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Environmental Management

Los Alamos Field Office, MS A316
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Date: APR 24 2015

Refer To: ADESH-15-067

LAUR: 15-22518; 15-22517

Locates Action No.: N/A

RECEIVED

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

NMED
Hazardous Waste Bureau

Subject: Submittal of the Fact Sheets for Chromium Corehole 4 and for Chromium Corehole 5

Dear Mr. Kieling:

Enclosed please find two hard copies with electronic files of the fact sheets for chromium corehole (CrCH) 4 and CrCH-5. These coreholes are the fourth and fifth of six to be completed as part of the New Mexico Environment Department- (NMED-) approved Drilling Work Plan for Chromium Project Coreholes. The attached fact sheets reflect the corehole-specific, NMED-approved design in the work plan.

If you have any questions, please contact Stephani Swickley at (505) 606-1628 (sfuller@lanl.gov) or Hai Shen at (505) 665-5046 (hai.shen@em.doe.gov).

Sincerely,

Dave McInroy, Program Director
Environmental Remediation Program
Los Alamos National Laboratory

Sincerely,

Christine Gelles, Acting Manager
Environmental Management
Los Alamos Field Office

DM/CG/SS:sm

Enclosures: Two hard copies with electronic files – Fact Sheets for CrCH-4 (EP2015-0060) and CrCH-5 (EP2015-0075)

Cy: (w/enc.)
Hai Shen, DOE-EM-LA, MS A316
Stephani Swickley, ADEP 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
Vern Christensen, Yellow Jacket Drilling
Ted Ball, ADEP ER Program, MS M992
PRS Database

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

TOTAL LENGTH
OF CASING AND SCREEN (FT) 1000.07

DEPTH TO WATER
FOLLOWING INSTALLATION (FT BGS) 950.3 (3/4/15)

DIAMETER OF BOREHOLE
24.00 (IN) FROM 0.0 TO 56.0 (FT BGS)
11.42 (IN) FROM 56.0 TO 754.8 (FT BGS)
6.00 (IN) FROM 754.8 TO 1047.0 (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) 0.75 (H)

SURFACE SEAL 3.0 TO 66.0 (FT BGS)

BENTONITE SEAL 66.0 TO 948.2 (FT BGS)

FINE SAND COLLAR 948.2 TO 951.8 (FT BGS)

FILTER PACK 951.8 TO 983.7 (FT BGS)

SCREENED INTERVAL 957.0 TO 977.0 (FT BGS)

BENTONITE SEAL 983.7 TO 1023.0 (FT BGS)

BOTTOM OF CASING 997.23 (FT BGS)

SLOUGH 1023.0 TO 1047.0 (FT BGS)

BOTTOM OF BORING 1047.0 (FT BGS)

LOCKING COVER

ELEVATIONS (FT AMSL)
WELL CASING 6805.45
PROTECTIVE CASING 6806.02
GROUND SURFACE 6802.61
BRASS CAP (MARKER) 6802.61

SLOPED CONCRETE PAD/
SURFACE SEAL
16-IN CSG 0 TO 56 (FT BGS)

SURFACE SEAL
MIX (WT%) PORTLAND CEMENT 92 BENTONITE 8
QUANTITY USED 80.9 FT³ CALC 85.9 FT³

TYPE OF CASING
MATERIAL PASSIVATED A304 STAINLESS STEEL
ID (IN) 2.00
JOINT TYPE THREADED

10-IN CSG/SHOE 725.0 TO 730.0 (FT BGS)

