

Constant
Head
15m

100m

Constant
Head
10m

Each Cell
100m x
100m

100m

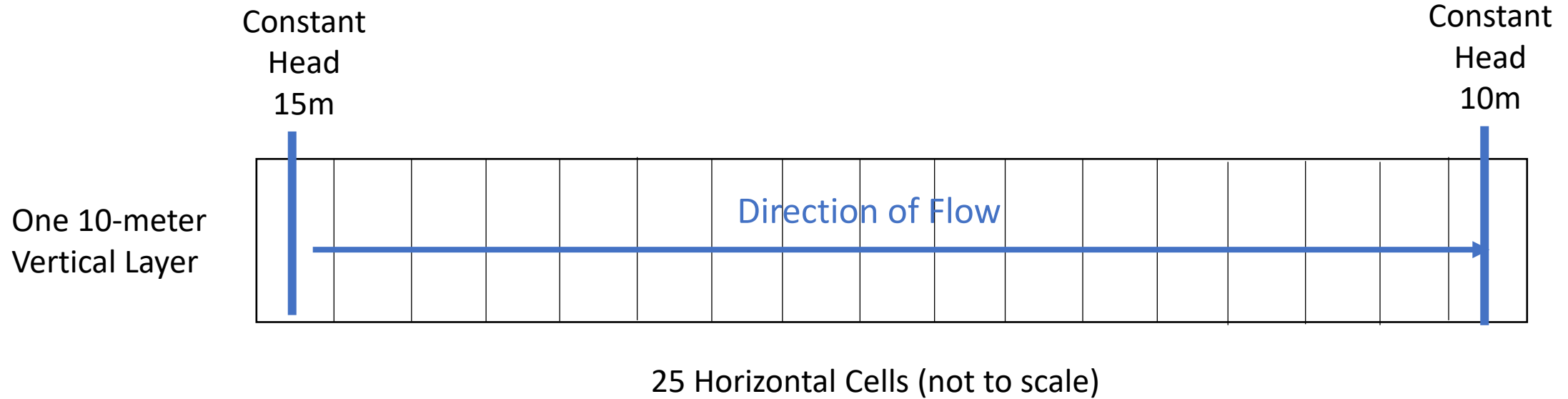
Direction of Flow

Map View

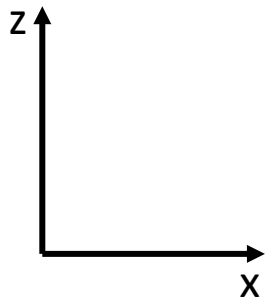
Head measured at center
of cells,
K throughout each cell

25 Horizontal x 25 Vertical Cells (not to scale)

Cross-Section View

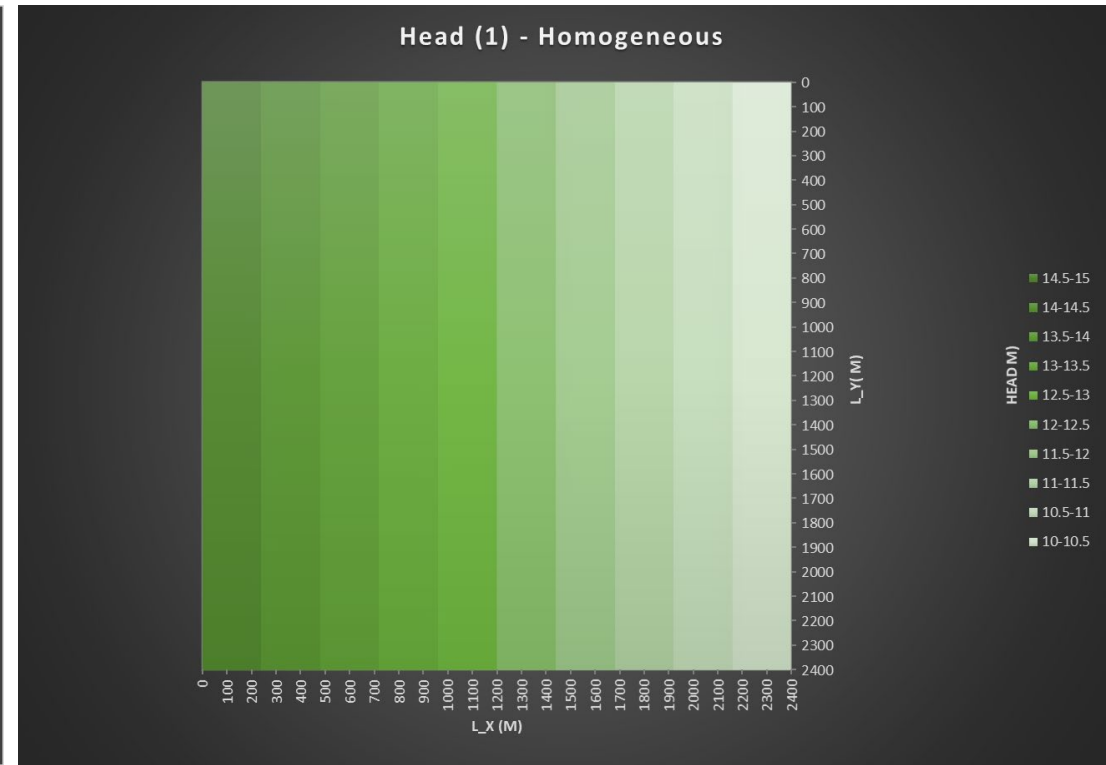
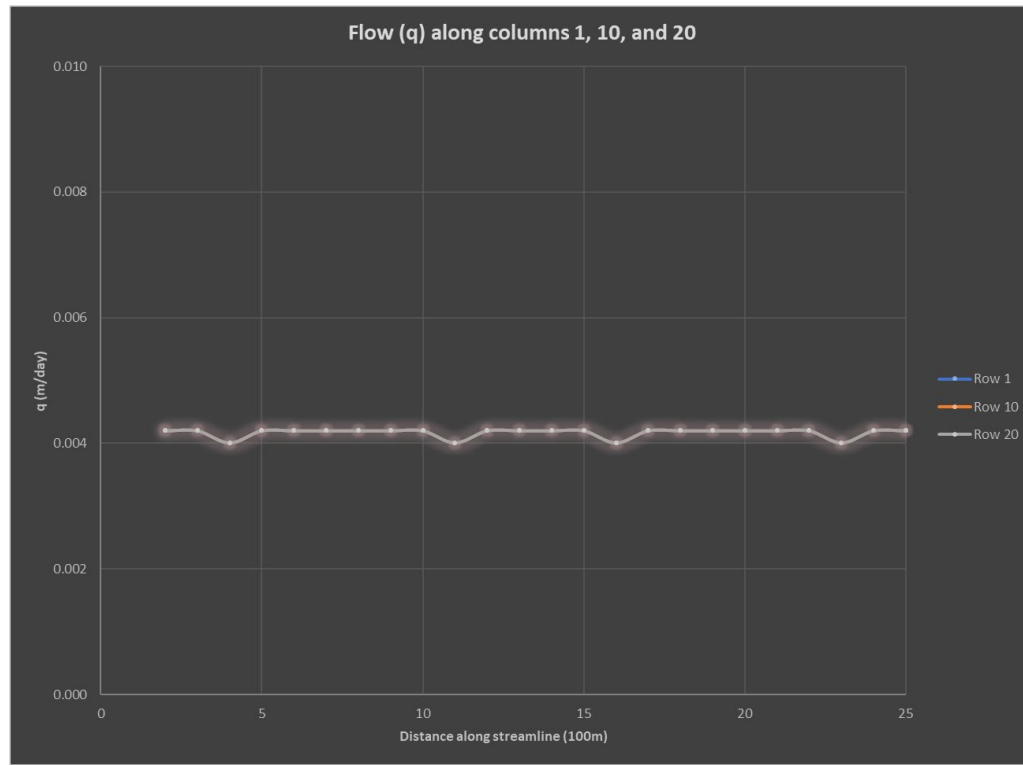


