

Project 2 – Examples with CHEMFLO Due Monday July 27

These numerical experiments are found at the end of the CHEMFLO manual. Perform the tasks as required by the problem statements. Save screen captures that prove you did the work. Provide text to answer the questions as stated

Numerical Experiments for Water Movement

2. Infiltration of Water from Rainfall or Sprinkler Irrigation plus first Additional Work task

Initial situation (25)

Confirm you used the proper input values

Graphs of flux density (infiltration rate) and cumulative flux (infiltration) at the soil surface as function of time

Answers to the four questions

Lower Ksat situation (20)

Confirm you used the proper input values

Graphs of flux density (infiltration rate) and cumulative flux (infiltration) at the soil surface as function of time

Answers to the four questions

8. Influence of Initial Water Content upon Water Movement plus Additional Work task

Initial situation (40)

Confirm you used the proper input values

Graphs or table of flux density (infiltration rate) and cumulative flux (infiltration) at the soil surface as function of time

Graph of moisture content vs. depth at 6 hours for each soil condition

Answers to the six questions

Lower Ksat situation (35)

Confirm you used the proper input values

Graphs or table of flux density (infiltration rate) and cumulative flux (infiltration) at the soil surface as function of time

Graph of water content vs. depth at 6 hours for each soil condition

Answers to the six questions

Numerical Experiments for Water and Chemical Movement

1. Chemical Movement during Infiltration Due to Rainfall plus Additional Work tasks

Initial situation (35)

Confirm you used the proper input values

Graphs of water content vs. distance and concentration vs. depth at multiple times up to 6 hrs

Graphs of cumulative flux of chemical and flux of water at selected depths, at least three

Answer the two questions

Second situation (15)

Confirm you used the proper input values

Graphs of water content vs. distance and concentration vs. depth at 18 hr (end of storm)

Answer the two questions

3. Influence of Adsorption on Chemical Movement (includes all work from previous experiment)

Initial situation (30)

Confirm you used the proper input values, two different partition coefficients

Graphs of water content vs. distance and concentration vs. depth at multiple times up to 6 hrs
for both partition coefficients

Graphs of concentration vs. time at soil surface for both partition coefficients, plus a third
graphs with partition coefficient of 0

Answer the two questions