

# PACIFIC SURVEYS

## ELECTRIC LOG LATEROLOG 3 GAMMA RAY

Job No. 15100  
 Company U.S. GEOLOGICAL SURVEY  
 Well SDCC  
 Field CHULA VISTA  
 County SAN DIEGO State CA

Location: SAN DIEGO COUNTRY CLUB  
 GPS: N32°37.000' W117°03.572'  
 Sec. Twp. Rge. Other Services: GRILL3 SONICVDL CALIPER

Permanent Datum	G.L.	Elevation above perm. datum	Elevation
Log Measured From	G.L.	0'	K.B. D.F. G.L.
Drilling Measured From	G.L.		
Date	2/22/2010		
Run Number	ONE		
Depth Driller	1720'		
Depth Logger	1725'		
Bottom Logged Interval	1725'		
Top Log Interval	0'		
Casing Driller	N/A		
Casing Logger	N/A		
Bit Size	8 3/4" @ 0-1040'	8 1/2" @ 1040'-1700'	6 " @ 1700'-1725'
Type Fluid in Hole	BENTONITE		
Density / Viscosity	N/A		
pH / Fluid Loss	N/A		
Source of Sample	PIT		
Rm @ Meas. Temp	4.6 @ 77F		
Rmf @ Meas. Temp	5.1 @ 77F		
Rmc @ Meas. Temp	N/A		
Source of Rmf / Rmc	MEAS		
Rm @ BHT	N/A		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	8:15 PM		
Max. Recorded Temperature	N/A		
Equipment Number	PS-1		
Location	L.A.		
Recorded By	ABREAU/NELSON		
Witnessed By	A. BROWN		

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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

### Calibration Report

Database File: 15100.db  
 Dataset Pathname: elog  
 Dataset Creation: Mon Feb 22 20:07:43 2010 by Log Open-Cased 090629

Serial: D1  
 Model: DTQ

Shop Calibration Performed: Wed Dec 09 10:40:23 2009  
 Before Survey Verification Performed: Mon Feb 09 08:27:09 2004  
 After Survey Verification Performed: Tue Nov 20 10:45:24 2001

Shop Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	11.208	103.455		10.200	102.200	Ohm-m	0.997	-0.978
Long	3.344	89.080		10.200	102.200	Ohm-m	1.073	-15.746
IEE	132.093	6559.140	counts	0.145	7.178	A		
VSN	68.926	7399.514	counts	1.315	141.137	V		
VLN	123.157	1902.449	counts	2.349	36.287	V		

Before Survey Verification

	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	1764.980	1764.530		46.444	100.411	Ohm-m	-119.800	211490.000
Long	1791.300	1791.970		103.264	103.264	Ohm-m	-338.817	607255.000
IEE	7.688	7.685	counts	0.008	0.008	A		
VSN	152.456	152.348	counts	2.908	2.906	V		
VLN	38.682	38.679	counts	0.738	0.738	V		

After Survey Verification

	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	0.000	99.861		0.000	99.853	Ohm-m	1.000	0.000
Long	0.000	102.069		102.055	102.055	Ohm-m	1.000	0.000
IEE	129.370	6528.851	counts	0.142	7.145	A		
VSN	142.833	7325.000	counts	2.724	139.715	V		
VLN	114.778	1871.738	counts	2.189	35.701	V		

After Survey Verification compared to Before Survey Calibration

	Zero			Cal		
	Before	After		Before	After	
Short	46.444	0.000	Ohm-m	100.411	99.853	Ohm-m
Long	331.945	0.000	Ohm-m	103.264	102.055	Ohm-m

