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CERTIFIED MAIL
RETURN RECEIPT REQUESTED

August 20, 1999

Dr. John C. Browne, Director
Los Alamos National Laboratory
P.O. Box 1663, MS-A100
Los Alamos, NM 87545

Theodore Taylor, Project Manager
Los Alamos Area Office-Department of Energy
528 35th Street, MS-A316
Los Alamos, New Mexico 87544

RE: Information Regarding the R-25 Well and Comments Regarding the June 23, 1999 Quarterly Groundwater Protection Program Meeting Notes, Los Alamos National Laboratory (NM0890010515)

Dear Dr. Browne and Mr. Taylor:

The New Mexico Environment Department's (NMED) Hazardous and Radioactive Materials Bureau (HRMB) has reviewed the letter regarding the Los Alamos National Laboratory (LANL) response to HRMB's "homework" (referenced by ESH-18/WQ&H:99-0273 and dated July 16, 1999) given to LANL staff on June 24, 1999. The "homework" was in response to the significant and continuous problems at R-25 regional aquifer well and HRMB's frustration with lack of progress towards completion and slow response in remedying the problem(s). HRMB comments are attached (Attachment A). During the implementation of the recovery plan, HRMB requests that staff from NMED's Department of Energy-Oversight Bureau and/or staff from HRMB be present at least part-time. This would aid our understanding of the process and would also allow for input from NMED as needed.

In addition to the review of the R-25 information response, HRMB has also reviewed the Quarterly Groundwater Protection Program Meeting Notes (referenced by ESH/WQ&H:99-0275 and dated July 23, 1999) I respond *only* to schedule issues and the action items discussed in the meeting notes. LANL should



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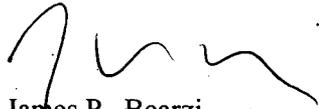
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Information Regarding the R-25 Well and Comments Regarding the June 23, 1999 Quarterly Groundwater Protection Program Meeting Notes,
Los Alamos National Laboratory (NM0890010515)
ESH/WQ&H.99-0273 and ESH/WQ&H.99-0275
August 20, 1999
Page 2 of 5

note that HRMB's non-response to the other content matter does *not* indicate HRMB's approval. HRMB comments are attached (Attachment B).

LANL shall respond to these comments within ten (10) working days of receipt of this letter. Should you have any questions please do not hesitate to call John Kieling of my staff at (505) 827-1558, extension 1012 or myself at 827-1567.

Sincerely,



James P. Bearzi
Chief
Hazardous and Radioactive Materials Bureau

JPB:jry

cc w/attachments:

T. Baca, EM-DO, MS-J591
J. Canepa, LANL EM/ER, MS-M992
J. Davis, NMED SWQB
D. Erickson, ESH-DO, MS-K491
D. Gurule, DOE LAAO, MS-A316
J. Kieling, NMED HRMB
M. Kirsch, LANL EM/ER, MS-M992
M. Leavitt, NMED GWQB
D. McInroy, LANL EM/ER, MS-M992
D. Neleigh, EPA, 6PD-N
C. Nylander, ESH-18, MS-K497
J. Parker, NMED DOE-OB
J. Plum, DOE LAAO, MS-A316
G. Turner, DOE LAAO, MS-316
J. Vozella, DOE LAAO, MS-A316
S. Yanicak, NMED DOE-OB, MS-J993
P. Young, NMED HRMB
File: LANL HSWA, HWP/R-25 '99

Attachment A

R-25 Information Comments

General Comments

1. Los Alamos National Laboratory's (LANL) response to the "homework" primarily focuses on assurances that the drilling crews will have the necessary experience with the equipment, completion techniques, etc. to complete the drilling outlined in the Hydrogeologic Workplan (HWP). In addition to the experience of the drill crews, LANL needs to discuss assurances that the contractors and subcontractors have demonstrated experience with the needs of the drilling program. A practical solution to ensuring an experienced drill crew is to stipulate in the drilling contracts that the drilling contractors and subcontractors have the necessary experience. For example, the contract should require experience with the required drilling technologies (i.e., Barber, mud rotary, hollow stem auger, dual-wall reverse air rotary, etc.) for installation of groundwater characterization and monitoring wells including Westbay©. This should, alleviate many of the problems encountered with the apparently inexperienced contractors, subcontractors and Tonto/Dynatec company/crew acquiring the knowledge/experience as they drilled R-9, R-12 and R-25.
2. Because the drilling and well completion costs and well completion costs affect completion of other work implemented by the ER Program due to budget constraints, cost comparisons should be included for each option and a description of the resultant budgetary affect.

Specific Comments

3. Attachment 1:

The third paragraph of the cover letter regarding the Information Regarding R-25 Well indicates that a "contingency plan will be invoked if the implementation of the R-25 recovery plan is not successful." HRMB could not find a description of the contingency plan in the recovery plan, only references to a contingency plan. If the recovery plan for R-25 is not successful, LANL shall include the decision points that would lead to plugging and abandonment of R-25 (when enough is enough) in the contingency plan.

4. Attachment 1: R-25 Recovery Plan, Sections 5.0 and 6.0

The decision tree identifying the critical points and the options should not only include the repair to screen three in R-25, but should also include how the integrity of the seals and sand pack will be evaluated due to the possible development of pathways between zones affected by the falling tremie lines *and* eventual recovery of most of the tremie pipes.

LANL should also discuss how the effectiveness of the cement infiltration is to be measured. Due to the nature of the bend in the casing, great variability in the slot-size from the original configuration is expected and may not penetrate into the sand pack adequately.

Also, identify the company that will be completing the repair work that is outlined in this document and indicate if they have experience in accomplishing this type of repair.

5. Attachment 2: Lessons Learned, Borehole Drilling, Page 2

Indicate if the drilling technique may also have contributed to the problems encountered. For example, list the most efficient operating depth *and* maximum depth that the Barber Rig is capable. The Hazardous and Radioactive Materials Bureau (HRMB) believes that the drilling technique needs to be reevaluated to determine if it is the most appropriate methodology that LANL could use considering the geologic and hydrogeologic setting and the data needs. HRMB encourages LANL to evaluate/consider other potential drilling techniques that could be used. In order to identify more efficient drilling methods, the data quality objectives need to be reconsidered if the current scope outlined in the HWP is too ambitious.

6. Attachment 2: Lessons Learned, Geologic Conditions, Page 7

It appears LANL has not considered any alternative drilling technology than mud rotary, please clarify and discuss the rationale for only listing mud rotary as the only alternative. LANL should consider using a variety of drilling techniques depending on the data needs and expected target depths, geologic and hydrogeologic conditions at each regional well location.

Attachment B
**Comments regarding the Action Items identified in the Quarterly Groundwater Protection
Program Meeting Notes**

1. In addition to the action items listed in the cover letter accompanying the Quarterly Groundwater Protection Program Meeting Notes, Los Alamos National Laboratory (LANL) and the Hazardous and Radioactive Materials Bureau (HRMB) need to revisit the data quality objectives (DQO's) for the implementation of the Hydrogeologic Workplan (HWP). Revisiting the DQO's should aid in the definition of the scope of work specified in the new drilling service procurement process (e.g., additional rig(s) and multiple drilling technologies).
2. LANL and HRMB need to jointly develop a strategy for "plume chasing" and its integration with other programs at LANL.
3. Outlined in the HWP is the schedule for the remaining fiscal year (FY99) as well as fiscal year 2000. HRMB expects R-25, R-15, R-9 and R-12 to be completed by the end of the first quarter (1/1/99) of FY00. As part of the implementation of the HWP, five additional regional aquifer wells are also expected to be completed by the end of FY00. The wells identified in the Quarterly Meeting Notes are R-31, R-27, R-19, R-5 and R28. After revisiting the DQO's and HWP well prioritization some of these wells may change, but the number expected for completion will not. HRMB believes this schedule to be quite ambitious; however, with the anticipated changes (procurement of a new drilling contract, additional rigs, reconsideration of the DQO's, etc.) to the HWP drilling program, HRMB is expecting this schedule to be met. **In other words, this schedule will be considered a compliance schedule.** LANL should note that the completion of the nine wells does *not* include any intermediate wells that may be required or "plume chasing" wells associated with the 16-260 Corrective Measures Study or other similar actions elsewhere at LANL.
4. During the Quarterly Meeting, LANL identified seven interpretive tasks concerning modeling and hydrology. HRMB would like to see discussions of these seven tasks added to the quarterly and annual meeting agendas and as a section in the annual report. In addition to the discussing the status of the interpretive tasks, LANL should also include updates regarding in-situ and ex-situ hydrologic testing (i.e., identify any aquifer tests, core analyses, etc.).