Daily Well Graphical Summary

Well ID: AK-3

Report No: 1

12-Aug-16

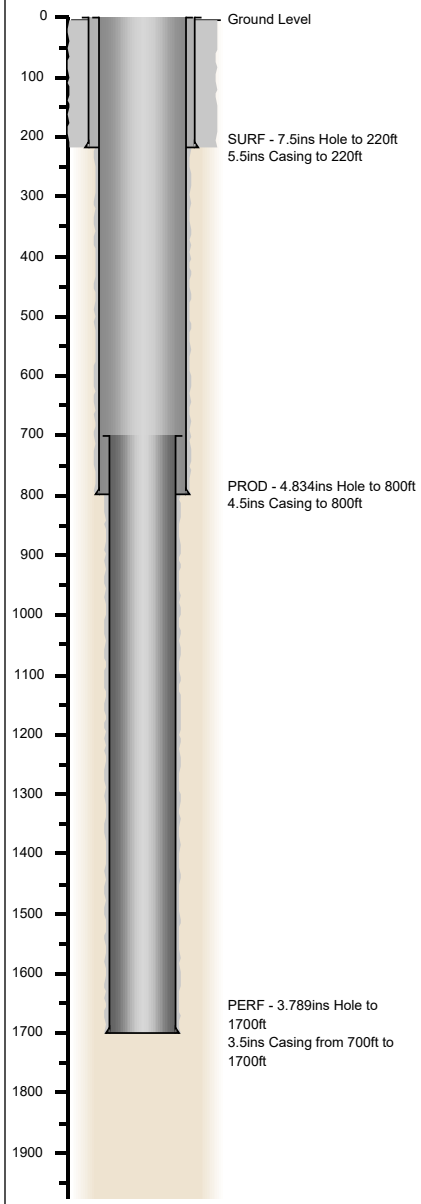
Rig Name: Major LF90

Geothermal Resource Group

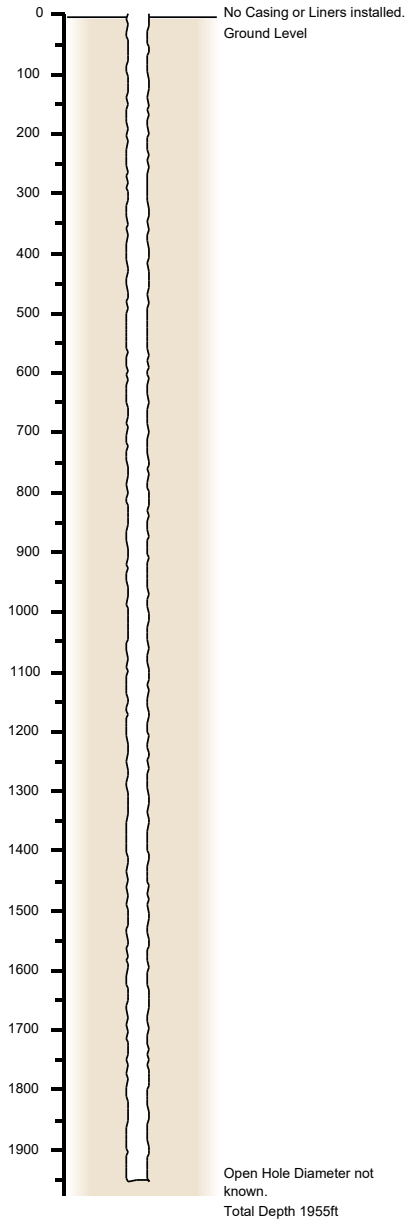
Well Name: AK-3

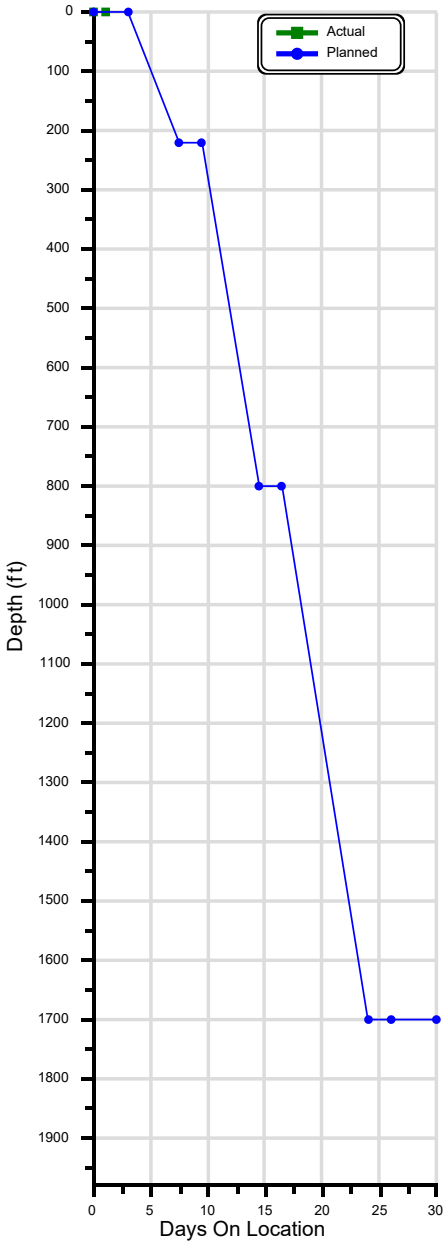
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	675,276
AFE		AFE $	Actual $
01		1,714,090	675,276
TOTALS		1,714,090	675,276

SAFETY

LTI:	/ 1 days	Med:		1st Aid:	

PERSONNEL / HOURS

Operators:	2 / 0	Service:	8 / 0
Contractors:	7 / 0	Other:	2 / 0
Total:	19	Hours:	0

OPERATIONS

MD / TVD (ft):	0 / 0
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	0 actual / 30 plan

Current Operations:

Bob, Monty, Kevin and Joe, fly to site locate hole position, fly mini excavator to site begin construction of drill pad, fly camp crew to site

Planned Operations:

Construct drill pad, dig and install cellar to collar the hole. Build man camp, sort and fly loads to valley.

Management Summary:

Stage personnel at container location to pull and sort loads. Fly city representative to location, stake hole. Fly materials and personnel to Valley to begin construction of camp.

Comments:

Helicopter AS 350 flight time 3.5hrs.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 2

13-Aug-16

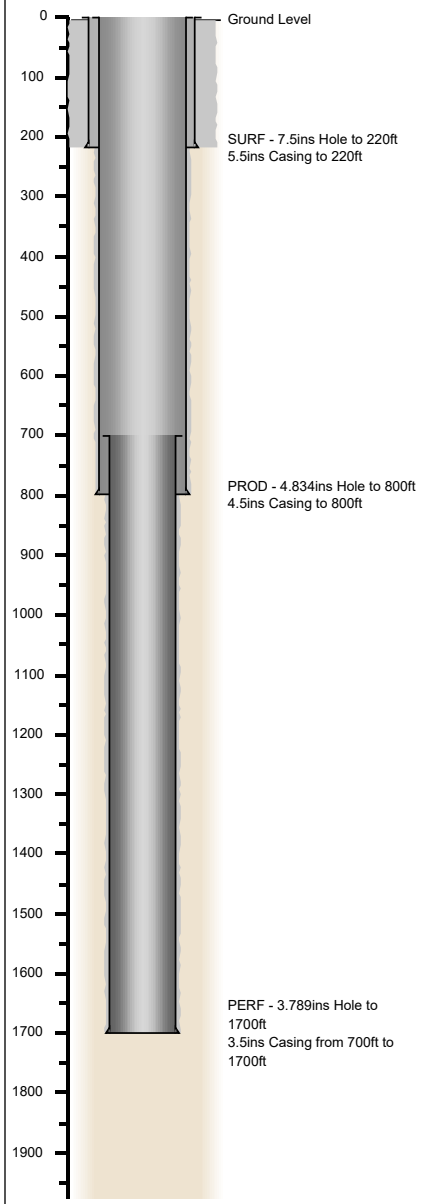
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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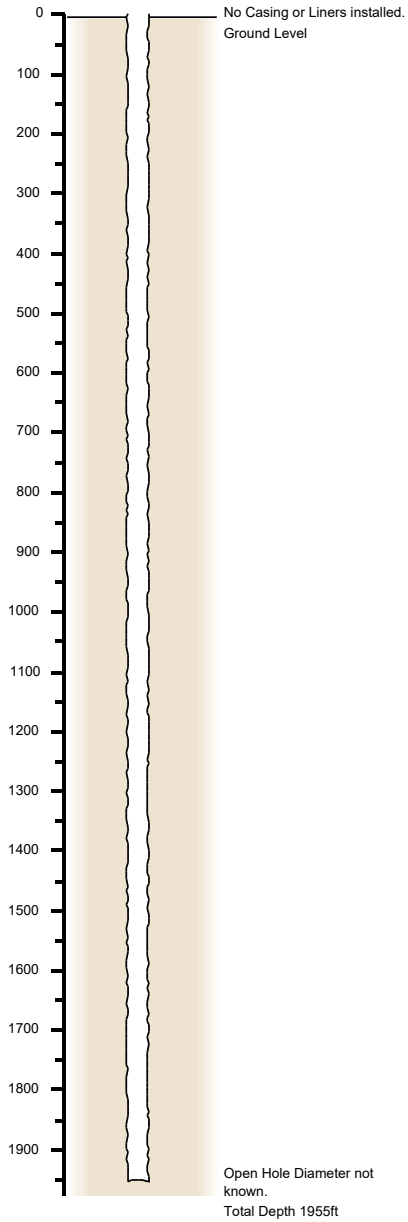
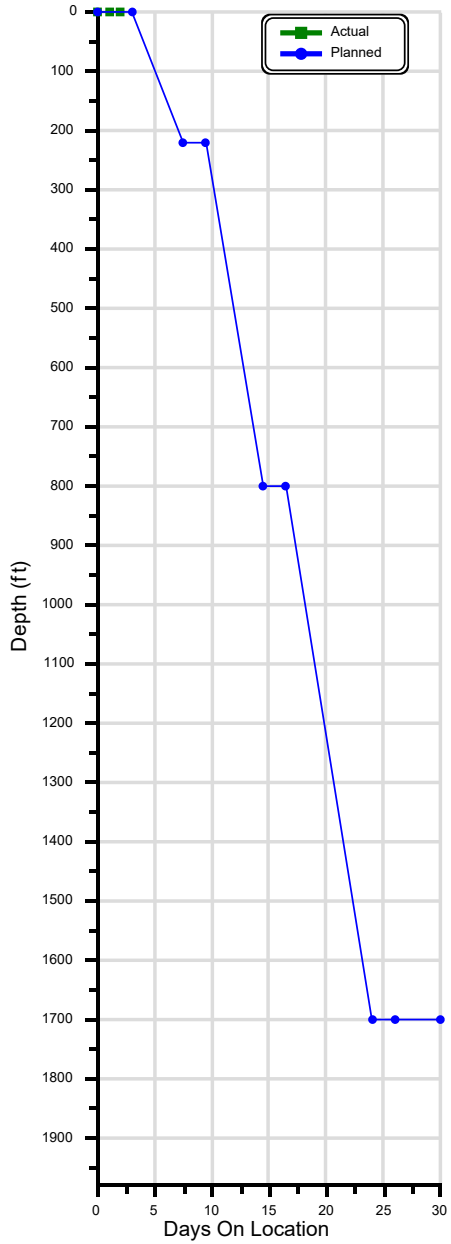




COSTS		Daily Cost:	14,260
AFE		AFE $	Actual $
01		1,714,090	689,536
TOTALS		1,714,090	689,536

SAFETY					
LTI:	/ 2 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	5 / 0
Contractors:	6 / 0	Other:	2 / 0
Total:	15	Hours:	0

OPERATIONS	
MD / TVD (ft):	0 / 0
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	0 actual / 30 plan

Current Operations:
Weather clearing up, should be able to fly. Hold planning meeting.

Planned Operations:
Continue to rig up camp and fly loads to valley

Management Summary:
Shut down due to weather, No flying today.

Comments:
Weather Delay

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 3

14-Aug-16

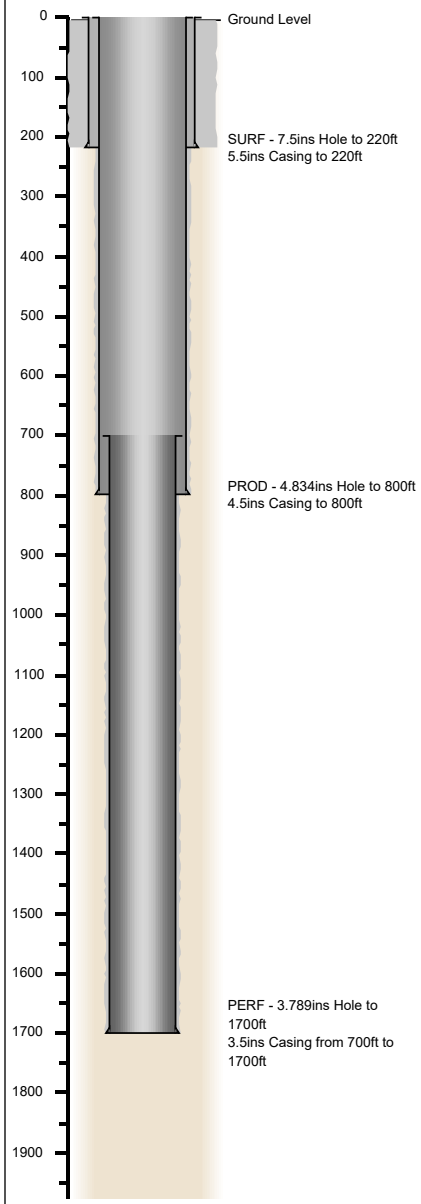
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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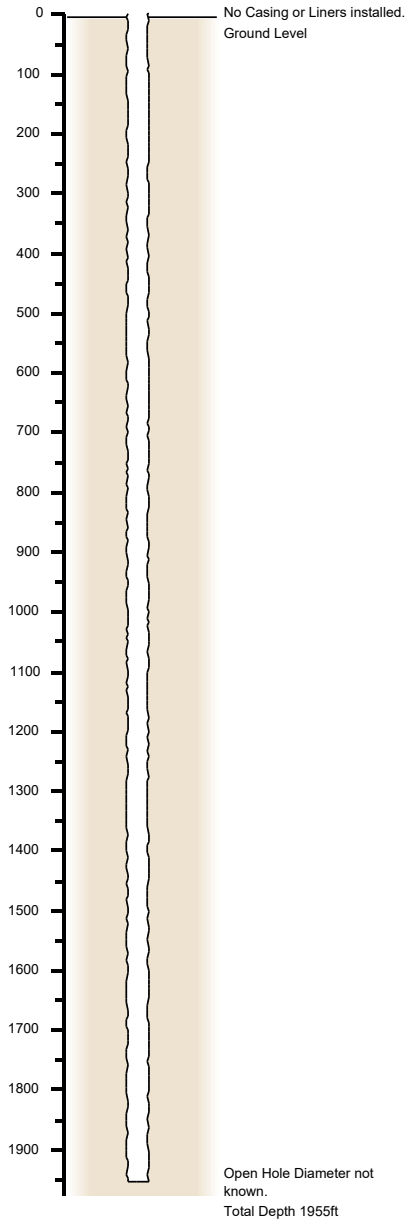
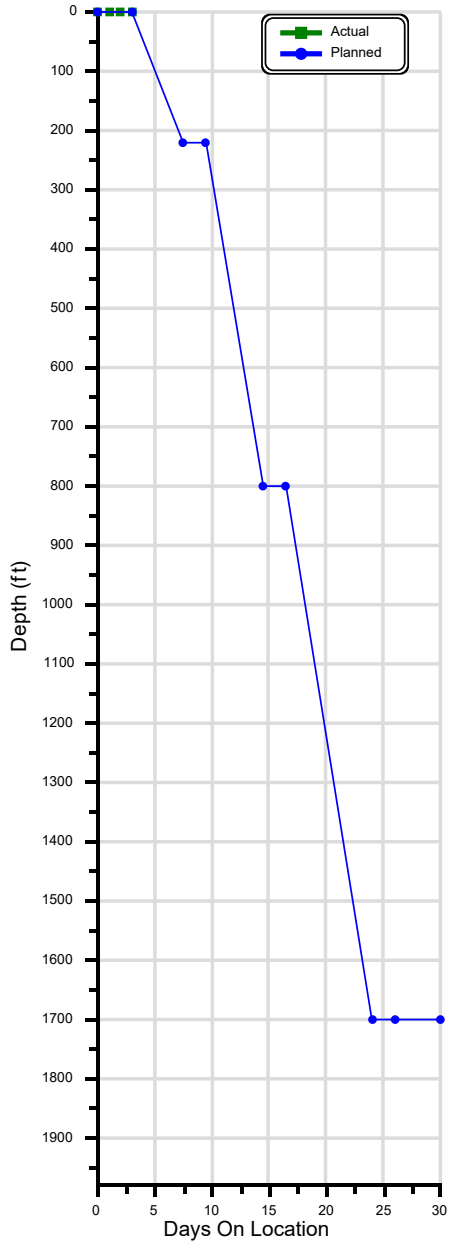




COSTS		Daily Cost:	28,630
AFE		AFE $	Actual $
01		1,714,090	718,166
TOTALS		1,714,090	718,166

SAFETY

LTI:	/ 3 days	Med:		1st Aid:	

PERSONNEL / HOURS

Operators:	2 / 0	Service:	7 / 0
Contractors:	6 / 0	Other:	2 / 0
Total:	17	Hours:	0

OPERATIONS

MD / TVD (ft):	0 / 0
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	0 actual / 30 plan

Current Operations:
Slinging loads to valley for camp and drill site, complete 6x6x4' cellar, set and level rig foundation

Planned Operations:
build camp and set tents on frames, set rig

Management Summary:
Cellar complete, rig skid and substructure set, pits 50% complete.

Comments:
Helicopter flew 5.7 hrs, 52 loads to site.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 4

15-Aug-16

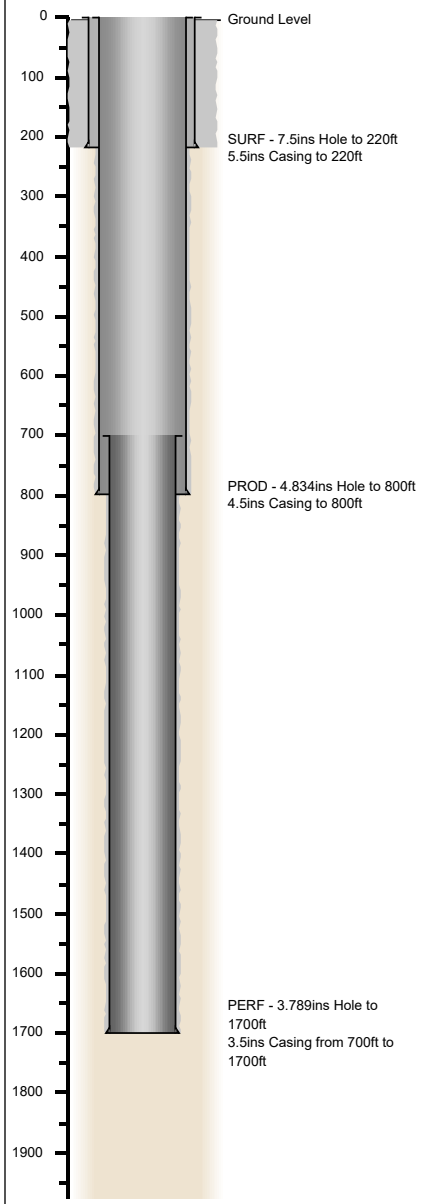
Rig Name: Major LF90

Geothermal Resource Group

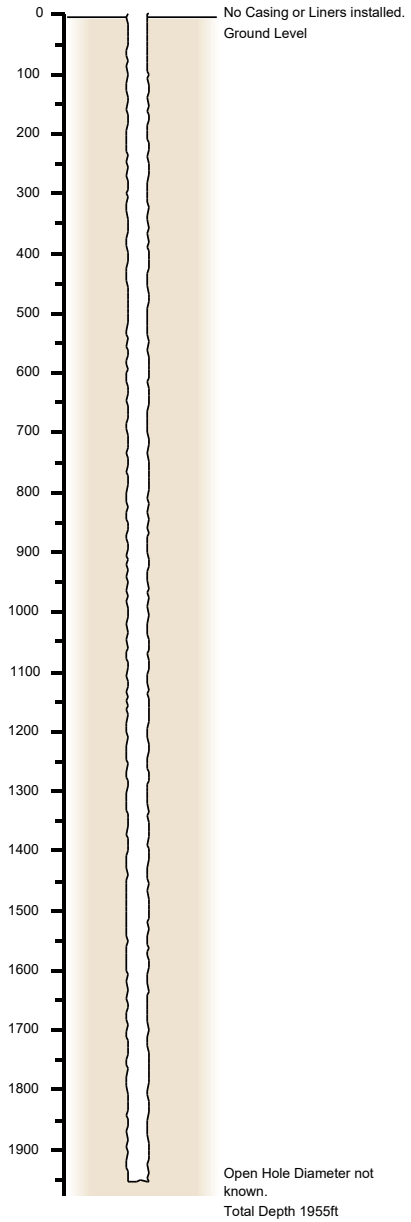
Well Name: AK-3

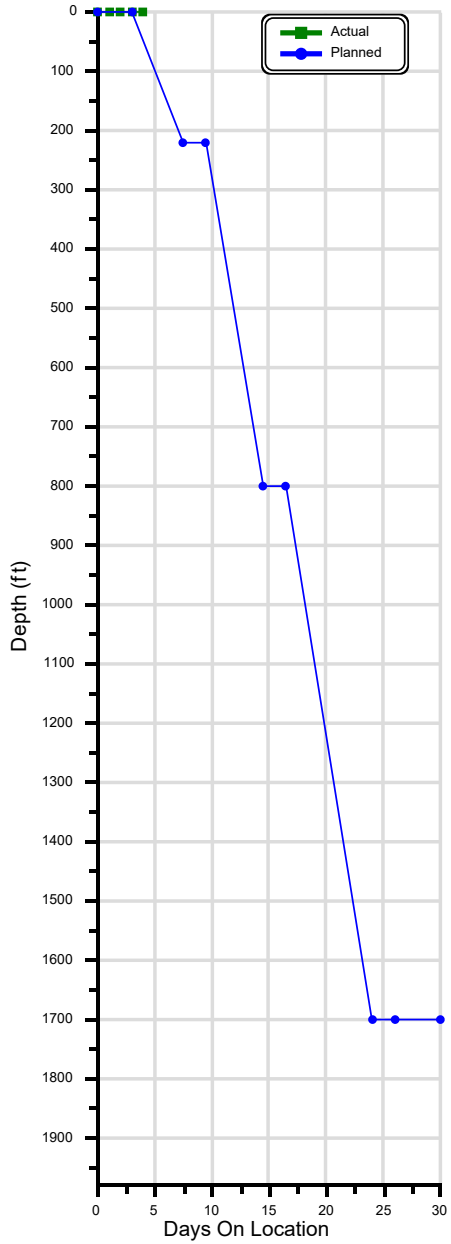
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	29,013
AFE		AFE $	Actual $
01		1,714,090	747,179
TOTALS		1,714,090	747,179

SAFETY					
LTI:	/ 4 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	7 / 0
Contractors:	6 / 0	Other:	2 / 0
Total:	17	Hours:	0

OPERATIONS	
MD / TVD (ft):	0 / 0
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	0 actual / 30 plan

Current Operations:
sling loads starting at 9:00

Planned Operations:
complete rig up of camp, assemble rig with helicopter, fly diesel fuel to site for camp and rig.

