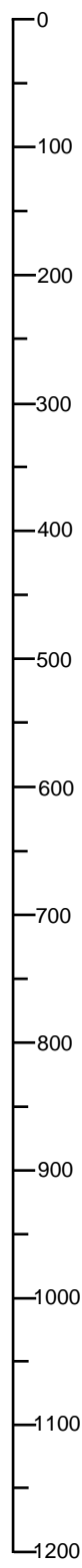


DEPTH (FT BGS)



Alluvium

Tshirege Member
Bandelier Tuff

Cerro Toledo Interval

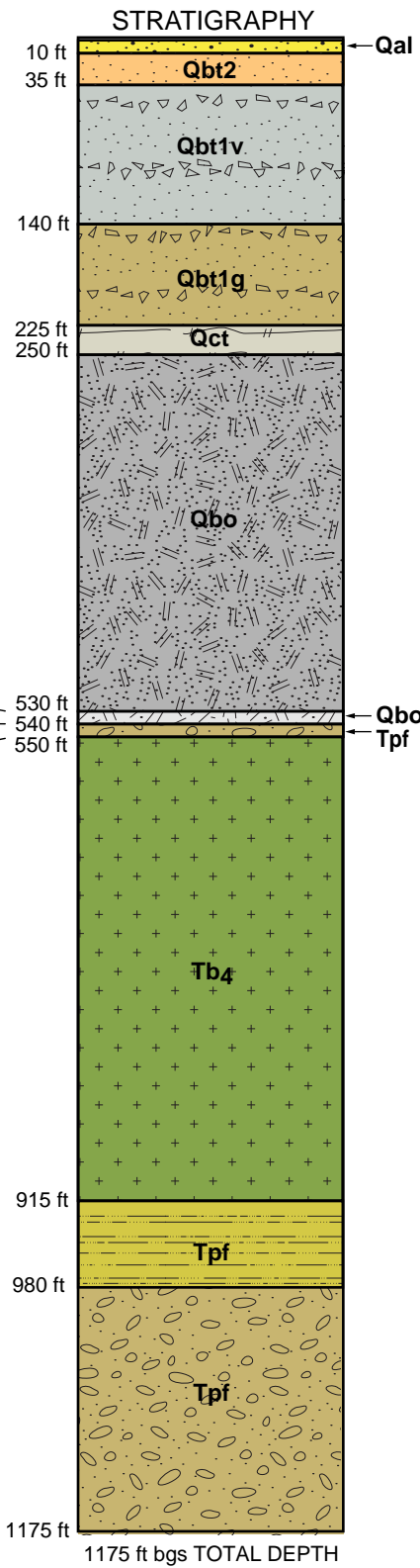
Otowi Member
Bandelier Tuff

Guaje Pumice Bed
Puye Formation

Cerros del Rio basalt

Puye Formation
(lacustrine facies)

Puye Formation



DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL:

Layne Christensen Company
H. Waddell, R. Wall, W. Drake

DRILL RIG: Schramm T130XD

DRILLING METHOD:

- AIR ROTARY
- DUAL ROTARY

DRILLING FLUID TYPE

- | | |
|---|---|
| 0.0 - 915.0 ft bgs | 915.0 - 11175 ft bgs |
| <input checked="" type="checkbox"/> WATER | <input checked="" type="checkbox"/> WATER |
| <input checked="" type="checkbox"/> AIR | <input checked="" type="checkbox"/> AIR |
| <input checked="" type="checkbox"/> AQF-2 FOAM™ | |

DRILLING START/FINISH:

DATE: 01/09/10 TIME: 1021
DATE: 02/06/10 TIME: 1500

▼ 1020.56 ft bgs (02/07/10)
(prior to well installation)

EP2010-0217
LA-UR-10-2787



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Project Number:10005.003.19

Date: April 30, 2010
Filename: R52_Lithology_0_1175_043010.ai

R-52 WELL SUMMARY DATA SHEET
Borehole Stratigraphy

May 2010

TA-54

Los Alamos National Laboratory
Los Alamos, New Mexico

FACT SHEET

NOT TO SCALE

TOTAL LENGTH
CASING AND SCREEN (ft) 1131.2

DEPTH TO WATER
FOLLOWING INSTALLATION (ft bgs) 1017.8 (4/25/10)

DIAMETER OF BOREHOLE
24.0 (in) FROM 0 TO 63.8 (ft bgs)
22.0 (in) FROM 63.8 TO 560.0 (ft bgs)
17.5 (in) FROM 560.0 TO 737.0 (ft bgs)
15.5 (in) FROM 737.0 TO 945.7 (ft bgs)
14.3 (in) FROM 945.7 TO 1174.5 (ft bgs)

SURFACE SEAL 0 TO 74.4 (ft bgs)

SURFACE COMPLETION INFORMATION

PROTECTIVE CASING
TYPE STEEL SIZE 16.75 (in)
PAD AND PROTECTIVE POSTS INSTALLED XXXXXX
SURFACE SEAL AND PAD
CHECK FOR SETTLEMENT XXXXXX
PAD MATERIAL REINFORCED CONCRETE ~3500 psi
REINFORCED REBAR WITH 1/8-in WIRE MESH
PAD DIMENSIONS (ft) 10.0 (L) 10.0 (W) 0.5 (H)

