

DOCKETED
12-CAI-04

TN # 68827

DEC 10 2012

Bottle Rock Power LLC

Plug and Abandonment Program

Well: Francisco 1-5

By

ThermaSource, LLC

November 15, 2007

Pertinent Data:

1. Well located in Section 5, T11N, R8W, Lake County, California.
2. Well was spudded on 2/13/76.
3. Well was completed on 7/19/76.
4. 20" conductor set at 222' prior to rig moving on location.
5. Kelly bushing elevation was 23'. Well was drilled with MCR Geothermal Corp.
6. 13-3/8", K-55 casing was set in a 17-1/2" hole from surface to 1505'. The casing was cemented with 750 sacks of cement.
7. 9-5/8", K-55 & N-80 liner hung in 12-1/4" hole from 1293' in the 13-3/8" to a total depth of 4532'. The liner was cemented with 1608 sacks of cement.
8. 7", N-80 liner was hung in an 8-1/2" hole from 4237' in the 9-5/8" to a total depth of 6256'. The liner was cemented with 280 sacks of cement.
9. Total depth of well is 8970'.
10. There is a fish that consists of drill pipe from 7131.9' to 8969.8

Days Sequence of Operations:

1. Move in and rig up on well.
2. Nipple up required blow out preventer system.
- .25 3. Kill well and pick up drill pipe and run in the hole to total depth of 7" casing.
Do not go outside of the casing into the open hole.
- .4 4. Trip out of the hole and pick up 7" bridge plug and run in hole with same.
Set bridge plug in 7" casing approximately 140' above 7" casing shoe @
6100' +/-.
- .3 5. Mix and pump the equivalent of 50 linear feet of cement through bridge
plug and pull out of plug. Mix and pump the equivalent of 100 linear feet of
cement on top of the bridge plug, up to 6000' minimum.
- .5 6. Pull out of hole and remove bridge plug setting tool while waiting on
cement to set.

- .25 7. Run in hole and tag cement with DOGGR representative on location to witness tag.
- .15 8. Fill hole with gelled water.
- .05 9. Pull out to 4137', 100' below top of 7" liner.
- .3 10. Mix and pump the equivalent cement to fill 200 linear feet, with 100' inside top of liner and 100' in the 9-5/8" liner.
- .05 11. Pull out to 1193', 100' below the top of the 9-5/8" liner.
- .3 12. Mix and pump the equivalent cement to fill 200 linear feet, with 100' inside top of liner and 100' in the 13-3/8" casing.
- .2 13. Pull up and cement any holes or leaks in the casing.
- .1 14. Pull up and set 50 linear feet of cement from 50' deep to surface.
- .2 15. Remove blow out preventer system.
- .35 16. Cut off all casings 6' below ground level and weld plate on top with well name welded on same.
- .5 17. Rig down and clear location and release rig to move.

3.9 Days to Abandon Well

ThermaSource LLC

Well: Francisco 1-5

Field: Geysers

Estimator: Capuano III

#	Daily Cost Category	S/day	days/well	Sub total	T/I
46	Rig move day rate:	15,000	1	15,000	I
46	Trucks and cranes for rig move:	35,000	1	35,000	I
49	Rig operating day rate:	18,000	4	72,000	I
50	Air compressor equipment standby:	1,750	0	0	I
50	Air compressor service hands + equipment operating rate:	2,000	0	0	I
51	ITS LLC supervision:	2,500	4	10,000	I
52	Stabilizers, Reamers and Hole Openers	0	2500	0	I
54	Casing crews and lay down machine	10,000	0	0	I
56	Downhole tools: jars, shock subs, etc.	800	0	0	I
57	Mud Logging/H ₂ S Services:	2,250	0	0	I
57	H ₂ S Chemicals			0	I
58	BOP Rental	900	4	3,600	I
58	Top Drive Rental			0	I
62	Welding	500	4	2,000	I
64	Fishing Tools and Service			0	I
66	Forklift and Backhoe Rental	150	0	0	I
66	DP, HWDP and DC's rental	6,000	0	0	I
67	Solids control equipment and mud cooler:	650	0	0	I
69	Transportation	2,000	1	2,000	I
72	Fuel, Water and Power	4,000	4	16,000	I
73	Communications + Rig Monitoring	300	4	1,200	I
73	Pason	400	4	1,600	I
77	Perforating			0	I
79	Camp Costs	750	4	3,000	I
91	District Expenses	500	1	500	I
92	Administrative Overhead	550	1	550	I
Total Daily Costs:				162,450	