Management Summary:
Rig is assembled, support equipment is 80% placed, camp is 75% complete

Comments:
Flew helicopter for 5.5 hrs today 48 loads

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 5

16-Aug-16

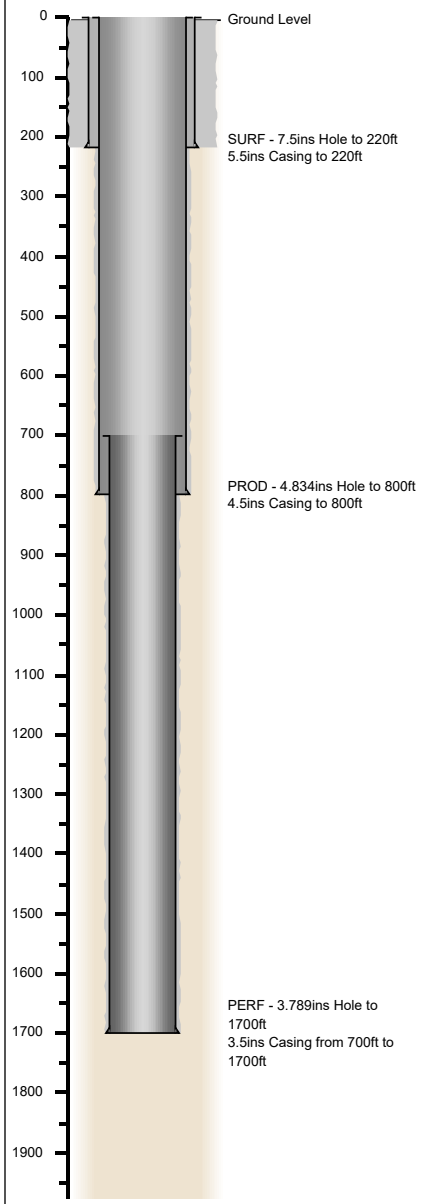
Rig Name: Major LF90

Geothermal Resource Group

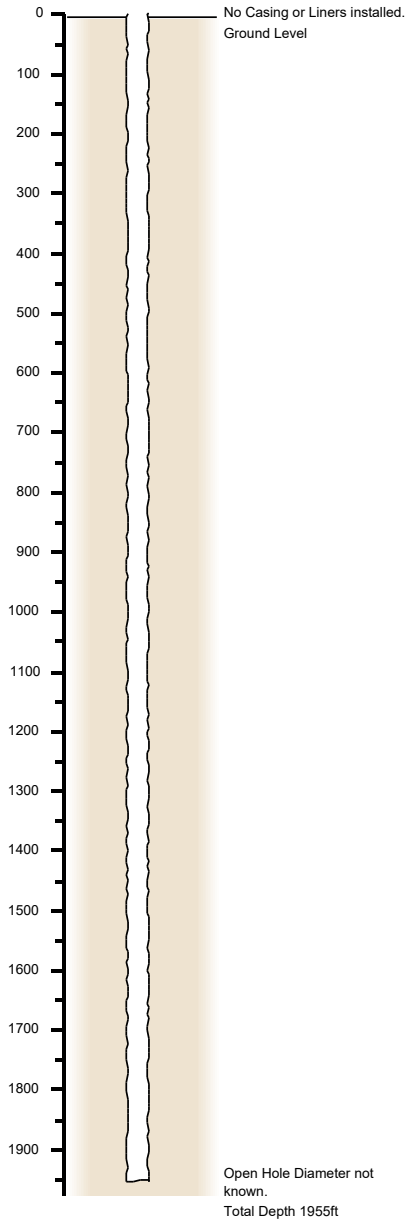
Well Name: AK-3

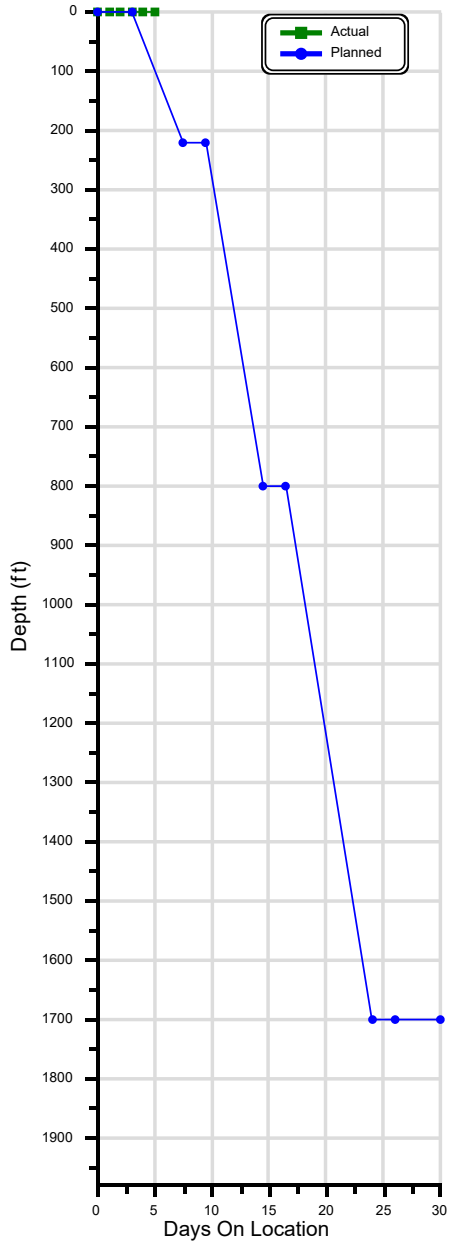
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	23,935
AFE		AFE $	Actual $
01		1,714,090	771,114
TOTALS		1,714,090	771,114

SAFETY

LTI:	/ 5 days	Med:		1st Aid:	

PERSONNEL / HOURS

Operators:	2 / 0	Service:	7 / 0
Contractors:	6 / 0	Other:	2 / 0
Total:	17	Hours:	0

OPERATIONS

MD / TVD (ft):	0 / 0
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	0 actual / 30 plan

Current Operations:

Flying crew and bags from lodge to site

Planned Operations:

complete set up of core shack and operations tent, complete set up of rig equipment

Management Summary:

Site 85% complete for operation, inter-net connection still not functioning, all fuel tanks on location have been filled,

Comments:

Camp generator went down at 11:00, fly backup set from staging area. work on inter-net connection from dish to camp and operations tent. Heavy rain throughout the day, having difficulty to install internet connection. Plan to bring all crews gear and site personnel to camp tomorrow,

Supervisor:	MKeown
Engineer:	Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 6

17-Aug-16

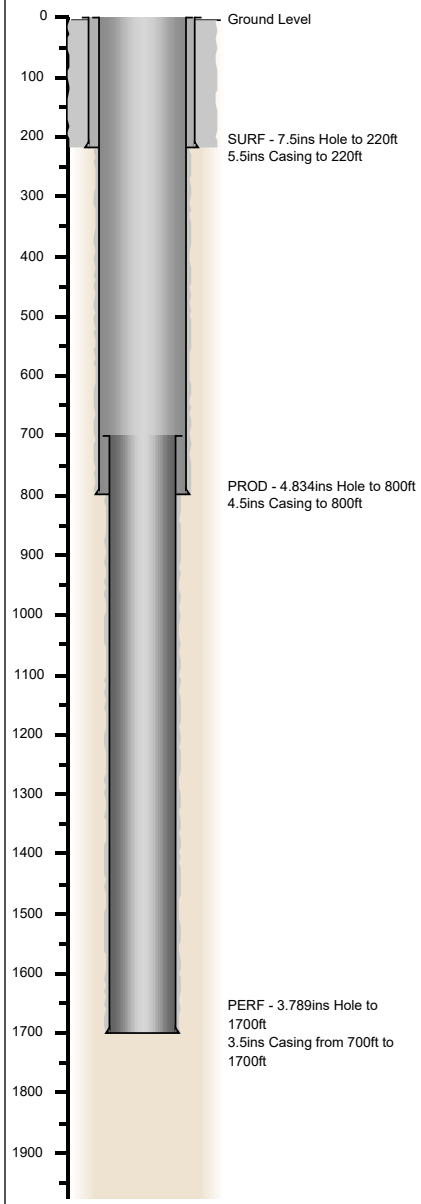
Rig Name: Major LF90

Geothermal Resource Group

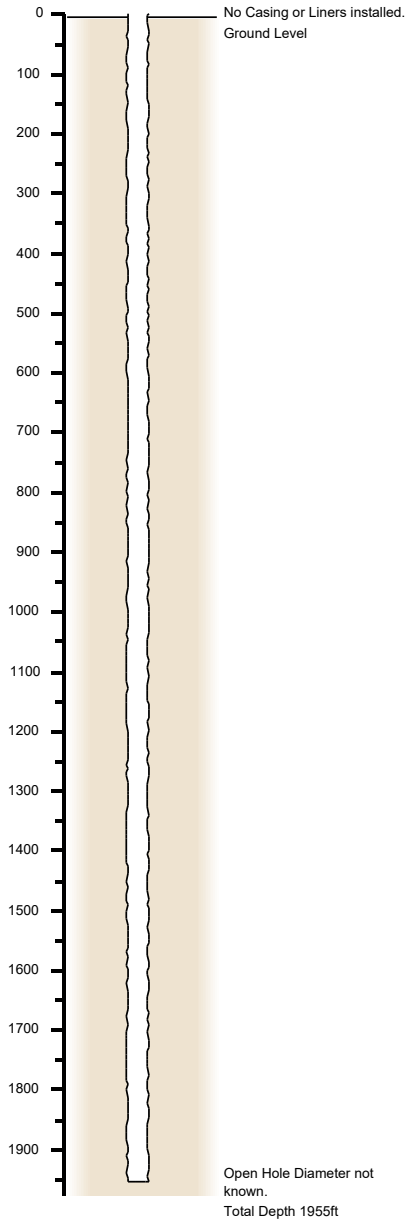
Well Name: AK-3

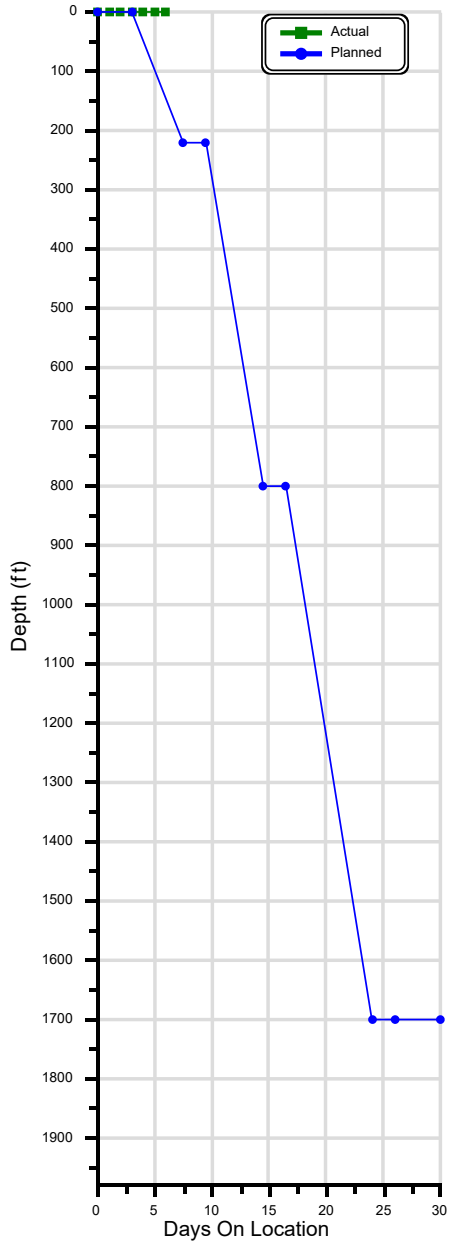
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	21,955
AFE		AFE $	Actual $
01		1,714,090	793,069
TOTALS		1,714,090	793,069

SAFETY					
LTI:	/ 6 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	4 / 0
Contractors:	6 / 0	Other:	2 / 0
Total:	14	Hours:	0

OPERATIONS	
MD / TVD (ft):	0 / 0
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	0 actual / 30 plan

Current Operations:

Waiting on City of Akutan to spud well

Planned Operations:

set all drilling and support personnel in camp, continue set up drilling operations, fly diesel drums and totes to rig and camp, prepare to spud well.

Management Summary:

Completed move and rig up, ready to spud. Completed moving all required drilling supplies to site. Moved in and rigged up third generator. Moved crews into camp.

Comments:

Heavy rain all day.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 7

18-Aug-16

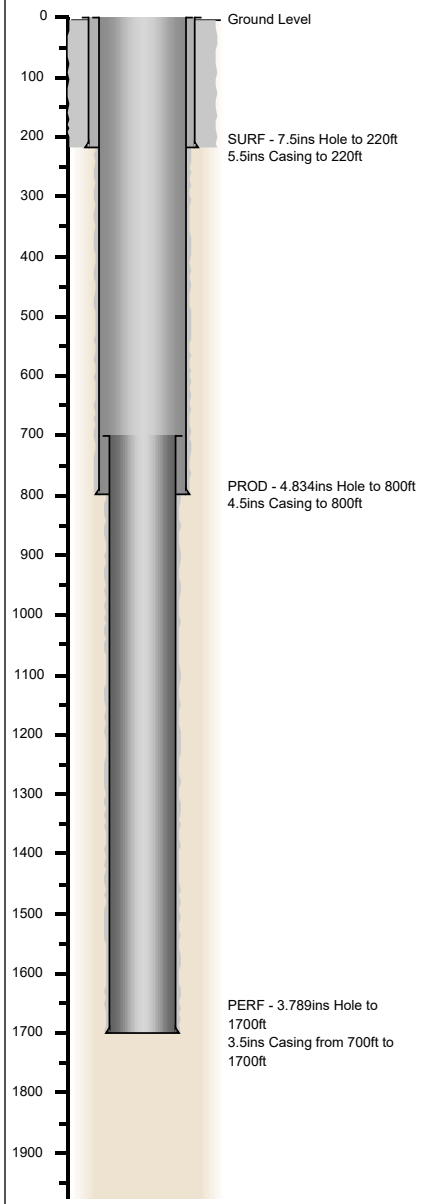
Rig Name: Major LF90

Geothermal Resource Group

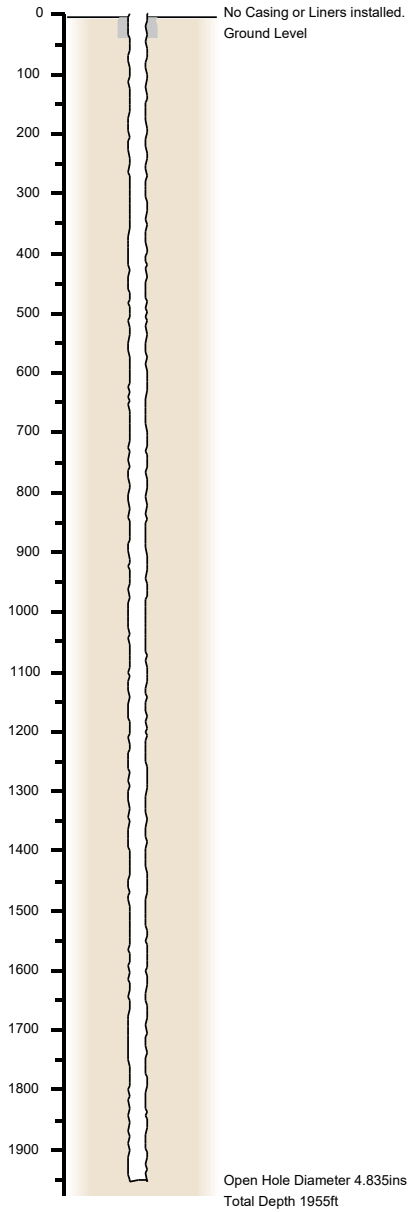
Well Name: AK-3

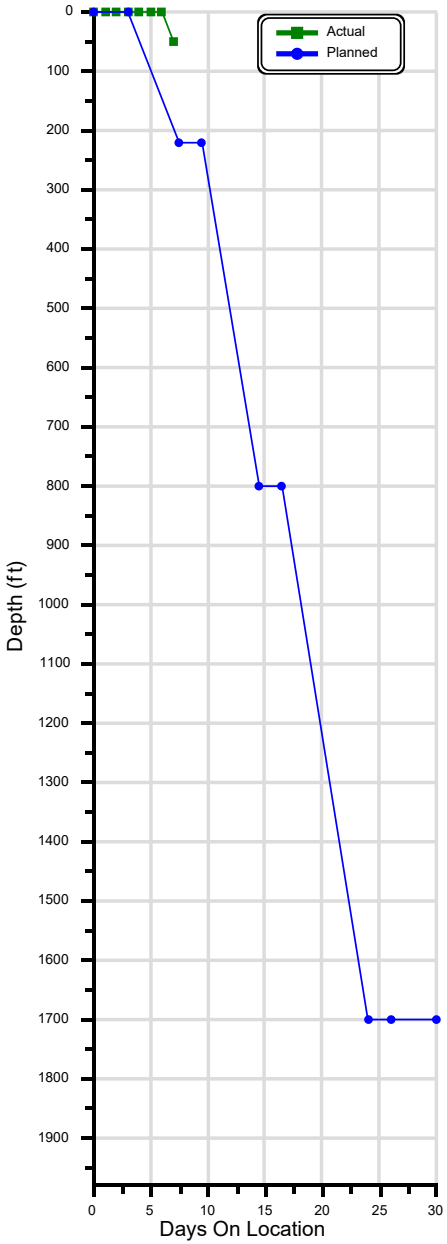
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	19,390
AFE		AFE $	Actual $
01		1,714,090	812,458
TOTALS		1,714,090	812,458

SAFETY			
LTI:	/ 7 days	Med:	1st Aid:

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	6 / 0	Other:	2 / 0
Total:	11	Hours:	0

OPERATIONS	
MD / TVD (ft):	49 / 49
Hole Drilled / Ave ROP:	49 / 12.3
Drilling Days:	1 actual / 30 plan

Current Operations:

Installing 8 5/8" .322 wall surface casing

Planned Operations:

Spud AK-3 well, core PQ to 49', ream 10 3/4"to 42', set and cement 8 5/8"surface casing in place at 40'

Management Summary:

Wait on weather to fly Mayor and Priest to site to bless the hole prior to spud, spud hole at 12:00hrs, core to 49' , trip out install 10 3/4" hole opener, ream to 42' condition hole, trip out for plugged bit, continue to condition hole prior to install 8 5/8" surface casing

Comments:

Reference to top of hole at ground surface, City of Akutan Mayor and Priest on location at 11:30, perform blessing ritual. Begin coring at 12:00 start of core at bottom of cellar -4' from GS.

Supervisor:	MKeown
Engineer:	Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 8

19-Aug-16

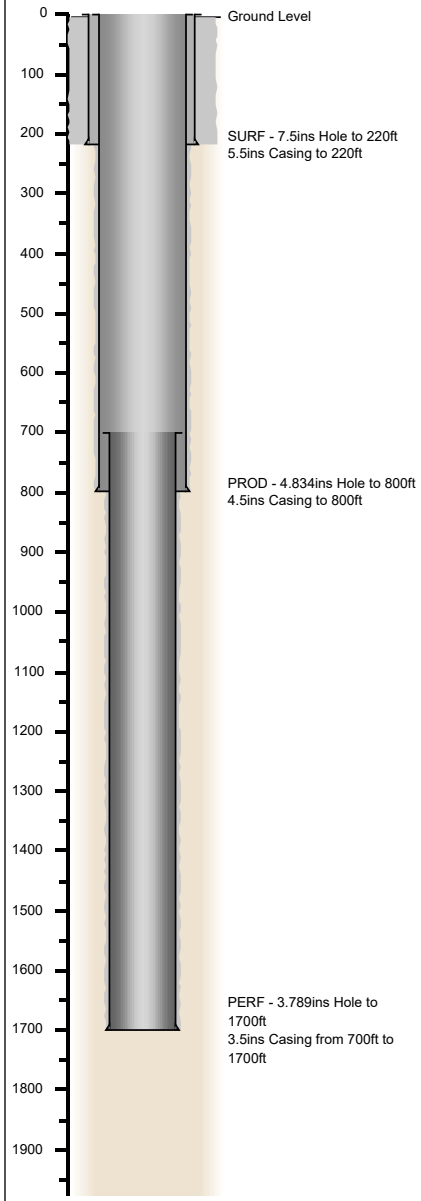
Rig Name: Major LF90

Geothermal Resource Group

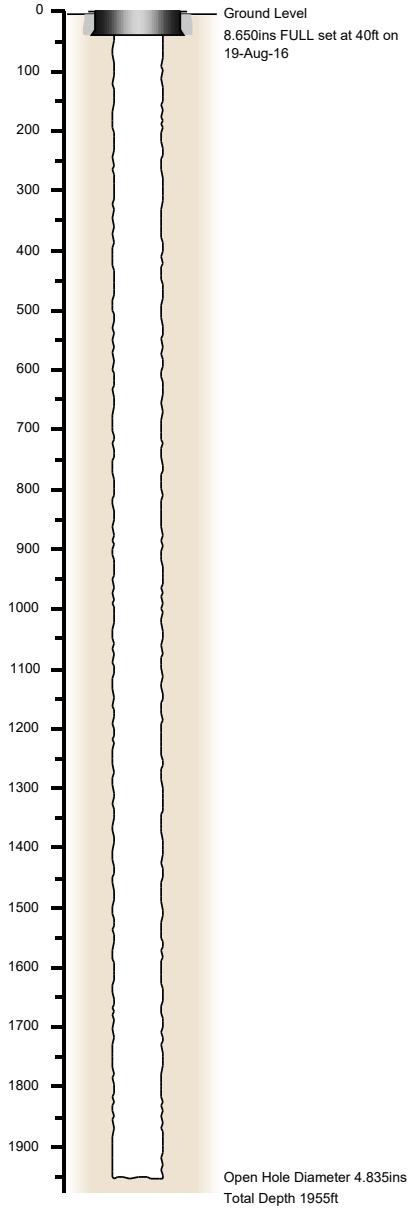
Well Name: AK-3

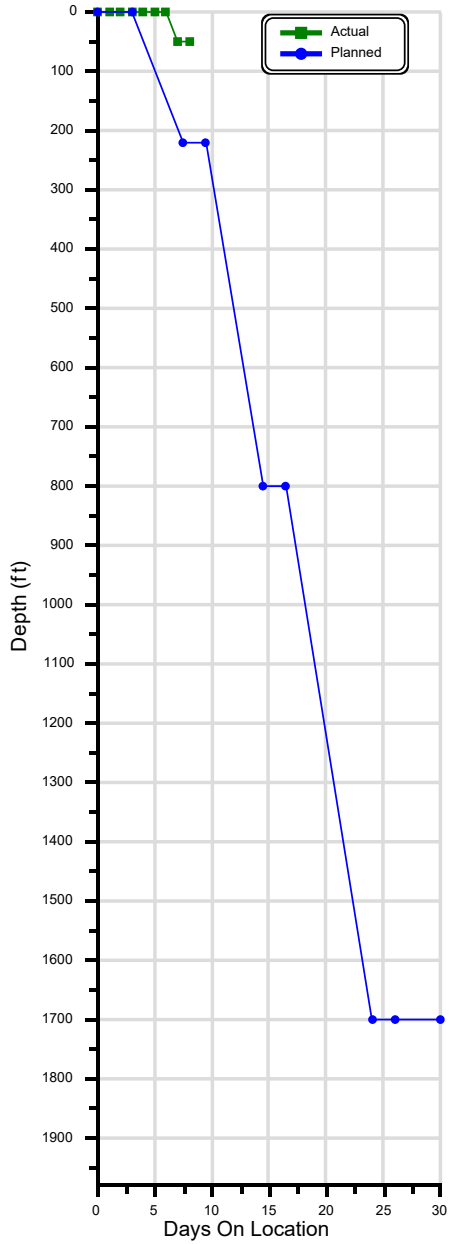
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	23,300
AFE		AFE $	Actual $
01		1,714,090	835,758
TOTALS		1,714,090	835,758

SAFETY

LTI:	/ 8 days	Med:		1st Aid:	

PERSONNEL / HOURS

Operators:	2 / 0	Service:	3 / 0
Contractors:	6 / 0	Other:	2 / 0
Total:	13	Hours:	0

OPERATIONS

MD / TVD (ft):	49 / 49
Hole Drilled / Ave ROP:	49 / 0
Drilling Days:	2 actual / 30 plan

Current Operations:

Coring ahead PQ size through rubble to 49'

Planned Operations:

Cement 8 5/8" casing in 10 3/4" hole from -4'to 40' measured depth from ground surface.

Management Summary:

Reamed PQ hole to 10 3/4" to 42' from BGS, ran 8 5/8" A53 grade B casing from surface to 40', cemented in place with 12 sks of portland cement mixed with 96 gallons of water. Wait on cement for 12 hrs, perform top job (3') , trip in hole with new #8 PQ core bit, Tag cement at 28', core out cement to casing shoe (40') core out rubble to 49'

Comments:

From 25-28'and 38-42' hole conditions were broken rock and clays, causing difficulty in maintaining hole open during casing run. Cement job success with returns to surface. Temperature at 35' measured with laser heat gun 105.5 degrees F

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 9

20-Aug-16

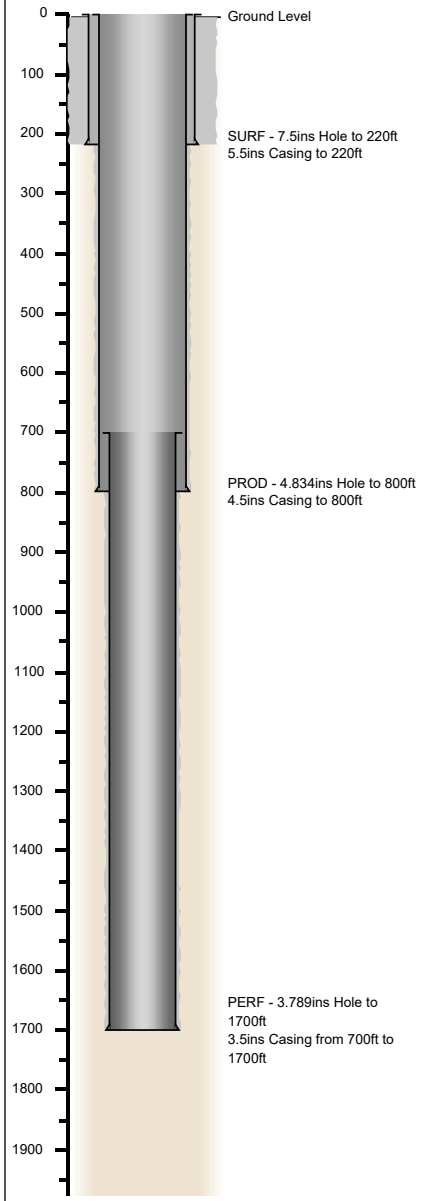
Rig Name: Major LF90

Geothermal Resource Group

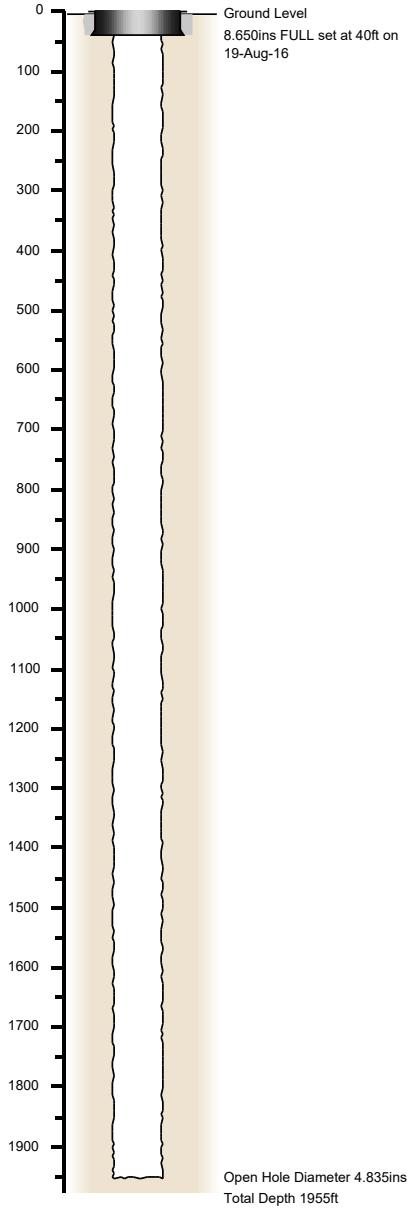
Well Name: AK-3

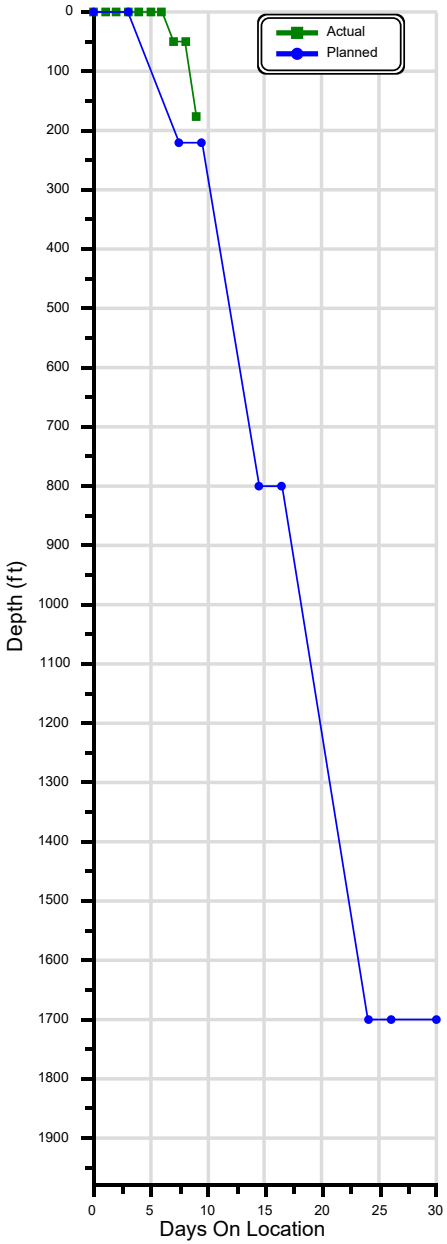
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	28,083
AFE		AFE $	Actual $
01		1,714,090	863,841
TOTALS		1,714,090	863,841

SAFETY					
LTI:	/ 9 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	3 / 0
Contractors:	6 / 0	Other:	2 / 0
Total:	13	Hours:	0

OPERATIONS	
MD / TVD (ft):	176 / 176
Hole Drilled / Ave ROP:	127 / 8.8
Drilling Days:	3 actual / 30 plan

Current Operations:

Well kicked, Lost rod due to foot clamp slipping. Top of HWT rod 2' below foot clamp.

Planned Operations:

Core ahead PQ to planned 5.5" casing depth of 220' BGS.

Management Summary:

Core ahead , take steam kick at 150' cool hole with cold fresh water. continue coring ahead at 165' stuck pipe, work pipe free, cool hole to 130 Degrees F, Rig up packoff to seal 8" conductor on HWT core rod, Pump cold water to well bore.

Supervisor:	MKeown
Engineer:	Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 10

21-Aug-16

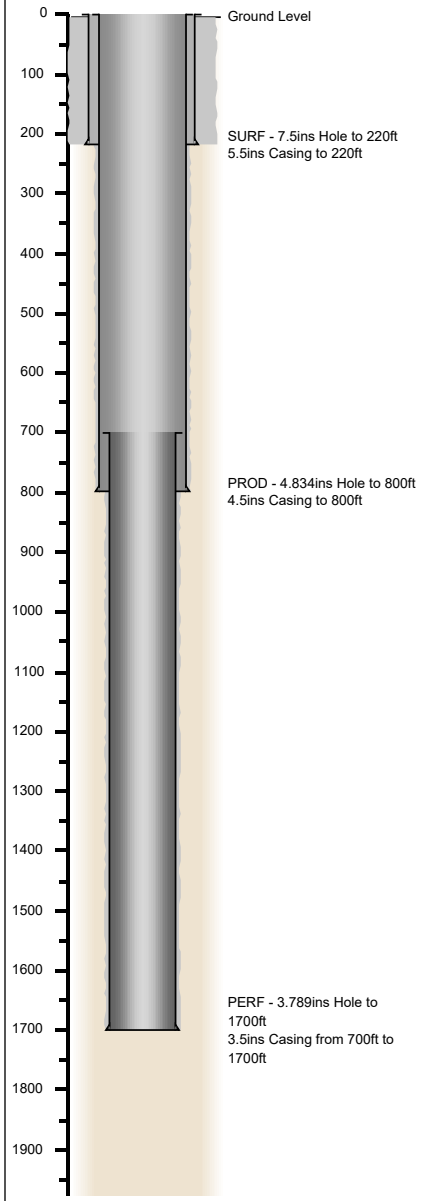
Rig Name: Major LF90

Geothermal Resource Group

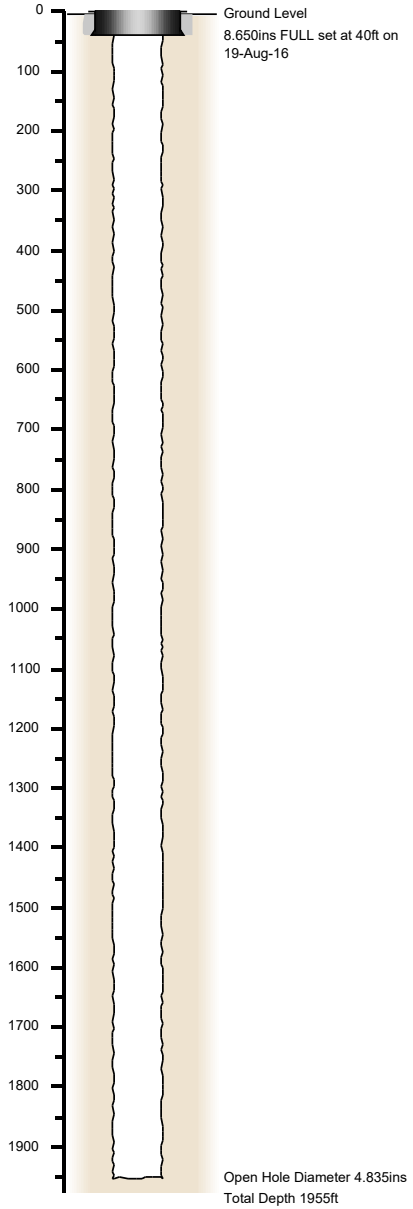
Well Name: AK-3

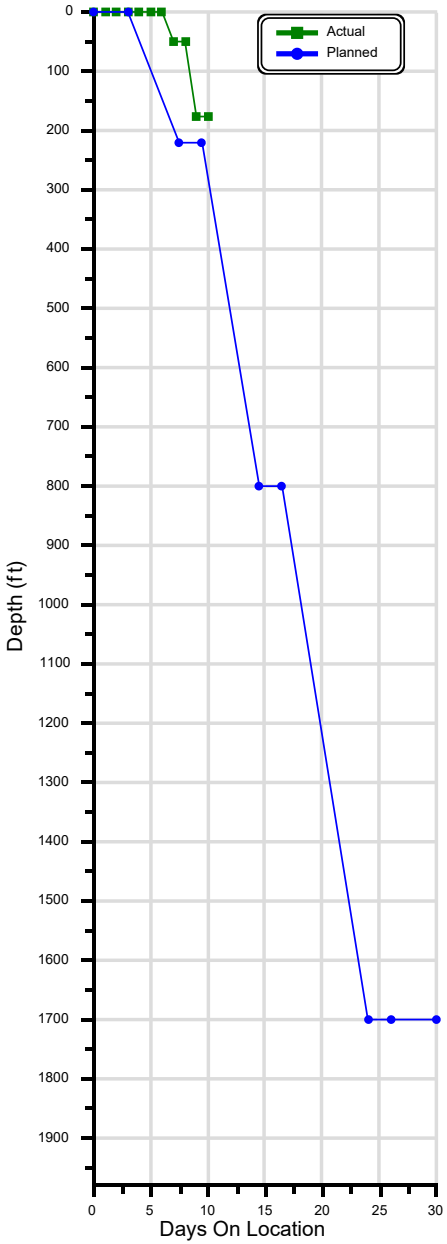
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	32,780
AFE		AFE $	Actual $
01		1,714,090	896,621
TOTALS		1,714,090	896,621

SAFETY					
LTI:	/ 1 days	Med:		1st Aid:	1

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	4 / 0
Contractors:	6 / 0	Other:	2 / 0
Total:	14	Hours:	0

OPERATIONS	
MD / TVD (ft):	176 / 176
Hole Drilled / Ave ROP:	11 / 0
Drilling Days:	4 actual / 30 plan

Current Operations:

Continue pumping 35 gpm 60 degree cold water into 8" casing , packed off on top with poor boy packer.

Planned Operations:

Assemble fishing tool to catch top of core rod with inside grapple, configure poor boy packoff with HWT rod clamp and stripping rubbers. pack off the 8" casing to HWT , Kill hole.

