Work Plan to Reconfigure Well CdV-R-37-2

Primary Purpose	This work plan summarizes the methods Los Alamos National Laboratory (LANL) proposes to use for reconfiguring CdV-R-37-2 from a four-screen characterization and monitoring well into a single-screen well equipped for purging the well before sampling. This well is located on the mesa between Cañon de Valle and Water Canyon in Technical Area 37 (TA-37). The objective of this well conversion is consistent with the recommendation presented in LANL's Technical Area 16 Well Network Evaluation and Recommendations (LANL 2012, 213573), which was approved with modifications by the New Mexico Environment Department (NMED) in its letter dated June 20, 2012 (NMED 2012, 520747).
Background	Well CdV-R-37-2 was installed to evaluate the transport pathways, including the deep perched and regional saturated zones that potentially carry contamination from Consolidated Unit 16-021(c)-99 (also known as the 260 Outfall) at TA-16. A borehole was drilled to a total depth of 1664 ft below ground surface (bgs) using a combination of open-hole and casing-advance standard air-rotary drilling methods. Pertinent well information is as follows. • 4.5-in.–inside diameter stainless-steel casing • Screen 1, 914.4–939.5 ft bgs (pipe-based wire-wrapped screen, dry) • Screen 2, 1188.7–1213.8 ft bgs (pipe-based wire-wrapped screen) • Screen 3, 1353.7–1377.1 ft bgs (pipe-based wire-wrapped screen) • Screen 4, 1549.3–1556.0 ft bgs (pipe-based wire-wrapped screen) • Depth to water for screen 3 is 1194 ft bgs, standing approximately 5 ft below the top of the screen Testing of screen 3 indicates the screen is capable of producing 3.8 gallons per minute (gpm) at 0.2 ft of drawdown for a specific capacity of 23.9 gpm/ft (LANL 2011, 205233).
Reconfiguration Methods	Only screen 3 will be retained for sampling at this well. The isolation packers will be removed between screens 2 and 3 and between screens 3 and 4. Coarse sand (10/20) will be placed from the bottom of the sump up to 1510 ft bgs, which is above the lowest screen, screen 4. Next, a 15-ft interval of finer sand (20/40) will be installed to limit migration of the overlying cement toward the bottommost screen. Fifty feet of cement will then be emplaced and allowed to cure for a minimum of 24 h. An interval of 10/20 sand will be emplaced on top of the cement, leaving sufficient space for a K-Packer and a 20-ft sump below screen 3. All materials will be emplaced through a tremie pipe. The K-Packer will prevent upward agitation of the sand and create a solid base for the retained screen's sump. Screens 2 and 3 will be isolated from one another with an inflatable pass-through packer. This packer will allow water-level measurements to be taken within screen 3 and water to be pumped up to the ground surface. A Grundfos model 10S50-48DS (or equivalent) environmentally retrofitted pump will be set below the packer with an intake at 1345 ft bgs. This pump is designed to produce a maximum of 6.5 gpm from a water level of 1200 ft bgs. Two transducer tubes will be installed, allowing depth-to-water measurements in both screens 2 and 3. A .25-in. poly tube will pass from the lower transducer tube through the inflatable packer and into the screen 3 zone. Screen 1 is dry and therefore will not be isolated from screen 2. Attachment 1, on DVD, was filmed on April 6, 2011, after the Westbay sampling system was removed, and documents the dry conditions in screen 1. Figure 1 shows schematics of the existing well construction and the proposed reconfiguration.

Waste Disposal	A waste characterization strategy form will be prepared to guide the disposal of any wastes generated during reconfiguration (e.g., personal protective equipment).	
Summary Report	A brief report will be prepared detailing the reconfiguration methods and the quantities of backfill materials used.	
Proposed Schedule	**Activity**	**Completion Date**
	Reconfigure well CdV-R-37-2	June 30, 2013
	Submit summary report	August 31, 2013

REFERENCES

The following list includes all documents cited in this plan. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included

LANL (Los Alamos National Laboratory), August 2011. "Reliability Assessment of Multiscreened Westbay Wells," Los Alamos National Laboratory document LA-UR-11-4445, Los Alamos, New Mexico. (LANL 2011, 205233)

LANL (Los Alamos National Laboratory), March 2012. "Technical Area 16 Well Network Evaluation and Recommendations," Los Alamos National Laboratory document LA-UR-12-1082, Los Alamos, New Mexico. (LANL 2012, 213573)

