ESHID-600226

Los Alamos
NATIONAL LABORATORY
EST. 1943

*Associate Director for ESH*
Environment, Safety, and Health
P.O. Box 1663, MS K491
Los Alamos, New Mexico 87545
505-667-4218/Fax 505-665-3811

RECEIVED
FEB 19 2015
NMED
Hazardous Waste Bureau

*National Nuclear Security Administration*
Los Alamos Field Office, MS A316
Environmental Projects Office
Los Alamos, New Mexico 87544
(505) 667-4255/FAX (505) 606-2132

*Date*: FEB 19 2015
*Refer To*: ADESH-15-032
*LAUR*: 15-20901
*Locates Action No.*: N/A

John Kieling, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

**Subject: Submittal of the Fact Sheets for CdV-9-1(i)**

Dear Mr. Kieling:

Enclosed please find two hard copies with electronic files of the Fact Sheets for CdV-9-1(i).

If you have any questions, please contact Steve Paris at (505) 606-0915 (smparis@lanl.gov) or Hai Shen at (505) 665-5046 (hai.shen@nnsa.doe.gov).

Sincerely,

Michael T. Brandt, DrPH, CIH, Associate Director
Environment, Safety, and Health
Los Alamos National Laboratory

Sincerely,

Peter Maggiore, Assistant Manager
Environmental Projects Office
Los Alamos Field Office



NNSA

MB/PM/DM/SP:sm

Enclosures: Two hard copies with electronic files – Fact Sheets for CdV-9-1(i)

Cy: (w/enc.)
Hai Shen, DOE-NA-LA, MS A316
Cheryl Rodriguez, DOE-NA-LA, MS A316
Kent Rich, ER Program, MS M992
Public Reading Room (EPRR)
ADESH Records

Cy: (Letter and CD and/or DVD)
Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-DOE-OB, MS M894
Andy Crowder, TPMC (w/ MS Word files on CD)
Steve Paris, ER Program, MS M992
PRS Database

Cy: (w/o enc.)
lasomailbox@nnsa.doe.gov
Annette Russell, DOE-NA-LA (date-stamped letter emailed)
David Rhodes, DOE-NA-LA (date-stamped letter emailed)
Kimberly Davis Lebak, DOE-NA-LA (date-stamped letter emailed)
Dave McInroy, ER Program (date-stamped letter emailed)
Randy Erickson, ADEP (date-stamped letter emailed)
Tony Grieggs, ADESH-ENV-CP (date-stamped letter emailed)
Alison Dorries, ADESH-ENV-DO (date-stamped letter emailed)
Michael Brandt, ADESH (date-stamped letter emailed)
Amy De Palma, PADOPS (date-stamped letter emailed)
Michael Lansing, PADOPS (date-stamped letter emailed)

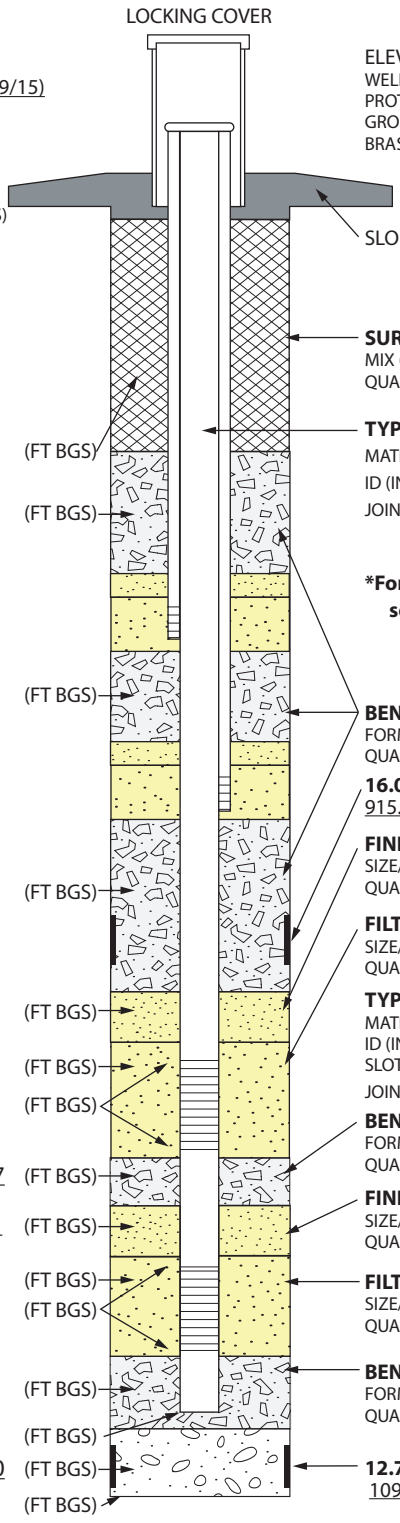
TOTAL LENGTH
OF CASING AND SCREEN 1070.4 (FT)

