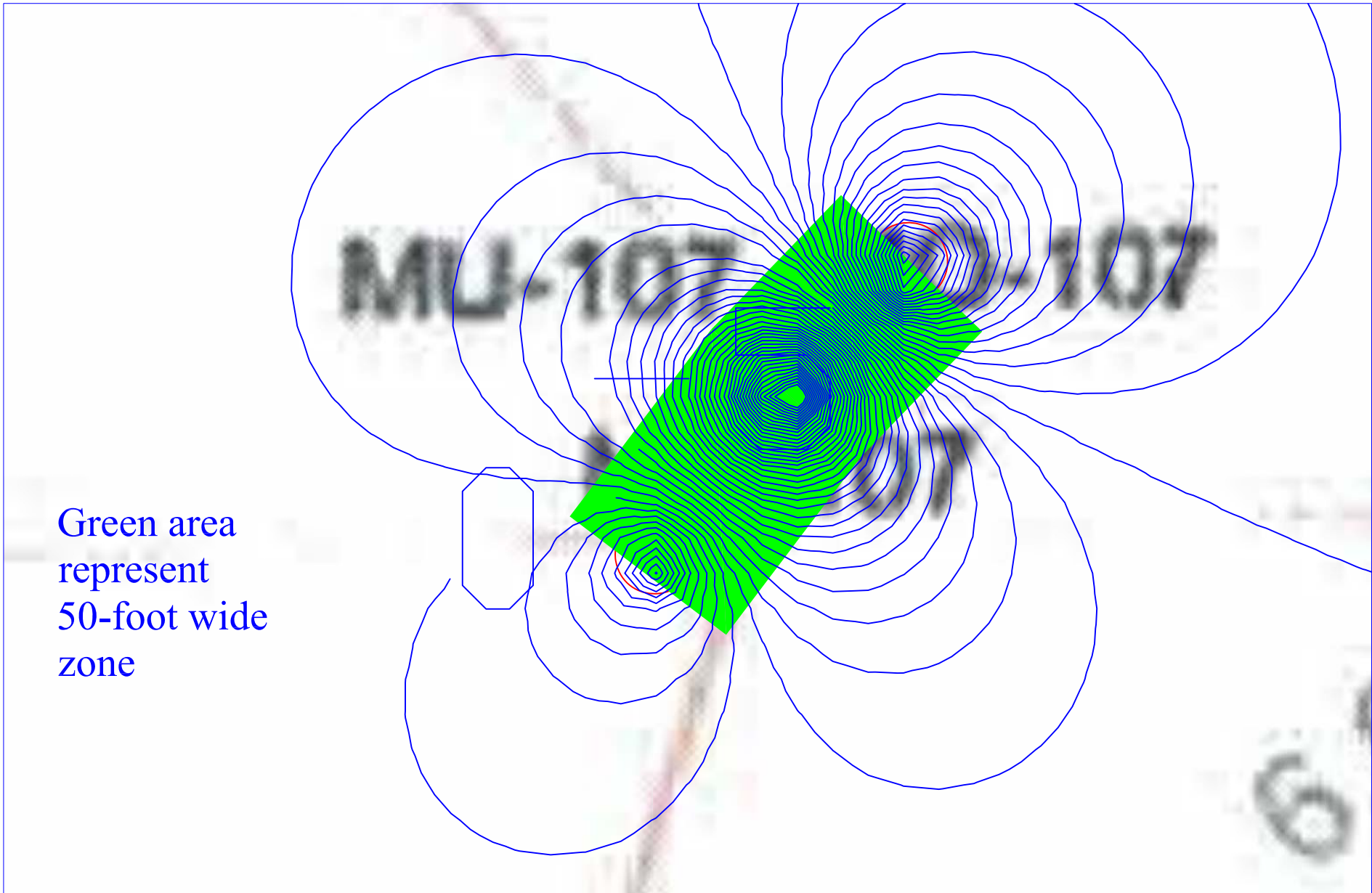


#### **Attachment 4 25-Foot Radius of Influence for Line Drives**

Lost Creek has proposed isolated line drives and suggest that the area of influence for financial surety is a 25-foot radius around each well and each well separated by 50 feet. Lost Creek has not provided justification for the 25-foot radius of influence or any other operational constraints on line drives.

