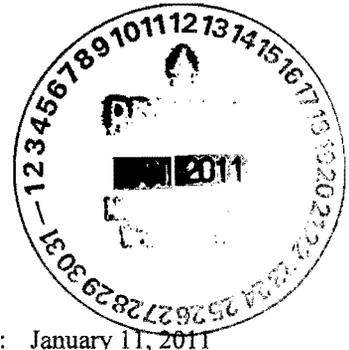




General  
ENTER



Environmental Protection Division  
Water Quality & RCRA Group (ENV-RCRA)  
P.O. Box 1663, Mail Stop K490  
Los Alamos, New Mexico 87545  
(505) 667-7969/FAX: (505) 665-9344

Date: January 11, 2011  
Refer To: ENV-RCRA-10-224  
LA-UR: 10-07677

Mr. William C. Olson, Bureau Chief  
Ground Water Quality Bureau  
New Mexico Environment Department  
1190 South St. Francis Drive  
Santa Fe, NM 87502-6110

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

Dear Mr. Olson and Mr. Bearzi:

**SUBJECT: DECISION TREE ANNUAL REPORTS FOR 2008 AND 2009**

On March 12, 2010, the New Mexico Environment Department (NMED) issued the "Los Alamos National Laboratory Drilling, Development, Rehabilitation, and Sampling Purge Water Decision Tree—Revised 03/12/2010" (Decision Tree) to Los Alamos National Laboratory (the Laboratory). The Decision Tree provides the Laboratory with direction regarding the discharge of groundwater associated with the drilling, development, rehabilitation, and purging of monitoring wells located throughout the facility. Under Decision Tree requirement "R1", the Laboratory is required to report to the NMED on an annual basis the following information:

1. Source and type of land applied water
2. Determination of fate based on pass/fail criteria for land application
3. Dates of disposal (land application)
4. Volumes and location of discharged water, and
5. A statement certifying that the water was disposed of in accordance with the Decision Tree

Enclosure 1 contains the annual reporting information required by the Decision Tree for 2008 and 2009. Please note that the 2009 land application of groundwater from a 24-hr pump test at TW-8 was conducted under an approved variance from the NMED (Enclosure 2). Enclosure 3 contains the required certification statement that all water was disposed of in accordance with the Decision Tree.

Please call me at (505) 667-7969 if you have questions regarding these reports.

Sincerely,

Robert Beers  
Water Quality & RCRA Group



# **ENCLOSURE 1**

Los Alamos National Laboratory Drilling, Development, Rehabilitation, and Sampling Purge Water Decision Tree--Revised 03/12/2010  
Annual Report 2008

