Questa Engineering Corporation
1010 Tenth Street
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MEMORANDUM

DATE: December 22, 2000
TO: Mal Murphy [malmurphy@home.com]
CC: Danielle Fife **[**dfife@nrff.com]
RE: **SATURATED ZONE FLOW & TRANSPORT AMR Reviews**
Analysis Comparing Advective-Dispersive Transport Solution to Particle Tracking
ANL-NBS-HS-000001

Key Items are:

1. p. 11, Section 1, Paragraph 3. This AMR uses simplified test cases for comparison to show that the particle tracking models provide essentially the same results as the fully coupled advective-dispersive (A-D) model which takes many times longer to run. No specific criteria have been identified (p. 17, Section 4.2). What is not clear from this report is that **the particle tracking model parameters could be adjusted to match the A-D model, so the particle tracking models are not necessarily better or worse than the A-D model – it depends on the parameters used**. This is not the conclusion of the report however (p. 45, Section 7, paragraph 3, and first full paragraph on p. 46) which implies the A-D model is somehow "more conservative".

2. Pages 28, 29, 31 were missing from the copy reviewed – probably not significant.

3. This AMR refers to numerous computer codes, etc. which were not checked in detail – that would be extremely time consuming and expensive task, which is considered unnecessary at this time.

Document Reference No.: 00DC069.DOC