Staff constructed a simple AEM model to verify the area of influence of a line drive (for the model input, see Appendix 4-1). Unfortunately, because of the lack of data to constrain the operations, staff cannot fully evaluate the line drives. However, a contour map of model-predicted surface in Zone 1 is shown on Attachment \$ Figure 4-1 for a line drive which consists of two injection wells and a single extraction well operating at flows one-half those proposed by Lost Creek for a 5-spot pattern. The contours at these low flow rates suggest that the area of influence would exceed 25 feet.

Consequently, Staff cannot verify the 25-foot radius of influence for line drives.



Attachment 4 Figure 4-1 NRC Modeled Potentiometric Drawdown for Line Drive in Zone 1

Attachment 4 Appendix 4-A

```
1  from ttim2 import *
2  from pylab import *
3  import csv
4
5
6
7  z = [6540,6535,6530,6525,6520,6515,6510,6505,6500,6495,6490,6485,6480,
6475,6470,6465,6460,6455,6450,6445,6440,6435,6430,6425,6420]
8  kh1 = [1.07, 1.07, 1.07, 1.07,0.005, 1.07, 1.07, 1.07, 1.07, 1.07,
0.005,0.005, 1.07, 1.07, 1.07, 1.07, 1.07,0.005,0.005, 1.07, 1.07,
1.07, 1.07, 1.07]
9  kz = [0.02,0.02,0.02,0.02, 0.7, 0.02,0.02,0.02,0.02,0.02, 0.7, 0.7,
0.02,0.02,0.02,0.02,0.02, 0.7, 0.7,0.02,0.02,0.02,0.02,0.02]
10 Saq = [0.0000022, 0.0000022, 0.0000022, 0.0000022,0.0000022,
0.0000022, 0.0000022, 0.0000022, 0.0000022, 0.0000022,0.0000022,
0.0000022, 0.0000022, 0.0000022, 0.0000022, 0.0000022, 0.0000022,
0.0000022,0.0000022, 0.0000022, 0.0000022, 0.0000022, 0.0000022,
0.0000022]
11
12 ml=Model3D(kh1,z,Saq,kz, tmin=0.1,tmax=730)
13
14 w1 = MscreenWell(ml,xw=2655,yw=2192,rw=0.25,tsandQ=[(0.0,-405)],
layers= [1,2])
15 w2 = MscreenWell(ml,xw=2688,yw=2234,rw=0.25,tsandQ=[(0.0,1227)],
layers= [1,2])
16 w3 = MscreenWell(ml,xw=2719,yw=2266,rw=0.25,tsandQ=[(0.0,-810)],
layers= [1,2])
17
18
19 ml.solve()
20
21
22
23 result=open('12_t730.csv','wb')
24 writer =csv.writer(result,diaclect='excel')
25
26 t = linspace(0.0,730,5)
27 x1=linspace(1800.0,3600,201)
28 y1=linspace(1200.0,3000,201)
29 ddl = 50*ones(len(x1))
30
31 writer.writerow(x1)
32 writer.writerow(y1)
33
34 for j in range(len(y1)):
35     print j
36     for i in range(len(x1)):
37         ddl[i]=ml.head(x1[i],y1[j], 730,layers=[2])
38     writer.writerow(ddl)
39
40
41
42 result.close()
43
44 result=open('13_t730.csv','wb')
45 writer =csv.writer(result,diaclect='excel')
```

```
46
47 t = linspace(0.0,730,5)
48 x1=linspace(1800.0,3600,201)
49 y1=linspace(1200.0,3000,201)
50 ddl = 50*ones(len(x1))
51
52 writer.writerow(x1)
53 writer.writerow(y1)
54
55 for j in range(len(y1)):
56     print j
57     for i in range(len(x1)):
58         ddl[i]=ml.head(x1[i],y1[j], 730,layers=[3])
59     writer.writerow(ddl)
60
61
62 result.close()
63
64 result=open('l1_t730.csv','wb')
65 writer =csv.writer(result,diaclect='excel')
66
67 writer.writerow(x1)
68 writer.writerow(y1)
69
70 for j in range(len(y1)):
71     print j
72     for i in range(len(x1)):
73         ddl[i]=ml.head(x1[i],y1[j], 730,layers=[1])
74     writer.writerow(ddl)
75
76
77 result.close()
78
79 result=open('l0_t730.csv','wb')
80 writer =csv.writer(result,diaclect='excel')
81
82 writer.writerow(x1)
83 writer.writerow(y1)
84
85 for j in range(len(y1)):
86     print j
87     for i in range(len(x1)):
88         ddl[i]=ml.head(x1[i],y1[j], 730,layers=[0])
89     writer.writerow(ddl)
90
91
92 result.close()
93
94
95
```