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MEMORANDUM

TO: Nicole Yuen, Project Manager
Senior Environmental Scientist
Cleanup Program, Berkeley Office
Site Mitigation and Restoration Program

FROM: Mark Sorensen, PG 7448
Engineering Geologist
Geological Services Branch – Berkeley
Site Mitigation and Restoration Program

DATE: January 4, 2023

**SUBJECT: REVIEW OF NOTIFICATION OF PIEZOMETER DHR ABANDONMENT,
RICHMOND FIELD STATION, UNIVERSITY OF CALIFORNIA,
BERKELEY**



SITE 201605-11 PCA: 11018 MPC: TECHMEMO WR 20092109

DOCUMENT REVIEWED

As requested, the Berkeley Geological Services Unit (GSU) has reviewed the *Notification of Piezometer DHR Abandonment, Richmond Field Station, UC Berkeley, Richmond Field Station, University of California, Berkeley* (Letter), dated December 16, 2022. The Letter was prepared by Tetra Tech, Inc., and was reviewed with respect to geologic and hydrogeologic interpretations and technical adequacy.

BACKGROUND

Piezometer DHR (a replacement for piezometer DH) was discovered to have been destroyed by Richmond Field Station (RFS) staff inadvertently during recent stormwater maintenance activities. The remaining portion of the piezometer will be over-drilled, removed, and the entire borehole will be grouted, according to Contra Costa County specifications, with piezometer materials removed and drummed as investigation-

derived waste. The Letter discusses past sampling results from this piezometer, and proposes that it not be replaced.

COMMENTS AND RECOMMENDATIONS

1. The second sentence of the Letter mentions a piezometer B201 being near piezometer DHR, which is not helpful in that there is no such piezometer shown on either Figure 23 or 24. Also, note that piezometer DHR is located more in the southwesterly portion of RFS than in the southeast. Please edit appropriately to more clearly describe the location.
2. The fourth paragraph states that groundwater sampling results at the DH/DHR location for perchlorates, polyaromatic hydrocarbons, and explosive residues from four concurrent monitoring events (in 2010-2012) did not indicate evidence of contamination from an explosion, and that those analytes were discontinued from subsequent monitoring events. Metals were the only analytes in subsequent events at DHR. We note that there have been detections of arsenic above screening levels in a minority of sampling events. These detections at DHR do not appear to indicate a plume of arsenic contamination, considering that all the nearby surrounding sampling locations of B278-R, B158, CCC1, CCC2, B128, WTA, and EPA have not shown patterns of arsenic exceeding screening levels. Thus, we concur with the recommendation that piezometer DHR not be replaced.
3. In the fifth paragraph, please edit the sentence as indicated:

“Results from DHR are not critical and do not impact any ongoing groundwater monitoring efforts, as DHR is surrounded by four nearby piezometers: B278 ~~B278-R~~ to the north, CCC2 to the ~~west~~ east, B128 to the south, and EPA to the ~~east~~ west.”

The proposed piezometer abandonment and disposal methods appear appropriate, and I support DTSC approval of the Letter once Comments 1 and 3 above are addressed.

If you have any questions or comments regarding this memorandum, please contact Mark Sorensen at (510) 540-3947 or Mark.Sorensen@dtsc.ca.gov, or Jon Buckalew (Buck) King at (510) 540-3955 or Buck.King@dtsc.ca.gov.

Reviewed by: Alex Woodward, PG
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