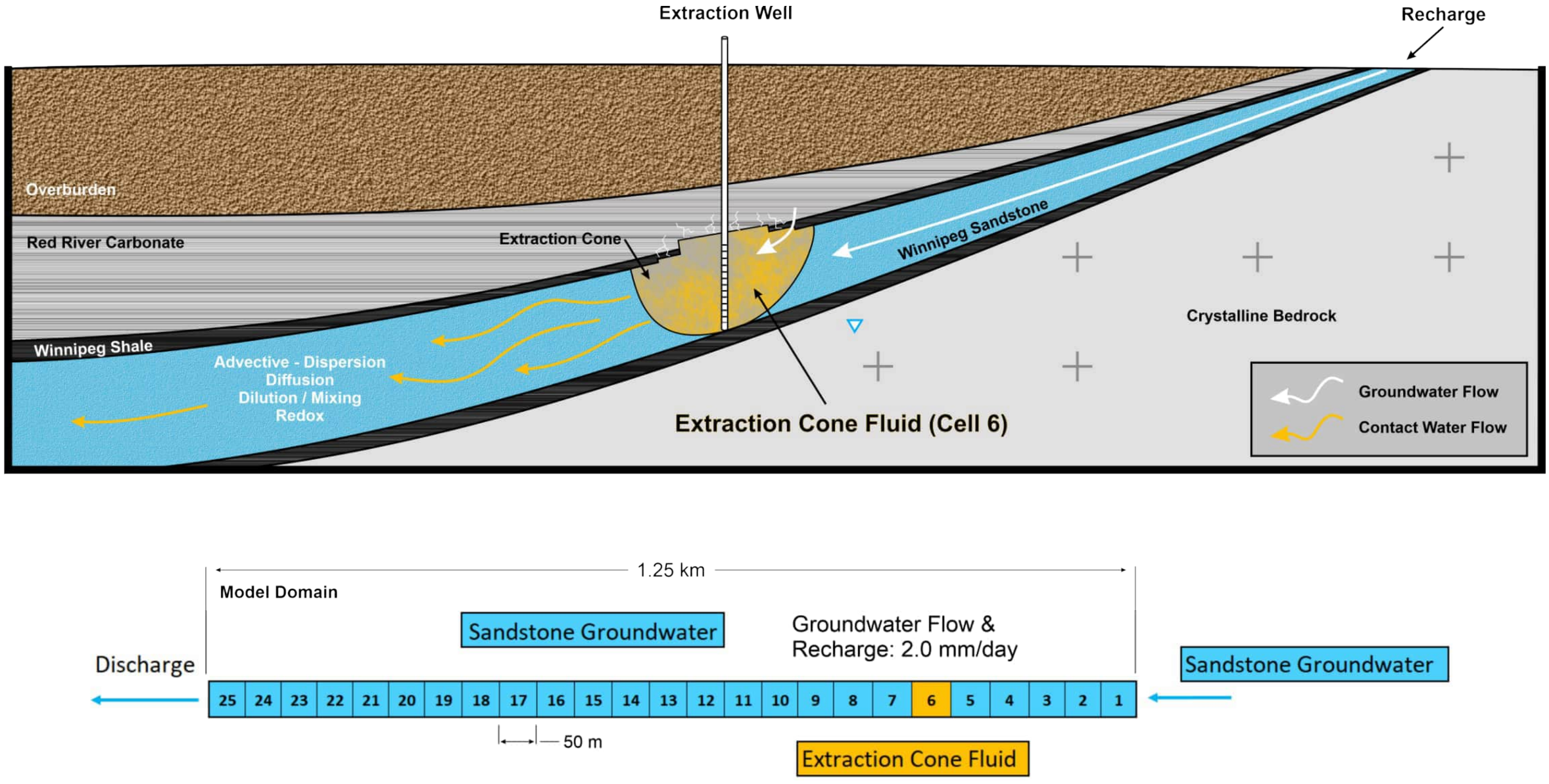


Figure 4-9. Conceptual Hydrogeochemical Model

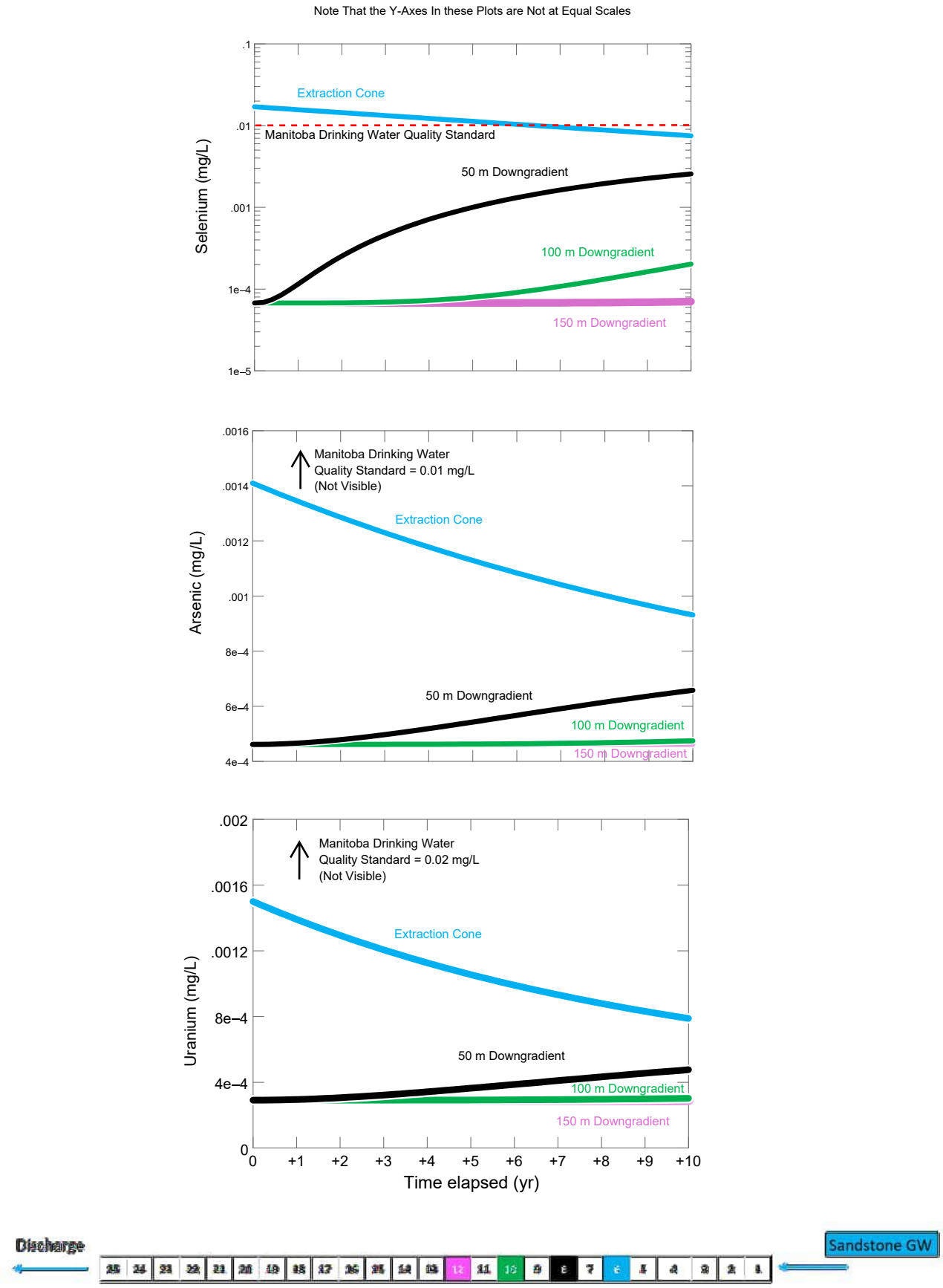


Figure 4-10. Selenium, Arsenic, and Uranium Concentrations as a Function of Time.

