Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 1 **Report For 12-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**		---	
Measured Depth (ft):	0	**Drilling Days (act.):**	0	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**	**Actual ($)**	
Vertical Depth (ft):	0	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	0.00	---	---	---	
Proposed TD (ft):	1700	**Days On Location:**	1	**Last BOP Test:**		---	---	---	
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**				**Totals:**	---	---	
Average ROP (ft/hr):		**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**		---	

Current Ops: 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 ...

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

Comments: Helicopter AS 350 flight time 3.5hrs.

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	8:00	8.00	0	WOD	personnel at lodge and town on Akutan	
8:00	9:30	1.50	0	MOB	Meeting to discuss project fly to Valley to site hole location	
9:30	19:00	9.50	0	MOB	Fly loads to site , begin construction of camp and drill pad.	
19:00	0:00	5.00	0	WOD	Crews down for evening	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - None

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	1
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 7	**Serv:** 8	**Othr:** 2
Total Personnel: 19		**Hours:**	0

Environment

Cum. Water Hauled:	0.000	acre-ft

Rig/Weather Information

No Rig Information for this report.

Sky: Overcast /	**Vis.:** 6	**Temp:** 58	**Pressure:**	**Wind:** 12	**Gusts:** 16

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 | **Job ID: Original** | **Well Name: AK-3**

Field: Hot Springs Bay Va | Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 2 | **Report For 13-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	0	**Drilling Days (act.):**	0	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	0	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	0.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	2	**Last BOP Test:**		---		---	---
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**				**Totals:**		---	---
Average ROP (ft/hr):		**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**			---

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

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

Toolpusher: Brian Walker | **Supervisors:** | **Tel No.:** 907-273-0057

Comments: Weather Delay

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	0:00	24.00	0	WOW	weather Delay	X

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - None

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	2
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 6	**Serv:** 5	**Othr:** 2
Total Personnel: 15		**Hours:**	0

Environment

Cum. Water Hauled:	0.000	acre-ft

Rig/Weather Information

No Rig Information for this report.

Sky: Heavy rain	**Vis.:** 0	**Temp:** 55	**Pressure:**	**Wind:** 28	**Gusts:** 35

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 | **Job ID: Original** | **Well Name: AK-3**

Field: Hot Springs Bay Va | Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 3 | **Report For 14-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	0	**Drilling Days (act.):**	0	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	0	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	0.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	3	**Last BOP Test:**		---		---	---
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**				**Totals:**		---	---
Average ROP (ft/hr):		**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**			---

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

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

Toolpusher: Brian Walker | **Supervisors:** | **Tel No.:** 907-273-0057

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

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	9:00	9.00	0	WOD	Wait on daylight and weather report to determine if capable of flight, hold plan meeting from 08:00-09:00	X
9:00	19:00	10.00	0	MOB	Fly 52 loads to site of rig systems and camp boxes and lumber and equipment	
19:00	0:00	5.00	0	WOD	Fly crews to lodge for evening meals and rest, 19:00 hrs to 00:00, rest for night	X

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - None

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	3
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 6	**Serv:** 7	**Othr:** 2
Total Personnel: 17		**Hours:**	0

Environment

Cum. Water Hauled:	0.000	acre-ft

Rig/Weather Information

No Rig Information for this report.

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 4 **Report For 15-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	0	**Drilling Days (act.):**	0	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	0	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	0.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	4	**Last BOP Test:**		---		---	---
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**				**Totals:**		---	---
Average ROP (ft/hr):		**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**			---

Current Ops: sling loads starting at 9:00

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

Comments: Flew helicopter for 5.5 hrs today 48 loads

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	8:00	8.00	0	WOD	Wait on daylight , morning planning meeting at 08:00	X
8:00	15:00	7.00	0	MOB	Fly drill loads to site and stage prior to assembling rig, fly diesel drums and gasoline to camp, camp continue to be built making frames for tents, Kitchen up, stores tent complete.	
15:00	18:00	3.00	0	RIGU	Assemble rig with helicopter, continue to stage and set auxiliary equipment, water pump set, rig generator , rig complete set up at 18:00 hours.	
18:00	19:30	1.50	0	OTHER	Fly crews to lodge for evening, will resume work at daylight on Tuesday	
19:30	0:00	4.50	0	WOD	Crews at lodge	X

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - None

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	4
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 6	**Serv:** 7	**Othr:** 2
Total Personnel: 17		**Hours:**	0

Environment

Cum. Water Hauled:	0.000	acre-ft

Rig/Weather Information

No Rig Information for this report.

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 5 **Report For 16-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**		---	
Measured Depth (ft):	0	**Drilling Days (act.):**	0	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**	**Actual ($)**	
Vertical Depth (ft):	0	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	0.00	---	---	---	
Proposed TD (ft):	1700	**Days On Location:**	5	**Last BOP Test:**		---	---	---	
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**				**Totals:**	---	---	
Average ROP (ft/hr):		**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**		---	

Current Ops: Flying crew and bags from lodge to site

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

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 ...

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	9:00	9.00	0	WOD	Crews at lodge for evening planning meeting at 08:00	X
9:00	19:00	10.00	0	RIGU	Continue rig up of drill site, complete core shack, construct frame for operations tent. Camp generator went down at 10:00 hrs, fly standby gen. to site, get operational at 12:00 hrs, standby generator has oil leak from rear main seal, questionable to maintain camp. Complete drill pad site, core tent and operations tent complete, fuel in all tanks on site.	
19:00	20:00	1.00	0	OTHER	Fly crews to lodge for evening, Unable to stay on site due to failed generators	X
20:00	0:00	4.00	0	WOD	Crews at lodge for night	X

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - None

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	5
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 6	**Serv:** 7	**Othr:** 2
Total Personnel: 17		**Hours:**	0

Environment

Cum. Water Hauled:	0.000	acre-ft

Rig/Weather Information

No Rig Information for this report.

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 6 **Report For 17-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**		---	
Measured Depth (ft):	0	**Drilling Days (act.):**	0	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**	**Actual ($)**	
Vertical Depth (ft):	0	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	0.00	---	---	---	
Proposed TD (ft):	1700	**Days On Location:**	6	**Last BOP Test:**		---	---	---	
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**				**Totals:**	---	---	
Average ROP (ft/hr):		**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**		---	

Current Ops: Waiting on City of Akutan to spud well

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

Comments: Heavy rain all day.

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	9:00	9.00	0	WOD	Rig crews down for night at lodge.	X
9:00	19:00	10.00	0	RIGU	Completed move and rig up, ready to spud, moved in and rigged up third generator. Heavy rain all day.	
19:00	0:00	5.00	0	OTHER	moved into camp	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - None

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	6
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 6	**Serv:** 4	**Othr:** 2
Total Personnel: 14		**Hours:**	0

Environment

Cum. Water Hauled:	0.000	acre-ft

Rig/Weather Information

No Rig Information for this report.

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 7 **Report For 18-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	49	**Drilling Days (act.):**	1	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	49	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	7	**Last BOP Test:**		---		---	---
Hole Made (ft) / Hrs:	49 / 4.0	**Last Casing:**				**Totals:**		---	---
Average ROP (ft/hr):	12.25	**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**			---

Current Ops: Installing 8 5/8" .322 wall surface casing

Planned Ops: 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'

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

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.