DEPTH TO WATER (screen 1)
FOLLOWING INSTALLATION 892.8 (FT BGS) (1/29/15)

DIAMETER OF BOREHOLE
20.00 (IN) FROM 0.0 TO 34.5 (FT BGS)
17.50 (IN) FROM 34.5 TO 696.0 (FT BGS)
16.75 (IN) FROM 696.0 TO 922.5 (FT BGS)
12.75 (IN) FROM 922.5 TO 1220.0 (FT BGS)

**SURFACE COMPLETION** *(proposed)*
PROTECTIVE CASING
TYPE STEEL SIZE (IN) 16
PROTECTIVE POSTS INSTALLED YES
SURFACE SEAL AND PAD
CHECK FOR SETTLEMENT YES
PAD MATERIAL CONCRETE
REINFORCED WIRE MESH
PAD DIMENSIONS (FT) 10 (L) 10 (W) 0.8 (H)

| | | | | |
|---|---|---|---|---|
| **SURFACE SEAL** | 3 | TO | 60.3 | (FT BGS) |
| **BENTONITE SEAL** | 60.3 | TO | 656.1 | (FT BGS) |
| **BENTONITE SEAL** | 676.9 | TO | 846.2 | (FT BGS) |
| **BENTONITE SEAL** | 867.6 | TO | 930.5 | (FT BGS) |
| **FINE SAND COLLAR** | 930.5 | TO | 932.2 | (FT BGS) |
| **FILTER PACK** | 932.2 | TO | 996.9 | (FT BGS) |
| **SCREENED INTERVAL** | 937.4 | TO | 992.4 | (FT BGS) |
| **BENTONITE SEAL** | 996.9 | TO | 1016.7 | (FT BGS) |
| **FINE SAND COLLAR** | 1016.7 | TO | 1019.1 | (FT BGS) |
| **FILTER PACK** | 1019.1 | TO | 1050.0 | (FT BGS) |
| **SCREENED INTERVAL** | 1023.7 | TO | 1045.0 | (FT BGS) |
| **BENTONITE SEAL** | 1050.0 | TO | 1183.2 | (FT BGS) |
| **BOTTOM OF CASING** | 1067.9 | | | (FT BGS) |
| **SLOUGH** | 1183.2 | TO | 1220.0 | (FT BGS) |
| **BOTTOM OF BORING** | 1220 | | | (FT BGS) |




