

## WELL SUMMARY

page 1 of 3Location ID: BLM-9-419 Field Representative(s): R. CooperNorthing: 228517.56 Easting: 406183.31Date Started: 10/05/88 Date Completed: 11/09/88Drilling Method: Mud & Air-foam/Rotary Drilling Contractor: LarjonDriller: J. GowerTotal Depth Borehole: 557' Total Depth Well Casing: 445.3'Total Depth Surface Casing: 92'Diameter Well Casing: 4" Diameter Surface Casing: 10"Length of Bottom Blank: 5'Type of Screen: Extra strength 0.02 slotScreen Interval: 419.3' to 440.0'Water First Detected: overnight Water Level Open Borehole: 357'  
recovery at 478'Water Level Cased Borehole: 355.6'

Quik-Foam Use: 7 1/2 gallons

Estimated Water Use: 9100 gallons used in drilling  
2050 gallons measured in mudpit  
7050 gallons introduced to wellWell Casing:

4in x 3ft SCD 40 PVC:		stock SS centralizers:	
4in x 5ft SCD 40 PVC:		custom SS centralizers:	1
4in x 10ft SCD 40 PVC:		4"x2' SS locking riser:	1
4in x 20ft SCD 40 PVC:		4" SS locking cap:	1
Total SCD 40 PVC pipe:	0 ft	4" SS female cap:	1
4in x 3ft SCD 5 SS pipe:			
4in x 5ft SCD 5 SS pipe:	1	4in x 5ft SCD 10 SS pipe:	2
4in x 10ft SCD 5 SS pipe:	1	4in x 10ft SCD 10 SS pipe:	
4in x 20ft SCD 5 SS pipe:	20	4in x 20ft SCD 10 SS pipe:	
Total SCD 5 SS pipe:	415 ft	Total SCD 10 SS pipe:	10 ft

Well Completion:

100# bags 16/40 sand: 3 bags  
100# bags 10/20 sand: bags  
100# bags 8/14 sand: bags  
100# bags 8/20 sand: 76 bags  
  
94# bags cement: 165 bags  
  
5 gal. buckets bentonite: 5 buckets  
  
50# bentonite powder: 17 bags

Surface Casing:

94# bags cement: 65 bags  
  
50# bags bentonite powder: 7 bags

Pertinent Field Notes:

10/05/88 Mobilize to well site. Drilling method is mud/rotary. Drill from 0' to 30' 12 1/4" pilot hole.  
  
10/06/88 Drill 30' to 90' 12 1/4" pilot hole.  
  
10/07/88 Ream 0' to 85' with 16" bit. Stripped spines on drive shaft on Franks rig.  
  
10/08/88 Ream hole 85' to 92' with 16" bit. Set and grout 92' steel surface casing with 65 sacks cements. Grout was pumped using suction pump.  
  
10/09/88 Drilling method change from mud/rotary to air-foam/rotary. Drill from 90' to 217' with 9 7/8" bit.  
  
10/10/88 Drill from 217' to 337' with 9 7/8" bit.  
  
10/11/88 Blew hole to check for water; none at 337'. Drill from 337' to 357'. Bedrock encountered between 350' to 355'; blew hole after 2 hours recovery time, no water. Drill 357' to 478' with 9 7/8" bit; no visible signs of water while drilling.  
  
10/12/88 Drill 478' to 557' with 9 7/8" bit. No visible signs of a good water producing zone while drilling but a large volume of water was blown out of the hole after an overnight recovery at 478'.

- 10/13/88 Standard suite of geophysical logs run by Don Pearson. Completion pipe loaded for completion. Aquifer is tight and 20' of screen will be used.
- 10/14/88 Filler sand and bottom plug installed, stainless steel casing and 20' extra strength screen was run, and gravel pack around screen and partial upper plug was implaced.
- 10/19/88 Pump a Benseal/EZ-Mud plug to insure a good upper plug seal.
- 10/20/88 Add 8/20 sand to 320' which is ~ 37' above static water level, pour 1 load grout, 100 sacks cement, 10 sacks gel. Bailer was run to check for cement leakage into casing and none was detected.
- 10/21/88 Finish grouting well with second load of grout, 65 sacks cement and 7 sacks gel.
- 10/24/88 Static water level is at 359.9' from ground level. Bail well dry with 17 bails. Post bailing water level was 434.9'.
- 10/25/88 Bail well 17 times. Well recovery rate is ~ 25 gallons/hour.
- 10/26/88 Set submersible pump at ~ 444'; pump well and backwash after 3 minutes, pump well dry after another 5 minutes.
- 10/27/88 Pump and backwash well again. Water very turbid.
- 10/28/88 Pump and backwash well again. Water very turbid.
- 10/31/88 Pump well dry and pull submersible pump.
- 11/09/88 Bail well 15 times and well went dry. Pour pad and set brass cap.
- 11/10/88 - Bail well dry each day. See develop data sheet for details. -  
12/02/88 Kaszuba
- 12/03/88 - Set 1 hp submersible pump at 441' and pump 200 gallons out.  
12/07/88 Raise pump to 420' (top of screened interval) to allow better flow around the pump motor for better cooling of the motor. Develop well by pumping; maximum output of well is between 1.5-2.0 gpm. - Cooper
- 12/07/88 Pull pump. - Cooper.