

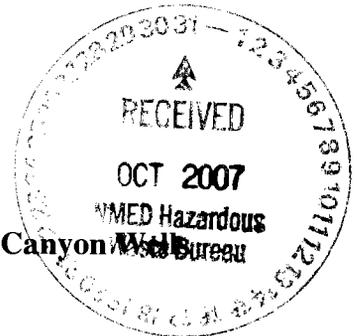


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Date: October 31, 2007
Refer To: EP2007-0674

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



Subject: Submittal of the Work Plan to Plug and Abandon Mortandad Canyon Wells Test Well 8 and MCOBT-4.4

Dear Mr. Bearzi:

Enclosed please find two hard copies with electronic files of the "Work Plan to Plug and Abandon Mortandad Canyon Wells Test Well 8 and MCOBT-4.4." This work plan is submitted pursuant to the New Mexico Environment Department's (NMED's) approval with modification. It fulfills NMED's requirement that Los Alamos National Laboratory submit work plans for the activities in the approved "Mortandad Canyon Groundwater Monitoring Well Network Evaluation." As NMED has agreed, work plans for the monitoring-well rehabilitation at wells R-12, R-14, and R-33 are satisfied by the "Work Plan for R-Well Rehabilitation and Replacement, Revision 2."

If you have any questions, please contact Danny Katzman at (505) 667-6333 (katzman@lanl.gov) or Mat Johansen at (505) 665-5046 (mjohansen@doeal.gov).

Sincerely,

Susan G. Stiger, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

David R. Gregory, Project Director
Environmental Operations
Los Alamos Site Office



SGS/DRG/PRH/DK:sm

Enclosure: 1) Two hard copies with electronic files – Submittal of the “Work Plan to Plug and Abandon Mortandad Canyon Wells Test Well 8 and MCOBT-4.4” (EP2007-0674)

Cy: (w/enc.)

Mat Johansen, DOE-LASO, MS A316
Danny Katzman, EP-LWSP, MS M992
EP-LWSP File, MS M992
RPF, MS M707 (with two CDs)
Public Reading Room, MS M992

Cy: (Letter and CD only)

Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-OB, White Rock, NM
Peggy Reneau, EP-ERSS, MS M992

Cy: (w/o enc.)

Tom Skibitski, NMED-OB, Santa Fe, NM
Bonita Eichorst, DOE-LASO (date-stamped letter emailed)
Susan G. Stiger, ADEP, MS M991
Carolyn A. Mangeng, ADEP, MS M991
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Work Plan to Plug and Abandon Mortandad Canyon Wells Test Well 8 and MCOBT-4.4

This work plan summarizes the methods Los Alamos National Laboratory (LANL) proposes to use in plugging and abandoning groundwater monitoring wells Test Well (TW) 8 and MCOBT-4.4. Well abandonment will be consistent with the requirements and guidelines of the "New Mexico Environment Department Monitoring Construction and Abandonment Guidelines" and in Sections IV.B.1.b.v and X.D (Well Abandonment) of the Compliance Order on Consent (the Consent Order).

Because the construction design for these two wells differs, the abandonment methods proposed in this work plan differ. For both wells, all aboveground and belowground appurtenances will be removed, including pumps, transducers, data loggers, control panels, etc. The wells will then be inspected with a downhole camera, and a natural gamma log will be collected to document the current conditions.

TW-8

Groundwater monitoring well TW-8 was installed in 1960 using a cable-tool drill rig. Construction is as follows:

- 0–44 ft: 20-in. corrugated-metal pipe
- 0–64 ft: 14-in.-outside-diameter (OD) steel casing, cemented in place
- 0–1065 ft: 8 in.-inside-diameter (ID) steel casing, of which the lower 112 ft is slotted

Based on the available well-completion notes, TW-8 does not have annular space outside the 8-in.-ID casing. Therefore, there is no annular seal, nor is there a filter pack around the screen. As of December 20, 2003, the approximate depth to water at adjacent well R-1 was 1003 ft below ground surface (bgs).

To remove the potential annular conduit at TW-8 between the 14-in. and 8-in. casing, the 8-in. casing will be cut at approximately 60 ft bgs and removed. To plug and abandon the remainder of TW-8, the entire screen length (953–1065 ft) will be either ripped or perforated. Available options include both air and mechanically actuated ripping/perforating devices. Regardless of the method selected, LANL will avoid using high explosives or other chemicals. The entire 1065 ft will then be filled with cement from the bottom to the top using a tremie pipe.

MCOBT-4.4

Groundwater monitoring well MCOBT-4.4 was installed in 2001 using air-rotary, dual-rotation, reverse-circulation drill rig. Construction is as follows:

- 0–130 ft: 13 3/8 in.-OD steel casing, cemented in place 0–68 ft
- 0–545 ft: 5-in.-OD stainless-steel casing, with a bentonite chip seal 68–474 ft
- 485–524 ft: 5 1/2-in.-OD stainless-steel screen, with filter pack 474–527 ft

To plug and abandon MCOBT-4.4, the entire filter pack interval (474–527 ft) will be either ripped or perforated. Available options include both air and mechanically actuated ripping/perforating devices. Regardless of the method selected, LANL will avoid using high explosives or other chemicals. Filter sand that has entered the well casing will be removed with a bailer. The 474–524-ft interval will be pressure grouted to force cement into the annular void created by the removed filter-pack sand. The remaining well casing will be cemented from the bottom to the top using a tremie pipe.

SURFACE COMPLETION

Once the wells have been cement grouted to within 2 ft of ground surface, the well casings will be cut off at the ground surface. A 2-ft by 2-ft cement monument will be placed over the abandoned borehole. A brass marker will be surveyed in accordance with the Section IX.B.2.f of the Consent Order, which states that pertinent structures may be horizontally located with a global-positioning system to within 0.5 ft.

SUMMARY REPORT

A brief report will be prepared detailing the methods used, presenting borehole logs (video and natural gamma), and providing the final abandonment design. Figures depicting the location of the abandoned wells and backfill completion will also be included in the report. The proposed schedule for completion of well abandonment and reporting follows.

SCHEDULE

Activity	Completion Date
Plug and abandon TW-8	May 30, 2008
Plug and abandon MCOBT-4.4	June 31, 2008
Submit report to the New Mexico Environment Department	August 15, 2008