HYDRATED BENTONITE SEAL
FORM 3/8-IN BENTONITE CHIP
QUANTITY USED 459.8 FT³ CALC 500.1 FT³

TYPE OF SCREEN(S)
MATERIAL A304 STAINLESS STEEL
ID (IN) 2.00
SLOT SIZE (IN) 0.040
JOINT TYPE THREADED

FINE SAND COLLAR
SIZE/TYPE 20/40 SILICA
QUANTITY USED 0.5 FT³ CALC 0.6 FT³

FILTER PACK SAND
SIZE/TYPE 10/20 SILICA
QUANTITY USED 7.0 FT³ CALC 5.3 FT³

HYDRATED BENTONITE SEAL
FORM 3/8-IN BENTONITE CHIP
QUANTITY USED 7.55 FT³ CALC 7.18 FT³

STAINLESS-STEEL CENTRALIZERS
USED YES
ABOVE AND BELOW SCREEN

WELL COMPLETION BEGAN
DATE 1/24/15 TIME 0815h
WELL COMPLETION FINISHED
DATE 3/13/15 TIME 0930h

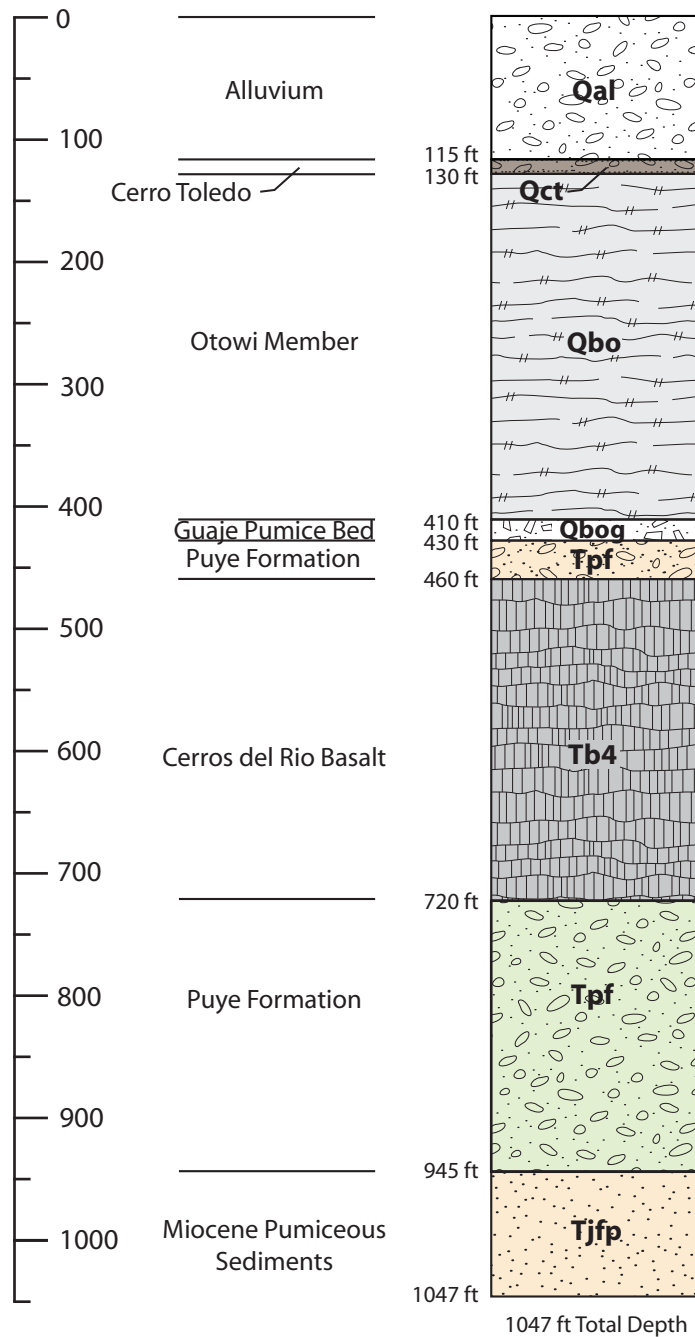


Drafted By: PTM
Date: April 16, 2015

Well CrCH-4 As-Built Well Construction Diagram
Technical Area 05 (TA-05)
Los Alamos National Laboratory
Los Alamos, New Mexico

Fact Sheet
NOT TO SCALE

DEPTH (FT BGS)



DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL:

Yellow Jacket Drilling
A. Adams, A. Lamon, S. Walker, J. Saldana,
S. Jorge, M. Williams, J. Oropeza

DRILL RIGS:

0–728 ft bgs: Foremost DR-24HD
728–1047 ft bgs: Terrasonic TSi 150T

DRILLING METHOD:

- ☒ 0–728 ft bgs: DUAL ROTARY WITH CASING ADVANCE USING AIR AND WATER
- ☒ 728–1047 ft bgs: SONIC CORING WITH CASING ADVANCE

DRILLING FLUID TYPE:

- | | |
|---|---|
| 0–728 ft bgs | 728–1047 ft bgs |
| <input checked="" type="checkbox"/> WATER | <input checked="" type="checkbox"/> NONE DURING CORING; |
| <input checked="" type="checkbox"/> AIR | WATER USED TO REMOVE |
| <input checked="" type="checkbox"/> AQF-2 FOAMING AGENT | SLOUGH BETWEEN CORE |
| | RUNS |

DRILLING START/FINISH:

DATE: 11/11/2014
DATE: 01/21/2015

▼ 950.5 ft bgs (03/4/15)
(video log after well
installation)



Prepared By: GW, EJ, and DB
Date: April 9, 2015
File Name: CrCH-4_Lithology_FactSheet

Well Summary Data Sheet
CrCH-4 Borehole Stratigraphy
Technical Area 05 (TA-05)
Los Alamos National Laboratory
Los Alamos, New Mexico

Fact
Sheet
NOT TO SCALE

TOTAL LENGTH
OF CASING AND SCREEN (FT) 1009.07
DEPTH TO WATER
FOLLOWING INSTALLATION (FT BGS) 967.9 (3/24/15)

DIAMETER OF BOREHOLE
24.00 (IN) FROM 0.0 TO 55.0 (FT BGS)
11.42 (IN) FROM 55.0 TO 750.0 (FT BGS)
6.00 (IN) FROM 750.0 TO 1016.0 (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) 0.75 (H)

SURFACE SEAL 3.0 TO 64.0 (FT BGS)

BENTONITE SEAL 64.0 TO 968.5 (FT BGS)

FINE SAND COLLAR 968.5 TO 970.5 (FT BGS)

FILTER PACK 970.5 TO 1001.0 (FT BGS)

SCREENED INTERVAL 976.0 TO 996.0 (FT BGS)

BOTTOM OF CASING 1006.2 (FT BGS)

BENTONITE 1001.0 TO 1016.0 (FT BGS)

BOTTOM OF BORING 1016.0 (FT BGS)

LOCKING COVER

ELEVATIONS (FT AMSL)
WELL CASING 6805.45
PROTECTIVE CASING 6806.02
GROUND SURFACE 6802.58
BRASS CAP (MARKER) 6802.58

SLOPED CONCRETE PAD/
SURFACE SEAL
16-IN CSG 0 TO 55 (FT BGS)

SURFACE SEAL
MIX (WT%) PORTLAND CEMENT 92 BENTONITE 8
QUANTITY USED 82.0 FT³ CALC 77.1 FT³

TYPE OF CASING
MATERIAL PASSIVATED A304 STAINLESS STEEL
ID (IN) 2.00
JOINT TYPE THREADED

10-IN CSG/SHOE 526.0 TO 531.0 (FT BGS)

HYDRATED BENTONITE SEAL
FORM 3/8-IN BENTONITE CHIP
QUANTITY USED 448.7 FT³ CALC 502.1 FT³

TYPE OF SCREEN(S)
MATERIAL A304 STAINLESS STEEL
ID (IN) 2.00
SLOT SIZE (IN) 0.040
JOINT TYPE THREADED

FINE SAND COLLAR
SIZE/TYPE 20/40 SILICA
QUANTITY USED 1.0 FT³ CALC 0.33 FT³

FILTER PACK SAND
SIZE/TYPE 10/20 SILICA
QUANTITY USED 2.0 FT³ CALC 5.0 FT³

HYDRATED BENTONITE SEAL
FORM 3/8-IN BENTONITE CHIP
QUANTITY USED 1.4 FT³ CALC 2.9 FT³

STAINLESS-STEEL CENTRALIZERS
USED YES
ABOVE AND BELOW SCREEN

WELL COMPLETION BEGAN
DATE 2/11/15 TIME 0920h
WELL COMPLETION FINISHED
DATE 3/16/15 TIME 1300h

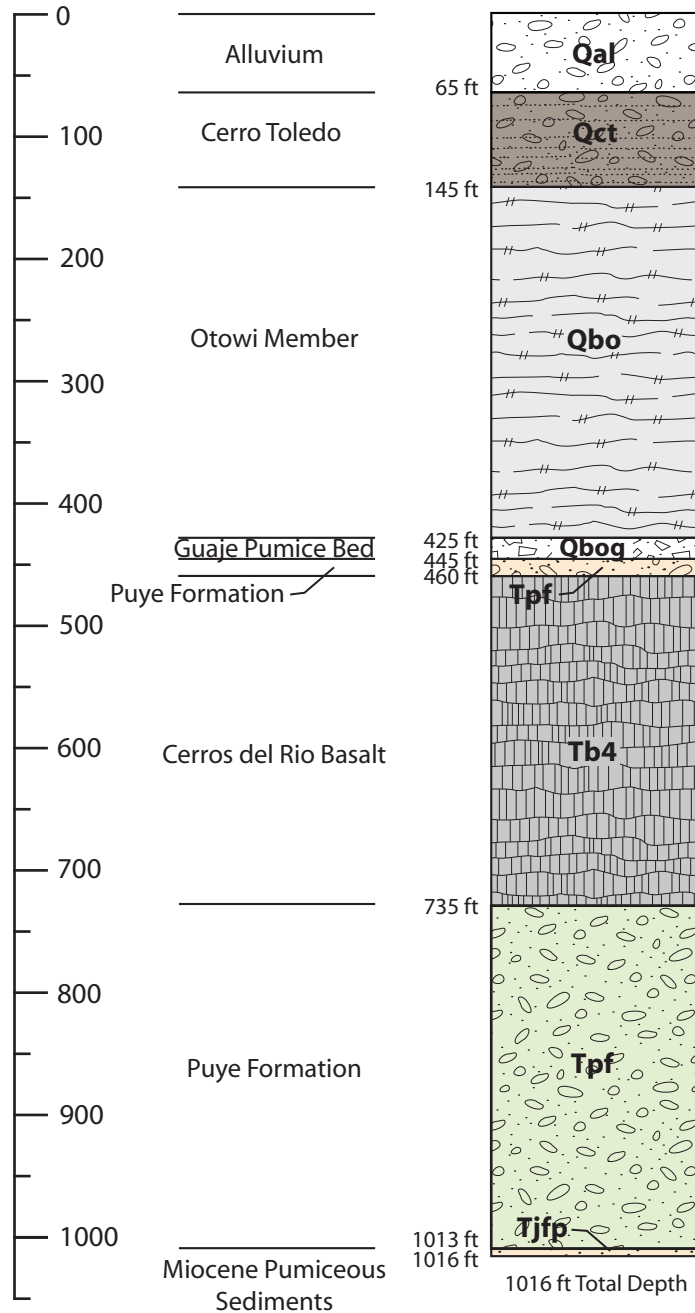


Drafted By: PTM
Date: April 16, 2015

Well CrCH-5 As-Built Well Construction Diagram
Technical Area 05 (TA-05)
Los Alamos National Laboratory
Los Alamos, New Mexico

Fact Sheet
NOT TO SCALE

DEPTH (FT BGS)



DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL:

Yellow Jacket Drilling
A. Adams, A. Lamon, S. Walker, J. Saldana,
S. Jorge, M. Williams, J. Oropeza

DRILL RIGS:

0–750 ft bgs: Foremost DR-24HD
750–1016 ft bgs: Terrasonic TSi 150T

DRILLING METHOD:

- ☒ 0–750 ft bgs: DUAL ROTARY WITH CASING ADVANCE USING AIR AND WATER
- ☒ 750–1016 ft bgs: SONIC CORING WITH CASING ADVANCE

DRILLING FLUID TYPE:

- | | |
|---|---|
| 0–750 ft bgs | 750–1016 ft bgs |
| <input checked="" type="checkbox"/> WATER | <input checked="" type="checkbox"/> NONE DURING CORING; |
| <input checked="" type="checkbox"/> AIR | WATER USED TO REMOVE |
| <input checked="" type="checkbox"/> AQF-2 FOAMING AGENT | SLOUGH BETWEEN CORE |
| | RUNS |

DRILLING START/FINISH:

DATE: 12/03/2014
DATE: 02/08/2015

▼ 967.9 ft bgs (3/24/15)
(video log after well
installation)



Prepared By: GW, EJ, and DB
Date: April 9, 2015
File Name: CrCH-5_Lithology_FactSheet

Well Summary Data Sheet
CrCH-5 Borehole Stratigraphy
Technical Area 05 (TA-05)
Los Alamos National Laboratory
Los Alamos, New Mexico

**Fact
Sheet**
NOT TO SCALE