8/22/01 JRL/JLJ

R-13 Drilling Activities

and 20.1' Section of 18" Conductor casing (to be welded to the 1st casing section).

0355 Dynatec continues to make connection. Larry Thoren arriving site.

0400 Darrol Wilson departing site.

0425 Having made the connection, Dynatec now hoisting the 18" casing into place. Prepping to weld the conductor casing joint.

0435 Larry Thoren beginning to weld casing joint.

0540 Jim Jordan arrives site.

0545 Day shift drillers on site driller: Glenn Woodward helpers: Gary Larson, Rodney Price

0600 Rick Lawrence, Night Geo off site, Dan Thompson on site

0610 Night shift drillers off site

0630 Day shift completes daily tailgate H+S meeting + equipment inspections

0635 Drillers continue setting up

8-22-01 JLJ
R-13 Drilling

to drill, installing surface casing. When surface casing installation resumes, we will be drilling down from 23' bgs

JLJ 8-22-01
0730 resume drilling, down from 23'

0736 collect cuttings 23-28'

0740 Larry Thoren on site, picking up equipment
— Dan Thompson off site

0815 Dave Foreman (Dynatec drilling foreman/super from Salt Lake City) and ~~John~~ John Eddy on site, general site visit. JLJ 8-22-01 JLJ 8-22-01
D. Foreman is acting safety officer for Dynatec this week and he is on site today to perform a safety inspection

0900 collect cuttings sample 28-33 ft bgs
[redacted] JLJ 8-22-01 [redacted]
[redacted] borehole dried out; borehole did not make any water

1005 Andy Crowder, Juan Gomez on site, to pick up keys (LANL logging trailer).

HSWA LANL G/M/ JP K-13
TA-05
2812

8/22/01 JLJ
R-13 drilling

1010 A. Crowder, J. Gomez off site, back to cdV-R-372

1011 Drill rig running again, blowing hole

1020 Doug Barney (ESH-5) on site
Trung Nyben also on site, looking @ Site H+S
[redacted] very little, if any, water coming out; both driller + J. Eddy believe we do not have any borehole water – the very little bit of water coming up hole, less than a trickle, is believed to be water injected previously

1045 D. Barney, T. Nyben off site
– drillers are prepping to land surface casing. The 18" surface casing will be ~~spun~~ JLJ 8-22-01 spun into place, using the lower rotary drive

1050 J. Eddy informs J. Jordan that it will be best to cement the surface casing into place

1130 Larry Thoren delivers 3 bags Zia Portland Type I, II cement to site

R-13 drilling 8-22-01 JLJ

1131 Drillers tripping out 7" RC rods + 16" tricone bit (have been tripping rods out since 1115 hrs)

1135 both 7" RC rods out + laid down
downhole assembly is hanging in hole

1140 begin pouring cement between bore hole wall + outside wall of 18" surface casing. Cement is mixed, thinly, in 5 gal buckets + then poured down hole while surface casing is being spun by lower rotary drive

1145 raining moderately hard; no lightning seen, or thunder heard

1200 Larry Thoren, John Eddy, Dave Foreman off site

1220 finish pouring cement down outside of surface casing – each bag of cement was mixed w/ ~~x~~ 10 gal of water (≈2.5 gal per bucket mix @ 4 buckets/bag of cement. G. Woodward informs J. Jordan that 18" steel

8-22-01 JLJ

R-13 Drilling

Surface casing is landed @ 37 ft bgs.
- no longer raining
1230 drillers break for food
1300 drillers resume work @ rig, rigging to break apart subs ~~at~~ JLJ 8-22-01 attached to 16" tricone bit
1305 Steve Pearson + John McCann on site, checking it out.
1325 Dan Thompson, Paula Schuh on site. Deliver drum for waste storage + P. Schuh is here to take care of some CDV-R-37-2 paperwork
1330 S. Pearson + J. McCann say everything @ the site looks good
1331 S. Pearson, J. McCann off site
1335 Leon Gleason, WGII/AMC QA/QC person on site, wants
JLJ 8-22-01 ~~1345~~ check out JLJ 8-22-01 drill rig in operation
1345 Leon Gleason off site, since no drilling is going on

R-13 drilling

8-22-01 JLJ

1350 D. Thompson, P. Schuh off site
1355 lightning flash to ~~bag~~ JLJ 8-22-01 bang @ 11 seconds to the east of us
- we stop work, everyone inside drillers
1415 Ken Gillespie, Casey VanBarger, WGII SSOs, on site to take care of H+S items. S. Jordan informs Casey VanBarger that we're under a lightning shut down, for at least another 10 minutes
[redacted] lightning stand down complete, resume work. SSOs are performing H+S rig up; drillers JLJ 8-22-01 prep to cut off surface casing stick up. When drillers pulled down hole assembly out of hole, G. Woodward noticed water in bottom of borehole. So, we must have hit a little water after all - we will sample the water tonight, when we resume drilling

8-22-01 JLJ

R-13 drilling

1445 cut off ~~to~~ JLJ 8-22-01 stick up of 18" Steel surface casing

[redacted] measure DTW @ 34.64' BTOC
Stick up = 1.05 ft = 33.59 bgs

[redacted] measure DTW @ 34.65' BTOC
= 33.60 JLJ 8-22-01 ~~34.60~~ bgs

1545 C. Von Bargen, K. Gillespie off site. While here they roped off the construction zone + hear protection exclusion zones around equipment among other H+S JLJ 8-22-01 ~~s~~ items they took care JLJ 8-22-01 ~~off~~ of