| Cnt               | Well Name | Well Type | Watershed | Activity Type  | Data Certification Date | Decision Point D6 Compliant? (Y/N) | Method      | Location  | Land Application Date | Volume (gal)  |
|-------------------|-----------|-----------|-----------|----------------|-------------------------|------------------------------------|-------------|-----------|-----------------------|---------------|
| 1                 | DT-9      | regional  | Ancho     | sampling purge | 03/27/08                | Y                                  | sprinkler   | well site | 04/03/08              | 1,700         |
| 2                 | DT-10     | regional  | Ancho     | sampling purge | 03/28/08                | Y                                  | sprinkler   | well site | 04/07/08              | 1,350         |
| 3                 | DT-5A     | regional  | Ancho     | sampling purge | 03/28/08                | Y                                  | sprinkler   | well site | 04/09/08              | 1,750         |
| 4                 | DT-5A     | regional  | Ancho     | sampling purge | 03/28/08                | Y                                  | sprinkler   | well site | 04/11/08              | 1,953         |
| 5                 | DT-10     | regional  | Ancho     | sampling purge | 03/28/08                | Y                                  | sprinkler   | well site | 04/15/08              | 1,000         |
| 6                 | DT-9      | regional  | Ancho     | sampling purge | 03/27/08                | Y                                  | sprinkler   | well site | 04/17/08              | 2,500         |
| 7                 | R-11      | regional  | Sandia    | sampling purge | 05/08/08                | Y                                  | sprinkler   | well site | 05/08/08              | 795           |
| 8                 | R-12      | regional  | Sandia    | rehabilitation | 05/13/08                | Y                                  | sprinkler   | well site | 06/04/08              | 6,656         |
| 9                 | R-20      | regional  | Pajarito  | rehabilitation | 05/13/08                | Y                                  | sprinkler   | well site | 06/09/08              | 7,889         |
| 10                | R-1       | regional  | Mortandad | sampling purge | 06/03/08                | Y                                  | water truck | road      | 06/11/08              | 2,000         |
| 11                | TW-8      | regional  | Mortandad | sampling purge | 06/25/08                | Y                                  | water truck | road      | 07/07/08              | 2,500         |
| 12                | DT-9      | regional  | Ancho     | sampling purge | 03/27/08                | Y                                  | sprinkler   | well site | 10/03/08              | 7,565         |
| 13                | R-1       | regional  | Mortandad | sampling purge | 06/03/08                | Y                                  | sprinkler   | well site | 10/09/08              | 135           |
| 14                | R-13      | regional  | Mortandad | sampling purge | 05/13/08                | Y                                  | sprinkler   | well site | 10/09/08              | 300           |
| 15                | R-11      | regional  | Sandia    | sampling purge | 05/08/08                | Y                                  | sprinkler   | well site | 10/16/08              | 250           |
| 16                | DT-10     | regional  | Ancho     | sampling purge | 03/28/08                | Y                                  | sprinkler   | well site | 10/16/08              | 3,513         |
| 17                | DT-5A     | regional  | Ancho     | sampling purge | 03/28/08                | Y                                  | sprinkler   | well site | 10/17/08              | 6,053         |
| 18                | R-11      | regional  | Sandia    | sampling purge | 05/08/08                | Y                                  | sprinkler   | well site | 11/19/08              | 300           |
| 19                | R-13      | regional  | Mortandad | sampling purge | 05/13/08                | Y                                  | sprinkler   | well site | 11/20/08              | 630           |
| 20                | R-1       | regional  | Mortandad | sampling purge | 06/03/08                | Y                                  | sprinkler   | well site | 11/20/08              | 300           |
| 21                | R-16r     | regional  | Mortandad | sampling purge | 11/24/08                | Y                                  | sprinkler   | well site | 11/25/08              | 2,033         |
| <b>2008 Total</b> |           |           |           |                |                         |                                    |             |           |                       | <b>51,172</b> |

Los Alamos National Laboratory Drilling, Development, Rehabilitation, and Sampling Purge Water Decision Tree--Revised 03/12/2010  
Annual Report 2009

