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**Environmental Management**  
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**Date:** JUL 13 2017  
**Symbol:** EPC-DO: 17-265  
**LA-UR:** 17-25210  
**Locates Action No.:** U1601822

Ms. Michelle Hunter, Chief  
Ground Water Quality Bureau  
New Mexico Environment Department  
Harold Runnels Building, Room N2261  
1190 St. Francis Drive  
P.O. Box 26110  
Santa Fe, NM 87502

**Subject: As-Built Specifications for CrEX-2, Discharge Permit DP-1835,  
Class V Underground Injection Control Wells**

Dear Ms. Hunter:

In August 2016, the New Mexico Environment Department (NMED) issued Discharge Permit DP-1835 to the U.S. Department of Energy and Los Alamos National Security, LLC (DOE/LANS) for the discharge of treated groundwater to the regional aquifer through up to six Class V Underground Injection Control (UIC) wells. The source of groundwater was the regional aquifer from up to three extraction wells. All three extraction wells have been constructed. The as-built specifications for CrEX-1 were previously submitted in the April 2015 Groundwater Discharge Permit Application (ENV-DO-15-0085) for DP-1835. The as-built specifications for CrEX-3 were previously submitted on December 9, 2016 (EPC-DO: 16-358). Enclosure 1 contains as-built specifications for CrEX-2.

Please contact William J. Foley by telephone at (505) 665-8423 or by email at [bfoley@lanl.gov](mailto:bfoley@lanl.gov) if you have questions regarding this information.

Sincerely,

John C. Bretzke  
Division Leader

Sincerely,

Cheryl L. Rodriguez  
Program Manager, FPD-II



JCB/CLR/MTS/WJF:am

Enclosure(s):

(1) As-Built Specifications for Extraction Well CrEX-2

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**COPY**

GROUND WATER

JUL 13 2017

BUREAU



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Sincerely,

Handwritten signature of John C. Bretzke.

John C. Bretzke  
Division Leader

Sincerely,

Handwritten signature of Cheryl L. Rodriguez.

Cheryl L. Rodriguez  
Program Manager, FPD-II

NNSA

# **ENCLOSURE 1**

**As-Built Specifications for Extraction Well CrEX-2**

**EPC-DO: 17-265**

**LA-UR-17-25210**

**U1601822**

**Date:**                     **JUL 13 2017**

TOTAL LENGTH  
OF CASING AND SCREEN (FT) 1192.2

DEPTH TO WATER  
FOLLOWING INSTALLATION (FT BGS) 1113.7 (05/06/17)

DIAMETER OF BOREHOLE  
18.00 (IN) FROM 0 TO 55 (FT BGS)  
17.00 (IN) FROM 55 TO 920 (FT BGS)  
15.00 (IN) FROM 920 TO 1201.5 (FT BGS)  
10.75 (IN) FROM 1201.5 TO 1240 (FT BGS)

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

SURFACE SEAL 10.0 TO 60.1 (FT BGS)

BENTONITE SEAL 60.1 TO 1122.9 (FT BGS)

FINE SAND COLLAR 1122.9 TO 1125.0 (FT BGS)

FILTER PACK 1125.0 TO 1185.5 (FT BGS)

SCREENED INTERVAL 1129.9 TO 1179.9 (FT BGS)

BOTTOM OF CASING 1189.7 (FT BGS)

BENTONITE 1185.5 TO 1198.6 (FT BGS)

SLOUGH AND SAND 1198.6 TO 1240.0 (FT BGS)

BOTTOM OF BORING 1240.0 (FT BGS)

SURFACE SEAL  
MIX (W/%) PORTLAND CEMENT 100  
QUANTITY USED 77.5 FT<sup>3</sup> CALC 68.2 FT<sup>3</sup>

TYPE OF CASING  
MATERIAL PASSIVATED A304 STAINLESS STEEL  
ID (IN) 8.00 OD (IN) 8.625 (8%)  
JOINT TYPE WELDED

HYDRATED BENTONITE SEAL  
FORM 3/8-IN BENTONITE CHIP  
QUANTITY USED 1618.3 FT<sup>3</sup> CALC 1185.2 FT<sup>3</sup>

FINE SAND COLLAR  
SIZE/TYPE 20/40 SILICA  
QUANTITY USED 1.3 FT<sup>3</sup> CALC 1.7 FT<sup>3</sup>

FILTER PACK SAND  
SIZE/TYPE 10/20 SILICA  
QUANTITY USED 44.7 FT<sup>3</sup> CALC 49.7 FT<sup>3</sup>

TYPE OF SCREEN(S)  
MATERIAL A304 STAINLESS STEEL  
ID (IN) 8.00 OD (IN) 8.625  
SLOT SIZE (IN) 0.040  
JOINT TYPE WELDED

HYDRATED BENTONITE BACKFILL  
MATERIAL 3/8-IN BENTONITE CHIP and  
1/4-IN BENTONITE PELLET  
QUANTITY USED 15.9 FT<sup>3</sup> CALC 14.2 FT<sup>3</sup>

14-IN CSG AND SHOE 1198.2 TO 1201.5 (FT BGS)

10-IN CSG AND SHOE 1233.9 TO 1240.0 (FT BGS)

STAINLESS-STEEL CENTRALIZERS  
USED 4 ea. AT 5 FT  
ABOVE AND BELOW  
WELL SCREEN

WELL COMPLETION BEGAN  
DATE 04/13/17 TIME 1400h  
WELL COMPLETION FINISHED  
DATE 05/01/17 TIME 1500h



Well CrEX-2 As-Built Well Construction Diagram  
Technical Area 05 (TA-05)  
Los Alamos National Laboratory  
Los Alamos, New Mexico

Fact  
Sheet

NOT TO SCALE

