

EGS Collab Daily Shift Report

Date: 6/27/19

Written by: Mark White (mark.white@pnnl.gov; 509.372.6070), 6/27/19

SURF Personnel: George Vandine

Location(s): 4100 Level Battery Alcove

Summary:

We (Mark White, PNNL; Carson Reimers, SDSMT; George Vandine, SURF; Jason Davis, Agapito; and David Zaccardi, Agapito) took the 6:30 am cage down to the 4100 Level and conducted a brief toolbox talk at the Battery Alcove. Drilling started immediately following the toolbox talk, with the continuation of Run 12. By 12:40, we'd reached a borehole length of 100 ft, with drilling times per 5-ft section being less than 25 minutes. Several near horizontally oriented mechanically weak calcite or quartz filled fractures have been noted in most of the 5-ft cores. Additionally, there have been a few near horizontally oriented mechanically weak micaceous layers; otherwise the cores have been competent amphibolite rock with RQD of 100%.

Drilling stopped on Run 22, with a failure of a seal in the drilling rig. The crew from Agapito had the necessary replacement seal, and was able to make the needed repair, but about 2 hours of drilling time were lost. The day ended drilling of Run 22, with the core still in the barrel.

Lead Researcher: Mark White (mark.white@pnnl.gov; 509.372.6070), 6/27/19

Documents or Procedures: JHAs: EGS-001-RevB, EGS-004-RevB

Inspections: The work site was inspected for any potential tripping hazards. The water supply line was moved southward to avoid dripping on the core logging station.

Materials Receiving/Shipping: No additional supplies were brought to the work site today. A component of the borehole logging tool arrived today from REFLEX. This component will be brought to the work site tomorrow morning.

Comments: Drilling times per section were shorter than the previous days. A plot of the borehole trajectory, as measured by the REFLEX tool were compared to the planned vertical, as shown in the figures below.

Recommendations: N/A

Irregularities: The drilling rig had a o-ring fail, causing the loss of the lubricant (vegetable oil). The oil was contained and soaked up with sorbent pads. The replacement of the o-ring resulted in approximately 2 hours of drilling time.

Acts of Safety: We discussed the need for continued communication and being aware of the activities of others during the Toolbox Talk to avoid accidents with the tight quarters of the work site.

Near Misses or Incidents: N/A

EGS Collab Personnel Hours (Surface and Underground):

	Name	Surface Hours		Underground Hours	
		Time In	Time Out	Time In	Time Out
1	<i>Mark White (PNNL)</i>	06:00	18:00	06:30	17:30
2	<i>George Vandine (SDSTA)</i>	06:00	18:00	06:30	17:30
3	<i>Carson Reimers (SDSMT)</i>	06:00	18:00	06:30	17:30
4	<i>Dave Zaccardi (Agapito)</i>	06:00	18:00	06:30	17:30
5	<i>Jason Davis (Agapito)</i>	06:00	18:00	06:30	17:30

Science Toolbox Form

Date: <u>06/27/19</u>	Location: <u>4100 Battery Alcove</u>	Group Affiliation: <u>EGS Collab</u>
Shift Passdown:		
Planned tasks/SOPs/JHAs: <u>continued drilling & core logging of borehole TV4100</u>		
Tools/Resources needed: <u>Agapito drilling rig and diesel power source</u> <u>core logging equipment (i.e. table, cameras, tapes, logs)</u>		
Hazards: <u>tight quarters, uneven ground surface, wet conditions</u> <u>power equipment, moving parts, physical labor, generator noise</u>		
Mitigations/PPE: <u>pumping of drilled water & filtering</u> <u>near protection</u> <u>communication between workers</u> <u>being alert of activities and others</u>		<input checked="" type="checkbox"/> Hard Hat <input checked="" type="checkbox"/> Self-Rescuer <input checked="" type="checkbox"/> Reflective Clothing <input checked="" type="checkbox"/> Hearing Protection (type): <u>insert</u> <input type="checkbox"/> Fall Protection (type): <input checked="" type="checkbox"/> Gloves (type): <u>leather or cloth coated</u> <input type="checkbox"/> Goggles (type): <input type="checkbox"/> Other:

By signing below, I confirm that I have received training, had a chance to discuss concerns, and fully understand my task and responsibilities for today's work.

