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

NOV − 6 2014

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: NOV 0 3 2014
Refer To: ADESH-14-116

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 CrEX-1

Dear Mr. Kieling:

Enclosed please find two hard copies with electronic files of the Fact Sheets for CrEX-1.

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@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

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NNSA
National Nuclear Security Administration

MB/PM/DM/SS:sm

Enclosures: Two hard copies with electronic files – Fact Sheets for CrEX-1 (LA-UR-14-28123)

Cy: (w/enc.)
        Hai Shen, DOE-NA-LA, MS A316
        Stephani Swickley, EP-CAP, MS M992
        Public Reading Room (EPRR)
        RPF (electronic copy)

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, EP-CAP, MS M992
        PRS Database with ER ID

Cy: (w/o enc.)
        Tom Skibitski, NMED-DOE-OB (date-stamped letter emailed)
        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, EP-CAP (date-stamped letter emailed)
        Randy Erickson, ADEP (date-stamped letter emailed)
        Michael Brandt, ADESH (date-stamped letter emailed)

TOTAL LENGTH
OF CASING AND SCREEN (FT) 1115.6

DEPTH TO WATER
FOLLOWING INSTALLATION (FT BGS) 997.2 *(09/24/14)*

DIAMETER OF BOREHOLE
24.00 (IN) FROM 0 TO 55 (FT BGS)
19.00 (IN) FROM 55 TO 475 (FT BGS)
17.00 (IN) FROM 475 TO 816 (FT BGS)
14.75 (IN) FROM 816 TO 1211 (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) 0.5 (H)

SURFACE SEAL   4.0 TO 59.8   (FT BGS)

BENTONITE SEAL   59.8 TO 979.3 (FT BGS)

FINE SAND COLLAR 979.3 TO 985.3   (FT BGS)

FILTER PACK   985.3 TO 1048.0   (FT BGS)
SCREENED INTERVAL 990.0 TO 1040.0   (FT BGS)

BENTONITE SEAL   1048.0 TO 1063.0   (FT BGS)
FINE SAND COLLAR 1063.0 TO 1066.0   (FT BGS)
TAM PACKER   1062.0 TO 1068.0   (FT BGS)
FILTER PACK   1066.0 TO 1096.2   (FT BGS)
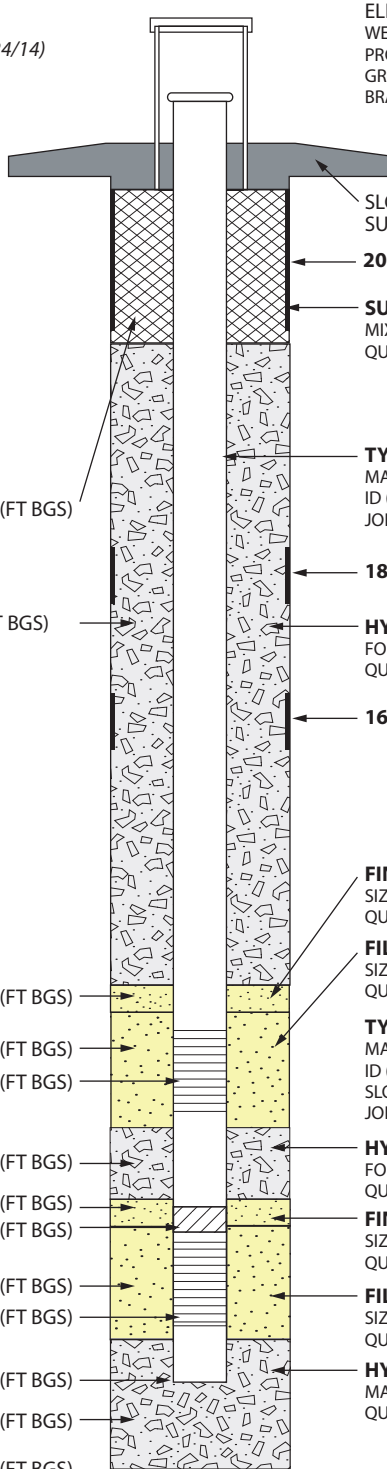**SCREENED INTERVAL** 1070.0 TO 1090.0 (FT BGS)

