



*State of New Mexico*  
**ENVIRONMENT DEPARTMENT**



**Hazardous Waste Bureau**

2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6313  
Phone (505) 476-6000 Fax (505) 476-6030  
[www.env.nm.gov](http://www.env.nm.gov)

SUSANA MARTINEZ  
Governor

JOHN A. SANCHEZ  
Lieutenant Governor

BUTCH TONGATE  
Cabinet Secretary

J. C. BORREGO  
Deputy Secretary

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

September 24, 2018

Doug Hintze, Manager  
Environmental Management  
Los Alamos Field Office  
P.O. Box 1663 MS-M984  
Los Alamos, NM 87545

**RE: APPROVAL  
COMPLETION REPORT FOR GROUNDWATER EXTRACTION WELL  
CrEX-2  
LOS ALAMOS NATIONAL LABORATORY  
EPA ID #NM0890010515  
HWB-LANL-17-053**

Dear Mr. Hintze:

The New Mexico Environment Department (“NMED”) has received from the United States Department of Energy (“DOE”) and Los Alamos National Security, L.L.C the document entitled *Completion Report for Groundwater Extraction Well CrEX-2* (“Report”), dated September 2017 and referenced by ADEM-17-0206. The Report was received on September 5, 2017.

NMED submitted comments on the Report to DOE by email on June 6, 2018. In accordance with Section XXIII of the 2016 Compliance Order on Consent, a meeting was held on June 20, 2018 to informally resolve all pertinent issues concerning the Report. NMED received DOE’s response to NMED’s comments on September 14, 2018 (see attached), which addressed the issues discussed during the June 20, 2018 meeting. NMED has reviewed DOE’s response and hereby issues an approval for the Report.

Mr. Hintze  
September 24, 2018  
Page 2

If you have any questions or comments regarding this correspondence, please contact Dane Andersen at 505-476-6056.

Sincerely,



John E. Kieling  
Chief  
Hazardous Waste Bureau

cc: N. Dhawan, NMED HWB  
D. Andersen, NMED HWB  
M. Dale, NMED HWB  
S. Yanicak, NMED DOE OB, MS M894  
L. King, EPA Region 6, Dallas, TX  
R. Martinez, San Ildefonso Pueblo  
D. Chavarria, Santa Clara Pueblo  
D. Rhodes, DOE-EM-LA  
D. Nickless, DOE-EM-LA  
A. Duran, DOE-EM-LA  
C. Rodriguez, DOE-EM-LA  
H. Shen, DOE-EM-LA  
J. Legare, N3B  
B. Robinson, N3B  
S. White, N3B  
D. Katzman, N3B  
locatesteam@lanl.gov  
emla.docs@em.doe.gov

File: Reading and LANL 2018, Approval for CrEX-2 Well Completion Report

## **NMED COMMENTS ON THE COMPLETION REPORT FOR GROUNDWATER EXTRACTION WELL CrEX-2, SEPTEMBER 2017**

The New Mexico Environment Department (NMED) has received the *Completion Report for Groundwater Extraction Well CrEX-2* (Report), dated September 2017. NMED has reviewed the Report and provides the following comments.

### **Specific Comments**

#### **1. Section 4.2 - Groundwater Sampling, page 3**

**NMED Comment:** The Geochemistry & Geomaterials Research Laboratory analytical results obtained during the zonal “screening” sampling as presented on page 3 of the report appear to be missing. The Report is the best place to include these data. Additionally, these data were used to determine the optimal screened interval for CrEX-2. The Permittees should provide the analytical results from all samples collected during well installation in the Report.

**Response:** Table 4.2-1 reports chromium results for the zonal screening sampling. The chromium results were the point of the exercise and the only data used to optimize final well screen design and placement. Other results can be found in Intellus.

#### **2. Section 7.2 – Well Construction, page 8**

**NMED Comment:** According to Appendix F, Section II of the 2016 Compliance Order on Consent (Consent Order), a comparison should be made between the actual volumes of annular materials used during well construction and the calculated or theoretical volumes of annular materials needed. The Consent Order also recommends that any discrepancies between the actual and calculated volumes should be explained in the Report. The Permittees should include this comparison in the Report and discuss the possible reasons for any discrepancies between the actual and calculated annular material volumes (voids, bridging, etc.).

