correct_figures_Hull.md

Questions

1. Just to check, are the inputs into the graphical solution located on the sheet 'inputs', whereas the inputs for solving (numerically) for K and q is located on the sheet 'model and key plot' cells `C7:C9` ? So, the charts will not be affected by the values edited in that (`C7:C9`) range.
2. I don't really understand the iterative solutions thing in excel. I can see that when we change the `inputs` , the solutions for H (column `I`) are change, but then clicking anywhere in the sheet they will change some more. Can you go over that in class?
3. I was having a bit of trouble getting the third layer to render, and I think (maybe) I found an error in the `K zone cell` column. I think maybe the bottom 6 or so rows should also reference `inputs` ?

G
K zone cell
=inputs!D16
=inputs!D17
=inputs!D18
=inputs!D19
=inputs!D20
=inputs!D21
=inputs!D22
2
2
2
2
2
2

Figure 1 (Homogenous)

- Note I took the route of modifying from your spread sheet!

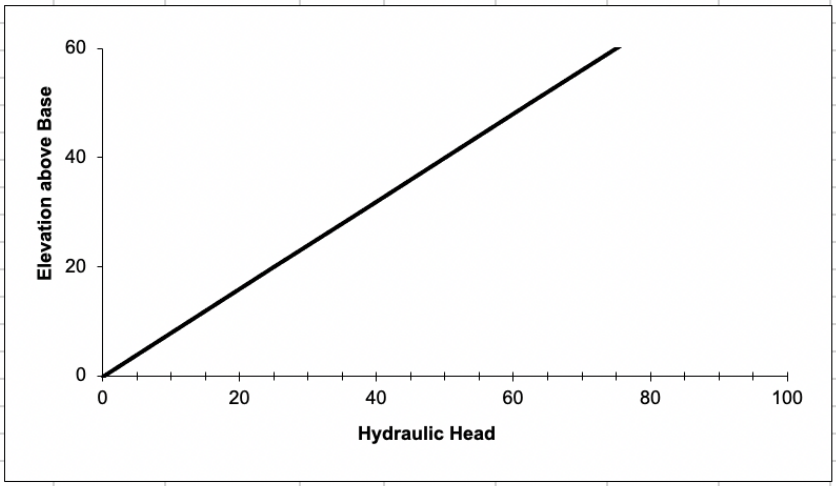
Parameters

Type I BC	top	150	
	bottom	0	
Grid	dz	10	
	z0	0	
K values	K1	0.0004	
	K2	0.0004	
	K3	0.0004	
		soil type	K
K zones	top cell	1	0.0004
		1	0.0004
		1	0.0004
		1	0.0004
		1	0.0004
		1	0.0004
		1	0.0004
		1	0.0004
		1	0.0004
		1	0.0004
		1	0.0004
		1	0.0004
	bottom cell	1	0.0004

Figure

Direct solution for flux		
	K	num cells
zone 1	0.0004	6.5
zone 2	0.0004	5.5
zone 3	0.0004	0
Keq	0.0004	
q	0.0005	

z	K zone cell	K cell	H	q	zone 1	zone 2	zone 3
120	1	4E-04	150		1	0	0
110	1	4E-04	137.4995	0.0005	1	0	0
100	1	4E-04	124.9991	0.0005	1	0	0
90	1	4E-04	112.4988	0.0005	1	0	0
80	1	4E-04	99.99855	0.0005	1	0	0
70	1	4E-04	87.49843	0.0005	1	0	0
60	1	4E-04	74.99843	0.0005	1	0	0
50	2	4E-04	62.49854	0.0005	0	1	0
40	2	4E-04	49.99873	0.0005	0	1	0
30	2	4E-04	37.499	0.0005	0	1	0
20	2	4E-04	24.99932	0.0005	0	1	0
10	2	4E-04	12.49966	0.0005	0	1	0
0	2	4E-04	0	0.0005	0	1	0



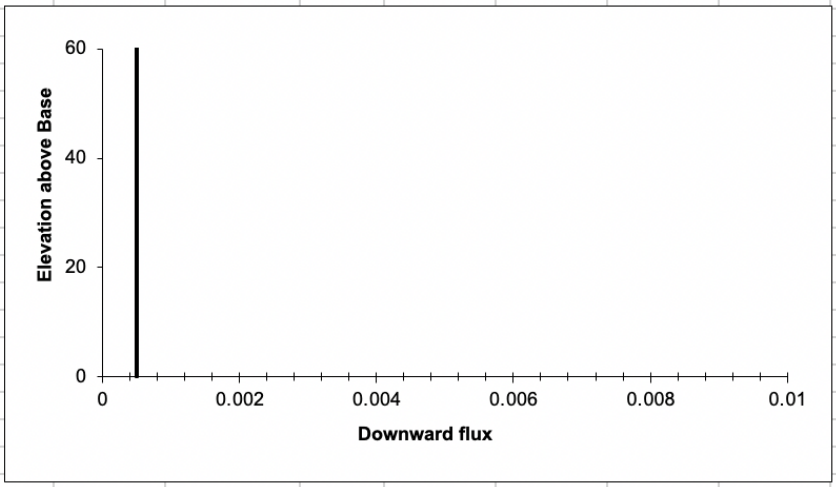


Figure 2 (Heterogeneous)

Parameters

Type I BC	top	80	
	bottom	0	
Grid	dz	5	
	z0	0	
K values	K1	0.0004	
	K2	0.001	
	K3	0.005	
		soil type	K
K zones	top cell	1	0.0004
		1	0.0004
		2	0.001
		2	0.001
		2	0.001
		2	0.001
		2	0.001
		3	0.005
		3	0.005
		3	0.005
		3	0.005
		3	0.005
	bottom cell	3	0.005

- Note I took the route of modifying from your spread sheet!

Figure

Direct solution for flux		
	K	num cells
zone 1	0.0004	1.5
zone 2	0.001	5
zone 3	0.005	5.5
Keq	0.001218	
q	0.001624	

z	K zone cell	K cell	H	q	zone 1	zone 2	zone 3
60	1	4E-04	80		1	0	0
55	1	4E-04	59.70029	0.001624	1	0	0
50	2	0.001	45.48989	0.001624	0	1	0
45	2	0.001	37.36898	0.001624	0	1	0
40	2	0.001	29.24739	0.001624	0	1	0
35	2	0.001	21.12514	0.001624	0	1	0
30	2	0.001	13.0023	0.001625	0	1	0
25	3	0.005	8.128112	0.001625	0	0	1
20	3	0.005	6.50295	0.001625	0	0	1
15	3	0.005	4.877446	0.001626	0	0	1
10	3	0.005	3.251709	0.001626	0	0	1
5	3	0.005	1.625854	0.001626	0	0	1
0	3	0.005	0	0.001626	0	0	1