BOTTOM OF CASING   1112.6   (FT BGS)

BACKFILL   1096.2 TO 1211.0   (FT BGS)

BOTTOM OF BORING   1211.0   (FT BGS)

LOCKING COVER

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

SLOPED CONCRETE PAD/
SURFACE SEAL

20-IN CSG 0 TO 55 (FT BGS)

SURFACE SEAL
MIX (WT%) PORTLAND CEMENT 92 BENTONITE 8
QUANTITY USED 90.0 FT^3 CALC 90.0 FT^3

TYPE OF CASING
MATERIAL PASSIVATED A304 STAINLESS STEEL
ID (IN) 8.00 OD (IN) 8.625 (8⅝)
JOINT TYPE WELDED

18-IN CSG/SHOE 470.0 TO 475.0 (FT BGS)

HYDRATED BENTONITE SEAL
FORM ⅜-IN BENTONITE CHIP
QUANTITY USED 1253.2 FT^3 CALC 1100.7 FT^3

16-IN CSG/SHOE 811.0 TO 816.0 (FT BGS)

FINE SAND COLLAR
SIZE/TYPE 20/40 SILICA
QUANTITY USED 14.0 FT^3 CALC 4.7 FT^3

FILTER PACK SAND
SIZE/TYPE 10/20 SILICA
QUANTITY USED 46.5 FT^3 CALC 49.4 FT^3

TYPE OF SCREEN(S)
MATERIAL A304 STAINLESS STEEL
ID (IN) 8.00 OD (IN) 5.88 (5⅞)
SLOT SIZE (IN) 0.040
JOINT TYPE WELDED

HYDRATED BENTONITE SEAL
FORM ⅜-IN BENTONITE CHIP
QUANTITY USED 8.8 FT^3 CALC 11.7 FT^3

FINE SAND COLLAR
SIZE/TYPE 20/40 SILICA
QUANTITY USED 4.5 FT^3 CALC 2.3 FT^3

FILTER PACK SAND
SIZE/TYPE 10/20 SILICA
QUANTITY USED 23.0 FT^3 CALC 23.6 FT^3

HYDRATED BENTONITE BACKFILL
MATERIAL ⅜-IN BENTONITE CHIP
QUANTITY USED 83.0 FT^3 CALC 129.5 FT^3

STAINLESS-STEEL CENTRALIZERS
USED YES BETWEEN
LOWER AND UPPER SCREENS AND
EVERY 40 FT FROM 10 FT ABOVE
UPPER SCREEN TO 197 FT BGS

WELL COMPLETION BEGAN
DATE 08/12/14 TIME 1235h
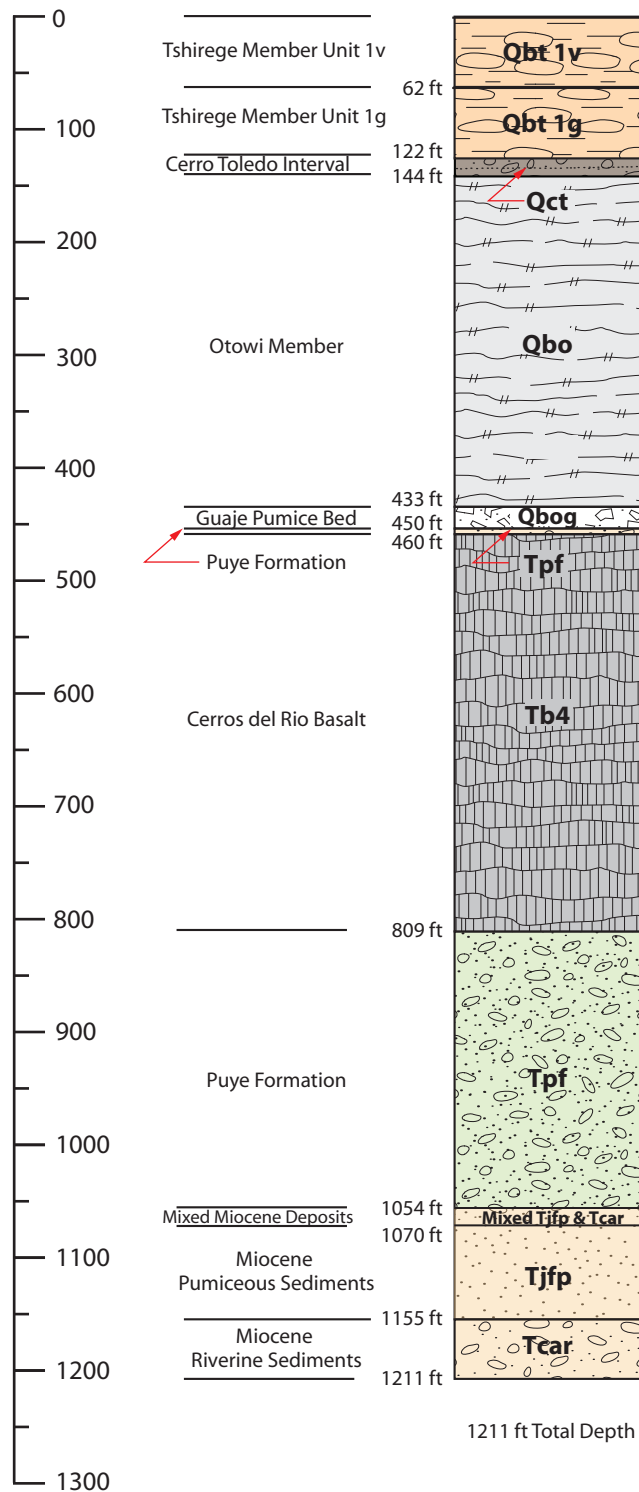**WELL COMPLETION FINISHED**
DATE 08/17/14 TIME 1100h

Los Alamos
NATIONAL LABORATORY
EST.1943

Drafted By: PTM
Date: November 3, 2014
File Name: CrEX-1_AsBuiltDiagram_FactSheet

Well CrEX-1 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)

Depth	Formation	Unit
0		Qbt 1v
100	Tshirege Member Unit 1v — 62 ft	Qbt 1g
	Tshirege Member Unit 1g — 122 ft	
	Cerro Toledo Interval — 144 ft	Qct
200		
300	Otowi Member	Qbo
400		
	Guaje Pumice Bed — 433 ft, 450 ft	Qbog
500	Puye Formation — 460 ft	Tpf
600		
700	Cerros del Rio Basalt	Tb4
800		
900	— 809 ft	
1000	Puye Formation	Tpf
1100	Mixed Miocene Deposits — 1054 ft, 1070 ft	Mixed Tjfp & Tcar
	Miocene Pumiceous Sediments	Tjfp
1200	Miocene Riverine Sediments — 1155 ft	Tcar — 1211 ft
1300		

1211 ft Total Depth

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL:
Yellow Jacket Drilling
A. Adams, A. Lamon, S. Walker, J. Saldana, S. Jorge, R. Hoyt

DRILL RIG: Foremost DR-24HD

DRILLING METHOD:
☒ DUAL ROTARY WITH AIR AND WATER AND REVERSE CIRCULATION MUD ROTARY

DRILLING FLUID TYPE:

0–816 ft bgs	816–1211 ft bgs
☒ WATER	☒ MUD
☒ AIR	
☒ AQF-2 FOAMING AGENT	

DRILLING START/FINISH:
DATE: 07/04/2014
DATE: 08/04/2014

▼ 997.2 ft bgs (09/24/14)
(post well installation before packer installation)