

## Exhibit E PHREEQC Geochemical Modeling Input File

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#TITLE Simulated Se and U Precipitation to the North Using Water Quality  
#from Well 129 and Redox / Mineralogy from Wells 7-40 and 7-50

PHASES

Fix\_pe  
e- = e-  
log\_k 0.0

SOLUTION 1 Well 129 #Average Concentrations Except 95% UCL for U, Se, Ra

units mg/L  
temp 12.6  
pH 7.59  
Alkalinity 312.8 as Ca0.5(CO3)0.5  
Ca 317.4  
Mg 70.7  
Na 157  
K 9.3  
Cl 96.8  
S(6) 813 charge  
Se 0.209 #95% UCL  
U 0.0054 #95% UCL  
Ra 2.80e-9 #2.77 pCi/L,95% UCL

SAVE Solution 1

END

EQUILIBRIUM\_PHASES 1 #pe = 2.7 Well 7-40 4-29-16

Fix\_pe -2.7 O2(g)  
UO2(am) 0.0 0.0  
Uraninite 0.0 0.0  
Semetal(am) 0.0 0.0  
Pyrite 0.0 0.05 #0.04% Sulfide-S, BD = 1.6, Porosity =0.2

EQUILIBRIUM\_PHASES 2 #pe = 2.3 Well 7-40 8-25-16

Fix\_pe -2.3 O2(g)  
UO2(am) 0.0 0.0  
Uraninite 0.0 0.0  
Semetal(am) 0.0 0.0  
Pyrite 0.0 0.05 #0.04% Sulfide-S, BD = 1.6, Porosity =0.2

EQUILIBRIUM\_PHASES 3 #pe = 2.5 Well 7-50 4-26-16

Fix\_pe -2.5 O2(g)  
UO2(am) 0.0 0.0  
Uraninite 0.0 0.0  
Semetal(am) 0.0 0.0

Pyrite 0.0 0.2 #0.3% pyrite, BD = 1.6, Porosity =0.2

EQUILIBRIUM\_PHASES 4 #pe = 2.0 Well 7-50 7-21-16

Fix\_pe -2.0 O2(g)

UO2(am) 0.0 0.0

Uraninite 0.0 0.0

Semetal(am) 0.0 0.0

Pyrite 0.0 0.2 #0.3% pyrite, BD = 1.6, Porosity =0.2

USE Solution 1

USE EQUILIBRIUM\_PHASES 1

END

USE Solution 1

USE EQUILIBRIUM\_PHASES 2

END

USE Solution 1

USE EQUILIBRIUM\_PHASES 3

END

USE Solution 1

USE EQUILIBRIUM\_PHASES 4

END