| Cnt | Well Name | Well Type    | Watershed  | Activity Type  | Data Certification Date | Decision Point D6 Compliant? (Y/N) | Method           | Location  | Land Application Date | Volume (gal) |
|-----|-----------|--------------|------------|----------------|-------------------------|------------------------------------|------------------|-----------|-----------------------|--------------|
| 1   | R-11      | regional     | Sandia     | sampling purge | 05/08/08                | Y                                  | sprinkler        | well site | 02/05/09              | 230          |
| 2   | R-13      | regional     | Mortandad  | sampling purge | 05/13/08                | Y                                  | sprinkler        | well site | 02/10/09              | 530          |
| 3   | R-1       | regional     | Mortandad  | sampling purge | 06/03/08                | Y                                  | sprinkler        | well site | 02/17/09              | 272          |
| 4   | R-16r     | regional     | Mortandad  | sampling purge | 11/24/08                | Y                                  | sprinkler        | well site | 02/17/09              | 195          |
| 5   | R-16r     | regional     | Mortandad  | sampling purge | 11/24/08                | Y                                  | sprinkler        | well site | 05/05/09              | 200          |
| 6   | TW-8      | regional     | Mortandad  | pump test      | 06/22/09                | Y <sup>1</sup>                     | sprinkler        | road      | 06/23/09              | 35,252       |
| 7   | R-33      | regional     | Mortandad  | sampling purge | 05/27/09                | Y                                  | sprinkler        | well site | 06/24/09              | 1,366        |
| 8   | R-9       | regional     | Los Alamos | sampling purge | 06/25/09                | Y                                  | hydromulch       | off site  | 07/01/09              | 2,035        |
| 9   | POI-4     | intermediate | Pueblo     | sampling purge | 06/25/09                | Y                                  | direct discharge | well site | 07/01/09              | 155          |
| 10  | R-6       | regional     | Los Alamos | sampling purge | 07/01/09                | Y                                  | hydromulch       | LA weir   | 07/02/09              | 2,095        |
| 11  | R-10a     | regional     | Sandia     | sampling purge | 05/27/09                | Y                                  | water truck      | road      | 08/12/09              | 2,775        |
| 12  | R-10      | regional     | Sandia     | sampling purge | 05/27/09                | Y                                  | sprinkler        | well site | 08/12/09              | 2,840        |
| 13  | R-10      | regional     | Sandia     | sampling purge | 05/27/09                | Y                                  | water truck      | road      | 08/12/09              | 6,800        |
| 14  | R-10      | regional     | Sandia     | sampling purge | 05/27/09                | Y                                  | water truck      | road      | 08/12/09              | 8,720        |
| 15  | R-34      | regional     | Mortandad  | sampling purge | 05/27/09                | Y                                  | water truck      | road      | 08/19/09              | 5,110        |
| 16  | R-40      | regional     | Pajarito   | development    | 07/01/09                | Y                                  | water truck      | road      | 09/17/09              | 19,600       |
| 17  | R-40      | regional     | Pajarito   | development    | 07/01/09                | Y                                  | water truck      | road      | 09/17/09              | 19,600       |
| 18  | R-40      | regional     | Pajarito   | development    | 07/01/09                | Y                                  | water truck      | road      | 09/17/09              | 16,000       |
| 19  | R-40      | regional     | Pajarito   | development    | 07/01/09                | Y                                  | water truck      | road      | 09/25/09              | 1,000        |
| 20  | R-13      | regional     | Mortandad  | sampling purge | 05/27/09                | Y                                  | sprinkler        | well site | 11/04/09              | 1,080        |
| 21  | R-44      | regional     | Mortandad  | sampling purge | 11/03/09                | Y                                  | sprinkler        | road      | 11/10/09              | 3,076        |
| 22  | R-45      | regional     | Mortandad  | sampling purge | 11/03/09                | Y                                  | sprinkler        | road      | 11/10/09              | 2,730        |
| 23  | R-1       | regional     | Mortandad  | sampling purge | 05/27/09                | Y                                  | sprinkler        | well site | 11/17/09              | 700          |
| 24  | PCAO-7c   | alluvial     | Pajarito   | development    | 09/17/08                | Y                                  | sprinkler        | well site | 11/17/09              | 700          |
| 25  | PCAO-9    | alluvial     | Pajarito   | development    | 09/17/08                | Y                                  | sprinkler        | well site | 11/17/09              | 700          |
| 26  | R-11      | regional     | Sandia     | sampling purge | 05/27/09                | Y                                  | sprinkler        | well site | 11/19/09              | 700          |
| 27  | 18-MW-11  | alluvial     | Pajarito   | sampling purge | 05/27/09                | Y                                  | direct discharge | well site | 11/24/09              | 180          |
| 28  | PCAO-7A   | alluvial     | Pajarito   | sampling purge | 11/23/09                | Y                                  | direct discharge | well site | 12/10/09              | 6            |
| 29  | PCI-2     | intermediate | Pajarito   | sampling purge | 11/23/09                | Y                                  | sprinkler        | well site | 12/14/09              | 72           |

**Notes**

<sup>1</sup>See Enclosure 2, March 27, 2009, email from J. Fullam @NMED approving LANL's March 11, 2009, request for a variance from the NOI Decision Tree

**2009 Total 134,719**

# **ENCLOSURE 2**

**From:** Fullam, Jennifer, NMENV [Jennifer.Fullam@state.nm.us]  
**Sent:** Friday, March 27, 2009 8:54 AM  
**To:** Robert Beers  
**Cc:** George, Robert, NMENV; Schuman, George, NMENV  
**Subject:** RE: Request for a variance\_NOI Decision Tree