Management Summary:

Made up and ran inside grapple fishing tool, brought fish to surface, cooled hole to laydown fish, packed off 8" with pack off assembly, gained control of well,

Supervisor:	MKeown
Engineer:	Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 11

22-Aug-16

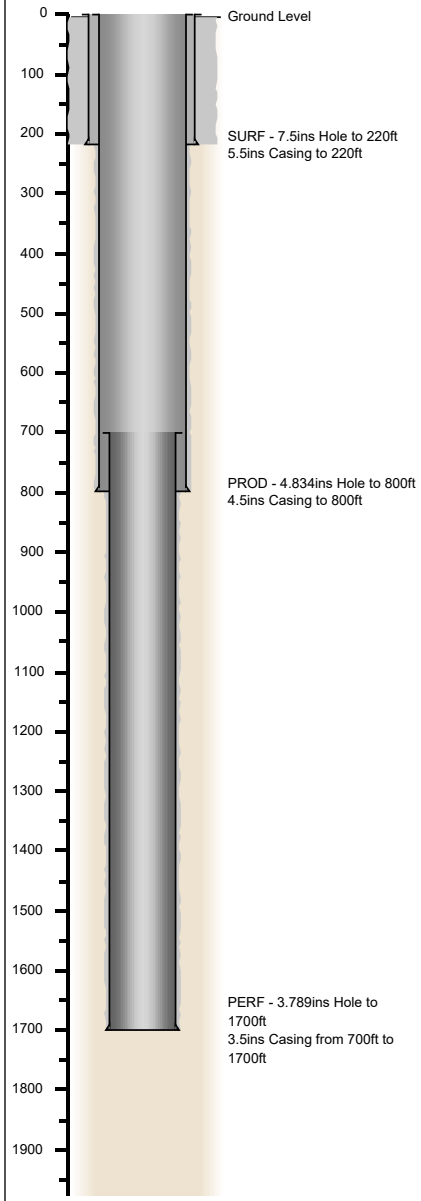
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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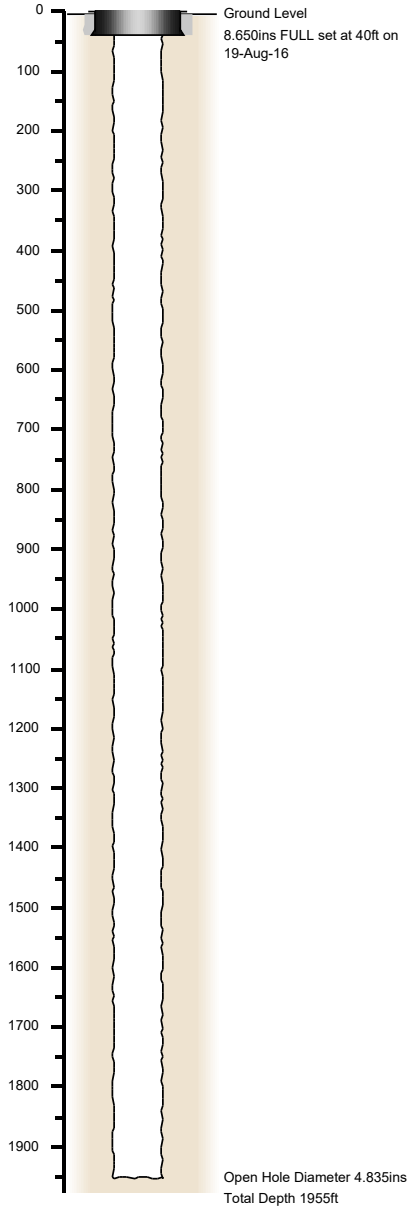
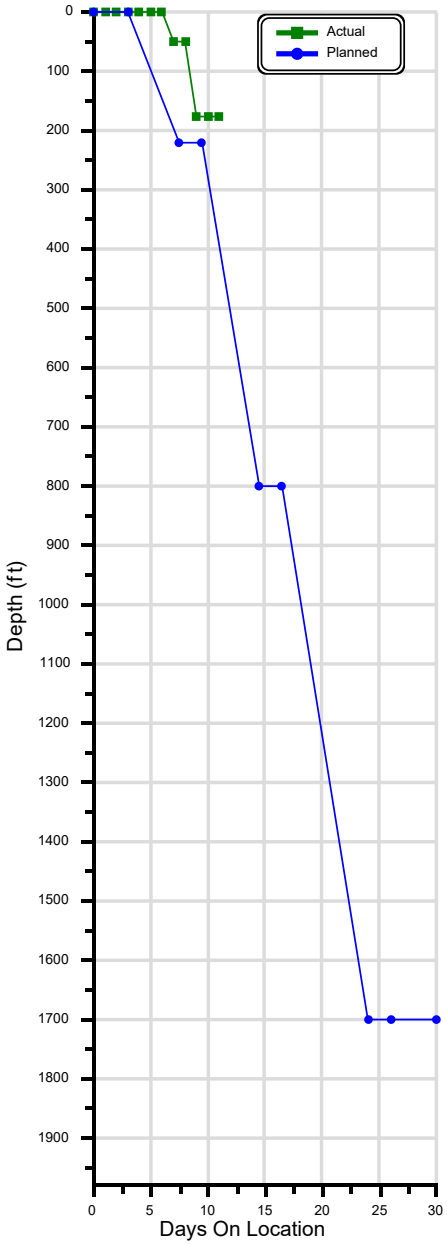




COSTS		Daily Cost:	27,560
AFE		AFE $	Actual $
01		1,714,090	924,181
TOTALS		1,714,090	924,181

SAFETY					
LTI:	/ 2 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	3 / 0
Contractors:	5 / 0	Other:	2 / 0
Total:	12	Hours:	0

OPERATIONS	
MD / TVD (ft):	176 / 176
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	5 actual / 30 plan

Current Operations:

Cooled hole pumping in thru pack off. RIH to 172. No cement. Reinstall pack off and cooling hole.

Planned Operations:

Attend conference meeting at city of Akutan to discuss plan for killing hole. Kill hole, resume drilling operation to drill hole to 5.5" casing depth, set and cement casing in to hole.

Management Summary:

Controlled hole by pumping cold water into well bore through pack off, devised plan to cement loss zones with 10 sack cement drift plug from 88' to 176', mix and pump cement plug, wait on cement to set, before checking top of cement.

Supervisor:	MKeown
Engineer:	Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 12

23-Aug-16

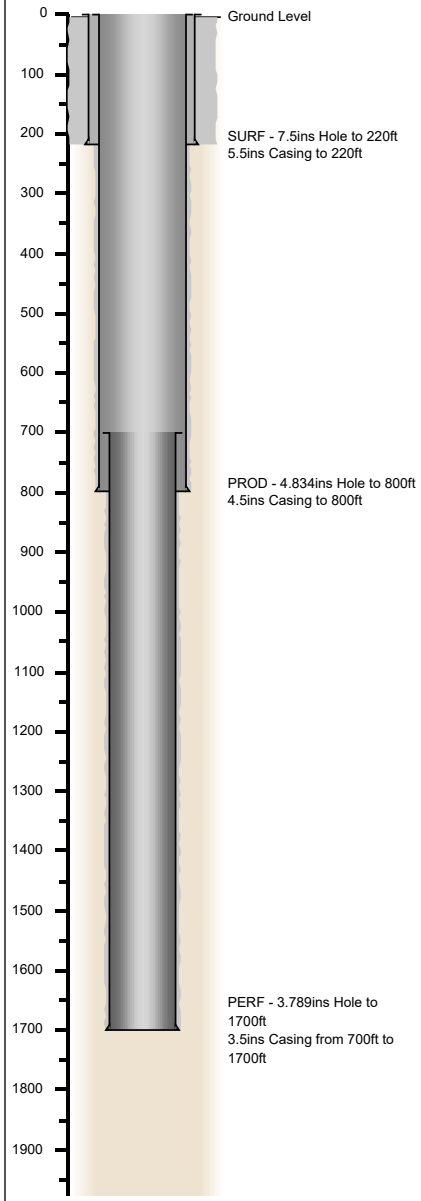
Rig Name: Major LF90

Geothermal Resource Group

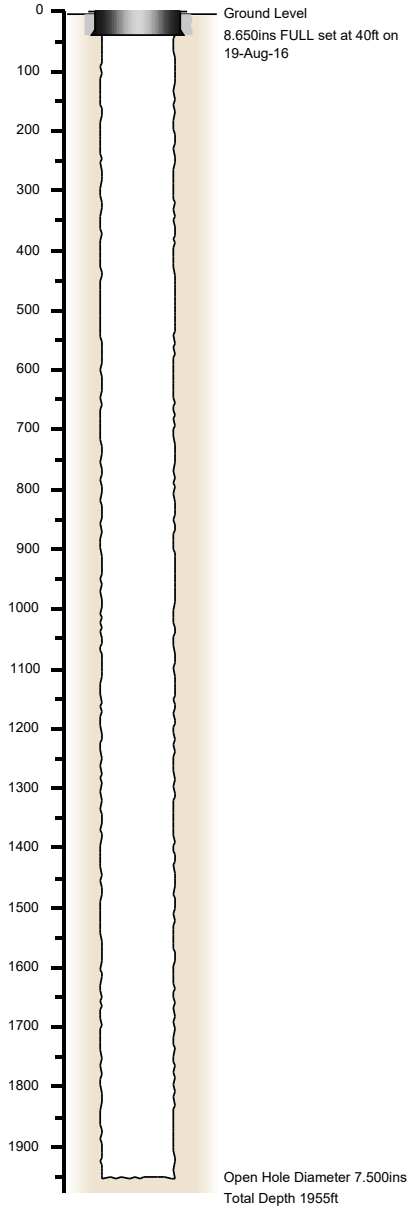
Well Name: AK-3

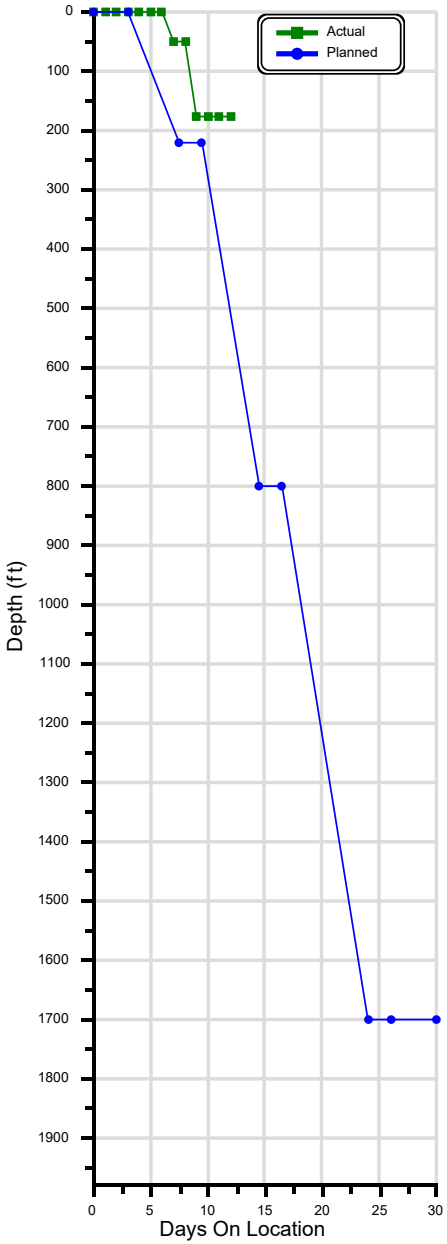
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	25,140
AFE		AFE $	Actual $
01		1,714,090	949,321
TOTALS		1,714,090	949,321

SAFETY					
LTI:	/ 3 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	3 / 0
Contractors:	5 / 0	Other:	2 / 0
Total:	12	Hours:	0

OPERATIONS	
MD / TVD (ft):	176 / 176
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	6 actual / 30 plan

Current Operations:

Opened hole and cleaned out cement stringers to 170' with well flow controlled. Cleaned out cement to 176' with hole opener. Drilling ahead with 7.5" hole opener with well flow controlled.

Planned Operations:

Pull to 168', mix and pump 9 sack balance plug, displacing with 26 gallons of water, pull to 49', wait on cement to set before tag Top of cement

Management Summary:

Circulated hole to cool discharge at 85F,ran in hole tag top of cement at 172', pull to 168', mix 9 sack cement place balance plug in hole, wait on cement for 6 hrs, pull and laydown core barrel, pick up 7.5' hole opener, hole static no flow, open hole from 40' to 90', continue to wait on cement to set for 12 hrs. ream ahead with hole opener to 125' at 00:00 hrs.

Comments:

Hole is secure from second plug, no flow from hole,

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 13

24-Aug-16

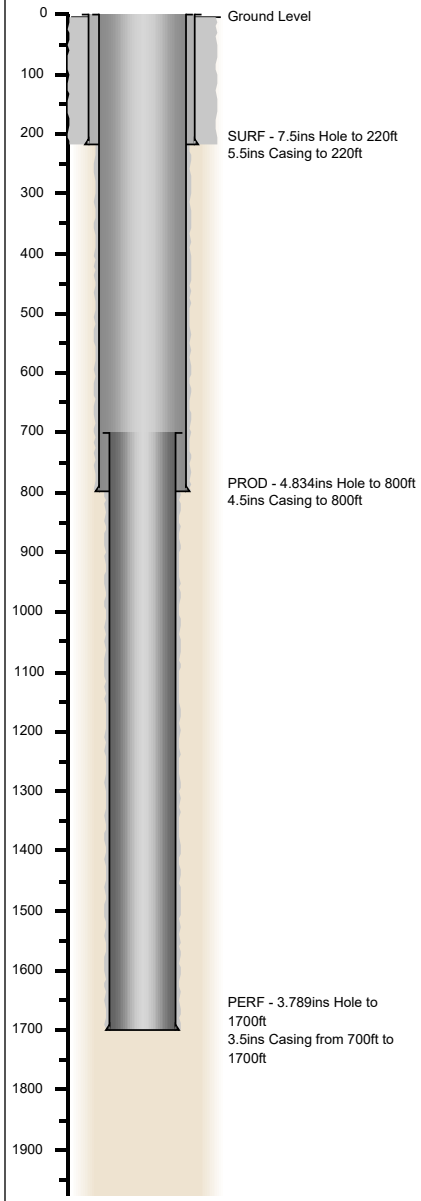
Rig Name: Major LF90

Geothermal Resource Group

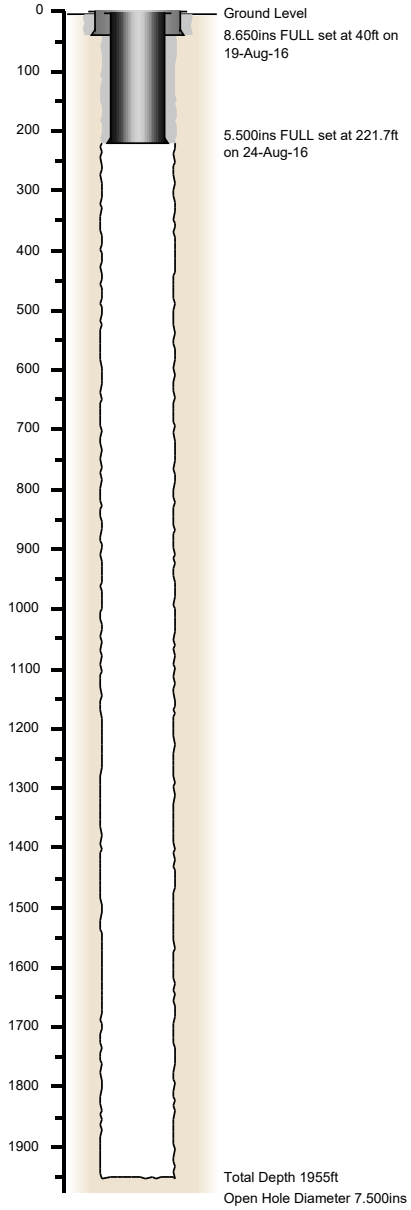
Well Name: AK-3

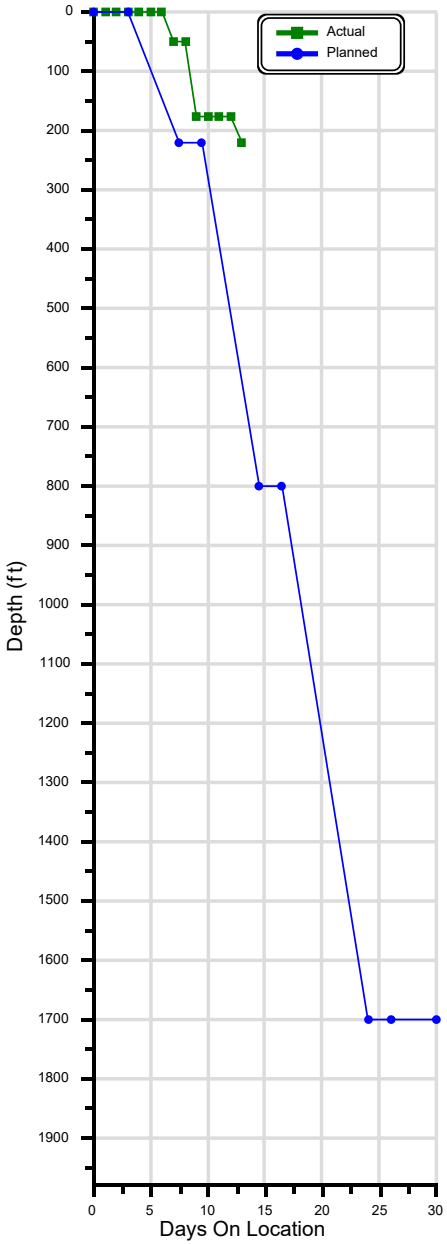
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	23,360
AFE		AFE $	Actual $
01		1,714,090	972,681
TOTALS		1,714,090	972,681

SAFETY			
LTI:	/ 4 days	Med:	1st Aid:

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	3 / 0
Contractors:	5 / 0	Other:	2 / 0
Total:	12	Hours:	0

OPERATIONS	
MD / TVD (ft):	220 / 220
Hole Drilled / Ave ROP:	44 / 0
Drilling Days:	7 actual / 30 plan

Current Operations:

Waiting on cement.

Planned Operations:

Continue reaming ahead to 220' with 7.5" hole opener, circulate hole clean, run 5.5" casing to 220' below ground surface. Cement into place.

Management Summary:

Opened PQ hole to 7.5' and cleaned out cement stringers to 170' with well flow controlled. Cleaned out cement to 176' with hole opener. Drilled ahead with 7.5" hole opener with well flow controlled from 176' to 225'. Circulated hole with cool water and 9.2-9.5 salted water. Tripped out lay down hole opener, picked up and ran in hole 5.5" casing set at 220' below ground surface. Cement in place with 62 sacks cement with good returns to surface. Kept annulus full with Portland cement.

Supervisor:	MKeown
Engineer:	Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 14

25-Aug-16

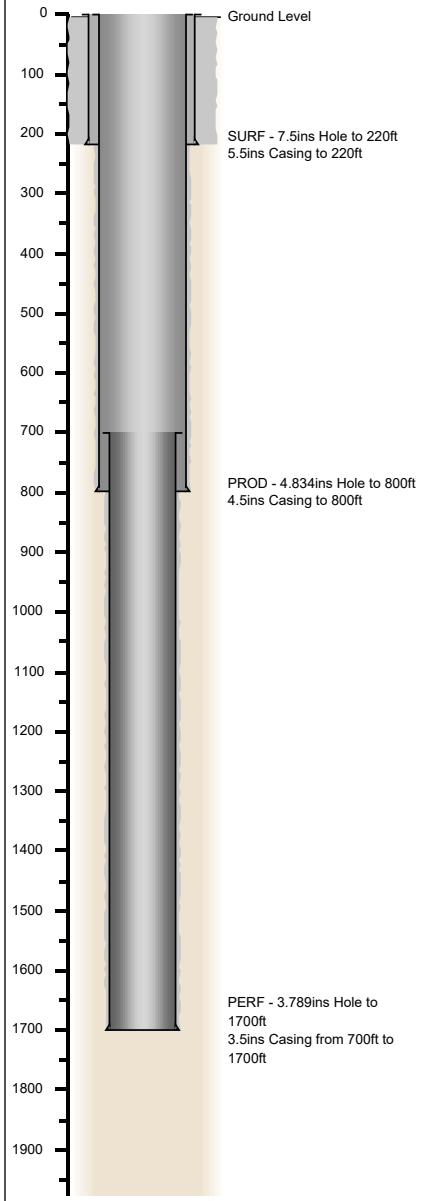
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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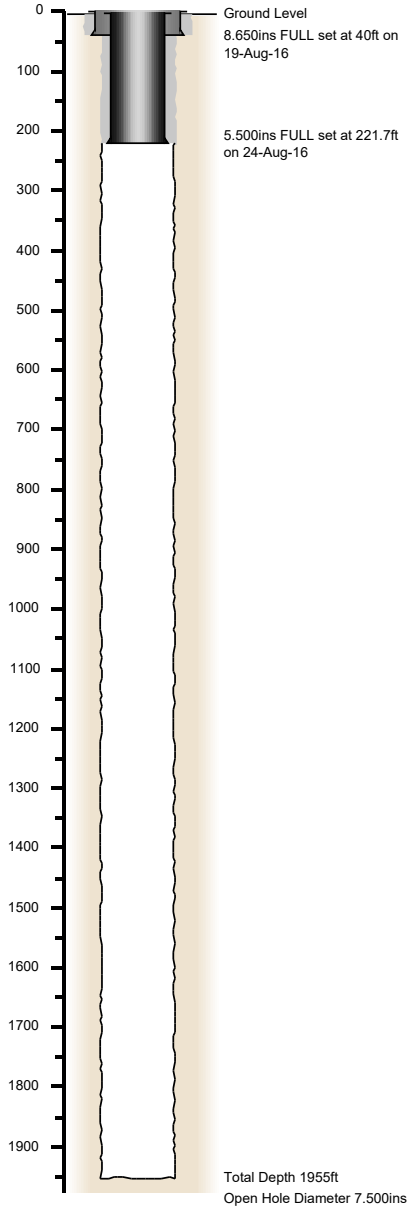
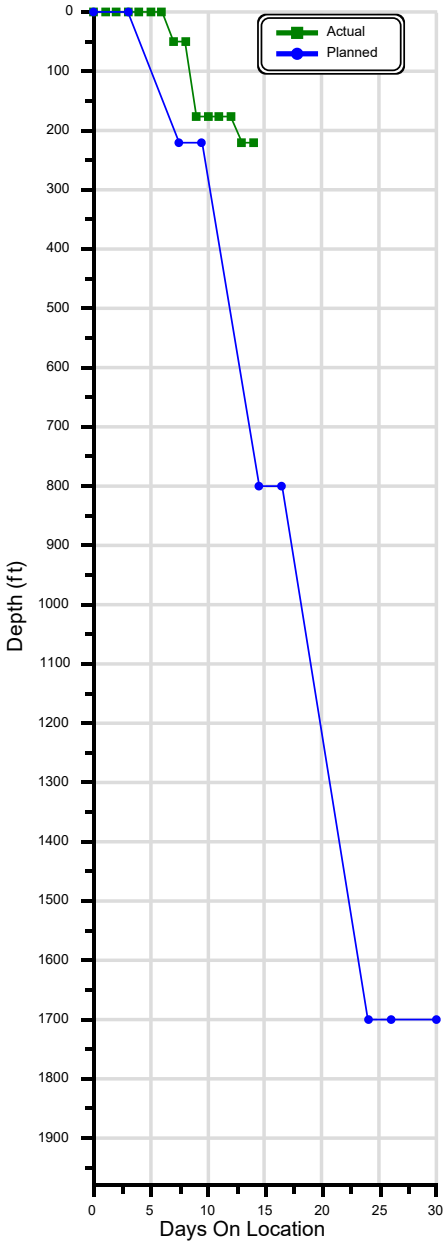




COSTS		Daily Cost:	27,410
AFE		AFE $	Actual $
01		1,714,090	1,000,091
TOTALS		1,714,090	1,000,091

SAFETY					
LTI:	/ 5 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	6 / 0	Other:	2 / 0
Total:	11	Hours:	0

OPERATIONS	
MD / TVD (ft):	220 / 220
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	8 actual / 30 plan

Current Operations:

Nippling up.

Planned Operations:

Cut off 8" casing to 3" above cellar floor, nipple up BOP to 5" casing

Management Summary:

Cement stopped falling, annulus full. Wait on cement to cure after primary cementing of 5.5" casing. Cut and laid down 8" riser. Waited for fog to lift. Obtained material and installed poor boy pack off on 8-5/8" by 5-1/2" annulus. Installed WHE. Modified BOPE to fit under rig floor and nippled up.

Comments:

Well head item dimensions as per drawing and plan, had to remove the top flange adapter from the 6" master valve, due to the foot clamp extending 2.5' below the rig floor, requiring additional time to nipple up, Major rig crew did not have a 1 5/8" hammer wrench to remove the nuts from the assembly, slowing down the removal considerably, estimate additional 5 hrs of down time due to height issues.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 15

26-Aug-16

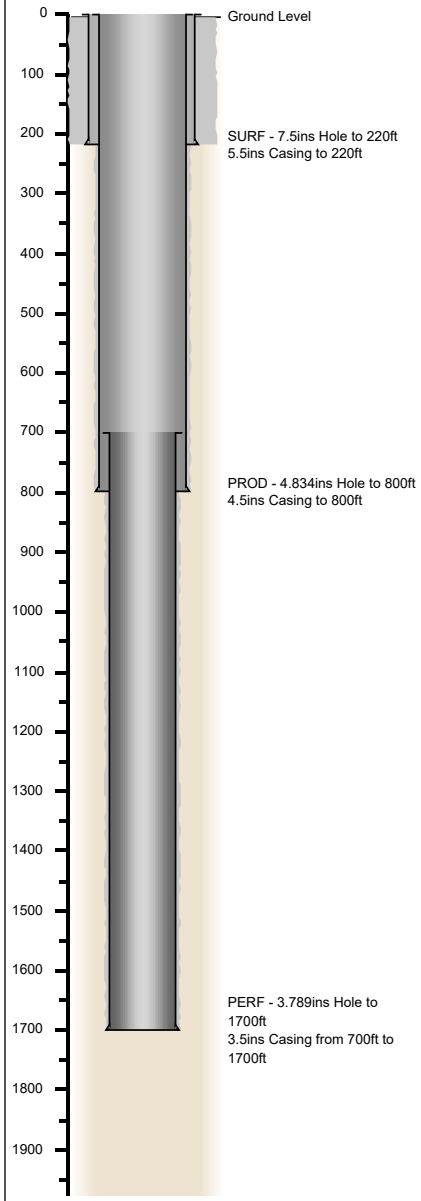
Rig Name: Major LF90

Geothermal Resource Group

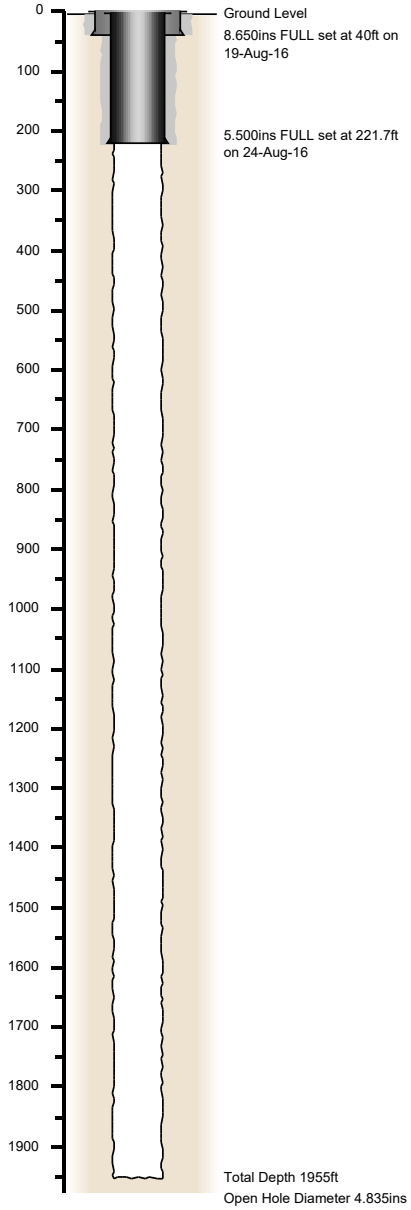
Well Name: AK-3

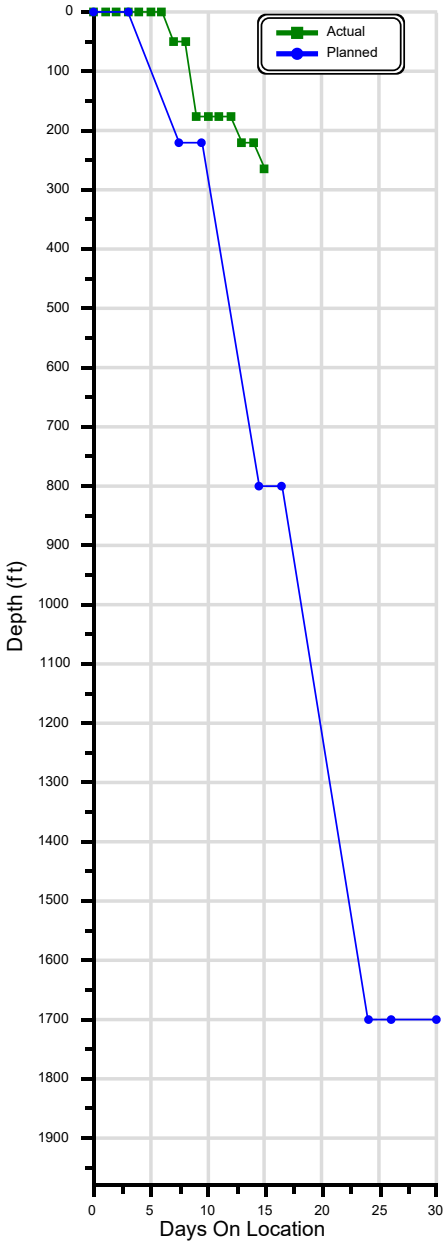
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	29,504
AFE		AFE $	Actual $
01		1,714,090	1,029,595
TOTALS		1,714,090	1,029,595

SAFETY			
LTI:	/ 6 days	Med:	1st Aid:

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	3 / 0
Contractors:	7 / 0	Other:	2 / 0
Total:	14	Hours:	0

OPERATIONS	
MD / TVD (ft):	265 / 265
Hole Drilled / Ave ROP:	45 / 8.2
Drilling Days:	9 actual / 30 plan

Current Operations:

Cored PQ from 265' to 322' at 06:00 hrs. TOTCO at 300' = 0.25 deg.

Planned Operations:

Continue coring ahead with PQ to +/- 800'.

Management Summary:

Completed nipple up of BOP. Performed low (200 psi) and high (750 psi) BOPE test, 5 min each, OK. Cored out cement shoe. Cored PQ to 225'. performed LOT test (1 psi/ft). Cored PQ from 225' to 265'.

Comments:

BOP test verified after changing out pressure gages, BOP annular bag takes a long time to open after being closed (15-20 min).

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 16

27-Aug-16

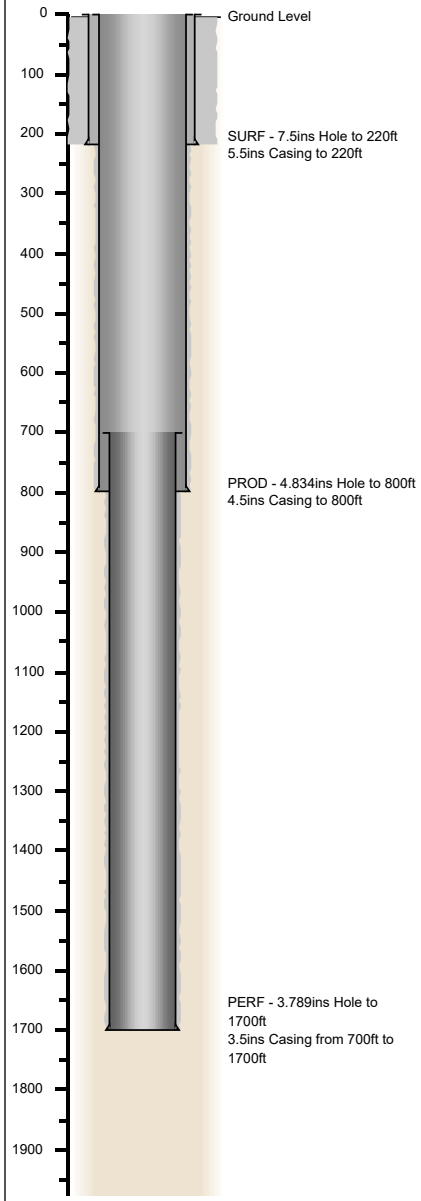
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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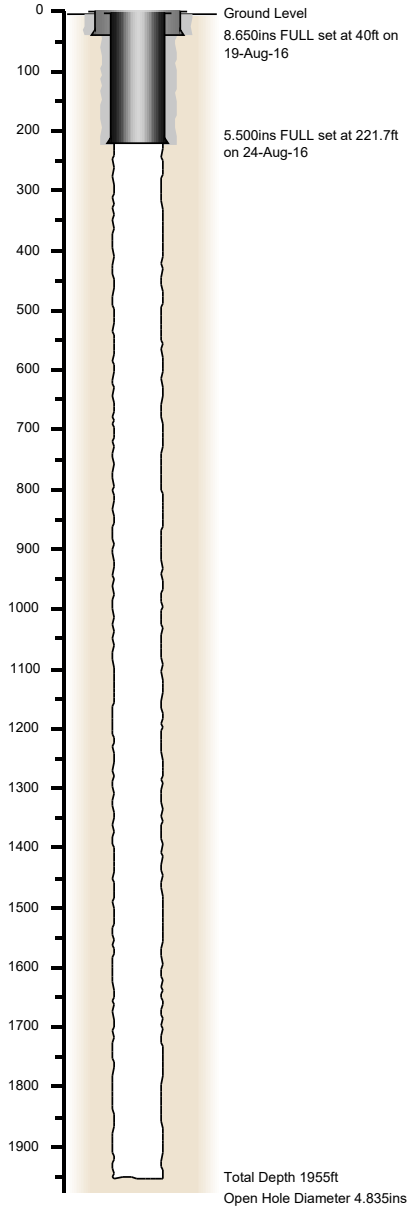
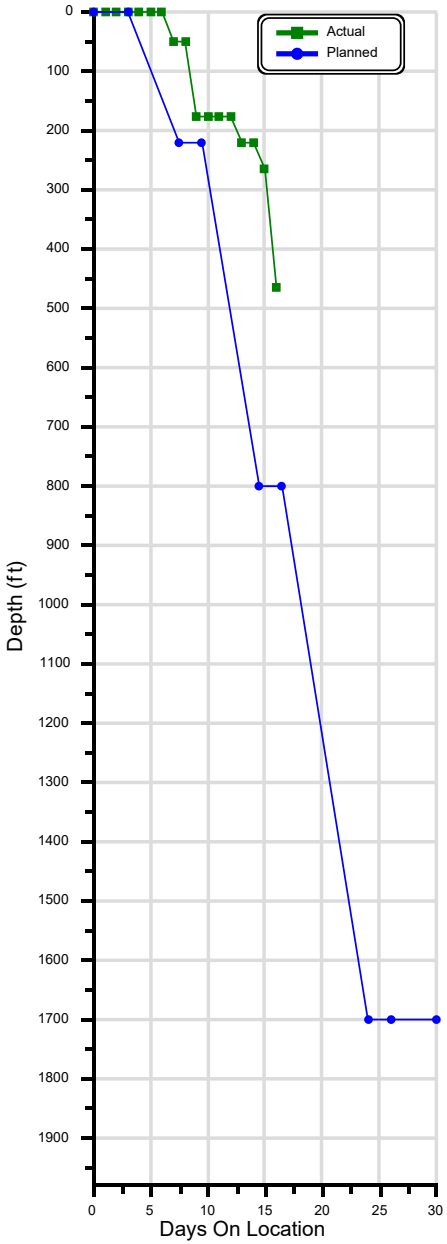




COSTS		Daily Cost:	33,685
AFE		AFE $	Actual $
01		1,714,090	1,063,280
TOTALS		1,714,090	1,063,280

SAFETY			
LTI:	/ 7 days	Med:	1st Aid:

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	7 / 0	Other:	2 / 0
Total:	12	Hours:	0

OPERATIONS	
MD / TVD (ft):	465 / 465
Hole Drilled / Ave ROP:	200 / 8.7
Drilling Days:	10 actual / 30 plan

Current Operations:

Coring ahead PQ at 565' (06:00 am). Inc and MRT @ 500': 0.25 deg, 250 F.

Planned Operations:

Continue coring ahead to next casing point (+/- 800')

Management Summary:

Continued coring ahead and ran survey at 300': 0.25 inc, MRT 228 F. Continued coring ahead and ran survey at 400': 0.25 inc, MRT 238 F. Continued coring ahead to 465'. Partial returns from 270' (3-7 GPM).

Comments:

Coring ahead with good rates and full recovery. Managing fluid loss by decreasing mud weight.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 17

28-Aug-16

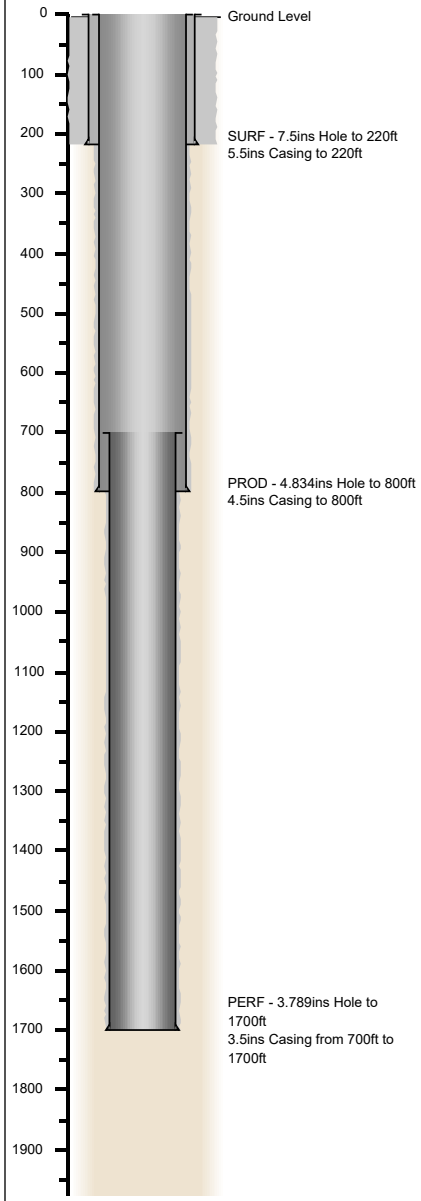
Rig Name: Major LF90

Geothermal Resource Group

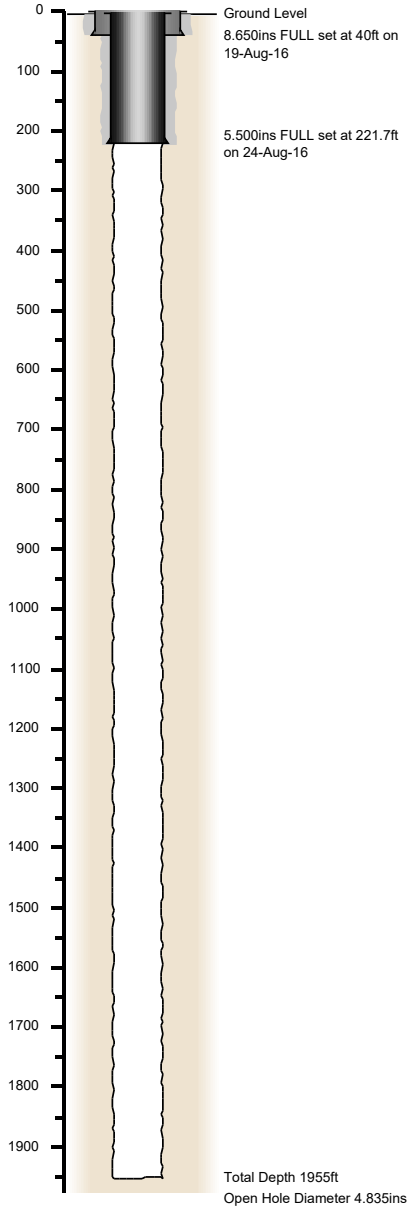
Well Name: AK-3

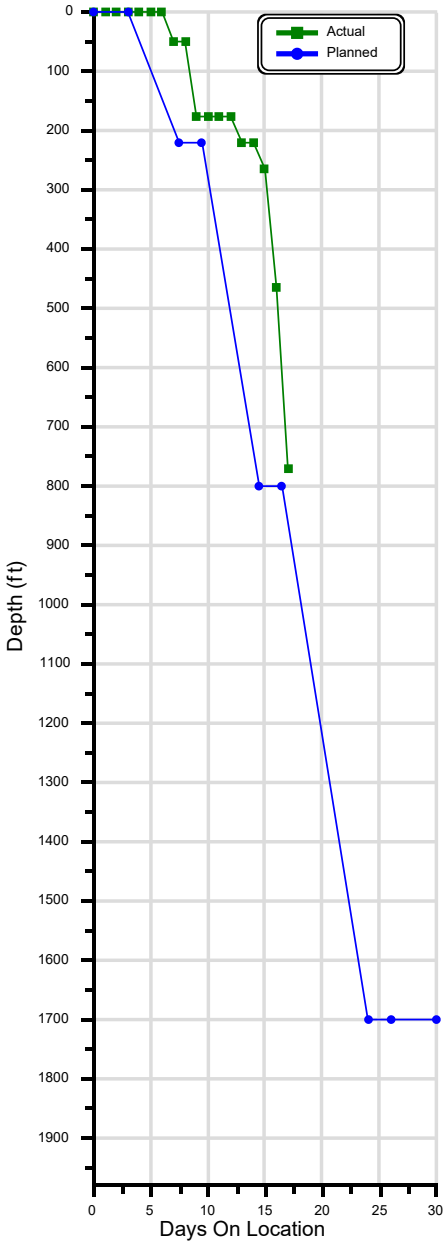
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	34,705
AFE		AFE $	Actual $
01		1,714,090	1,097,985
TOTALS		1,714,090	1,097,985

SAFETY			
LTI:	/ 8 days	Med:	1st Aid:

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	7 / 0	Other:	2 / 0
Total:	12	Hours:	0

OPERATIONS	
MD / TVD (ft):	770 / 465
Hole Drilled / Ave ROP:	305 / 13.6
Drilling Days:	11 actual / 30 plan

Current Operations:

Coring ahead with PQ at 785' at 04:00 hrs.

