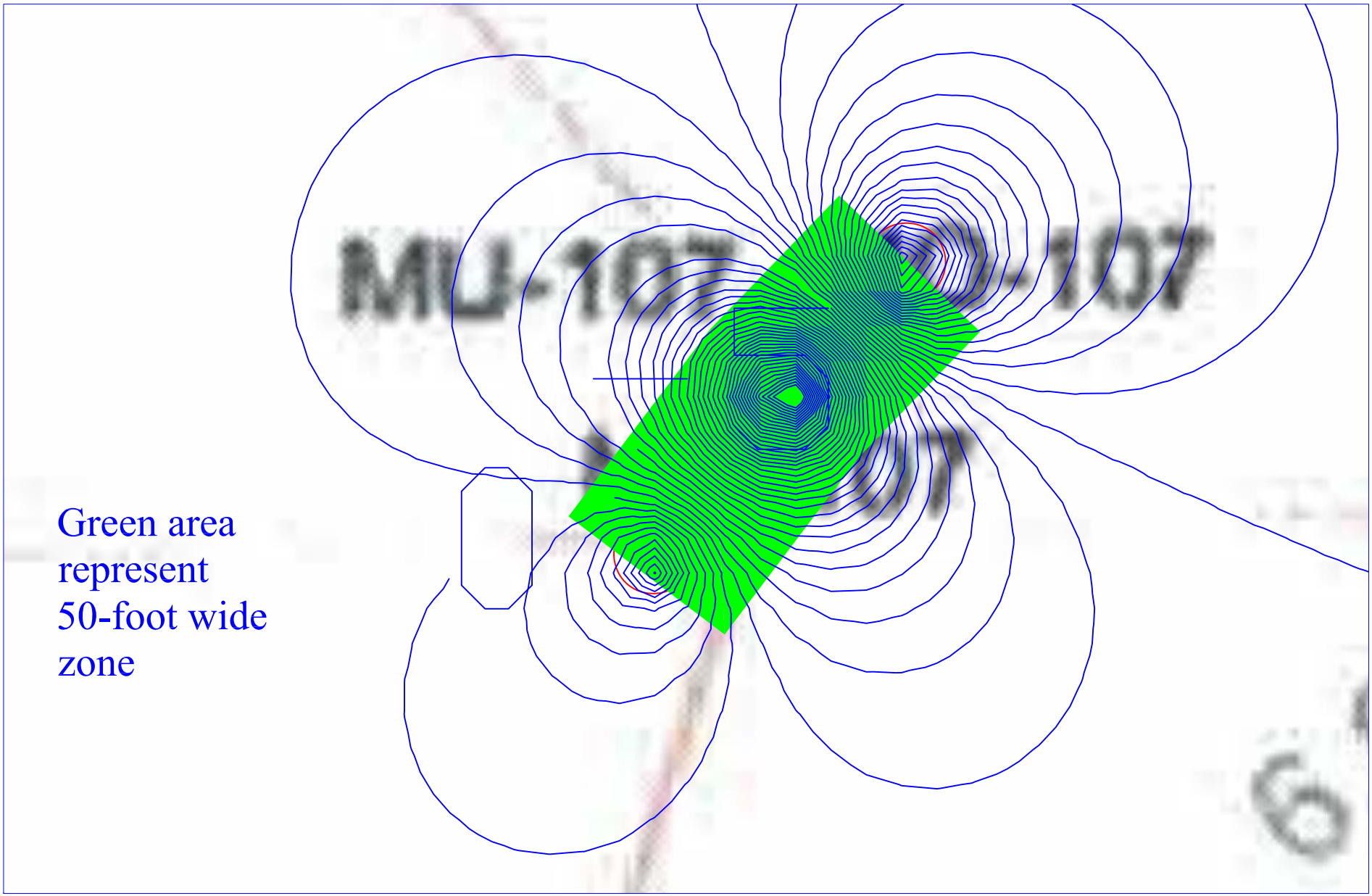
Attachment 4 25-Foot Radius of Influence for Line Drives

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 Potentiomentric 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('l2_t730.csv','wb')
24  writer =csv.writer(result,dialect='excel')
25
26  t = linspace(0.0,730,5)
27  x1=linspace(1800.0,3600,201)
28  y1=linspace(1200.0,3000,201)
29  dd1  = 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          dd1[i]=ml.head(x1[i],y1[j], 730,layers=[2])
38       writer.writerow(dd1)
39
40
41
42  result.close()
43
44  result=open('l3_t730.csv','wb')
45  writer =csv.writer(result,dialect='excel')
```

```
46
47   t = linspace(0.0,730,5)
48   x1=linspace(1800.0,3600,201)
49   y1=linspace(1200.0,3000,201)
50   dd1  = 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           dd1[i]=ml.head(x1[i],y1[j], 730,layers=[3])
59        writer.writerow(dd1)
60
61
62   result.close()
63
64   result=open('l1_t730.csv','wb')
65   writer =csv.writer(result,dialect='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           dd1[i]=ml.head(x1[i],y1[j], 730,layers=[1])
74        writer.writerow(dd1)
75
76
77   result.close()
78
79   result=open('l0_t730.csv','wb')
80   writer =csv.writer(result,dialect='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           dd1[i]=ml.head(x1[i],y1[j], 730,layers=[0])
89        writer.writerow(dd1)
90
91
92   result.close()
93
94
95
```