Gamma Ray Calibration Report

Serial Number: D4  
 Tool Model: ELOG  
 Performed: Wed Dec 09 10:40:58 2009

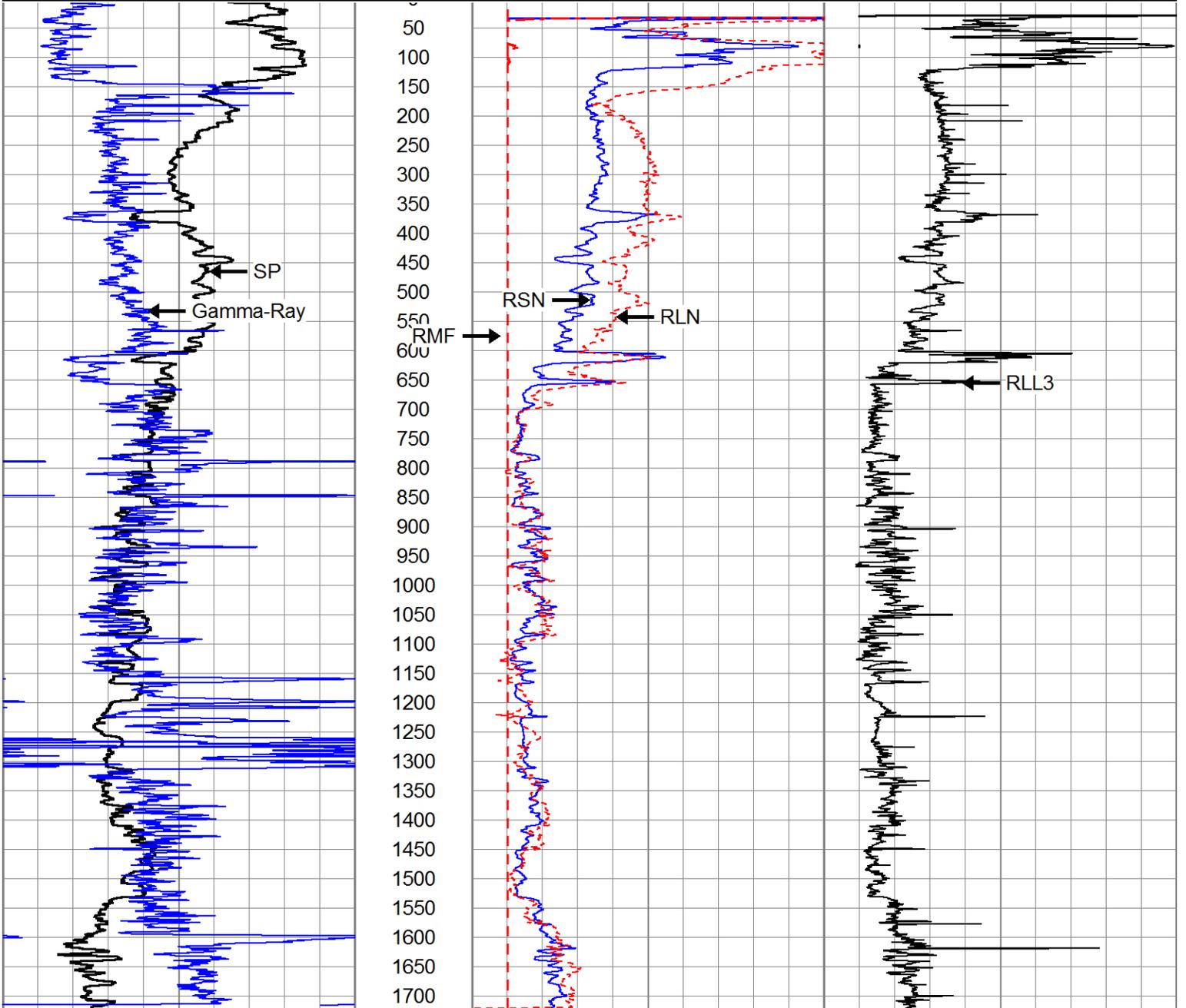
Calibrator Value: 162.0 GAPI

Background Reading: 151.1 cps  
 Calibrator Reading: 599.8 cps

Sensitivity: 0.3611 GAPI/cps

Database File: 15100.db  
 Dataset Pathname: elog  
 Presentation Format: elog  
 Dataset Creation: Mon Feb 22 20:07:43 2010 by Log Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:3000

-25	SP (mV)	75	0	RSN (Ohm-m)	50	0	RLL3 (Ohm-m)	50
0	Line Speed (ft/min)	100	0	RLN (Ohm-m)	50	50	RLL3 back-up (Ohm-m)	500
20	Gamma-Ray (GAPI)	220	0	RMF (Ohm-m)	50			
			50	RSN x 10 (Ohm-m)	500			
			50	RLN x 10 (Ohm-m)	500			



-25	SP (mV)	75	0	RSN (Ohm-m)	50	0	RLL3 (Ohm-m)	50
0	Line Speed (ft/min)	100	0	RLN (Ohm-m)	50	50	RLL3 back-up (Ohm-m)	500
20	Gamma-Ray (GAPI)	220	0	RMF (Ohm-m)	50			
			50	RSN x 10 (Ohm-m)	500			
			50	RLN x 10 (Ohm-m)	500			