

General

**Northern New Mexico Citizens' Advisory Board**  
*A U.S. Department of Energy Site-Specific Advisory Board*  
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November 20, 2007

Attention: Mr. Richard Mayer,  
Ex-Officio Member NNM CAB  
Hazardous Waste Management Division  
US EPA Region VI  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202  
Email: [mayer.richard@epa.gov](mailto:mayer.richard@epa.gov)

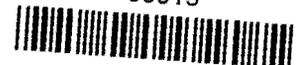
**Re: Request for EPA Review and Comment to NNM CAB on Two Los Alamos National Laboratory (LANL) Reports:**

1. *Well Screen Analysis Report, Revision 2, LA-UR-07-2852 May 2007,*  
<http://www.lanl.gov/prr/Water/PRR-WTR-0020.pdf>
2. *Groundwater Background Investigation Report, Revision 3, LA-UR-07-2853 May 2007,*  
<http://www.lanl.gov/environment/h2o/docs/FinalGWBackgroundIRR3.pdf>

Dear Mr. Mayer:

The Northern New Mexico Citizen's Advisory Board (NNMCAB) is pleased to have had the assistance and support of the EPA and you as Ex-Officio Member of the NNM CAB to help the citizens of northern New Mexico understand critical issues related to the performance of groundwater monitoring wells at LANL and the potential for impacts to these wells caused by the use of organic and clay drilling fluids. LANL prepared an initial methodology to evaluate potentially impacted well screens in the Well Screen Analysis Report LA-UR-05-8615, November 2005 (WSAR Rev. 0). The EPA had comments and suggestions to improve the approach in the WSAR Rev. 0. Since this initial method of analysis of well screens, LANL has developed successive techniques or methodologies for analyses of the impacted screens and recently has published WSAR Rev. 2 dated May 2007 and Rev. 3 to the Background report also dated May 2007. These current reports have been accepted by the New Mexico Environment Department (NMED) and LANL is beginning to use these methodologies to evaluate the screens in the "R-wells" in the regional aquifer and to characterize background groundwater quality at the facility.

The NNM CAB would very much appreciate an additional review and comment by EPA on the following questions related to the current Rev. 2 of the WSAR and the related Groundwater Background Report, Rev. 3. However, the NNM CAB understands it is not proper protocol to directly request a Federal agency to review and comment on non-Federal documents. The NNM CAB therefore asks you, as the Ex-Officio Member and representative of EPA, for your assistance in working with EPA to provide an additional review and comment on the following questions and information. The methodologies employed are complex and it is difficult for the



NNMCAB members to evaluate the adequacy of R-well screens judged to be “good” and which can be sampled using a purging technique to obtain representative groundwater samples and meet data quality objectives for groundwater monitoring.

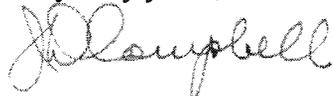
The questions the NNM CAB has related to the existing WSAR Rev. 2 and the Background Report, Rev. 3 include the following:

- 1) Does the methodology in the WSAR Rev. 2 ensure that the potentially impacted well screens judged to be ‘good’ will actually provide representative samples of aquifer water such that the samples may be analyzed to detect trace constituents, including sorbing radionuclides if present, in the adjacent aquifer? The NNM CAB understands that the well screens must be purged prior to sampling to meet the requirements of the NMED Consent Order and EPA RCRA Guidance. The NNM CAB is aware of past statements by the EPA of the need to evaluate changes in aquifer chemistry resulting from the impacts of organic drilling fluids. Do these potential changes in aquifer chemistry or any other issues contribute to significant residual uncertainty in the ability of the WSAR Rev. 2 methodology to evaluate and judge the acceptability of potentially impacted well screens for use in a groundwater monitoring program to meet data quality objectives and to detect trace level contaminants, if present, in the aquifer?
- 2) Is there significant uncertainty in the characterization of background water quality at LANL? Does the methodology in Background Report Rev. 3 ensure that the characterization of background water quality can be used effectively as a screening tool adequate for all relevant areas at LANL?
- 3) If the EPA believes there is significant residual uncertainty in either of the methodologies outlined in the WSAR Rev.2 or the Background Report Rev. 3, the NNM CAB would appreciate your thoughts on procedures, sampling methodologies and/or analyses which are implementable and may significantly reduce any such remaining uncertainty in the analyses of potentially impacted well screens and the ability of the subject wells screens to produce representative samples of aquifer water or in the characterization of background water quality at the facility.

The NNM CAB appreciates the past reviews and comments provided by EPA on this subject to the NNM CAB, LANL, DOE, NMED and other interested parties. The NNM CAB will continue to facilitate and encourage further collaborative discussions of this important issue with these interested parties to improve the groundwater monitoring program at LANL. EPA comments and actions will also assist the NNM CAB to improve public confidence in the ability of the LANL groundwater monitoring program to perform as desired to detect any trace level constituents that may need to be addressed in the environmental cleanup program at LANL.

