

WELL SUMMARY

Location ID: ST-3-735 Field Representative(s): M. Canavan, D. Menzie, J. Kirby
P. Egan

Date Started: 07/22/92 Date Completed: 08/21/92

Northing: 230843.63 Easting: 400740.70

Brass Cap: 4496.62 Outer Casing: 4497.14 Inner Casing: 4497.60

Drilling Method: Mud/Air Foam Rotary Drilling Contractor: Larjon Drilling Co.

Driller: J. Gower, D. Sanchez

Total Depth Borehole: 800' Total Depth Well Casing: 760.46'

Total Depth Surface Casing: 60'

Diameter Well Casing: 4" Diameter Surface Casing: 14"

Length of Bottom Blank: 5.00'

Type of Screen: extra strength 0.02 slot

Screen Interval: 735' to 755'

Water First Detected: 453' Water Level Open Borehole: 427.0'

Water Level Cased Borehole: 428.39' (T.O.C.)

Quik-Foam Use: 61 gallons EZ-mud use: 63.5 gallons

Estimated Water Use: 35,400 gallons

Well Casing:

4in x 3ft SCD 40 PVC:
4in x 5ft SCD 40 PVC:
4in x 10ft SCD 40 PVC:
4in x 20ft SCD 40 PVC:
Total SCD 40 PVC pipe: ft

custom SS centralizers:
4"x2' SS locking riser: 1
4" SS locking cap: 1
4" SS female cap: 1
Adaptor(s):

4in x 3ft SCD 5 SS pipe:
4in x 5ft SCD 5 SS pipe: 1
4in x 10ft SCD 5 SS pipe: 1
4in x 20ft SCD 5 SS pipe: 19
Total SCD 5 SS pipe: 395'

4in x 5ft SCD 10 SS pipe: 1
4in x 10ft SCD 10 SS pipe: 2
4in x 20ft SCD 10 SS pipe: 16
Total SCD 10 SS pipe: 345'

Well Completion:

100# bags 16/40 sand: 76 bags
 100# bags 8/20 sand: 216 bags
 94# bags cement: 360 bags
 50# bentonite powder: 36 bags
 Benseal: 2 bags

Surface Casing:

94# bags cement: 16 bags
 50# bags bentonite powder: 1 bags

Pertinent Field Notes:

07/21/92 Steam clean and mobilize equipment to site. Begin to set up for drilling. - Menzie

07/22/92 Finish setting up for drilling. Drill mud rotary with 12 1/4" mill tooth bit from 0'-60'. Ream to 16" from 0'-60'. - Menzie

07/23/92 Run 60' of 14" steel surface casing. Grout annulus to surface. Set up to drill air/foam. - Menzie

07/24/92 Steam clean and mobilize equipment. Continue to set up for air/foam drilling. - Menzie

07/27/92 Drill 65' to 203' via air-foam rotary using a 7 7/8" diameter tri-cone bit. Stop for day due to rainwater flooding of mud pits. - Kirby

07/28/92 Pump mud pits dry and drill 203' to 275' via air foam rotary using a 7 7/8" tricone bit. Use ≈ 1,000 gallons water, 1 gallon EZ mud, 1 gallon soap. - Kirby

07/29/92 Drilled 7 7/8" borehole from 310'-803' with air foam rotary. Hauled 5,500 gallons water. - Canavan

07/30/92 Reamed 7 7/8" pilot hole to 12 1/4" from 60'-356'. - Menzie

07/30/92 Reamed 356'-570'. Rig down to repair clutch on auxiliary air compressor. Trip out to check bit. - Canavan

08/03/92 Reamed 570'-681'. Air hose ruptured on rig causing 1.5 hours of down time. Drilling slowed considerably at 590'. Hauled 9,500 gallons of water. - Canavan

08/04/92 Reamed 681'-800' (TD). Ran out of room for water in pits and had to haul water to other lined pit (at ST-1 pad). Southwest surveys ran full suite of geophysical logs. - Canavan

Pertinent Field Notes: (cont'd)

- 08/05/92 Demobilize drilling equipment from site. Load sand onto flatbed and steam tremie. Pour filler sand to 769.08' and pump bottom plug. (Double thick). - Canavan
- 08/06/92 Installed casing and gravel pack and pumped top plug (double thick). Screen interval is 735.32'-755.22'. Gravel pack interval is 729.42'-759.58'. Bottom of sump is at 760.46'. - Canavan
- 08/07/92 Sounded top of plug at 716.42. Installed filler sand to 613.25'. Pumped double plug at alluvium/bedrock contact. - Canavan
- 08/10/92 Sounded top of "contact" plug at 598.17'. Installed filler sand to 409.17'. Poured first load (90 sacks cement) of grout. - Canavan
- 08/11/92 Poured second and third loads of grout into annulus (190 sacks of cement - total). - Canavan
- 08/12/92 Poured fourth load of grout (60 sacks cement).
- 08/13/92 Poured fifth load of grout (20 sacks cement) and demobilized site. - Canavan
- 08/14/92 Installed 1 1/2 HP submersible pump for development. Pumped 415 gallons from well. - Canavan
- 08/17/92-
08/21/92 NTU's down to 4.5. Pump seized. Pulled pump and turned well over to Lockheed for sampling. - Canavan