Bob,

*This email serves as the New Mexico Environment Department (NMED) Ground Water Quality Bureau's (GWQB) approval of the pump test proposed in the LANL document entitled TW-8 Pumping Test Work Plan, dated March 9, 2009. The referenced document was received by NMED on March 10, 2009. LANL has requested a variance from the approved "Drilling, Development, Rehabilitation and Sampling Purge Water Decision Tree" because the analytical data to be used to demonstrate compliance with the screening limits in the decision tree does not wholly conform to the requirements set forth in the decision tree in two respects: (1) data that is in excess of one year old is being relied upon, and (2) no data exists for some parameters. The results of the pump test will be submitted to NMED in a timely report following completion.*

*Based on the unique opportunity presented by conducting a 24-hour pump test at this site within Mortandad Canyon, NMED-GWQB is requesting that LANL obtain and analyze ground water samples of the purge water from TW-8 approximately 18 hours into the pump test (based on a full 24-hour test). The intention of the sampling event is to screen for the mobilization of contaminants resulting from hydrological drawdown created during pumping. NMED requests that samples be collected and analyzed for the full suite of WQCC toxic pollutants (20.6.2.7.ww NMAC) along with the full suite of constituents for which ground water standards have been established (20.6.2.3103 NMAC). NMED further requests that LANL submit the analytical results along with the results of the 24-hour pump test. Please note that conducting the analysis is not a requirement from NMED-GWQB, only a request (i.e. conducting the pump test is not contingent upon conducting the analysis). However, NMED-GWQB requests that LANL recognize the enhanced value of being able to analyze data in light of the hydrologic information obtained during the test. If you have any questions regarding this variance approval, please feel free to contact Jennifer Fullam at 505.827.2909. Thank you.*

Jennifer Fullam  
 Environmental Scientist  
 Ground Water Quality Bureau  
 New Mexico Environment Department  
 505.827.2909  
[jennifer.fullam@state.nm.us](mailto:jennifer.fullam@state.nm.us)

-----Original Message-----

*From:* Robert Beers [<mailto:bbeers@lanl.gov>]  
*Sent:* Tuesday, March 17, 2009 11:45 AM  
*To:* George, Robert, NMENV; Fullam, Jennifer, NMENV  
*Cc:* [meverett@lanl.gov](mailto:meverett@lanl.gov); [spearson@lanl.gov](mailto:spearson@lanl.gov); [saladen\\_michael\\_t@lanl.gov](mailto:saladen_michael_t@lanl.gov); Ardyth M. Simmons; [mikea@lanl.gov](mailto:mikea@lanl.gov)  
*Subject:* Request for a variance\_NOI Decision Tree

Robert and Jennifer,

*The attached letter and three Excel files were sent to Bill Olson last week for your review. As I mentioned during our telephone conversation this morning, the Laboratory would like to begin the 24-hr pumping test at TW-8 on March 23rd. We need to know as soon as is possible if the produced water can be land applied or if we will need to bring in frac tanks for storage.*

*I regret the short notice and the need for an urgent reply. Please*

**file:///C:/Documents and Settings/086377/Local Settings/Temporary Internet Files/Con... 11/16/2010**

*contact me at 667-7969 if you have any questions.*

*Thanks for your help on this one.*

*Bob*

---

*This inbound email has been scanned by the MessageLabs Email Security System.*

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**CERTIFICATION STATEMENT**

**Los Alamos National Laboratory Drilling, Development, Rehabilitation, and  
Sampling Purge Water Decision Tree—Revised 03/12/2010**

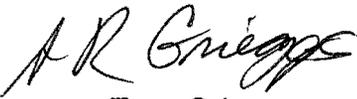
Document Title and Date:

**DECISION TREE ANNUAL REPORTS FOR 2008 AND 2009**

**January 4, 2011**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure 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 and imprisonment for knowing violations.

| Name of certifying official   | Title            | Organization | Date signed |
|---|------------------|--------------|-------------|
| <br>Victoria A. George | Program Director | ADEP         | Jan 6, 2011 |

| Name of certifying official   | Title        | Organization | Date signed |
|---|--------------|--------------|-------------|
| <br>Tony Grieggs | Group Leader | ENV-RCRA     | 1/16/11     |