

EGS Collab Daily Shift Report

Date: 6/25/19

Written by: Mark White (mark.white@pnnl.gov; 509.372.6070), 6/25/19

SURF Personnel: George Vandine

Location(s): 4100 Level Battery Alcove

Summary:

We (Mark White, PNNL; Carson Reimers, SDSMT; Russell Hulky, Reflex; George Vandine, SURF; Jason Davis, Agapito; and David Zaccardi, Agapito) took the 6:30 am cage down to the 4100 Level and conducted a toolbox talk, with a focus on egress and tight quarters. We then walked to the Battery Alcove and started to prepare for the day that involved drilling the 50-m vertical borehole, known as TV4100. We plumbed the drill rig and finished building the core logging station. A total of 22.5 feet of HQ borehole was drilled and core collected in five runs. All of the core had a Rock Quality Description (RQD) of 100%. Cores were logged, photographed, and placed in core boxes. Agapito then proceeded to overdrill the HQ hole to set 20' of 4 ½" OD casing. All waste drilling water was put through a sediment filter before being discharged into the drift channel. Casing was set, but some slumping of loose rocks into the borehole yielded the casing top just below grade level, with the pressure gage and relief valve above grade level. As it was late in the day, it was decided to grout/cement the casing in place, leaving the casing cap accessible for future modifications. We took the 5:30 pm cage to the surface.

Lead Researcher: Mark White (mark.white@pnnl.gov; 509.372.6070), 6/25/19

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

Inspections: Dave Zaccardi provided a tour of the diesel power plant and overview of its safety features. We inspected the drill rig for plumb and made adjustments before commencing with drilling.

Materials Receiving/Shipping: Supplies for core logging, including a logging table and photography frame were previously brought to the site. A sump pump for removing water was brought to the site from the surface.

Comments: George Vandine is a stand-out guide willing to work with scientists and drillers all the same, and his resourcefulness paid off again in acquiring a sump pump, when the one we had on site did not operate. Thank you George for all your help with the EGS Collab project.

Recommendations: N/A

Irregularities: The borehole was drilled to a depth of 21 ft to accommodate the casing, cap, and pressure gauge and relief valve. Loose rocks falling into the borehole yielded a depth sufficient for the casing, cap, and a portion of the pressure gauge and relief valve.

Acts of Safety: We discussed the limited egress on the 4100 and location of the oxygen generator escape packs.

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
6	<i>Russell Hinkley (Reflex)</i>	06:00	18:00	06:30	17:30

Science Toolbox Form

Date: 06/25/19	Location: 4100 Level Battery Alcove EES collab	Group Affiliation:
Shift Passdown:		
Planned tasks/SOPs/JHAs: drilling TV4100 and core logging		
Tools/Resources needed: Agapito drill rig, compressor, pumps, wrenches core logging rig, measuring tape, scribes		
Hazards: tight quarters, tripping hazards, ladders drill noise,		
Mitigations/PPE: safety vest, hearing protection hard hats, cap lamps, escape pack reviewed fire suppression on compressor reviewed shut off on compressor		<input type="checkbox"/> Hard Hat <input type="checkbox"/> Steel/Hard Toe Boots <input type="checkbox"/> Self-Rescuer <input type="checkbox"/> Safety Glass w/Side Shields <input type="checkbox"/> Reflective Clothing <input type="checkbox"/> Face Shield <input type="checkbox"/> Hearing Protection (type): _____ <input type="checkbox"/> Fall Protection (type): _____ <input type="checkbox"/> Gloves (type): _____ <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
Mark White	<i>Mark White</i>	David Zaccardi	<i>David Zaccardi</i>
Russell Hickey	<i>Russell Hickey</i>		
Carson Reimers	<i>Carson Reimers</i>		
George Vardine	<i>George Vardine</i>		
Jason Davis	<i>Jason Davis</i>		

Supervisor/Work Lead (name)	I authorize this work. (signature)	Date
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*Room for additional names/signatures and comments on back of page.

Figure 1. Toolbox form



Figure 2. Location of vertical borehole TV4100, with Carson Reimers.



Figure 3. Plumb bob in use for vertical alignment of drill rig.



Figure 4. Carson Reimers examining core, as part of the core logging campaign for borehole TV4100.



Figure 5. Installing casing in TV4100.