Environmental Restoration
University of California
Environmental Restoration Project, MS M992
Los Alamos, New Mexico 87545
505-667-0808/FAX 505-665-4747

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U.S. Department of Energy
Los Alamos Area Office, MS A316
Environmental Restoration Program
Los Alamos, New Mexico 87544
505-667-7203/FAX 505-665-4504

Date: January 27, 1999
Refer to: EM/ER:99-011

Mr. Benito Garcia
NMED-HRMB
P.O. Box 26110
Santa Fe, NM 87502

SUBJECT: CHANGES TO THE LOS ALAMOS/PUEBLO CANYONS WORK PLAN

Dear Mr. Garcia:

The purpose of this letter is to propose formalizing changes to the ground-water investigations described in the Los Alamos (LA)/Pueblo Canyons Workplan. This workplan, prepared before the Hydrogeologic Workplan and the Core Document for Canyons Investigations were written, calls for installation of wells to characterize ground water in the alluvium and at intermediate-depth beneath Los Alamos and Pueblo Canyons. The Hydrogeologic Workplan also characterizes these waters, but changes the approach such that regional wells replace the intermediate-depth wells planned for Los Alamos and Pueblo Canyons. The Core Document incorporates the technical approach of the Hydrogeologic Workplan, and emphasizes the integrated approach of the Laboratory's Environmental Restoration and Defense Programs ground-water investigations. Therefore, we ask for your consideration to formalize these changes for the LA/Pueblo Canyons Workplan.

Specifically, the intermediate-depth perched ground waters at the Laboratory are currently being investigated under two different scenarios:

1. In the canyon systems where characterization work did not begin until after the Hydrogeologic Workplan was published, intermediate ground water is being characterized in conjunction with installing regional wells. The approach to these wells is slightly different than originally proposed in the Los Alamos/Pueblo Canyons Workplan. All regional wells now target the deep aquifer and the proposed intermediate wells are currently not planned. However, perched zones of saturation in the alluvium and at intermediate depth are sampled and characterized as they are encountered in drilling these regional wells (e.g. LAOI-7 and SCOI-3). When perched waters are found, the well is constructed to seal them, thus eliminating the possibility of cross contamination to the deep ground water during well construction. The decision to install a separate well to monitor intermediate waters can be made on a case-by-case basis, in consultation with the New Mexico Environment Department.

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2. In canyons where regional wells are not scheduled in the Hydrogeologic Workplan, separate wells may be needed to investigate the alluvial and intermediate perched ground waters. If previous investigations located intermediate water, but only poorly characterized it, installation of a well may be necessary. However, if previous wells identified such water and characterized it sufficiently, no new well may be warranted.

We propose that the approach in scenario 1 be formally adopted for characterizing intermediate saturated zones in LA/Pueblo Canyons. Adoption of this proposal will result in the changes to the LA/Pueblo Canyon Work Plan shown in the enclosed table. Also, if the approaches in scenarios 1 and 2 are acceptable, we propose that they become policy for uniform application.

If there are any questions, please call Dave McInroy at (505) 667-0819 or Joe Mose at (505) 667-5808.

Sincerely,

James M. Ray for

Julie A. Canepa, Program Manager
LANL/ER Project

Sincerely,

Leo G. Nez
For

Theodore J. Taylor, Program Manager
DOE/LAAO

JC/TT/WS/bj

Enclosure: Proposed Changes in LA/Pueblo Canyons Well Installation

Cy (w/enc.):
D. Broxton, EES-1, MS M992
M. Buksa, EM/ER, MS M992
M. Kirsch, EM/ER, MS M992
D. McInroy, EM/ER, MS M992
J. Mose, LAAO, MS A316
D. Neleigh, EPA, R.6, 6PD-N
C. Nylander, ESH-18, MS K497
A. Pratt, EES-13, MS M992
S. Rae, ESH-18, MS K497
W. Stone, EES-5, MS M992
T. Taylor, LAAO, MS A316
T. Trujillo, DOE-AL, MS A906
S. Veenis, ESH-18, MS M992
J. Leavitt, NMED-GWQB
S. Yanicak, NMED-OB, MS J993
J. Young, NMED
RPF, MS M707

Cy (w/o enc.):
EM/ER File, MS M992
Tracker RM 604, MS M992

Proposed Changes in LA/Pueblo Canyons Well Installation

LA/Pueblo Work Plan Designation	Hydrogeologic Work Plan Designation	Final Designation	Status (FY scheduled)
Los Alamos Canyon Alluvium Wells			
LAO-1.6	A-14	LAO-1.6G	drilled March 98
LAP-4.5 (A,B,C)	A-16, -17, -18	LAP-0.85	planned for FY00
LAO-3.5	A-15	NA	Cancelled (Guaje too deep)
LLAO-1	A-19	LLAO-1(b)	drilled July 97
LLAO-2	A-23	LLAO-2	drilled September 96
LLAO-3	A-1	LLAO-3	drilled July 97
LLAO-4	A-24	LLA0--4	drilled September 96
AO-5	A-25	LLAO-5	drilled June 96
LLAP-2.5 (A,B,C)	A-20, -21, -22	LAP-3.7	Planned for FY00
Pueblo Canyon Alluvium Wells			
POB-1	A-2	NA	Cancelled (WL ephemeral)
POB-2	A-3	PAO-1a	drilled Oct 98
PO-1	A-4	PAO-2	drilled Nov 98
PO-2	A-5	PAO-2.5	drilled Aug 98
PO-3	A-6	PAO-3	drilled Aug 98 (shifted up canyon)
PO-4	A-7	PAO-4	drilled July 97
PO-5	A-8	PAO-5N	drilled March 98
PO-6	A-9	NA	replaced by APCO-1
PO-7	A-10	PAO-5S	drilled March 98
PP-3 (A,B,C)	A-11, -12, -13	NA	planned for FY00
Los Alamos Canyon Intermediate Wells			
LAOI-B	NA	R-6	planned for FY03
LAOI(B)-1.1	NA	R-7	planned for FY99
LAOI-1.5	NA	R-7	planned for FY99
LAOI-3.2	NA	R-8	planned for FY00
LAOI-7	NA	R-9	drilled; to be completed FY99
Pueblo Canyon Intermediate Wells			
NA	NA	R-2	planned for FY00
NA	NA	R-3	planned for FY99
POI-2	NA	R-4	planned for FY01
POI-4	I -1	POI-4	drilled April 96
NA	NA	R-5	planned for FY00
Sandia Canyon Intermediate Wells			
SCOI-1	SCOI-1	R-10	planned for FY00
SCOI-3	SCOI-3	R-12	drilled; to be completed FY00

Explanation:

A,B,C = 3 piezometer nests, 3 depths each (so, LAP-0.85 = 9 depths total)
B in designation = background well
Cancelled = deleted with verbal concurrence of NMED
FY = fiscal year

I in designation = intermediate well
LLA in designation = lower Los Alamos Canyon
NA = not applicable
O in designation = observation well
P in designation = piezometer
WL = water level