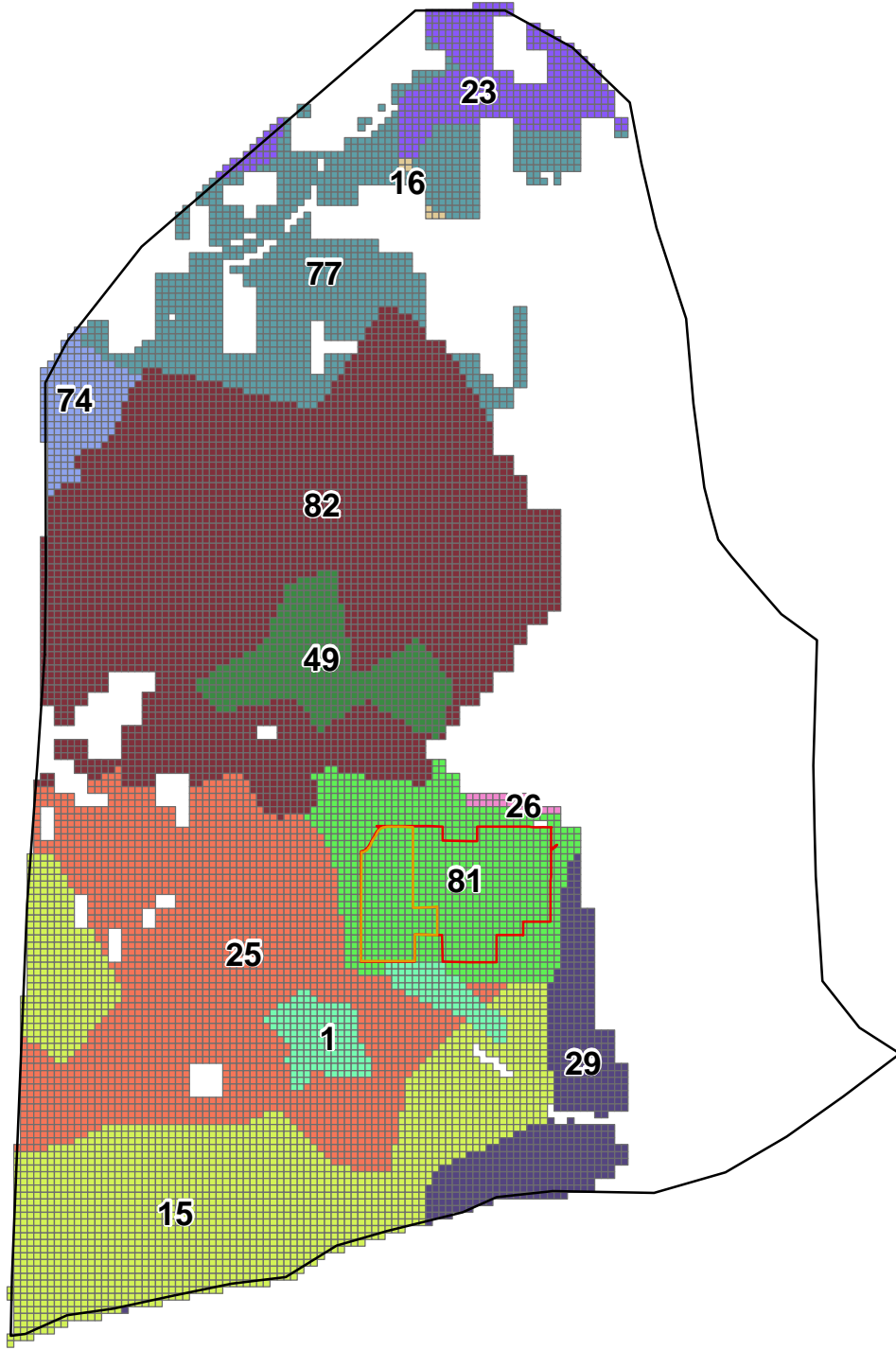


Appendix H

Optimized Hydraulic Conductivity Values

Table H-1
Optimized Model Hydraulic Conductivity Values

Zone	Horizontal K (m/day)	Vertical K (m/day)	Zone	Horizontal K (m/day)	Vertical K (m/day)	Zone	Horizontal K (m/day)	Vertical K (m/day)
1	7.89E-02	4.19E-02	239	2.68E+00	1.31E+00	402	1.15E-01	2.79E-03
15	8.50E+01	5.00E+01	240	2.74E+00	1.08E+00	417	2.73E-01	3.00E-05
16	1.91E+01	1.04E+00	241	2.68E+00	1.31E+00	420	1.25E-01	3.04E-03
20	8.50E+01	8.54E+00	244	2.68E+00	1.31E+00	424	1.25E-01	3.04E-03
21	2.85E+01	1.01E+00	245	3.64E+00	6.98E-01	425	1.25E-01	3.04E-03
23	1.51E+00	1.07E+00	247	1.00E+00	2.67E-01	426	1.25E-01	3.04E-03
25	8.50E+01	1.12E-03	248	1.00E+00	1.00E-02	427	1.25E-01	3.04E-03
26	8.33E+01	2.87E+01	251	2.74E+01	6.76E-01	429	1.27E-01	3.53E-04
29	8.50E+01	3.70E+01	252	1.00E+00	1.00E-02	431	1.39E-01	3.00E-05
30	1.17E+01	2.69E+00	253	2.01E+01	1.64E+00	432	1.39E-01	3.00E-05
34	1.00E-01	2.33E-02	254	3.66E+00	7.03E-01	433	9.48E-02	3.00E-05
35	2.17E+01	4.97E+00	255	1.20E+00	8.40E-01	434	9.10E-02	3.38E-04
45	1.41E+01	8.42E+00	256	1.00E+00	6.93E-01	435	1.39E-01	3.00E-05
49	2.24E-01	1.09E-01	257	2.25E+00	1.15E+00	437	1.39E-01	3.00E-05
53	3.97E+01	9.08E+00	258	1.00E+00	1.00E-02	500	3.00E+01	3.64E-04
56	3.69E+01	8.43E+00	259	3.34E+01	7.09E-01	501	3.00E+01	3.64E-04
74	1.00E-01	3.23E-03	260	1.22E+00	4.16E-01	502	3.00E+01	3.64E-04
77	1.00E-01	2.33E-02	261	3.69E+00	6.84E-01	504	1.00E-01	1.81E-02
81	8.33E+01	2.87E+01	268	2.68E+00	1.31E+00	505	1.57E+00	2.77E-01
82	1.00E-01	3.23E-03	270	2.74E+00	1.08E+00	512	3.00E+01	1.44E-02
83	1.00E-01	7.04E-03	273	2.74E+00	1.86E+00	513	3.00E+01	3.00E+00
101	5.00E-01	1.24E-02	274	2.83E+00	1.70E+00	535	1.00E-01	1.81E-02
104	6.34E+00	5.00E-04	307	4.34E+01	1.12E+01	538	1.00E-01	1.81E-02
108	7.36E+00	4.39E-02	309	1.89E+01	4.11E-01	601	1.37E-01	4.89E-02
109	1.22E+00	4.39E-02	320	2.24E+01	5.89E+00	603	2.94E-01	1.03E-01
110	1.24E+00	4.39E-02	321	1.91E+01	2.92E-01	618	2.94E-01	1.03E-01
111	1.19E+00	4.39E-02	322	1.91E+01	2.92E-01	620	1.37E-01	4.89E-02
112	6.34E+00	5.00E-04	325	3.73E+01	3.00E-01	622	2.94E-01	1.03E-01
113	1.12E+00	4.39E-02	330	7.32E+00	9.90E-01	701	6.06E-03	2.68E-06
114	6.34E+00	5.00E-04	332	7.32E+00	9.90E-01	711	6.06E-03	2.68E-06
115	1.10E+00	4.39E-02	334	8.46E+00	5.46E-02	716	6.66E-03	6.49E-04
133	1.63E+00	5.00E-04	335	7.32E+00	9.90E-01	723	6.66E-03	6.49E-04
134	8.32E-01	4.39E-02	339	3.00E+00	8.45E-02	724	6.66E-03	6.49E-04
137	1.63E+00	5.00E-04	340	2.91E+01	3.00E-02	733	6.06E-03	2.68E-06
138	7.69E-01	5.00E-04	342	1.66E+01	7.24E-02	734	6.65E-03	4.80E-06
139	7.02E+00	4.39E-02	343	6.17E+00	3.99E-02	735	6.66E-03	6.49E-04
140	1.30E+00	1.10E-02	344	3.02E+01	1.09E+01	812	3.35E+00	6.20E-02
141	9.66E+00	5.00E-04	345	5.00E+01	9.91E+00	818	3.35E+00	6.20E-02
142	5.83E-01	5.00E-04	346	1.86E+01	4.01E-01	819	3.35E+00	6.20E-02
143	1.01E+00	4.39E-02	347	3.05E+01	1.09E+01	823	1.45E+00	1.00E-01
144	8.79E-01	4.39E-02	352	7.32E+00	9.90E-01	824	8.79E-01	7.55E-02
201	1.00E+00	2.40E-01	358	1.44E+01	1.96E+00	825	3.35E+00	6.20E-02
206	2.74E+00	1.86E+00	359	6.79E+00	4.26E-01	827	1.45E+00	1.00E-01
225	1.02E+01	6.06E-01	360	1.27E+01	2.23E-01			
238	2.74E+00	1.08E+00	401	1.17E-01	3.06E-03			



Inactive model cells not shown

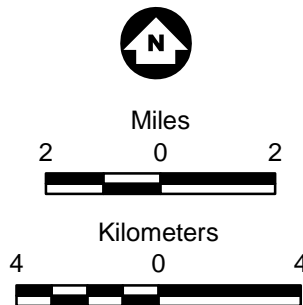
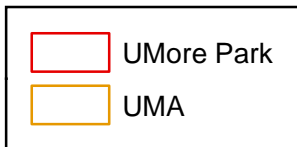
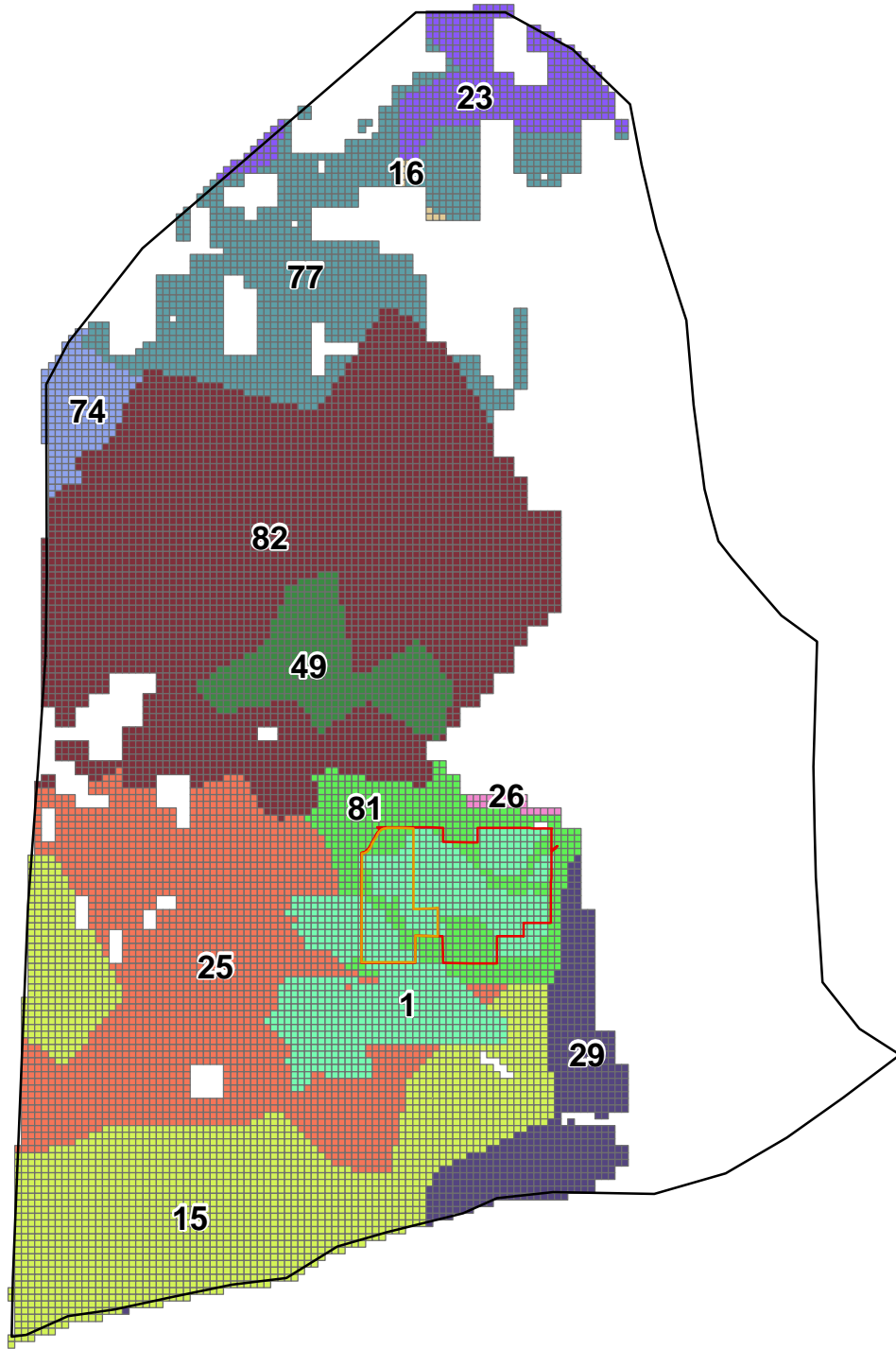


Figure H-1

Hydraulic Conductivity Zones
Layer 1
Quaternary

UMore Mining Area
Groundwater Assessment
Dakota County, MN



Inactive model cells not shown

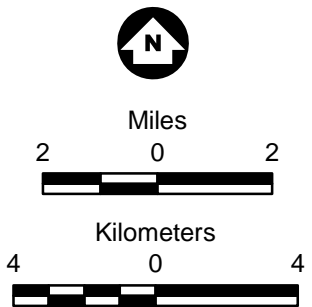
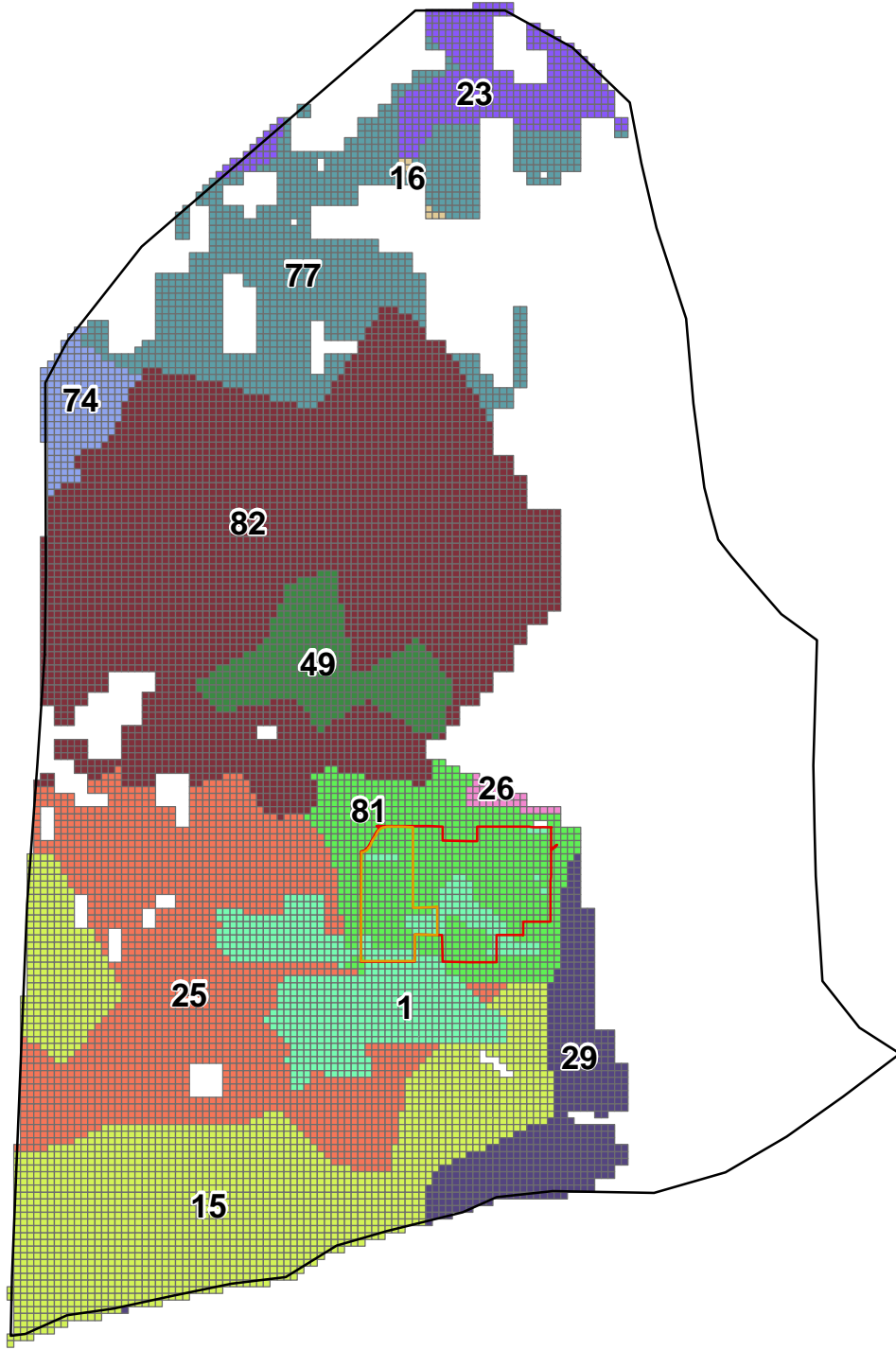


Figure H-2

Hydraulic Conductivity Zones
Layer 2
Quaternary

UMore Mining Area
Groundwater Assessment
Dakota County, MN



Inactive model cells not shown

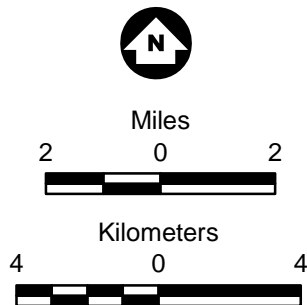
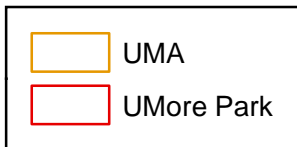
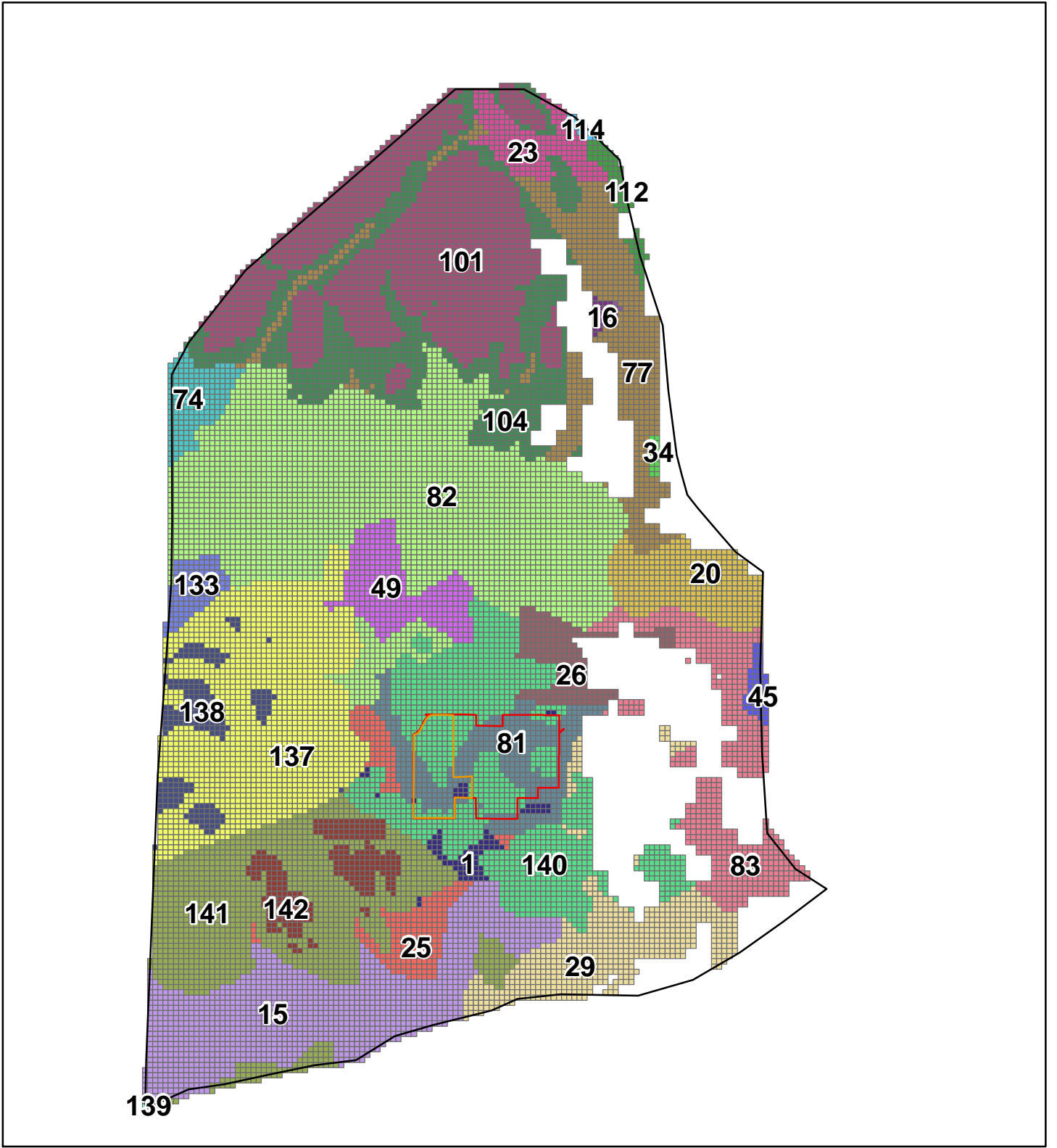