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	8:00	8.00	0	WOD	Crews at lodge for night.	
8:00	12:00	4.00	0	WOW	Waiting on weather to allow Mayor and Priest to site for blessing ritual , 08:00 mix spud mud, prepare to spud hole , install 5' PQ barrel and core bit. fill water tanks.	X
12:00	16:00	4.00	49	DRIL	PQ core from bottom of cellar 4' to 49', cored 45'. shot core at 35' with laser thermometer, 105.5 degrees F. R	
16:00	19:00	3.00	49	OPEN	Install 4.75"x 10 3/4" hole opener, ream hole from cellar floor -4' to 42', condition mud circulate bottoms up. let set to check for fill.30 minutes, 8' of fill try to circulate, plugged bit	
19:00	21:00	2.00	49	TRPO	Pull hole opener to surface plugged bit, break off bit, lay down, clean bit, Run back in hole, tag fill at 32'	
21:00	0:00	3.00	49	REAM	Ream 10 3/4" hole to 42' mix mud to 65 -70 vis, circulate and work hole,formation sluffing off from 25-30 ' continue to work and pump hole to 42'	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - No. 2 - HO, BS, OTHER = 3.52

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out
18-Aug-16 12:00	90.00	52														/ /	/

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.
4-45	10.0 / 10.0	3,000	450	2,500	18			100

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI: **Days Since:** 7

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 6 **Serv:** 1 **Othr:** 2

Total Personnel: 11 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: low overcast **Vis.:** 0 **Temp:** 50 **Pressure:** **Wind:** 10 **Gusts:** 15

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 8 **Report For 19-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	49	**Drilling Days (act.):**	2	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	49	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	8	**Last BOP Test:**		---		---	---
Hole Made (ft) / Hrs:	49 / 0.0	**Last Casing:**	8.650 at 40			**Totals:**		---	---
Average ROP (ft/hr):		**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**			---

Current Ops: Coring ahead PQ size through rubble to 49'

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

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

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	6:00	6.00	49	CASE	pick up 8 5/8" casing , weld together total of 41.2' , run in hole hit bridge at 22'-26' wash and work pipe to bottom	
6:00	8:00	2.00	49	CIRC	Complete getting casing to bottom at 40' from ground surface, circulate hole with 55 vis, 9.0 mud.	
8:00	9:30	1.50	49	CMTP	Mix 12 -94 lbs sack of #2 portland cement with 96 gallons , 14.2 ppg cement,pump cement, returns to surface. plug down at 09:30	
9:30	21:30	12.00	49	WOC	Wait on Cement, sound annulus after 8 hrs. 3' below cellar floor, mix 1 sk cement with 6 gallons of water fill to cellar floor. Lay plywood on site for walk way due to muddy site. Prepare tooling to drill ahead, install new 8AM- PQ core bit onto core barrel SN-6B2837, new PQ reamer shell #2B4814 .	
21:30	22:00	0.50	49	TRPI	Trip in hole with PQ core barrel, tag top of cement at 28'.	
22:00	0:00	2.00	49	CMTD	Core ahead through cement to bottom of casing, 40' BGS, core rubble to previous TD of 49' Circulate hole clean, prior to begin coring ahead.	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - No. 3 - BIT, NBS, CORE, 2 OTHER = 8.52

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	8
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 6	**Serv:** 3	**Othr:** 2
Total Personnel:	13	**Hours:**	0

Environment

Cum. Water Hauled: 0.000 acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 9 **Report For 20-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	176	**Drilling Days (act.):**	3	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	176	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	9	**Last BOP Test:**		---		---	---
Hole Made (ft) / Hrs:	127 / 14.5	**Last Casing:**	8.650 at 40			**Totals:**		---	---
Average ROP (ft/hr):	8.76	**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**			---

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

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

Comments:

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	9:30	9.50	100	DRIL	Core PQ from 49' to 100', core temp at 100' -104 degrees F,	
9:30	10:00	0.50	100	SURV	Run Totco inclination tool, 0.5 degrees at 100', Run MRT 190F,	
10:00	12:00	2.00	129	DRIL	Core ahead to 130' with PQ, prepare to run MRT and Temperature logging probe on ...	
12:00	12:30	0.50	129	SURV	Run survey MRT on survey tool along with down loadable temperature probe, ...	
12:30	14:00	1.50	149	DRIL	Core ahead PQ to 149'.Take steam kick, 190F coming out of annulus. Pump ...	
14:00	15:30	1.50	149	CIRC	Pump cold water through core pipe, flow check, no flow from annulus, drop ...	
15:30	17:00	1.50	176	DRIL	Core ahead, while coring from 176, high torque, stuck pipe, taking steam	
17:00	18:00	1.00	176	STUCK	Work to free stuck pipe, free hot water flowing from annulus, due to ...	X
18:00	0:00	6.00	176	KILL	Pump 60 gpm cold water 56 degrees trough core rods to cool hole	X

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - No. 3 - BIT, NBS, CORE, 2 OTHER = 8.52

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.
100-176	10.0 / 10.0	3,000	450	2,250	18			200

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI: **Days Since:** 9

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 6 **Serv:** 3 **Othr:** 2

Total Personnel: 13 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Surveys

MD	Inc.	Azim.	TVD	NS	EW
100	0.5				
129	0.5				

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 | **Job ID: Original** | **Well Name: AK-3**

Field: Hot Springs Bay Va | Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 10 | **Report For 21-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**		---	
Measured Depth (ft):	176	**Drilling Days (act.):**	4	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**	**Actual ($)**	
Vertical Depth (ft):	176	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---	---	---	
Proposed TD (ft):	1700	**Days On Location:**	10	**Last BOP Test:**		---	---	---	
Hole Made (ft) / Hrs:	11 / 0.0	**Last Casing:**	8.650 at 40			**Totals:**	---	---	
Average ROP (ft/hr):		**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**		---	

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

Planned Ops: Assemble fishing tool to catch top of core rod with inside grapple, configure poor boy packoff with HWT rod clamp and stripping ...

Toolpusher: Brian Walker | **Supervisors:** | **Tel No.:** 907-273-0057

Comments:

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	7:00	7.00	176	OTHER	Well kicked. Steam flow to surface. Lost rod due to foot clamp slipping. Top of HWT rod 2' below foot clamp.	X
7:00	15:30	8.50	176	FISH	fly fishing tool from lay down yard,connect inside grapple ,run in on new HWT core rod, catch fish bring through foot camp. secure in head, break down fishing joint. Well blowing and flowing 66 gpm,	X
15:30	17:30	2.00	176	WELLHD	Rig up and install10' joint to string , shut in flow, secure well from blowing, begin pumping cold water into well bore. 60 degree in 136 F out,	X
17:30	0:00	6.50	176	WELLHD	Secure poor boy packoff from HWT to 8" casing begin pumping 60 gpm of 60 degree water through string into hole. Hole secure.	X

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - No. 3 - BIT, NBS, CORE, 2 OTHER = 8.52

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	1
Med:		**1st Aid:**	1
Accident Description:	During the setting of the core joint to secure the top of the...		
Oper: 2	**Cont:** 6	**Serv:** 4	**Othr:** 2
Total Personnel:	14	**Hours:**	0

Environment

Cum. Water Hauled: 0.000 acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 11 **Report For 22-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	176	**Drilling Days (act.):**	5	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	176	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	11	**Last BOP Test:**		---		---	---
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**	8.650 at 40			**Totals:**		---	---
Average ROP (ft/hr):		**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**			---

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

Planned Ops: Attend conference meeting at city of Akutan to discuss plan for killing hole. Kill hole, resume drilling operation to drill hole to 5.5" ...

