



TOTAL LENGTH OF CASING AND SCREEN (FT) 993.2

DEPTH TO WATER FOLLOWING INSTALLATION (FT BGS) 892.95  
(COMPOSITE 2-SCREEN WATER LEVEL)

DIAMETER OF BOREHOLE  
16.75" FROM 0 FT TO 418 FT BGS  
15.0" FROM 418 FT TO 795 FT BGS  
12.75" FROM 795 FT TO 1006 FT BGS

**SURFACE COMPLETION INFORMATION**  
**TYPE OF PROTECTIVE CASING**

- STEEL SIZE 10"
- PROTECTIVE POSTS INSTALLED

**SURFACE SEAL AND PAD COMPLETION**

- CHECKED FOR SETTLEMENT
- MATERIAL USED CONCRETE
- REINFORCED:  NO  YES WIREMESH
- PAD DIMENSIONS 10 FT (L) x 10 FT (W) x 0.5 FT (H)

**SURFACE SEAL** 3 TO 400.1 (FT BGS)

**HYDRATED BENTONITE CHIPS** 400.1 TO 629.8 (FT BGS)

**HIGH SOLIDS BENTONITE GROUT** 629.8 TO 868.8 (FT BGS)

**BENTONITE SEAL** 868.8 TO 897.6 (FT BGS)

**FINE SAND COLLAR** 897.6 TO 899.9 (FT BGS)

**FILTER PACK** 899.9 TO 928.4 (FT BGS)

**STAINLESS-STEEL CENTRALIZERS USED**

- YES AT 2.0' ABOVE AND BELOW SCREENS

**SCREENED INTERVAL 1 (S1)** 903.9 TO 924.6 (FT BGS)

**BENTONITE SEAL** 928.4 TO 962.5 (FT BGS)

**FINE SAND COLLAR** 962.5 TO 964.8 (FT BGS)

**FILTER PACK** 964.8 TO 985.1 (FT BGS)

**SCREENED INTERVAL 2 (S2)** 969.1 TO 979.1 (FT BGS)

**BENTONITE SEAL** 985.1 TO 1000.3 (FT BGS)

**BOTTOM OF CASING** 990.4 (FT BGS)

**BACKFILL MATERIAL** 1000.3 TO 1006 (FT BGS)

**BOTTOM OF BORING** 1006 (FT BGS)

LOCKING COVER  
 ELEVATION OF WELL CAP (FT AMSL) TBD  
 ELEVATION OF PROTECTIVE CASING (FT AMSL) TBD  
 GROUND SURFACE ELEVATION (FT AMSL) TBD  
 MONUMENT MARKER ELEVATION (FT AMSL) TBD

SLOPED CONCRETE PAD/SURFACE

**SURFACE SEAL GROUT FORMULA (PROPORTION OF EACH)**

CEMENT 97% BENTONITE 3%  
 QUANTITY USED 391.3 ft<sup>3</sup>  
 CALCULATED VOLUME 444.6 ft<sup>3</sup>

**16" CASING STRING** 0.0 TO 286.2 (FT BGS)

**TYPE OF CASING**

- STAINLESS STEEL, THREADED/COUPLED

CASING DIAMETER

INSIDE 5"

OUTSIDE 5 9/16"

**16" CASING AND SHOE** 300.0 TO 417.7 (FT BGS)

**HYDRATED BENTONITE CHIP SEAL**

CHIPS  
 QUANTITY USED 191.5 ft<sup>3</sup>  
 CALCULATED VOLUME 243.8 ft<sup>3</sup>

**HIGH SOLIDS BENTONITE GROUT**

QUANTITY USED 279.4 ft<sup>3</sup>  
 CALCULATED VOLUME 228.6 ft<sup>3</sup>

**BENTONITE SEAL**

BENTONITE CHIPS  
 QUANTITY USED 18.43 ft<sup>3</sup>  
 CALCULATED VOLUME 20.45 ft<sup>3</sup>

**FINE SAND COLLAR**

SIZE / TYPE 20/40  
 QUANTITY USED 2.0 ft<sup>3</sup>  
 CALCULATED VOLUME 1.66 ft<sup>3</sup>

**FILTER PACK**

SAND SIZE 10/20 QUANTITY USED 31.0 ft<sup>3</sup>  
 CALCULATED VOLUME 20.17 ft<sup>3</sup>

**TYPE OF SCREENS**

STAINLESS STEEL  
 SCREEN DIAMETER  
 INSIDE 5.0" SLOT SIZE 0.020  
 OUTSIDE 5 9/16" JOINT TYPE THREADED/COUPLED

**BENTONITE SEAL** QUANTITY USED 13.4 ft<sup>3</sup>

BENTONITE CHIPS CALCULATED VOLUME 24.23 ft<sup>3</sup>

**FINE SAND COLLAR** SIZE / TYPE 20/40

QUANTITY USED 2.0 ft<sup>3</sup> CALCULATED VOLUME 1.66 ft<sup>3</sup>

**FILTER PACK** SAND SIZE 10/20

QUANTITY USED 13.5 ft<sup>3</sup> CALCULATED VOLUME 14.46 ft<sup>3</sup>

**BENTONITE SEAL** QUANTITY USED 11.1 ft<sup>3</sup>

BENTONITE CHIPS CALCULATED VOLUME 12.22 ft<sup>3</sup>

**BACKFILL MATERIAL**

- SLOUGH

**12" CASING AND SHOE** 997 TO 1006 (FT BGS)

**WELL DEVELOPMENT INFORMATION**

**WELL COMPLETION BEGAN**

DATE 9/14/08 TIME 0700

**WELL COMPLETION FINISHED**

DATE 10/17/08 TIME 1445

**WELL DEVELOPMENT BEGAN**

DATE 10/22/08 TIME 0800

**WELL DEVELOPMENT FINISHED**

DATE 10/30/08 TIME 1810

**DEVELOPMENT METHOD**

- SWABBING
- BAILING
- PUMPING

DEVELOPMENT PURGE VOLUME 6321.7 GAL

TOTAL PURGE VOLUME 32,052.9 GAL

**FINAL PARAMETERS S1/S2**

pH 8.55/8.50

TEMPERATURE 19.29/20.73 °C

SPECIFIC CONDUCTANCE 0.194/0.194 µS/cm

TURBIDITY 0.7/3.0 NTU

TerranearPMC

Drafted By: P.Baucum  
 Project Number: 86500

Date: November 04, 2008  
 Filename: Well Construction

**R-43 AS-BUILT WELL CONSTRUCTION DIAGRAM**

Sandia Canyon  
 Los Alamos National Laboratory  
 Los Alamos, New Mexico

FACT SHEET

NOT TO SCALE