Figure H-3

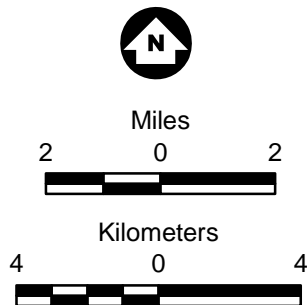
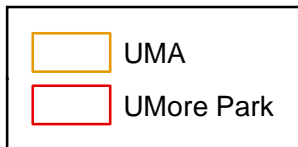
Hydraulic Conductivity Zones
Layer 3
Quaternary

Umore Mining Area
Groundwater Assessment
Dakota County, MN



Inactive model cells not shown

Figure H-4



Hydraulic Conductivity Zones
Layer 4
Quaternary & St. Peter Sandstone
(where present)

Umore Mining Area
Groundwater Assessment
Dakota County, MN
UMP005413

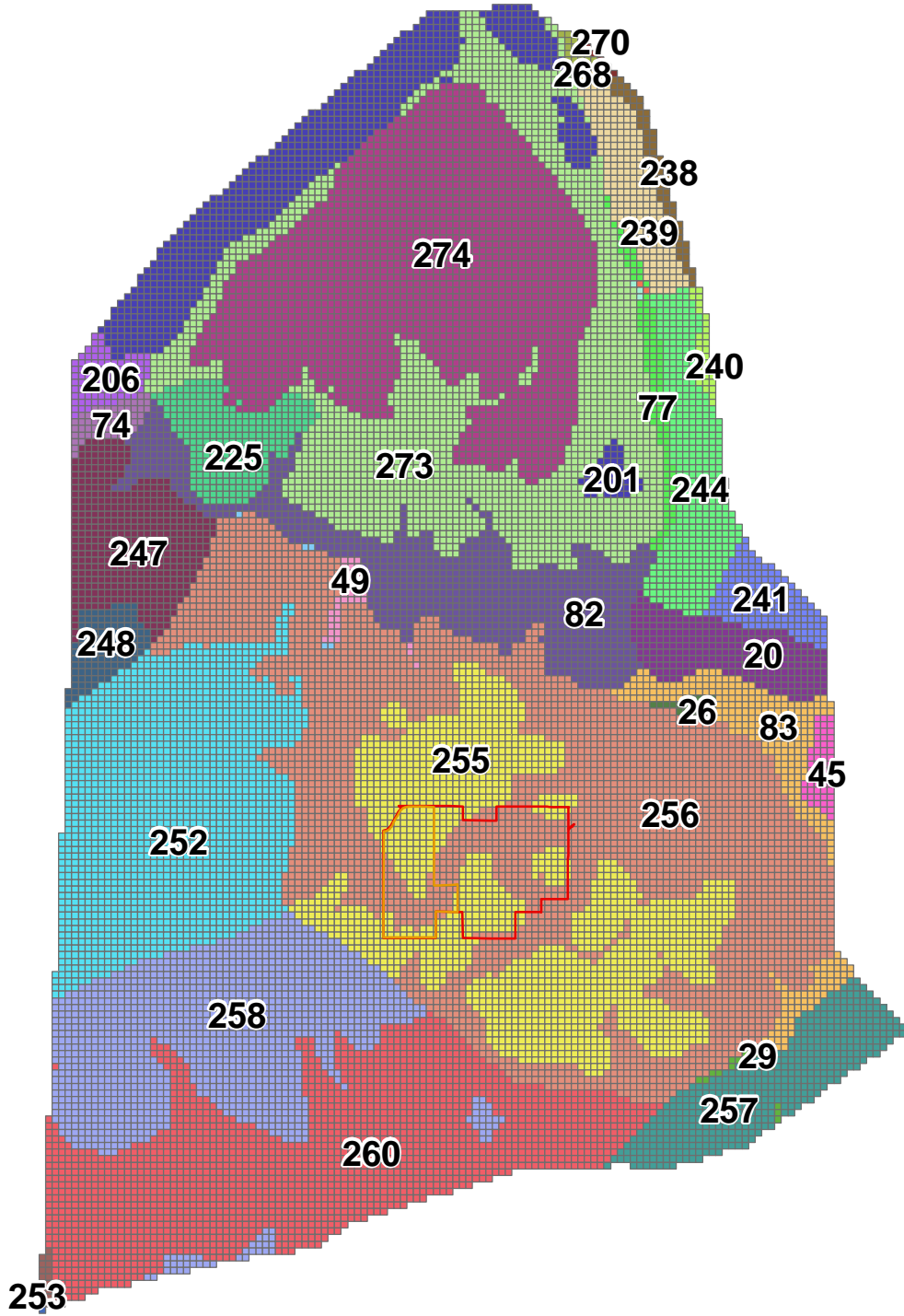
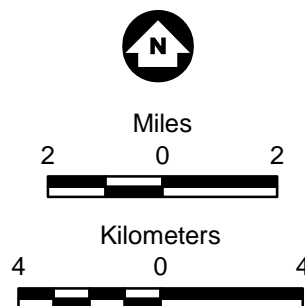
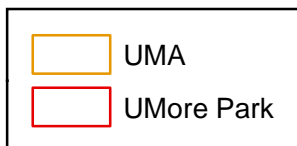


Figure H-5

Hydraulic Conductivity Zones
Layer 5
Prairie du Chien Group
(where present)

UMore Mining Area
Groundwater Assessment
Dakota County, MN
UMP005414



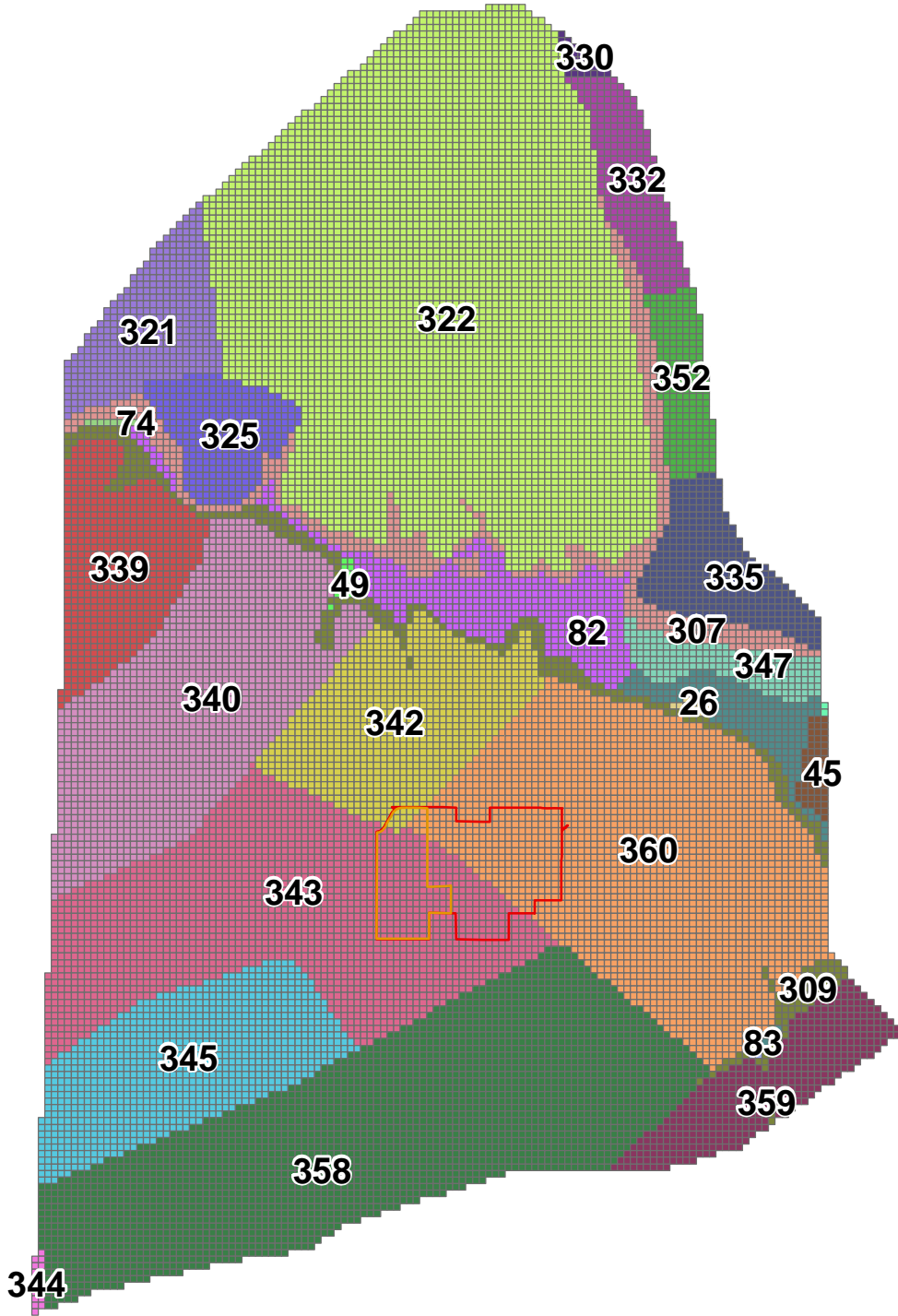
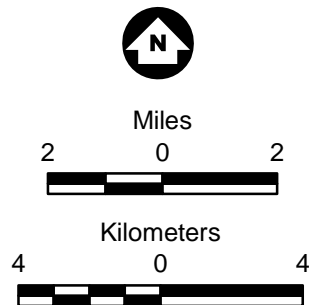
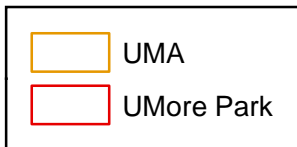


Figure H-6

Hydraulic Conductivity Zones
Layer 6
Jordan Sandstone
(where present)

UMore Mining Area
Groundwater Assessment
Dakota County, MN
UMP005415



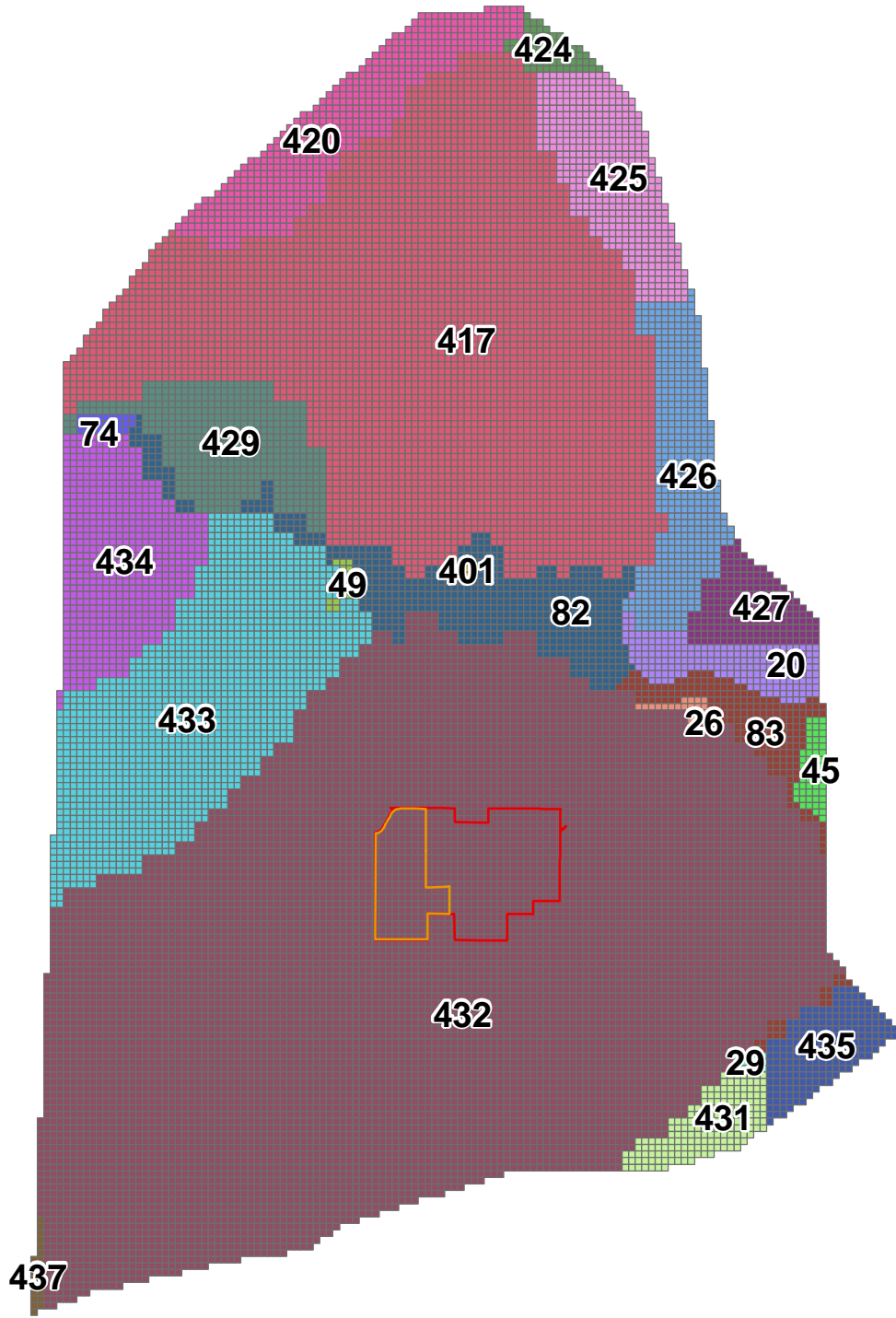
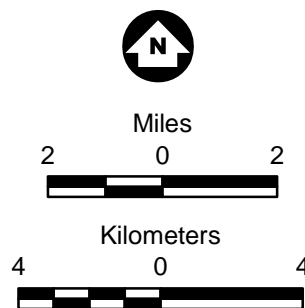
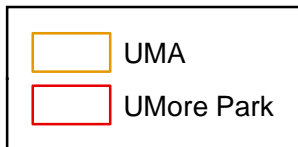


Figure H-7

Hydraulic Conductivity Zones
Layer 7
St. Lawrence Formation
(where present)

Umore Mining Area
Groundwater Assessment
Dakota County, MN
UMP005416



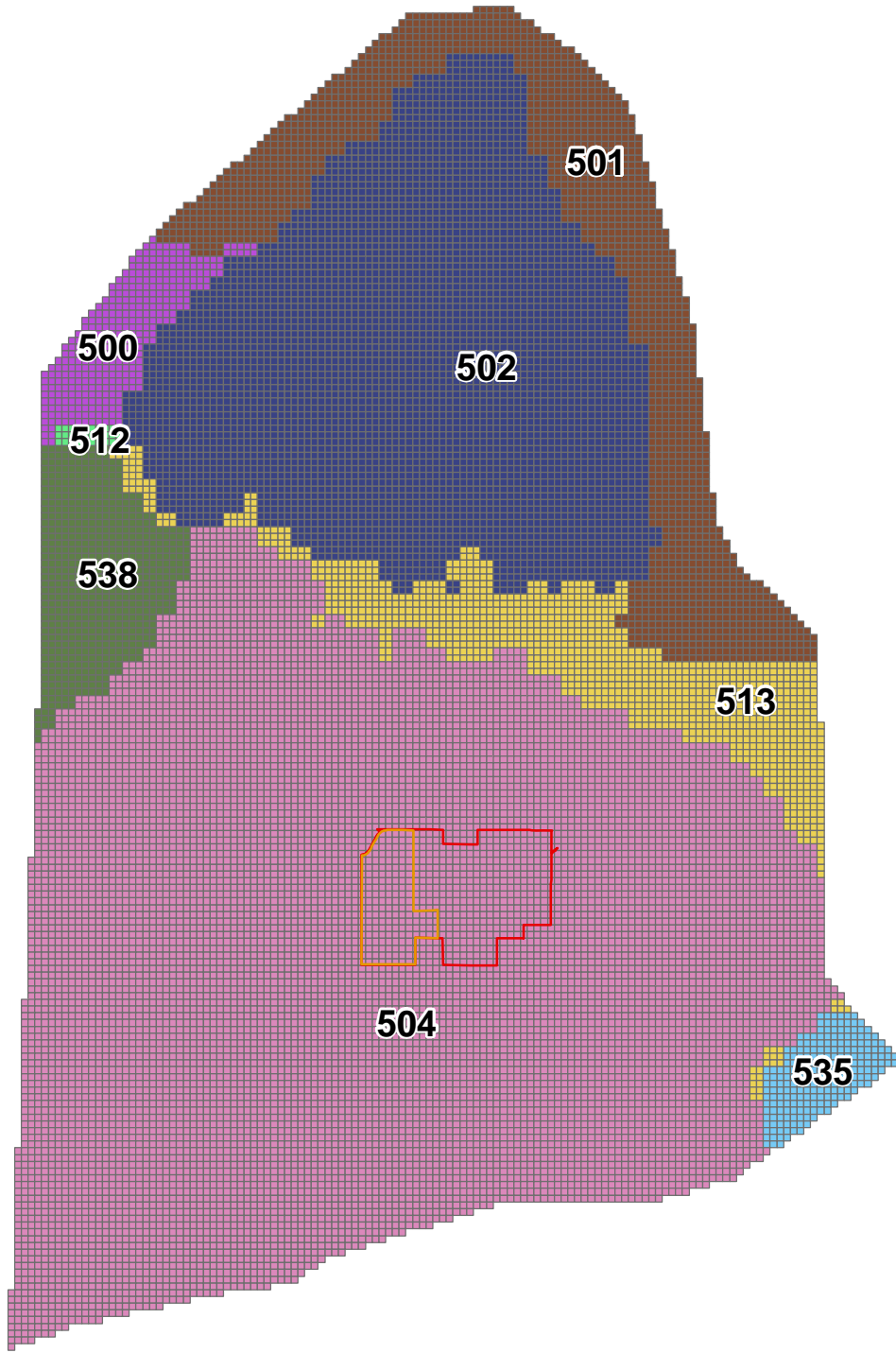
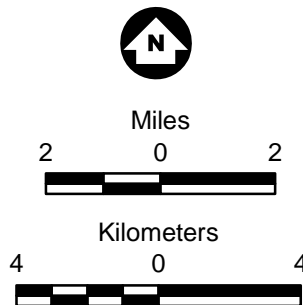
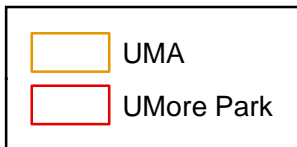


