National Nuclear Security Administration
Sandia Site Office
P.O. Box 5400
Albuquerque, New Mexico 87185-5400

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CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. James Bearzi
Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Road, Bldg. E
Santa Fe, New Mexico 87505

Dear Mr. Bearzi:

On behalf of Sandia Corporation (Sandia) and the Department of Energy (DOE), DOE is submitting a response to the New Mexico Environment Department's (NMED) August 6, 2008, "Notice of Disapproval: Summary Report for Technical Area V Monitoring Well Plug and Abandonment and Installation, Decommissioning of Groundwater Monitoring Well TAV-MW1, Installation of Groundwater Monitoring Well TAV-MW10, June, 2008.

If you have any questions, please contact me at (505) 845-4392, or John Gould of my staff at (505) 845-6089.

Sincerely,

Kimberly A. Davis
Acting Manager

Enclosure

cc w/enclosure:
W. Moats, NMED (via Certified Mail)
L. King, EPA, Region 6 (via Certified Mail)
T. Skibitski, NMED-OB
SNL ES&H Records Center, SNL/NM, Org.6765, MS-1089

cc w/o enclosure:

A. Blumberg, SNL/NM, Org. 11100, MS 0141
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Records Center, SNL/NM, Org.6765, MS 1089
T. Longo, HQ/GTN, NA-56

AOP 95-45, 06

CERTIFICATION STATEMENT FOR APPROVAL AND FINAL RELEASE OF DOCUMENTS

Document title: DOE/Sandia Responses to NMED "Notice of Disapproval: Summary Report for the Technical Area V Monitoring Well Plug and Abandonment and Installation – Decommissioning of Groundwater Monitoring Well TAV-MW1 Installation of Groundwater Monitoring Well TAV-MW10, June, 2008 Sandia National Laboratories, EPA ID# NM5890110518 HWB-SNL-08-011 " August 6, 2008.

Document author: Mike Sanders, Department 06765

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

Signature: Francis B. Nimick 9/25/08
Date

Francis B. Nimick
Deputy to the
Nuclear Energy and Global Security Technologies
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Operator

and

Signature: Kimberly A. Davis 10/3/08
Date

Kimberly Davis
Acting Manager
U.S. Department of Energy
National Nuclear Security Administration
Sandia Site Office
Owner and Co-Operator

Sandia Corporation
Albuquerque, New Mexico
October 6, 2008

DOE/Sandia Responses to NMED "Notice of Disapproval: Summary Report for the Technical Area V Monitoring Well Plug and Abandonment and Installation – Decommissioning of Groundwater Monitoring Well TAV-MW1 Installation of Groundwater Monitoring Well TAV-MW10, June, 2008 Sandia National Laboratories, EPA ID# NM5890110518 HWB-SNL-08-011 " August 6, 2008

INTRODUCTION

This document responds to comments received in a letter from the New Mexico Environment Department (NMED) to the U.S. Department of Energy (DOE) and Sandia Corporation (Sandia) dated August 6, 2008 regarding the Summary Report for the Technical Area V Monitoring Well Plug and Abandonment and Installation at Sandia National Laboratories (SNL). The letter is entitled "Notice of Disapproval: Summary Report for the Technical Area V Monitoring Well Plug and Abandonment and Installation – Decommissioning of Groundwater Monitoring Well TAV-MW1 Installation of Groundwater Monitoring Well TAV-MW10, June, 2008 Sandia National Laboratories, EPA ID# NM5890110518 HWB-SNL-08-011".

This document lists each NMED comment, and the DOE/Sandia response to that comment. The NMED comment is listed in boldface, followed by the DOE/Sandia response, written in normal font under "Response".

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under Contract DE-AC04-94AL85000.

Comment 1: Section 3.3, Initial Groundwater Level and Well Construction, does not mention the use of centralizers, which were called for in the work plan. Confirm the use of and describe the spacing of centralizers used in the installation of TAV-MW10 in this section of the report.

Response 1: A discussion of the placement of centralizers was inadvertently omitted from the summary report. PVC centralizers were placed below and above the screen section and then every 100 feet to the surface.

Comment 2: In Section 2.0, Plug and Abandonment insert the word "Attachment" in from of "B" in the second sentence.

Response 2: A replacement page for the report with the correct reference to Attachment B is provided as Attachment A.

Comment 3: The work plan, Section 5.2.3, Well Development, states "representative water is assumed to be obtained when pH, temperature, turbidity, and specific conductivity readings stabilize (less than 10% variability over three consecutive well bore volumes) and the water is visually clear of suspended solids with a target turbidity of less than five Nephelometric Turbidity Units (NTUs)". The field data submitted in the report shows that these conditions were met except for turbidity, which did not stabilized to within 10% variability. However, NMED does accept that the well was adequately developed and that the representative groundwater samples can be obtained. However, rewording of the above criteria should be considered in any future work plans to avoid confusion as to what situations are applicable for the two different criteria (10% variability or < 5 NTU) for turbidity.

Response 3: The turbidity measurements over the last 150 gallons (4.5 well bore volumes) were not within 10% variability, although the last three measurements were within the target turbidity of less than five NTUs. The other parameters of pH, temperature, and specific conductivity were within 10% variability. Specifically, the DOE/Sandia Field Operating Procedure (FOP) 94-41 "Well development" states:

> After the minimum well bore volumes have been removed, development should continue until representative water is obtained. Representative water is water that is free of drilling fluids, cuttings, or other materials introduced during well construction. Representative water is assumed to have been obtained when pH, temperature, turbidity, and specific conductivity readings stabilize (less than 10 % variability over 3 consecutive well bore volumes) and the water is visually clear of suspended solids. In addition to this criterion, it is generally agreed that the well should also be developed until the turbidity is less than five (5) NTUs. This limit is derived from water quality standards contained in the Environmental Protection Agency's (EPA) Safe Drinking Water Act (SDWA). Although monitoring wells are rarely used for purposes other than sampling and testing, the optimum sampling results appear to be obtained when the turbidity limit set forth in the SDWA is achieved.

DOE/Sandia will revise FOP 94-41 and set the primary goal for turbidity to be less than 5 NTUs, as recommended by the EPA. The primary goal for turbidity will be defined in future work plans and any deviation from that in the development activities will be considered a variance.

Comment 4: Geophysical logs have been used extensively in the past to interpret the subsurface and correlate geologic units between boreholes at SNL. Section 5.0, Variances, second bullet, discuss the fact that geophysical logging was not conducted as planned. As it was known at the time of the work plan that the new well would be located close to the abandoned well, specify the cut-off distance criteria used in the Permittees' decision not to geophysically log the borehole/well and explain why this decision wasn't discussed ahead of time with the NMED.

Response 4: Although there is an informal agreement with NMED that a well installed within 30 feet of an abandoned well is considered a "replacement" well (and not a "new" well), there is no predetermined cut-off distance criteria limit for when to perform geophysical logging. As mentioned, it was originally DOE/Sandia's intent to perform borehole geophysical logging at TAV-MW10, even though the installation was a replacement well that was in close proximity to the abandoned well that had an existing borehole geophysical log. However, it was not known during work plan preparation that there would be overwhelming logistical issues prohibiting geophysical logging. A DOE nuclear safety audit with heightened security requirements was in effect during the drilling activities for TAV-MW10. It was exceptionally difficult to bring a radioactive source (geophysical tool) into TA-V, which is a Radiological Control Area. During well installation it was determined that these logistical problems could not be effectively overcome in a reasonable time. Accordingly, in response to the logistical issues and that the borehole geophysical log from the abandoned well 10 feet away was available, a variance was included in the report. All future field programs will also include timely notification to NMED of all such field changes.

ATTACHMENT A
Report Replacement Page

2.0 PLUG AND ABANDONMENT

The monitoring well TAV-MW1 was plugged in situ on January 30 and February 5, 2008. A Groundwater Well Abandonment Diagram is included as Attachment B. On January 30 bentonite slurry grout mix was pumped into the well casing and screen with a portable grout plant. Grout was pumped through tubing placed at the bottom of the well and was pulled up as well was filled. The well was grouted from the bottom of the well at 509.5 ft below ground surface (bgs) to within approximately 20 ft of the surface and allowed to set overnight. A total of approximately 670 gallons of bentonite grout (consisting of twenty-eight 50-pound bags of bentonite and water) were pumped into the well on January 30. On February 5, the well and open portion of the annulus was filled to close to the surface by mixing bentonite grout in a tub, and pumping it into the well. The existing 5-ft length of protective conductor casing, concrete well pad, and steel guard posts were then removed from the surface of the well head at that time. On February 6, 2008, the well and annulus were filled to within 2 ft of the surface with coarse bentonite chips. The final 2 ft of the well and annulus were then filled with concrete, and a 3-ft by 3-ft concrete well monument was constructed over the location of the former well, and a brass marker was placed in the monument. The marker was stamped with the abandoned well name, date of P&A, and well depth. Field notes for the TAV-MW1 P&A are provided as Attachment C.