#	Materials and Equipment Costs	Size/Item	Units	Avg. \$/unit	Sub total	T/I
52	Bits	17-1/2	0	25000	0	I
52		12.25	0	20000	0	I
52					0	I
52		8.5	1	5000	5,000	I
52		6.125	0	10000	0	I
21	Casing (units = feet)	13-3/8	0	92.4	0	T
21	Casing	9.625	0	47.52	0	T
21	Casing	9.625	0	47.52	0	T
21	Casing	7.000	0	0	0	T
21	Casing	7.000	0			T
22	Tubing	5.000	0		0	T
22	Drill Pipe purchases				0	T
23	Production Valves	12	0	12000	0	T
23	Wing Valves	31	0	2000	0	T
23	Casing head(s)		0	5000	0	T
23	Spools, studs, nuts, misc well head				0	T
23	Production Hook Up				0	T
66	Drilling Tools Rebuild/Repair	Hardbanding	0	100	0	I
66		DP repair	0	100	0	I
66		Subs repair	0	100	0	I
66		Inspection	0	100	0	I
58	Well Control Equipment	BOP Rubbers	1	2000	2,000	I
58		Rot. Head Rbrs	2	600	1,200	I
58		Floats	3	500	1,500	I
25	Casing Accesories	Liner Hanger	0	15000	0	T
25		Liner adapters	0		0	T
25		Centrallizers	0	200	0	T
25		Bridge Plugs	1	10000	10,000	
25		Misc. Supplies	1	5000	5,000	T
45	Permits, Surveying, Conductor, Site Maintenance				0	I
53	Mud material costs (see mud estimation worksheet)				15,000	I
55	Cement material and job costs (see cement estimation worksheet)				70,000	I
59	Testing, Sampling and Coring				0	I
61	Wireline surveys/logs				0	I
63	Directional drilling equipment and operators charges (see directional worksheet)				0	I
68	Small Tools and Misc. Supplies				2,000	I
74	Well Insurance				0	I
78	Completion Costs				0	T
84	Miscellaneous Expenses				0	I
85	Abandonment Costs				0	I
Total Materials and Equipment					111,700	

T = Tangible, I = Intangible

Tangible	0
Intangible	274,150
Grand Total	274,150

ThermaSource LLC

Well Cost Estimate		
Well No.	Francisco 1-5 Abandonment	Operator: Bottle Rock Power
Date:	11/15/2007	State: California
	Days: 4	
SUMMARY OF ESTIMATED COSTS		
Accounting Codes	Descriptions of Costs	
	Tangible Drilling Costs	
21	Casing	\$0
22	Tubing and Drill Pipe	\$0
23	Wellhead Assembly + Steam Line Hook-up	\$0
25	Other Well Equipment, Liner hanger, etc.	\$15,000
	Total of Tangible Drilling Costs	\$15,000
	Intangible Drilling Costs	
45	Permits, Survery, Conductor & Site Maintenance	\$0
46	Mobilization and Demobilization	\$50,000
49	Contract Drilling Rig at \$18000 per day	\$72,000
50	Air Compressors and Services	\$0
51	Direct Supervision	\$10,000
52	Bits, Stabilizers, Reamers & Hole Openers	\$5,000
53	Rotary Drilling Muds, Additives & Service	\$15,000
54	Casing tools and Services	\$0
55	Cement and Cementing Services	\$70,000
56	Other Drilling Tools, Jars, Shock subs, etc	\$0
57	MudLogging and H2S Monitoring & Equip.	\$0
58	Blow out Preventer Rentals & Top Drive	\$8,300
59	Testing, Sampling & Coring	\$0
61	Electrical Logging	\$0
62	Welding	\$2,000
63	Directional Tools and Engineering	\$0
64	Fishing Tools and Services	\$0
66	Drilling Tools and Services + Drill Pipe	\$0
67	Rental Mud treatment equipment	\$0
68	Small Tools and Supplies	\$2,000
69	Transportation	\$2,000
72	Fuel, Water and Power	\$16,000
73	Communications, Pason, Rig Monitoring	\$2,800
74	Well Insurance	\$0
77	Perforating	\$0
78	Completion Costs	\$0
79	Camp Costs and Living Expenses	\$3,000
84	Miscellaneous Expenses	\$0
85	Abandonment Costs	\$0
91	District Expenses	\$500
92	Administrative Overhead	\$550
	Total Intangible Drilling Costs	\$259,150
	Total Tangible & Intangible Costs	\$274,150

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Total Cost to Abandon All Bottle Rock Wells

<i>Well Pad</i>	<i>Well Number</i>	<i>Cost to Abandon</i>
Francisco	1-5	\$274,150.00
Francisco	2-5	\$249,400.00
Francisco	3-5	\$274,150.00
Francisco	4-5	\$274,150.00
Francisco	5-5	\$274,150.00
Francisco	6-5	\$274,150.00
Francisco	7-5	\$274,150.00
Coleman	1A-5	\$274,150.00
Coleman	3-5	\$274,150.00
Coleman	5-5	\$274,150.00
Coleman	6-5	\$274,150.00
Coleman	7-5	\$274,150.00
West Coleman	1-6	\$274,150.00
West Coleman	2-6	\$274,150.00
West Coleman	3-6	\$274,150.00
West Coleman	4-6	\$274,150.00
West Coleman	5-6	\$274,150.00
West Coleman	7-6	\$274,150.00
Total Cost		\$4,909,950.00