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

Comments:

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	7:00	7.00	176	WELLHD	Continue pumping 35 gpm 60 degree cold water into 8" casing , packed off on top with poor boy packer.	X
7:00	15:00	8.00	176	WELLHD	Continue pumping cold water into hole from 176'. attend conference meeting on at City of Akutan 10:0013:00, discuss cementing options and well control plan. prepare to pump 10 sks of portland cement from 88' as a drift plug.	X
15:00	15:30	0.50	176	TRPO	Pull 100' of rods , cooling hole after pulling 2 doubles , then 2 doubles and 1 double. position bottom of core rod at 88'.	
15:30	16:30	1.00	176	CMTPL	Mix and pump 10- 92.4 lbs sacks of portland cement into 77 gallons of water, pump through string as drift plug, chasing with 70 gallons of displacement. shut hole in monitor discharge, clean equipment.	X
16:30	17:30	1.00	176	WOC	Rotate pipe each 15 minutes, to ensure free. initial static hole with top of fluid 3' below top of 8" casing , after 1 hour, approx. .5-1 gallon flowing out of hole.	
17:30	0:00	6.50	176	WOC	Wait on cement, grab sample placed in warm laundry tent to cure. Flow from 8" casing measured at 11-13 gpm, temp. building to 186 degrees at 00:00	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - No. 3 - BIT, NBS, CORE, 2 OTHER = 8.52

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	2
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 5	**Serv:** 3	**Othr:** 2
Total Personnel:	12	**Hours:**	0

Environment

Cum. Water Hauled:	0.000	acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 12 **Report For 23-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	176	**Drilling Days (act.):**	6	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	176	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	12	**Last BOP Test:**		---		---	---
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**	8.650 at 40			**Totals:**		---	---
Average ROP (ft/hr):		**Next Casing:**	5.500 at 220	**Working Interest:**		**Well Cost ($):**			---

Current Ops: Opened hole and cleaned out cement stringers to 170' with well flow controlled. Cleaned out cement to 176' with hole opener. Drilling...

Planned Ops: 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 ...

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

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

1 record not printed

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description		Non-Prod
3:00	3:30	0.50	176	WELLHD	Take off poor boy packoff, prior to lowering rod into hole to tag top of cement.	...	X
3:30	4:00	0.50	176	TRPI	RUN 20' into hole start temp. 115 F- joint down 142F, at 109'		X
4:00	4:15	0.25	176	TRPI	run in hole with 80' of rod temp begin at 115F end at 126F, tag top of cement at	...	X
4:15	6:00	1.75	176	PUMP	Pumping cold water to cool hole,Discuss with GRG, Bill Rickard , plan to re	...	X
6:00	7:00	1.00	176	PUMP	Continue to pump cold water, change out stripping rubbers on packoff,	...	X
7:00	8:30	1.50	176	PUMP	Continue to pump cold water through core rod into hole with bottom of	...	X
8:30	9:15	0.75	176	CMTPL	Mix 9 bags of cement in 70 gallons of water, 14.5 lb/gal cement mix,	...	X
9:15	11:00	1.75	176	WOC	wait on cement to set, rotate and lift rods every 15 min,begin time	...	X
11:00	13:00	2.00	176	WOC	Pull core rod from hole lay down core barrel. wait on cement to	...	
13:00	15:15	2.25	176	OPEN	Open hole 4.835" to 7.5" from 40' to 90' , catching chip	...	
15:15	21:15	6.00	176	WOC	continue to wait on cement for full 12 hrs prior to opening		
21:15	0:00	2.75	176	OPEN	Tag hole at 90', begin reaming ahead with 7.5" hole opener		

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - No. 4 - HO, BS, OTHER = 3.52

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	3
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 5	**Serv:** 3	**Othr:** 2
Total Personnel:	12	**Hours:**	0

Environment

Cum. Water Hauled:	0.000	acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 13 **Report For 24-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	220	**Drilling Days (act.):**	7	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**		**Actual ($)**
Vertical Depth (ft):	220	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---	---		---
Proposed TD (ft):	1700	**Days On Location:**	13	**Last BOP Test:**		---	---		---
Hole Made (ft) / Hrs:	44 / 0.0	**Last Casing:**	5.500 at 222	**LOT (lbs/gal):**	18.26	**Totals:**	---		---
Average ROP (ft/hr):		**Next Casing:**	4.500 at 800	**Working Interest:**		**Well Cost ($):**			---

Current Ops: Waiting on cement.

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

Comments:

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	15:00	15.00	225	OPEN	Drill ahead with 7.5" hole opener from 125' to 225', circulating hole with 9.2-9.5 salt weighted water and bentonite gell, mud temps in 105 F mud tempps out 150-165F. Circulate hole to cool with cold water 60F and gell 45 vis each hour to keep hole cool.	
15:00	15:30	0.50	225	CIRC	Circulate hole with 60 F 9.4 mud to cool hole prior to tripping out with 7.5" hole opener	
15:30	16:00	0.50	225	TRPO	Trip out of hole with PQ rod and lay down 7.5" hole opener	
16:00	19:00	3.00	225	CASE	Rig up and run 5.5" od. casing from ground surface to 220' below ground surface. Circulating and filling each three joints as run in hole, circulate last joint to bottom(no fill) install landing joint set at 6" above cellar floor.	
19:00	21:30	2.50	225	CMTP	rig up cementing tubs, mix and pump 52 sacks of Thermolite HT, pump cement, drop plug, pump plug to bottom with fresh water, bump plug at 21:30 hrs with 800 psi. shut in valve. Cement returns to surface, captured discharge.	
21:30	0:00	2.50	225	CMTS	Mixed and pumped to keep hole full as cement shrank and settled in annulus of 8" casing. hole stopped taking any cement by 23:30, Cleaned all hoses and cementing equipment as hole monitoring from plug down to time cement remained at top of 8"	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - No. 4 - HO, BS, OTHER = 3.52

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	4
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 5	**Serv:** 3	**Othr:** 2
Total Personnel:	12	**Hours:**	0

Environment

Cum. Water Hauled:	0.000	acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 | **Job ID: Original** | **Well Name: AK-3**

Field: Hot Springs Bay Va | Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 14 | **Report For 25-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	220	**Drilling Days (act.):**	8	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	220	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	14	**Last BOP Test:**		---		---	---
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**	5.500 at 222	**LOT (lbs/gal):**	18.26	**Totals:**		---	---
Average ROP (ft/hr):		**Next Casing:**	4.500 at 800	**Working Interest:**		**Well Cost ($):**			---

Current Ops: Nippling up.

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

Toolpusher: Brian Walker | **Supervisors:** | **Tel No.:** 907-273-0057

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 ...