Figure H-8

Hydraulic Conductivity Zones
Layer 8
Franconia Formation

UMore Mining Area
Groundwater Assessment
Dakota County, MN



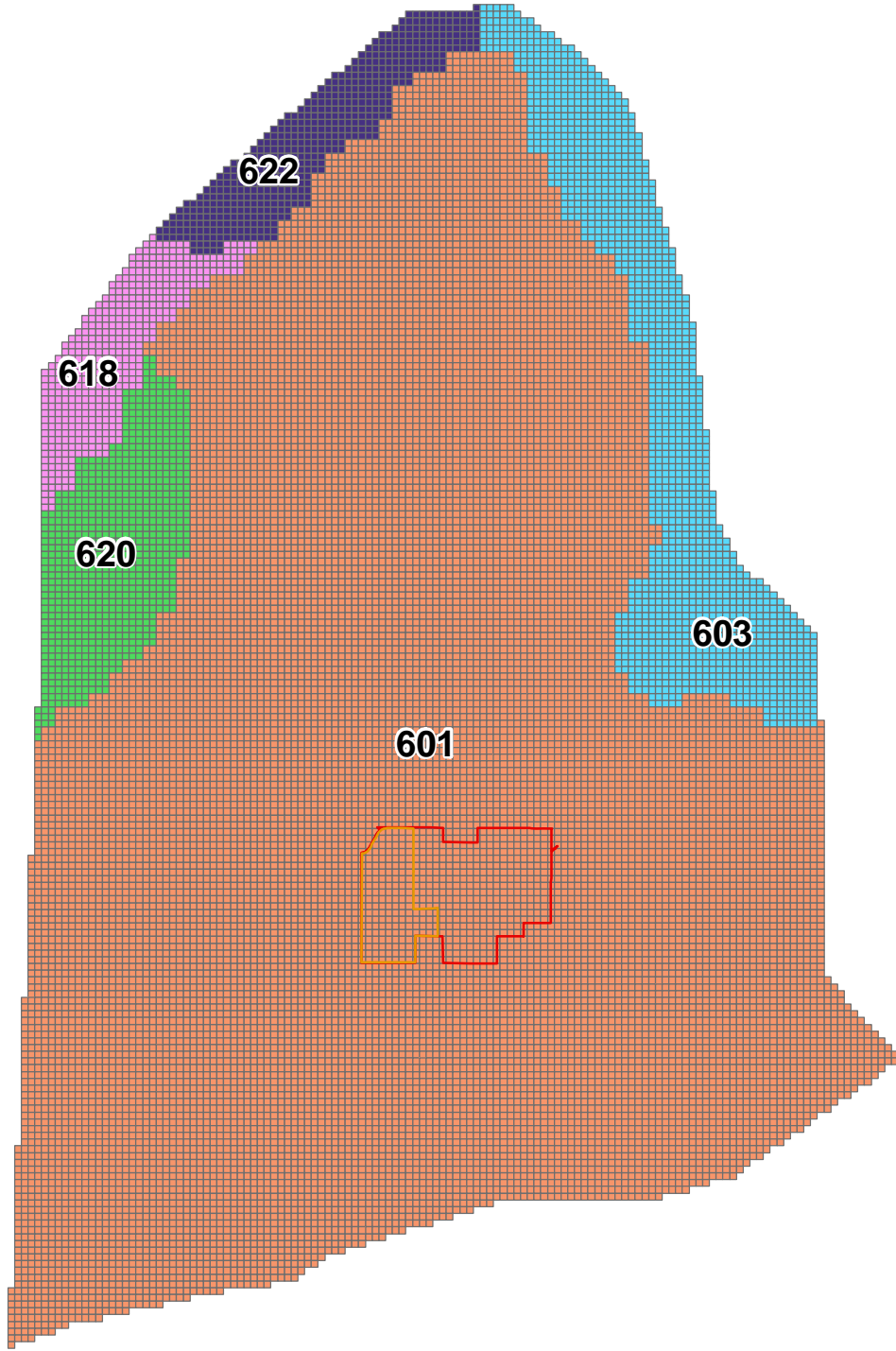
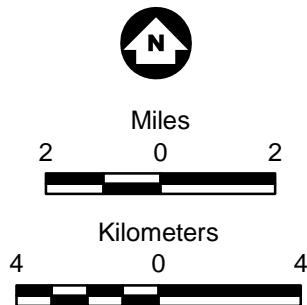
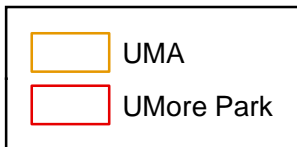


Figure H-9

Hydraulic Conductivity Zones
Layer 9
Iron-ton & Galesville Sandstone

UMore Mining Area
Groundwater Assessment
Dakota County, MN



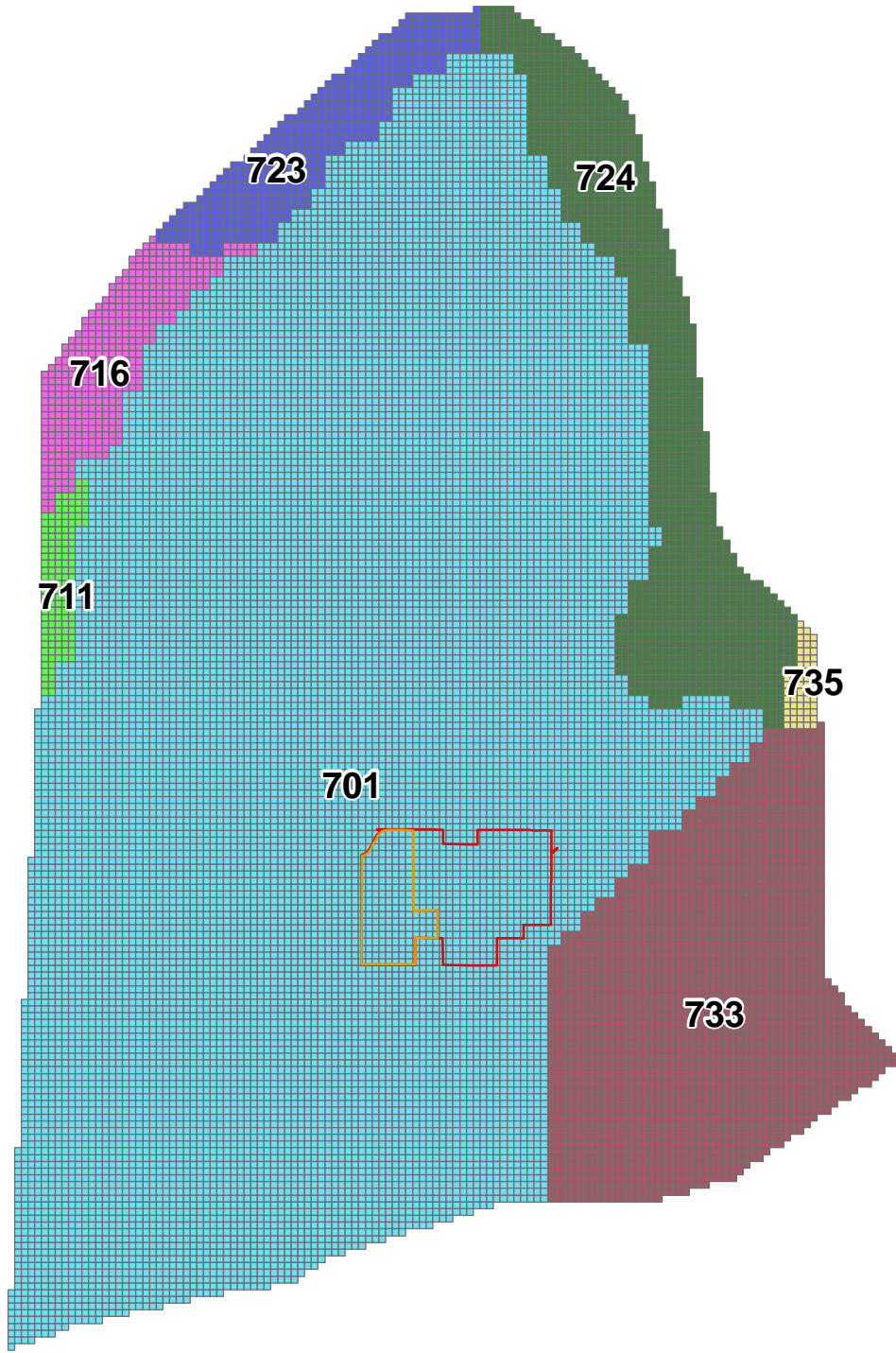
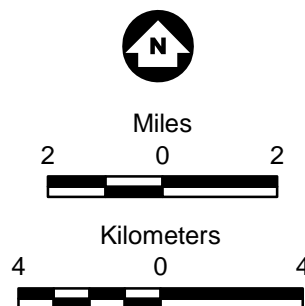
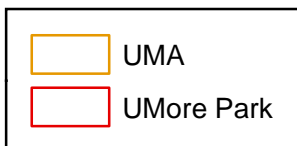


Figure H-10

Hydraulic Conductivity Zones
Layer 10
Eau Claire Formation

UMore Mining Area
Groundwater Assessment
Dakota County, MN



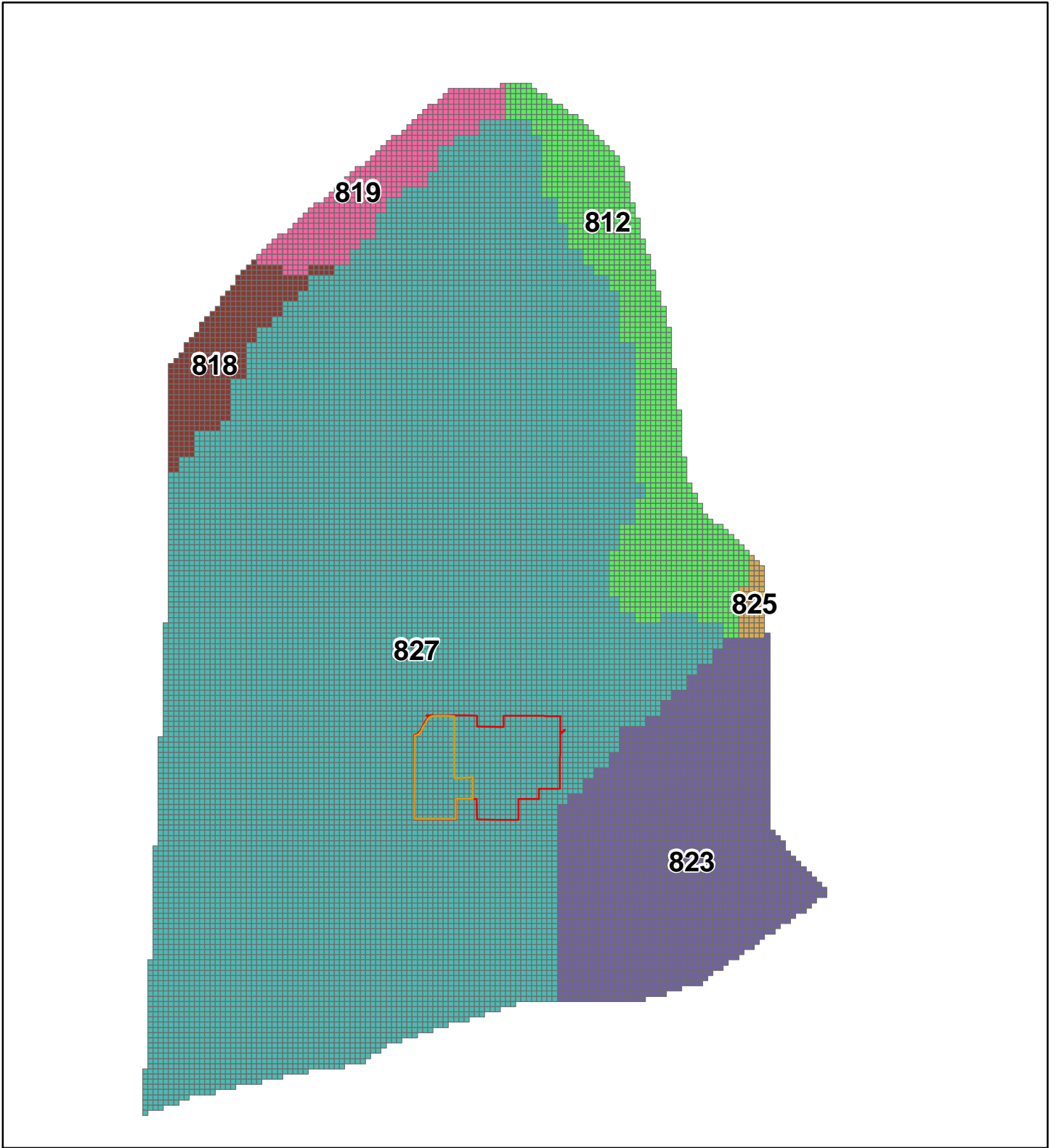
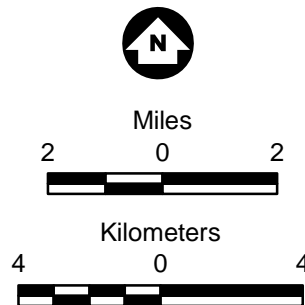
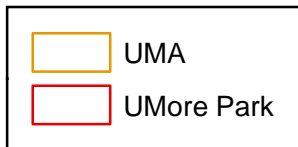
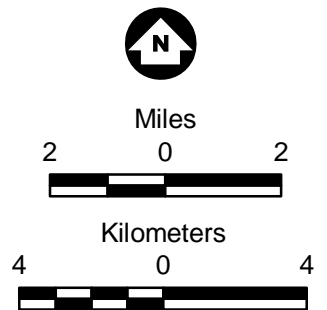
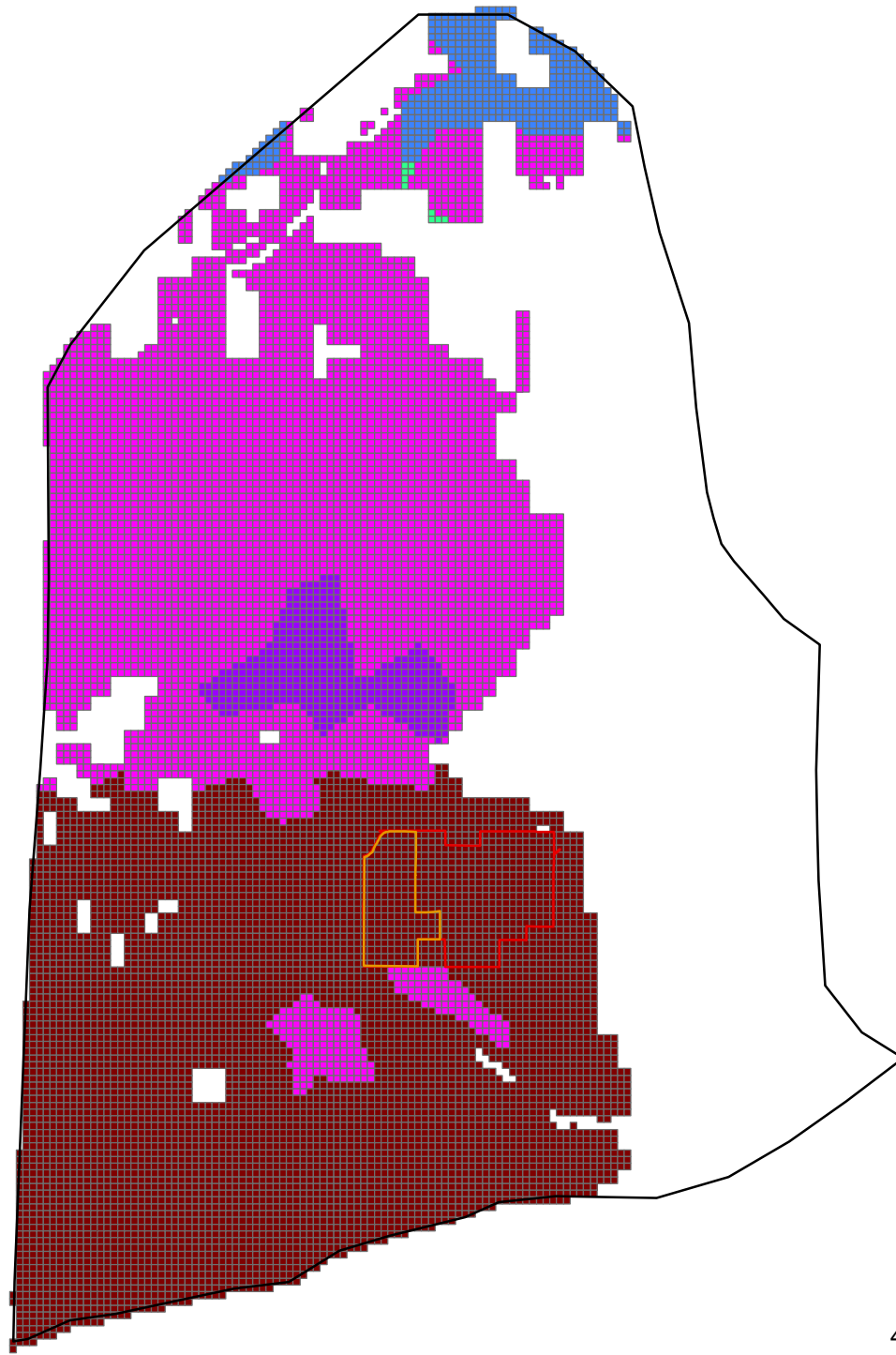


Figure H-11

Hydraulic Conductivity Zones
Layer 11
Mt. Simon Sandstone

UMore Mining Area
Groundwater Assessment
Dakota County, MN





Inactive model cells not shown

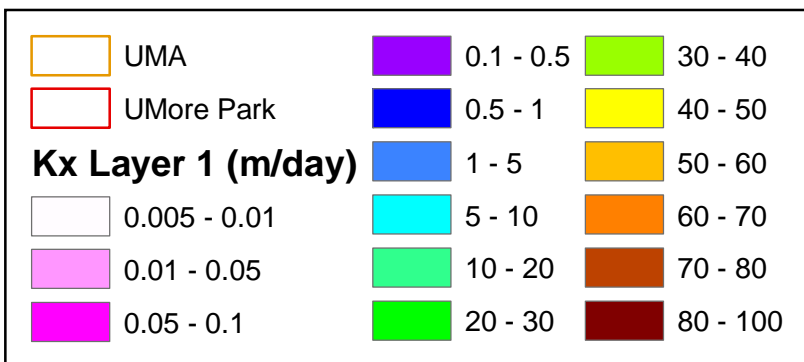
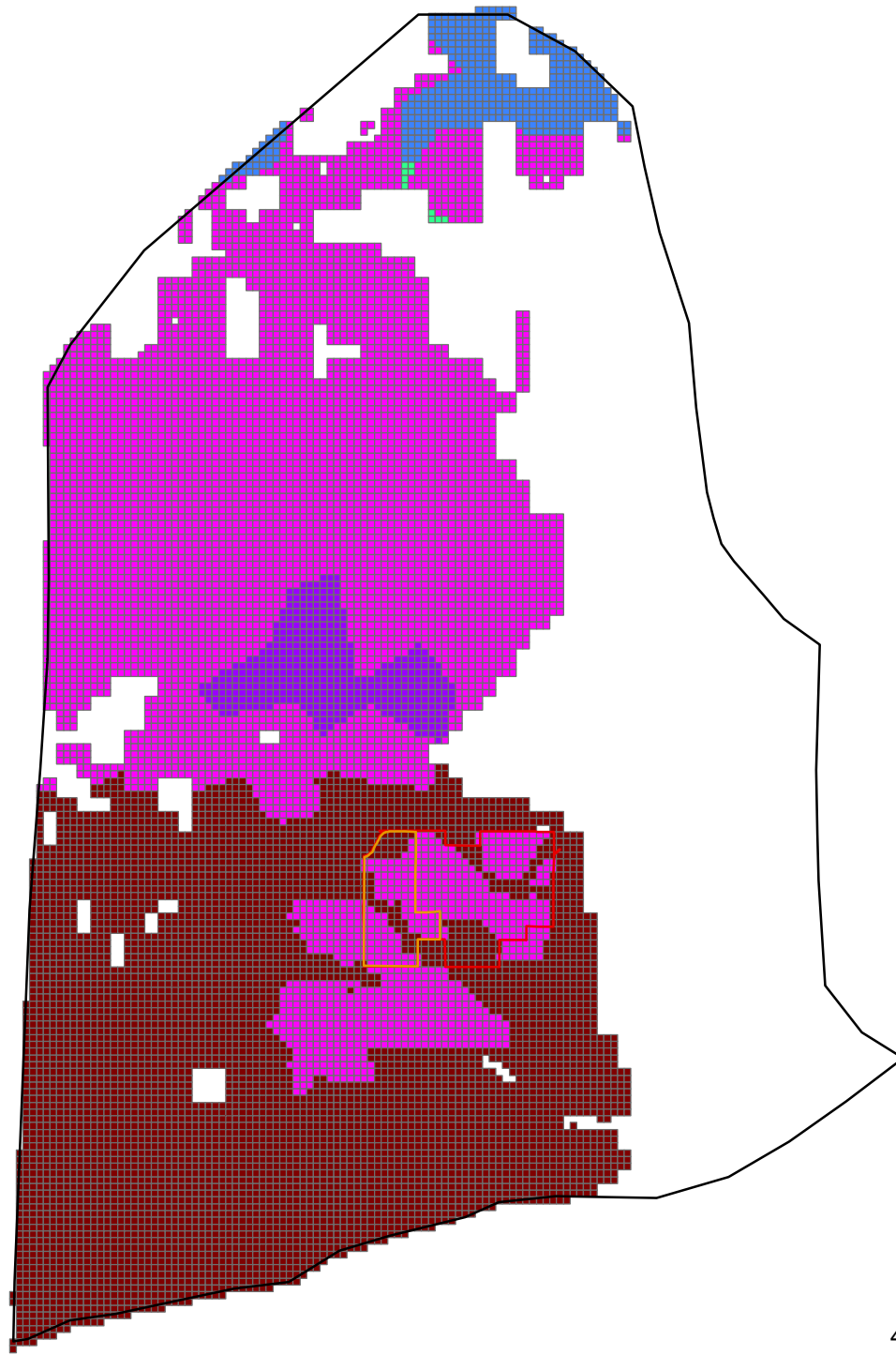


