



Response:

Action:

6. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
Section#: Pg.#: 1-3 Line#: Code:  
Original Comment# 2  
Comment: On page 1-3, the developer for each of the codes in Table 1.1 should be given.  
Response:  
Action:
7. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
Section#: Pg.#: 2-1 Line#: Code:  
Original Comment# 3  
Comment: In the first sentence in section 2.1 on page 2-1, insert "and finite-difference" after axisymmetric finite-element."  
Response:  
Action:
8. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
Section#: Pg.#: 2-1 Line#: 7 Code:  
Original Comment# 4  
Comment: In the first paragraph, line 7, in section 2.1 on page 2-1, it is not clear that the transient analysis is performed by time marching. Exactly what is the meaning of time marching?  
Response:  
Action:
9. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
Section#: Pg.#: 2-14 Line#: Code:  
Original Comment# 5  
Comment: On page 2-14,  $|V|$  in equation (2.27a) should be  $|v|$ .  
Response:  
Action:
10. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
Section#: 3.5 Pg.#: 3-15 Line#: Code:  
Original Comment# 6  
Comment: The second and third paragraphs in section 3.5 on page 3-15 are not clearly written and are confusing. For example, how is the DFM used to determine the dispersivities?  
Response:  
Action:
11. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
Section#: Pg.#: 3-1 Line#: Code:  
Original Comment# 7  
Comment: On page 3-1 relating to the above comment, how is the dispersivity tensor determined? If it is determined by the DFM, how is the DFM used in equation (3.2) for determining the dispersivities? Adding the description of the DFM relating to equation (3.2) in this section will clarify the confusion in section 3.5  
Response:  
Action:

2

12. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
 Section#: Pg.#: 4-21 Line#: Code:  
 Original Comment# 8  
 Comment: Again, on page 4-21 it is not clear that DFM will determine the kinetic mass transfer parameters by minimizing the data fit residuals. How the DFM is used in conjunction with the measurement data should be clearly explained.  
 Response:  
 Action:
13. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
 Section#: Equation 5.1 Pg.#: 5-1 Line#: Code:  
 Original Comment# 9  
 Comment: In equation (5.1) on page 5-1,  $Q(c-c^*)$  should be  $q(c-c^*)$  for consistency with equation (2.26). It seems that the bracket "{}" should include the term,  $Q(c-c^*)$ .  
 Response:  
 Action:
14. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
 Section#: 7.2 Pg.#: 7-1 Line#: Code:  
 Original Comment# 10  
 Comment: In section 7.2 on page 7-1 it is not clear that the VAM3DF requires 121 by 113 nodes. How is about the last node? If the last node is placed at the other corner of the model, it should be 122 by 114 nodes.  
 Response:  
 Action:
15. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
 Section#: Table 7.2 Pg.#: 7-3 Line#: Code:  
 Original Comment# 11  
 Comment: On page 7-3 how the values of the desorption rate, as shown in Table 7.2 are chosen should be described.  
 Response:  
 Action:
16. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
 Section#: Pg.#: 7-34 Line#: Code:  
 Original Comment# 12  
 Comment: The fifth line in the first paragraph on page 7-34 for Figures 7.24 and 7.28, the sentence as written should be changed to "Comparing Figure 7.24 with 7.28, the contaminant plume U.S. DOEs not change with time for high  $K_d$  as much as for low  $K_d$ ."  
 Response:  
 Action:
17. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
 Section#: Table 7.6 Pg.#: 7-56 Line#: Code:  
 Original Comment# 13  
 Comment: On page 7-56 how the values of the chemisorption rate, as shown in Table 7.6, are chosen should be described.  
 Response:  
 Action:

18. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
Section#: Pg.#: 7-63 Line#: Code:  
Original Comment# 14  
Comment: The second paragraph on page 7-63 for Figure 7.53: (i) How is the relationship between the dissolved versus absorbed concentration at equilibrium chosen? (ii) Why is this relationship chosen differently from that of the previous figures, such as Figure 4.8? (iii) Use the same units as in the previous Figures 4.4-4.11 for consistency.  
Response:  
Action:
19. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
Section#: Pg.#: 7-63 Line#: Code:  
Original Comment# 15  
Comment: In third paragraph on page 7-63, it is not clear that the ranges of the adsorption and desorption rates used in the simulation were FAST compared to the duration of the simulation (10 years).  
Response:  
Action:
20. Commenting Organization: U.S. DOE Commentor: Dr. Sam Lee  
Section#: Pg.#: 7-64 Line#: Code:  
Original Comment# 16  
Comment: On page 7-64, what is the mass balance in this figure? Adding all other masses is not equal to the source mass loading.  
Response:  
Action: