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Date: APR 0 1 2010
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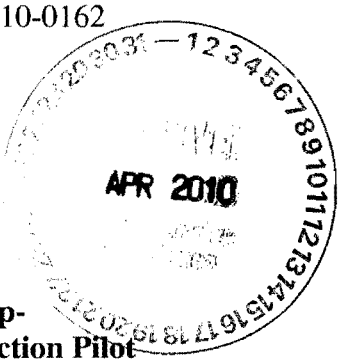

James Bearzi, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Submittal of the Work Plan to Plug and Abandon the Existing Deep-Extraction Borehole as Part of the Supplemental Soil-Vapor Extraction Pilot Test at Material Disposal Area G

Dear Mr. Bearzi:

Los Alamos National Laboratory (the Laboratory) is requesting approval to abandon the existing deep-extraction borehole as part of the Supplemental Soil-Vapor Extraction Pilot Test at Material Disposal Area G. A work plan to plug and abandon the existing deep-extraction borehole is attached.

The existing deep-extraction borehole was considered for a potential monitoring point for the Otowi Member. However, the existing deep-extraction borehole would have provided only a single monitoring point for the Otowi Member. Currently, the proposed new extraction borehole would provide multiple points, ranging 25 ft to 150 ft, for monitoring the Otowi Member.

Given the New Mexico Environment Department's (NMED's) directions in its August 20, 2009, letter, the Laboratory proposes to abandon the borehole. At this time, the Laboratory requests NMED's approval to abandon the existing deep-extraction borehole. The borehole will be abandoned in conjunction with other drilling activities planned at the site and will be completed by April 30, 2010.

If you have any questions, please contact Jarrett Rice at (505) 665-3874 (wjrice@lanl.gov) or Ed Worth at (505) 606-0398 (eworth@doeal.gov).

Sincerely,

for Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

David R. Gregory, Project Director
Environmental Operations
Los Alamos Site Office

MG/DG/AB/JR:sm

Attachment: Work Plan to Plug and Abandon the Existing Deep-Extraction Borehole as Part of the Supplemental Soil-Vapor Extraction Pilot Test at Material Disposal Area G (LA-UR-10-1991)

Cy: Laurie King, EPA Region 6, Dallas, TX
Tom Skibitski, NMED-OB, Santa Fe, NM
Steve Yanicak, NMED-DOE-OB, MS M894
Ed Worth, DOE-LASO, MS A316
Annette Russell, DOE-LASO (date-stamped letter emailed)
Jarrett Rice, EP-TA-54 Closure Project, MS M991
Andy Baumer, EP-TA-54 Closure Project, MS C348
Michael J. Graham, ADEP, MS M991
Kristine Smeltz, EP-WES, MS M992
RPF, MS M707
IRM-RMMSO, MS A150 (date-stamped letter emailed)

Work Plan to Plug and Abandon the Existing Deep-Extraction Borehole as Part of the Supplemental Soil-Vapor Extraction Pilot Test at Material Disposal Area G

Purpose	This work plan summarizes the methods Los Alamos National Laboratory (the Laboratory) proposes to use to plug and abandon the existing deep-extraction borehole at Material Disposal Area (MDA) G, located in Technical Area 54 (TA-54), Los Alamos, New Mexico. The deep-extraction borehole was used as part of the MDA G soil-vapor extraction (SVE) pilot test performed in the summer of 2008. On August 20, 2009, the New Mexico Environment Department (NMED) required the Laboratory to conduct a second SVE pilot test at MDA G (NMED 2009, 107044). In the letter, NMED stated that "If removing the casing in the deep extraction well is not possible, the Permittees must abandon the existing deep extraction borehole and propose drilling a new extraction borehole in the vicinity of the current extraction wells." As part of the Work Plan for Supplemental Soil-Vapor Extraction Pilot Test Implementation/Reporting at Material Disposal Area G, Technical Area 54, Revision 1 (LANL 2010, 108306), the Laboratory stated, "Because the steel casing in the existing deep-extraction borehole cannot be removed to provide a suitable extraction interval length and depth, a new extraction borehole will be installed approximately 24 ft from the existing shallow-extraction borehole . . ." and "The existing deep-extraction borehole will be abandoned prior to the permeability testing and the extraction tests, in accordance with section X.D of the Consent Order." On January 29, 2010, NMED provided an approval with modifications of the January 11, 2010, work plan (NMED 2010, 108679). However, one of NMED's specific comments stated "The Permittees must provide justification for not considering the deep extraction borehole as a monitoring point for the Otowi member. The Permittees shall not abandon this borehole without prior approval from NMED." The existing deep-extraction borehole was considered as a potential monitoring point for the Otowi Member. However, the existing deep-extraction borehole would provide only a single monitoring point for the Otowi Member as opposed to the four monitoring points that could be placed by converting the existing shallow-extraction borehole to a monitoring borehole. Additionally, the proposed new extraction borehole would provide multiple points, ranging 25 ft to 150 ft, for monitoring the Otowi Member.
Construction Details	The deep-extraction borehole was drilled to a total depth of 185 ft below ground surface (bgs). The bottom of the borehole was grouted up to a depth of 177 ft bgs. The top of the borehole was completed with a 10-in.-diameter steel casing from the ground surface to 161 ft bgs. There is a 16-ft open-hole portion of the borehole. The borehole was not intended to and did not penetrate a saturated geologic unit. The intended use for the borehole was associated with the SVE pilot test.
Abandonment Methods	The borehole will be pressure-grouted in one continuous lift with a mixture of Portland Type I/II cement from the bottom using a tremie pipe to force cement into the formation and to seal the open portion of the borehole. The grout will then be brought to the surface, where any aboveground casing will be cut even with the ground surface and covered with concrete.
Schedule	The borehole will be abandoned as part of other required drilling activities for the supplemental SVE pilot test. The borehole will be abandoned no later than April 30, 2010. The borehole abandonment will be summarized and documented as part of the final report for the supplemental SVE pilot test.

REFERENCES

The following list includes all documents cited in this plan. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

LANL (Los Alamos National Laboratory), January 2010. "Work Plan for Supplemental Soil-Vapor Extraction Pilot Test Implementation/Reporting at Material Disposal Area G, Technical Area 54, Revision 1," Los Alamos National Laboratory document LA-UR-10-0046, Los Alamos, New Mexico. (LANL 2010, 108306)

NMED (New Mexico Environment Department), August 20, 2009. "Pilot Test to Evaluate Soil-Vapor Extraction at Material Disposal Area G at Technical Area 54," New Mexico Environment Department letter to D. Gregory (DOE-LASO) and D. McInroy (LANL) from J.P. Bearzi (NMED-HWB), Santa Fe, New Mexico. (NMED 2009, 107044)

NMED (New Mexico Environment Department), January 29, 2010. "Approval with Modifications, MDA G Supplemental Soil-Vapor Extraction Pilot Test Work Plan, Revision 1," New Mexico Environment Department letter to M.J. Graham (LANL) and G.J. Rael (DOE-LASO) from J.P. Bearzi (NMED-HWB), Santa Fe, New Mexico. (NMED 2010, 108679)