

Approximately 45 gallons of grout were injected into TT-MW2-38C during well destruction. The volume injected was determined based on the difference between the volume of grout mixed (approximately 50 gallons) and the volume of grout remaining after well destruction was completed (approximately 5 gallons). For comparison, the approximate volume of the well casing, well screen, and filter pack of TT-MW2-38C is estimated to be 44.3 gallons, as shown in Table 1.

Attachment 1

Approved Well Permit and
Well Permit Application

Attachment No. 1

Background Information

The monitoring well to be abandoned (TT-MW2-38C) is one of three nested wells completed in a single borehole (see attached well construction diagram). The nested wells were installed in 2009 under a single well permit (Permit No. 34341, issued September 12, 2008).

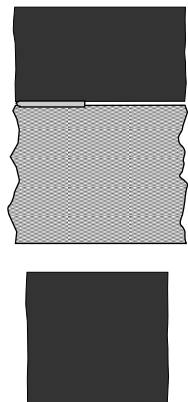
Based on chemical data collected during routine groundwater monitoring, and the results of a dye tracer test and video survey, the casing for TT-MW2-38C well was found to be leaking. Destruction of TT-MW2-38C is proposed to eliminate potential cross-connection of shallow and deep groundwater. The other two wells in the nest (TT-MW2-38A and TT-MW2-38B) are intact, and continue to be usable for their intended purpose.

Because the wells were installed under a single permit, we propose to obtain one permit for the destruction of TT-MW2-38C. Additional well destruction permits will be obtained for TT-MW2-38A and TT-MW2-38B when these wells are destroyed in the future. Because wells TT-MW2-38A and TT-MW2-38B will continue to be used, the method proposed for destruction does not include removal of the upper five feet of well casing or placement of grout above the top of the destroyed well. These activities will be performed during future destruction of wells TT-MW2-38A and TT-MW2-38B.

Proposed Well Destruction Method

1. Completely fill well casing with grout (portland cement with 5% bentonite added) to displace standing water in well. Grout will be placed from bottom of well using tremie pipe. Displaced water will be collected for proper disposal.
2. Install grout cap on well; pressurize to 45 psi with grout pump for 15 minutes.
3. Top off with grout as needed to fill well casing.

Note: Well casing will be left in place pending destruction of the other two wells in nest.



Attachment 2

Photographic Documentation

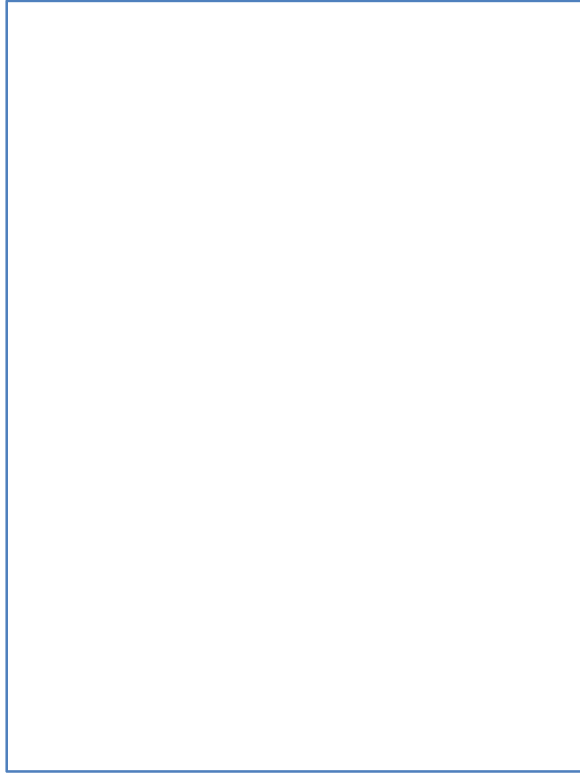


Photo No. 1: Drill rig set up on TT-MW2-38C in preparation for well destruction.

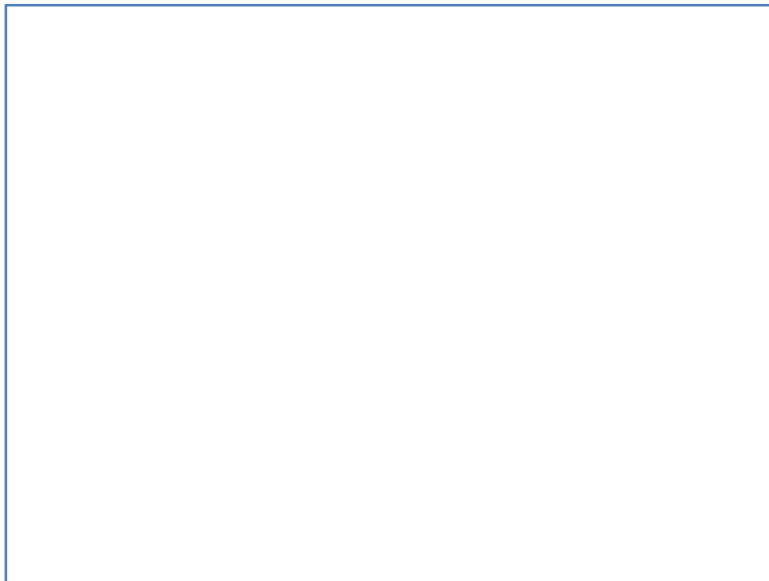


Photo No. 2: Close up of wellhead prior to placing grout. Horizontal pipe is used to divert displaced groundwater into a 55-gallon drum.



Photo No. 3: Close up of the TT-MW2-38C well casing after well destruction.

Attachment 3

California Department of Water Resources
Form 188