18-IN CASING 12.5 TO 572.0 (ft bgs)

BENTONITE SEAL 74.4 TO 565.9 (ft bgs)

GROUT SEAL 565.9 TO 579.3 (ft bgs)

BENTONITE SEAL 579.3 TO 1028.3 (ft bgs)

FINE SAND COLLAR 1028.3 TO 1029.5 (ft bgs)

FILTER PACK 1029.5 TO 1061.7 (ft bgs)

SCREENED INTERVAL 1035.2 TO 1055.7 (ft bgs)

BENTONITE SEAL 1061.7 TO 1099.0 (ft bgs)

FINE SAND COLLAR 1099.0 TO 1101.1 (ft bgs)

FILTER PACK 1101.1 TO 1123.9 (ft bgs)

SCREENED INTERVAL 1107.0 TO 1117.0 (ft bgs)

STAINLESS STEEL CENTRALIZERS USED

YES UPPER SCREEN AT 1034 & 1057 (ft bgs)
LOWER SCREEN AT 1104 & 1119 (ft bgs)

BOTTOM OF WELL CASING 1128.7 (ft bgs)

BENTONITE BOTTOM SEAL 1123.9 TO 1160.1 (ft bgs)

12-IN CASING 1125.3 TO 1173.2 (ft bgs)

SLOUGH 1160.1 TO 1174.5 (ft bgs)

BOTTOM OF BORING 1174.5 (ft bgs)

LOCKING COVER

ELEVATIONS (ft amsl)

WELL CASING TBD
PROTECTIVE CASING TBD
GROUND SURFACE TBD
MONUMENT MARKER TBD

SLOPED CONCRETE
SURFACE COMPLETION PAD

SURFACE SEAL

MIX (WT%) CEMENT 100
QUANTITY USED 183.6 ft³ CALCULATED 193.1 ft³

HYDRATED 0.375-IN BENTONITE CHIP SEAL

QUANTITY USED 1280.5 ft³ CALCULATED 1169.1 ft³

TYPE OF CASING

MATERIAL A304 PASSIVATED STAINLESS STEEL
ID (in) 5.047 OD (in) 5.563
JOINT TYPE THREADED & COUPLED

GROUT SEAL

QUANTITY USED 30.0 ft³ CALCULATED 20.1 ft³

HYDRATED 0.375-IN BENTONITE CHIP SEAL

QUANTITY USED 507.2 ft³ CALCULATED 536.6 ft³

FINE SAND COLLAR

SIZE/TYPE 20/40 SILICA
QUANTITY USED 4.0 ft³ CALCULATED 1.2 ft³

FILTER PACK

SIZE/TYPE 10/20 SILICA
QUANTITY USED 33.5 ft³ CALCULATED 30.6 ft³

TYPE OF SCREEN

MATERIAL A304 PASSIVATED STAINLESS STEEL
ID (in) 5.047 OD (in) 5.563
SLOT SIZE (in) 0.020
JOINT TYPE THREADED & COUPLED

HYDRATED 0.375-IN BENTONITE CHIP SEAL

QUANTITY USED 64.2 ft³ CALCULATED 35.46 ft³

FINE SAND COLLAR

SIZE/TYPE 20/40 SILICA
QUANTITY USED 2.0 ft³ CALCULATED 1.9 ft³

FILTER PACK

SIZE/TYPE 10/20 SILICA
QUANTITY USED 33.0 ft³ CALCULATED 21.6 ft³

TYPE OF SCREEN

MATERIAL A304 PASSIVATED STAINLESS STEEL
ID (in) 5.047 OD (in) 5.563
SLOT SIZE (in) 0.020
JOINT TYPE THREADED & COUPLED

HYDRATED 0.375-IN BENTONITE CHIP SEAL

QUANTITY USED 31.3 ft³ CALCULATED 29.6 ft³

WELL DEVELOPMENT BEGAN

Upper Lower
Date TBD TBD
Time TBD TBD

WELL DEVELOPMENT FINISHED
Date TBD TBD
Time TBD TBD

DEVELOPMENT METHOD

Swabbing Bailing

Pumping

Total Purge Volume
Upper TBD gal
Lower TBD gal

PARAMETER MEASUREMENTS

Upper Lower
pH TBD TBD
Temperature (°C) TBD TBD
Specific Conductance (µS/cm) TBD TBD
Turbidity (NTU) TBD TBD

WELL COMPLETION BEGAN

Date 03/23/10 Time 1255

WELL COMPLETION FINISHED

Date 04/05/10 Time 2230

EP2010-0217
LA-UR-10-2787



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Project Number: 10005.003.19 Filename: R-52_Well Schematic(AsBuilt)043010

R- 52 WELL CONSTRUCTION DIAGRAM (AS BUILT)

May 2010

TA-54
Los Alamos National Laboratory
Los Alamos, New Mexico

FACT SHEET

NOT TO SCALE