ELEVATIONS (FT AMSL)
WELL CASING TBD
PROTECTIVE CASING TBD
GROUND SURFACE TBD
BRASS CAP (MARKER) TBD

SLOPED CONCRETE PAD/SURFACE

**SURFACE SEAL**
MIX (WT%) CEMENT 100 BENTONITE 0
QUANTITY USED 165.8 FT³ CALCULATED 102.4 FT³

**TYPE OF CASING**
MATERIAL STAINLESS-STEEL
ID (IN) 5.00 OD (IN) 5.56 (5⁹⁄₁₆)
JOINT TYPE THREADED/COUPLED

***For details on PZ-1 and PZ-2 screens, see page 2**

**BENTONITE SEAL**
FORM 3/8-IN BENTONITE CHIP
QUANTITY USED 1166.2 FT³ CALCULATED 1211.1 FT³

**16.00-IN CSG/SHOE**
915.7 TO 922.0 (FT BGS)

**FINE SAND COLLAR**
SIZE/TYPE 20/40 SILICA
QUANTITY USED 3.5 FT³ CALCULATED 1.1 FT³

**FILTER PACK SAND**
SIZE/TYPE 10/20 SILICA
QUANTITY USED 118.5 FT³ CALCULATED 46.8 FT³

**TYPE OF SCREEN(S)**
MATERIAL STAINLESS-STEEL
ID (IN) 5.00 OD (IN) 5.88 (5⅞)
SLOT SIZE (IN) 0.040
JOINT TYPE THREADED/COUPLED

**BENTONITE SEAL**
FORM 3/8-IN BENTONITE CHIP
QUANTITY USED 18.2 FT³ CALCULATED 14.3 FT³

**FINE SAND COLLAR**
SIZE/TYPE 20/40 SILICA
QUANTITY USED 8.5 FT³ CALCULATED 1.7 FT³

**FILTER PACK SAND**
SIZE/TYPE 10/20 SILICA
QUANTITY USED 70.0 FT³ CALCULATED 22.3 FT³

**BENTONITE SEAL**
FORM 3/8-IN BENTONITE CHIP
QUANTITY USED 123.3 FT³ CALCULATED 115.6 FT³

**12.75-IN CSG/SHOE**
1090.0 TO 1101.5 (FT BGS)

**STAINLESS-STEEL CENTRALIZERS**
USED YES AT 2.0 ft ABOVE AND BELOW WELL SCREENS

**WELL COMPLETION BEGAN**
DATE 12/11/2014 TIME 08:30
**WELL COMPLETION FINISHED**
DATE 01/19/2015 TIME 09:40

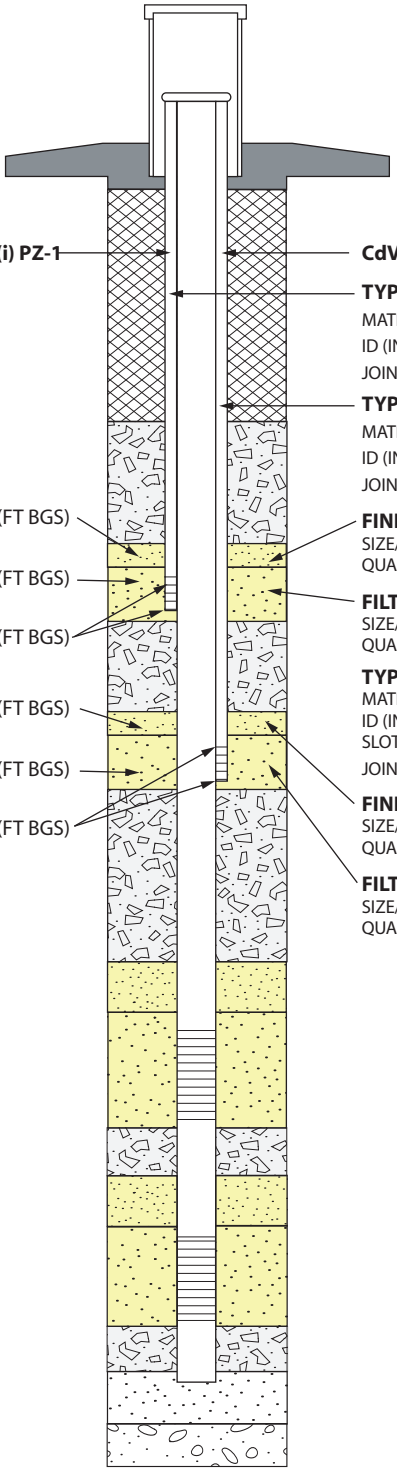
TerranearPMC
Drafted By: TPMC
Project Number: 86309
Date: February 11, 2015
File Name: CdV-9-1i_AsBuiltFactSheet_Rev2