$$\text{Head Gradient} = (15\text{m} - 10\text{m}) / 2500\text{m} = 0.002$$



Homogeneous model

$$K = 2 \text{ m / day}$$

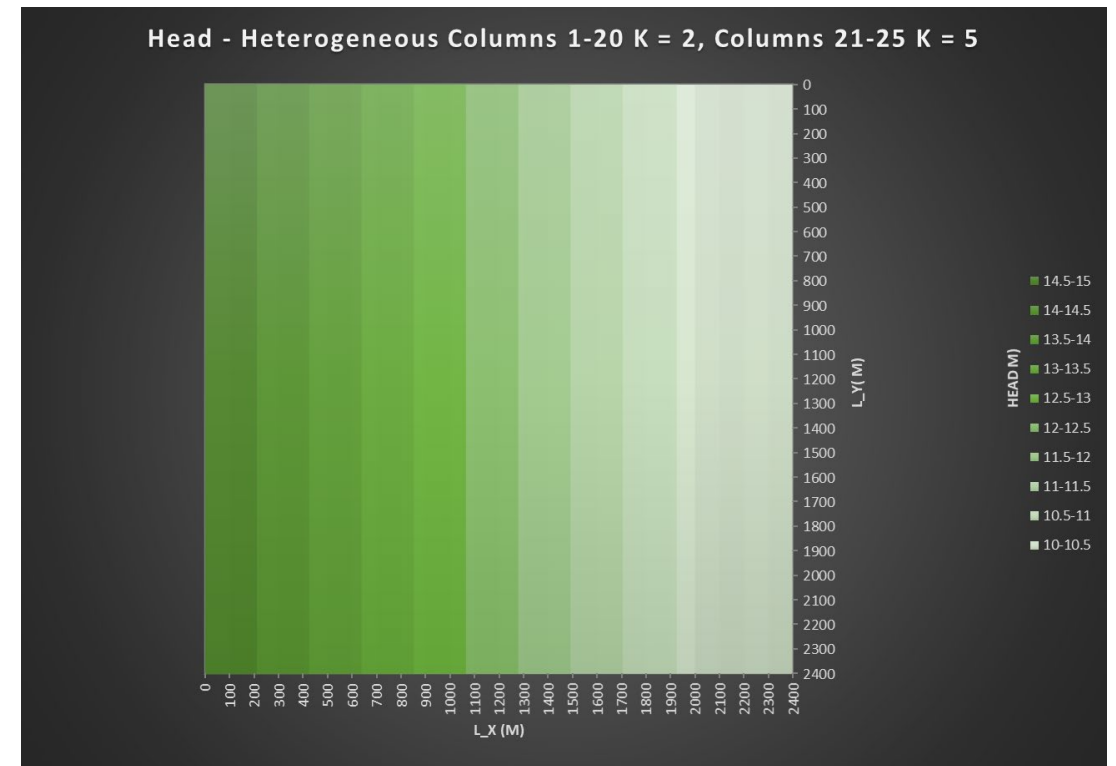
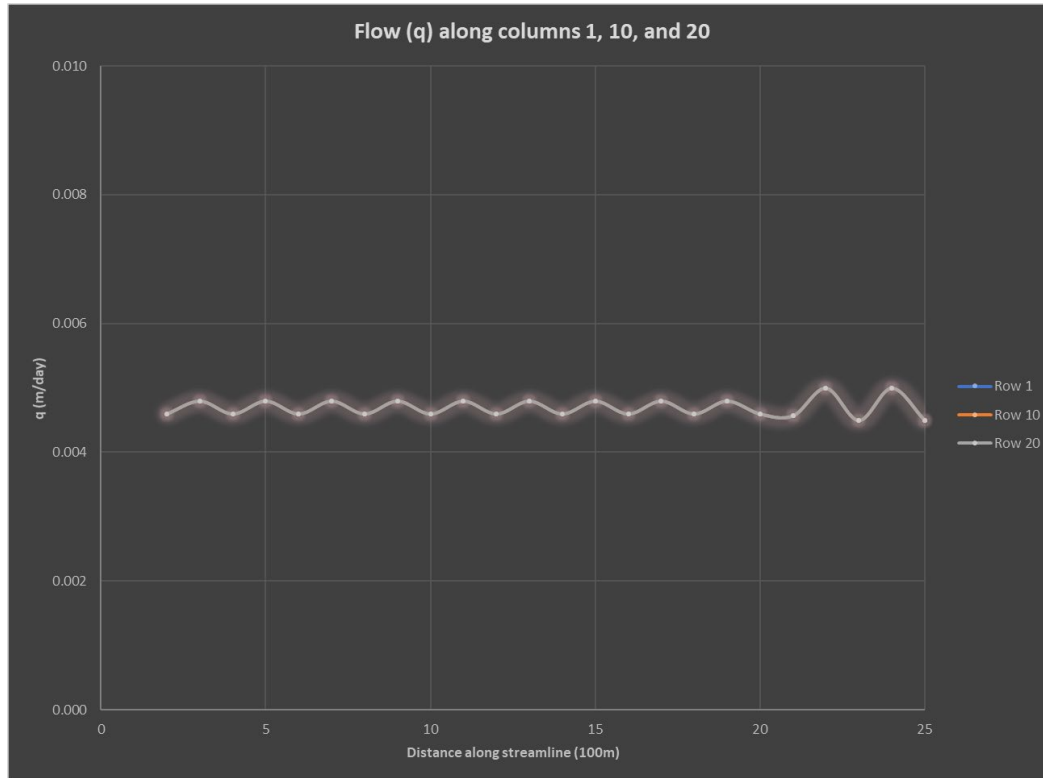


