Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	18-Aug-16 12:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:		**Solids %:**	
Sample Depth (ft):	0	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	90.00	**Sand %:**	
Funnel Vis (secs/qt):	52	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):		**Calcium:**	
Mud Temp Out (degF):		**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	27-Aug-16 00:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:		**Solids %:**	
Sample Depth (ft):	265	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.50	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):		**Calcium:**	
Mud Temp Out (degF):		**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	27-Aug-16 01:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:		**Solids %:**	
Sample Depth (ft):	270	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):		**Calcium:**	
Mud Temp Out (degF):		**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	27-Aug-16 03:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:		**Solids %:**	
Sample Depth (ft):	285	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	9.20	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):		**Calcium:**	
Mud Temp Out (degF):		**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	27-Aug-16 06:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:		**Solids %:**	
Sample Depth (ft):	320	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	9.40	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):		**Calcium:**	
Mud Temp Out (degF):		**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	27-Aug-16 10:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:		**Solids %:**	
Sample Depth (ft):	350	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	86.00	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):		**Calcium:**	
Mud Temp Out (degF):		**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	27-Aug-16 13:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:		**Solids %:**	
Sample Depth (ft):	405	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.50	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):		**Calcium:**	
Mud Temp Out (degF):		**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	27-Aug-16 16:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:		**Solids %:**	
Sample Depth (ft):	435	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.50	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):		**Calcium:**	
Mud Temp Out (degF):		**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	27-Aug-16 20:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:		**Solids %:**	
Sample Depth (ft):	455	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.60	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):		**Calcium:**	
Mud Temp Out (degF):		**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	28-Aug-16 00:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	475	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.60	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	68	**Calcium:**	
Mud Temp Out (degF):	121	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	28-Aug-16 03:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	495	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.60	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	72	**Calcium:**	
Mud Temp Out (degF):	128	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	28-Aug-16 06:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	555	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.50	**Sand %:**	
Funnel Vis (secs/qt):	58	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	70	**Calcium:**	
Mud Temp Out (degF):	122	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	28-Aug-16 09:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	580	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.50	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	75	**Calcium:**	
Mud Temp Out (degF):	125	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	28-Aug-16 11:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	600	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.50	**Sand %:**	
Funnel Vis (secs/qt):	58	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	72	**Calcium:**	
Mud Temp Out (degF):	122	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	28-Aug-16 13:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	635	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	70	**Calcium:**	
Mud Temp Out (degF):	128	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	28-Aug-16 15:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	675	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	58	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	68	**Calcium:**	
Mud Temp Out (degF):	127	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	28-Aug-16 18:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	700	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):		**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	72	**Calcium:**	
Mud Temp Out (degF):	131	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	28-Aug-16 21:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	735	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):		**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	71	**Calcium:**	
Mud Temp Out (degF):	128	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	28-Aug-16 23:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	765	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):		**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	65	**Calcium:**	
Mud Temp Out (degF):	127	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	29-Aug-16 00:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	775	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.50	**Sand %:**	
Funnel Vis (secs/qt):	58	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	110	**Calcium:**	
Mud Temp Out (degF):	125	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	29-Aug-16 03:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	785	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.50	**Sand %:**	
Funnel Vis (secs/qt):	58	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	95	**Calcium:**	
Mud Temp Out (degF):	132	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	29-Aug-16 05:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	795	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.50	**Sand %:**	
Funnel Vis (secs/qt):		**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	105	**Calcium:**	
Mud Temp Out (degF):	128	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	29-Aug-16 07:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	805	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):		**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	97	**Calcium:**	
Mud Temp Out (degF):	121	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	30-Aug-16 00:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	800	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.30	**Sand %:**	
Funnel Vis (secs/qt):	35	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	85	**Calcium:**	
Mud Temp Out (degF):	105	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	31-Aug-16 01:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	805	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.30	**Sand %:**	
Funnel Vis (secs/qt):	35	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	80	**Calcium:**	
Mud Temp Out (degF):	115	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	31-Aug-16 03:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	840	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	50	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	86	**Calcium:**	
Mud Temp Out (degF):	115	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	31-Aug-16 05:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	890	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	91	**Calcium:**	
Mud Temp Out (degF):	118	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	31-Aug-16 07:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	900	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	60	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	94	**Calcium:**	
Mud Temp Out (degF):	121	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	31-Aug-16 09:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	930	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	65	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	94	**Calcium:**	
Mud Temp Out (degF):	135	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	31-Aug-16 11:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	950	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	97	**Calcium:**	
Mud Temp Out (degF):	140	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	31-Aug-16 13:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	985	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	110	**Calcium:**	
Mud Temp Out (degF):	148	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	31-Aug-16 14:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1005	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	70	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	112	**Calcium:**	
Mud Temp Out (degF):	151	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	31-Aug-16 16:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1040	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	70	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	108	**Calcium:**	
Mud Temp Out (degF):	130	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	31-Aug-16 17:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1055	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	70	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	112	**Calcium:**	
Mud Temp Out (degF):	157	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	31-Aug-16 19:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1065	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	114	**Calcium:**	
Mud Temp Out (degF):	161	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	31-Aug-16 23:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1100	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	70	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	115	**Calcium:**	
Mud Temp Out (degF):	158	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	01-Sep-16 00:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1105	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	65	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	121	**Calcium:**	
Mud Temp Out (degF):	160	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	01-Sep-16 02:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1130	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	65	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	120	**Calcium:**	
Mud Temp Out (degF):	169	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	01-Sep-16 04:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1160	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	65	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	124	**Calcium:**	
Mud Temp Out (degF):	178	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	01-Sep-16 06:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1190	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	121	**Calcium:**	
Mud Temp Out (degF):	172	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	01-Sep-16 08:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1215	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	50	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	123	**Calcium:**	
Mud Temp Out (degF):	177	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	01-Sep-16 10:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1245	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	121	**Calcium:**	
Mud Temp Out (degF):	174	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	01-Sep-16 14:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1275	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	123	**Calcium:**	
Mud Temp Out (degF):	180	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	01-Sep-16 15:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1300	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	121	**Calcium:**	
Mud Temp Out (degF):	178	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	01-Sep-16 20:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1300	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	50	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	113	**Calcium:**	
Mud Temp Out (degF):	190	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	01-Sep-16 22:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1350	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	55	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	89	**Calcium:**	
Mud Temp Out (degF):	135	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	01-Sep-16 00:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1385	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	60	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	87	**Calcium:**	
Mud Temp Out (degF):	121	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	02-Sep-16 00:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1385	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	70	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	96	**Calcium:**	
Mud Temp Out (degF):	133	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	02-Sep-16 04:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1405	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	70	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	97	**Calcium:**	
Mud Temp Out (degF):	136	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	02-Sep-16 06:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1425	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	96	**Calcium:**	
Mud Temp Out (degF):	135	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	02-Sep-16 08:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1440	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	98	**Calcium:**	
Mud Temp Out (degF):	134	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	02-Sep-16 10:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1455	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	70	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	96	**Calcium:**	
Mud Temp Out (degF):	133	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	02-Sep-16 12:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1485	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	93	**Calcium:**	
Mud Temp Out (degF):	128	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	02-Sep-16 14:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1495	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	95	**Calcium:**	
Mud Temp Out (degF):	132	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	02-Sep-16 15:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1505	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	98	**Calcium:**	
Mud Temp Out (degF):	135	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	02-Sep-16 19:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1585	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	98	**Calcium:**	
Mud Temp Out (degF):	151	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	02-Sep-16 20:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1600	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	97	**Calcium:**	
Mud Temp Out (degF):	132	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	02-Sep-16 00:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1645	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	106	**Calcium:**	
Mud Temp Out (degF):	151	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	03-Sep-16 00:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1650	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	112	**Calcium:**	
Mud Temp Out (degF):	156	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	03-Sep-16 04:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1695	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	108	**Calcium:**	
Mud Temp Out (degF):	155	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	03-Sep-16 05:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1705	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	105	**Calcium:**	
Mud Temp Out (degF):	152	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	03-Sep-16 06:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1725	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	108	**Calcium:**	
Mud Temp Out (degF):	158	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	03-Sep-16 12:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1740	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	95	**Calcium:**	
Mud Temp Out (degF):	146	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	03-Sep-16 13:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1755	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	102	**Calcium:**	
Mud Temp Out (degF):	151	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	03-Sep-16 14:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1755	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	105	**Calcium:**	
Mud Temp Out (degF):	155	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	03-Sep-16 16:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1785	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	108	**Calcium:**	
Mud Temp Out (degF):	158	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	03-Sep-16 17:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1805	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	108	**Calcium:**	
Mud Temp Out (degF):	159	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	03-Sep-16 18:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1815	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	110	**Calcium:**	
Mud Temp Out (degF):	162	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	03-Sep-16 20:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1845	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	112	**Calcium:**	
Mud Temp Out (degF):	162	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	03-Sep-16 00:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1865	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	110	**Calcium:**	
Mud Temp Out (degF):	160	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	04-Sep-16 01:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1875	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	108	**Calcium:**	
Mud Temp Out (degF):	156	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	04-Sep-16 03:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1895	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	112	**Calcium:**	
Mud Temp Out (degF):	162	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	04-Sep-16 05:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1900	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	114	**Calcium:**	
Mud Temp Out (degF):	168	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	04-Sep-16 06:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1919	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	80	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	112	**Calcium:**	
Mud Temp Out (degF):	166	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	04-Sep-16 15:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1925	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	70	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	97	**Calcium:**	
Mud Temp Out (degF):	136	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Geothermal Resource Group

