



Tecton Geologic

COMPANY Calpine Corporation
 WELLNAME CA 1862-13 (62C-29) DPN
 FIELD The Geysers
 COUNTY Sonoma
 STATE California

WELLHEAD COORDINATES
 783°5 & 1794°W of NE corn of Sec 29, T11N, R8W MD
 N407436, E1782492

ELEVATION 2627', GL KB 29'
 RIG - DAY RATE START DATE 4/12/2012
 TO DATE 5/18/2012
 TRUE DEPTH 9171'
 TRUE VERTICAL DEPTH 8900'
 TD LOCATION N 1741.3' and E 472.7' of wellhead

DRILLING CONTRACTOR NCPA Rig #1
 COMPANY REPRESENTATIVES Steve Gamble
 Russ Silva

LOG INTERVAL
 DATE LOGGED 4/21/12 to 5/18/12
 DEPTH LOGGED 5400' to 9171'
 MUD DRILLING N/A to N/A
 AIR DRILLING 1500' to 9171'
 LOG SCALE 1:600
 UNIT NO. C32

LOGGING GEOLOGISTS
 Dick Dunlap (dd), Matt Dobbs (md), Charley Wahl (cw), Justin Everts (je), Drew Fetterman (df)

HOLE		CASING	
24"	TO 703'	20"	FROM 0 TO 700'
17.5"	TO 2616'	13.375"	FROM 0 TO 2611'
12.25"	TO 5400'	10.75"	FROM 0 TO 2476'
8.5"	TO 9171'	LINER	
		7"	FROM 0 TO 1537'
		8.625"	FROM 1500' TO 5400'
		7"	FROM 5400' TO 9140'

ABBREVIATIONS			
NR	New Bit	BHT	Bottom Hole Temp
RRR	Re-run Bit	C	Carbide Test
CB	Core Bit	NR	No Returns
WOB	Weight on Bit	LAT	Logic After Trip
SPM	Strokes per Minute	CFM	Cubic Feet per Min
PP	Pump Pressure	BUT	Bottoms Up Temp
RPM	Revolutions per Min		

LITHOLOGY			
[Symbol]	Argillite	[Symbol]	Siliceous Graywacke
[Symbol]	Chert	[Symbol]	Metamorphic Ultramafic
[Symbol]	Siltstone	[Symbol]	Weak Foliation
[Symbol]	Greenstone	[Symbol]	Strong Foliation
[Symbol]	Serpentine	[Symbol]	Parginal Alteration
[Symbol]	Blueschist	[Symbol]	Marginal Alteration
[Symbol]	Felsite	[Symbol]	Weakly Hornfelsic
[Symbol]	Clay	[Symbol]	Strongly Hornfelsic
[Symbol]	Lithic Graywacke		
[Symbol]	Argillaceous Graywacke		

SYMBOLS

Wireline Log Casing Shoe
 Steam Survey Flow Test
 Deviation Survey Core Interval No Recovery

REMARKS

All depths from Kelly bushing KB=29'
 * Possible steam entry

STEAM ENTRIES		WATER ENTRIES	
Init	Sust	Init	Sust
8487*	OH	OH	none

SECONDARY MINERALS

Q = Quartz
 C = Calcite
 P = Pyrite
 E = Epidote
 R = Peridotite
 Ch = Chlorite
 A = Actinolite
 T = Tourmaline

Rare << 1%
 Trace < 1%
 Minor 1% to 4%
 Common 4% to 7%
 Abundant 7% to 10%
 > 10%

