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**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

November 9, 2015

Doug Hintze  
Manager  
Environmental Management  
Los Alamos Field Office  
3747 West Jemez Rd, MS A316  
Los Alamos, NM 87544

Michael T. Brandt  
Associate Director  
Environment, Safety, Health  
Los Alamos National Laboratory  
P.O. Box 1663, MS M991  
Los Alamos, NM 87545

**RE: APPROVAL WITH MODIFICATIONS  
INTERIM FACILITY-WIDE GROUNDWATER MONITORING PLAN FOR  
THE 2016 MONITORING YEAR, OCTOBER 2015-SEPTEMBER 2016  
LOS ALAMOS NATIONAL LABORATORY  
EPA ID#NM0890010515  
HWB-LANL-15-025**

Dear Messrs. Hintze and Brandt:

The New Mexico Environment Department (NMED) is in receipt of the United States Department of Energy (DOE) and the Los Alamos National Security, L.L.C.'s (collectively, the Permittees) document entitled *Interim Facility-Wide Groundwater Monitoring Plan for the 2016 Monitoring Year, October 2015-September 2016* (Plan) dated June 2015, referenced by EP2015-0085, and received on June 1, 2015. NMED has reviewed the Plan and hereby issues this approval with the following modifications.

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**Modifications:**

**1. 3.0 Interim Monitoring Plan for Chromium Investigation Group, Table 3.4-1 (continued), page 55.**

Past field measurements and analytical results collected at regional aquifer well R-62 indicate that the well must be purged for an extended period of time to obtain representative samples and associated analytical water-quality results. For example, samples collected at the end of three and up to approximately ten casing volumes during past sampling events have yielded dissolved chromium concentrations ranging from approximately 120 to 150 micrograms per liter ( $\mu\text{g/L}$ ). Review of the Permittees' field parameters collected during these sampling campaigns indicate that stabilization of dissolved oxygen was never achieved, suggesting that the well was likely not producing representative samples. Between May 13, 2014 and July 30, 2014, the Permittees conducted an extended purge test at R-62 that resulted in dissolved chromium concentrations ranging from approximately 200 to 260  $\mu\text{g/L}$  (see: <http://www.intellusnmdata.com/>). In addition, after well completion in September 2011, R-62 was purged continuously, for well-development purposes, between January 27, 2012 and January 31, 2012. Review of field-parameter data collected during this well development event provided evidence that stabilization of field parameters was achieved after approximately 40 hours of purging at 1.8 gallons per minute, or about 4,320 gallons of total purge volume. Based on these data, NMED requires that at least one extended purge event be conducted at R-62 during the 2016 monitoring year with the intent to obtain representative groundwater samples and analytical results.

**2. 8.0 Interim Monitoring Plan for General Surveillance and White Rock Canyon, Table 8.3-1 (continued), pages 64 - 65.**

As shown in Table 8.3-1 of the Plan, the Permittees propose to collect water-quality samples annually at 15 of the 20 White Rock Canyon springs, with the remaining five springs to be sampled biennially, beginning October 1, 2016, which is the start of the 2017 monitoring year. The five springs sampled biennially include Springs 3, 3A, 5A, 6A, and 8A. These springs represent complex groundwater-flow pathways with potential contaminant input and mixing from up-gradient sources. In the case of Springs 3, 3A, and 5A, slightly elevated levels of major solutes such as chloride and the presence of tritium indicate some contaminant mixing is occurring from sources likely in Pajarito and/or Water canyons. Springs 6A and 8A do not show contamination; however, nearby contaminant sources are positioned up-gradient in Ancho Canyon at TA-39 and mesa-top sources at TA-33, respectively. To gain better groundwater contaminant detection associated with these sources and monitoring coverage along White Rock Canyon, as well as to increase the overall efficiency of the sampling campaign, the Permittees must sample all 20 springs on an annual basis beginning October 1, 2016, which corresponds to the start of the 2017 monitoring year.

Messrs. Hintze and Brandt  
November 9, 2015  
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Please contact Michael Dale at (505) 476-3078 if you have questions.

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Kieling". The signature is fluid and cursive, with a large initial "J" and "K".

John E. Kieling  
Chief  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
N. Dhawan, NMED HWB  
B. Wear, NMED HWB  
M. Dale, NMED HWB  
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J. Buckley, ENV-CP, MS K490

File: Reading and LANL 2015, IFGMP 2016 Monitoring Year