Figure H-12

Model Hydraulic Conductivity
Layer 1
Quaternary

UMore Mining Area
Groundwater Assessment
Dakota County, MN



Inactive model cells not shown

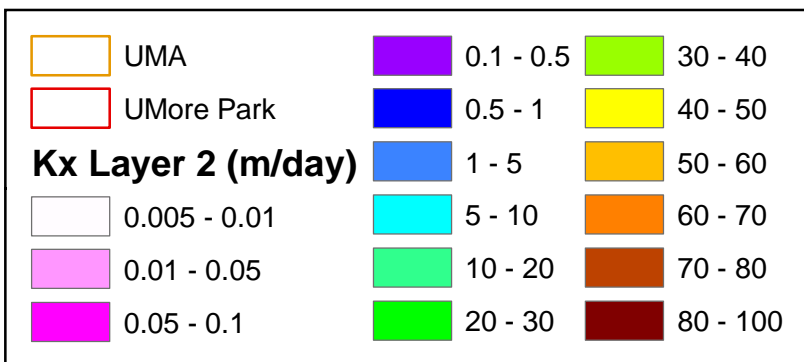
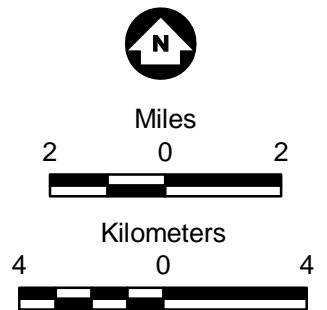
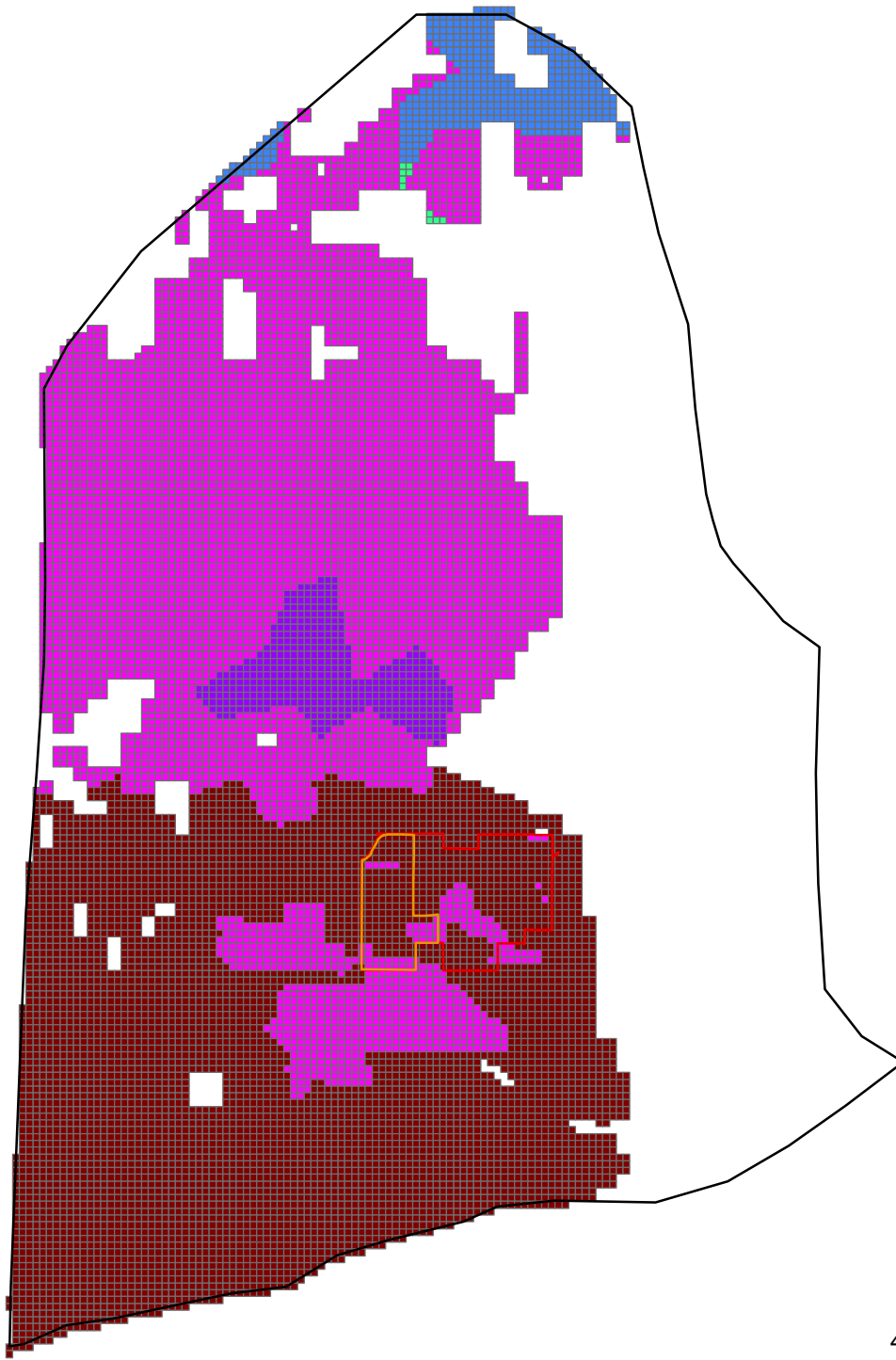


Figure H-13

Model Hydraulic Conductivity
Layer 2
Quaternary

UMore Mining Area
Groundwater Assessment
Dakota County, MN



Inactive model cells not shown

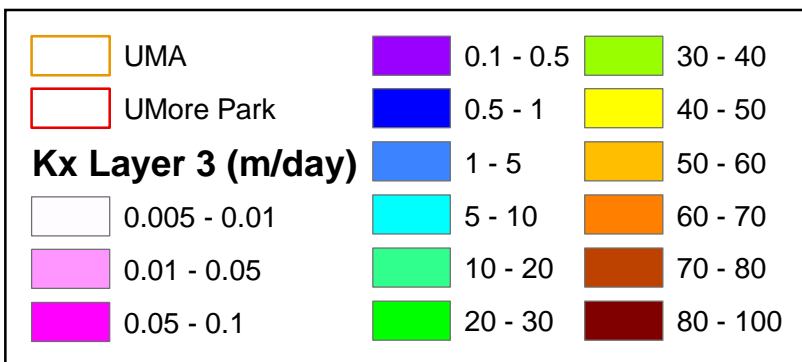
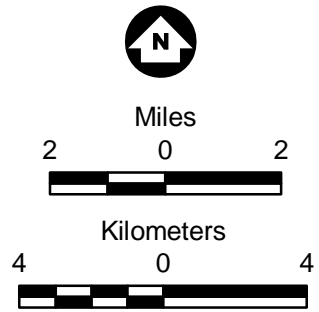
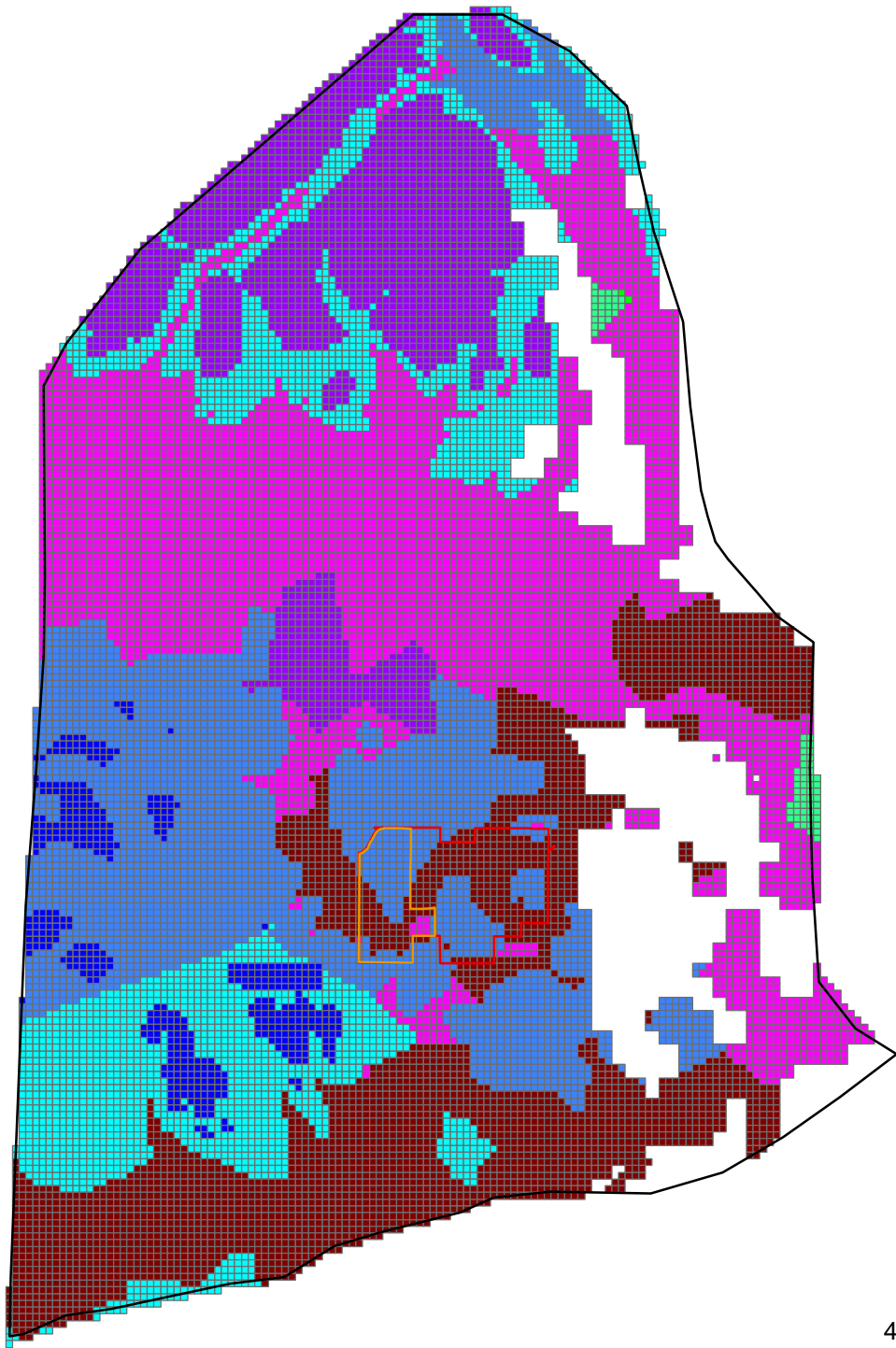


Figure H-14

Model Hydraulic Conductivity
Layer 3
Quaternary

UMore Mining Area
Groundwater Assessment
Dakota County, MN



Inactive model cells not shown

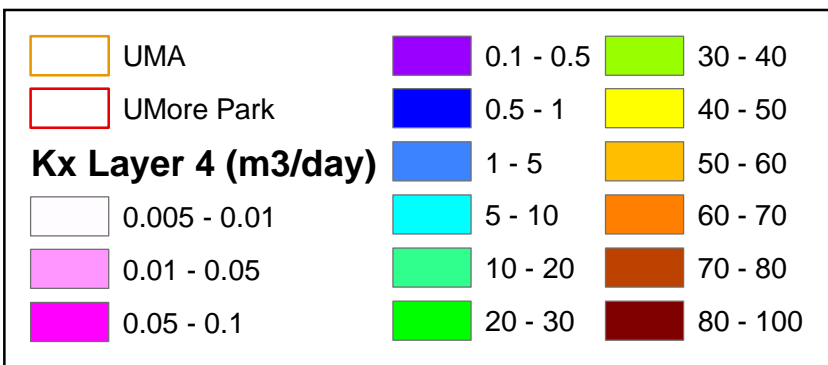
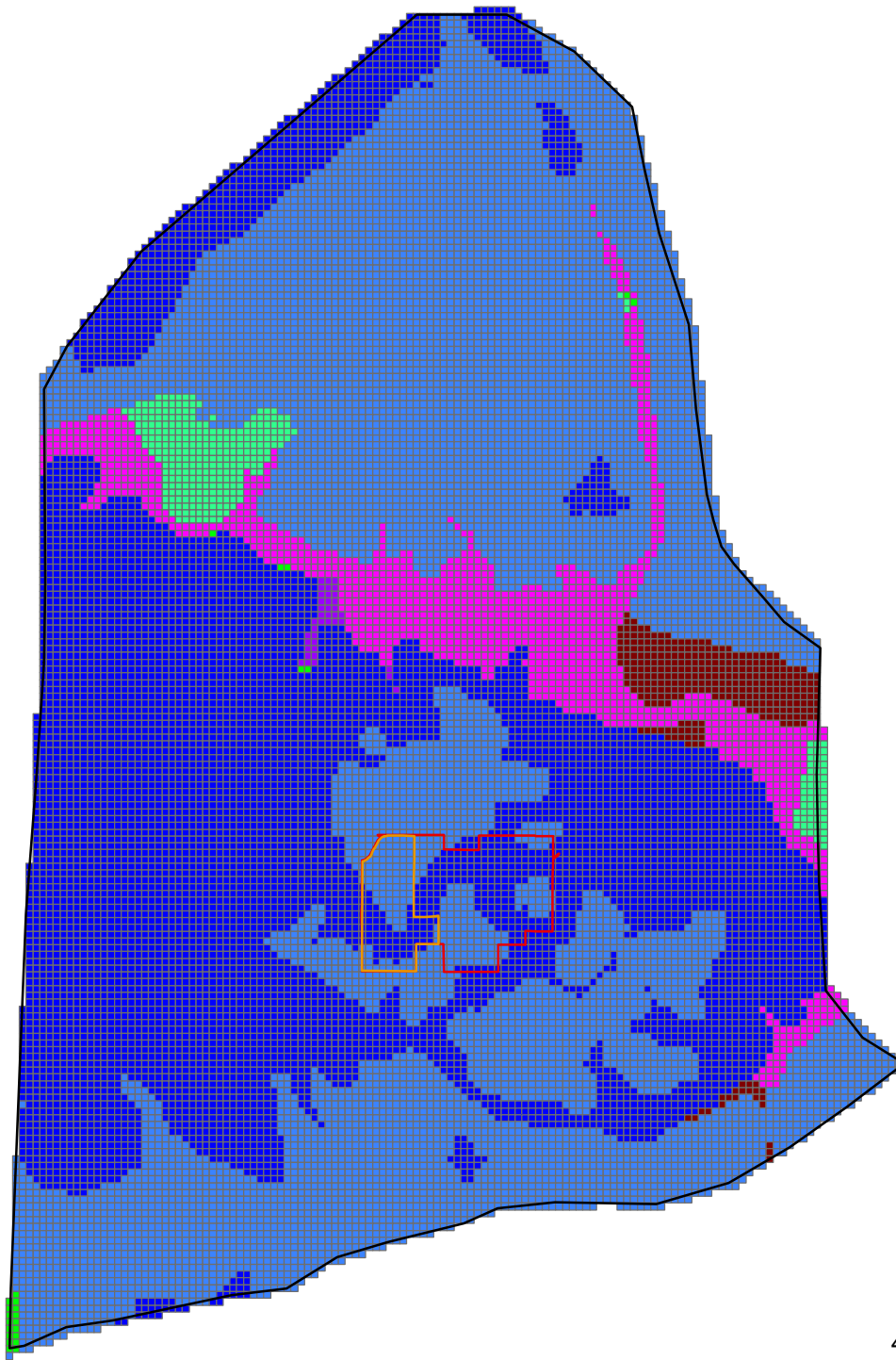


Figure H-15

Model Hydraulic Conductivity
Layer 4
Quaternary & St. Peter Sandstone
(where present)

UMore Mining Area
Groundwater Assessment
Dakota County, MN



Inactive model cells not shown

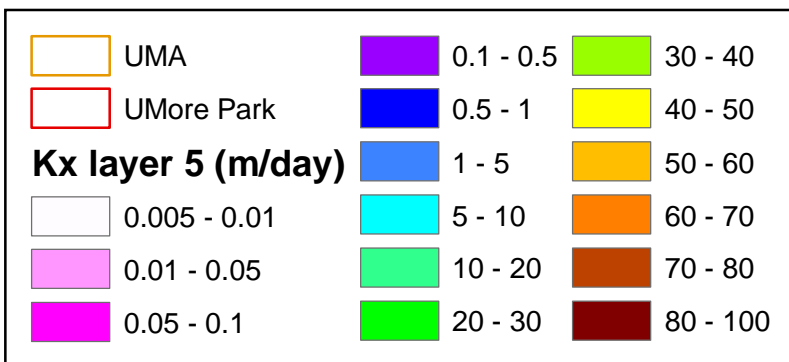


Figure H-16

Model Hydraulic Conductivity
Layer 5
Prairie du Chien Group
(where present)

UMore Mining Area
Groundwater Assessment
Dakota County, MN

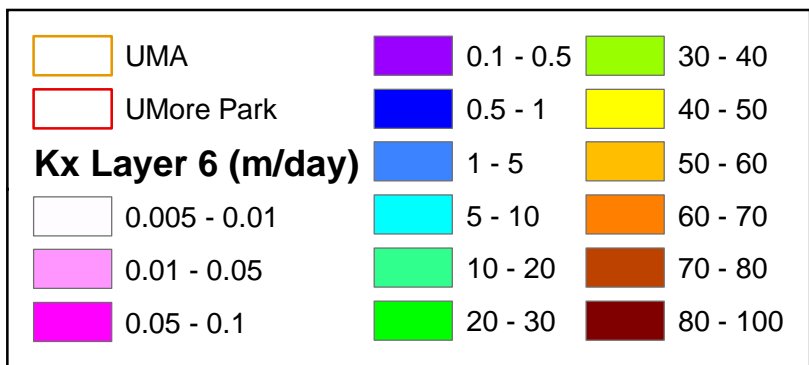
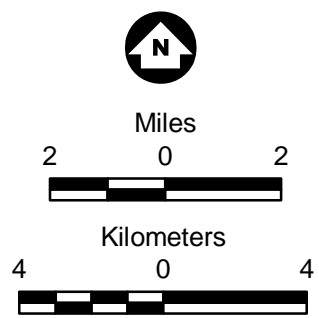
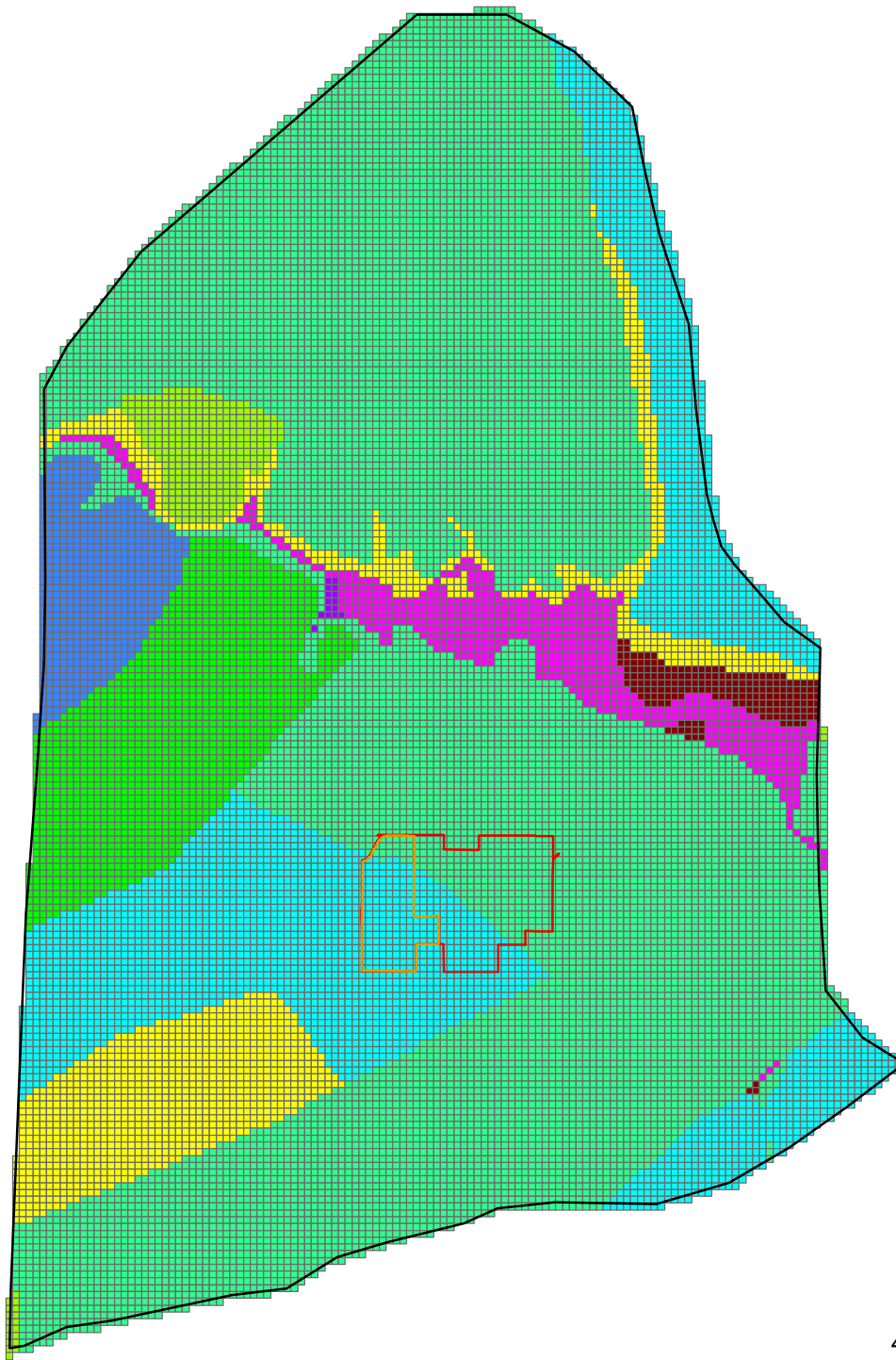