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	9:30	9.50	225	WOC	Wait on Cement 12 hrs.	
9:30	17:30	8.00	225	BOPNU	Cut off 8" casing, bleed down pressure from 5 1/2" casing , remove and laydown landing joint. Sling well head equipment from staging area. begin nipple up 5 1/2" casing riser, 5" well head, 6" master valve, Determine there is not sufficient clearance between master valve and rig foot clamp, foot clamp 2.5' below rig floor, crew to take off top flange from valve,	X
17:30	0:00	6.50	225	BOPNU	Continue nipple up BOP, raise rig 4" with jack screw legs, install annular bag, 2 1/16" side valves,	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - None

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	5
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 6	**Serv:** 1	**Othr:** 2
Total Personnel:	11	**Hours:**	0

Environment

Cum. Water Hauled:	0.000	acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 15 **Report For 26-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	265	**Drilling Days (act.):**	9	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**		**Actual ($)**
Vertical Depth (ft):	265	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---	---		---
Proposed TD (ft):	1700	**Days On Location:**	15	**Last BOP Test:**	26-Aug-16	---	---		---
Hole Made (ft) / Hrs:	45 / 5.5	**Last Casing:**	5.500 at 222	**LOT (lbs/gal):**	18.26	**Totals:**	---		---
Average ROP (ft/hr):	8.18	**Next Casing:**	4.500 at 800	**Working Interest:**		**Well Cost ($):**			---

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

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

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

1 record not printed

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
8:30	10:00	1.50	225	TRPI	Run in hole with new PQ core bit, pumping cold water as each rod lowered into	...
10:00	11:30	1.50	225	BOPNU	Pull out of hole with PQ rod, Cut wire line, take off overshot, run line through	...
11:30	12:00	0.50	225	SURV	Break core rod at joint to run MRT and Totco survey at 200' below ground	...
12:00	14:00	2.00	225	BOPT	Close gate valve, pump to fill stack and annular Diverter on HWT core rod	...
14:00	15:00	1.00	225	BOPT	Change out valves, tighten connections, install valve at pump	...
15:00	16:00	1.00	225	TRPI	Trip in hole to 218' (top of cement plug).	
16:00	17:00	1.00	225	BOPT	BOPE test , pump through core rod to fill annular diverter and	...
17:00	18:00	1.00	225	DRILC	Core out cement from 218' to 220'. retrieve core barrel. lay out	...
18:00	18:15	0.25	225	FIT	Circulate fresh 8.33 ppg water and polymer with 45 vis,	...
18:45	19:30	0.75	225	FIT	Perform LOT (leak off at 118 psi, .95 psi/ft).	
19:30	20:00	0.50	225	DRIL	Drop inner barrel, wait to latch, pumping down (wait for bag to	
20:00	0:00	4.00	265	DRIL	Core ahead from 225' to 265' at 00:00 hours. Fracture	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF
5 1	ADT	8 AM	4.835		45	4	11.2	3,000	450	2,500	8.40	18	200				

DepthOut: 805 **Cutter:Inner/Outer:** 4/4 **Dull:Maj/Oth:** NO/NO **WearLoc:** A **Brgs:** 0 **Gauge:** 0 **Pull:** TD

BHA - No. 5 - BIT, NBS, CORE, 2 OTHER = 8.52

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.
225-265	10.0 / 15.0	4,000	425	2,000	18			200

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI: **Days Since:** 6

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 7 **Serv:** 3 **Othr:** 2

Total Personnel: 14 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Surveys

MD	Inc.	Azim.	TVD	NS	EW
200	0.75				

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: Clear and sunny **Vis.:** 10 **Temp:** 65 **Pressure:** **Wind:** 3 **Gusts:** 5

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 16 **Report For 27-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**		---	
Measured Depth (ft):	465	**Drilling Days (act.):**	10	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**	**Actual ($)**	
Vertical Depth (ft):	465	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---	---	---	
Proposed TD (ft):	1700	**Days On Location:**	16	**Last BOP Test:**	26-Aug-16	---	---	---	
Hole Made (ft) / Hrs:	200 / 23.0	**Last Casing:**	5.500 at 222	**LOT (lbs/gal):**	18.26	**Totals:**	---	---	
Average ROP (ft/hr):	8.7	**Next Casing:**	4.500 at 800	**Working Interest:**		**Well Cost ($):**		---	

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

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

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

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	4:30	4.50	300	DRIL	Continue core ahead PQ from 265' to 300'. Minor steam kick at 275' while pulling barrel. Increased mud weight to 9.2 lbs with salt and maintained in system re-circulating mud pits.	
4:30	5:00	0.50	300	SURV	Pull inner barrel at 300' and run survey: .25 degrees inclination, MRT 228F.	
5:00	12:30	7.50	400	DRIL	Core ahead from 300' to 400' with PQ core. Fluid loss of 5-7 gpm , with mud wt. of 8.6ppg, lowering mud wt with water at each batch mix of drilling fluid.	
12:30	13:00	0.50	400	SURV	Run survey tool at 400' with MRT: .25 degree inclination, MRT: 238F.	
13:00	0:00	11.00	465	DRIL	Core ahead with PQ from 400' to 465' at 00:00 hrs, minimum fluid loss to hole, mud wt. 8.4ppg, at 20:00, 22:00 est partial losses at 3-5 gpm.	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF
5 1	ADT	8 AM	4.835		245	27	9.1	2,500	450	25,						

DepthOut: 805 **Cutter:Inner/Outer:** 4/4 **Dull:Maj/Oth:** NO/NO **WearLoc:** A **Brgs:** 0 **Gauge:** 0 **Pull:** TD

BHA - No. 5 - BIT, NBS, CORE, 2 OTHER = 8.52

Mud Reports

6 records not printed

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out
27-Aug-16 00:00	8.50	55														/ /	/
27-Aug-16 01:00	8.40	55														/ /	/

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.
265-465	8.7 / 12.0	2,500	425	2,000	18			200

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI: **Days Since:** 7

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 7 **Serv:** 1 **Othr:** 2

Total Personnel: 12 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Surveys

MD	Inc.	Azim.	TVD	NS	EW
300	0.25				
400	0.25				

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

No Weather Information for this report.

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 17 **Report For 28-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	770	**Drilling Days (act.):**	11	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**		**Actual ($)**
Vertical Depth (ft):	465	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---	---		---
Proposed TD (ft):	1700	**Days On Location:**	17	**Last BOP Test:**	26-Aug-16	---	---		---
Hole Made (ft) / Hrs:	305 / 22.5	**Last Casing:**	5.500 at 222	**LOT (lbs/gal):**	18.26	**Totals:**	---		---
Average ROP (ft/hr):	13.56	**Next Casing:**	4.500 at 800	**Working Interest:**		**Well Cost ($):**			---

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

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

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 ...

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	3:30	3.50	500	DRIL	Core ahead PQ to 500'. Maximun Flow line temp out 145 F, mud temp in average 70, mixing cold (60 F) water with poly mud to maintain fluid temperatures.	
3:30	4:00	0.50	500	SURV	Run single shot Totco survey at 500', .25 degree inclination, MRT 250F	
4:00	11:00	7.00	600	DRIL	Core ahead with PQ to 600'. Maximum Flow line temp out 156 F, mud temp in avg. 72F	
11:00	11:30	0.50	600	SURV	Run single shot survey at 600', 1 degree inclination, MRT 280 F	
11:30	17:30	6.00	700	DRIL	Core ahead with PQ to 700' , maximum flow line temp out 156 F , average mud temp in 71 F	
17:30	18:00	0.50	700	SURV	Run single shot survey at 700' 1 degree inclination, MRT 275 F	
18:00	0:00	6.00	770	DRIL	Core ahead with PQ to 770'. Maximum flow line temp 165 F, average mud temp in 71 F. Pumped to waste sump 500 gal and added 500 gal of cold mud 60 F to cool fluid and hole.	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF
5 1	ADT	8 AM	4.835		550	49.5	11.1	2,000	450	1,500	8.40	20	150				

