Cementing 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

Cement Job Information

Start Date/Time:	29-Aug-16 22:30	**Well Bore:**	Original Well Bore
Job Type:	SECONDARY	**String OD (ins):**	4.500
Well Section:	PROD	**String Type:**	FULL
Cementing Co:	MAJOR	**Cementing Engineer:**	

Secondary Job Details

Remedial Type:	ZONE	**No. of Attempts:**	2
Breakdown Pressure (psi):	100	**Breakdown Rate (bbls/min):**	
Init. Injectn Pressure (psi):	170	**Initial Injectn Rate(bbls/min):**	
Final Injectn Pressure (psi):	150	**Final Injectn Rate (bbls/min):**	
Init. Shut In Pressure (psi):	120		
Hold Pressure (psi):	150	**Hold Time:**	
Bleed Back Volume (bbls):			

Slurry Information

Type	Density	Yield	Sacks	Volume	Rate	Additives
LEAD	13.50	14.6	14	2.5	0.5	Thermolite HT + 1 pint retarder

Post Job Information

Liner Top Test (lbs/gal):		**Job Success?**	Yes
Actual Top of Cmt (ft):		**CBL Bond Quality:**	

Misc. Comments: Mix 14 sks of Thermolite cement with 60 gallons of fresh water (13.5 ppg) and additives. Pump 10 sack volume at .5 bpm. Initial pump pressure to 170 psi, fall back to 100. Wait 10 min. Pump 2 sks volume, pressure to 150 psi. Shut in side valve. Clean pump and discharge hoses. Set grab sample in water bath at 180 F.