Figure H-17
 Model Hydraulic Conductivity
 Layer 6
 Jordan Sandstone
 (where present)
 UMore Mining Area
 Groundwater Assessment
 Dakota County, MN
 UMP005426

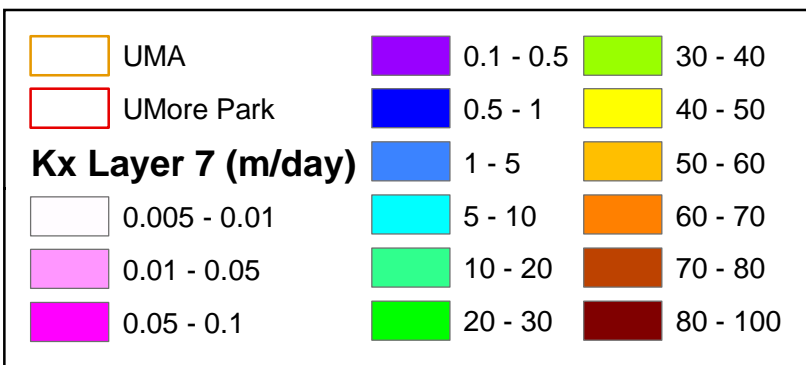
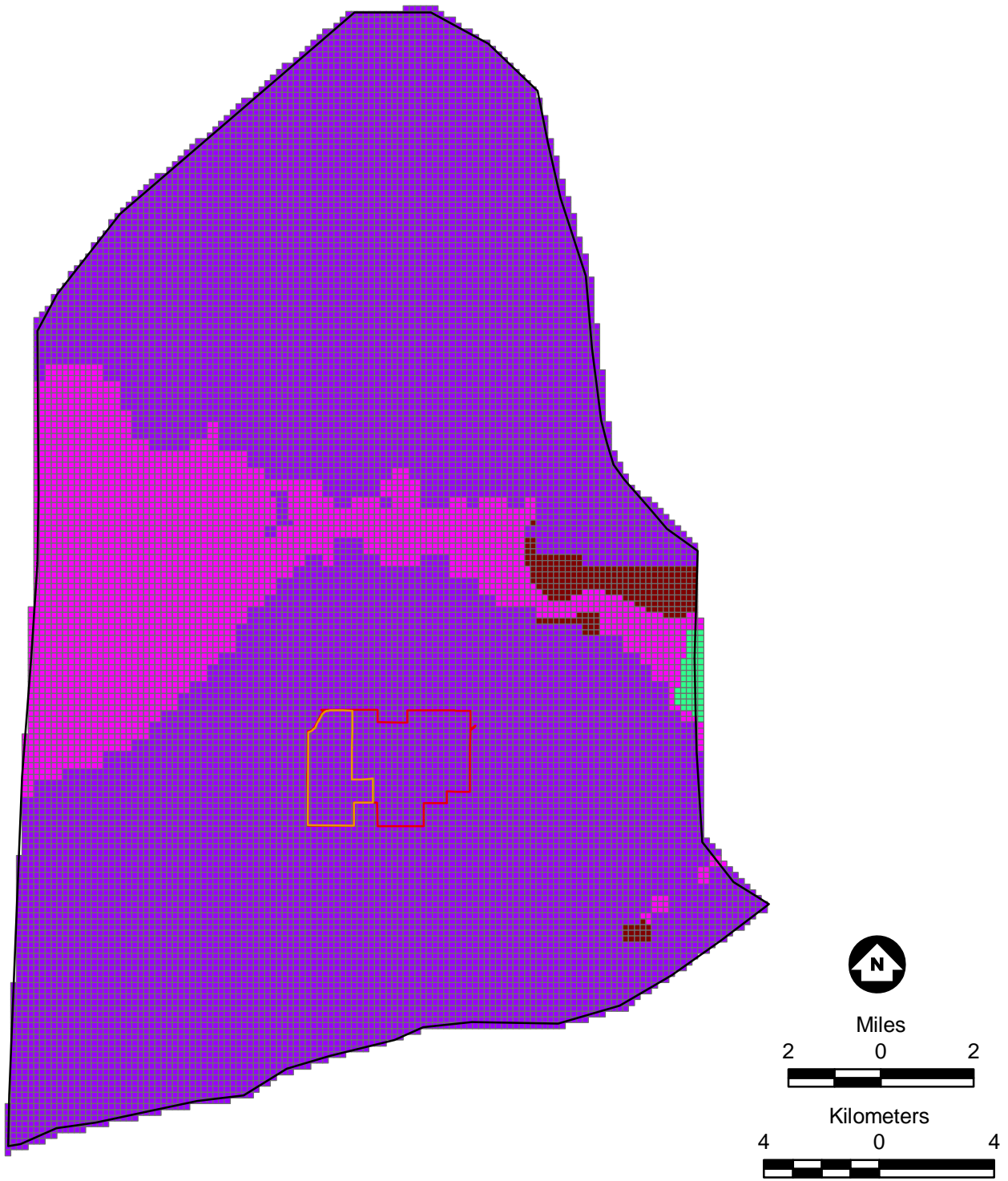


Figure H-18

Model Hydraulic Conductivity
 Layer 7
 St. Lawrence Formation
 (where present)

UMore Mining Area
 Groundwater Assessment
 Dakota County, MN
 UMP005427

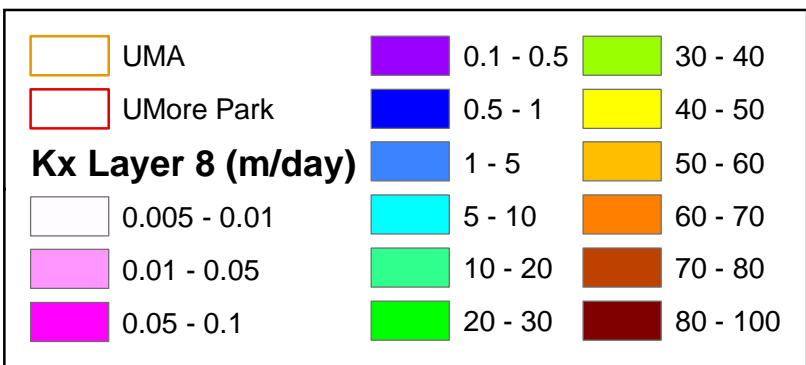
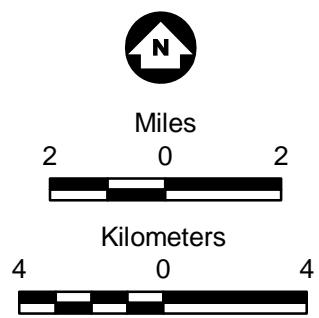
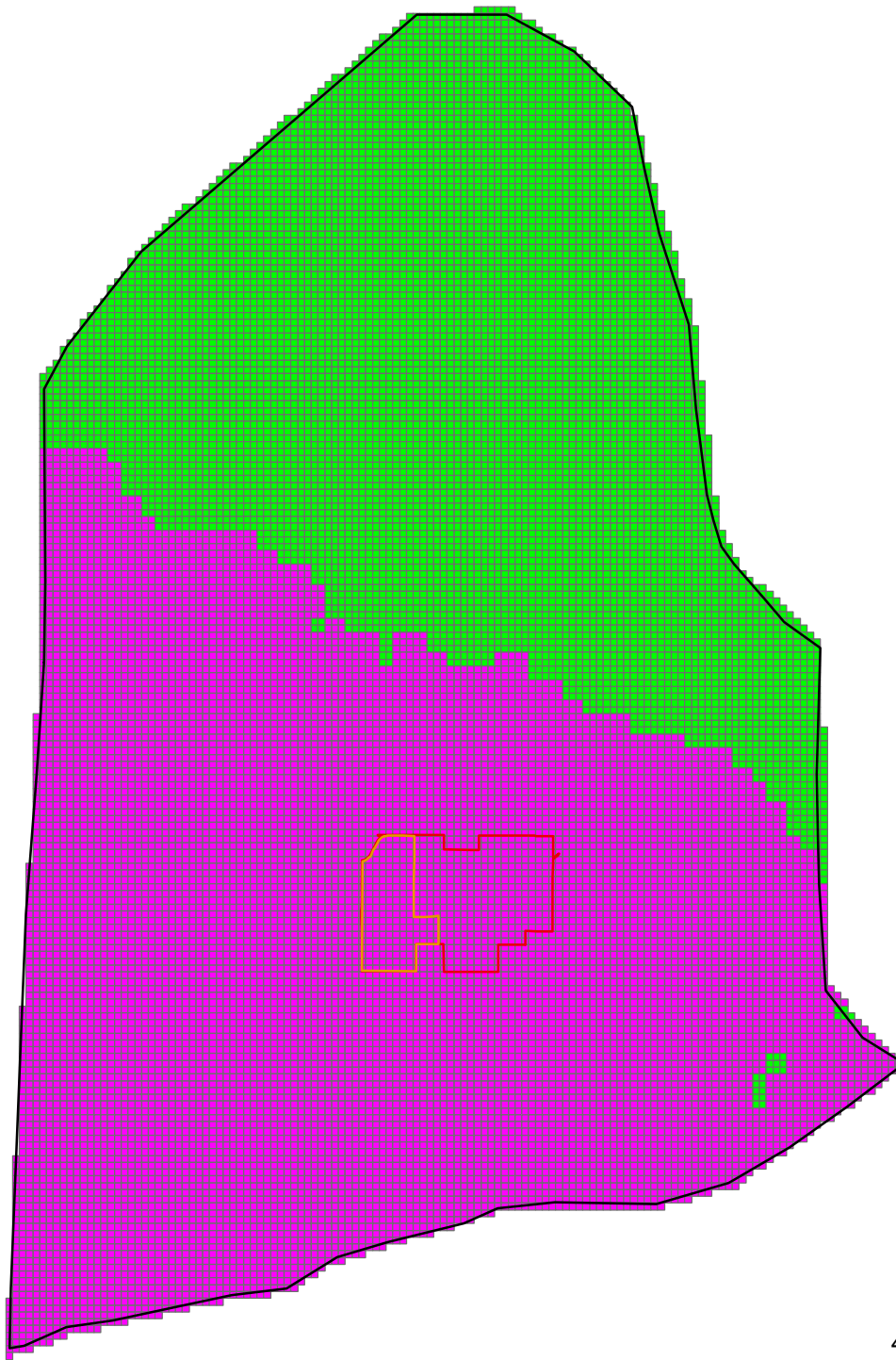


Figure H-19
 Model Hydraulic Conductivity
 Layer 8
 Franconia Formation
 UMore Mining Area
 Groundwater Assessment
 Dakota County, MN

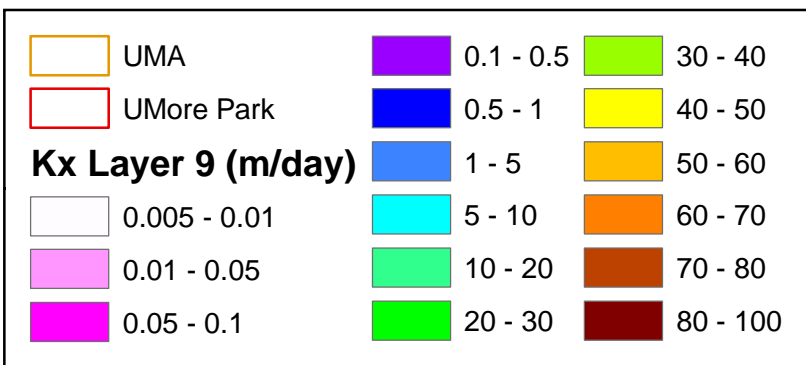
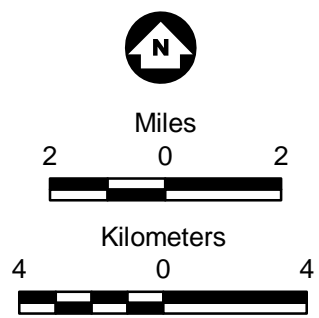
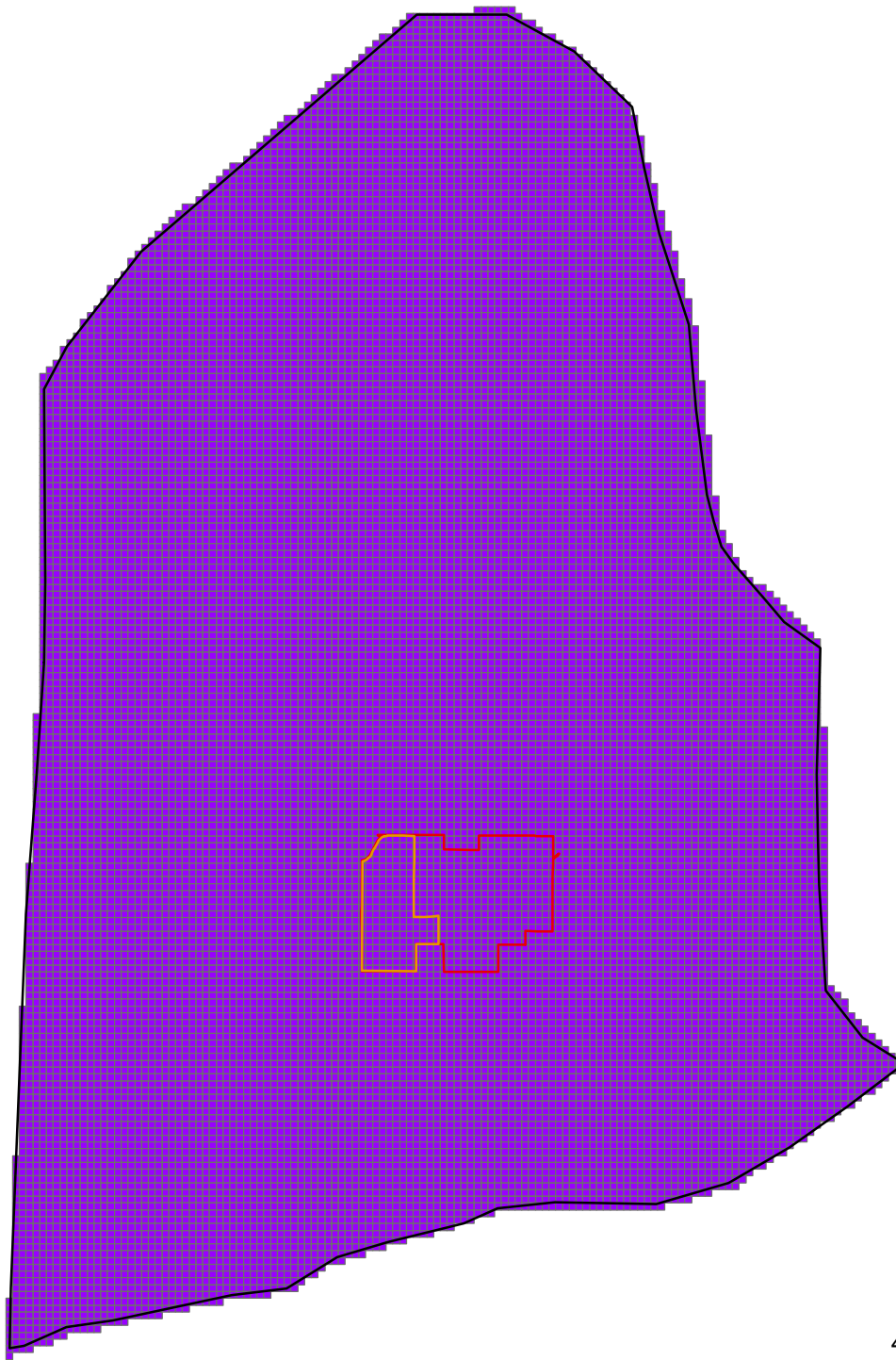


Figure H-20
 Model Hydraulic Conductivity
 Layer 9
 Ironton & Galesville Sandstone
 Umore Mining Area
 Groundwater Assessment
 Dakota County, MN

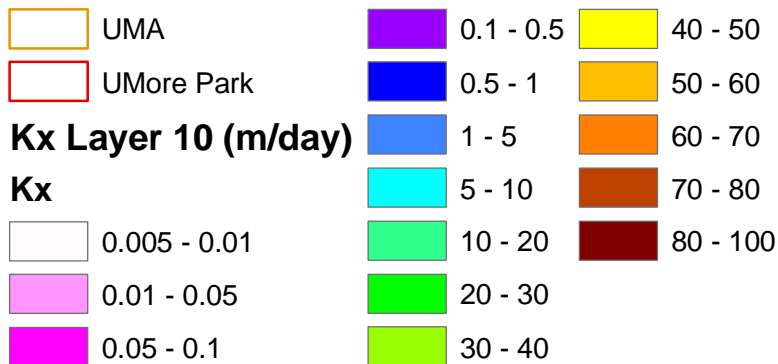
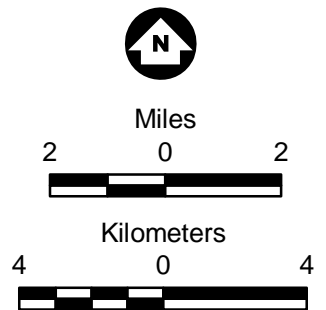
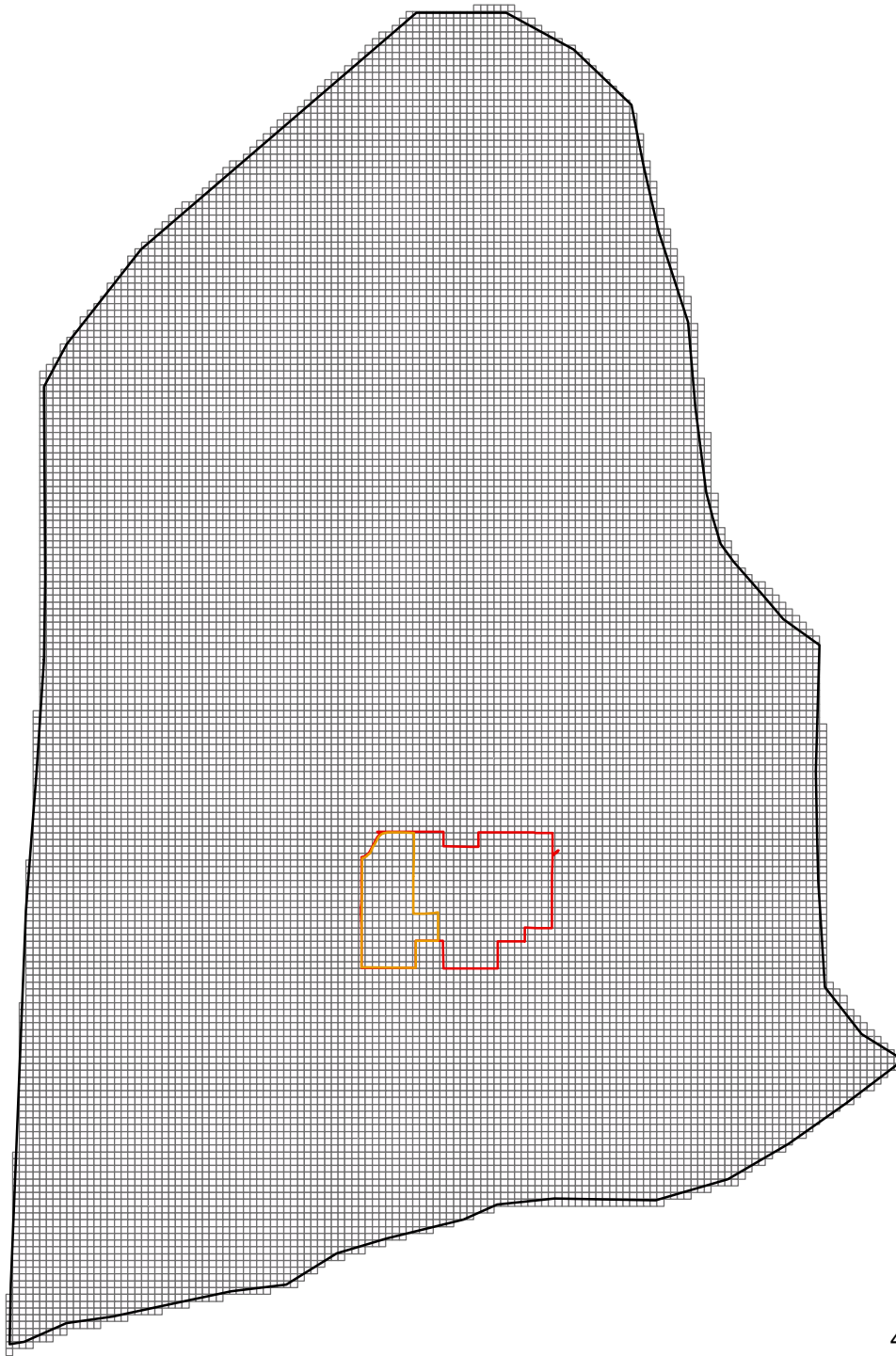


