Company	ANADARKO
Well	SHUTT FEDERAL 16-18A
Field	WATTENBERG
County	WELD
State	COLORADO

Company	ANADARKO
Well	SHUTT FEDERAL 5418A
County	WELD
State	COLORADO
API #	05123123420000
Location	SESE 18 3N 64W
Elevation	4879 GL 4894 KB
Permanent Datum	GL
Log Measured From	KB 15 Ft. Above Perm. Datum
Drilling Measured From	KB

C&J ENERGY SERVICES

GAMMA RAY CCL CEMENT BOND VDL LOGGED UNDER 500 PSI

Run No.	Date	Depth Driller	Depth Logger	Bottom Logged Interval	Top Logged Interval	Casing Driller	Casing Logger	Bit Size	Type Fluid in Hole	Density	Viscosity	pH	Fluid Loss	Source of Sample	Rm @ Meas. Temp	Rmf @ Meas. Temp	Rmc @ Meas. Temp	Source Rmf / Rmc	Rm @ BHT	Time Since Circ.	Max. Rec. Temp.	Equip. Location	Recorded By	Witnessed By
ONE	10-Oct-19	7,760	7,760	7,760	0	0	7,760	7.875	WBM	9.2	40	9.5	6.4	MUD PIT	0.19 @ 70				0.12 @ 180	12 HRS	180	GREELEY	M. MCCOY	M. MCCOY

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, 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. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Contents

THANK YOU FOR CHOOSING CHS!!!!!!
LOG NOT CORRELATED
LOG RAN UNDER 500 PSI

Database File: ctd anadarko shutt federal 16-18a.db
Dataset Pathname: pass3:1
Presentation Format: anadarko
Dataset Creation: Tue Dec 10 11:34:35 2019 by Calc 7.0 B1
Charted by: Depth in Feet scaled 1:240

50	CCL	-5,5	0	Amplitude (mV)
0	Gamma Ray (GAPI)	200	0	Amplitude (mV)
340	TT3 (usec)	240		

20	200	Variable Density 1200
100		

FLUID LEVEL

MECHANICAL CUT

Calibration Report

Database File: ctd anadarko shutt federal 16-18a.db
Dataset Pathname: pass3:1
Dataset Creation: Tue Dec 10 11:34:35 2019 by Calc 7.0 B1

Gamma Ray Calibration Report

Serial Number:	110785
Tool Model:	ProGlog
Performed:	Fri Oct 26 07:37:47 2018
Calibrator Value:	1.0 GAPI
Background Reading:	0.0 cps
Calibrator Reading:	1.0 cps
Sensitivity:	0.6800 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	101020
Tool Model:	ProSet
Calibration Casing Diameter:	4.500 in
Calibration Depth:	191.717 ft

Master Calibration, performed Tue Dec 10 11:13:24 2019.

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	1.920	0.800	81.196	42.031	0.496
CAL	0.008	0.631				
5'	0.007	1.332	0.800	81.196	60.713	0.351
SUM						
S1	0.006	1.598	0.000	81.196	51.067	-0.392
S2	0.008	1.609	0.000	81.196	50.704	-0.389
S3	0.007	1.597	0.000	81.196	51.092	-0.393
S4	0.007	1.590	0.000	81.196	54.197	-0.465
S5	0.007	1.397	0.000	81.196	58.415	-0.436
S6	0.007	1.391	0.000	81.196	58.668	-0.430
S7	0.008	1.466	0.000	81.196	55.679	-0.425
S8	0.007	1.557	0.000	81.196	52.397	-0.364

Internal Reference Calibration, performed Fri Jan 13 14:30:16 2012.

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.008	0.631	1.000	0.000

Air Zero Calibration, performed Tue Dec 10 11:07:12 2019.

	Raw (v)	Calibrated (v)	Results	
	Zero	Zero	Gain	Offset
3'	0.000	0.000		0.000
5'	0.000	0.000		0.000
SUM				
S1	0.000	0.000		0.000
S2	0.000	0.000		0.000
S3	0.000	0.000		0.000
S4	0.000	0.000		0.000
S5	0.000	0.000		0.000
S6	0.000	0.000		0.000
S7	0.000	0.000		0.000
S8	0.000	0.000		0.000