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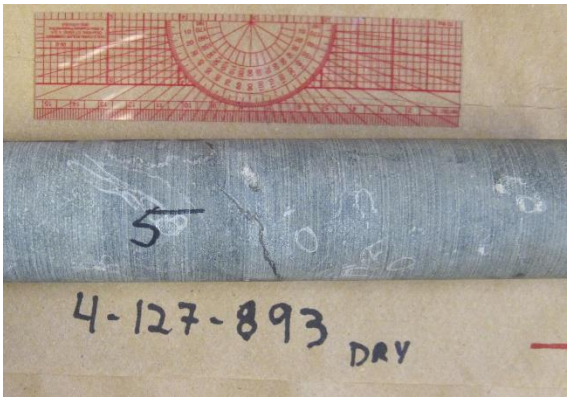
Dear Ms. Mann,

Below are my preliminary correlations and suggestions for AK-3 drilling project through 690' (8/28/2016). Core photos were not available for depths >~174'. Overall, the subjective nature of discerning basalt, andesite and "lithic basalt" has made lithologic comparisons between the two wells very challenging.

Overall, it appears that the lithologies in well AK-3 are occurring shallower than in TG-3, suggesting a reverse sense of motion on the fault between the two wells. This is based on very general lithologic interpretations, however. Core photos of the deeper portions of AK-3 may help in these stratigraphic correlations.

With regard to fractures zones and faults, I would anticipate encountering the proposed fault sometime in the next couple of days. My suspicion is that the fault is reverse and is acting as an aquitard. If this is the case, I would expect little alteration above the fault zone, a brecciated zone with an increase in alteration at and an increase in the intensity (and temperature) of alteration below the fault zone. As stated earlier, this may occur as deep as ~700-800'.

Major permeable structures in well TG-2 do not appear below ~690'. At 690', a ~1 ft wide zone of highly fractured basalt is filled with a wide variety of secondary minerals (quartz, calcite, zeolites, hematite (incorrectly ID'd in the field as cinnabar), pyrite and more.

A rollover in temperatures occurred in TG-2 after the hottest zone at 592' when the well flowed 359 0F fluid (equilibrated temp at this zone was 337 ^{o}F). By 833', the temperature had dropped 7 ^{o}F. In AK-3, temperatures of outflowing mud appear to peak around 520', about 70' shallower than in well TG-2. It will be interesting to see temperatures below ~700' in AK-3.

At the current drilling rate, AK-3 will soon be below the T.D. for TG-2. At that points, correlations between AK-3 and TG-4 will need to be made. One aspect of TG-4 that may help identify the stratigraphic sequence in AK-3 is a few layers of basaltic sandstone (coarse, angular basalt clasts in a limestone mud matrix – very dark and hard to distinguish from very fine-grained basalt) with many shells present. Look for worm burrows, bivalve mollusk shells and scallop shells. This was seen in TG-4 at 896-900' deep (see Figure below). Knowing the depth of these shelly layers in AK-3 would help correlate the two wells.