Planned Operations:

Continue coring ahead to casing point of 800' BGS. Run 4.5" ,K55 casing and cement in place.

Management Summary:

Continued coring ahead with PQ. Recovery 100 % to 770'. Took down hole survey at 500', 600', 700'.

Comments:

Received 15 sacks of cement by helicopter at 18:00, hrs and then a full pallet at 21:00 hrs, have 54, sacks of Thermalite cement on site. 448' of 4 1/2" (45 jts.) casing , 9 -5 gallon pails of Poly mud. at location. 860 total feet of PQ rod on site including what is in hole (90 total on site, 4 damaged).

Supervisor:	MKeown
Engineer:	Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 18

29-Aug-16

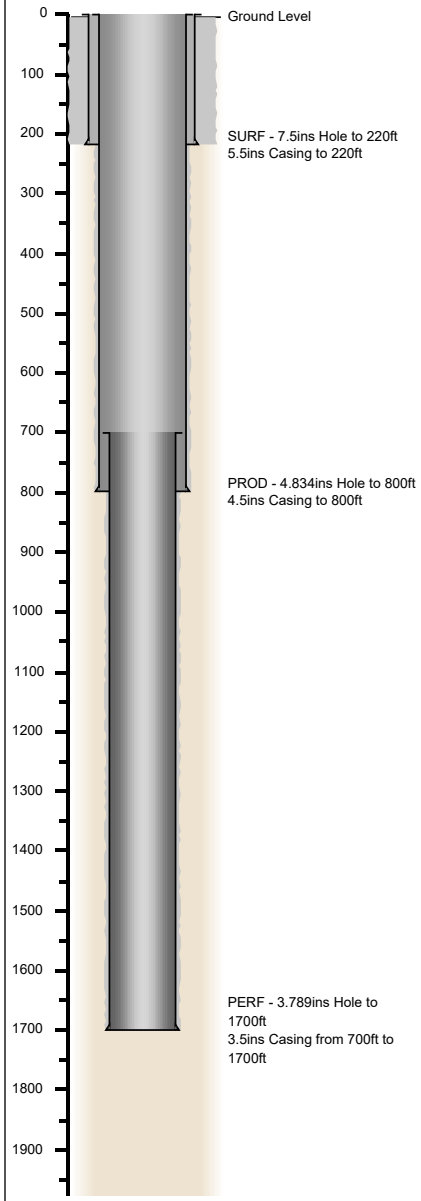
Rig Name: Major LF90

Geothermal Resource Group

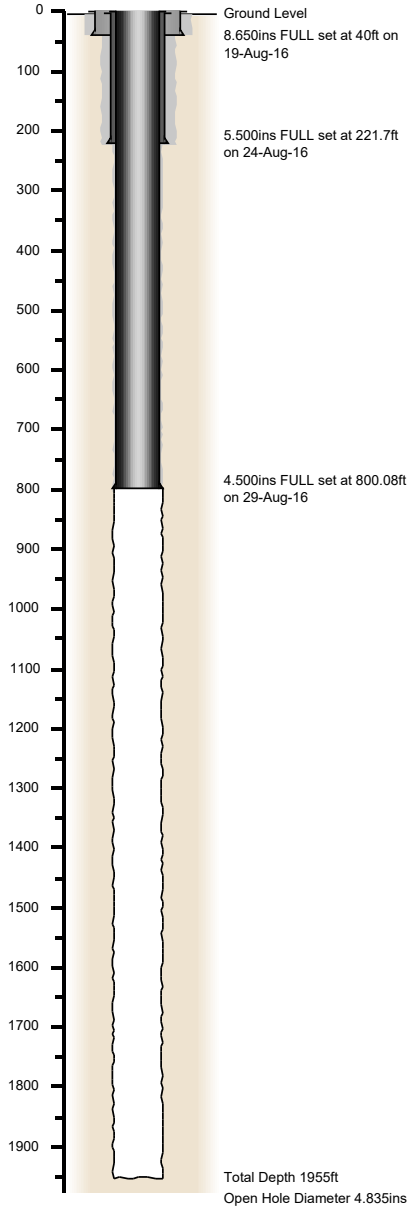
Well Name: AK-3

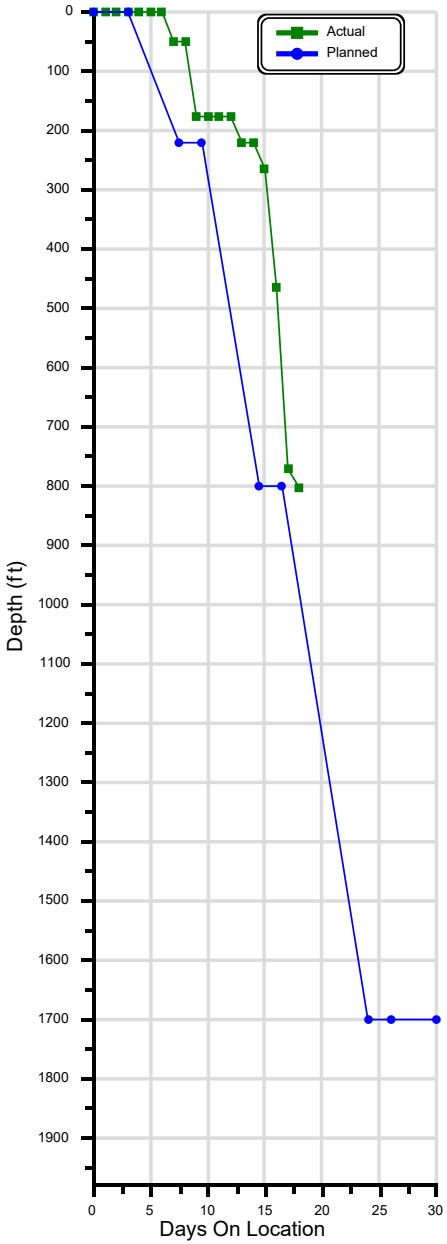
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	26,715
AFE		AFE $	Actual $
01		1,714,090	1,124,699
TOTALS		1,714,090	1,124,699

SAFETY			
LTI:	/ 9 days	Med:	1st Aid:

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	7 / 0	Other:	2 / 0
Total:	12	Hours:	0

OPERATIONS	
MD / TVD (ft):	805 / 805
Hole Drilled / Ave ROP:	35 / 5.0
Drilling Days:	12 actual / 30 plan

Current Operations:

Waiting on cement at 0600 hours after secondary cement top job.

Planned Operations:

Remove landing joint, pick up HQ core pipe, tag top of cement, perform BOPE test, drill out cement, drill 5 'of new formation, conduct LOT.

Management Summary:

Cored ahead from 770 to 805' (TD for 4.5" casing). Circulate and condition hole prior to running casing. Run 800' of 4.5" K55 casing to 800' below ground surface. Cement casing in place with 28 sacks of Thermolite HT cement. Full returns but no cement returns to surface. Shut-in and flush annulus. WOC for initial set. Perform cement top squeeze job. Shut in and start WOC.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 19

30-Aug-16

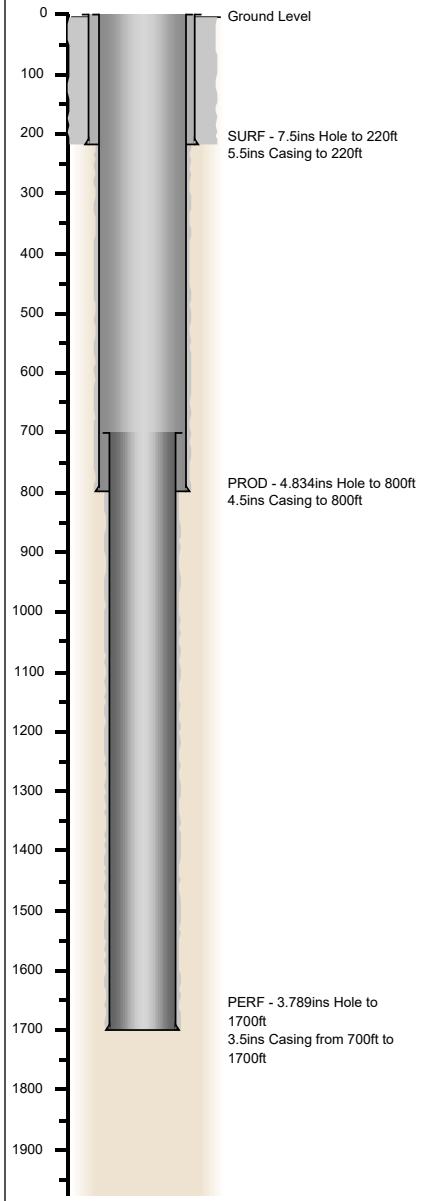
Rig Name: Major LF90

Geothermal Resource Group

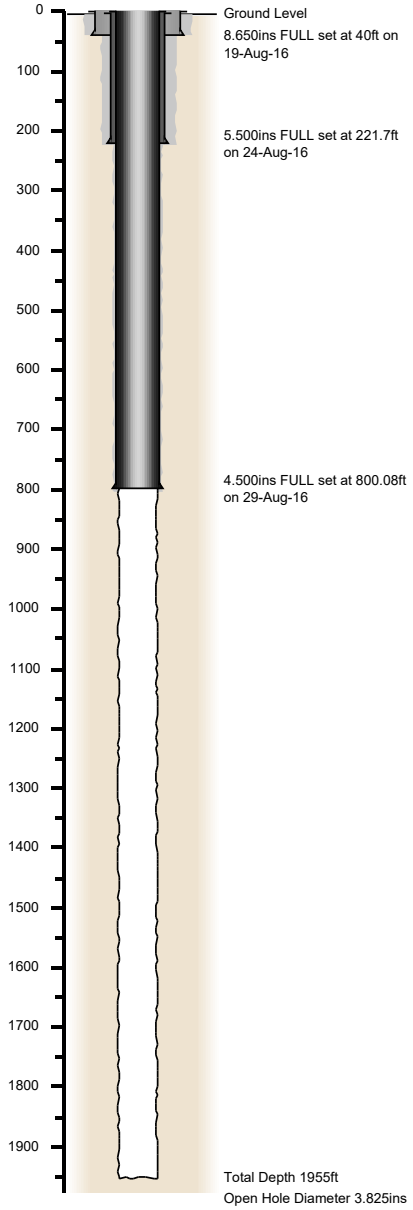
Well Name: AK-3

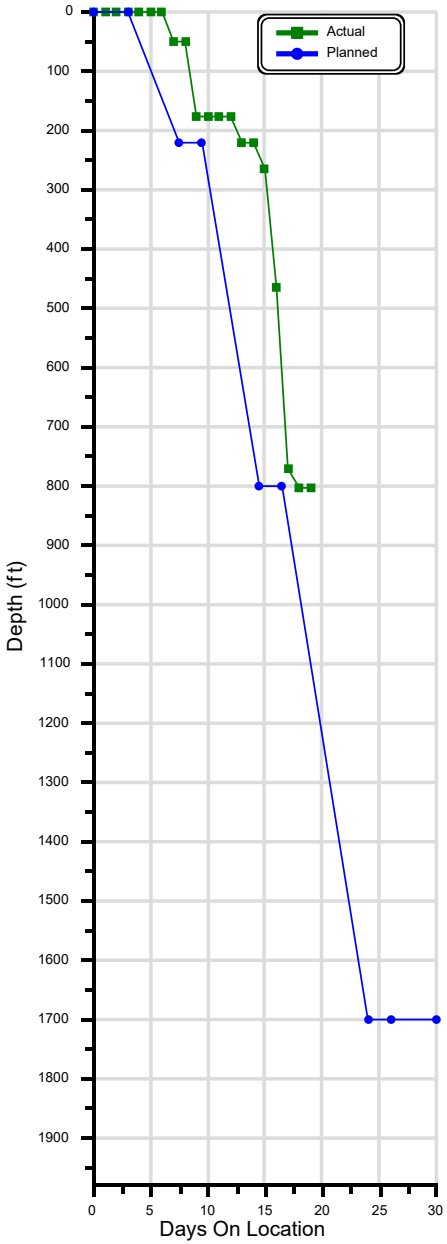
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	41,620
AFE		AFE $	Actual $
01		1,714,090	1,166,319
TOTALS		1,714,090	1,166,319

SAFETY			
LTI:	/ 10 days	Med:	1st Aid:

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	7 / 0	Other:	3 / 0
Total:	13	Hours:	0

OPERATIONS	
MD / TVD (ft):	805 / 805
Hole Drilled / Ave ROP:	0 / 0.0
Drilling Days:	13 actual / 30 plan

Current Operations:

Performed LOT and cored ahead to 900' (06:15 hrs). Currently taking a single shot survey and MRT.

Planned Operations:

Continue coring ahead with HQ to planned TD of 1700'.

Management Summary:

Wait on cement to set for primary and secondary cement operations. Change out BOP annular element from PQ to HQ. Retest BOP. OK. Drill out cement to 4.5" casing shoe at 800'.

Comments:

Morning conditions cold 50 with rain and fog.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 20

31-Aug-16

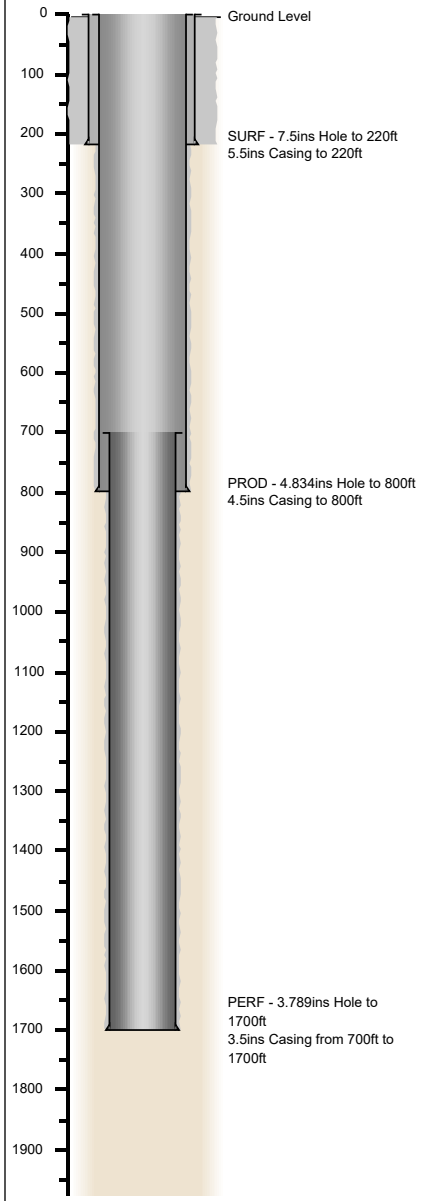
Rig Name: Major LF90

Geothermal Resource Group

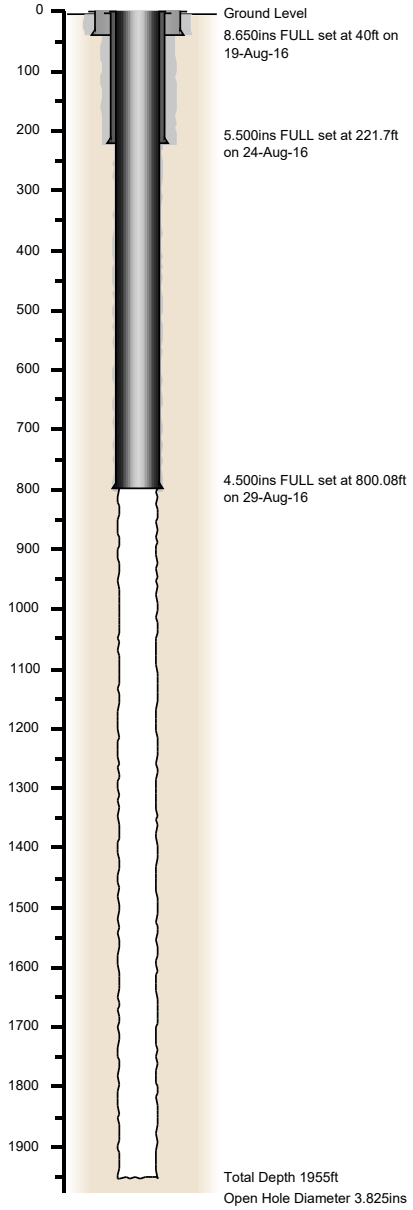
Well Name: AK-3

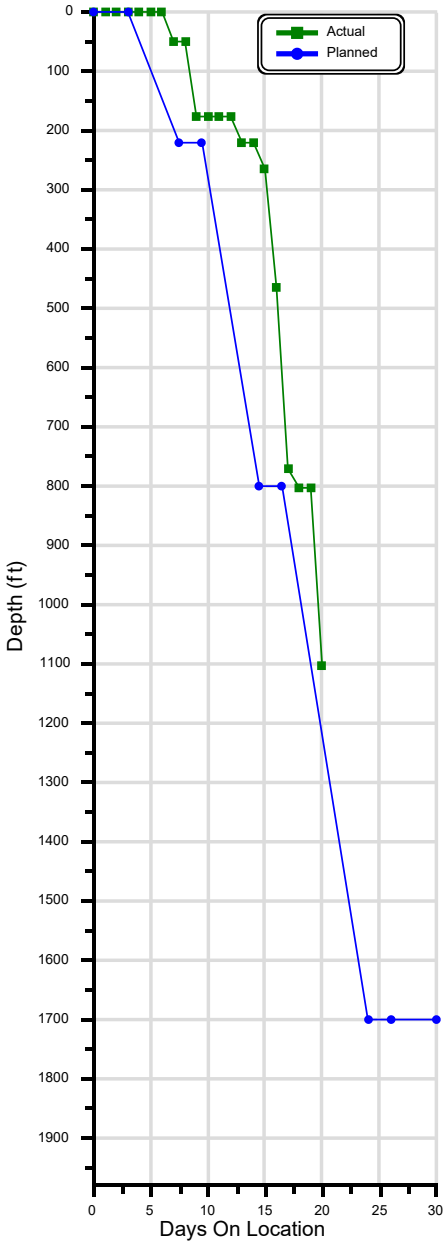
Division: Other, Field: Hot Springs Bay Valley

Plan Data



Actual Data





COSTS		Daily Cost:	32,876
AFE		AFE $	Actual $
01		1,714,090	1,199,195
TOTALS		1,714,090	1,199,195

SAFETY					
LTI:	/ 11 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	7 / 0	Other:	0 / 0
Total:	10	Hours:	0

OPERATIONS	
MD / TVD (ft):	1,105 / 1,105
Hole Drilled / Ave ROP:	300 / 13.3
Drilling Days:	14 actual / 30 plan

Current Operations:

Coring ahead at 1195' at 06:00 hrs.

Planned Operations:

Continue coring ahead HQ to loss zone or 1700'

Management Summary:

Cleaned out cement shoe track and float shoe, core 5' of new hole to 810', Conduct LOT test. continue core ahead HQ to 1105' at 00:00 hrs.