DepthOut: 805 **Cutter:Inner/Outer:** 4/4 **Dull:Maj/Oth:** NO/NO **WearLoc:** A **Brgs:** 0 **Gauge:** 0 **Pull:** TD

BHA - No. 5 - BIT, NBS, CORE, 2 OTHER = 8.52

Mud Reports

8 records not printed

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out
28-Aug-16 00:30	8.60	55														/ /	68/121
28-Aug-16 03:00	8.60	55														/ /	72/128

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.
465-770	10.0 / 15.0	1,500	425	1,500	18			150

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.
POLY VIS	13	9	CEMENT	0	54
GEL	0	35	CaC	0	16
DIESEL	1	2	DIESEL	2	4

Safety Information

LTI: **Days Since:** 8

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 7 **Serv:** 1 **Othr:** 2

Total Personnel: 12 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Surveys

MD	Inc.	Azim.	TVD	NS	EW
500	0.25				
600	1				
700	1				

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: heavy fog, **Vis.:** 0 **Temp:** 60 **Pressure:** **Wind:** 3 **Gusts:** 5

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 18 **Report For 29-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	805	**Drilling Days (act.):**	12	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**		**Actual ($)**
Vertical Depth (ft):	805	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---	---		---
Proposed TD (ft):	1700	**Days On Location:**	18	**Last BOP Test:**	26-Aug-16	---	---		---
Hole Made (ft) / Hrs:	35 / 7.0	**Last Casing:**	4.500 at 800			**Totals:**	---		---
Average ROP (ft/hr):	5.0	**Next Casing:**	3.500 at 1,700	**Working Interest:**		**Well Cost ($):**			---

Current Ops: Waiting on cement at 0600 hours after secondary cement top job.

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

Comments:

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	6:00	6.00	800	DRIL	Core PQ ahead from 770' to 800' pull inner tube, prepare to run Totco. Core from	...
6:00	6:30	0.50	800	SURV	Run single shot survey at 800': 1 degree inclination, MRT 300 F (maxed tool out -	...
6:30	7:30	1.00	805	DRIL	Drop inner barrel, core ahead from 800' to 805'.	
7:30	9:00	1.50	805	CIRC	Circulate the hole from 805' TD for 4.5" casing. Mud temp. out 121 F at	...
9:00	11:00	2.00	805	TRPO	Pull out of hole with PQ rod from 805' BGS (pulling singles - 10'). Maintain	...
11:00	12:00	1.00	805	CASE	Rig up to run 4.5", K55, 111.6 ppf casing with Valley Flush Joint thread.	...
12:00	14:30	2.50	805	CASE	Run 43 jts of 4.5" casing, bakerlok'd first three joints. Fill each three	...
14:30	15:30	1.00	805	CIRC	Circulate hole with 25 gpm 8.4 ppg mud (cooling hole prior to	...
15:30	16:30	1.00	805	CMTP	Mix 2 ea. 14 sack (ft3) slurries in mix tubs: 4.16 gallons /sack	...
16:30	22:30	6.00	805	WOC	Wait on cement to set. Place cement samples in water bath at	
22:30	0:00	1.50	805	CMTS	Mix 14 sks of Thermolite cement with 60 gallons of fresh water	...

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF
5 1	ADT	8 AM	4.835		585	56.5	10.4	1,500	450	1,500	8.40	20	120				

DepthOut: 805 **Cutter:Inner/Outer:** 4/4 **Dull:Maj/Oth:** NO/NO **WearLoc:** A **Brgs:** 0 **Gauge:** 0 **Pull:** TD

BHA - No. 5 - BIT, NBS, CORE, 2 OTHER = 8.52

Mud Reports

2 records not printed

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out
29-Aug-16 00:30	8.50	58														/ /	110/125
29-Aug-16 03:00	8.50	58														/ /	95/132

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.
770-805	10.0 / 12.0	1,500	425	1,500	18			125

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.
POLY VIS	0	9	CEMENT	42	12
GEL	0	35	CaC	0	16
DIESEL	1	5	DIESEL	0	4

Safety Information

LTI: **Days Since:** 9

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 7 **Serv:** 1 **Othr:** 2

Total Personnel: 12 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Surveys

MD	Inc.	Azim.	TVD	NS	EW
800	1				

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: partly cloudy **Vis.:** 10 **Temp:** 68 **Pressure:** **Wind:** 5 **Gusts:** 8

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 19 **Report For 30-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	805	**Drilling Days (act.):**	13	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	805	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	19	**Last BOP Test:**	30-Aug-16	---		---	---
Hole Made (ft) / Hrs:	0 / 6.5	**Last Casing:**	4.500 at 800			**Totals:**		---	---
Average ROP (ft/hr):	0.0	**Next Casing:**	3.500 at 1,700	**Working Interest:**		**Well Cost ($):**			---

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

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

Comments: Morning conditions cold 50 with rain and fog.

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	6:00	6.00	805	WOC	At 03:00 annular pressure holding at 120 psi, casing pressure holding at 650 psi. Cement samples hard on casing job, firm on top job. Waiting on cement top job completed.	
6:00	10:30	4.50	805	BOPNU	Release annular. Back off and lay down landing joint. Close master valve. Raise rig to remove Annular to change out BOP rubber to HQ size.	
10:30	11:30	1.00	805	BOPNU	Nipple up Annular to stack. Clean and check wing valves. Adjust rig to previous level. Cycle BOP.	
11:30	14:30	3.00	805	BOPT	Close master valve. Install test stump in BOP. Close BOP. Test at 200 psi: OK, test at 700 psi: OK, 5 minutes each. Bleed off. Run in hole with 40' HQ core barrel and 2 joints. Fill pipe and hole. Close annular. Test BOP and 2 1/16 side valves at 200 psi, 5 min: OK; 700 psi, 5 min: OK.	
14:30	17:30	3.00	805	TRPI	Trip in hole with HQ core assembly (BHA #6), on new HQ core rod to 580'. Tag up. Begin coring out cement strings and wiper plug.	
17:30	0:00	6.50	805	DRILC	Drill out cement to float shoe at 800'.	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF
6 1	ADT	8 AM	3.825		230	6.5	35.4	1,500	550	2,000	8.30	20	200				

DepthOut: 1,300 **Cutter:Inner/Outer:** / **Dull:Maj/Oth:** / **WearLoc:** **Brgs:** **Gauge:** **Pull:**

BHA - No. 6 - BIT, NBS, CORE, 2 OTHER = 13.56

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out
30-Aug-16 00:00	8.30	35														/ /	85/105

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.
POLY VIS		9	CEMENT		12
GEL		35	CaC		16
DIESEL		5	DIESEL		4

Safety Information

LTI: **Days Since:** 10

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 7 **Serv:** 1 **Othr:** 3

Total Personnel: 13 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: overcast **Vis.:** 4 **Temp:** 55 **Pressure:** **Wind:** 3 **Gusts:** 5

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 20 **Report For 31-Aug-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	1105	**Drilling Days (act.):**	14	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	1105	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	20	**Last BOP Test:**	30-Aug-16	---		---	---
Hole Made (ft) / Hrs:	300 / 22.5	**Last Casing:**	4.500 at 800			**Totals:**		---	---
Average ROP (ft/hr):	13.33	**Next Casing:**	3.500 at 1,700	**Working Interest:**		**Well Cost ($):**			---

Current Ops: Coring ahead at 1195' at 06:00 hrs.