JLJ 8-22-01 ~~1800~~ 1600 Gary Larson off site to fill water truck

[redacted] measure DTW = 64.65 bTOC
33.60 JLJ 8-22-01 ~~63.60~~ bgs

- drillers begin tripping in downhole assembly - same length as before = 8.5 ft long bit is 16-in longtooth button tricone

1645 G. Larson returns to site w/ full water truck (#2 @ 3000 gal)

R-13 drilling 8-22-01 JLJ

1700 Count 93 x 7" RC rods @ 20 ft ea
25 x 13 1/4" @ 20 ft drill casing
2 x 13 1/4" @ 10 ft " "

1720 D. Thompson delivers ground-water monitoring equipment (meters)

~~1745 D. Thompson off site~~ JLJ 8/22/01

1746 Calibrate Orion pH meter (230A) in accordance w/ ER SOP 6.02 Rev 1.

~~1750~~ JLJ 8-22-01 ~~Check HACH to~~
7.00 soln → 7.07 → Auto read 6.99
10.01 soln → 10.12 → 10.01
slp = 98.9

1750 JLJ 8-22-01 ~~JLJ~~ Rick Lawrence on site (Night Geo/FTL)

1800 James Jordan off site

1815 Dynatec nite shift Darrol Wilson & Jason McKinney arrive site. Juan Rivera had arrived 1800 Hr.

1900 Juan Rivera leaving site w/ fuel truck. Dan Thompson departed site 1830 Hr.

2000 Casey Von Bargen on site to conduct light meter survey w/in weaking zone.

8/22/01 JRL

R-13 Drilling Activities

2100 Sample of cement that was poured around surface casing has yet to set up sufficiently to resume drilling.

2120 Measure EC standard solution (4.49 mS/cm @ 25°C) using YSI 30 water quality meter SN: 00G0597

EC = 4593 µS/cm

T = 24.9°C

2125 Hach kit Turbidity meter:

read St. Sol'n <0.1 NTU = 0.10 NTU

St. Sol'n 100 NTU = 93.6 NTU

St. Sol'n 800 NTU = 802 NTU

Unit is in good calibration.

Note: Casey V. Bargen completed the light meter survey, discussed results w/ driller & JRL; departed site 2115 hr.

2215 [redacted] Dynatec preparing to blow out water from hole; collect water sample. Unable to take W.L. w/ 20' stickup at present time. WL @ 1630 (33.60' bgs) suggests there may be less than 4' of H_2O.

2225 [redacted] Driller blowing wet sand up from hole – no free water.

2227 Driller will drill downward & blow

8/22/01 JRL

R-13 Drilling Activities

hole out again.

2231 [redacted] The hole is now making a trickle of H_2O on the order of <1 gpm. Collecting sample, very muddy

2240 [redacted] No more water being produced. Collected 1⅓ 5 gal carboys G.W. 4 EA 40-ml VOA (i.e. two sets)

2245 Collect sample cuttings @ 38-43'. Note: interval 33-38 not collected.

Measure field parameters of groundwater collected at 2240 Hrs

pH = 7.95

EC = 234.3 µS/cm T = 16.9

turbidity = >> 1000 NTU (muddy)

2259 Drillers connect 20' joint 7" RC rod.

Note: Sample of cement grout collected at 1220 Hrs has set up hard at this time – curing time 10.5 hrs.

2315 Collect cuttings @ 43-48' Clay balls present.

2324 Collect cuttings @ 48-53' bgs.

2338 Collect cuttings @ 53-58' bgs.

2350 Collect cuttings @ 58-63' bgs.

2400 Drillers connect 20' joint 7" RC rod.

0013 Collect cuttings @ 63-68' bgs.

0019 Collect cuttings @ 68-73' bgs; cuttings

8/23/01 JRL

R-13 Drilling Activities

this sample are less clayey, color change.

0042 Drillers take lunch break.

0115 Drillers at rig, resume drilling.

0140 Collect cuttings @ 73-78' bgs.

0152 Collect cuttings @ 78-83', color change.

0157 Drillers connect 20' joint 7" RC rod.

0125 Collect cuttings @ 83-88'

0135 Collect cuttings @ 88-93'

0248 Collect cuttings @ 93'-98' bgs.

0307 Collect cuttings @ 98-103' bgs.

0326 Drillers connect 20' joint 7" RC rod.

0331 Collect cuttings @ 103-108' bgs

0334 Collect cuttings @ 108-113' bgs.

0337 Collect cuttings @ 113-118' bgs.

0400 Drillers lost circulation; have been cleaning out the hole.

0418 Collect cuttings @ 118-123' bgs.

0445 Drillers cleaning out the hole. David Wilson says top head leaking water & dust cover rubber seals need replacing soon.

0452 Drillers making connection of 20' joint R.C. rod.

0502 Collect cuttings @ 123-128' bgs.

0508 Collect cutting @ 128-133' bgs.

8/23/01 JRL

R-13 Drilling Activities

0515 Collect cuttings @ 133-138' bgs.

0520 Collect cuttings @ 138-143' bgs

0530 Driller performing repairs on rig, breaking down dust cover.

0545 Jim Jordan arrives site. Fluids used during nite shift. 2000 gal H_2O, 3 gal EZ mud, 0 gal foam.

0550 Arriving site Dynatec day shift: Glenn Woodward, Rodney Price, Gary Larson.

0600 Dan Thompson on site

0615 Rick Lawrence, night shift drillers off site

0630 Day shift drillers complete daily tailgate H+S meeting + equipment inspections