**CdV-9-1(i) As-Built Well Construction**
Technical Area 9 (TA-9)
Los Alamos National Laboratory
Los Alamos, New Mexico

Fact Sheet
**CdV-9-1(i)**
**NOT TO SCALE**

# DETAIL FOR PZ-1 AND PZ-2 SCREENS

DEPTH TO WATER
FOLLOWING INSTALLATION
PZ-1 604.3 (FT BGS) (1/28/15)
PZ-2 685.1 (FT BGS) (1/28/15)



**CdV-9-1(i) PZ-1**

**CdV-9-1(i) PZ-2**

**TYPE OF CASING**
MATERIAL STEEL PIPE SCHD. 40
ID (IN) 1.03 OD (IN) 1.32
JOINT TYPE THREADED/COUPLED

**TYPE OF CASING**
MATERIAL STEEL PIPE SCHD. 40
ID (IN) 1.03 OD (IN) 1.32
JOINT TYPE THREADED/COUPLED

**FINE SAND COLLAR** 656.1 TO 658.2 (FT BGS)

**FILTER PACK** 658.2 TO 676.9 (FT BGS)

**SCREENED INTERVAL** 662.9 TO 672.4 (FT BGS)

**FINE SAND COLLAR** 846.2 TO 848.1 (FT BGS)

**FILTER PACK** 848.1 TO 867.6 (FT BGS)

**SCREENED INTERVAL** 852.9 TO 862.4 (FT BGS)

**FINE SAND COLLAR**
SIZE/TYPE 20/40 SILICA
QUANTITY USED 3.5 $FT^3$ CALCULATED 3.2 $FT^3$

**FILTER PACK SAND**
SIZE/TYPE 10/20 SILICA
QUANTITY USED 30.5 $FT^3$ CALCULATED 28.3 $FT^3$

**TYPE OF SCREEN(S)**
MATERIAL STAINLESS-STEEL
ID (IN) NA OD (IN) 1.25
SLOT SIZE (IN) 0.010
JOINT TYPE THREADED/COUPLED

**FINE SAND COLLAR**
SIZE/TYPE 20/40 SILICA
QUANTITY USED 5.5 $FT^3$ CALCULATED 2.6 $FT^3$