Planned Ops: Continue coring ahead HQ to loss zone or 1700'

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

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.

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	1:00	1.00	810	DRIL	Core ahead through float shoe 800' to 810' retrieve core, drop new inner barrel,	
1:00	1:30	0.50	810	FIT	Conduct LOT at 810' w/ 8.34 ppg mud. Fill pipe with water, close annular. Pump 2.5 ...	
1:30	6:30	5.00	900	DRIL	Core ahead with HQ to 900'. 100% recovery. Prepare to run single shot.	
6:30	7:00	0.50	900	SURV	Run single shot survey and MRT: 0.75 inclination, MRT: 300 - 310 F (max reading ...	
7:00	23:00	16.00	1,100	DRIL	Core ahead with HQ from 900' to 1100'. 100% recovery. Mud temp in average ...	
23:00	23:30	0.50	1,100	SURV	Run single shot survey at 1100': 1 degree inclination, no MRT.	
23:30	0:00	0.50	1,105	DRIL	Core ahead with HQ from 1100' to 1105'. Mud temp: in 114F out 165F.	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF
6 1	ADT	8 AM	3.825		530	29	18.3	15	525	1,500	8.40	18	380				

DepthOut: 1,300 **Cutter:Inner/Outer:** / **Dull:Maj/Oth:** / **WearLoc:** **Brgs:** **Gauge:** **Pull:**

BHA - No. 6 - BIT, NBS, CORE, 2 OTHER = 13.56

10 records not printed

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out
31-Aug-16 01:00	8.30	35														/ /	80/115
31-Aug-16 03:00	8.40	50														/ /	86/115

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.
805-1105	12.0 / 15.0	1,500	525	1,000	18			375

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.
POLY VIS	5	4	CEMENT		12
GEL		35	CaC		16
DIESEL	4	1	DIESEL		4

Safety Information

LTI: **Days Since:** 11

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 7 **Serv:** 1 **Othr:** 0

Total Personnel: 10 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Surveys

MD	Inc.	Azim.	TVD	NS	EW
900	0.75				
1100	1				

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: Over cast and **Vis.:** 3 **Temp:** 50 **Pressure:** **Wind:** 3 **Gusts:** 6

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 | **Job ID: Original** | **Well Name: AK-3**

Field: Hot Springs Bay Va | Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 21 | **Report For 01-Sep-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**		---	
Measured Depth (ft):	1385	**Drilling Days (act.):**	15	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**	**Actual ($)**	
Vertical Depth (ft):	1385	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---	---	---	
Proposed TD (ft):	1700	**Days On Location:**	21	**Last BOP Test:**	30-Aug-16	---	---	---	
Hole Made (ft) / Hrs:	280 / 19.0	**Last Casing:**	4.500 at 800			**Totals:**	---	---	
Average ROP (ft/hr):	14.74	**Next Casing:**	3.500 at 1,700	**Working Interest:**		**Well Cost ($):**		---	

Current Ops: Coring ahead HQ at 1410' at 06:00 hr

Planned Ops: Continue coring ahead HQ to Loss zones or 1700'

Toolpusher: Brian Walker | **Supervisors:** | **Tel No.:** 907-273-0057

Comments: No losses or kicks through the daily drilling interval.

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	15:30	15.50	1,300	DRIL	Core ahead with HQ from 1100' to 1300'. Average mud temp: in 118 F, out 168F with full returns.1280'-1300': started to see core samples whittled and bit walking. Determine to trip out for new bit.	
15:30	16:00	0.50	1,300	SURV	Run Totco single shot survey, 1 degree inclination.	
16:00	18:00	2.00	1,300	TRPO	Trip out of hole from 1300' to change bit. Pulling pipe in doubles (20'), line up kill pump to pump down back side while pull out of hole.	
18:00	20:30	2.50	1,300	TRPI	Install new HQ core bit (model 8 AM SN 6B3981). Reamer and stabilizer in good condition. Trip in hole (circulating at each 100'). At 500' start circulating each joint down due to hot fluid, mud temp out through core rod 185F.	
20:30	0:00	3.50	1,385	DRIL	Break in new bit and core ahead from 1300' to 1385'.	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF
6 1	ADT	8 AM	3.825		730	44.5	16.4	1,500	525	1,500	8.40	18	400				
DepthOut: 1,300	**Cutter:Inner/Outer:** /				**Dull:Maj/Oth:** /			**WearLoc:**			**Brgs:**		**Gauge:**		**Pull:**		
7 1	ADT	8 AM	3.825		85	3.5	24.3	1,500	525	1,500	8.40	20	410				
DepthOut: 1,919	**Cutter:Inner/Outer:** 8/8				**Dull:Maj/Oth:** RG/NO			**WearLoc:** A			**Brgs:**		**Gauge:** 0		**Pull:** PP		

BHA - No. 7 - BIT, NBS, CORE, 2 OTHER = 13.56

9 records not printed

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out
01-Sep-16 00:00	8.40	65														/ /	121/160
01-Sep-16 02:00	8.40	65														/ /	120/169

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.
1100-1300	12.0 / 12.0	1,500	525	1,500	18			400
1300-1385	12.0 / 15.0	1,500	525	1,500	18			410

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.
POLY VIS	3	12	CEMENT		12
GEL		35	CaC		16
DIESEL	1	4	DIESEL		4

Safety Information

LTI: | **Days Since:** 12

Med: | **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 7 **Serv:** 1 **Othr:** 2

Total Personnel: 12 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Surveys

MD	Inc.	Azim.	TVD	NS	EW
1300	1				

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: Sky clear , until | **Vis.:** 5 | **Temp:** 50 | **Pressure:** | **Wind:** 5 | **Gusts:** 10

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 22 **Report For 02-Sep-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**		---	
Measured Depth (ft):	1645	**Drilling Days (act.):**	16	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**	**Actual ($)**	
Vertical Depth (ft):	1645	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---	---	---	
Proposed TD (ft):	1700	**Days On Location:**	22	**Last BOP Test:**	30-Aug-16	---	---	---	
Hole Made (ft) / Hrs:	260 / 23.5	**Last Casing:**	4.500 at 800			**Totals:**	---	---	
Average ROP (ft/hr):	11.06	**Next Casing:**	3.500 at 1,700	**Working Interest:**		**Well Cost ($):**		---	

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

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.