Comments:

100% recovery on core, no fluid losses to present depth. MRT at 900' was above 300F (max read of MRT), core temperature while laying out core from 185' / 195F. No helicopter runs this day due to overcast and fog.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 21

01-Sep-16

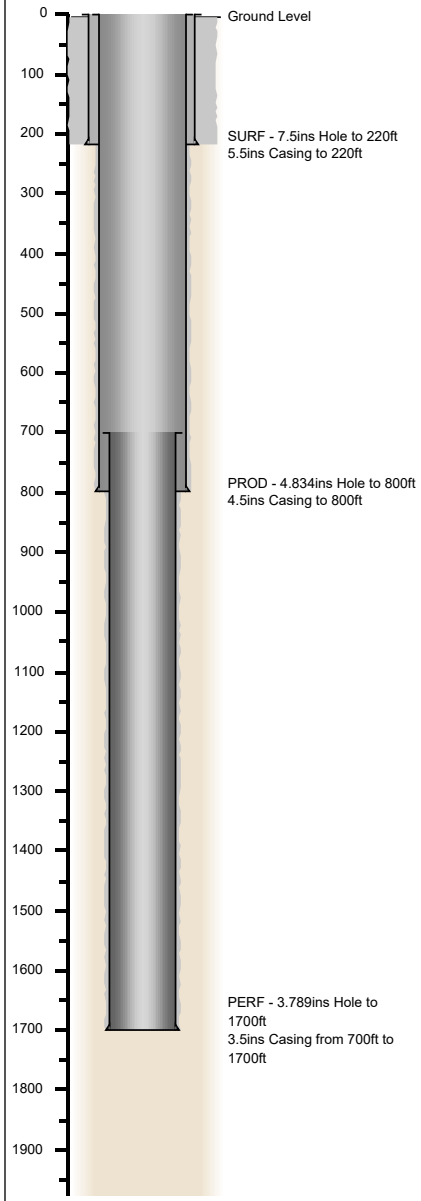
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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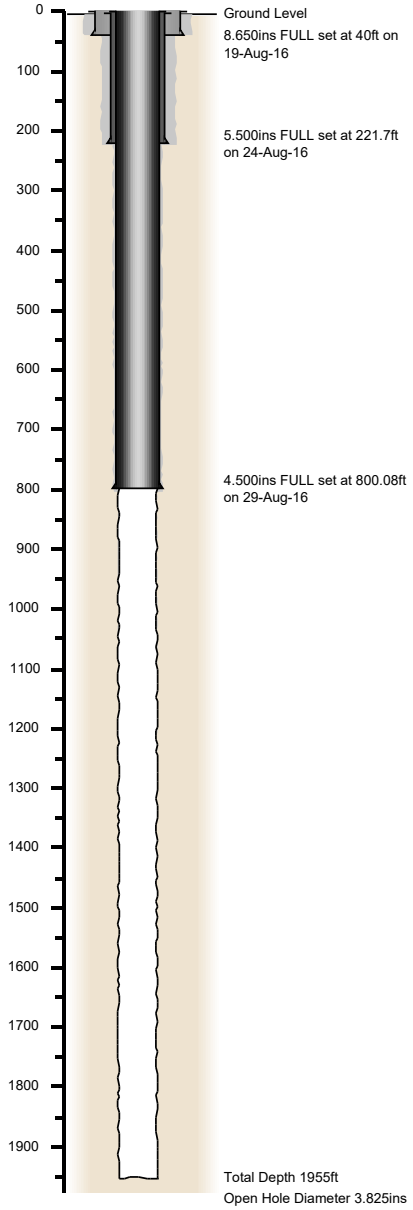
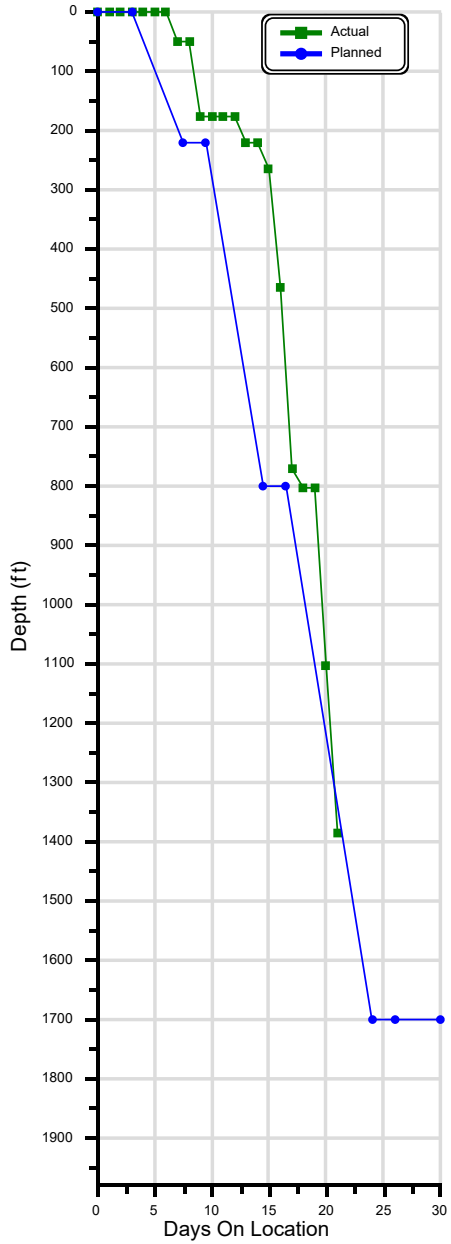




COSTS		Daily Cost:	42,637
AFE		AFE $	Actual $
01		1,714,090	1,241,832
TOTALS		1,714,090	1,241,832

SAFETY			
LTI:	/ 12 days	Med:	1st Aid:

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	7 / 0	Other:	2 / 0
Total:	12	Hours:	0

OPERATIONS	
MD / TVD (ft):	1,385 / 1,385
Hole Drilled / Ave ROP:	280 / 14.7
Drilling Days:	15 actual / 30 plan

Current Operations:

Coring ahead HQ at 1410' at 06:00 hr

Planned Operations:

Continue coring ahead HQ to Loss zones or 1700'

Management Summary:

Continued coring ahead HQ to 1300'. Bit walking and pressured up. Run single shot survey at 1300'. 1 degree inclination. Pull HQ#6 bit out of hole and replace with new HQ 8 AM. Circulate hole to cool as tripping in. Core ahead from 1300' to 1385'.

Comments:

No losses or kicks through the daily drilling interval.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 22

02-Sep-16

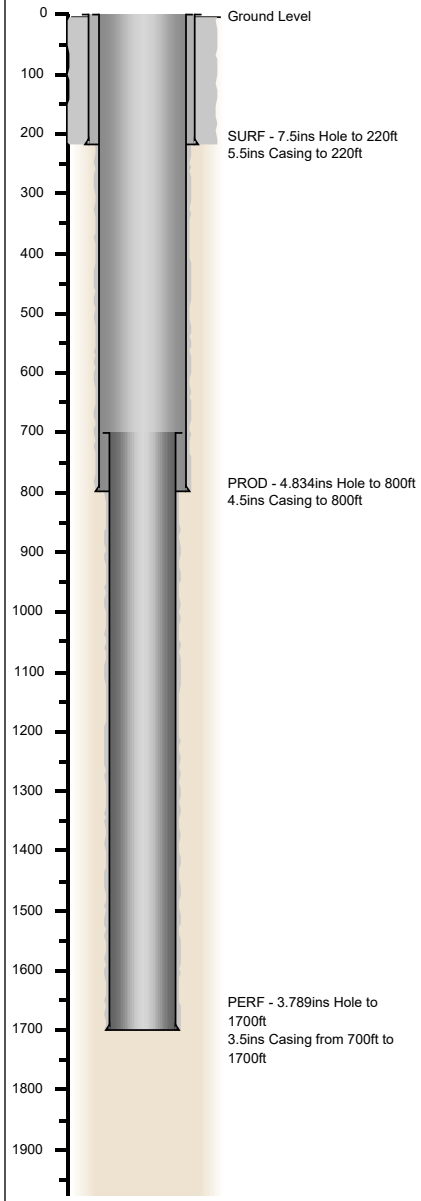
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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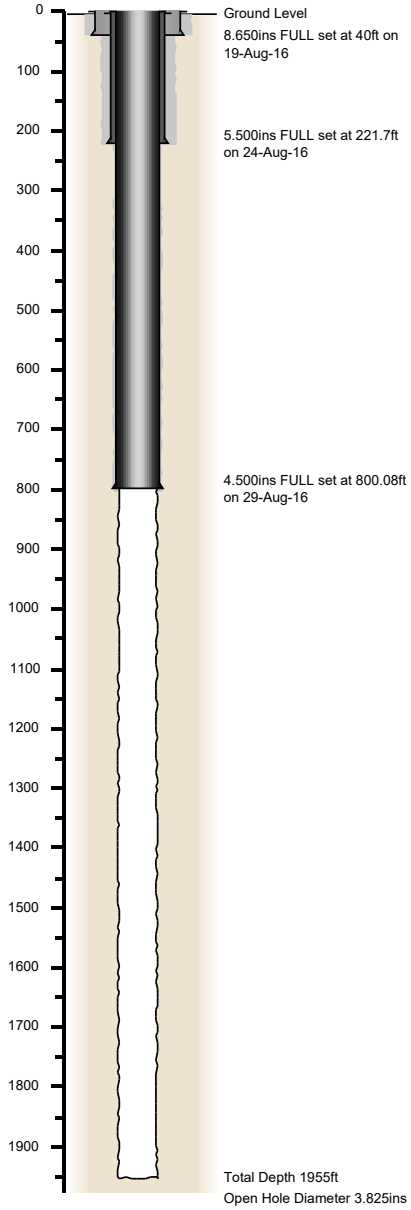
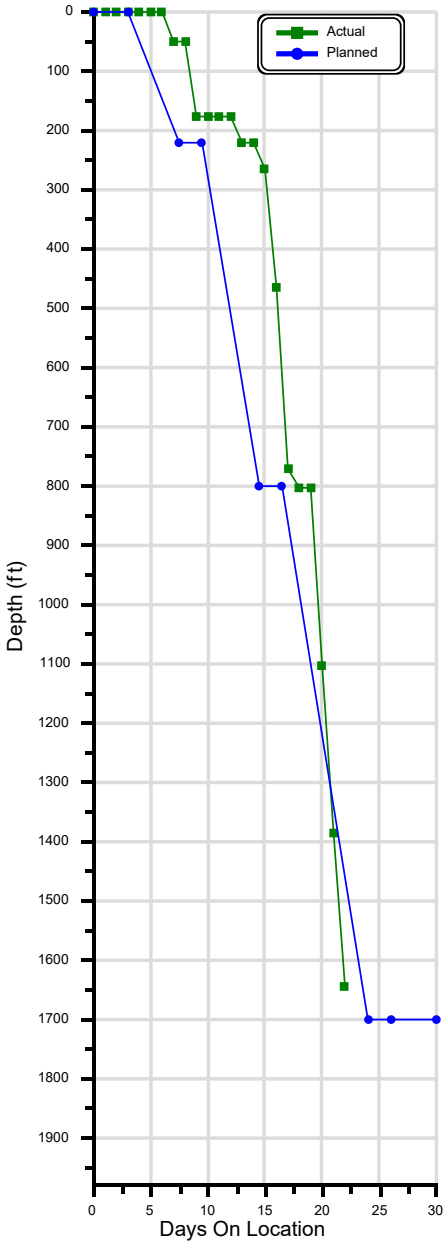




COSTS		Daily Cost:	36,493
AFE		AFE $	Actual $
01		1,714,090	1,278,325
TOTALS		1,714,090	1,278,325

SAFETY					
LTI:	/ 13 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	7 / 0	Other:	0 / 0
Total:	10	Hours:	0

OPERATIONS	
MD / TVD (ft):	1,645 / 1,645
Hole Drilled / Ave ROP:	260 / 11.1
Drilling Days:	16 actual / 30 plan

Current Operations:

Circulating at 1725' at 06:00. Reached TD with all HQ core pipe on location in the hole. Took survey at 1700': 1 degree inclination.

Planned Operations:

Fly over additional HQ core pipe as weather allows to core ahead an additional 250'.

Management Summary:

Core ahead HQ from 1385' to 1645'. Survey at 1500' with Totco: 1.75 degree inclination.

Comments:

Was able to fly to village to inspect HQ core pipe. Verify there is an additional 8 joints of HQ at staging area. Conditions too poor to sling load with helicopter.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 23

03-Sep-16

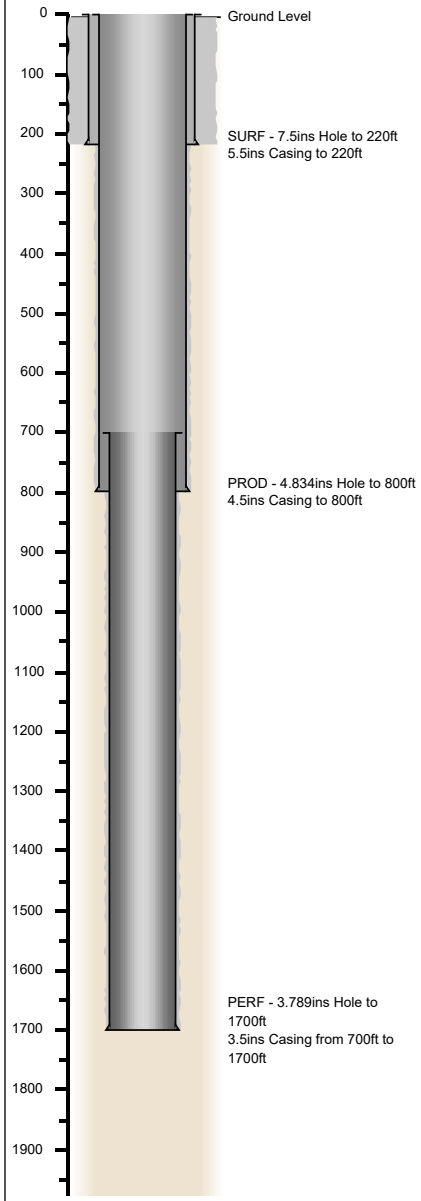
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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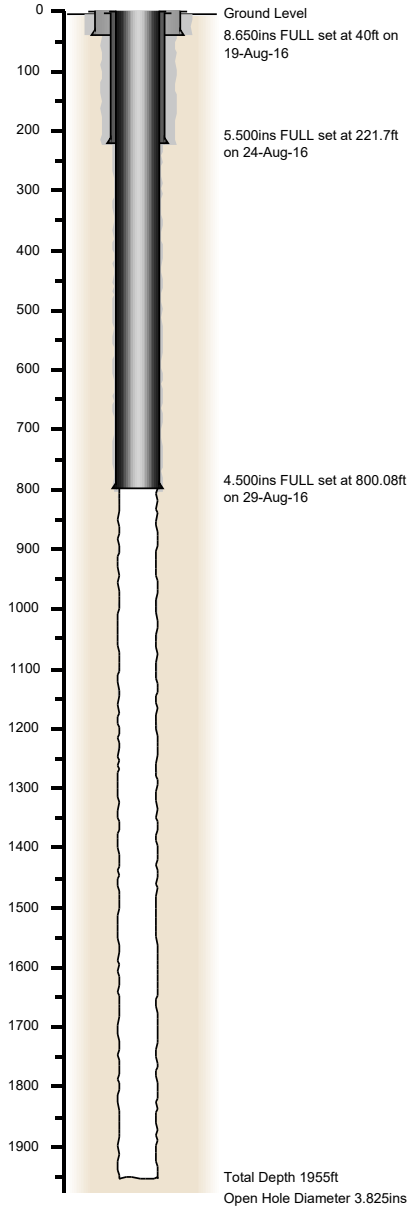
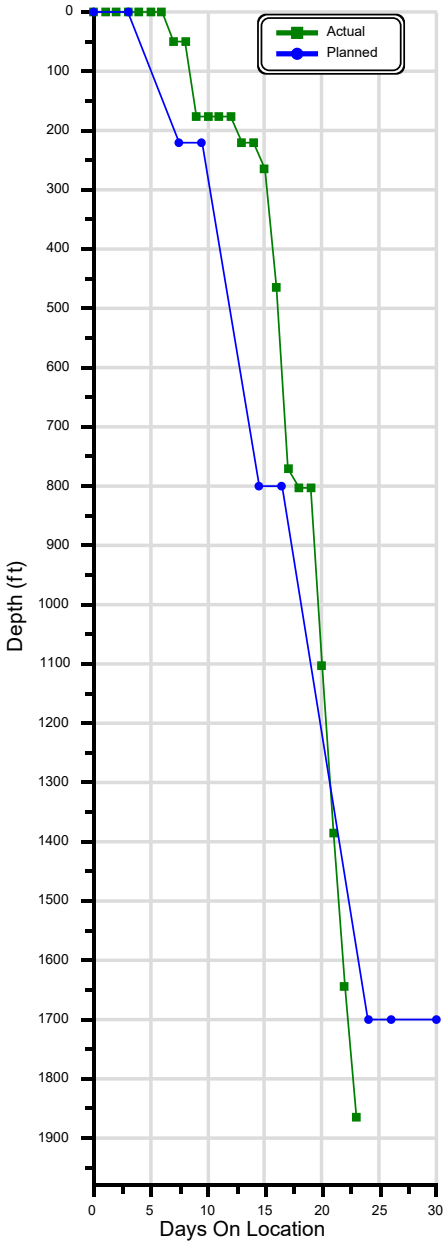




COSTS		Daily Cost:	37,611
AFE		AFE $	Actual $
01		1,714,090	1,315,936
TOTALS		1,714,090	1,315,936

SAFETY					
LTI:	/ 14 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	7 / 0	Other:	1 / 0
Total:	11	Hours:	0

OPERATIONS	
MD / TVD (ft):	1,865 / 1,865
Hole Drilled / Ave ROP:	220 / 11.6
Drilling Days:	17 actual / 30 plan

Current Operations:

Partial losses since 1878-1888. Drill to 1905' at 6 AM with partial losses. Bit torquing up. Cooling hole. Trip out of hole for bit at 8:45 AM.

Planned Operations:

Pull out of hole with HQ rods. Rig up and perform pressure temperature logging. Run perforated pipe.

Management Summary:

Core ahead to 1725' with HQ core with full returns (survey at 1700': 1 degree inclination). Wait on weather to deliver additional core rod from village and staging area. Core ahead to 1865' with full returns.

Supervisor:	MKeown
Engineer:	Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 24

04-Sep-16

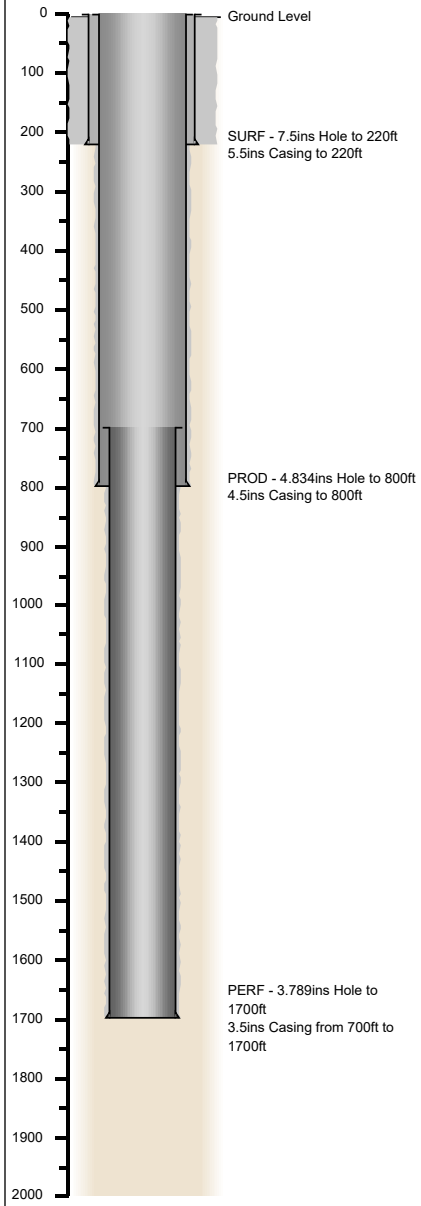
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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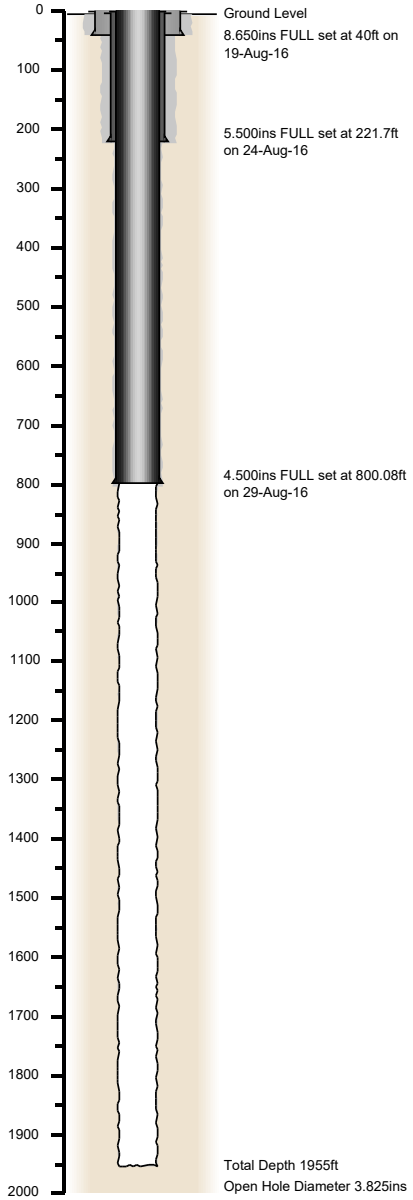
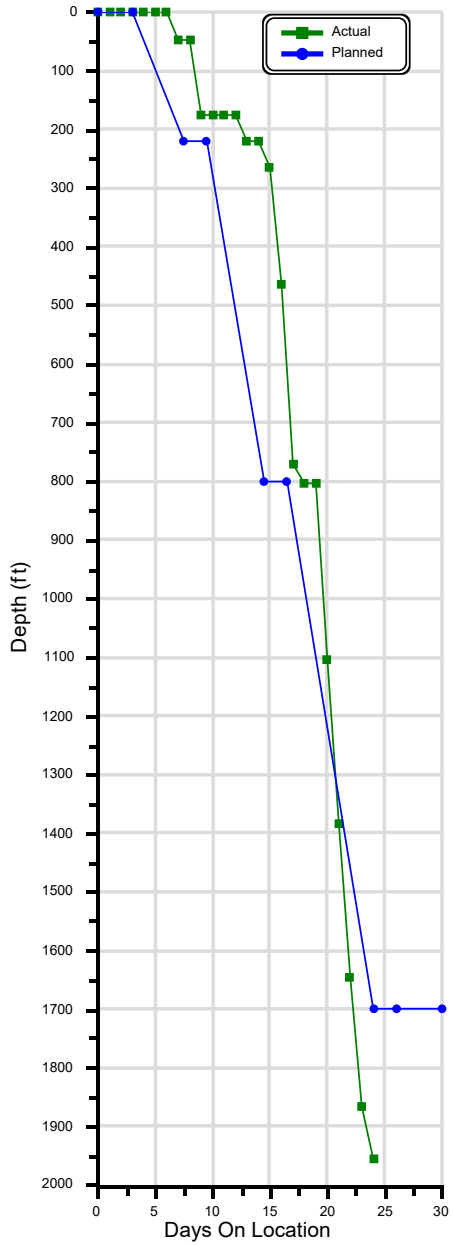




COSTS		Daily Cost:	30,492
AFE		AFE $	Actual $
01		1,714,090	1,346,428
TOTALS		1,714,090	1,346,428

SAFETY					
LTI:	/ 15 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	7 / 0	Other:	2 / 0
Total:	12	Hours:	0

OPERATIONS	
MD / TVD (ft):	1,955 / 1,955
Hole Drilled / Ave ROP:	90 / 10.0
Drilling Days:	18 actual / 30 plan

Current Operations:

Run PT survey. 150' of HQ perforated run in hole with 1 joint of blank well shut in. Continue running in perforated and blank liner.