q in rows 1, 10, and 20 are the same, which is why only one line is visible

Heterogeneous Model

Columns 1-20: $K = 2 \text{ m / day}$

Columns 21-25: $K = 5 \text{ m / day}$

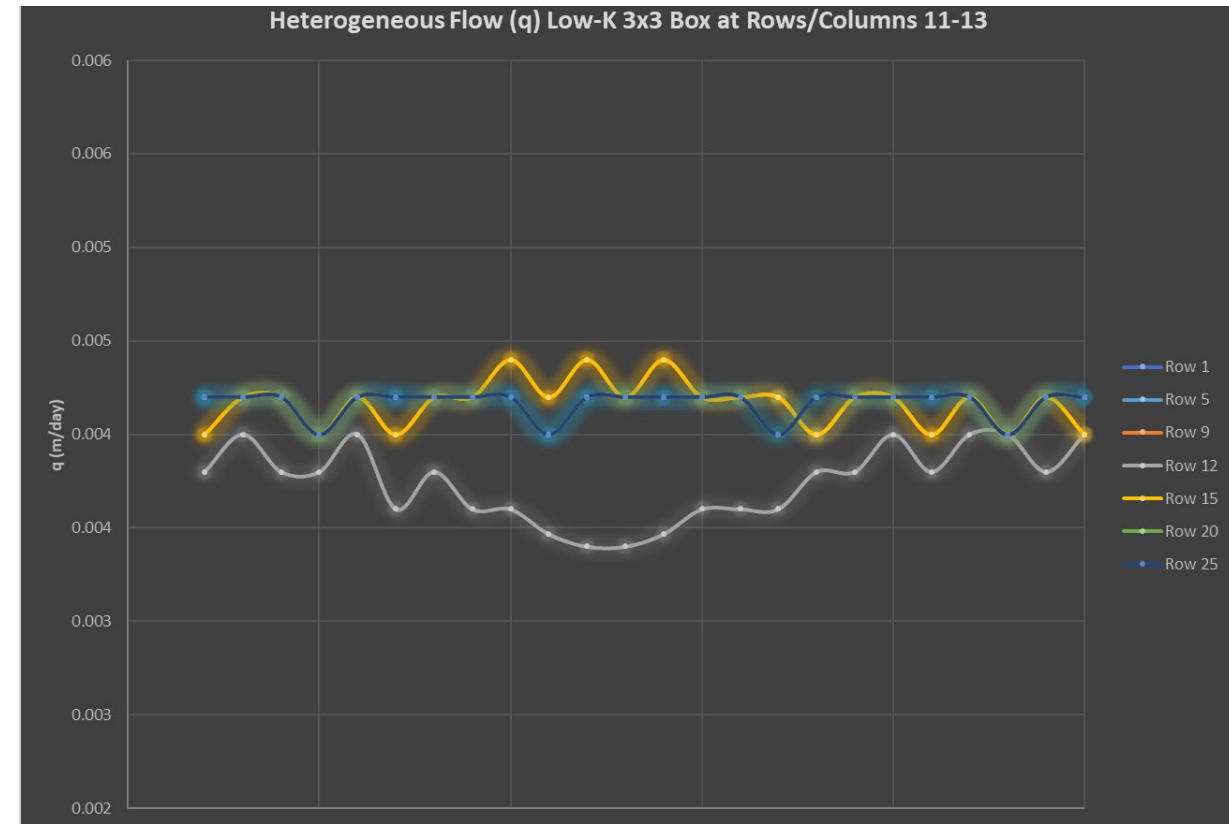
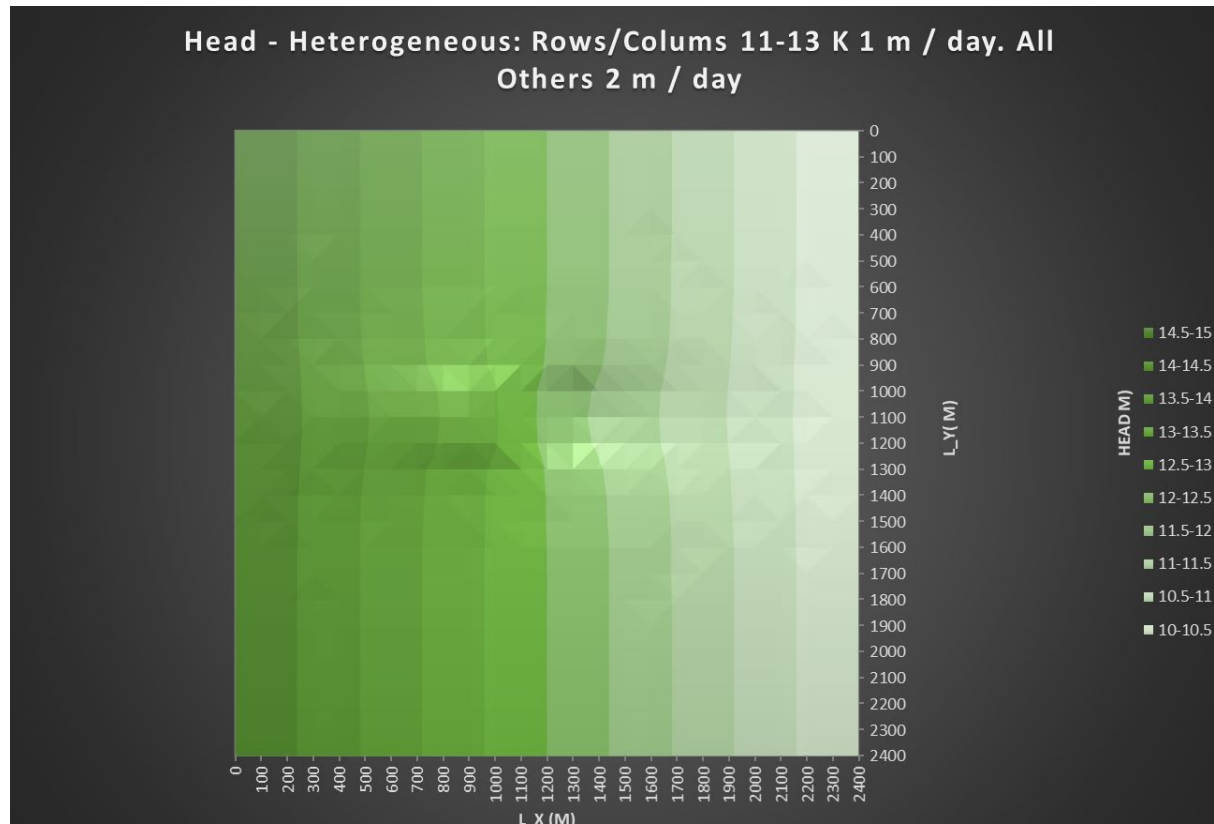


The amplitude of the flux oscillation increases in the column when $K = 5 \text{ m / day}$, but the mean flux appears to be the same as in the $K = 2 \text{ m / day}$ columns.

Heterogeneous Model:

$K = 1 \text{ m / day}$ in 3x3 Box in Rows/Columns 11-13

$K = 2 \text{ m / day}$ Everywhere Else



Row 12 runs right through the middle of the Low-K 3x3 box. Rows 9 and 15 are near (but not inside) the low-K 3x3 box.