Name (print)	Signature	Name (print)	Signature
<u>Mark White</u>	<u>[Signature]</u>	<u>Jason Davis</u>	<u>[Signature]</u>
<u>Carson Reimers</u>	<u>[Signature]</u>		
<u>David Zaccardi</u>	<u>[Signature]</u>		
<u>George Vandine</u>	<u>[Signature]</u>		

Supervisor/Work Lead (name) <u>Mark White</u>	I authorize this work. (signature) <u>[Signature]</u>	Date <u>06/27/19</u>
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*Room for additional names/signatures and comments on back of page.

Figure 1. Toolbox form



Figure 2. Carson Reimers ready to log core.



Figure 3. Jason Davis removing the head pipe.

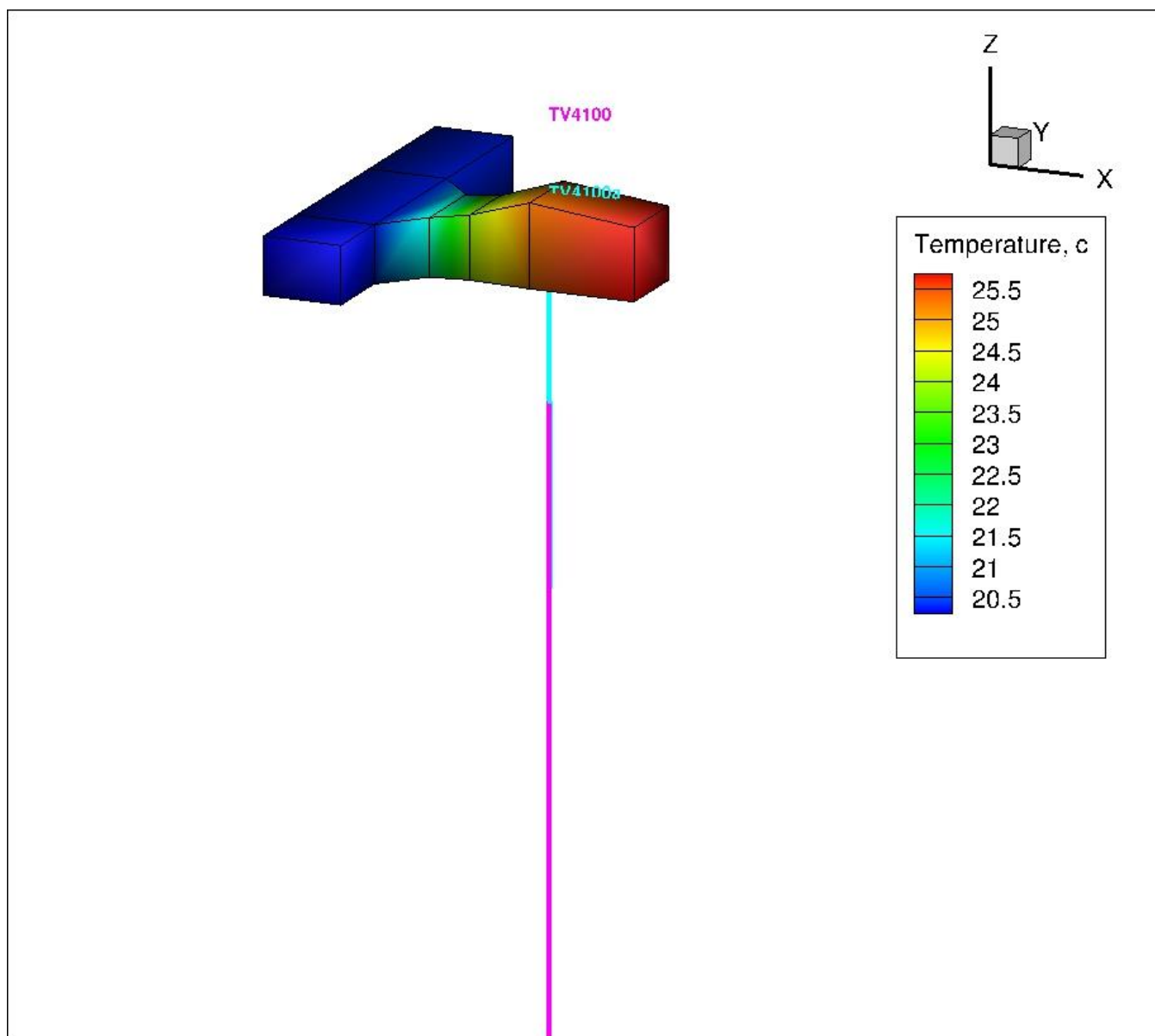


Figure 4. Actual (cyan) versus planned (purple) trajectory for TV4100 derived from the REFLEX Gyroscope tool.