Figure H-21

Model Hydraulic Conductivity
Layer 10
Eau Claire Formation

UMore Mining Area
Groundwater Assessment
Dakota County, MN

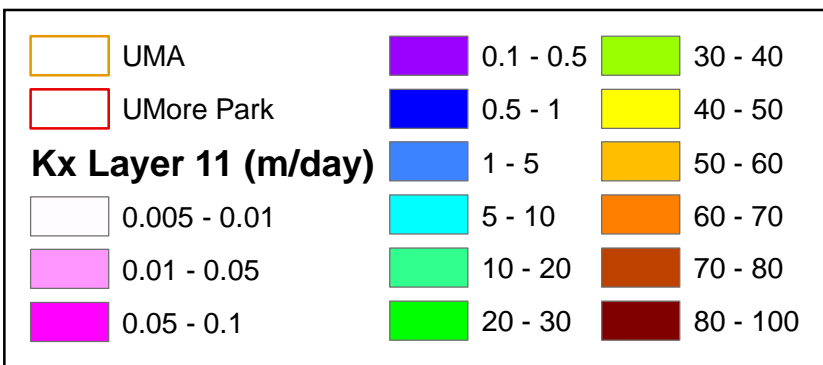
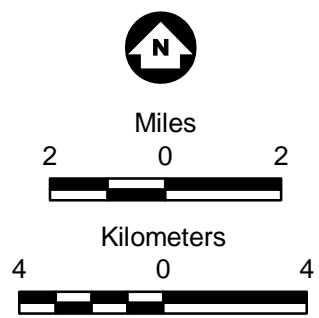
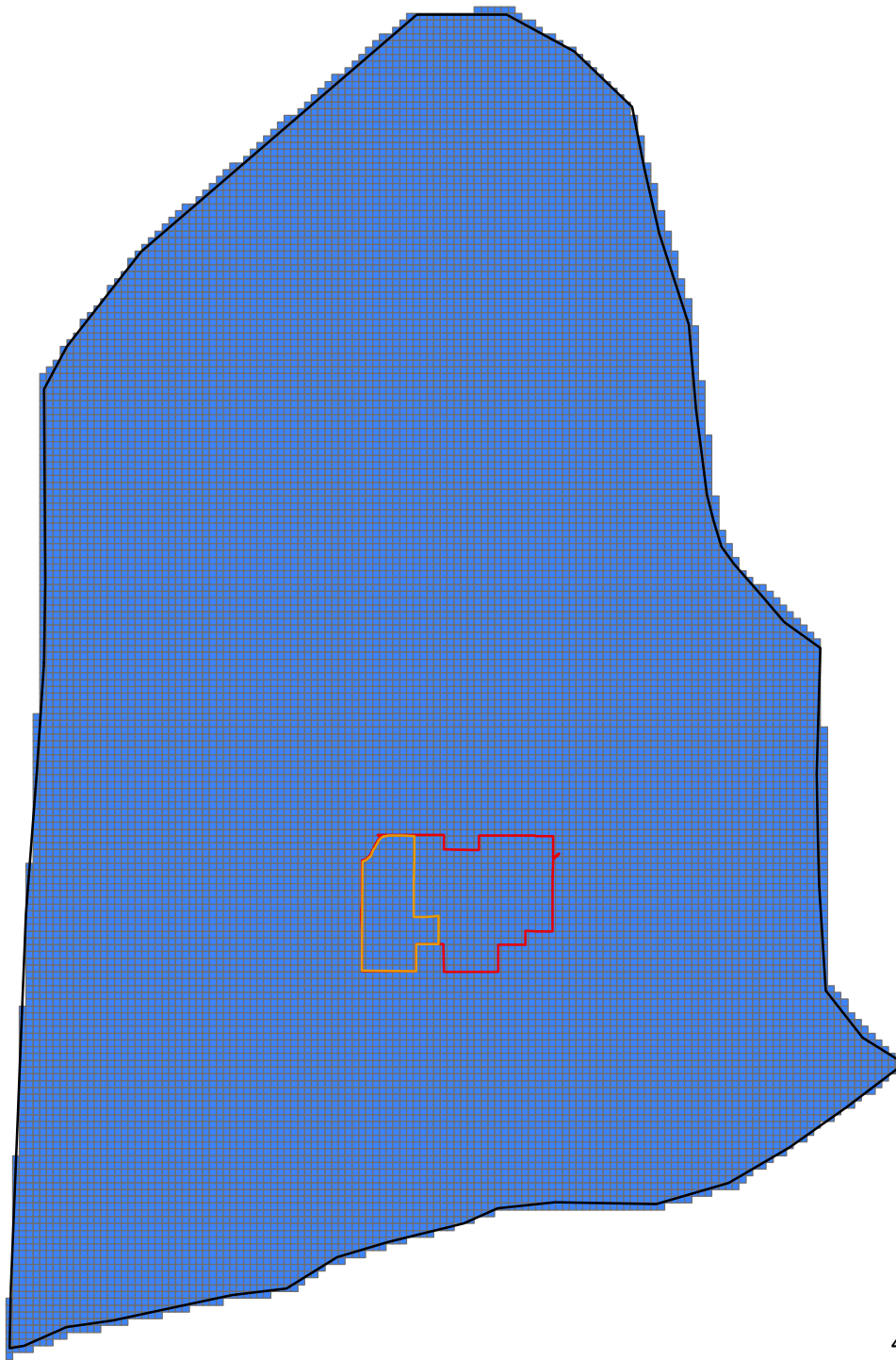


Figure H-22
 Model Hydraulic Conductivity
 Layer 11
 Mt. Simon Sandstone
 UMore Mining Area
 Groundwater Assessment
 Dakota County, MN

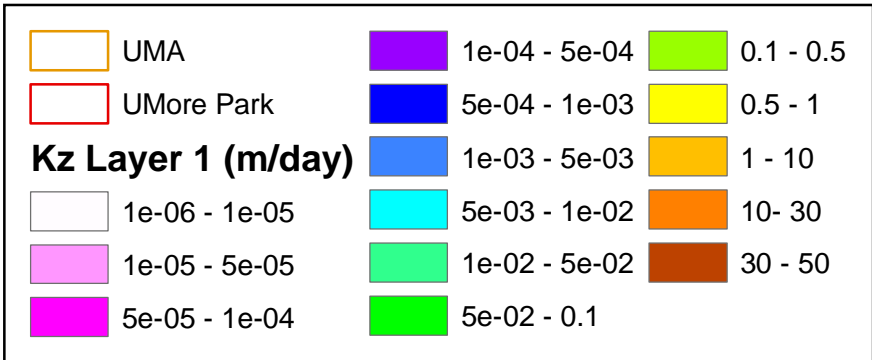
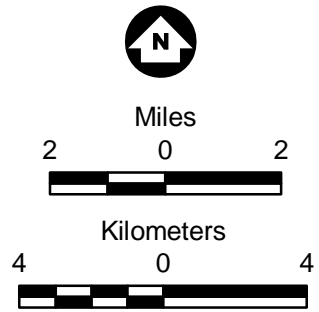
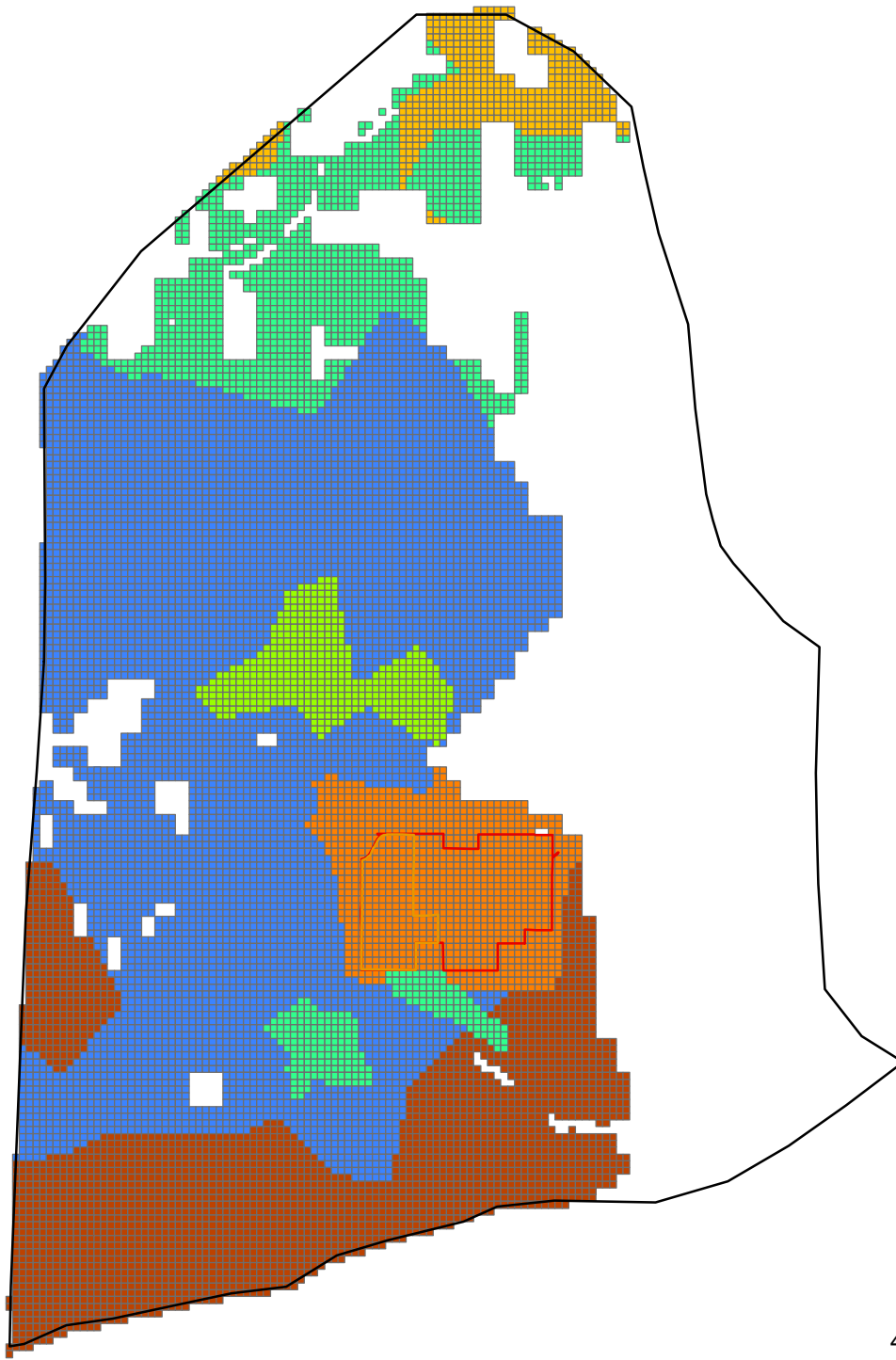


Figure H-23
 Model Hydraulic Conductivity
 Layer 1
 Quaternary
 Umore Mining Area
 Groundwater Assessment
 Dakota County, MN

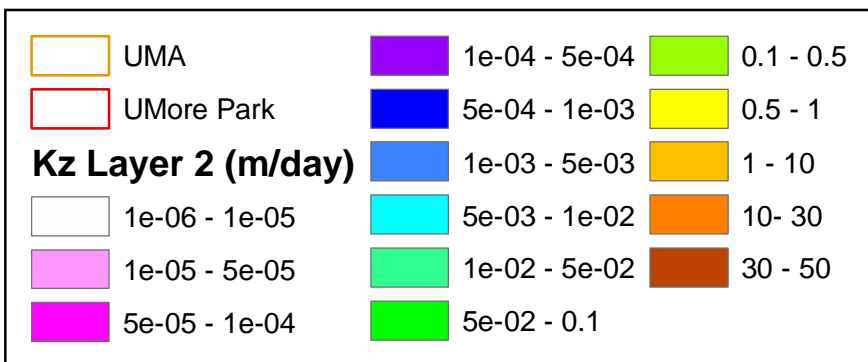
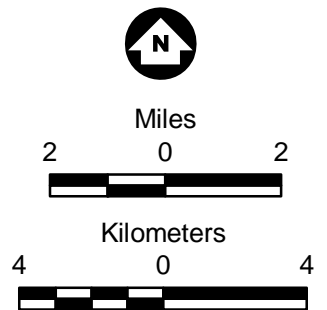
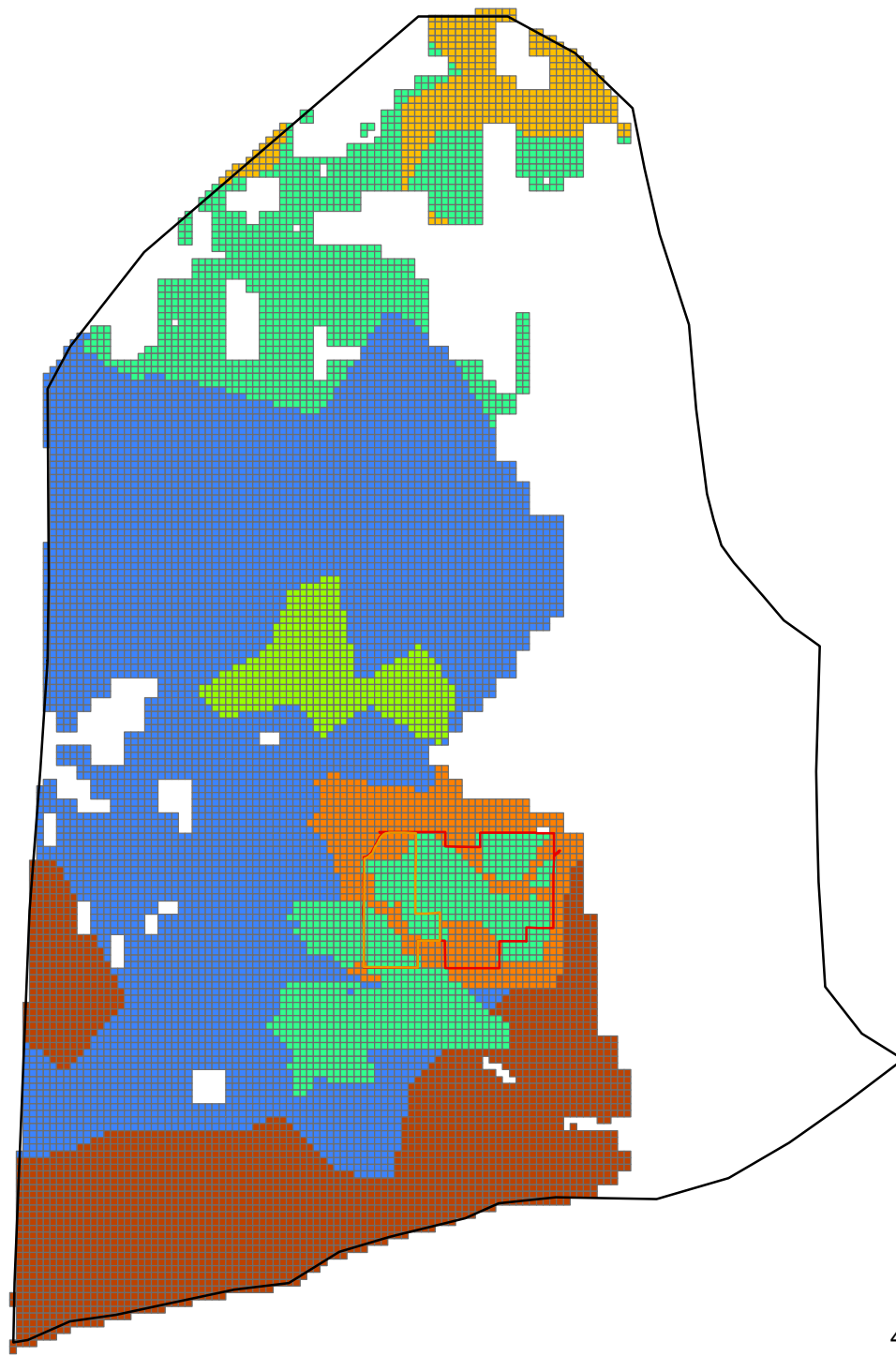


Figure H-24

Model Hydraulic Conductivity
Layer 2
Quaternary

UMore Mining Area
Groundwater Assessment
Dakota County, MN

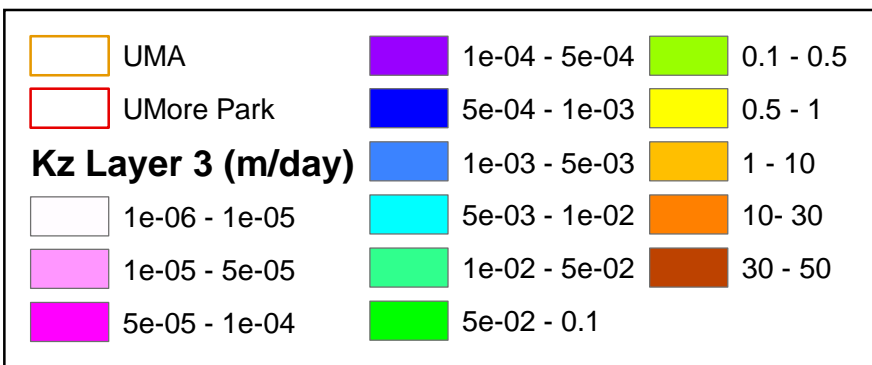
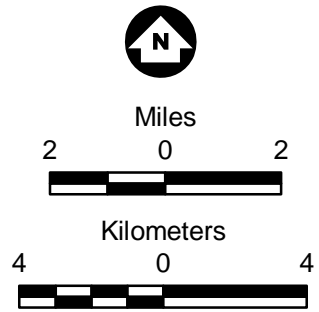
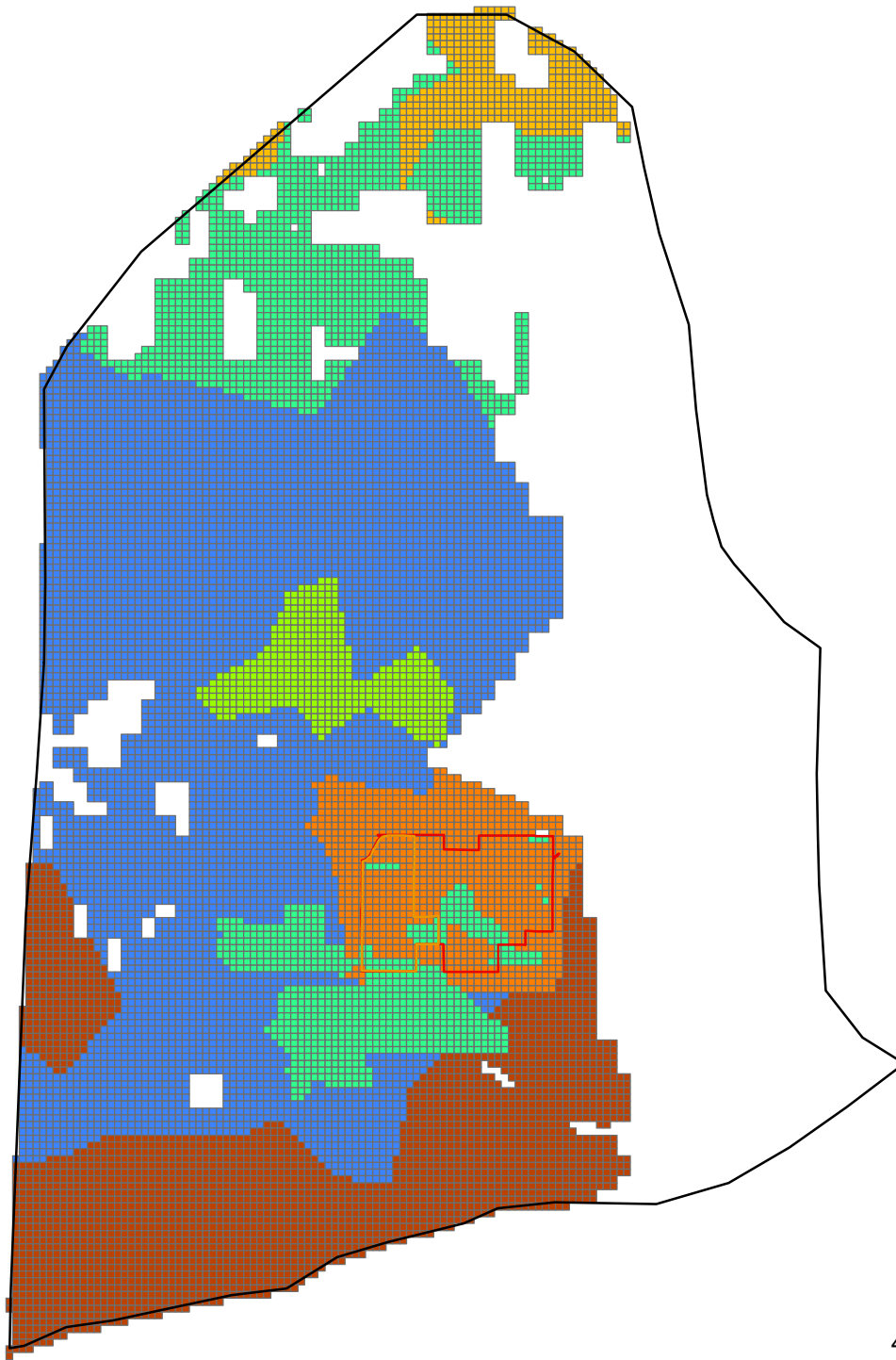


Figure H-25
 Model Hydraulic Conductivity
 Layer 3
 Quaternary
 Umore Mining Area
 Groundwater Assessment
 Dakota County, MN