**Response:** Acknowledged. In the case of CrEX-2, the volume of backfill material used is consistent with the calculated volume.

#### **3. Figure 8.3-1b, page 17**

**NMED Comment:** The Report does not indicate the serial number for the transducer installed in CrEX-2. The Permittees should provide the transducer serial number for CrEX-2 in the Report.

**Response:** Since adopting a calibration program for water level instruments, transducers are not dedicated to single wells. As such, the placeholder on the Technical Notes figure is no longer relevant. The template for the ‘Technical Notes’ figure in the WCR will be changed to remove the serial number information on future WCRs.

**4. Appendix D - CrEX-2 Aquifer Testing Report, page D-1**

**NMED Comment:** The Permittees should include technical specifications for the pump used for the aquifer testing of CrEX-2 in the Report.

**Response:** The size of pump is included in Section 8.2 of the main text.

**Minor Editorial**

**5. Section 4.2 – Groundwater Sampling, page 3**

**NMED Comment:** Sentence one of the first paragraph reads: “To optimize the final extraction well design, a better understanding chromium concentrations at depth was necessary.” The sentence should read: “To optimize the final extraction well design, a better understanding *of* chromium concentrations at depth was needed.”

**Response:** Acknowledged.

## **NMED COMMENTS ON THE COMPLETION REPORT FOR GROUNDWATER EXTRACTION WELL CrEX-2, SEPTEMBER 2017**

The New Mexico Environment Department (NMED) has received the *Completion Report for Groundwater Extraction Well CrEX-2* (Report), dated September 2017. NMED has reviewed the Report and provides the following comments.

### **Specific Comments**

#### **1. Section 4.2 - Groundwater Sampling, page 3**

**NMED Comment:** The Geochemistry & Geomaterials Research Laboratory analytical results obtained during the zonal “screening” sampling as presented on page 3 of the report appear to be missing. The Report is the best place to include these data. Additionally, these data were used to determine the optimal screened interval for CrEX-2. The Permittees should provide the analytical results from all samples collected during well installation in the Report.

**Response:** Table 4.2-1 reports chromium results for the zonal screening sampling. The chromium results were the point of the exercise and the only data used to optimize final well screen design and placement. Other results can be found in Intellus.

#### **2. Section 7.2 – Well Construction, page 8**

**NMED Comment:** According to Appendix F, Section II of the 2016 Compliance Order on Consent (Consent Order), a comparison should be made between the actual volumes of annular materials used during well construction and the calculated or theoretical volumes of annular materials needed. The Consent Order also recommends that any discrepancies between the actual and calculated volumes should be explained in the Report. The Permittees should include this comparison in the Report and discuss the possible reasons for any discrepancies between the actual and calculated annular material volumes (voids, bridging, etc.).

**Response:** Acknowledged. In the case of CrEX-2, the volume of backfill material used is consistent with the calculated volume.

#### **3. Figure 8.3-1b, page 17**

**NMED Comment:** The Report does not indicate the serial number for the transducer installed in CrEX-2. The Permittees should provide the transducer serial number for CrEX-2 in the Report.

**Response:** Since adopting a calibration program for water level instruments, transducers are not dedicated to single wells. As such, the placeholder on the Technical Notes figure is no longer relevant. The template for the ‘Technical Notes’ figure in the WCR will be changed to remove the serial number information on future WCRs.

**4. Appendix D - CrEX-2 Aquifer Testing Report, page D-1**

**NMED Comment:** The Permittees should include technical specifications for the pump used for the aquifer testing of CrEX-2 in the Report.

**Response:** The size of pump is included in Section 8.2 of the main text.

**Minor Editorial**

**5. Section 4.2 – Groundwater Sampling, page 3**

**NMED Comment:** Sentence one of the first paragraph reads: “To optimize the final extraction well design, a better understanding chromium concentrations at depth was necessary.” The sentence should read: “To optimize the final extraction well design, a better understanding *of* chromium concentrations at depth was needed.”

**Response:** Acknowledged.