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LANL 1996
ER ID # 55184

Los Alamos

NATIONAL LABORATORY

Hazardous & Solid Waste Group
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Date: November 4, 1996
In Reply Refer To: ESH-19:96-0385
Mail Stop: K498
Telephone: (505) 665-2505

Mr. Steve Jetter
Underground Storage Tank Bureau
New Mexico Environment Department
1190 St. Francis Drive
Harold Runnels Building
Santa Fe, New Mexico 87502

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Dear Mr. Steve Jetter:

**SUBJECT: VARIANCE AND EXTENSION OF TIME REQUESTS INVOLVING
UNDERGROUND STORAGE TANK SITE TA-18-26**

The purpose of this letter is to request a variance and a time extension for on-site investigation activities at underground storage tank (UST) site TA-18-26. The variance request is for placement of only three coreholes to determine the horizontal extent of diesel contamination at this site. The time extension is for submitting the required forty-five-day on-site investigation report, thirty-days late to the New Mexico Environment Department (NMED).

Background

On September 20, 1996, I notified Norm Pricer of NMED's Underground Storage Tank Bureau regarding a confirmed diesel fuel release at Los Alamos National Laboratory's (LANL) Technical Area (TA)18. In LANL's September 26, 1996, seven-day notification letter on this release, it was discussed that an UST was discovered during a trenching operation for a new natural gas line at TA-18. Best information indicates that the UST was used from 1946 to about June 1, 1950, when the emergency generator that this UST supplied diesel fuel to was decommissioned.

LANL's initial soil samplings found the possible presence of diesel fuel ranging from 310 to 1,100 ppm. However, the initial field analysis was in direct conflict with the field observations and the Hanby field test results. Based on the laboratory analysis a decision was made to reinvestigate the possible site contamination by drilling two shallow boreholes to a depth of 6 to 7 feet. Total extractable petroleum hydrocarbons (TEPH) ranging from 240 to 400 ppm were found in the soil samples collected from the corings.

Corehole drilling to determine the extent of the diesel fuel contamination in accordance with the New Mexico Administrative Code, Title 20 Environmental Protection, Chapter 5 Underground Storage Tanks (20 NMAC 5), Part XII, §1205 C. (c) was delayed while LANL explored the possibility that the TEPH concentrations could be false positives from the turpines and treated wood degradation products from decomposed wooden timbers found in the tank pit when the



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UST was excavated. However, LANL was unable to substantiate, at this time, that the TEPH concentrations are from turpines and treated wood degradation products. Therefore, LANL will now proceed with the corehole drilling investigation.

Subsurface Investigation Schedule

The subsurface investigation has been schedule for the week on November 10, 1996. However, there is a possibility that LANL may want to accelerate the drilling schedule do to the availability of a drill rig. LANL will give NMED at least a forty-eight hour advance notice prior to drilling. Enclosed are site maps of TA-18, the location of the former UST TA-18-26, and the proposed corehole location for investigating the extent of the on-site diesel fuel contamination.

Variance Request

Pursuant to 20 NMAC 5, Part XII, § 1222, LANL is requesting a variance from drilling all four coreholes as required in §1205 C. (c) of 20 NMAC 5. Because of aboveground electrical lines and a canyon wall, LANL cannot drill on the north side of the UST site because of electrical hazards and physical constraints. See Enclosure One for maps of the site and locations of the utility lines. Therefore, LANL wants to drill only three coreholes to determine the horizontal extent of the diesel fuel contamination. LANL believes that varying from the prescribed drilling locations in § 1205 C. (c), will still be protective of human health and the environment for the following reasons: First, a canyon wall rises north of the UST site; therefore, the land surface slopes away from the canyon wall to the south. The south sloping land surface would likely cause the movement of any diesel fuel contamination to travel down gradient (to the south) of the UST site. Second, no diesel fuel odors have ever been reported in structure TA-18-26, which is up gradient and north of the UST site. Third, depth to groundwater beneath this UST site is greater than 50 feet.

Time Extension Request

Pursuant to 20 NMAC 5, Part XII, § 1221, LANL is requesting a thirty-day extension of time to submit to NMED our forty-five-day on-site investigation report. This investigation report will show how LANL has determined the extent of the diesel fuel contamination associated with former UST TA-18-26. By granting a time extension LANL will have time to complete its on-site investigation and submit a comprehensive report to you by December 4, 1996.

Conclusion

LANL believes there is no threat to human health and the environment from this diesel fuel release. Hydrogeologic work at TA-18 indicates that there may be some vertical and lateral continuity between the Bandelier Tuff beneath the mesas and canyons and the shallow alluvial aquifer in the center of TA-18 (Pajarito Canyon). Very wet conditions were encountered from a corehole drilled to a depth of 125 feet below land surface (BLS) near this former UST. Depth to the regional aquifer at TA-18 is over 600 feet. Enclosed is a report (*Geology, Drilling, and Some Hydrologic Aspects of Seismic Hazards Program Core Holes, Los Alamos National Laboratory, New Mexico*) that provides support that the shallow aquifer, approximately 10 feet BLS,

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underlying the central portion of TA-18 does not extend beneath this former UST or at least does not extend beneath this site at a depth of less than 50 feet. In addition, there are no private water supply wells within a 1000 foot radius from this UST removal site and the nearest municipal water well is approximately 1,350 feet away. The nearest surface water course is 450 feet away causing perched water conditions beneath TA-18, but not beneath this former UST site. Distance to the nearest utility corridor is 5 feet. No reports of diesel odors have been reported in the corridor, in the buildings near this former UST, or in the tank pit during excavation.

If you have questions, please contact me at 665-2505.

Sincerely,



Jeff Carmichael
Hazardous & Solid Waste Group

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Encs:

1. Maps Showing The Location of TA-18, The Former UST Site, And Proposed Corehole Locations
2. *Geology, Drilling, and Some Hydrologic Aspects of Seismic Hazards Program Core Holes, Los Alamos National laboratory, New Mexico*

Cy: D. Erickson, ESH-DO, MS K491, w/o enc.
S. Fong, DOE/LAAO, MS A316, w/enc.
G. Gould, ESA-EPE, MS G787, w/enc.
D. McInroy, EM-ER M992, w/enc.
T. Taylor, LAAO, MS A316, w/o enc.
J. Vozella, LAAO, MS A316, w/o enc.
RPF, EM/ER, MS M707, w/o enc.
CIC-10, MS A150, w/o enc.
ESH-19 Circ File