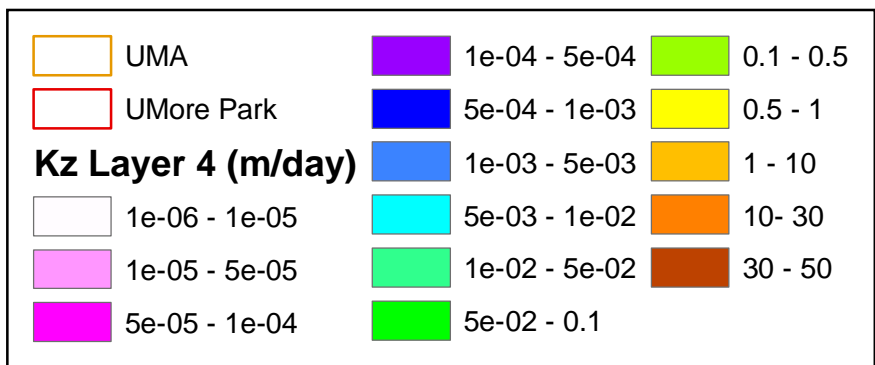
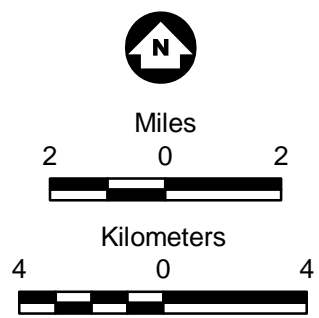
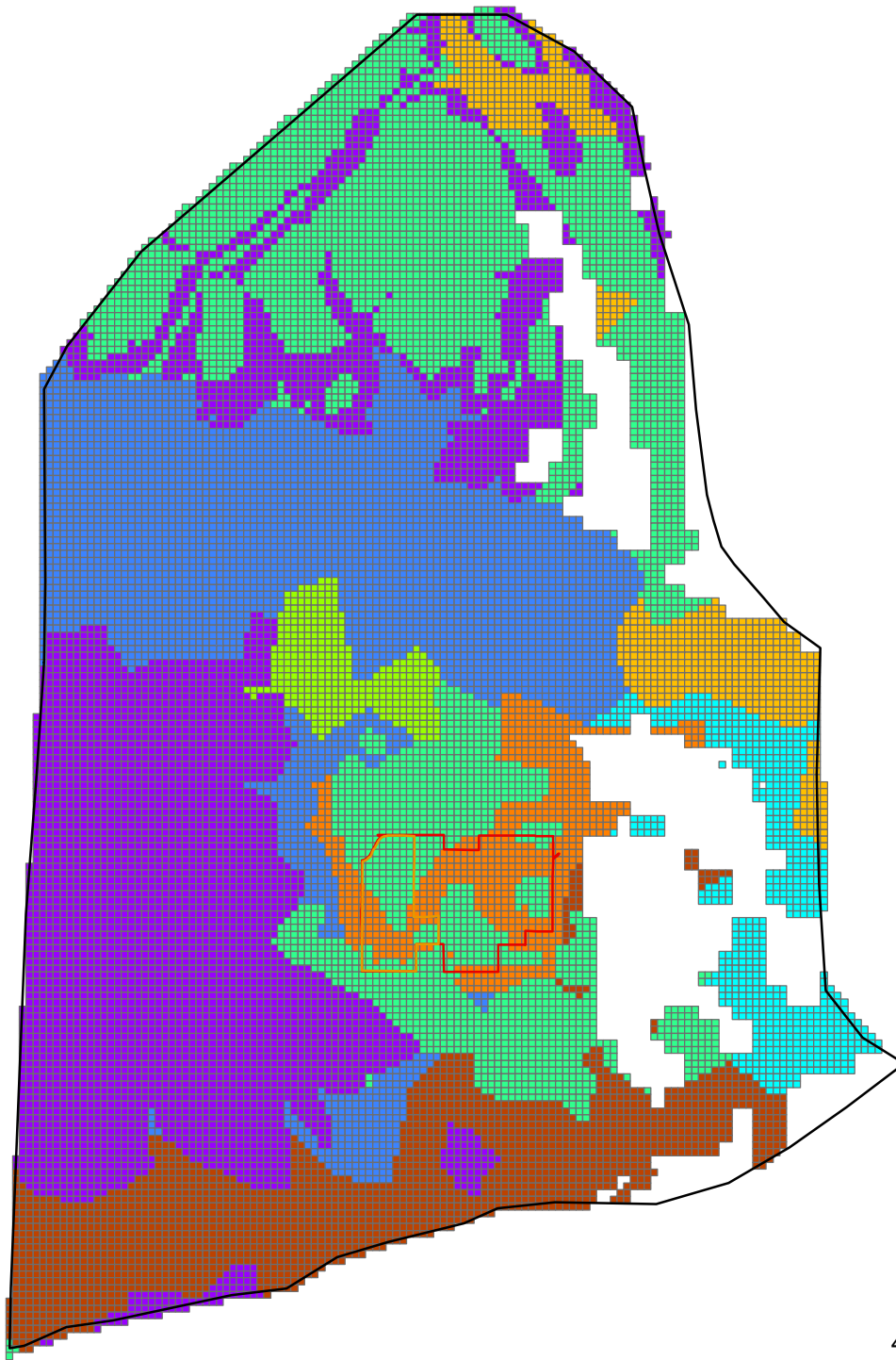


Figure H-26
 Model Hydraulic Conductivity
 Layer 4
 Quaternary & St. Peter Sandstone
 (where present)
 UMore Mining Area
 Groundwater Assessment
 Dakota County, MN UMP005435

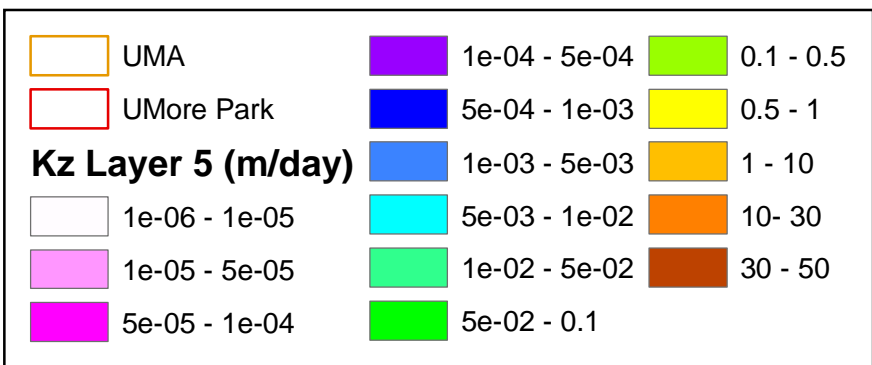
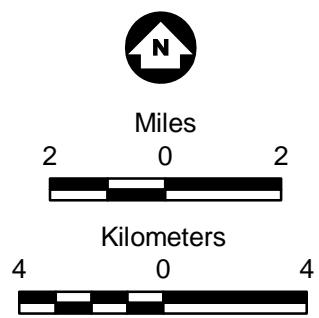
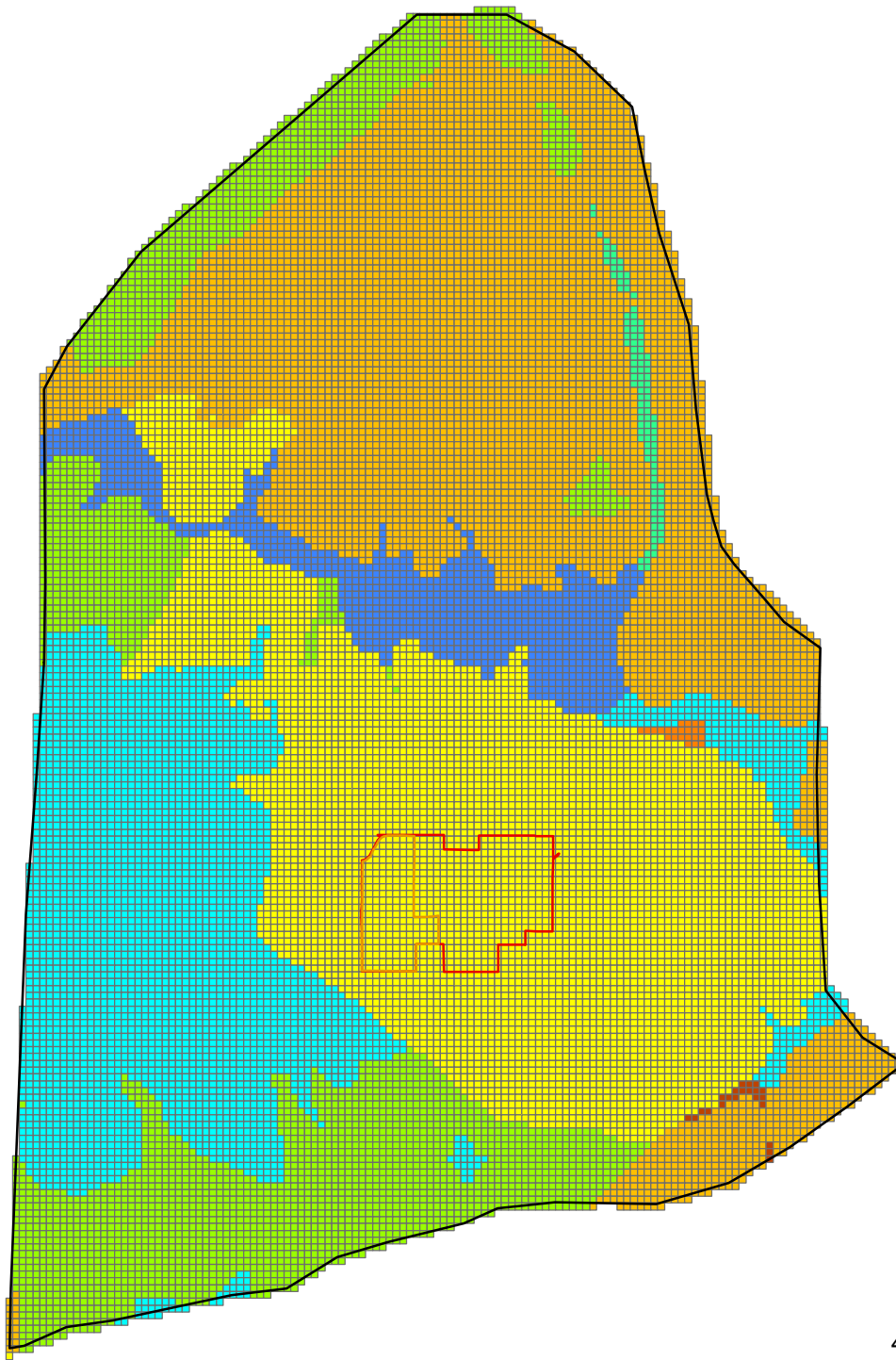


Figure H-27

Model Hydraulic Conductivity
Layer 5
Prairie du Chien Group
(where present)

UMore Mining Area
Groundwater Assessment
Dakota County, MN
UMP005436

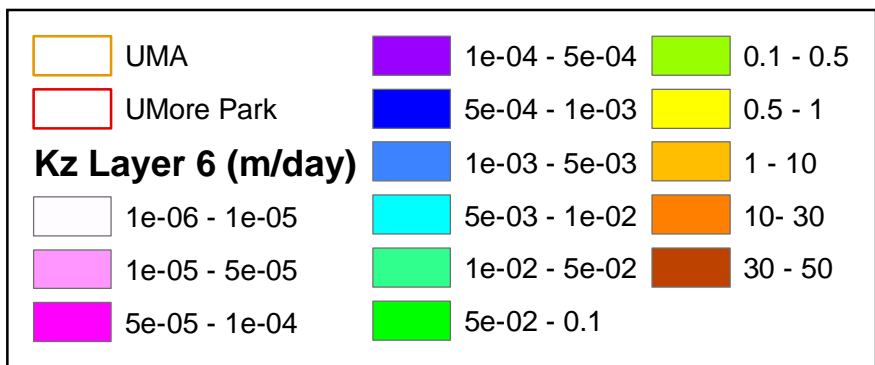
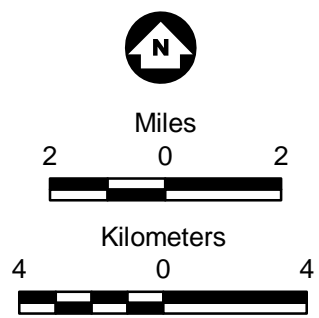
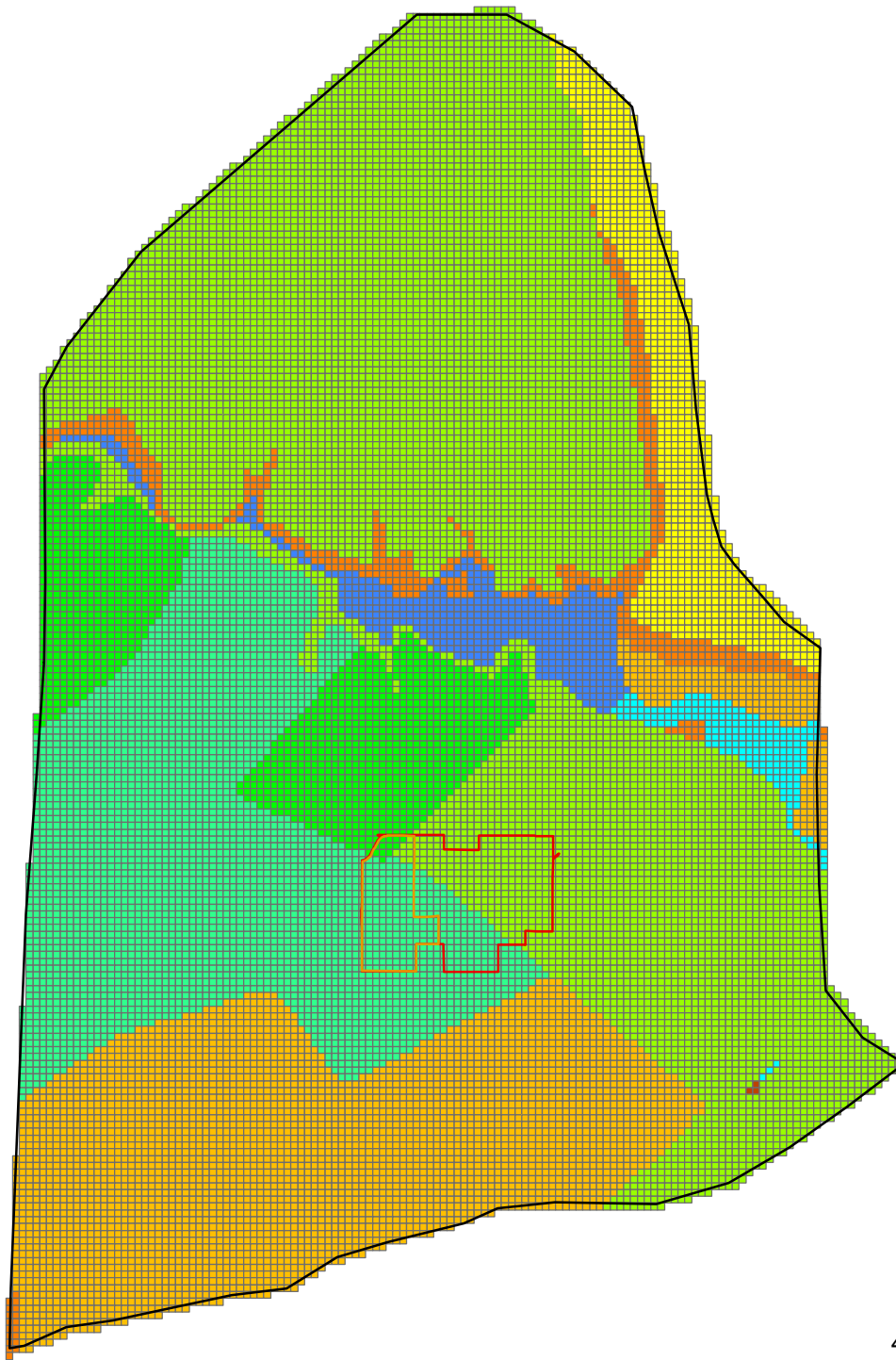


Figure H-28
 Model Hydraulic Conductivity
 Layer 6
 Jordan Sandstone
 (where present)
 UMore Mining Area
 Groundwater Assessment
 Dakota County, MN
 UMP005437

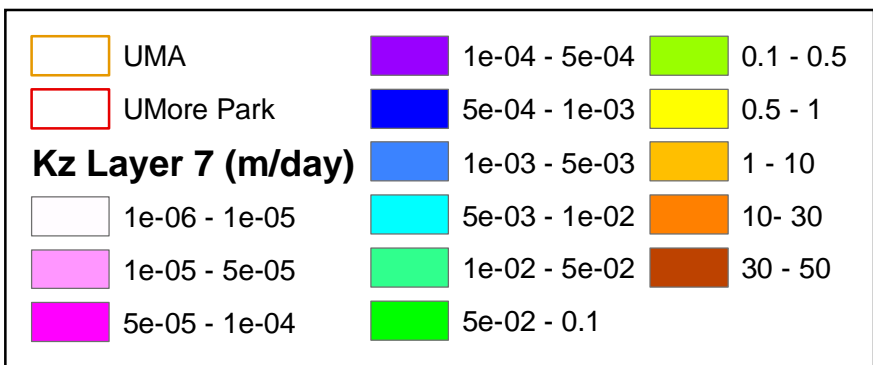
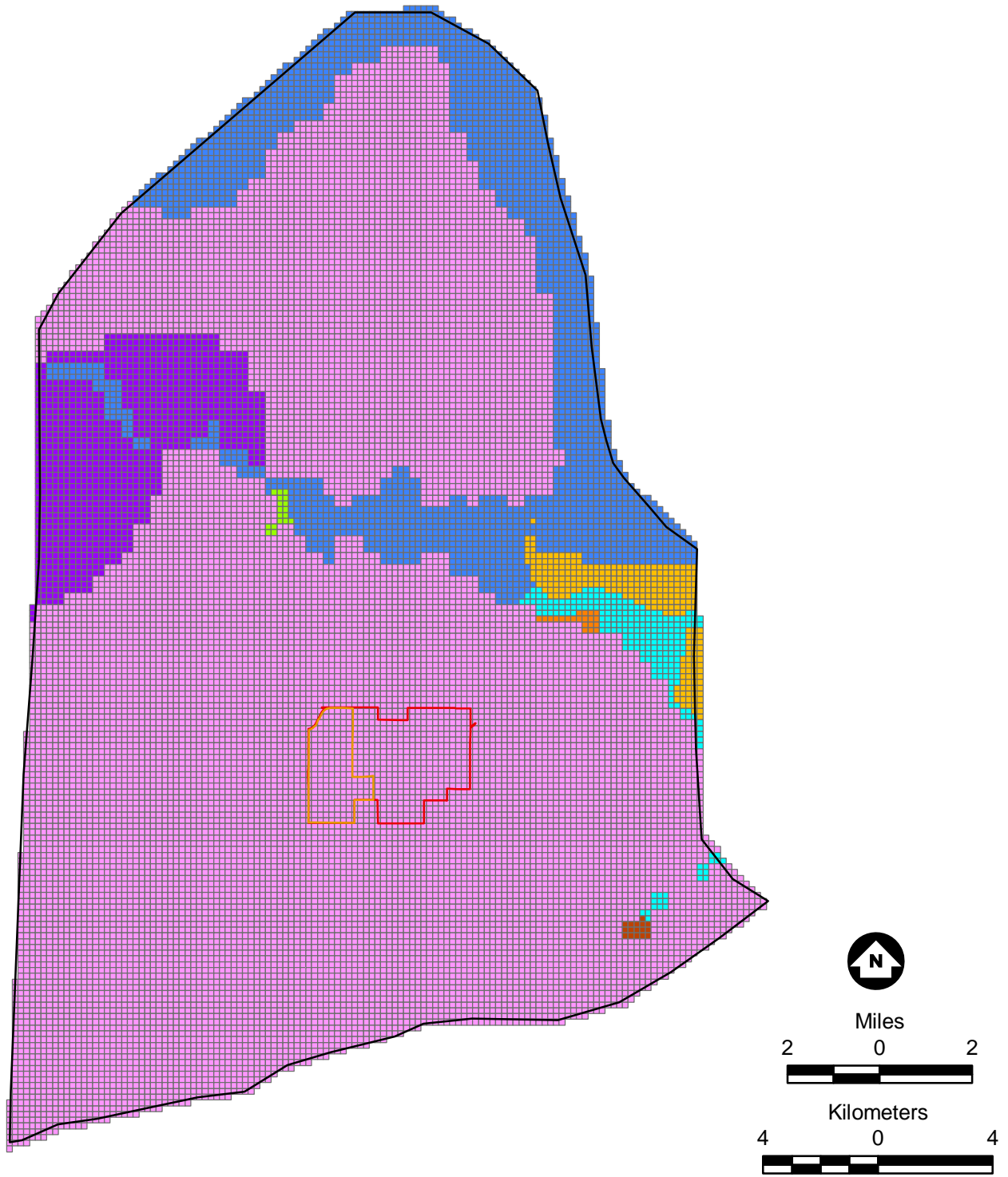


