C&J ENERGY SERVICES

GAMMA RAY / CCL
CEMENT BOND / VDL

Company	NOBLE ENERGY INC.
Well	DARYL L ARNOLD 1
Field	WATTENBURG
County	WELD
State	COLORADO

Company NOBLE ENERGY INC.
Well DARYL L ARNOLD 1
Field WATTENBURG
County WELD State COLORADO
API #: 05-123-07299
Location: NE / NW
SEC 13 TWP 2N RGE 64W
Other Services

Permanent Datum	GL	Elevation	4903'
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 4915'
D.F. 4914'
G.L. 4903'

Date	July 5, 2018
Run Number	One
Depth Driller	7576'
Depth Logger	7413'
Bottom Logged Interval	7413'
Top Log Interval	Surface
Casing Size	4 1/2
Type Fluid	Water
Max. Recorded Temp.	NA
Estimated Cement Top	---
Time Well Ready	11:30am
Time Logger On Bottom	12:00pm
Unit Number	923376
Tool Size / ID Number	2 3/4 Tecko
Location	CR 20 & 59
Recorded By	Adam Frank
Witnessed By	Chris Hohnstein

Borehole Record

Run Number	Bit	From	To

Tubing Record

Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8 5/8	24#	Surface	218'
Prot. String				
Production String	4 1/2	11.6#	Surface	7576'
Liner				

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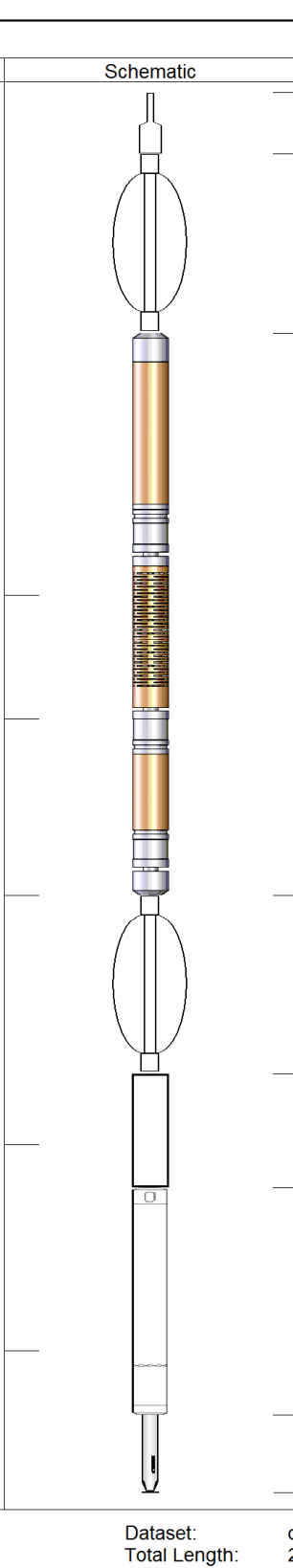
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

Comments

THANK YOU FOR USING CASEDHOLE SOLUTIONS!!
LOG NOT CORRELATED

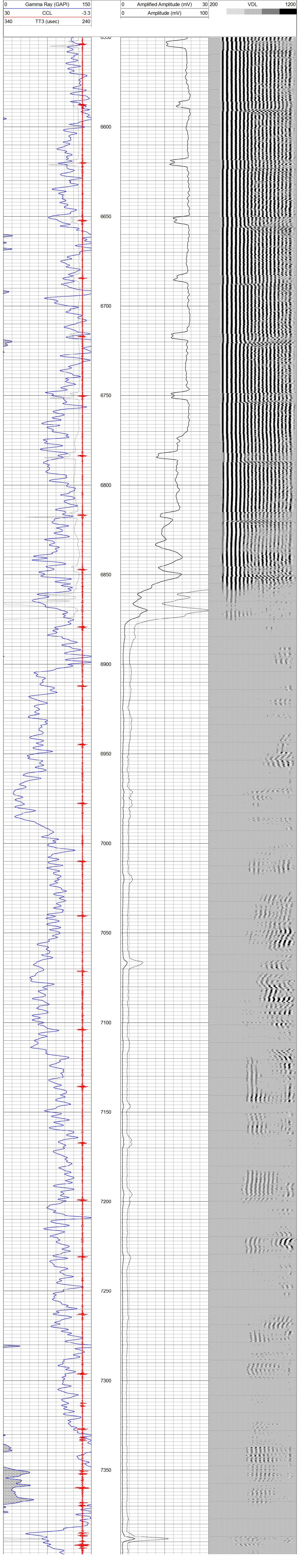
Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-STNDRD (1) Standard Cable Head	1.00	1.69	10.00
			CENT-TEKCO (234CENT-1) 2 3/4" Centralizer	2.88	2.75	10.00
WVF3FT	14.46		SCBL-TEKCO (234B35C-8013) tekco 2 3/4" SCBL tool	9.06	2.75	102.00
WVF5FT	12.46					
WVFCAL	9.63					
			1	2.88	2.00	8.00
CCL	5.60		CCL-tekco (234CCL-169) 2 3/4" TEKCO Collar Locator	1.83	2.75	10.00
GR	2.29		GR-TekcoGR (234GR-328) 2 3/4" TEKCO Gamma Ray	3.67	2.75	20.00
			1 1.25" TEMP. PROBE	1.25	1.25	1.00