Well ID: AK-3

Well Name: AK-3

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

Date/Time:	04-Sep-16 17:00	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1945	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	110	**Calcium:**	
Mud Temp Out (degF):	156	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments:

Mud Report

Well ID: AK-3

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

Geothermal Resource Group

Well Name: AK-3

Date/Time:	04-Sep-16 17:30	**Oil/Water Ratio:**	/
Engineer:		**Company:**	
Location:	PIT	**Solids %:**	
Sample Depth (ft):	1955	**Water %:**	
Mud Type:		**Oil %:**	
Density (lbs/gal):	8.40	**Sand %:**	
Funnel Vis (secs/qt):	75	**Low G.S. %:**	
PV (centipoises):		**High G.S. %:**	
YP (lbs/100sq ft):		**LCM %:**	
Gels - 10secs:		**Mud Alkalinity Pm:**	
10mins:		**Filtrate Alkalinity Pf:**	
30mins:		**Filtrate Alkalinity Mf:**	
Mud Temp In (degF):	115	**Calcium:**	
Mud Temp Out (degF):	163	**Chlorides:**	
Filtrate:		**Calcium Chloride:**	
HTHP Filtrate:		**C03:**	
Cake (1/32 in):		**Elec. Stability:**	
Mud pH:		**CEC:**	
Filtrate pH:		**Lime Content:**	
Rheology - 600/300 rpm:		**Active Vol (bbls):**	
200/100 rpm:		**Reserve Vol (bbls):**	
6/3 rpm:		**Daily Mud Loss (bbls):**	
		Cumulative Mud Loss (bbls):	

Comments: