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memorandum

To: Allyn Pratt, EES-13, MS J521
From: *PL* Patrick Longmire, PI Geochemistry Field Unit 4, CST-7
Subject: **Characterization Well Status for Los Alamos, Pueblo, and Sandia Canyons**

The purpose of this memorandum is to provide a status of alluvial, perched intermediate, and regional aquifer characterization wells within Los Alamos and Pueblo Canyons. These wells have either been drilled or are planned for drilling as part of the Los Alamos-Pueblo Canyons workplan. Reference to the Hydrogeologic workplan is also provided for the wells. Table 1 provides a list and status of alluvial characterization wells within the two canyons, with well locations shown in Figure 4-1. Table 2 provides a list of perched intermediate and regional aquifer wells with their locations shown on Figure 4-2.

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TABLE 1. ALLUVIAL WELLS IN LOS ALAMOS AND PUEBLO CANYONS.

Well Designation^a	Hydrogeologic work plan well no.	Location^b
Pueblo Canyon		
POB-1 (modified) ¹	A-2	West of Diamond Drive and North Road in Pueblo Canyon
PAO-1 (FY98) ²	A-3	West of confluence of Pueblo Canyon and Acid Canyon
PAO-2 (FY98) ²	A-4	East of confluence of Pueblo Canyon and Acid Canyon
PAO-2.5 (FY98) ²	A-5	West of TW-2 and TW-2A and LA County STP ^c
PAO-3 (FY98) ²	A-6	East of TW-2 and TW-2A, west of LA County STP
PAO-4, PO-4 (drilled)	A-7	Downstream of LA County STP
PAO-5N (drilled) ²	A-10	Transect, north of existing well PCO-1
PAO-5S (drilled) ²	A-8	Transect, south of existing well PCO-1
PCO-1 (ESH well) ²	A-9	Transect, as part of existing well PCO-1
PP-3 (not drilled) ³	A-11, A-12, A-13	Pueblo Canyon piezometers (A, B, and C) near TW-1, TW-1A
Los Alamos Canyon		
LAO-1.6G (drilled)	A-14	West of confluence of Los Alamos and DP Canyons
LAP-4.5 (not drilled) ³	A-16, A-17, A-18	Piezometers (A, B, and C) east of confluence of Los Alamos and DP Canyons
LAO-3.5 (modified) ⁴	A-15	Between existing wells LAO-3 and LAO-4
LLAO-1B (drilled)	A-19	East of Basalt Spring near LA-5 in lower Los Alamos Canyon
LLAO-2 (drilled)	A-23	East of Totavi in lower Los Alamos Canyon
LLAO-3 (drilled)	A-1	West of confluence of Los Alamos and Guaje Canyons
LLAO-4 (drilled) ⁵	A-24	West-southwest of Otowi Bridge and Rio Grande
LLAO-5 (drilled)	A-25	West of Otowi House
LLAP-2.5(not drilled) ³	A-20, A-21, A-22	Lower Los Alamos Canyon piezometers (A, B, and C) west of Totavi and east of LLAO-1B

a. PCO = Pueblo Canyon observation well; POB = Pueblo observation background well; PAO = Pueblo alluvial observation well; PP = Pueblo piezometer; LAO = Los Alamos observation well; LLAO = lower Los Alamos observation well; LAP = Los Alamos piezometer; LLAP = lower Los Alamos Canyon piezometer.

b. see Figure 4-1 for well locations. c. STP = sewage treatment plant.

1. POB-1 will not drilled due to ephemeral groundwater conditions in upper Pueblo Canyon. LAO-B serves as background alluvial well for Los Alamos and Pueblo Canyons due to similar hydrogeologic conditions.
2. PAO-1 (POB-2), PAO-2 (PO-1), PAO-2.5 (PO-2), and PAO-3 (PO-3) are planned to start drilling in August 1998. PAO-5N (PO-7) and PAO-5S (PO-5) drilled in March 1998. Well PCO-1 replaces proposed well PO-6.
3. PP-3 (A, B, and C), LAP-4.5 (A, B, and C), and LLAP-2.5 (A, B, and C) will be evaluated in FY98 for drilling feasibility.
4. LAO-3.5 will not be drilled due to the depth (>100 ft) of the Guaje Pumice Bed at the proposed location. LAO-3.5 changed to PAO-2.5.
5. LLAO-4 moved from lower Guaje Canyon due to dry alluvial conditions. New well location is east of Guaje Canyon and lower Los Alamos Canyon confluence west of Rio Grande.

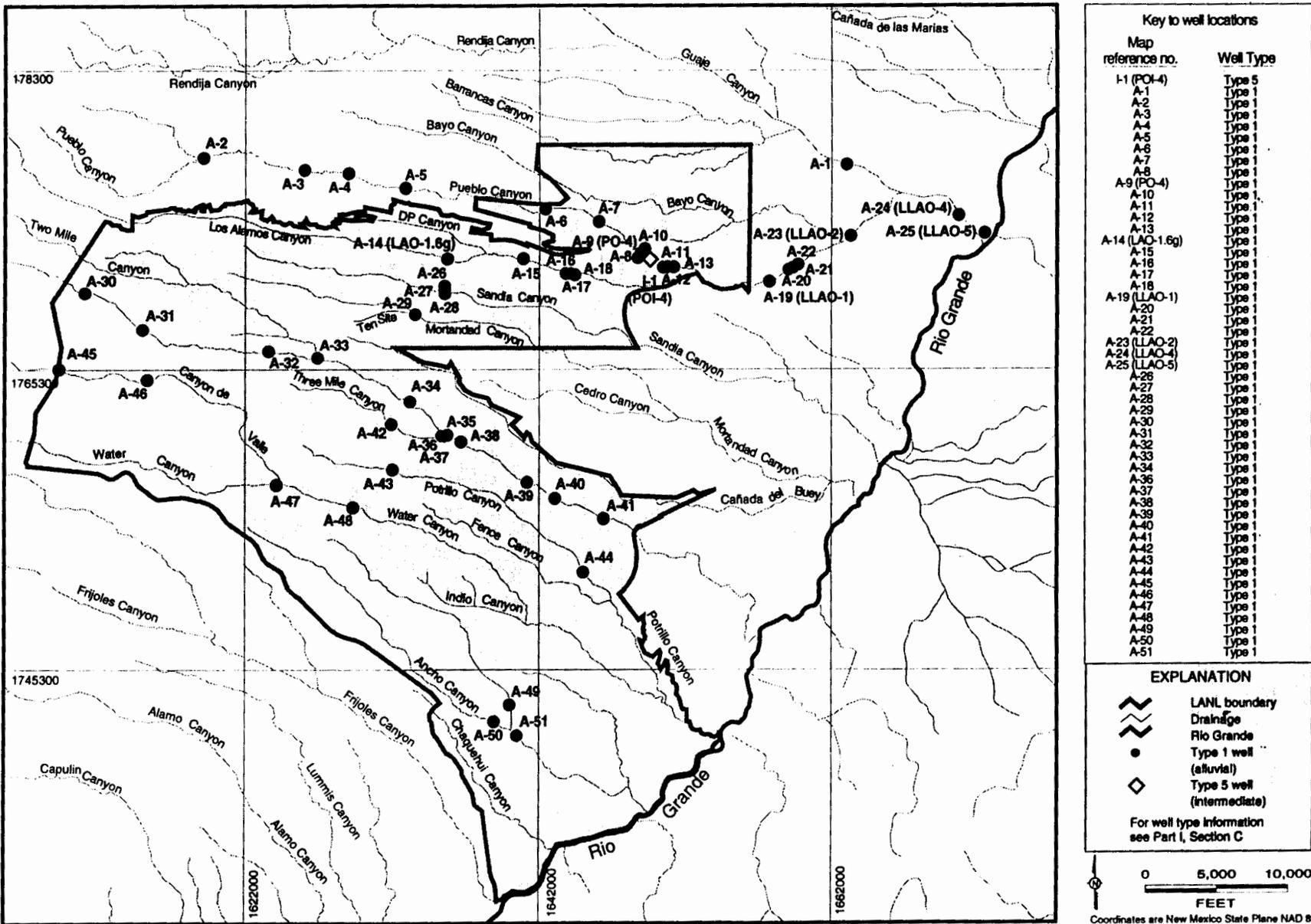


Figure 4-1. Proposed alluvial groundwater and intermediate perched zone well locations.

TABLE 2. DESCRIPTION OF FORMER INTERMEDIATE WELLS AND PROPOSED REGIONAL AQUIFER WELLS, LOS ALAMOS, PUEBLO, AND SANDIA CANYONS.

Well Designation (Regional Aquifer Well) ^a	Location ^b
LAOI-7 (R-9) (FY97-98) ¹	East of LAO-5 and LAO-6 and west of SR ^c -4
POI-4 (I-1) (drilled)	North of Otowi-1 and west of TW-1A and TW-1
R-4 (FY01)	Between TW-2 and TW-2A and LA County STP ^d
R-5 (FY99)	Vicinity of Otowi-1, lower Pueblo Canyon
SCOI-3 (R-12) (FY98) ¹	West of PM-1, lower Sandia Canyon
LAOI-3.2 (R-8) (FY00)	Vicinity of LAO-3, upper Los Alamos Canyon
LAOI-1.5 (R-7) (FY98) ¹	Between LAOI(A)-1.1 and LADP-3
LAOI(B)-1.1 (No R Well) ²	Near well LAOI(A)-1.1, upper Los Alamos Canyon
SCOI-1 (R-10) (FY00)	Southeast of LAOI(A)-1.1, upper Sandia Canyon
R-11 (FY01)	Vicinity of PM-3, lower Sandia Canyon
POI-2 (R-2, R-3)(FY00, FY99)	West of TW-2A and TW-2, Pueblo Canyon
LAOI-B (R-6)(FY01)	West of H-19, upper Los Alamos Canyon

a. LAOI = Los Alamos observation well (intermediate zone); POI = Pueblo observation well (intermediate zone); R = regional aquifer well; SCOI = Sandia observation well (intermediate zone).

b. See Figure 4-1 (intermediate well POI-4) and Figure 4-2 (regional aquifer) for locations.

c. SR = state road.

d. STP = sewage treatment plant.

1. R-9 drilled in September 1997 through January 1998. Drilling of R-12 started in March 1998. Drilling of R-7 is planned for September 1998. See Hydrogeologic workplan for status of former intermediate wells.

2. LAOI(B) (proposed completion in Puye Formation) will not be drilled nor will it be replaced by a regional aquifer well.

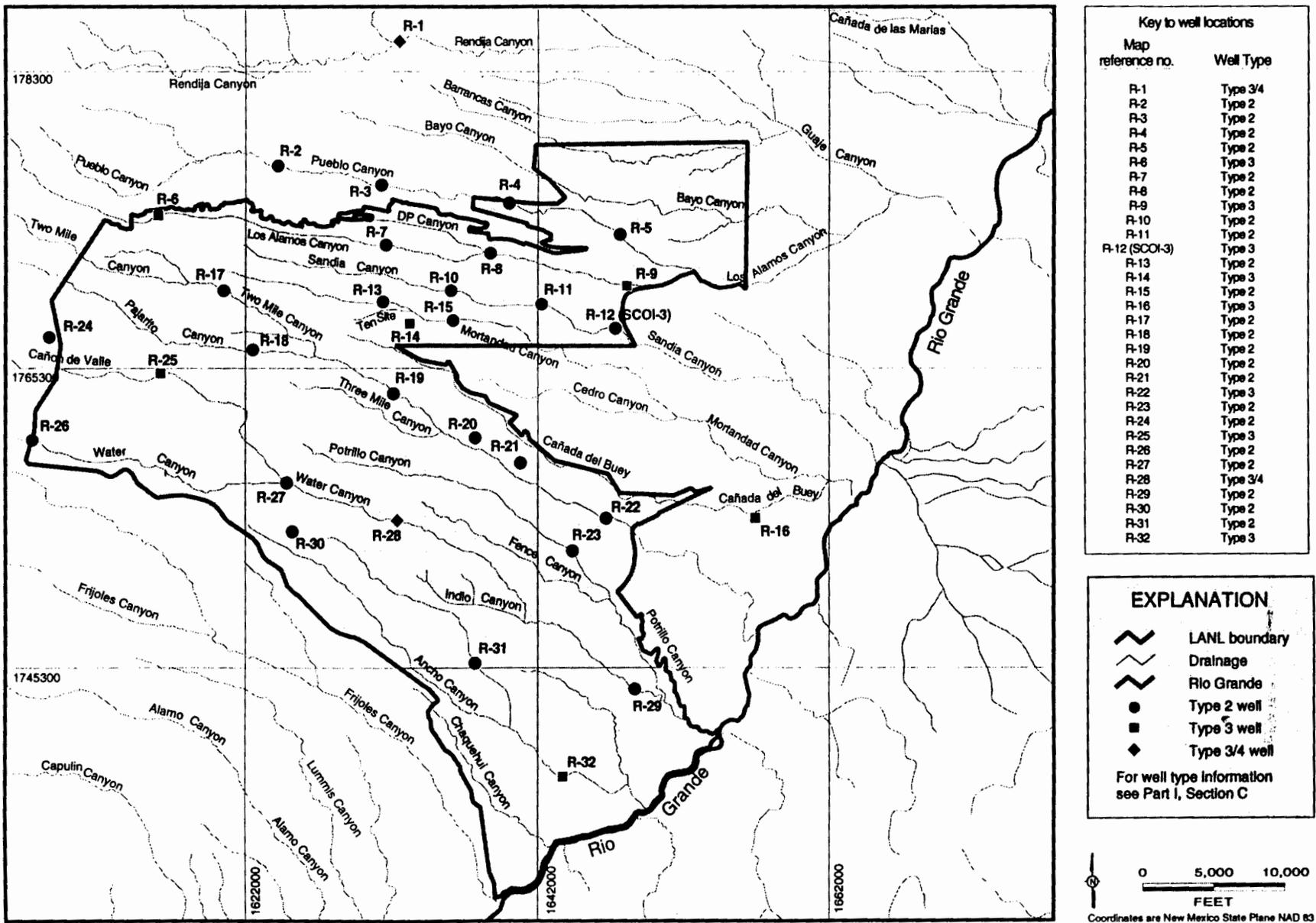


Figure 4-2. Proposed regional aquifer well locations.