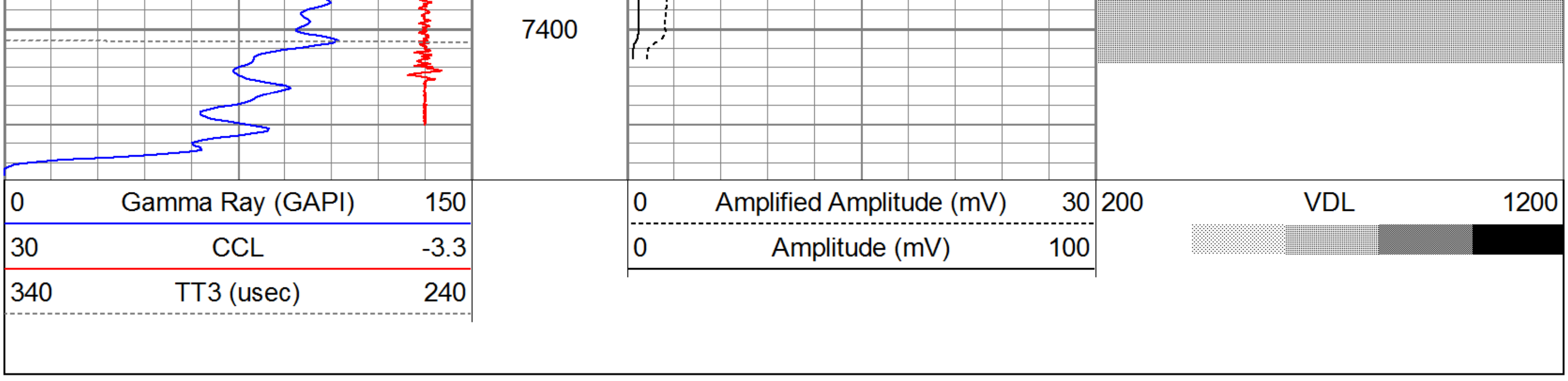
Dataset:	daryl l arnold 1.db: field/well/run1/pass6
Total Length:	22.56 ft
Total Weight:	161.00 lb
O.D.	2.75 in

Database File:	daryl l arnold 1.db
Dataset Pathname:	pass6
Presentation Format:	nuexbond
Dataset Creation:	Thu Jul 05 13:51:32 2018 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

Database File:	daryl l arnold 1.db
Dataset Pathname:	pass5
Presentation Format:	nuexbond
Dataset Creation:	Thu Jul 05 12:19:31 2018 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

Database File: daryl l arnold 1.db
Dataset Pathname: pass3
Presentation Format: nuexbond
Dataset Creation: Thu Jul 05 12:06:51 2018 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240





Calibration Report

Database File: daryl l arnold 1.db
Dataset Pathname: pass6
Dataset Creation: Thu Jul 05 13:51:32 2018 by Log 7.0 B1

Gamma Ray Calibration Report

Serial Number:	234GR-328	
Tool Model:	TekcoGR	
Performed:	Mon Apr 18 13:05:02 2011	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.8000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	234B35C-8013	
Tool Model:	TEKCO	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	3127.583	ft

Master Calibration, performed Thu Jul 05 11:54:06 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.006	2.478	1.500	81.196	32.246	1.303
CAL	0.006	0.705				
5'	0.005	2.182	1.500	81.196	36.612	1.300
SUM						
S1						
S2						
S3						
S4						
S5						
S6						
S7						
S8						

Internal Reference Calibration, performed Wed Aug 03 12:27:14 2011:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.006	0.705	1.000	0.000

Air Zero Calibration, performed Wed Aug 03 12:21:32 2011:

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