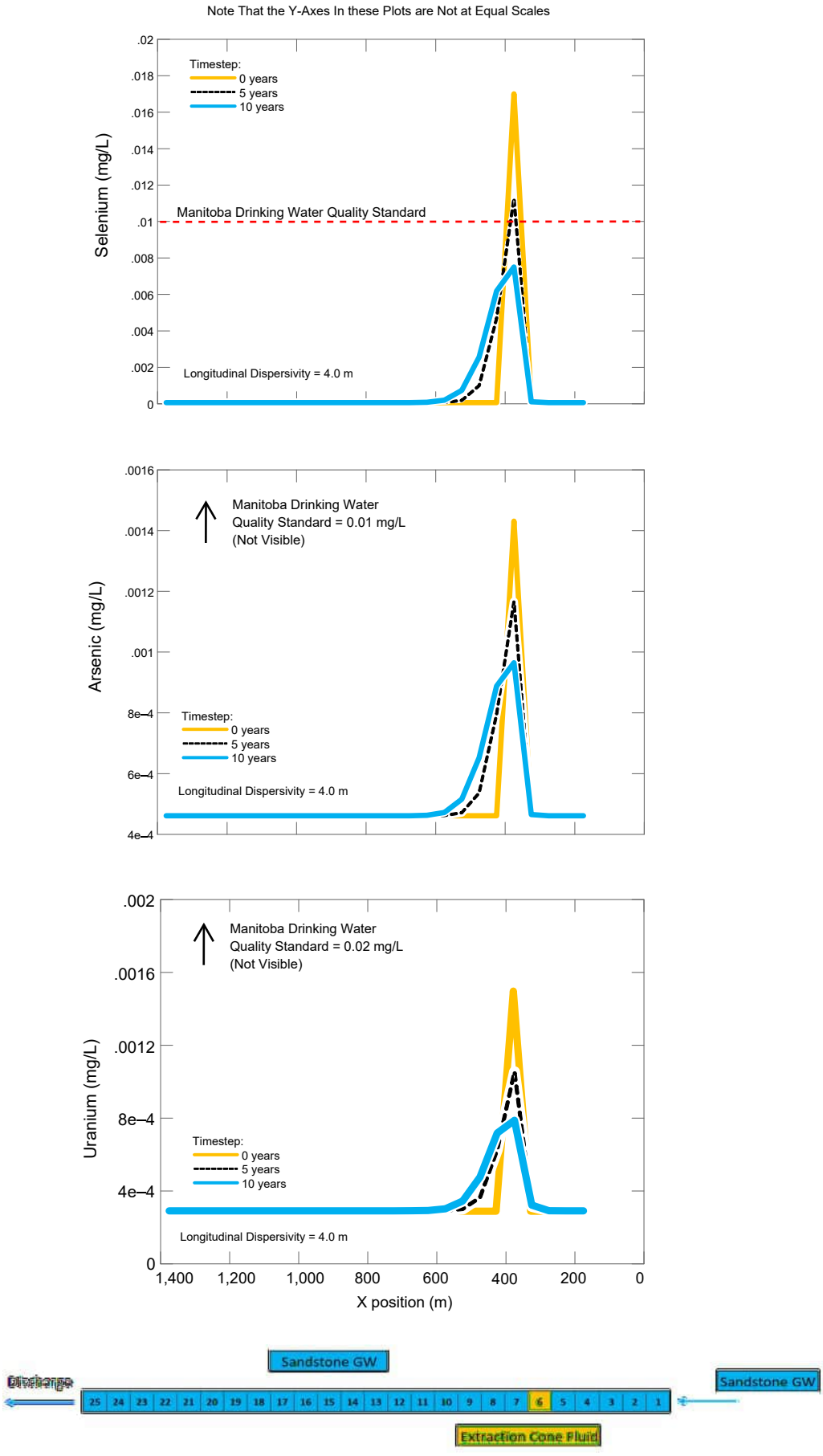


Figure 4-11. Selenium, Arsenic, and Uranium Concentrations as a Function of Distance