We have provided references and the URLs for copies of the subject reports. Please let us know if we can assist with any further information or discussion to facilitate your review.

Very truly yours,



J. D. Campbell, Ph.D., P. E., Chair, NNM CAB

CC: Christina Houston, DOE  
Sue Stiger, LANS  
George Rael, DOE  
Mat Johansen, DOE  
Paul Huber, LANS  
Menice Santistevan, Executive Director, NNM CAB  
NNMCAB EMSR Committee Members  
NNMCAB File

Relevant Reports:

**Well Screen Analysis Report, Revision 2**, LA-UR-07-2852  
May 2007, <http://www.lanl.gov/prr/Water/PRR-WTR-0020.pdf>

**Well Screen Analysis Report – Revision 1** LA-UR-07-0873  
February 2007, [http://www.lanl.gov/environment/h2o/docs/Well\\_Screen\\_Analysis\\_Rpt\\_R1.pdf](http://www.lanl.gov/environment/h2o/docs/Well_Screen_Analysis_Rpt_R1.pdf)

**Well Screen Analysis Report**, LA-UR-05-8615, November 2005  
[http://www.lanl.gov/environment/h2o/docs/Well\\_Screen\\_Analysis\\_Report.pdf](http://www.lanl.gov/environment/h2o/docs/Well_Screen_Analysis_Report.pdf)

**Groundwater Background Investigation Report, Revision 3**, LA-UR-07-2853,  
May 2007, <http://www.lanl.gov/environment/h2o/docs/FinalGWBackgroundIRR3.pdf>

**Groundwater Background Investigation Report, Revision 0**, LA-UR-05-2295,  
June 2005,  
[http://www.lanl.gov/environment/h2o/docs/ER2005\\_0156\\_GW\\_Bkgd\\_Rpt\\_Complete.pdf](http://www.lanl.gov/environment/h2o/docs/ER2005_0156_GW_Bkgd_Rpt_Complete.pdf)



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RON CURRY  
SECRETARY

CINDY PADILLA  
DEPUTY SECRETARY

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

May 25, 2007

David Gregory  
Federal Project Director  
Los Alamos Site Office, Department of Energy  
528 35<sup>th</sup> Street, Mail Stop A316  
Los Alamos, NM 87544

David McInroy  
Remediation Services Deputy Project Director  
Los Alamos National Laboratory  
P.O. Box 1663, Mail Stop A100  
Los Alamos, NM 87545

**RE: NOTICE OF APPROVAL  
WELL SCREEN ANALYSIS REPORT, REVISION 2  
LOS ALAMOS NATIONAL LABORATORY  
EPA ID #NM0890010515  
HWB-LANL-05-022**

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) is in receipt of the United States Department of Energy (DOE) and Los Alamos National Security, LLC (collectively, the Permittees) document entitled *Well Screen Analysis Report, Revision 2* (hereafter, the Report) dated May 2007 and referenced by LA-UR-07-2852/EP2007-0249. NMED has reviewed the Report and the response to NMED's April 9, 2007 Direction to Modify, and hereby issues this Notice of Approval.

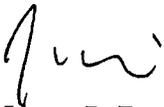
NMED notes that the conclusions obtained in the Report were derived mainly from analysis of extent data in the literatures, possibly under conditions different from the Los Alamos National Laboratory's site (the site). The absence of critical site-specific data, such as adsorption properties, reaction kinetics and microbial activities, implies that there would be uncertainties and limitations in using the methodology developed in the Report to assess the quality of groundwater samples collected from monitoring wells installed at this site. NMED is especially

Messrs. Gregory and McKinley  
Notice of Approval – WSAR Rev. 2  
May 25, 2007  
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concerned about the uncertainty with respect to monitoring certain potential contaminants of concern, such as the highly adsorptive radionuclides. NMED therefore suggests that the Permittees consider conducting proper laboratory and field studies to address the uncertainty regarding whether or not the monitoring wells installed as the monitoring network are capable of providing reliable data to monitor potential releases of the highly adsorptive radionuclides from operation of the Laboratory to groundwater.

Should you have any questions or comments, please contact Hai Shen at (505) 476-6039 or John Young at (505) 476-6038.

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

JPB:hs

cc: D. Cobrain, NMED HWB  
J. Young, NMED HWB  
H. Shen, NMED HWB  
T. Skibitski, NMED DOE OB  
S. Yanicak, NMED DOE OB, MS J993  
B. Olson, NMED GWQB  
L. King, EPA 6PD-N  
M. Johansen, DOE LASO, MS A316  
C. Mangeng, LANL, ENV, MS J591  
N. Quintana, LANL ECR, MS M992  
J. Dewart, LANL, ENV, MS M992  
A. Simmons, LANL, ENV, MS M992

file: Reading and LANL General (Groundwater)