**FILTER PACK SAND**
SIZE/TYPE 10/20 SILICA
QUANTITY USED 31.8 $FT^3$ CALCULATED 26.7 $FT^3$

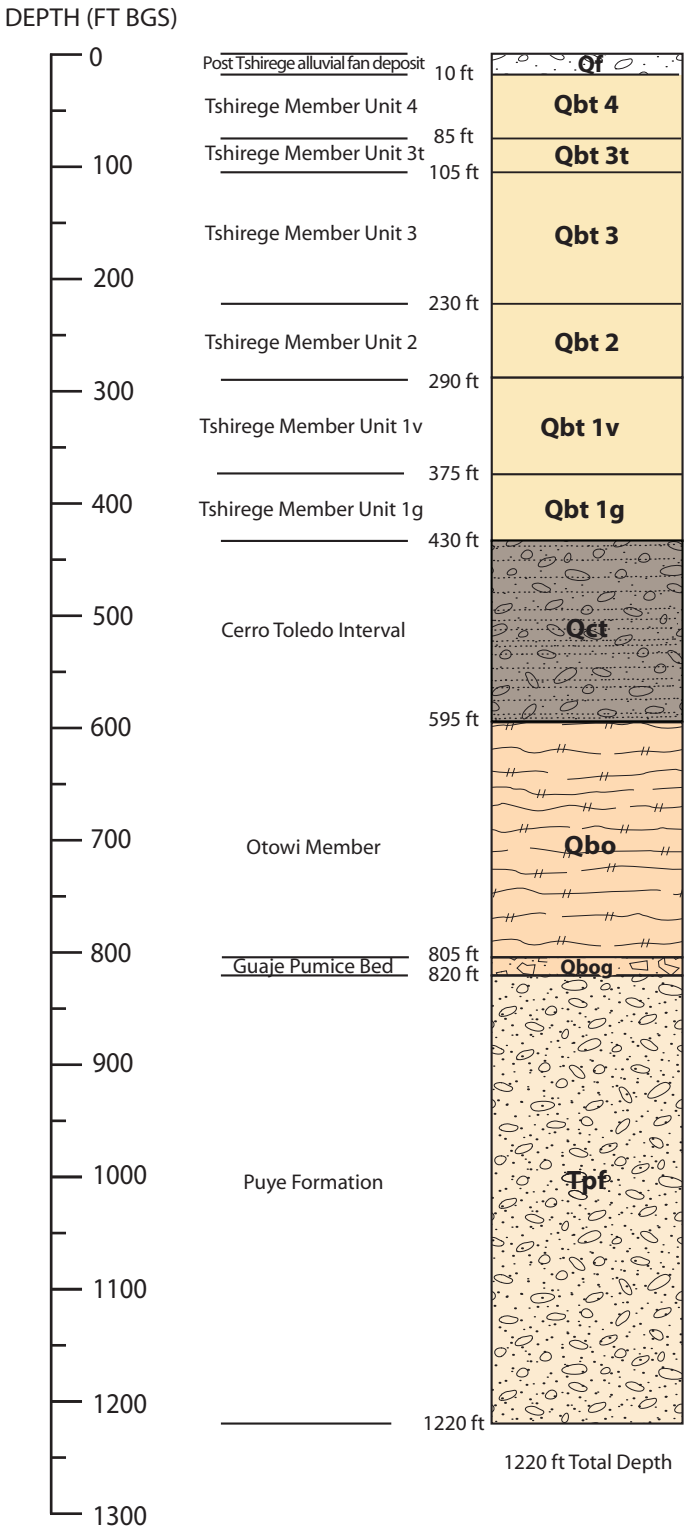
TerranearPMC

Drafted By: TPMC
Project Number: 86309

Date: February 11, 2015
File Name: CdV-9-1i_AsBuiltFactSheet_PG2_Rev2

**CdV-9-1(i) As-Built Well Construction**
Technical Area 9 (TA-9)
Los Alamos National Laboratory
Los Alamos, New Mexico

Fact Sheet
**CdV-9-1(i)**
**NOT TO SCALE**




## DRILLING INFORMATION

**DRILLING COMPANY/PERSONNEL:**
Boart Longyear
D. Sandy, M. Cross, R. Ostler

**DRILL RIG:** Foremost DR-24HD

**DRILLING METHOD:**
☒ DUAL ROTARY ☐ AIR ROTARY

**DRILLING FLUID TYPE:**

| 0–695 ft bgs | 695–1220 ft bgs |
|---|---|
| ☒ WATER | ☒ WATER |
| ☒ AIR | ☒ AIR |

☒ QUIK FOAM FOAMING AGENT

**DRILLING START/FINISH:**
DATE: 10/24/2014 TIME: 0915
DATE: 11/21/2014 TIME: 0545

▼ 892.8 ft bgs (1/29/15)
(in upper screen after preliminary development)

TerranearPMC

Drafted By: TPMC
Project Number: 86309

Date: February 13, 2015
Filename: CdV-9-1i_Lithology_FactSheet

**CdV-9-1(i) BOREHOLE STRATIGRAPHY**
Technical Area 9 (TA-9)
Los Alamos National Laboratory
Los Alamos, New Mexico

Fact Sheet
**CdV-9-1(i)**
**NOT TO SCALE**