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Date: JUN 11 2015
Refer To: ADESH-15-088
LAUR: N/A
Locates Action No.: N/A

John Kieling, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Notification of Regional Well R-56 Screen 2 Packer Failure, Proposed Remedy, and Deviation from the Interim Facility-Wide Groundwater Monitoring Plan

Dear Mr. Kieling:

This letter is Los Alamos National Laboratory's (the Laboratory's) written follow up notification of a packer failure in Regional Well R-56 that was identified on April 17, 2015 and verbally communicated on April 21, 2015, identifies the corrective actions taken, and requests approval of our approach for well recovery. Well R-56 is a dual-completion well with two screens in the regional aquifer. The screens are 81 ft apart, and a downhole inflatable packer separates the hydrogeological units. The upper screen is approximately 25 ft below the water table.

On April 17, 2015, Laboratory field personnel discovered the R-56 packer had zero pressure. R-56 had been modified for well-head telemetry to monitor for packer pressures on April 2, 2015. On April 20, 2015, a replacement hose and a 90-degree elbow to relieve tension on the hose were installed in the wellhead, and the packer was reinflated and maintained pressure. The packer pressure is being monitored twice a week to ensure it is functioning properly and will continue to be monitored until the telemetry system is activated. The New Mexico Environment Department (NMED) Ground Water Quality Bureau and NMED Hazardous Waste Bureau were verbally notified on April 21, 2015, of the loss of packer pressure at the well.

Downloads from the well's two transducer data loggers indicate the packer failed on April 2, 2015, at 2300 h. Cross-flow of groundwater between the screened intervals was confirmed by groundwater data showing similar elevations in both screens following the April 2nd failure. There is a downward hydraulic gradient at this location, and it is estimated that approximately 58,000 gal. of groundwater flowed from screen 1 to screen 2. After examination of the fittings, the leak was attributed to a manufacturer's material defect in a hose on a recently installed manifold in the wellhead. The replacement hose installed on April 20, 2015, appears to be functioning properly.

Well data indicate no detections at R-56 screen 1 or screen 2 exceed New Mexico groundwater quality standards. Although R-56 screen 1 provided a representative sample during the third quarter MY2015 sampling event in April 2015, screen 2 was not be sampled at that time because of the cross-flow, a deviation from the MY2015 IFGMP. The Laboratory requests that Regional Well R-56 screen 2 be allowed to recover naturally from cross-flow by allowing sufficient time for lateral groundwater flow to flush out the well casing and surrounding area and to resume sampling both R-56 screens with the TA-54 monitoring group during the first quarter of MY2016.

If you have questions, please contact Steve Paris at (505) 606-0915 (smparis@lanl.gov) or Hai Shen at (505) 665-5046 (hai.shen@em.doe.gov).

Sincerely,

Dave McInroy, Program Director
Environmental Remediation Program
Los Alamos National Laboratory

Sincerely,

Christine Gelles, Acting Manager
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