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	6:00	6.00	1,425	DRIL	Coring ahead HQ fom 1385' to 1425' with full returns.	
6:00	17:00	11.00	1,500	DRIL	Core ahead HQ from 1425' to 1500'. Mud temp in/ out 98/ 136 F. Full returns.	
17:00	17:30	0.50	1,500	SURV	Run Totco at 1500': 1.75 degree inclination.	
17:30	0:00	6.50	1,645	DRIL	Core ahead HQ from 1500' to 1645'. Full returns.	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF
7 1	ADT	8 AM	3.825		345	26.5	13.0	2,000	525	2,000	8.40	18	415				

DepthOut: 1,919 **Cutter:Inner/Outer:** 8/8 **Dull:Maj/Oth:** RG/NO **WearLoc:** A **Brgs:** **Gauge:** 0 **Pull:** PP

BHA - No. 7 - BIT, NBS, CORE, 2 OTHER = 13.56

Mud Reports

9 records not printed

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out
02-Sep-16 00:00	8.40	70														/ /	96/133
02-Sep-16 04:00	8.40	70														/ /	97/136

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.
1385-1500	16.0 / 20.0	1,500	525	2,000	18			400
1500-1645	15.0 / 18.0	1,500	525	2,000	18			415

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.
POLY VIS	3	9	CEMENT		12
GEL		35	CaC		16
DIESEL	2	2	DIESEL		4

Safety Information

LTI: **Days Since:** 13

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 7 **Serv:** 1 **Othr:** 0

Total Personnel: 10 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Surveys

MD	Inc.	Azim.	TVD	NS	EW
1500	1.75				
1700	1				

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: Heavy overcast **Vis.:** 1 **Temp:** 52 **Pressure:** **Wind:** 12 **Gusts:** 25

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 23 **Report For 03-Sep-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**		---	
Measured Depth (ft):	1865	**Drilling Days (act.):**	17	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**	**Actual ($)**	
Vertical Depth (ft):	1865	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---	---	---	
Proposed TD (ft):	1700	**Days On Location:**	23	**Last BOP Test:**	30-Aug-16	---	---	---	
Hole Made (ft) / Hrs:	220 / 19.0	**Last Casing:**	4.500 at 800			**Totals:**	---	---	
Average ROP (ft/hr):	11.58	**Next Casing:**	3.500 at 1,700	**Working Interest:**		**Well Cost ($):**		---	

Current Ops: 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 ...

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

Comments:

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	5:00	5.00	1,705	DRIL	Core ahead HQ core from 1645' to 1705' (*Planned TD), full returns. Mud temp in/out 112F/156F.	
5:00	5:30	0.50	1,705	SURV	Run Totco single shot survey tool, 1 degree inclination.	
5:30	6:30	1.00	1,725	DRIL	Core ahead with HQ core from 1705' to 1725'. Out of rod on site.	
6:30	11:00	4.50	1,725	CIRC	Circulate hole from 1725', wait on weather to fly additional core rod to site (winds blowing over 35 KNTS). Receive 8 jts of HQ in first delivery at 10:45, 15 jts of used rod from village yard at 11:00 hrs.	X
11:00	0:00	13.00	1,865	DRIL	Core ahead from 1725' to 1865'. Average fluid temp in/out: 102/55 F.	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF
7 1	ADT	8 AM	3.825		565	44.5	12.7	2,000	525	2,000	8.40	18	445				

DepthOut: 1,919 **Cutter:Inner/Outer:** 8/8 **Dull:Maj/Oth:** RG/NO **WearLoc:** A **Brgs:** **Gauge:** 0 **Pull:** PP

BHA - No. 7 - BIT, NBS, CORE, 2 OTHER = 13.56

10 records not printed

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out
03-Sep-16 00:30	8.40	75														/ /	112/156
03-Sep-16 04:00	8.40	75														/ /	108/155

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.
1645-1705	12.0 / 14.0	1,500	450	2,000	18			415
1705-1725	20.0 / 20.0	1,500	525	2,000	18			415
1725-1865	11.0 / 14.0	1,500	525	2,000	18			445

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.
POLY VIS	2	7	CEMENT	0	12
GEL	0	35	CaC		16
DIESEL	1	1	DIESEL		4

Safety Information

LTI: **Days Since:** 14

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 7 **Serv:** 1 **Othr:** 1

Total Personnel: 11 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Surveys

MD	Inc.	Azim.	TVD	NS	EW
1900	2				

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: Partly cloudy **Vis.:** 10 **Temp:** 50 **Pressure:** **Wind:** 38 **Gusts:** 45

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 | **Job ID: Original** | **Well Name: AK-3**

Field: Hot Springs Bay Va | Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 24 | **Report For 04-Sep-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	1955	**Drilling Days (act.):**	18	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	1955	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	24	**Last BOP Test:**	30-Aug-16	---		---	---
Hole Made (ft) / Hrs:	90 / 9.0	**Last Casing:**	4.500 at 800			**Totals:**		---	---
Average ROP (ft/hr):	10.0	**Next Casing:**	3.500 at 1,700	**Working Interest:**		**Well Cost ($):**			---

Current Ops: 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 Ops: Run liner and complete well. Rig down, Install wellhead.

Toolpusher: Brian Walker | **Supervisors:** | **Tel No.:** 907-273-0057

Comments:

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	6:00	6.00	1,919	DRIL	Core ahead HQ from 1865' to 1919', bit torquing up and pressure building when on bottom. Partial losses since 1878-1888.	
6:00	7:00	1.00	1,919	CIRC	Circulate hole with fresh water to cool hole prior to trip out for bit. Partial losses.	
7:00	10:45	3.75	1,919	TRPO	Trip out of hole with HQ to change bit.	
10:45	14:30	3.75	1,919	TRPI	Trip in hole with new HQ core bit (#8) to 1919'. No losses.	
14:30	14:45	0.25	1,919	CIRC	Circulate hole and mix poly into fluid (mud wt 8.4 vis 80). Circulate hole and break in bit.	
14:45	17:45	3.00	1,955	DRIL	Core ahead HQ from 1919' to 1955' (TD).	
17:45	19:15	1.50	1,955	CIRC	Circulate hole with 2 bottoms up with fresh cold water (56 degree in out at 19:15 (1.5 hrs) 90 F. Shut pump off at 19:15 hrs.	
19:15	0:00	4.75	1,955	TRPO	Trip out of hole with HQ core string from 1955' to surface. Lay down BHA. Prepare to rig up wire line.	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow	Press	J.Vel	P.Drp	HHP	JIF
7 1	ADT	8 AM	3.825		619	50.5	12.3	1,500	525	2,000	8.40	18	415				
DepthOut: 1,919	**Cutter:Inner/Outer:** 8/8				**Dull:Maj/Oth:** RG/NO			**WearLoc:** A		**Brgs:**		**Gauge:** 0			**Pull:** PP		
8 1	ADT	8 AM	3.825		36	3	12.0	1,500	525	2,000							
DepthOut: 1,955	**Cutter:Inner/Outer:** 1/1				**Dull:Maj/Oth:** NO/NO			**WearLoc:** A		**Brgs:**		**Gauge:** 0			**Pull:** TD		

BHA - No. 8 - BIT, NBS, CORE, 2 OTHER = 13.56

5 records not printed

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out
04-Sep-16 01:00	8.40	80														/ /	108/156
04-Sep-16 03:00	8.40	80														/ /	112/162

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.
1865-1919	12.0 / 14.0	1,500	525	1,500	18			415
1919-1955	15.0 / 15.0	1,500	525	2,000	18			425

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.
POLY VIS	1	6	CEMENT		12
GEL		35	CaC		16
DIESEL		1	DIESEL		4

Safety Information

LTI: | **Days Since:** 15

Med: | **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 7 **Serv:** 1 **Othr:** 2

Total Personnel: 12 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: Windy, turn to | **Vis.:** 10 | **Temp:** 50 | **Pressure:** | **Wind:** 12 | **Gusts:** 15

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 | **Job ID: Original** | **Well Name: AK-3**

Field: Hot Springs Bay Va | Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 25 | **Report For 05-Sep-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	1955	**Drilling Days (act.):**	19	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	1955	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	25	**Last BOP Test:**	30-Aug-16	---		---	---
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**	3.500 at 1,955			**Totals:**		---	---
Average ROP (ft/hr):		**Next Casing:**		**Working Interest:**		**Well Cost ($):**			---