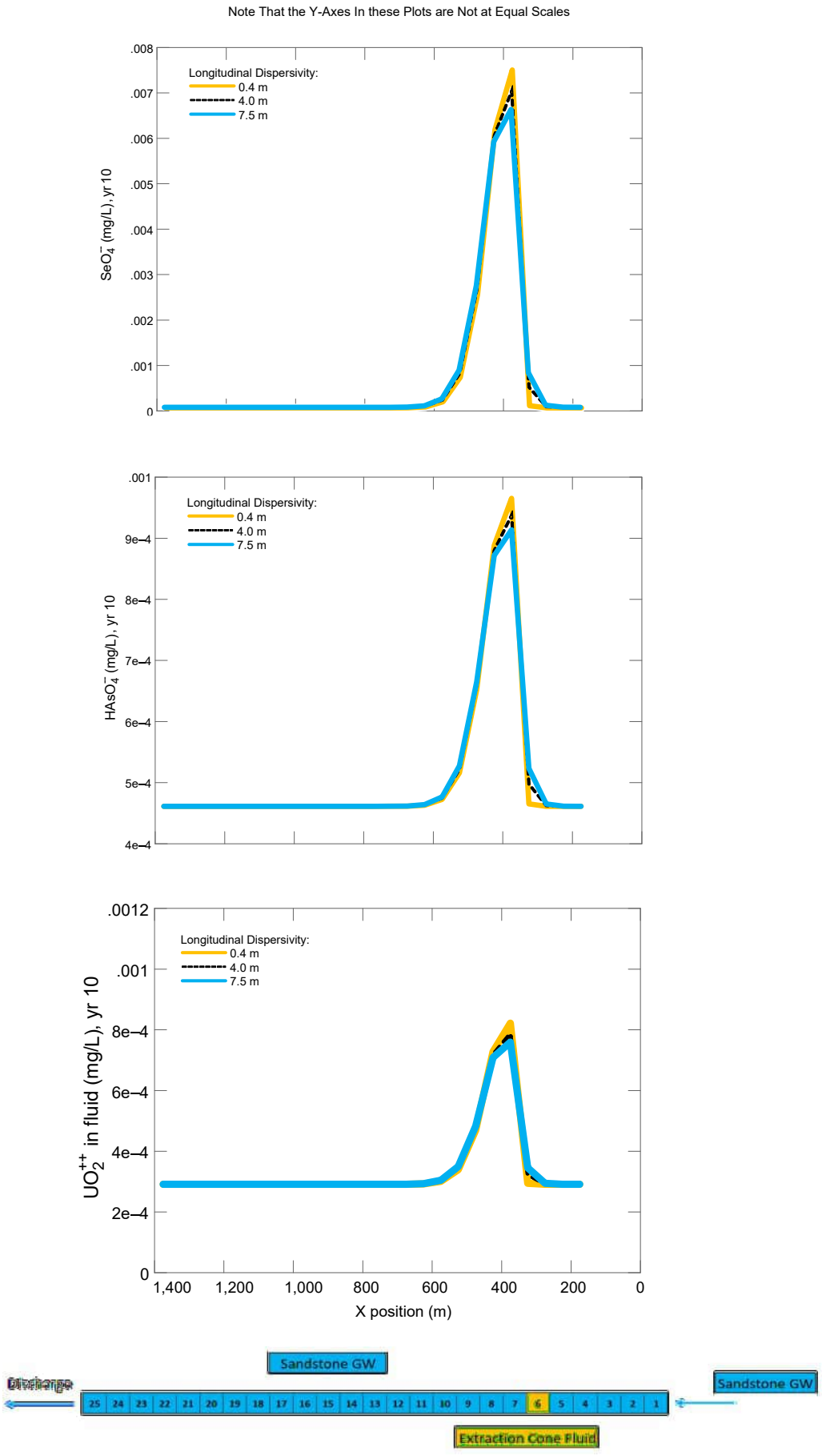
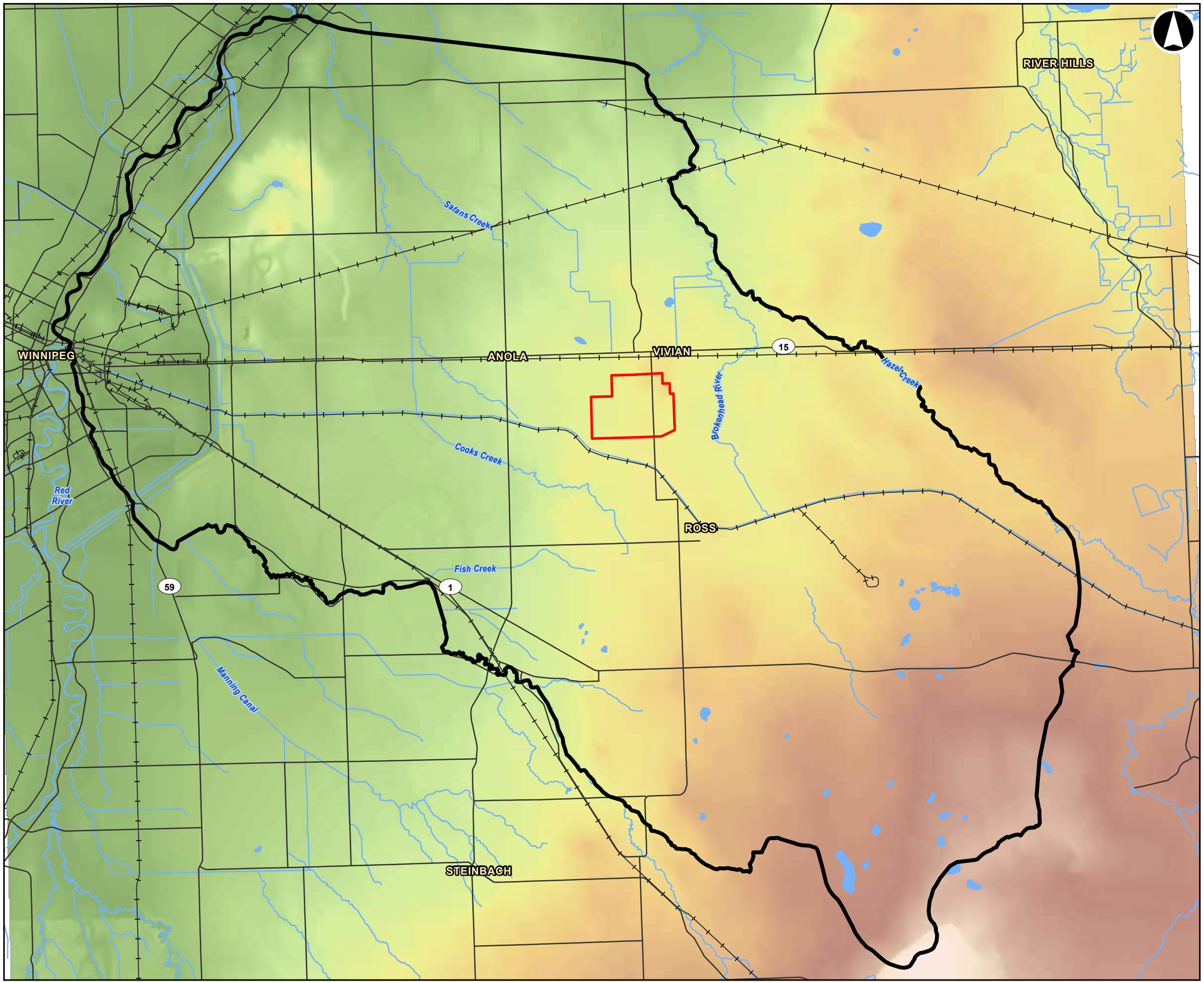


Figure 4-12. Selenium, Arsenic, and Uranium Concentrations as a Function of Distance and Varied Longitudinal Dispersivity AECOM



Legend

- 25 Year Mine Area
- Model Domain

General Features

- Highway
- Railway
- Watercourse
- Waterbody

Elevations (m)

