PIONEER

Pioneer Energy Services

COMPENSATED NEUTRON GAMMA RAY

Company	BONANZA CREEK ENERGY
Well	PRONGHORN K-O-22HNB
Field	WATTENBERG
County	WELD
State	CO

Company BONANZA CREEK ENERGY

Well PRONGHORN K-O-22HNB

Field WATTENBERG

County WELD State CO

Location: API #: 05-123-39546

SHL: 392' FNL & 1278' FWL NWNW

SEC 22 TWP 5N RGE 61W

Other Services: NONE

Permanent Datum	GL	Elevation 4661	Elevation
Log Measured From	KB		K.B. 4678 D.F. 4677 G.L. 4661
Drilling Measured From	KB		

Date	FEBRUARY 9, 2015
Run Number	1
Depth Driller	NA
Depth Logger	6460'
Bottom Logged Interval	6460'
Top Log Interval	SURFACE
Casing Driller	7" @ 6766'
Casing Logger	7" @ 6766'
Bit Size	8.75"
Type Fluid in Hole	NA
Density / Viscosity	NA
pH / Fluid Loss	NA
Source of Sample	NA
Rm @ Meas. Temp	NA
Rmf @ Meas. Temp	NA
Rmc @ Meas. Temp	NA
Source of Rmf / Rmc	NA
Rm @ BHT	NA
Time Circulation Stopped	NA
Time Logger on Bottom	0745
Maximum Recorded Temperature	NA
Equipment Number	48
Location	FT. MORGAN
Recorded By	CLINT CHRISTENSEN
Witnessed By	DARYL BARBEROUSSE

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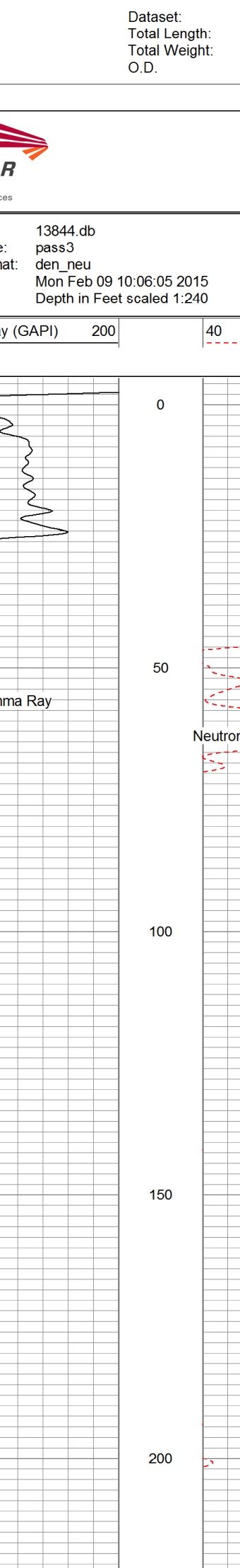
All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

LOGGED ON A SANDSTONE MATRIX
LOGGED IN 7" CASING
PIONEER CRANE #19
THANK YOU FOR USING PIONEER ENERGY SERVICES.
SO# 2-013843

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD (~0)	2.00	3.50	30.00
			GR-PSI (939)	2.92	3.50	40.00
GR	0.00					
			CNT-PSI (826)	5.00	3.50	70.00
CNLSC	-3.67					
CNSSC	-4.17					

Dataset: 13844.db: field/well/run1/pass3
Total Length: 9.92 ft
Total Weight: 140.00 lb
O.D. 3.50 in

MAIN PASS

LOGGED IN 7" CASING

Database File:	13844.db
Dataset Pathname:	pass3
Presentation Format:	den_neu
Dataset Creation:	Mon Feb 09 10:06:05 2015
Charted by:	Depth in Feet scaled 1:240