Figure H-29

Model Hydraulic Conductivity
Layer 7
St. Lawrence Formation
(where present)

Umore Mining Area
Groundwater Assessment
Dakota County, MN

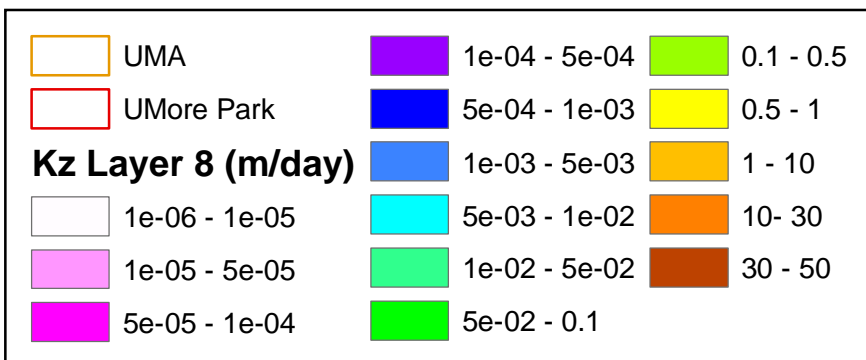
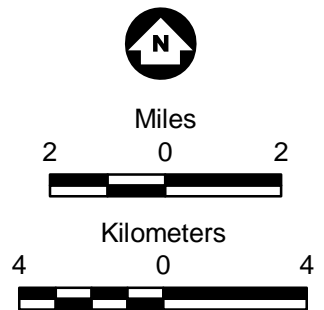
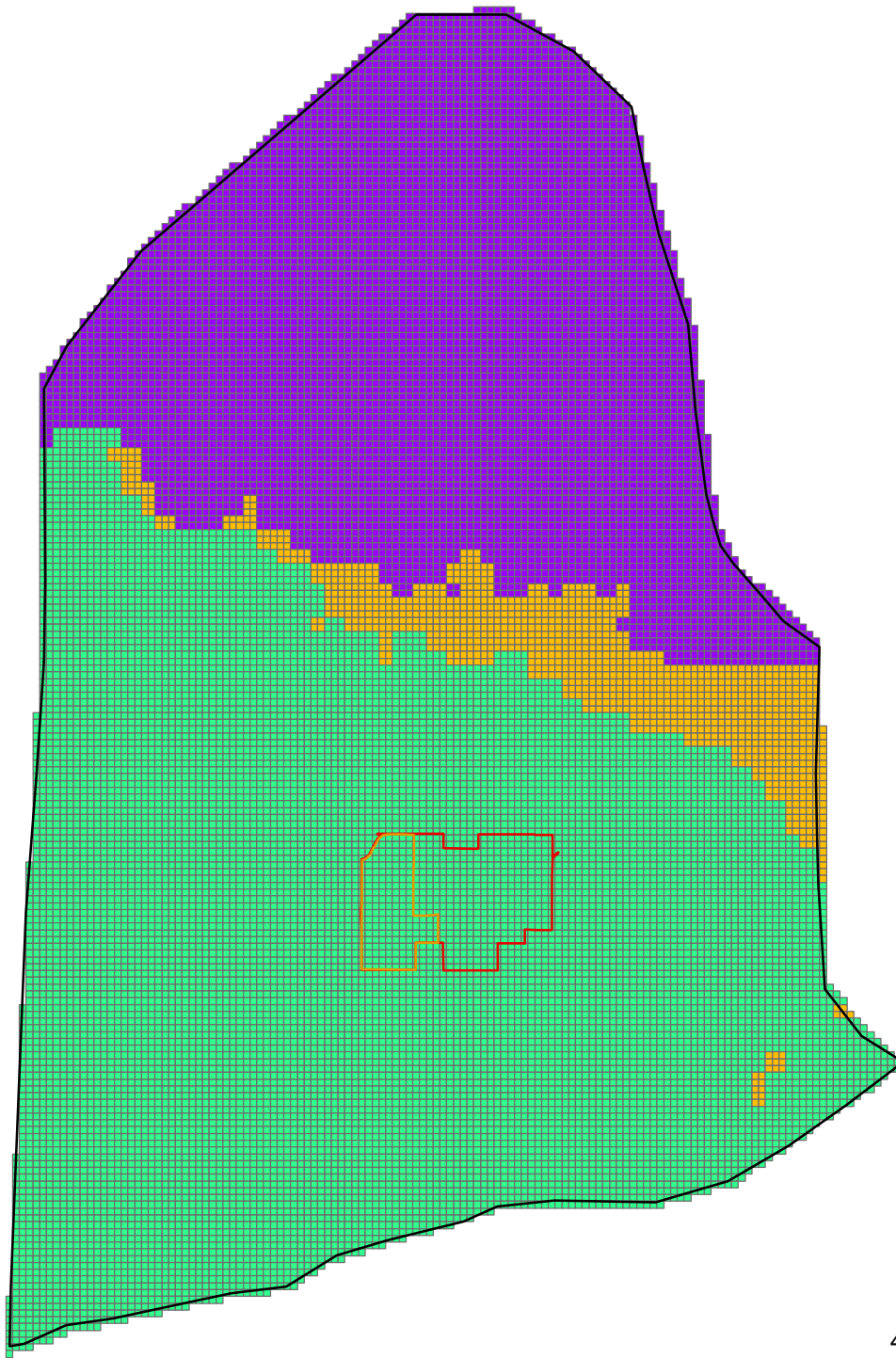


Figure H-30
 Model Hydraulic Conductivity
 Layer 8
 Franconia Formation
 UMore Mining Area
 Groundwater Assessment
 Dakota County, MN

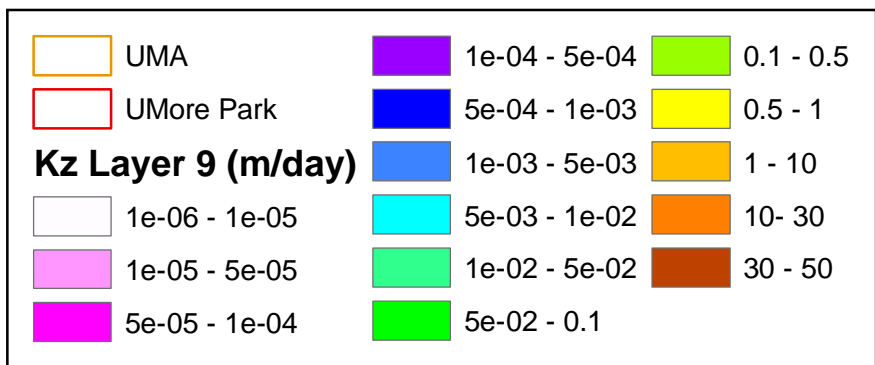
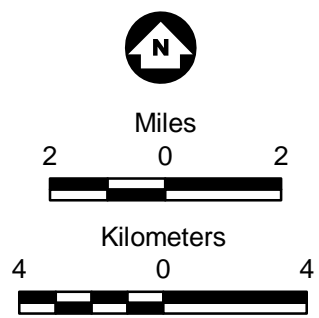
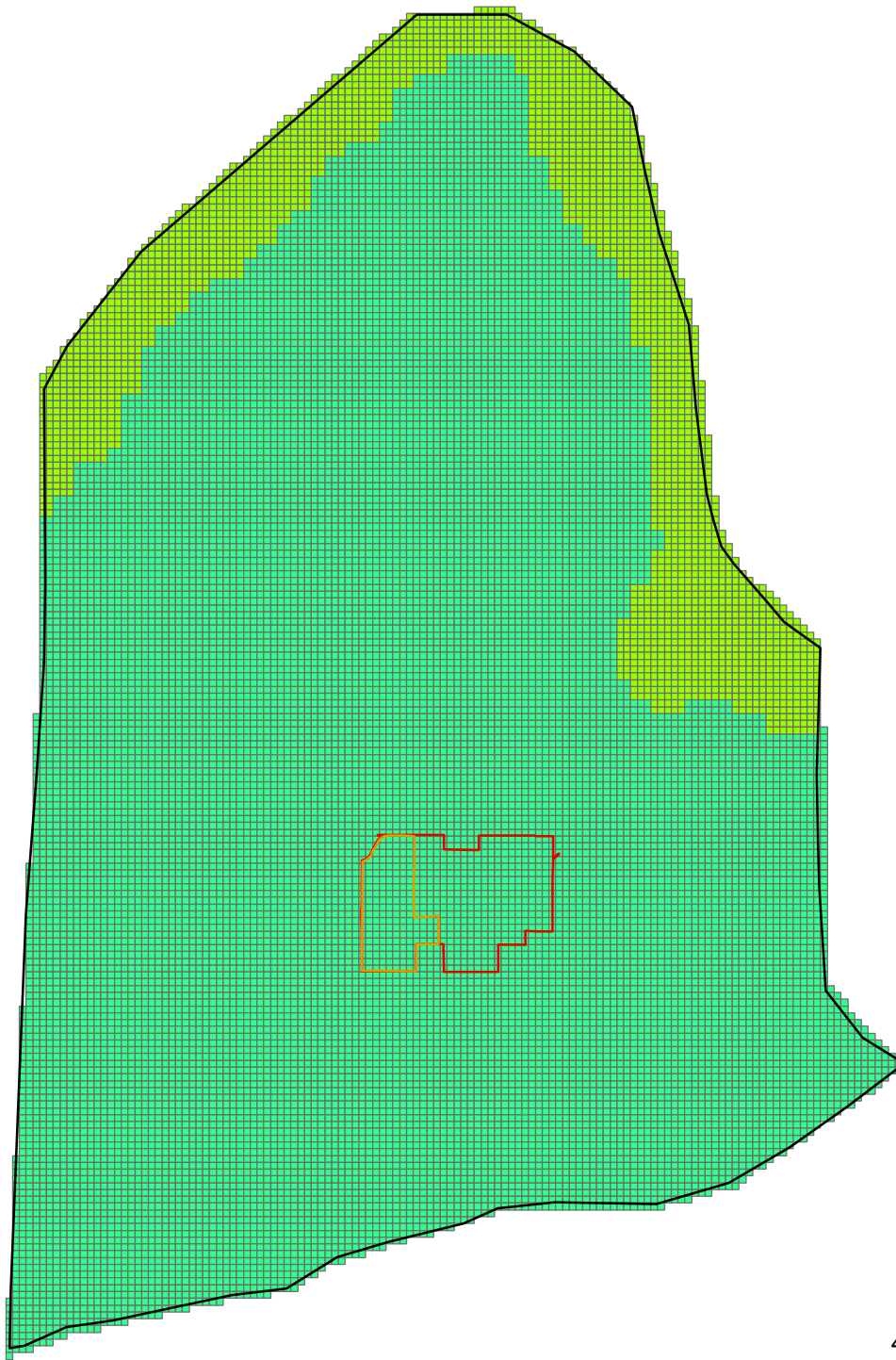


Figure H-31
 Model Hydraulic Conductivity
 Layer 9
 Ironton & Galesville Sandstone
 Umore Mining Area
 Groundwater Assessment
 Dakota County, MN

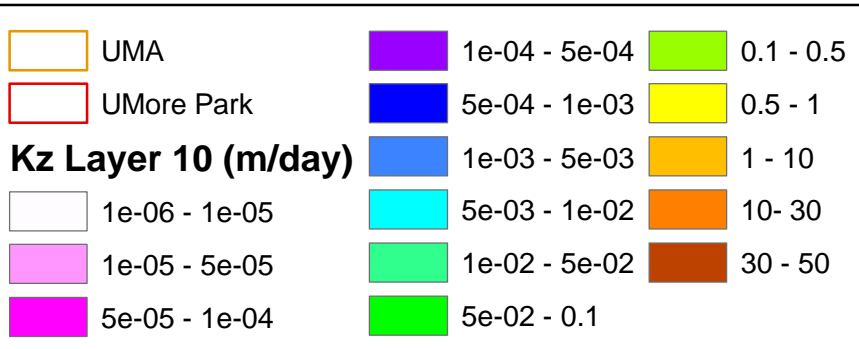
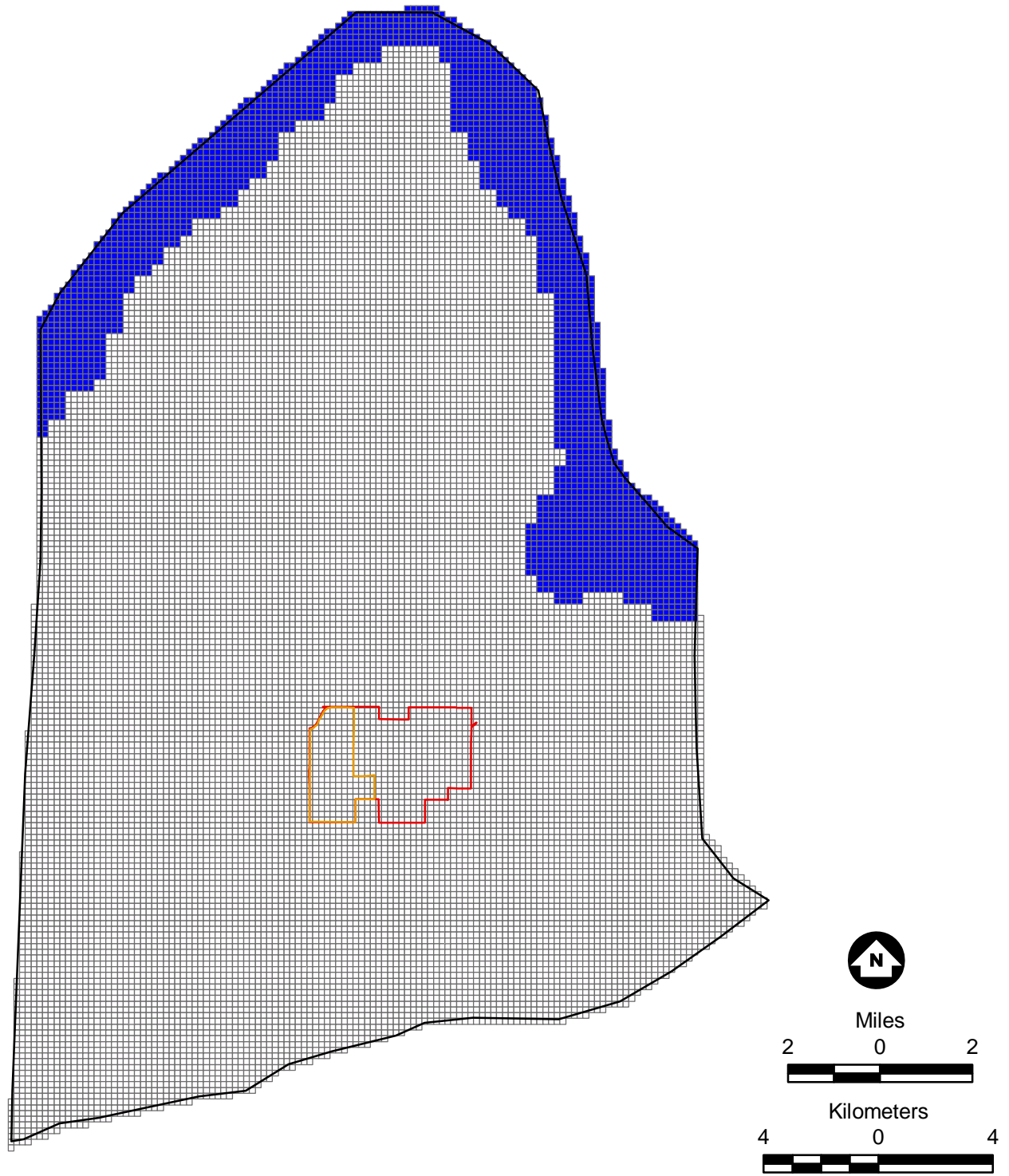


Figure H-32
 Model Hydraulic Conductivity
 Layer 10
 Eau Claire Formation
 UMore Mining Area
 Groundwater Assessment
 Dakota County, MN

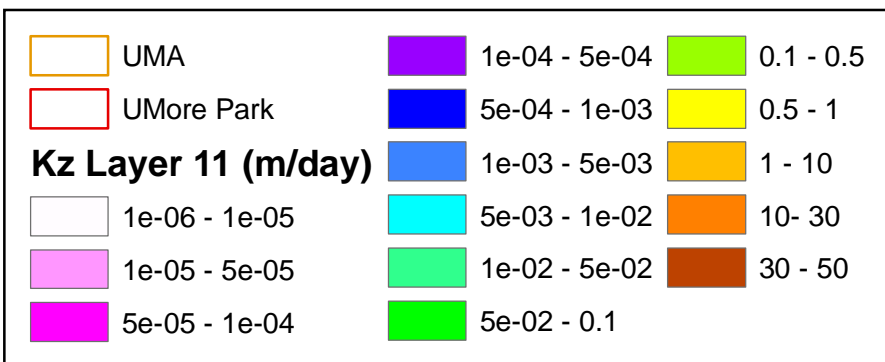
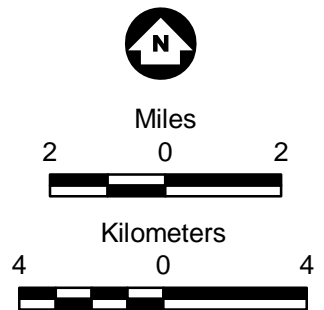
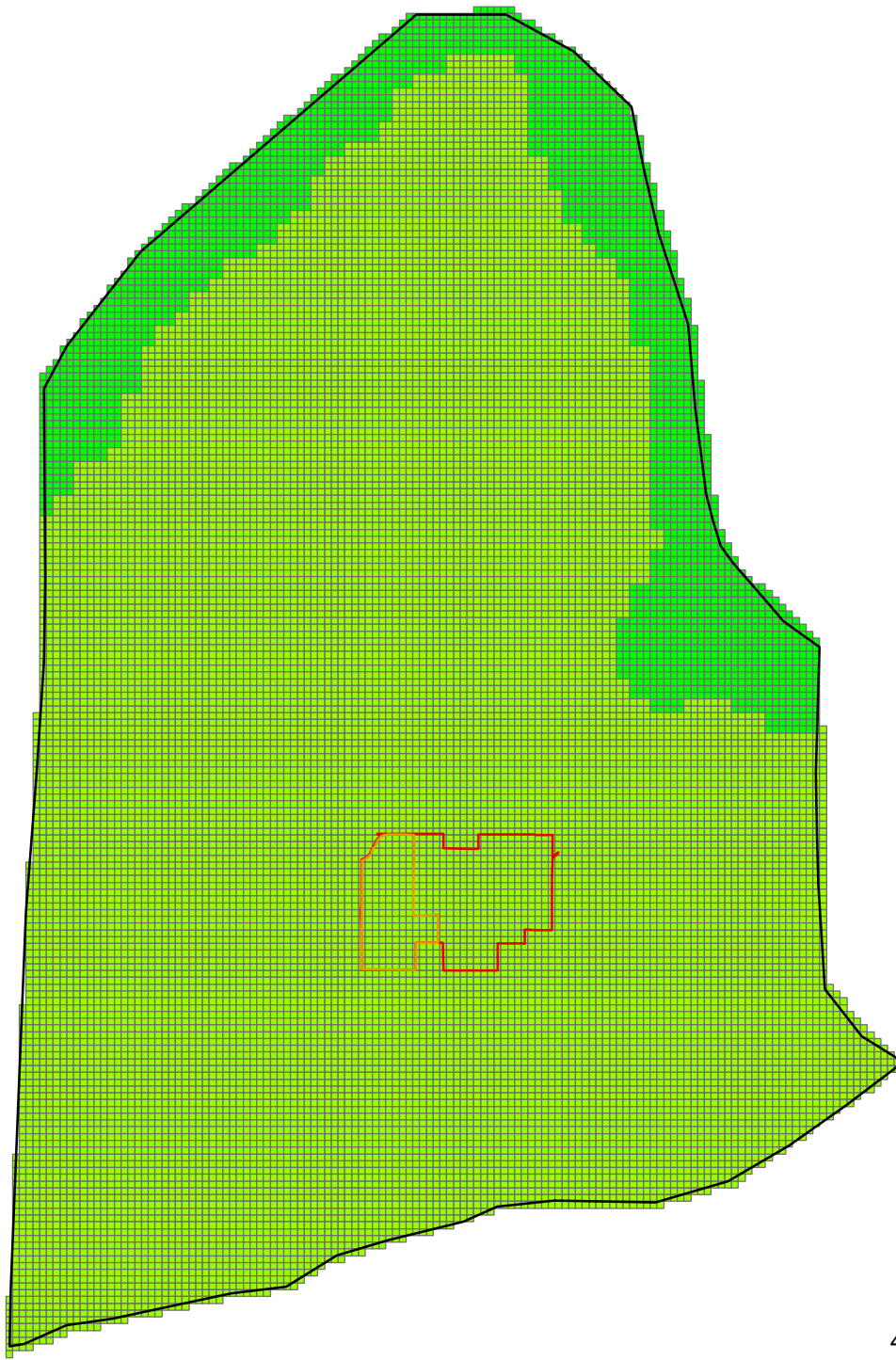


Figure H-33

Model Hydraulic Conductivity
Layer 11
Mt. Simon Sandstone

UMore Mining Area
Groundwater Assessment
Dakota County, MN