397

217

SiMbA PROJECT
SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT

TOPOGRAPHY AND DRAINAGE

0 3 6 9 12
Kilometres

Datum: NAD 1983 UTM Zone 14N

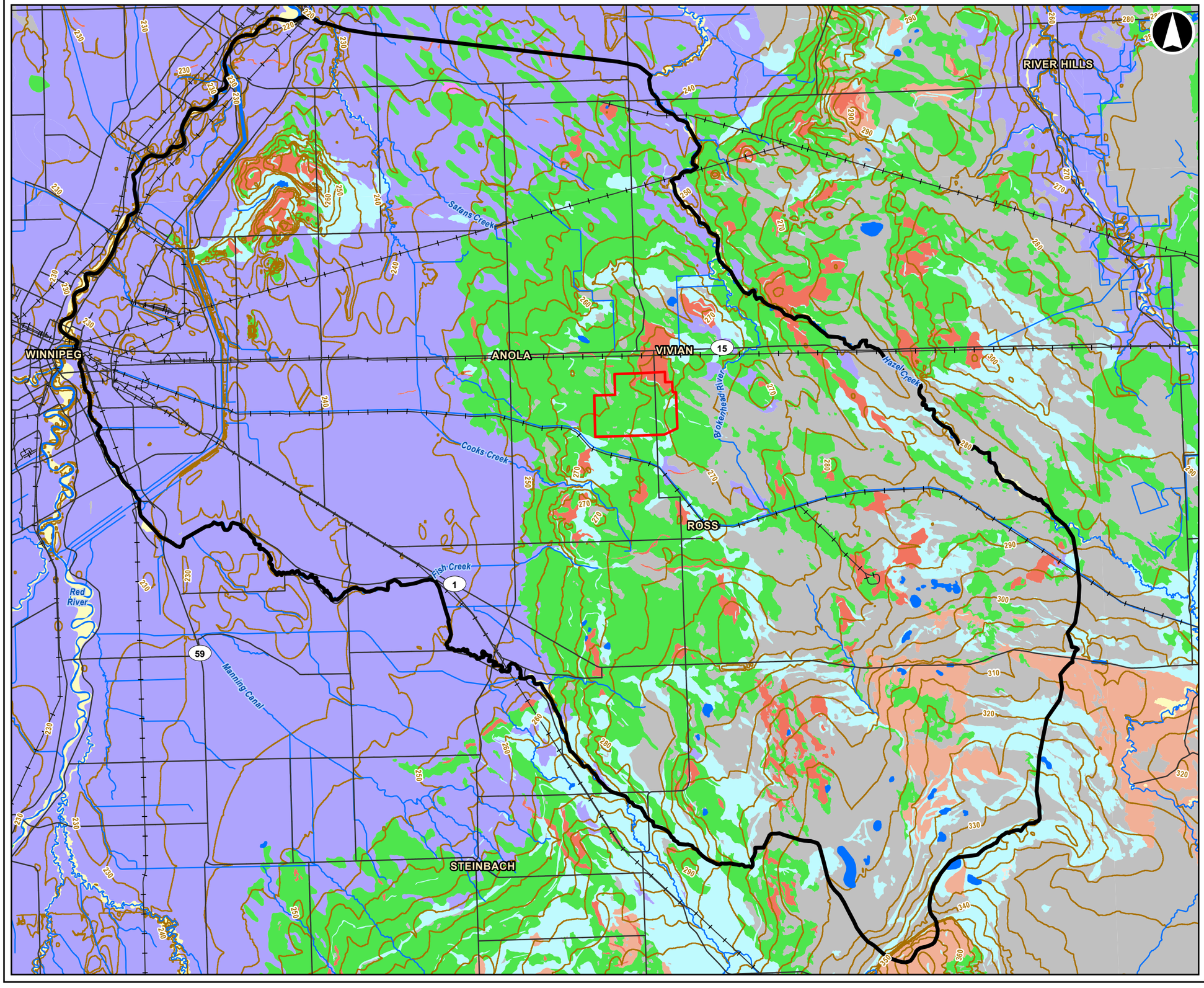
Nov, 2024	PN#: 60730241	1:290,000 * when printed 11"x17"

Figure 5-1

AECOM

Data Sources: MLI, NRCan - Canvec

MAP LOCATION: T:\DCS\GIS\MAN1\TOBA\60730241_SIO_SILICA_EXTRACT_REFILE\DESIGN\01_REPORT\HYDROGEOLOGY\PRJ_60730241_SIO SILICA EXTRACT_HYDROGEOLOGY.APRX FIGURE: MAP_FIG5-1_HYDROGEO_TOPOGRAPHY
DATE SAVED: 2024-11-21 USER NAME: PAIGE.CROSSMAN



Legend

- 25 Year Mine Area
- Model Domain

Surficial Geology

- Organic Deposits
- Eolian
- Alluvial Sediments
- Marginal Glaciolacustrine Sediments
- Offshore Glaciolacustrine Sediments
- Distal Glaciofluvial Sediments
- Proximal Glaciofluvial Sediments
- Calcareous Diamicton
- Rock - Paleozoic Terrane
- Rock - Precambrian Terrane

General Features

- Highway
- Railway
- Topographic Contour (5 m)
- Watercourse
- Waterbody

SiMbA PROJECT
SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT

SURFICIAL GEOLOGY

0 3 6 9 12
Kilometres

Datum: NAD 1983 UTM Zone 14N

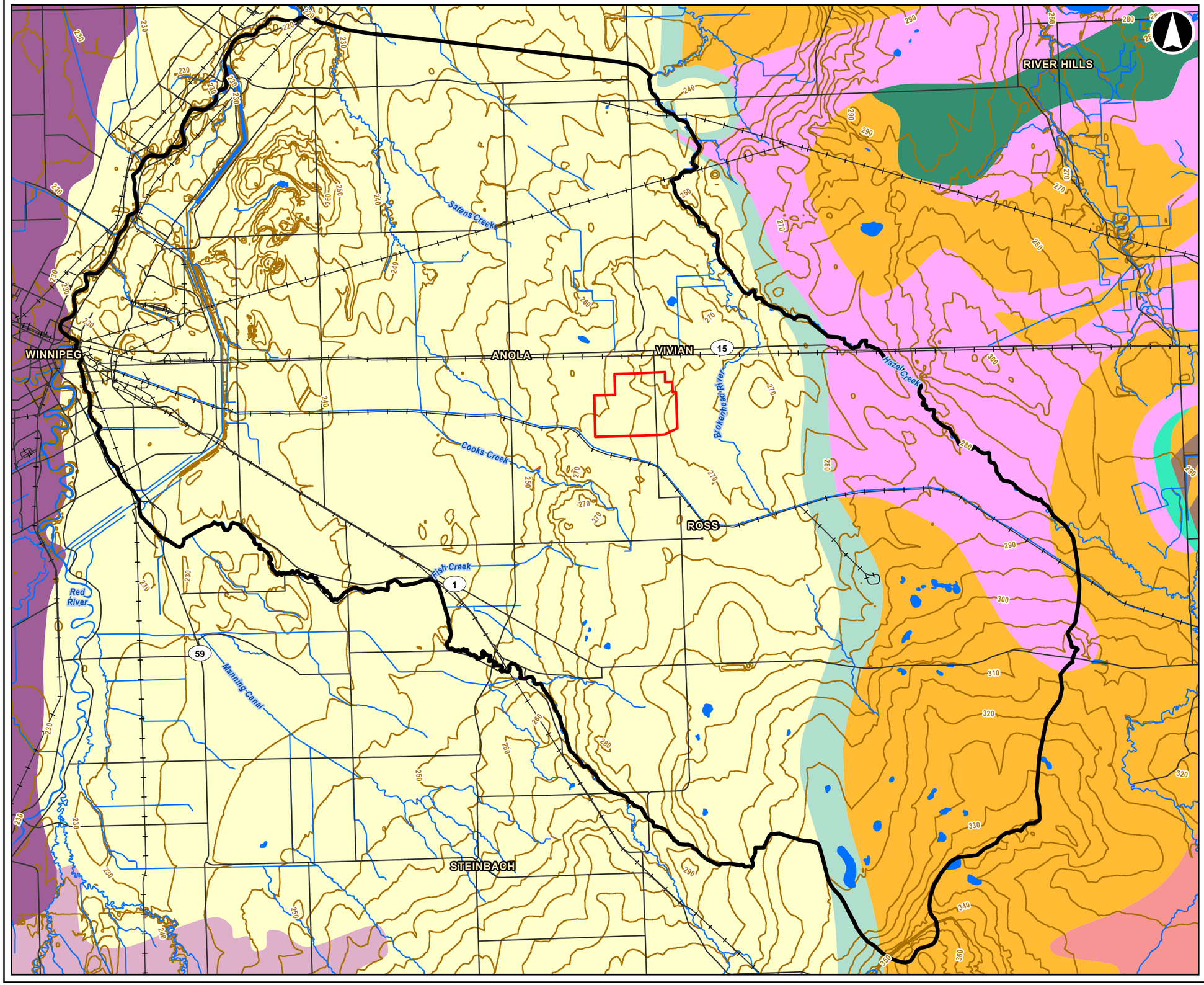
Nov, 2024	PN#: 60730241	1:290,000 * when printed 11"x17"

