mud Lanthanum. Logged up cased hole.
Run 118: Mud Cerium. Logged up cased hole.
Run 119: Mud Praseodymium. Logged up cased hole.
Run 120: Mud Neodymium. Logged up cased hole.
Run 121: Mud Promethium. Logged up cased hole.
Run 122: Mud Samarium. Logged up cased hole.
Run 123: Mud Europium. Logged up cased hole.
Run 124: Mud Gadolinium. Logged up cased hole.
Run 125: Mud Terbium. Logged up cased hole.
Run 126: Mud Dysprosium. Logged up cased hole.
Run 127: Mud Holmium. Logged up cased hole.
Run 128: Mud Erbium. Logged up cased hole.
Run 129: Mud Thulium. Logged up cased hole.
Run 130: Mud Ytterbium. Logged up cased hole.
Run 131: Mud Lutetium. Logged up cased hole.
Run 132: Mud Hafnium. Logged up cased hole.
Run 133: Mud Tantalum. Logged up cased hole.
Run 134: Mud Tungsten. Logged up cased hole.
Run 135: Mud Rhenium. Logged up cased hole.
Run 136: Mud Osmium. Logged up cased hole.
Run 137: Mud Iridium. Logged up cased hole.
Run 138: Mud Platinum. Logged up cased hole.
Run 139: Mud Gold. Logged up cased hole.
Run 140: Mud Mercury. Logged up cased hole.
Run 141: Mud Thallium. Logged up cased hole.
Run 142: Mud Lead. Logged up cased hole.
Run 143: Mud Bismuth. Logged up cased hole.
Run 144: Mud Polonium. Logged up cased hole.
Run 145: Mud Astatine. Logged up cased hole.
Run 146: Mud Radon. Logged up cased hole.
Run 147: Mud Francium. Logged up cased hole.
Run 148: Mud Radium. Logged up cased hole.
Run 149: Mud Actinium. Logged up cased hole.
Run 150: Mud Thorium. Logged up cased hole.
Run 151: Mud Protactinium. Logged up cased hole.
Run 152: Mud Uranium. Logged up cased hole.
Run 153: Mud Neptunium. Logged up cased hole.
Run 154: Mud Plutonium. Logged up cased hole.
Run 155: Mud Americium. Logged up cased hole.
Run 156: Mud Curium. Logged up cased hole.
Run 157: Mud Berkelium. Logged up cased hole.
Run 158: Mud Californium. Logged up cased hole.
Run 159: Mud Einsteinium. Logged up cased hole.
Run 160: Mud Fermium. Logged up cased hole.
Run 161: Mud Mendelevium. Logged up cased hole.
Run 162: Mud Nobelium. Logged up cased hole.
Run 163: Mud Lawrencium. Logged up cased hole.
Run 164: Mud Rutherfordium. Logged up cased hole.
Run 165: Mud Dubnium. Logged up cased hole.
Run 166: Mud Seaborgium. Logged up cased hole.
Run 167: Mud Bohrium. Logged up cased hole.
Run 168: Mud Hassium. Logged up cased hole.
Run 169: Mud Meitnerium. Logged up cased hole.
Run 170: Mud Darmstadtium. Logged up cased hole.
Run 171: Mud Roentgenium. Logged up cased hole.
Run 172: Mud Copernicium. Logged up cased hole.
Run 173: Mud Nihonium. Logged up cased hole.
Run 174: Mud Flerovium. Logged up cased hole.
Run 175: Mud Moscovium. Logged up cased hole.
Run 176: Mud Livermorium. Logged up cased hole.
Run 177: Mud Tennessine. Logged up cased hole.
Run 178: Mud Oganesson. Logged up cased hole.



Repeat Pass

Database File	c:\techlog-project\tlep_pa 34-24 fw_pa 34-24 pad\datalexport\federal pa 522-24\processed_tep_federal po
Dataset Pathname	Repeat:2
Presentation Format	nos_pdn_hunter
Dataset Creation	Wed Oct 09 11:45:23 2019
Charted by	Depth in Feet scaled 1:240

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Tcan CHD-16875 0G Tcan 1-1/16" Standard Electric Cable Head w/ 1° Fishing Neck	1.03	1.69	5.40
TCUTEMP TCUVOLT GCL_CCL	14.69 14.69 13.97		HWS_TCU-002 (001705) HWS Telemetry Control Unit (TCU002)	2.30	1.69	10.87
GCL_GR	12.50		HWS_GCL-001 (001681) HWS Gamma Ray Collar Locator (1.6875")	2.69	1.69	13.40
Long Far Near Anch	6.25 6.25 6.25 6.25		HWS_RAS-RAS002 (003041) Hunter Well Sidekick Pulsed Neutron Tool	11.75	1.69	55.82
			HWS_TBN-001 (001725) HWS Tensiometer Bull Nose (1.6875")	0.25	1.69	0.99

Dataset:	processed_tep_federal pa 522-24_pn_10-03-19.db: field\well\run1\Main:2
Total length:	18.02 ft
Total weight:	86.48 lb
O.D.:	1.69 in

Calibration Report

Database File	c:\techlog-project\tlep_pa 34-24 fw_pa 34-24 pad\datalexport\federal pa 522-24\processed_tep_federal pa 5
Dataset Pathname	Main:2
Dataset Creation	Wed Oct 09 11:40:44 2019

RAS Calibration Report

Calibration Date: Wed Sep 26 16:26 2019 Meas #: 003041

Water Tank

Description	Curve	Standard	Mean	Dev
Sigma Near	SIGN	23.1	24.1	0.26
Sigma Far	SIGF	22.8	23.6	0.28
Ratio Near-Long Capture	RNL2	5.79	6.29	0.04
Ratio Near-Long Burst	RNLB	6.49	6.57	0.04
Ratio Near-Far Capture	RNF2	1.85	2.00	0.01
Ratio Near-Far Burst	RNFB	2.03	2.19	0.01
Spectral Hydrogen Index	HIS2	12.44	13.21	0.19
Carbon-Oxygen Ratio	CORS	1.34	1.30	0.05
Ratio Burst-Capture Near	RNBC	1.46	1.82	0.02
Ratio Burst-Capture Far	RFBC	1.50	1.74	0.02

Hydrocarbon Tank

Description	Curve	Standard	Mean	Dev
Sigma Near	SIGN	25.7	26.6	0.37
Sigma Far	SIGF	25.1	26.1	0.37
Ratio Near-Long Capture	RNL2	1.78	2.84	0.02
Ratio Near-Long Burst	RNLB	2.57	4.17	0.02
Ratio Near-Far Capture	RNF2	0.98	1.30	0.01
Ratio Near-Far Burst	RNFB	1.30	1.65	0.01
Spectral Hydrogen Index	HIS2	16.68	18.12	0.28
Carbon-Oxygen Ratio	CORS	1.51	1.54	0.05
Ratio Burst-Capture Near	RNBC	2.23	2.57	0.02
Ratio Burst-Capture Far	RFBC	2.09	2.25	0.02

Gamma Ray Calibration Report

Serial Number:	001681
Tool Model:	001
Performed:	(Not Performed)
Calibrator Value:	1.0 GAPI
Background Reading:	0.0
Calibrator Reading:	1.0
Sensitivity:	1.0000 GAPI

Company	TEP Rocky Mountain LLC
Well	Federal PA 522-24
Field	Parachute
County	Garfield
State	Colorado