NMED (New Mexico Environment Department), June 20, 2012. "Approval with Modifications, Technical Area 16 Well Network Evaluation and Recommendations," New Mexico Environment Department letter to P. Maggiore (DOE-LASO) and M.J. Graham (LANL) from J.E. Kieling (NMED-HWB), Santa Fe, New Mexico. (NMED 2012, 520747)

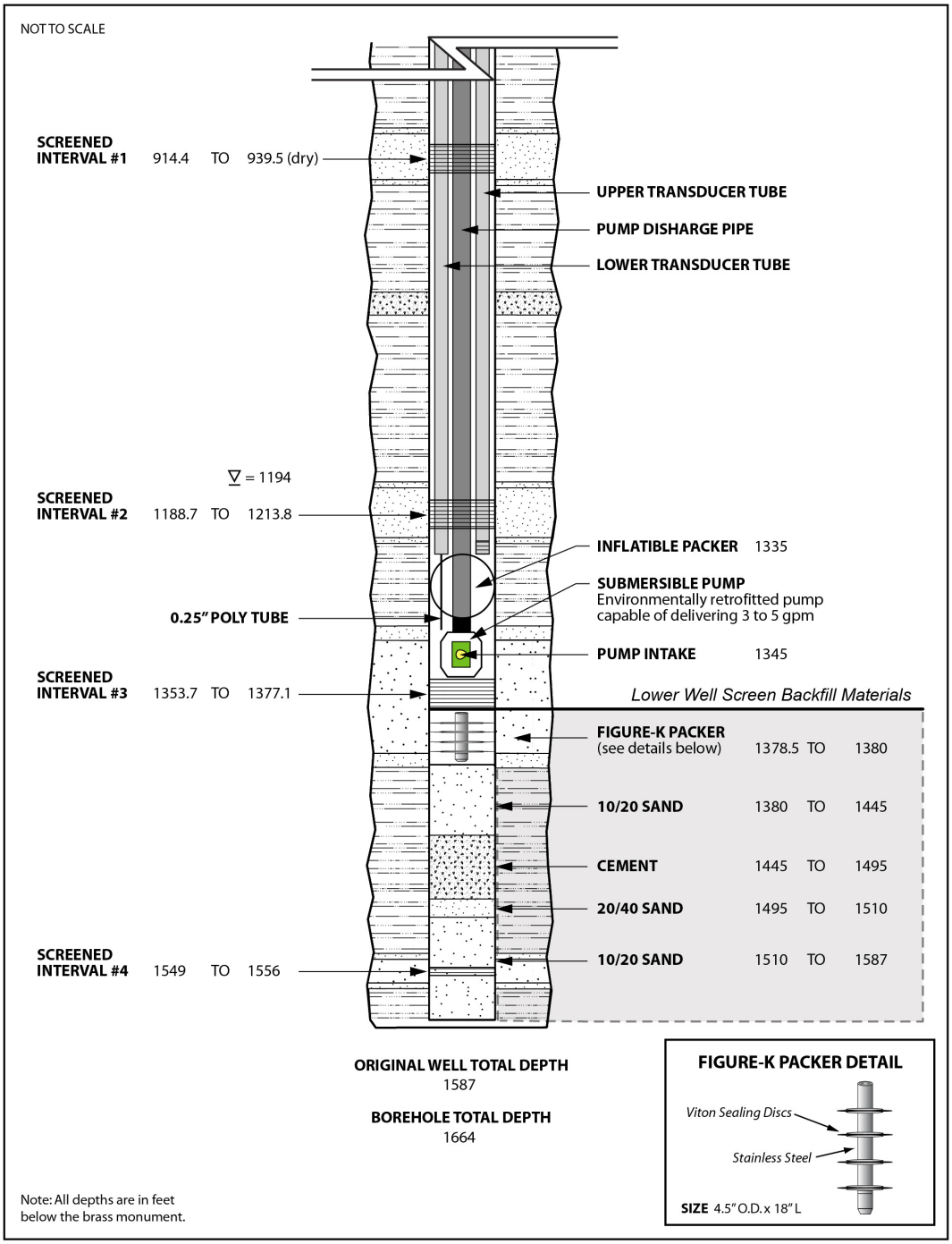

Figure 1 Schematics of the existing well construction and the proposed reconfiguration

Attachment 1

Video Log
(on DVD included with this document)