Figure 5-2

AECOM

Data Sources: MLI, NRCan - Canvec, Manitoba Agriculture and Resource Development

MAP LOCATION: L:\DOCS\GIS\MAN\TOB\60730241_SIO_SILICA_EXTRACT_REFILE\DESIGN\07_REPORTS\HYDROGEOLOGY\PRJ_60730241_SIO SILICA EXTRACT_HYDROGEOLOGY.APRX FIGURE: MAP_FIG5-2_HYDROGEOLOGY
DATE SAVED: 2024-11-21 USER NAME: PAIGE.CROSSMAN



Legend

- 25 Year Mine Area
- Model Domain

Bedrock Geology

- Mafic Volcanics
- Granodiorite, Gneiss
- Granite
- Amphibolite
- Tonalite
- Tonalite Gneiss
- Sandstone, Shale
- Limestone, Dolomite
- Massive Dolomite
- Sandstone

General Features

- Highway
- Railway
- Topographic Contour (5 m)
- Watercourse
- Waterbody

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SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT

BEDROCK GEOLOGY

0 3 6 9 12
Kilometres

Datum: NAD 1983 UTM Zone 14N

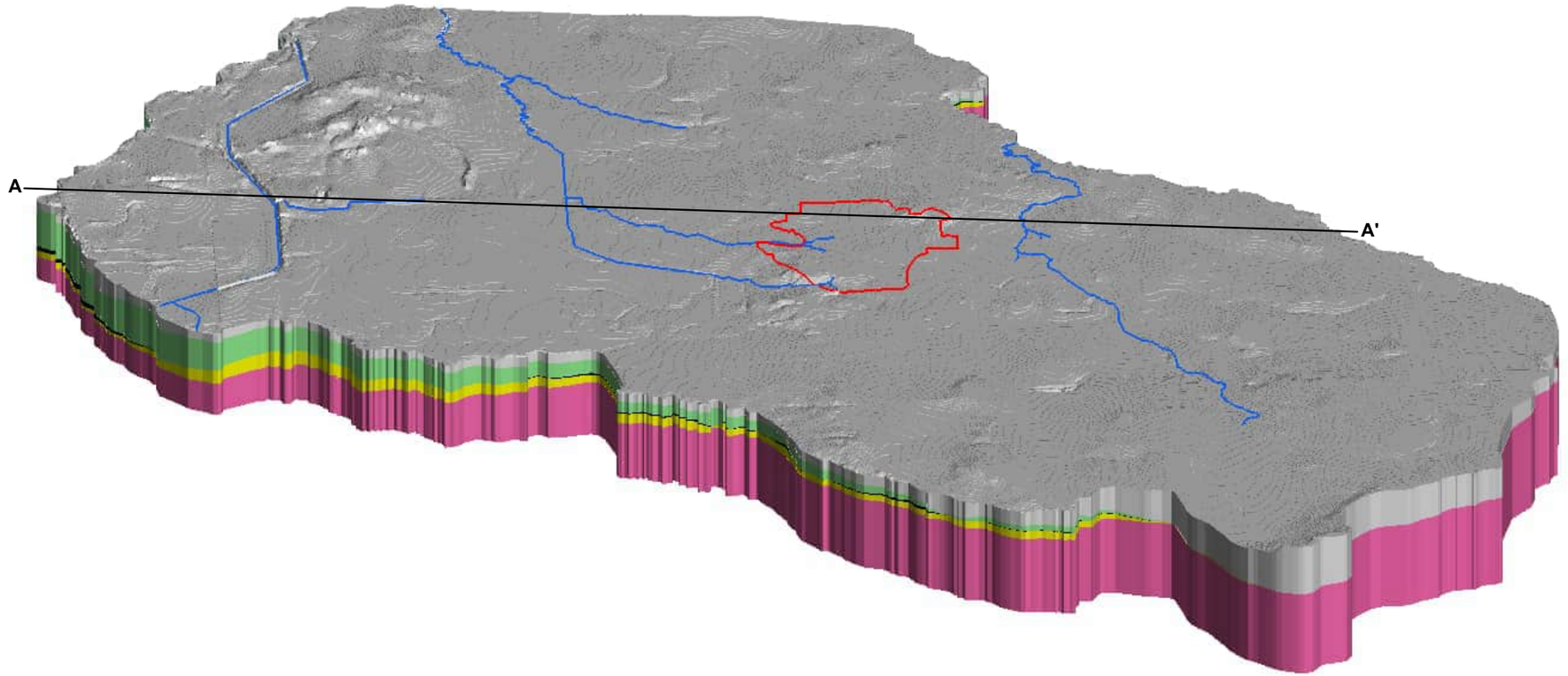
Nov, 2024	PN#: 60730241	1:290,000 * when printed 11"x17"

