Los Alamos
NATIONAL LABORATORY

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

ENTERED

Date: April 5, 2000
In Reply Refer To: ESH-18/WQ&H:00-0115
Mail Stop: K497
Telephone: (505) 665-1859

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HSWA LAVL G/m/2000

Ms. Phyllis Bustamante
Ground Water Quality Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

SUBJECT: NOTICE OF INTENT TO DISCHARGE FROM SAMPLING OF ENVIRONMENTAL SURVEILLANCE WELLS

Dear Ms. Bustamante:

This information is being provided in response to your letter of February 14, 2000, (Enclosure 1) regarding the Laboratory's proposal for management and disposal of purging and sampling water to be generated from it's environmental surveillance wells. An extension for delivery of this response was granted by your office on March 27, 2000. In your letter dated February 14, 2000 you advised that analytical results for water to be generated from the environmental surveillance wells listed in the Addendum to the Notice of Intent to Discharge (NOI) dated November 29, 1999 (Enclosure 2) did not meet New Mexico Water Quality Control Commission Regulations under Section 3103. These wells listed in the addendum were not included under the original NOI "Purging and Sampling of Environmental Surveillance Wells" dated June 6, 1996 (Enclosure 3).

In view of the foregoing, the Laboratory will utilize the following standard operating procedures for the discharge of water from the surveillance wells:

- Water from most of the surveillance wells listed in the original NOI dated June 6, 1996, and in the Addendum to the NOI dated November 29, 1999, has been tested and analytical data is available on an annual basis. These data are published in the Laboratory's Environmental Surveillance Reports. The majority of the data published for these wells meets all regulatory standards necessary for discharge to the ground at the well sites. Water from existing wells with historical data that indicate no regulatory standards are exceeded will be discharged to the ground as provided in the N.M. Environment Department Ground Water Quality Bureau (GWQB) letter of October 23, 1996 (Enclosure 4) without additional analysis. Any water developed from wells without historical data will be containerized pending analysis of the water.

- If the containerized water from the sampling of the listed wells is found to meet all water quality standards as outlined in the original June 6, 1996 NOI, then the water will be discharged to the ground at the sampling location in accordance with the procedures set forth in the original NOI and in GWQB's letter dated October 23, 1996

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- If the containerized water does not meet the water quality standards required for discharge, then the water will be disposed of at one of the Laboratory's Wastewater Treatment Facilities in accordance with Waste Acceptance/Waste Profile Form (WAC/WPF) criteria for the respective facility or an alternative disposal method will be selected.

Please note that proper management and disposal of purging and sampling water is an extremely important issue to the Laboratory and that we believe that the foregoing procedures will meet all New Mexico Water Quality Control Commission Regulations and Laboratory requirements. By copy of this letter, we are requesting to meet with you and representatives of other appropriate NMED Bureaus to determine the format for historical data for surveillance wells previously sampled and the format for new data from containerized water to be submitted to NMED. We will be contacting you in order to arrange a convenient time for this meeting.

Please call me at (505) 665-1859 or Harvey Decker at (505) 665-2014 if additional information would be helpful. Thank you for your assistance in this matter.

Sincerely,

Steven Rae
Group Leader
Water Quality and Hydrology Group

SR:HD/tml

Enclosures: a/s

Cy: G. Lewis, NMED/WWMD, Santa Fe, New Mexico, w/enc.
M. Leavitt, NMED/GWQB, Santa Fe, New Mexico, w/enc.
J. Bierzi, NMED/HRMB, Santa Fe, New Mexico, w/enc.
J. Young, NMED/HRMB, Santa Fe, New Mexico, w/ enc.
J. Davis, NMED/SWQB, Santa Fe, New Mexico, w/enc.
B. Hoditschek, NMED/SWQB, Santa Fe, New Mexico, w/enc.
J. Parker, NMED/DOE-OB, Santa Fe, New Mexico, w/enc.
S. Yanicak, NMED/DOE-OB, w/enc., MS J993
J. Vozella, DOE/LAAO, w/enc., MS A316
M. Johansen, DOE/LAAO, w/enc., MS A316
D. Erickson, ESH Division Director, w/enc., MS K491
M. Saladen, ESH-18, w/enc., MS K497
K. Mullen, ESH-18, w/enc., MS K497
H. Decker, ESH-18, w/enc., MS K497
M. Maes, ESH-18, w/enc., MS K497
D. Rogers, ESH-18, w/enc., MS K497
S. Veenis, ESH-18, w/enc., MS K497
WQ&H File, w/enc., MS K497
CIC-10, w/enc., MS A150

ENCLOSURE 1

State of New Mexico
ENVIRONMENT DEPARTMENT
Ground Water Quality Bureau
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2918 phone
(505) 827-2965 fax

GARY E. JOHNSON
GOVERNOR

PETER MAGGIORE
Secretary
PAUL R. RITZMA
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 14, 2000

Steven Rae, Group Leader
Water Quality and Hydrology Group
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

RE: Response to: Addendum to Notice of Intent to Discharge (NOI). Purging and Sampling of Environmental Surveillance Wells (ESH-18/WQ&H:96-0305)

Dear Mr. Rae:

The New Mexico Environment Department (NMED), Ground Water Quality Bureau (GWQB) received and reviewed the above referenced document dated November 29, 1999 and has determined that the proposed discharge is not consistent with the response, October 23, 1996, to the original Notice of Intent (NOI), June 6, 1996. The response to the original NOI stated, "should the results form any analysis of water samples taken from any of the surveillance wells exceed [Water Quality Control Commission (WQCC) Regulation] standards, purge water from that well must be contained and disposed of by a method approved by NMED." The analytical results submitted with the Addendum indicate that purge water does not meet WQCC regulation 3103 standards. Purge water from the sources described in the Addendum must not be discharged to the ground and must be treated and disposed of in an alternative manner. Please respond to this letter within 30 days with your proposal for the disposal for waste treatment and disposal.

If you have any questions, please call me at 827-0166.

Sincerely,

Phyllis Bustamante

Phyllis Bustamante
Ground Water Quality Bureau
Pollution Prevention Section

xc: Benito Garci, District Manager, NMED District II
John Young, HRMB
Barbara Hoditscheck, SWQB
NOI File

ENCLOSURE 2

Los Alamos
NATIONAL LABORATORY

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Date: November 29, 1999
In Reply Refer To: ESH-18/WQ&H:99-0453
Mail Stop: K497
Telephone: (505) 665-1859

Ms. Phyllis Bustamante
Ground Water Protection Bureau
P.O. Box 26110
Santa Fe, New Mexico 87502

Ms. Barbara Hoditschek
Surface Water Quality Bureau
P.O. Box 26110
Santa Fe, New Mexico 87502

SUBJECT: ADDENDUM TO NOTICE OF INTENT TO DISCHARGE (NOI). PURGING AND SAMPLING OF ENVIRONMENTAL SURVEILLANCE WELLS (ESH-18/WQ&H:96-0305)

Dear Ms. Bustamante and Ms. Hoditschek:

Los Alamos National Laboratory's Environmental Surveillance Program wishes to add an additional discharge of water from 26 monitoring wells (list enclosed) located in Mortandad Canyon. These wells are part of the Laboratory's Environmental Surveillance Program and were not included in the original June 6, 1996 NOI (ESH-18/WQ&H:96-0305) enclosed with this package. The additional water to be discharged will be from purging and sampling activities at these wells. Monitoring wells MCWB 7.7B and MCO-2 are currently the only wells that have been sampled from this list. Data from MCWB-7.7B and MCO-2 are enclosed. The expected maximum discharge volumes for these wells are expected to be approximately 30 gallons per well, per sampling event. All discharges will be performed as specified in the June 6, 1996 NOI. Also enclosed is the "No Discharge Plan Required' letter received by the Laboratory from the New Mexico Environment Department, Ground Water Quality Bureau on October 23, 1996 regarding the June 6, 1996 NOI.

Please call Harvey Decker (665-2014) of the Laboratory's Water Quality and Hydrology Group (ESH-18) if you need additional information.

Sincerely,

Steven Rae, Group Leader
Water Quality and Hydrology Group

SR:HD/rm

Enclosures: a/s

Cy: S. Yanicak, NMED DOE OB, w/enc., MS J993
J. Kieling, NMED/HRMB, w/enc., Santa Fe
D. Erickson, ESH Division Director, w/o enc., MS K491
M. Saladen, ESH-18, w/o enc., MS K497
H. Decker, ESH-18, w/enc., MS K497
D. Rogers, ESH-18, w/enc., MS K497
S. Veenis, ESH-18, w/o enc., MS K49
P. Longmire, EES-1, w/enc., MS D469
WQ&H File, w/enc., MS K497
CIC-10, w/enc., MS A150

UPDATED LIST OF ADDITIONAL MONITORING WELLS TO BE INCLUDED IN THE JUNE 6, 1996 , NOTICE OF INTENT TO DISCHARGE, PURGUNG AND SAMPLING OF ENVIRONMENTAL SURVEILLANCE WELLS

WELL NUMBER	EXPECTED PURGE/SAMPLE VOLUME TO BE DISCHARGEDPER SAMPLING EVENT
MORTANDAD CANYON	
MCWB-4	30 GALLONS
MCWB-5	30 GALLONS
MCWB-5.5A	30 GALLONS
MCWB-5.5B	30 GALLONS
MCWB-6.2A	30 GALLONS
MCWB-6.2B	30 GALLONS
MCWB-6.2C	30 GALLONS
TSWB-6	30 GALLONS
MCWB-6.5C	30 GALLONS
MCWB-6.5D	30 GALLONS
MCWB-6.5E	30 GALLONS
MCWB-6.6	30 GALLONS
MCWB-7A	30 GALLONS
MCWB-7B	30 GALLONS
MCWB-7.2	30 GALLONS
MCWB-7.4A	30 GALLONS
MCWB-7.4B	30 GALLONS
MCWB-7.7A	30 GALLONS
MCWB-7.7B	30 GALLONS
MCWB-8.1A	30 GALLONS
MCWB-8.1B	30 GALLONS
MCWB-8.1C	30 GALLONS
MCWB-9A	30 GALLONS
MCWB-9B	30 GALLONS
MCO-2	30 GALLONS
MCO-0.6	30 GALLONS

ENCLOSURE 3

Los Alamos
NATIONAL LABORATORY

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Date: June 6, 1996
In Reply Refer To: ESH-18/WQ&H:96-0305
Mail Stop: K497
Telephone: (505) 665-1859

Ms. Marcy Leavitt
Ground Water Protection and Remediation Bureau
New Mexico Environment Department
1190 St. Francis Drive
Santa Fe, New Mexico 87502

Mr. Jim Piatt, Chief
Surface Water Quality Bureau
New Mexico Environment Department
1190 St. Francis Drive
Santa Fe, New Mexico 87502

SUBJECT: LOS ALAMOS NATIONAL LABORATORY, NOTICE OF INTENT TO DISCHARGE, PURGING AND SAMPLING OF ENVIRONMENTAL SURVEILLANCE WELLS

Dear Ms. Leavitt and Mr. Piatt:

Enclosed is a Notice of Intent to Discharge (NOI) for purging and sampling of environmental surveillance wells. This NOI is being submitted to both the Surface Water Quality Bureau and Ground Water Protection and Remediation Bureau of the New Mexico Environment Department (NMED) pursuant to Section 1-201 of the New Mexico Water Quality Control Commission (WQCCC) Regulations. The NOI covers intermittent discharges of 8500 gallons of water, from forty nine (49) ground water monitoring wells located at Los Alamos National Laboratory. This water will result from well purging and sampling during monitoring activities and will be applied onto the surface of the ground in a manner and location whereby it will not enter a watercourse. We would also like to apply this NOI to the purging and sampling of all future observation and test wells drilled at the Laboratory. The enclosed well listing would be updated for that purpose whenever it becomes necessary. Please see the enclosed NOI, and attachments for more details.

Please call Alex Puglisi at 667-4882, or Bruce Gallaher at 667-3040, if you need any additional information regarding the enclosed NOI and the Laboratory's sampling of environmental surveillance wells.

Thank you for your attention in this matter.

Sincerely,

Steven R. Rae
Group Leader
Water Quality and Hydrology Group

SR:AP/vc

Attach: a/s

Cy: A. Puglisi, ESH-18, w/enc., MS K497
A. Pratt, EES-13, w/enc., MS J521
B. Gallaher, ESH-18, w/o enc., MS K497
M. Maes, ESH-18, w/enc., MS K497
M. Saladen, ESH-18, w/o enc., MS K497
H. Decker, NMED/DOE OB, w/enc., MS J993

Cy: (Cont'd.):

K. Zamora, DOE/LAAO, w/o enc., MS A316
K. Mullen, ESH-18, w/enc., MS K497
R. Ford-Schmid, NMED/DOE OB, Santa Fe, New Mexico, w/enc.
D. Rogers, ESH-18, w/enc., MS K497
WQ&H File, w/enc., MS K497
CRM-4, w/enc., MS A150

NOTICE OF INTENT TO DISCHARGE

1. **Name and address of the facility making the discharge.**

   Los Alamos National Laboratory
   Water Quality and Hydrology Group, ESH-18

2. **Location of the discharge (in Township, Range and Section, if available).**

   See attachment entitled, "Environmental Surveillance Observation Wells".

3. **The means of discharge (To Lagoon, Flowing Stream, Water Course, Arroyo, Septic Tank, Other).**

   Purge water will be discharged onto the surface of the ground in a manner and location where it will not enter a watercourse.

4. **The estimated concentrations of contaminants in the discharge.**

   See attachment entitled, "Estimated Concentrations of Contaminants". The wells covered by this NOI are not expected to be contaminated. Any added water used for well will be deionized and free of contaminants. As an added precaution, field screening during the purging activities will be performed prior to discharge to ensure that water discharged is free of contamination. If field screening or professional judgment (for instance, observation of evidence of soil stains, odors, etc.) indicate that gross quantities of contaminants may be in the water, the liquid will not be discharged to the ground, but containerized and treated as suspect hazardous, radioactive, or mixed waste.

5. **The type of operation from which the discharge is derived.**

   Purging of observation and test wells prior to sampling. See description on attached document entitled "Well Purging for Routine Annual Environmental Surveillance".

6. **The estimated flow to be discharged per day.**

   See attachment (Sheet 1) entitled "Typical Observation and Test Well Purge Calculation".

7. **The estimated depth to ground water (if available).**

   Depths to ground water are listed on attachment entitled, "Typical Observation and Test Well Purge Calculation".

Signed _____ **Date** June 6, 1996

WELL PURGING FOR ROUTINE ANNUAL ENVIRONMENTAL SURVEILLANCE

General Procedure:

Prior to collection of groundwater samples from observation and test wells, all wells should be purged to remove stagnant water in the casing and immediate vicinity to assure a representative sample of the formation water. Normal practice will be to pump approximately three well bore volumes prior to collecting the sample.

The appropriate volume to be purged should be calculated in accord with the Environmental Restoration Program Standard Operating Procedure No. LANL-ER-SOP-06.01, "Purging of Wells for Representative Sampling of Groundwater."

Canyon Alluvium Observation Wells:

These shallow wells are located in or near the stream channels in Los Alamos, Mortandad, and Pajarito Canyons. Total depths range from about 10 to about 70 feet; depths to static water are typically 2 to 50 feet. Typical purge volumes for the alluvial wells range from 10 to 60 gallons. The observation wells used for the routine annual monitoring are equipped with dedicated bladder pumps operated by compressed air. The appropriate purge volume should be determined using a current static water level and tabulated total depths. For wells with transducers, the current level should be available from the electronic data logging system. For wells without transducers, the static level must be measured with a steel tape. The appropriate pumping time should be determined at the time of purging after checking the actual pumping rate. The pumping rate should be monitored periodically during the purging period, and the time recalculated as necessary if there are significant changes. The purge water is discharged to the ground but will be directed away from the working area in a manner and location whereby it will not enter a watercourse.

Main Aquifer and Intermediate Perched Zone Test Wells

These wells were installed by the U.S. Geological Survey at various locations around the Laboratory. The 8 wells penetrating to the main aquifer range in depth from about 650 to 1500 feet; the two in the intermediate perched zone are about 130 to 230 feet deep. Typical purge volumes for the main aquifer wells range from 130 to about 7000 gallons; and for the intermediate perched zone wells are about 120 to 150 gallons. These wells are all equipped with dedicated submersible or reciprocating piston pumps. The appropriate purge volume should be determined using a current static water level and tabulated total depths. These wells are equipped with transducers, and the current levels should be available from the electronic data logging system. The appropriate pumping time should be determined at the time of purging after checking the actual pumping rate. The pumping rate should be monitored periodically during the purging period, and the time recalculated as necessary if there are significant changes. The pumping times range from a few hours to as much as 3 days. The purge water is directed away from the vicinity of the pump by pipes that discharge to the ground in a manner and location whereby it will not enter a watercourse.

Coordination with New Mexico Environment Department

Routine surveillance sampling will often be observed by or include participation by the New Mexico Environment Department. Working contacts in the DOE Oversight Program should be advised of anticipated purging-sampling events for coordination.

ENCLOSURE 4

State of New Mexico
ENVIRONMENT DEPARTMENT
Ground Water Protection and Remediation Bureau
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2918 phone
(505) 827-2965 fax

GARY E. JOHNSON
GOVERNOR

MARK E. WEIDLER
SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 23, 1996

Steven Rae, Group Leader
Los Alamos National Laboratory
ESH-18, MS K497
Los Alamos, New Mexico 87545

RE: Response to Notice of Intent to Discharge for Purge Water from Surveillance Wells at Los Alamos National Laboratory

Dear Mr. Rae:

The New Mexico Environment Department (NMED) has received your Notice of Intent, dated June 6, 1996 , for the discharges of up to 8,500 gallons per day from Los Alamos National Laboratory (LANL) in accordance with Section 1201 of the NM Water Quality Control Commission (WQCC) Regulations. The application satisfies the requirements of Section 1201 of the WQCC Regulations.

Based on the presently available information in your June 6, 1996 letter and additional information provided by Alex Puglisi by telephone October 9, 1996, a discharge plan is not being required for these discharges as long as the discharges are as described.

A discharge plan is not being required because it appears that the discharges conform to numerical ground water standards in WQCC Regulation 3103 and do not contain any toxic pollutants as defined in WQCC Regulation 1101.TT, and therefore are exempt from the discharge plan requirement under WQCC Reg.3105.A.

The exempt discharges are briefly described as follows:

> Up to 8,500 gallons of purge water from environmental surveillance wells will be discharged on to the ground surface in locations and by a method that will not allow the purged water to enter a watercourse. Should the results from any analysis of water samples taken from any of the surveillance wells exceed WQCC standards, purge water from that well must be contained and disposed of by a method approved by NMED.

Although a discharge plan is not being required for these discharges, you are not relieved of liability should your operation result in actual pollution of surface or ground waters. Further, this decision by the NMED does not relieve you of your responsibility to comply with any other applicable federal, state, and/or local laws and regulations, such as zoning requirements, plumbing codes and nuisance ordinances.

If at some time in the future you intend to change the amount, the character, or location of your discharge so that it will not be as described, or if observation or monitoring shows that the discharge is not as described, you must file a new request for exemption with the Ground Water Pollution Prevention Section.

If you have any questions, please contact either Phyllis Bustamante of the Ground Water Pollution Prevention Section staff at 827-0166 or Dale Doremus, Program Manager of the Ground Water Pollution Prevention Section at 827-2900.

Sincerely,

Marcy Leavitt, Chief
Ground Water Quality Bureau

ML:PAB/pab

xc: James Bearzi, District Manager, NMED Dist. II
Jim Piatt, SWQB
Steve Yanicak, DOE-OB, White Rock
HRMB
NOI File