Scientific Analysis/Calculation Administrative Change Notice

QA: QA
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Complete only applicable items.

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6. Approvals:

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7. Affected Pages	8. Description of Change:
6-79	In first sentence of Section 6.5.7, changed "Tables 6.5-1 and 6.5-2" to "Tables 6.5-5 and 6.5-6". This change addresses CR 11183.

Laboratory testing conducted in support of ATC tracer testing included:

- Batch sorption tests to determine lithium sorption parameters associated with various depth intervals at the ATC and their dependence on mineralogical characteristics of the alluvium

- Lithium bromide and PFBA tracer tests in columns packed with alluvium from NC-EWDP-19D to determine lithium transport characteristics as a function of lithium injection concentration.

Details of the conduct and results of these laboratory tests are provided in Appendix H. These tests are not discussed further here because the field tracer test involving lithium ion was never conducted.

A small set of lithium batch sorption tests with 22S water and alluvium from the second screened interval from the surface of 22PC were conducted to support the cross-hole tracer testing efforts at Site 22. The results of these tests are presented in Section G5.4.3 of Appendix G, where the field- and laboratory-derived partition coefficients (K_d values) for lithium are discussed and compared. In summary, although the laboratory data set is quite limited compared to that for the ATC, the results suggest that apparent lithium sorption was greater in the field tracer test than in the laboratory batch tests.

6.5.7 Limitations and Uncertainties

The estimates of groundwater velocity and specific discharge in the alluvium at the ATC and Site 22 in Tables 6.5-5 and 6.5-6 vary over a range of about a factor of 3 for a given flow porosity assumption, and over a range of about a factor of 10 for all reasonable flow porosity assumptions. These estimates are in reasonably good agreement with estimates obtained using potentiometric head and hydraulic conductivity data and also with an estimate obtained from analyzing the responses of nonsorbing tracers used in cross-hole tracer testing at Site 22 after a 159-day flow interruption, so the one-order-of-magnitude range in the values is considered to be a reasonable reflection of the uncertainty associated with the estimates.

The limitations, uncertainties and general remarks regarding the alluvium field tracer test results are essentially identical to those discussed in Section 6.3.7 (for the tracer tests in fractured volcanic tuffs at the C-wells complex).

An additional uncertainty that applies to the alluvium cross-hole tracer tests is the uncertainty associated with the injection masses of the tracers that were used to normalize the tracer concentrations for the interpretive analyses. As discussed in Section 6.5.4, there was a significant lack of agreement between directly-measured injection masses and injection masses deduced from injection concentration measurements that did not occur for the tracer tests at the C wells or for the single-well tracer tests at the ATC and Site 22. This uncertainty introduces additional uncertainty into the transport parameter estimates deduced from the cross-hole tracer tests in the alluvium. However, we do not believe that this uncertainty raises doubts about the dual-porosity nature of the alluvium, as the relative shapes of the tracer breakthrough curves and