Figure 5-3

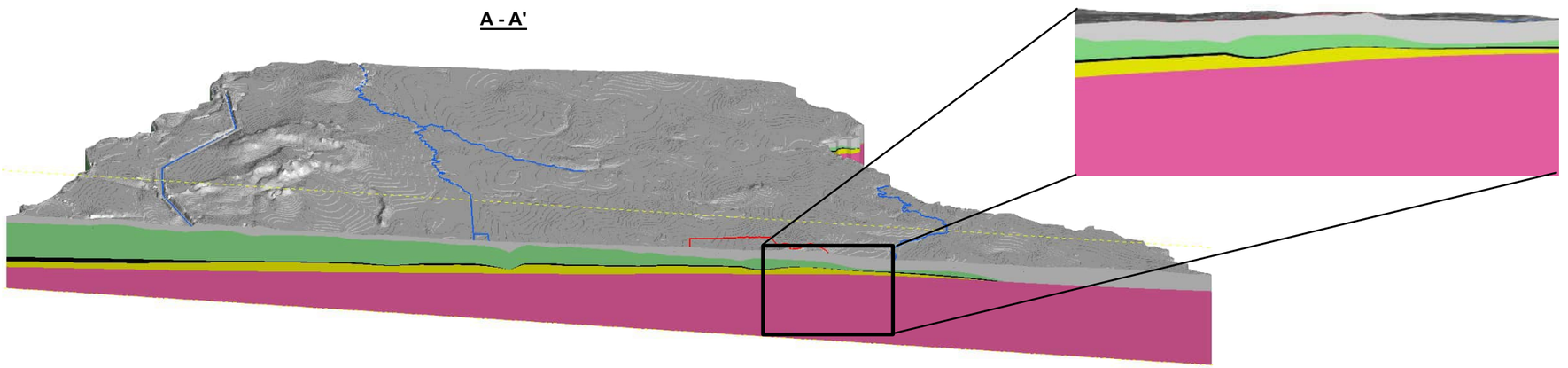
AECOM

Data Sources: MLI, NRCan - Canvec, Manitoba Agriculture and Resource Development

MAP LOCATION: L:\DOCS\SIS\MANIT\OBA\60730241_SIO_SILICA_EXTRACT_REFILE\DESIGN\01_REPORTS\HYDROGEOLOGY\RU_60730241_SIO SILICA EXTRACT_HYDROGEOLOGY.APRX FIGURE: MAP_FIG5-3_HYDROGEO_BEDROCKGEOLOGY
DATE SAVED: 2024-11-21 USER NAME: PAIGE.CROSSMAN



A - A'



Legend

- Quaternary Sediment
- Red River Carbonate
- Winnipeg Shale
- Winnipeg Sandstone
- Lower Shale / Precambrian Bedrock
- Project Site

NOTE:
Vertical Exaggeration is 20x

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SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT

3D GEOLOGICAL MODEL

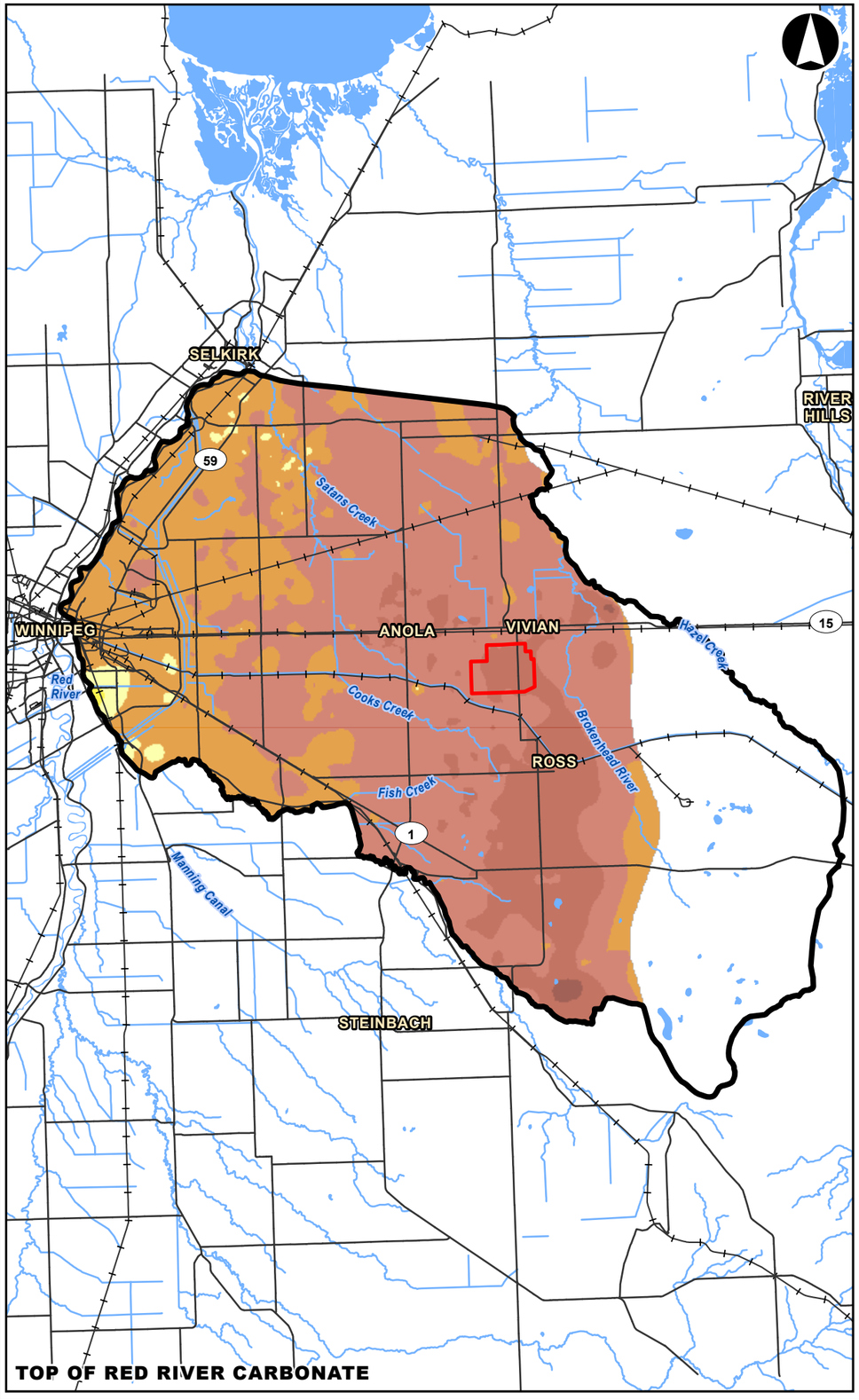
Nov, 2024	PN#: 60730241	

Figure 5-4

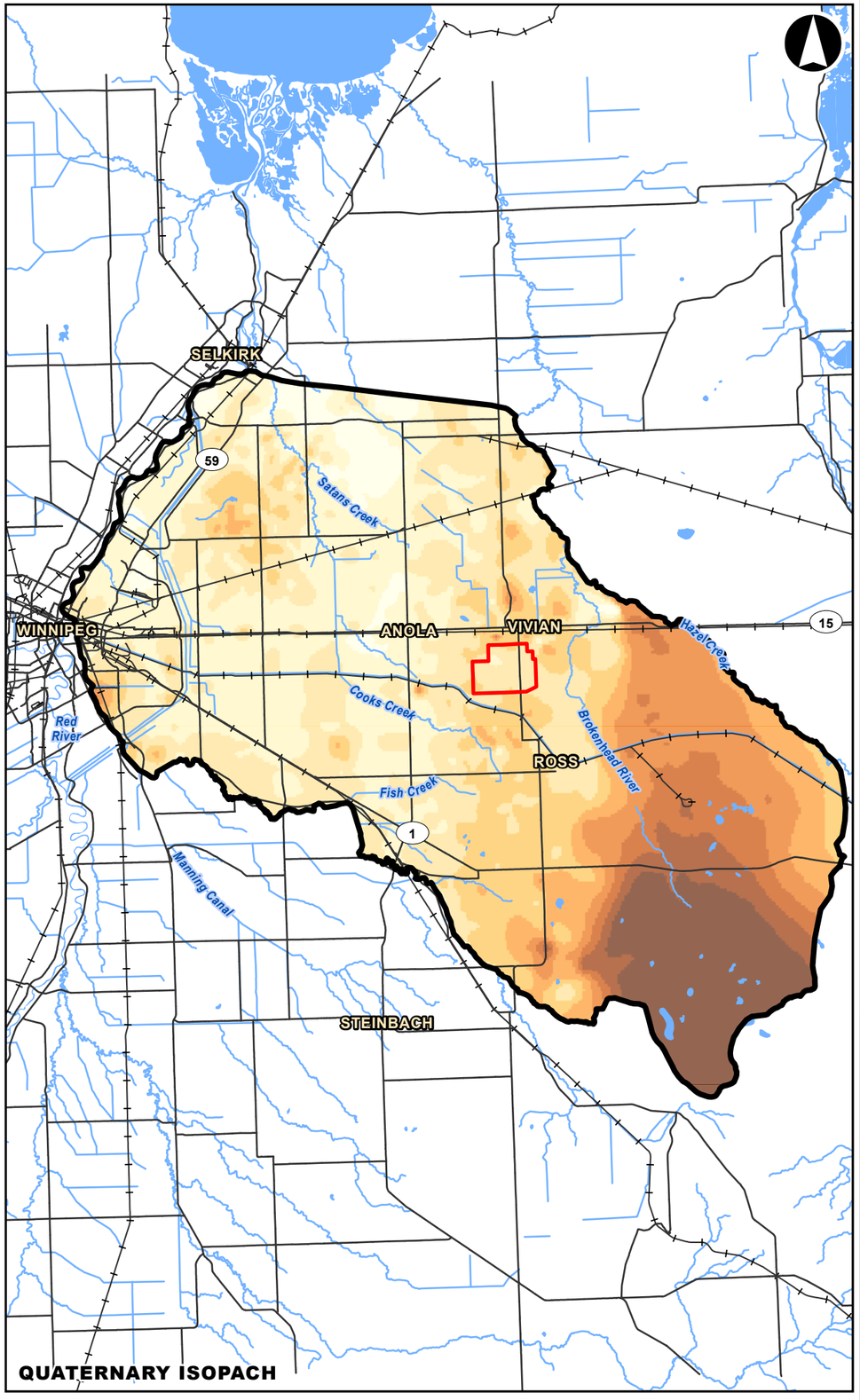
AECOM

Data Sources: ML, NRCan - Canvec

IMAP LOCATION: L:\DCS\GIS\MAN\TOBA\60730241_SIO_SILICA_EXTRACT_REFILE\DESIGN\01_REPORT\5\HYDROGEOLOGY\PRJ_60730241_SIO SILICA EXTRACT_HYDROGEOLOGY.APRX FIGURE: IMAP_FIG5-4_HYDROGEO_3DGEOLOGICALMODEL
DATE SAVED: 2024-11-21 USER NAME: PAIGE.CROSSMAN



TOP OF RED RIVER CARBONATE



QUATERNARY ISOPACH

Legend

25 Year Mine Area

Model Domain

Top of Red River Carbonate (masl)

160 - 180
180 - 200
200 - 220
220 - 240
240 - 260
260 - 280

Quaternary Isopach (m)

0 - 10
10 - 20
20 - 30
30 - 40
40 - 50
50 - 60
60 - 70
70 - 80
80 - 100

General Features

Highway
Railway
Watercourse
Waterbody

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SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT

TOP OF RED RIVER CARBONATE AND QUATERNARY ISOPACH

0 5 10 15 20
Kilometres

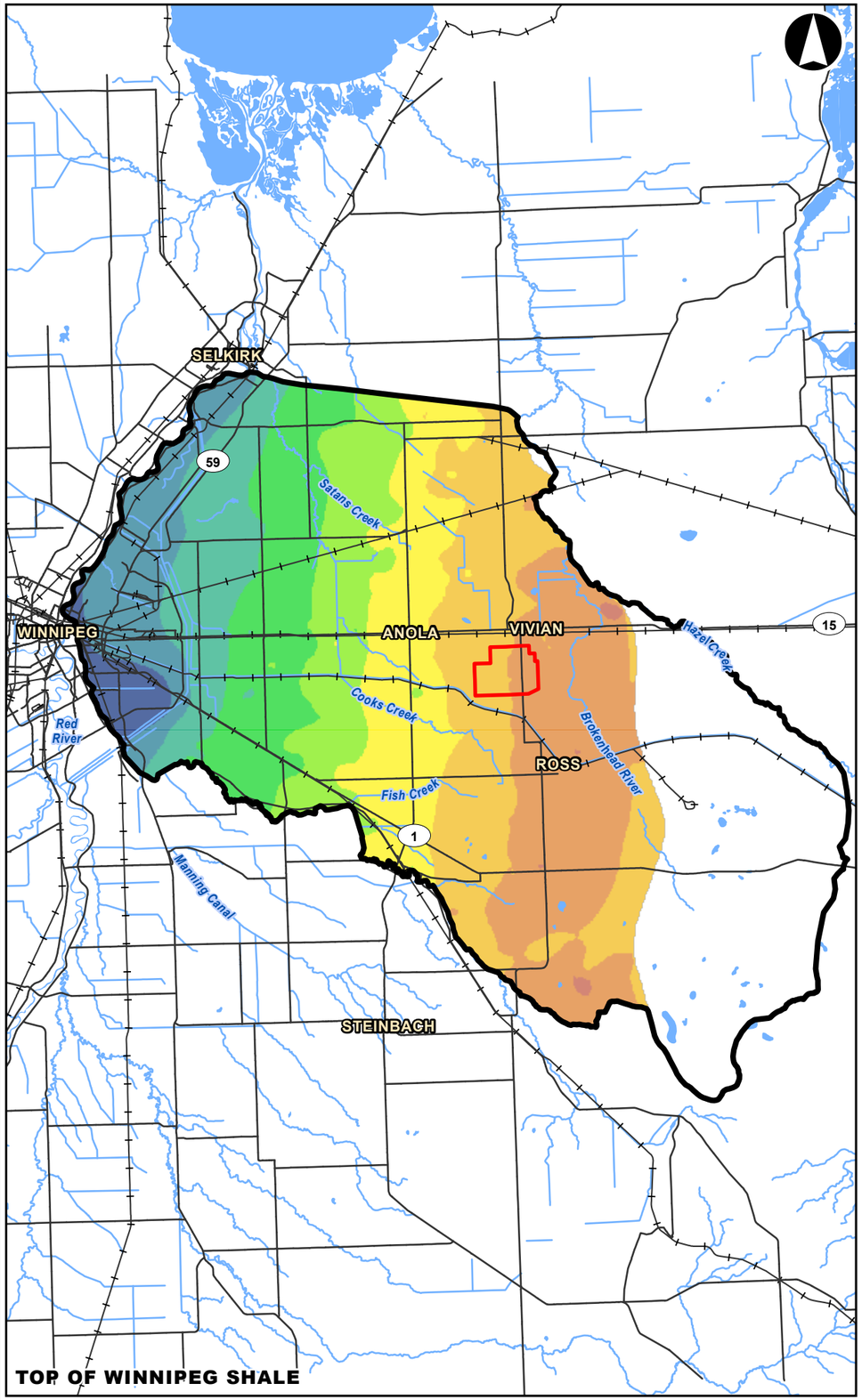
Datum: NAD 1983 UTM Zone 14N

Nov, 2024	PN#: 60730241	1:540,000 * when printed 11"x17"	AECOM

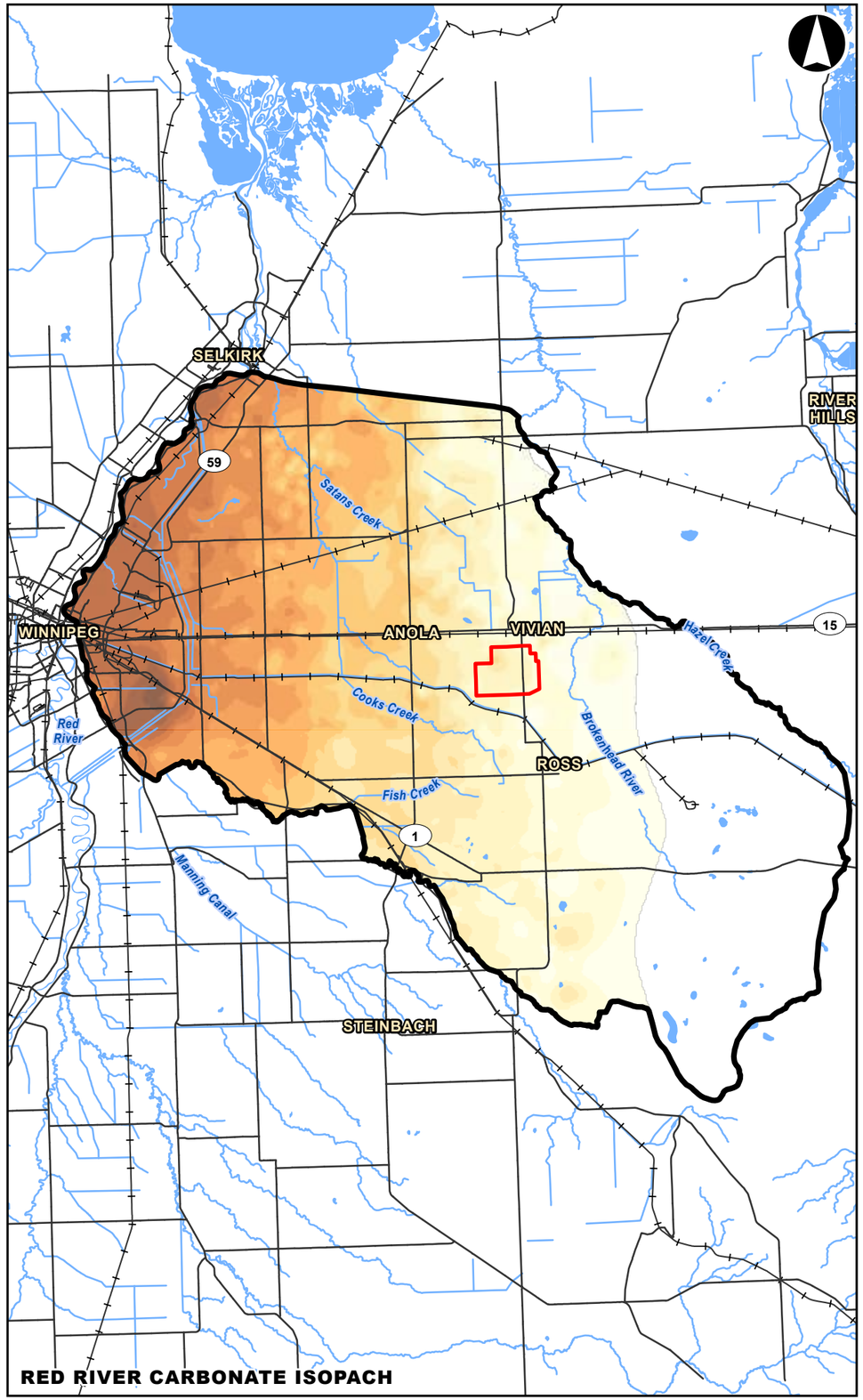
Figure 5-5

Data Sources: MLI, NRCan - Canvec

MAP LOCATION: L:\DC\SIO\SIMA\NT\DB\A\60730241_SIO_SILICA_EXTRACT_REFILE\DESIGN\07_REPORTS\HYDROGEOLOGY\PRJ_60730241_SIO SILICA EXTRACT_HYDROGEOLOGY.APRX FIGURE: MAP_FIG5-5_HYDROGEO_CARBONATE
DATE SAVED: 2024-11-21 USER NAME: PAIGE.CROSSMAN



TOP OF WINNIPEG SHALE



RED RIVER CARBONATE ISOPACH

Legend

25 Year Mine Area

Model Domain

Top of Winnipeg Shale (masl)

80 - 100
100 - 120
120 - 140
140 - 160
160 - 180
180 - 200
200 - 220
220 - 240
240 - 260

Red River Carbonate Isopach (m)

0 - 10
10 - 20
20 - 30
30 - 40
40 - 50
50 - 60
60 - 70
70 - 80
80 - 90
90 - 100
100 - 110
110 - 120
120 - 140

General Features

Highway
Railway
Watercourse
Waterbody

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SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT

TOP OF WINNIPEG SHALE AND RED RIVER CARBONATE ISOPACH

0 5 10 15 20
Kilometres

Datum: NAD 1983 UTM Zone 14N

Nov, 2024	PN#: 60730241	1:540,000 * when printed 11"x17"	AECOM

Figure 5-6

Data Sources: MLI, NRCan - Canvec

MAP LOCATION: L:\DCS\GIS\MANITOBA\60730241_SIO_SILICA_EXTRACT_REPLTE\DESIGN\01_REPORT\5HYDROGEOLOGY\PRJ_60730241_SIO SILICA EXTRACT_HYDROGEOLOGY.APRX FIGURE: MAP_FIG5-6_HYDROGEOLOGY
DATE SAVED: 2024-11-27 USER NAME: PAIGE.CROSSMAN