Planned Operations:

Run liner and complete well. Rig down, Install wellhead.

Management Summary:

Core ahead HQ from1865' to 1919'. Tripped out for bit. Ran in hole with new HQ bit (#8). Cored to 1955' (TD). Circulated hole. Tripped out to run PT survey log.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 25

05-Sep-16

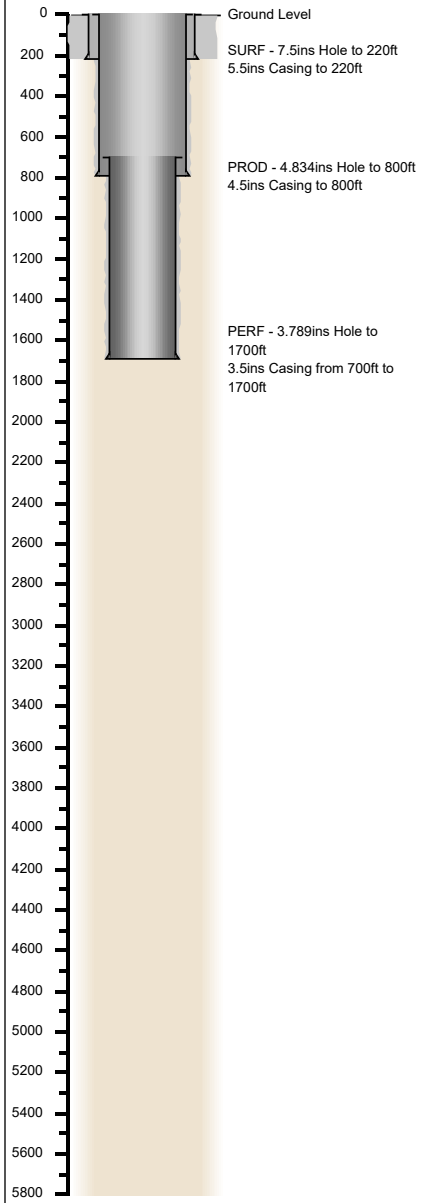
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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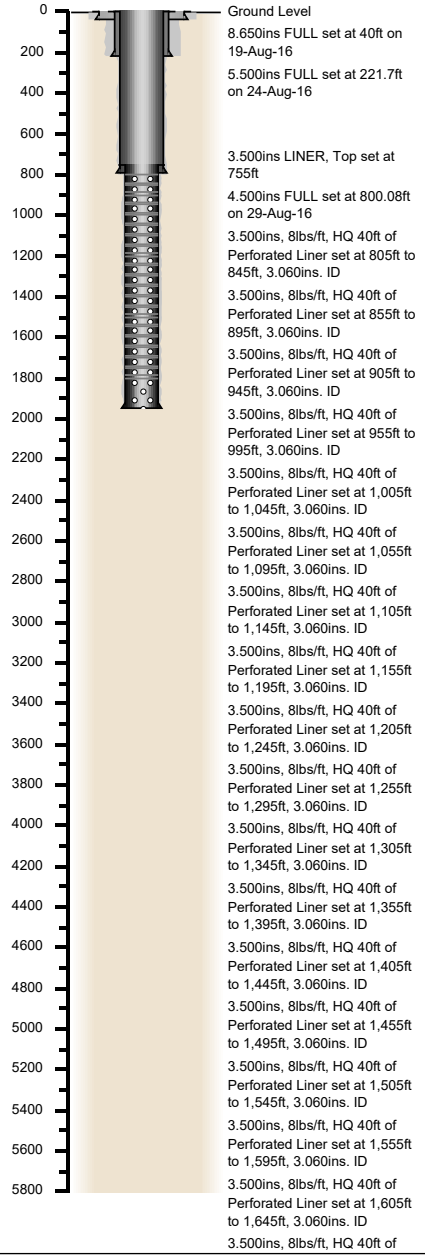
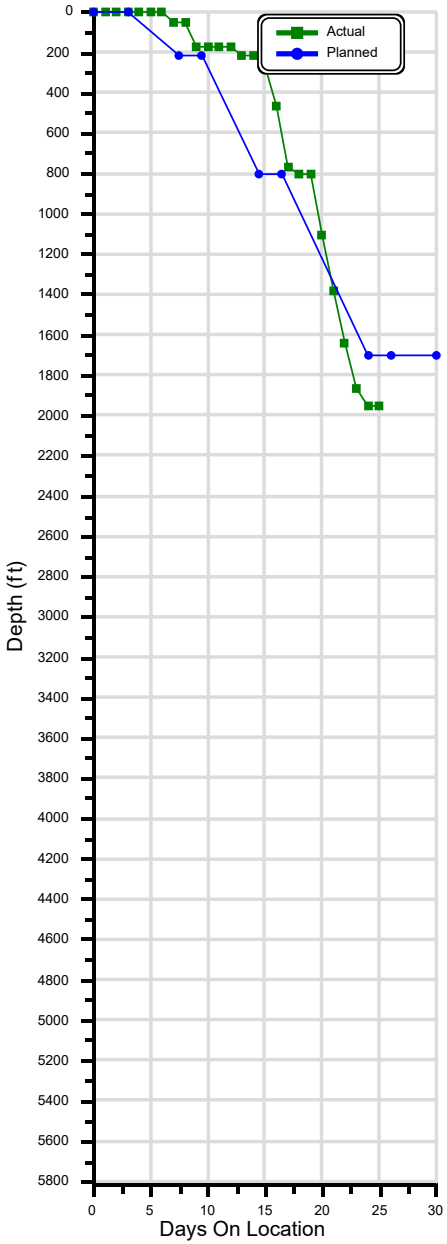




COSTS		Daily Cost:	29,528
AFE		AFE $	Actual $
01		1,714,090	1,375,955
TOTALS		1,714,090	1,375,955

SAFETY					
LTI:	/ 16 days	Med:		1st Aid:	

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	7 / 0	Other:	2 / 0
Total:	12	Hours:	0

OPERATIONS	
MD / TVD (ft):	1,955 / 1,955
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	19 actual / 30 plan

Current Operations:

PT survey ~02:45-05:20. Waiting for daylight. Resume site de-mob.

Planned Operations:

Clean and clear site. Install remainder of discharge pipe and valve

Management Summary:

Complete the pressure / temperature survey. Pick up and install completion liner with 950' of perforated HQ and 250' of blank HQ. Release rig at 15:30 hrs. Break rig down and fly to staging area. Evening crew on at 12:00 to help with tear down. Crews suspend work at 19:30 hrs.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 26

06-Sep-16

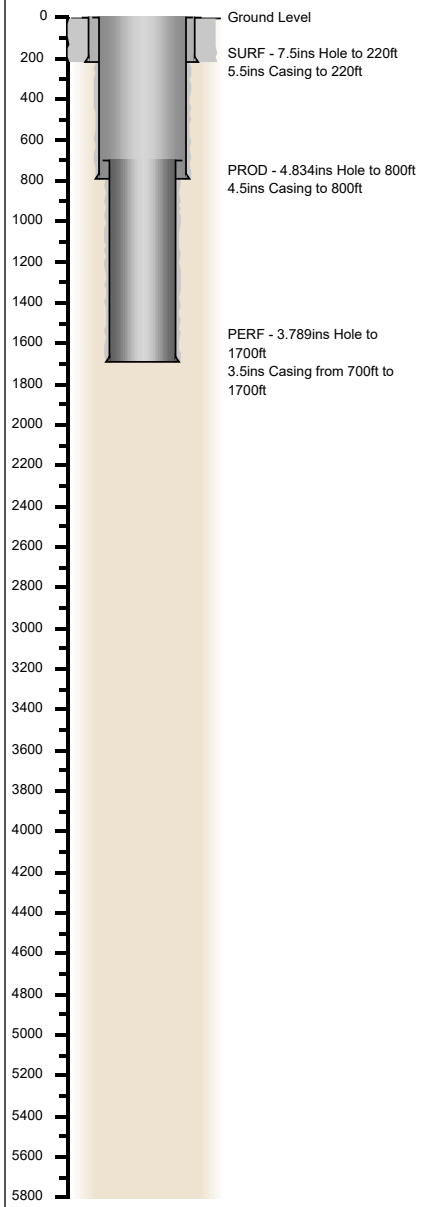
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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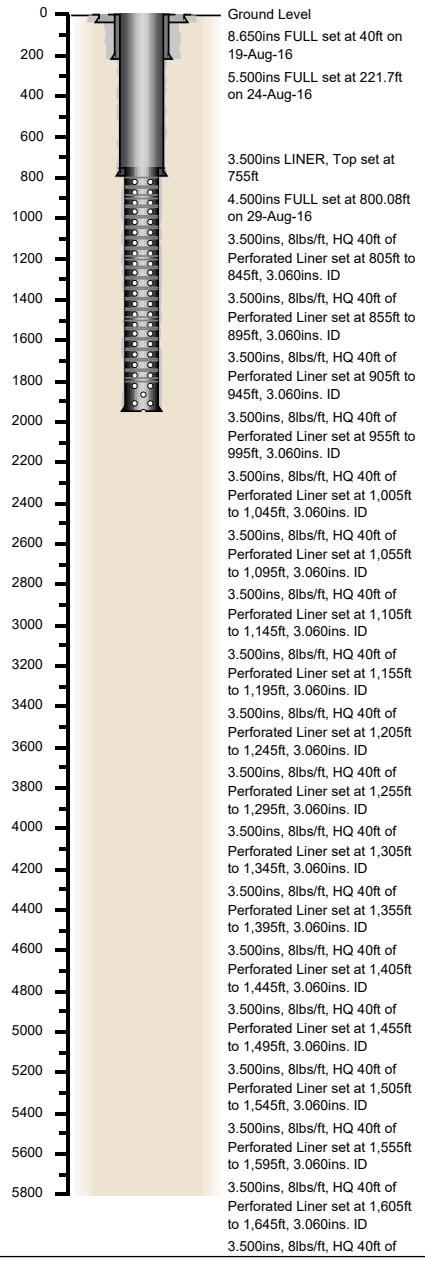
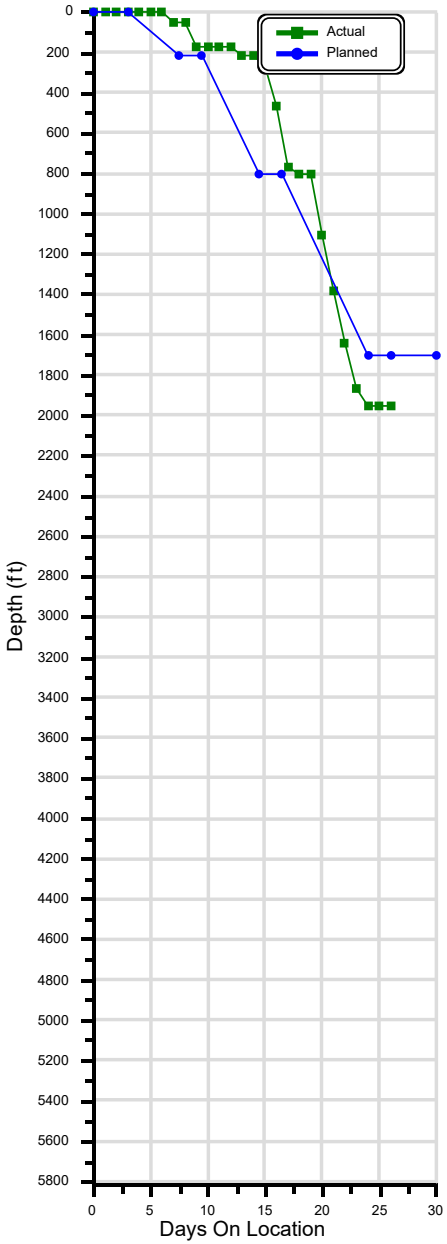




COSTS		Daily Cost:	17,340
AFE		AFE $	Actual $
01		1,714,090	1,393,295
TOTALS		1,714,090	1,393,295

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	5 / 0	Other:	1 / 0
Total:	9	Hours:	0

OPERATIONS	
MD / TVD (ft):	1,955 / 1,955
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	20 actual / 30 plan

Current Operations:

Waiting on daylight, estimated at 07:30 hrs.

Planned Operations:

Conduct 3 rd P/T survey, complete drain line from cellar, prepare well head and site for winter conditions.

Management Summary:

Conducted P T survey, removed all drilling equipment from the site, installed the well head discharge equipment, cleaned site prepare for demob of project.

Comments:

Crews will work only single shift while loading equipment into containers. Camp services scheduled to begin camp tear down on Thursday the 8th of September. Blake Bundy (Geo) off site at 13:00 hrs.

Supervisor: MKeown

Engineer: Monty Keown

Daily Well Graphical Summary

Well ID: AK-3

Report No: 27

07-Sep-16

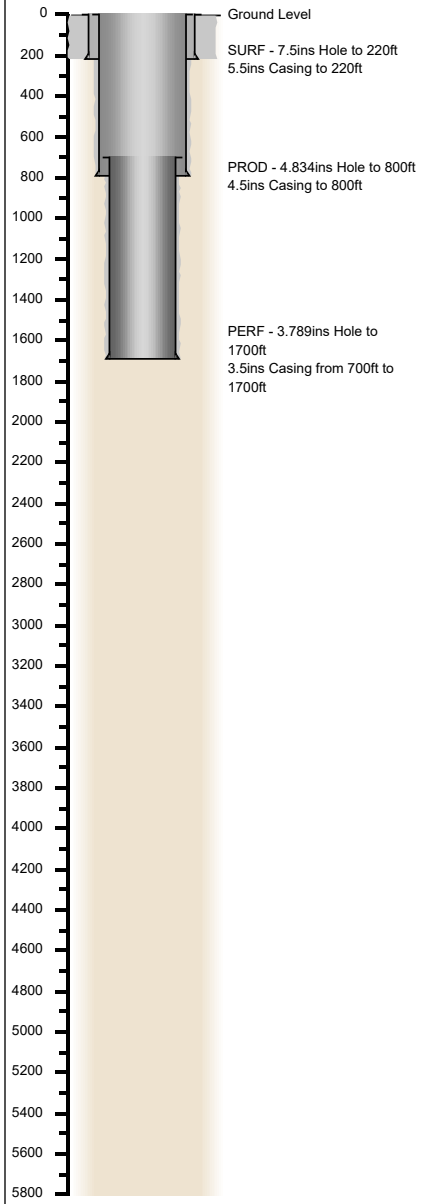
Rig Name: Major LF90

Geothermal Resource Group

Well Name: AK-3

Division: Other, Field: Hot Springs Bay Valley

Plan Data



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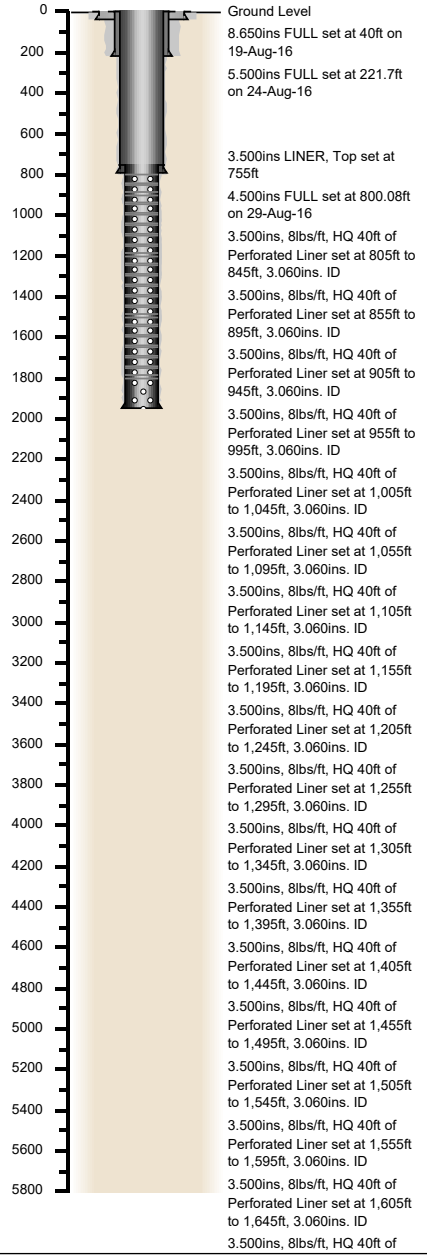

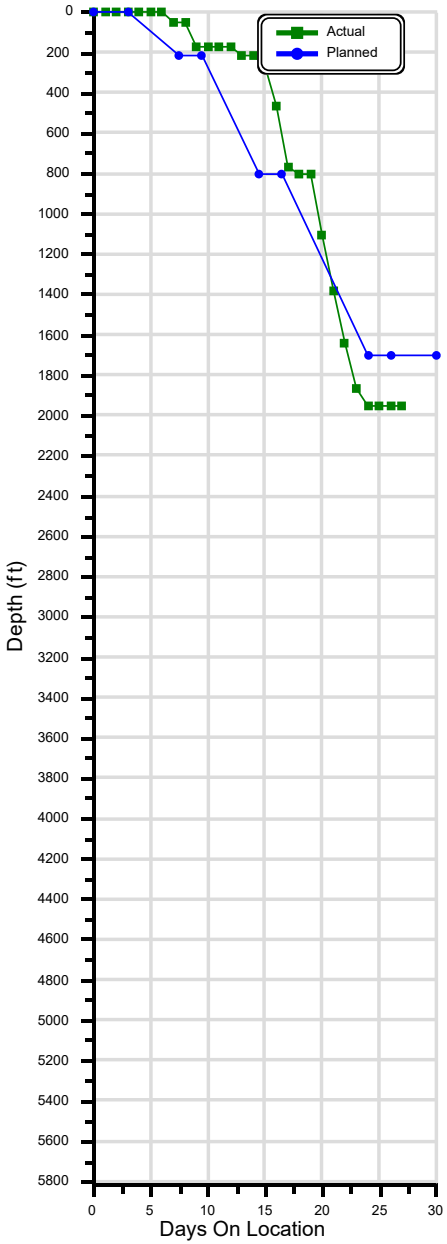

COSTS		Daily Cost:	225,340
AFE		AFE $	Actual $
01		1,714,090	1,618,635
TOTALS		1,714,090	1,618,635

PERSONNEL / HOURS			
Operators:	2 / 0	Service:	1 / 0
Contractors:	5 / 0	Other:	1 / 0
Total:	9	Hours:	0

OPERATIONS	
MD / TVD (ft):	1,955 / 1,955
Hole Drilled / Ave ROP:	0 / 0
Drilling Days:	21 actual / 30 plan

Current Operations:

FINAL REPORT

Planned Operations:

Break down camp, secure pits with barbed wire fencing.

Management Summary:

Conducted P/T survey to 1955', continued tear down of camp, operations tent and core tent, completed drain line from cellar to discharge point. fenced mud sump and retention pond with barbed wire. Major crews loaded containers with equipment, FINAL REPORT

Comments:

Major crews down to 5 on site, 2 expected to leave on the 8, th of Sept., the loading of containers should be completed today. Camp services to be on site the 8th of September to dismantle and remove camp from site.

Final report

Supervisor:	MKeown
Engineer:	Monty Keown