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MAIN PASS

LOGGED IN 7" CASING

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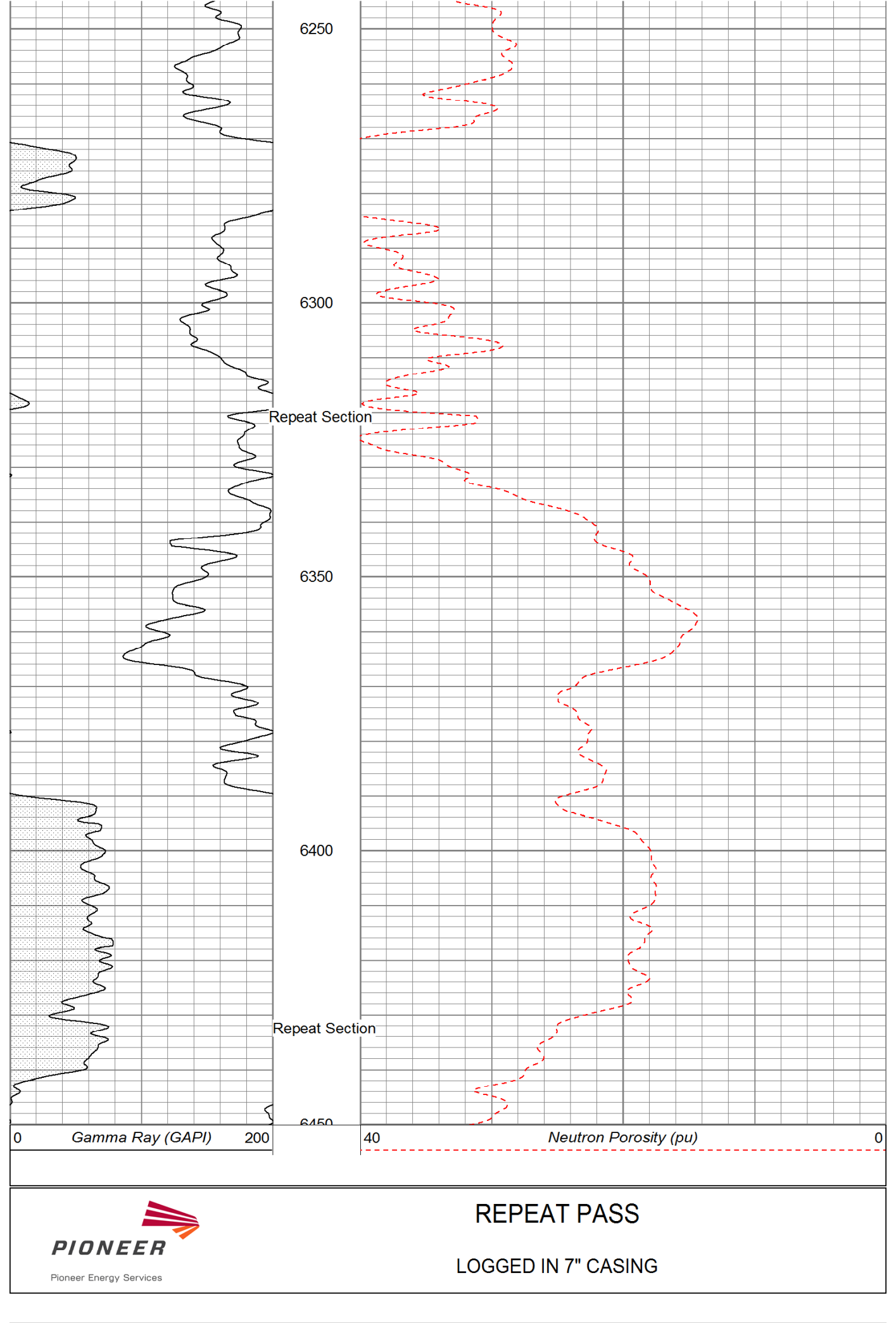
REPEAT PASS

LOGGED IN 7" CASING

Database File:	13844.db
Dataset Pathname:	pass2.1
Presentation Format:	den_neu
Dataset Creation:	Mon Feb 09 10:17:09 2015 by Calc 0
Charted by:	Depth in Feet scaled 1:240



PIONEER

Pioneer Energy Services

REPEAT PASS

LOGGED IN 7" CASING

Calibration Report

Database File:	13844.db
Dataset Pathname:	pass3
Dataset Creation:	Mon Feb 09 10:06:05 2015

Compensated Neutron Calibration Report

Serial Number:	826
Tool Model:	PSI

CALIBRATION

Detector	Readings		Target		Normalization
Short Space	1.00	cps	1.00	cps	1.9000
Long Space	1.00	cps	1.00	cps	2.1000

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	939	
Tool Model:	PSI	
Performed:	Mon Feb 09 7:12:28 2015	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.9000	GAPI/cps