

WELL SUMMARY

page 1 of 3Location ID: 700-F-455 Field Representative(s): D. MenzieDate Started: 09/24/90 Date Completed: 01/31/91Northing: 239697.66 Easting: 414160.61Brass Cap: 4763.62 Outer Casing: 4765.32 Inner Casing: 4765.78Drilling Method: Mud/Air-foam Rotary Drilling Contractor: Larjon Drilling Co.Driller: J. GowerTotal Depth Borehole: 526' Total Depth Well Casing: 480.75'Total Depth Surface Casing: 60'Diameter Well Casing: 4" Diameter Surface Casing: 10"Length of Bottom Blank: 5.34'Type of Screen: Extra strength 0.02 slotScreen Interval: 455.00' to 475.03'Water First Detected: not detected while drilling Water Level Open Borehole: 393.58' G.L.
(10/22/90)Water Level Cased Borehole: 311.92' TOC (10/26/90)Quik-Foam Use: 10 gallons

Estimated Water Use: 11,050 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

4in x 3ft SCD 5 SS pipe:
 4in x 5ft SCD 5 SS pipe:
 4in x 10ft SCD 5 SS pipe:
 4in x 20ft SCD 5 SS pipe: 20 x 20'
 Total SCD 5 SS pipe: 400 ft

stock SS centralizers:
 custom SS centralizers:
 4"x2' SS locking riser: 1.73'
 4" SS locking cap:
 4" SS female cap:
 ASTM male adaptor: 2
 Johnson male adaptor: 1
 Ext. strength screen: 2 x 10' = 20'

4in x 5ft SCD 10 SS pipe: 2x5'=10'
 4in x 10ft SCD 10 SS pipe: 1x10'=10'
 4in x 20ft SCD 10 SS pipe: 2x20'=40'
 Total SCD 10 SS pipe: 60 ft

Well Completion:

100# bags 16/40 sand: 31½ bags
100# bags 10/20 sand: bags
100# bags 8/14 sand: bags
100# bags 8/20 sand: 38½ bags

94# bags cement: 85 bags

5 gal. buckets bentonite: buckets

50# bentonite powder: 9 bags

Benseal: 1 bags

Surface Casing:

94# bags cement: 30 bags

50# bags bentonite powder: 3 bags

Grout: bags

Pertinent Field Notes:

- 09/13/90 Mobilize Frank's rig and other equipment to site. - Menzie
- 09/24/90 Drill pilot hole (12¼" bit) from 0'-55', used 900 gallons to mix mud. - Menzie
- 09/25/90 Drill pilot hole (12¼" bit) from 55'-60', ream hole to 16" from 0'-55', used 800 gallons water. - Menzie
- 09/26/90 Drillers helper injures finger tripping into hole to clean out cuttings prior to running surface casing, no further work today. - Menzie
- 09/27/90 Clean out hole, run 60' of surface casing, pump grout for surface casing. - Menzie
- 09/28/90 Demobilize Frank's rig and mobilize BE rig. Drill air-foam rotary (9 7/8" bit) from 60'-191', used 1000 gallons water. - Menzie
- 10/01/90 Drill air-foam rotary (9" hammer bit) from 191'-228', andesite-rich alluvium at 200'. Used 1700 gallons water, very slow drilling, used HNu meter to monitor air-foam discharge while drilling. - Menzie
- 10/02/90 Drillers take air-hammer bit to shop for sharpening, measured about 13' of water hole which is probably drilling fluid. - Menzie

- 10/03/90 Drill air-foam rotary (9" hammer bit) from 228'-303'. Used 1100 gallons of water, andesite bedrock at 305', used HNU meter during drilling. - Menzie
- 10/04/90 Drill air-foam rotary (9" hammer bit) from 303'-391', used 2300 gallons of water, no formation water detected, used HNU meter. - Menzie
- 10/05/90 Checked for water in the hole and had about 8' (383.25' T.O.D.) of drilling fluid. Drilled air-foam rotary (9" hammer bit) from 391'-445', used 1600 gallons of water, used Hnu meter, no formation water detected while drilling. - Menzie
- 10/08/90 Checked for water in the hole and had about 21' (423.17 T.O.D.) of drilling fluid. Drilled air-foam rotary (9" hammer bit) from 445'-525' through andesite bedrock. No formation water detected while drilling. Monitored borehole with Hnu. Did not take filter samples of compressed air because air sampling unit was not operational. Used 1650 gallons water. - Egan
- 10/09/90 Measure water level in open borehole at 511.25', demobilize. - Menzie
- 10/18/90 Measure water level in open borehole at 421.61' (G.L.). - Menzie
- 10/20/90 Ran full suite of geophysical logs. - Egan
- 10/22/90 Load casing and sand, steam clean equipment and materials, sound bottom of hole at 526.0'(G.L.) and water level at 393.58(G.L.). Install filler sand below plug. - Menzie
- 10/23/90 Finish installing filler sand, pump bottom plug, begin installing 4" SS casing, hang 60' of SS casing in surface casing. - Menzie
- 10/24/90 Finish installing 4" SS casing, install gravel pack, pump upper plug. - Menzie
- 10/26/90 Install filler sand to 10' above water level (311.92' TOC), pour 1st load of grout, bail with no indication of grout invasion. - Menzie
- 10/29/90 Bail well dry, pour 2nd load grout and install 5' steel casing protector. - Kirby
- 11/06/90 Bail and surge for development, see development sheet for results. - Canavan
- 11/12/90 Bail and surge for development, see development sheet for results, set 1½ HP submersible pump at 441'. Very low water production. Well pumps dry in 90-126 gallons and takes 4-5 days to recover. Pump development will be slow. - Menzie
- 01/31/91 Well completed, pump pulled. - Menzie