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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

September 26, 2014

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EP2014-5344

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**RE: APPROVAL WITH MODIFICATIONS
DRILLING WORK PLAN FOR CHROMIUM PROJECT COREHOLES
LOS ALAMOS NATIONAL LABORATORY
EPA ID#NM0890010515
HWB-LANL-13-026**



Dear Messrs. Maggiore and Mousseau:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) and the Los Alamos National Security, L.L.C.'s (LANS) (collectively, the Permittees) *Drilling Work Plan for Chromium Project Coreholes*, dated July, 2014 and referenced by EP2014-0298 (Plan). The Plan was received on July 30, 2014. NMED hereby approves the Plan with the following modifications.

General Comments:

1. For each dedicated access point (or well), CrCH-1 through CrCH-6, the Permittees must install an additional four feet of 20/40 or finer transition sand above the primary filter pack (for a total of 6 feet of transition sand) to decrease the potential for migration of the sealant into the screened interval.
2. The well-construction designs for the CrCH-1 through CrCH-6 must be relatively consistent with respect to: a) screen placement at the regional-aquifer water table, b) screen length, and c) and position of filter packs and sealant, unless site-specific conditions dictate otherwise. Any deviations from this relative

consistency in well construction must be approved by NMED prior to implementation.

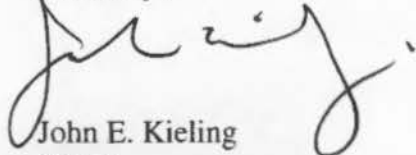
3. Currently, there are no chromium monitoring points at the regional-aquifer water table between wells R-42 and R-45, a distance of approximately one-half mile (810 m); therefore, it is essential for CrCH-2 to be screened at the water table to determine and refine the spatial distribution and transport behavior of hexavalent chromium within and near the chromium plume's center mass and for long-term monitoring purposes. The Permittees must install the CrCH-2 well screen at the regional-aquifer water table.
4. For corehole CrCH-6, located in the area where the Cerros del Rio basalt is likely not present in the subsurface, the Permittees must commence core collection at least 200 feet (61 m) above the anticipated regional-aquifer water table.
5. Following well construction, each screened interval must be properly developed by surging and bailing with the primary goal of obtaining low-turbidity representative groundwater samples.
6. The Permittees must install pumping systems with transducers in CrCH-1 through CrCH-6. After well development is completed and sampling systems are installed, the wells must be purged with the objective of removing groundwater affected by drilling/coring across the screened intervals. During purging of each well, the field parameters pH, temperature, specific conductance, dissolved oxygen, oxidation-reduction potential, and turbidity must be collected at a reasonable time intervals such as every 15 to 30 minutes. At the end of purging, water-quality samples must be collected and submitted for analyses.
7. The Permittees must submit for NMED's review the Standard Operating Procedures (SOPs) for core collection and handling at least seven calendar days before commencing core collection from any corehole. If, in NMED's opinion, the SOPs are inadequate, the Permittees must collect and handle cores in accordance with NMED direction.
8. The Permittees must survey in each corehole for elevation to mean sea level and X - Y coordinates in accordance with Consent Order Section IX.B.2.f. Surveyed locations and elevations must be reported in the Permittee's corehole-completion summary report as referenced in the Plan.

As stated in the Plan, the Permittees must submit a corehole-completion summary report for coreholes CrCH-1 through CrCH-6 to NMED **120 days** following the installation of the last dedicated access point or well or by **April 3, 2015**, whichever is earlier.

Messrs. Maggiore and Mousseau
September 26, 2014
Page 3

Please contact Michael Dale at (505) 661-2673 if you have questions.

Sincerely,



John E. Kieling
Chief
Hazardous Waste Bureau

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File: Reading and LANL 2014, Work Plan Regional Aquifer Chromium Coreholes