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

Planned Ops: Clean and clear site. Install remainder of discharge pipe and valve

Toolpusher: Brian Walker | **Supervisors:** | **Tel No.:** 907-273-0057

Comments:

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description		Non-Prod
0:00	1:30	1.50	1,955	SERV	Complete wire line equipment set up, install crossover to wire line logging lubricator.	...	
1:30	6:00	4.50	1,955	LOG	Run pressure/temperature survey from ground surface to 1955'. Start log tool at	...	
6:00	6:30	0.50	1,955	CASE	Pick up and run in hole with 150' of HQ perforated pipe and 1 joint blank.		
6:30	9:00	2.50	1,955	WOO	Waiting on well design after PT data review. Receive well plan: From the	...	X
9:00	15:30	6.50	1,955	CASE	Continue run in hole with HQ perforated and blank tubing per plan: Alternate	...	
15:30	19:30	4.00	1,955	MOB	RIG RELEASED and master valve closed at 15:30 hrs. Rig crews	...	
19:30	0:00	4.50	1,955	OTHER	Re-install the top master valve flange. Install top connection to hook up	...	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - None

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI:		**Days Since:**	16
Med:		**1st Aid:**	
Accident Description:			
Oper: 2	**Cont:** 7	**Serv:** 1	**Othr:** 2
Total Personnel: 12		**Hours:**	0

Environment

Cum. Water Hauled: 0.000 acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: Scattered | **Vis.:** 10 | **Temp:** 55 | **Pressure:** | **Wind:** 5 | **Gusts:** 8

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 26 **Report For 06-Sep-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**			---
Measured Depth (ft):	1955	**Drilling Days (act.):**	20	**Well Bore:**	Original Well Bore	**AFE No.**		**AFE ($)**	**Actual ($)**
Vertical Depth (ft):	1955	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---		---	---
Proposed TD (ft):	1700	**Days On Location:**	26	**Last BOP Test:**	30-Aug-16	---		---	---
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**	3.500 at 1,955			**Totals:**		---	---
Average ROP (ft/hr):		**Next Casing:**		**Working Interest:**		**Well Cost ($):**			---

Current Ops: Waiting on daylight, estimated at 07:30 hrs.

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

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

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.

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	2:00	2.00	1,955	LOG	Prepare P/T tooling, install lubricator, run out slick line	
2:00	5:30	3.50	1,955	LOG	Conduct P/T survey from 0' to 1955' at 20 fpm. with down stops at 20' 50', 100' 300', 500', 1000', 1500' and 1955' with 2 minutes at each stop. Log up at 60' fpm. with same stop at 3 min. inclination.	
5:30	6:30	1.00	1,955	LOG	Down load data confirm results. transmit data, rig down survey tools.	
6:30	9:30	3.00	1,955	WOD	Crew waiting on Daylight to continue cleanup of site and removal of remainder of equipment to staging area. Helicopter on site at 09:30. sending 2 crew to staging area.	
9:30	19:00	9.50	1,955	MOB	Make up loads to fly out, Assemble well head with flow Tee, side 4: valve and 2" top valve and lubricator bonnet , construct fence posts around sumps and retention pond. begin excavating ditch for drain line from cellar. crews at staging area receiving loads and sorting into container,	
19:00	0:00	5.00	1,955	WOD	Crew will only work 12 hrs from this time forward to storing of equipment into containers.	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - None

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI: **Days Since:**

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 5 **Serv:** 1 **Othr:** 1

Total Personnel: 9 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: Clear **Vis.:** 10 **Temp:** 55 **Pressure:** **Wind:** 4 **Gusts:** 6

Daily Drilling Report

Geothermal Resource Group

Well ID: AK-3 **Job ID: Original** **Well Name: AK-3**

Field: Hot Springs Bay Va Sect: 5 Town: 112W Rng: S005 County: Aleutians East State: AK

Report No: 27 **Report For 07-Sep-16**

Operator:	City of Akutan	**Rig:**	Major LF90	**Spud Date:**	18-Aug-16	**Daily Cost / Mud ($):**		---	
Measured Depth (ft):	1955	**Drilling Days (act.):**	21	**Well Bore:**	Original Well Bore	**AFE No.**	**AFE ($)**	**Actual ($)**	
Vertical Depth (ft):	1955	**Drilling Days (plan):**	30	**RKB Elevation (ft):**	6.00	---	---	---	
Proposed TD (ft):	1700	**Days On Location:**	27	**Last BOP Test:**	30-Aug-16	---	---	---	
Hole Made (ft) / Hrs:	0 / 0.0	**Last Casing:**	3.500 at 1,955			**Totals:**	---	---	
Average ROP (ft/hr):		**Next Casing:**		**Working Interest:**		**Well Cost ($):**		---	

Current Ops: FINAL REPORT

Planned Ops: Break down camp, secure pits with barbed wire fencing.

Toolpusher: Brian Walker **Supervisors:** **Tel No.:** 907-273-0057

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. ...

Operations Summary

From	To	Elapsed	End MD(ft)	Code	Operations Description	Non-Prod
0:00	9:00	9.00	1,955	WOD	Waiting on daylight, kitchen now opening at 07:00 hrs, still dark, helicopter at site at 08:30, load crew take to staging area at 09:00	
9:00	13:00	4.00	1,955	LOG	Hook up, program and run P/T survey tool from 0 to 1955' BGS, casing pressure gauge reading 10 psi, however upon loading the tool, appears to be 0 casing pressure. Joe, Ray and Darren cut ditch to cellar floor and laid poly pipe to drain cellar through winter.	
13:00	19:00	6.00	1,955	MOB	Joe ,Ray, Darren and helicopter crew broke down the job site tent and core tent. Strung out barbed wire around sump and retention pond.Helicopter flew Monty from Job site at 14:30 hrs over the staging area, appear the crew has 90% of the Major container loaded, was loading the rig stack into container. Estimate loading will be complete by end of day.	
19:00	0:00	5.00	1,955	WOD	Suspend activities for the day. Crew remaining in camp tonight, working 12 hr days. Tear down of camp to begin tomorrow.	

Bit/BHA Information

No/Run	Make	Model	Diam	Jets 1-4	Dist	Hrs	ROP	WOB	RPM	Torq	MudWt	Flow Press	J.Vel	P.Drp	HHP	JIF

No Bit Information for this report.

BHA - None

Mud Reports

Date/Time	Dens.	Vis.	PV	YP	Filt.	Cake	pH	Solids	Oil	Water	Sand	LGS	Cl	Ca	CaCl	Gels	Temp In/Out

No Mud Records for this report.

Drilling Parameters

Depth	ROP Av/Mx	WOB	RPM	Torque	Flow	AV:DC	AV:DP	Press.

No Drilling Parameters Records for this report.

Mud Log

Depth	Gas:Back	Max	Conn	Trip	Pore Pres.

No Mud Log Information for this report.

Inventory

Item	Used	Invent.	Item	Used	Invent.

No Inventory Records for this report.

Safety Information

LTI: **Days Since:**

Med: **1st Aid:**

Accident Description:

Oper: 2 **Cont:** 5 **Serv:** 1 **Othr:** 1

Total Personnel: 9 **Hours:** 0

Environment

Cum. Water Hauled: 0.000 acre-ft

Rig/Weather Information

Equipment Problems:

Location Condition:

Transport Status:

Sky: Partly cloudy **Vis.:** 10 **Temp:** 55 **Pressure:** **Wind:** 4 **Gusts:** 6