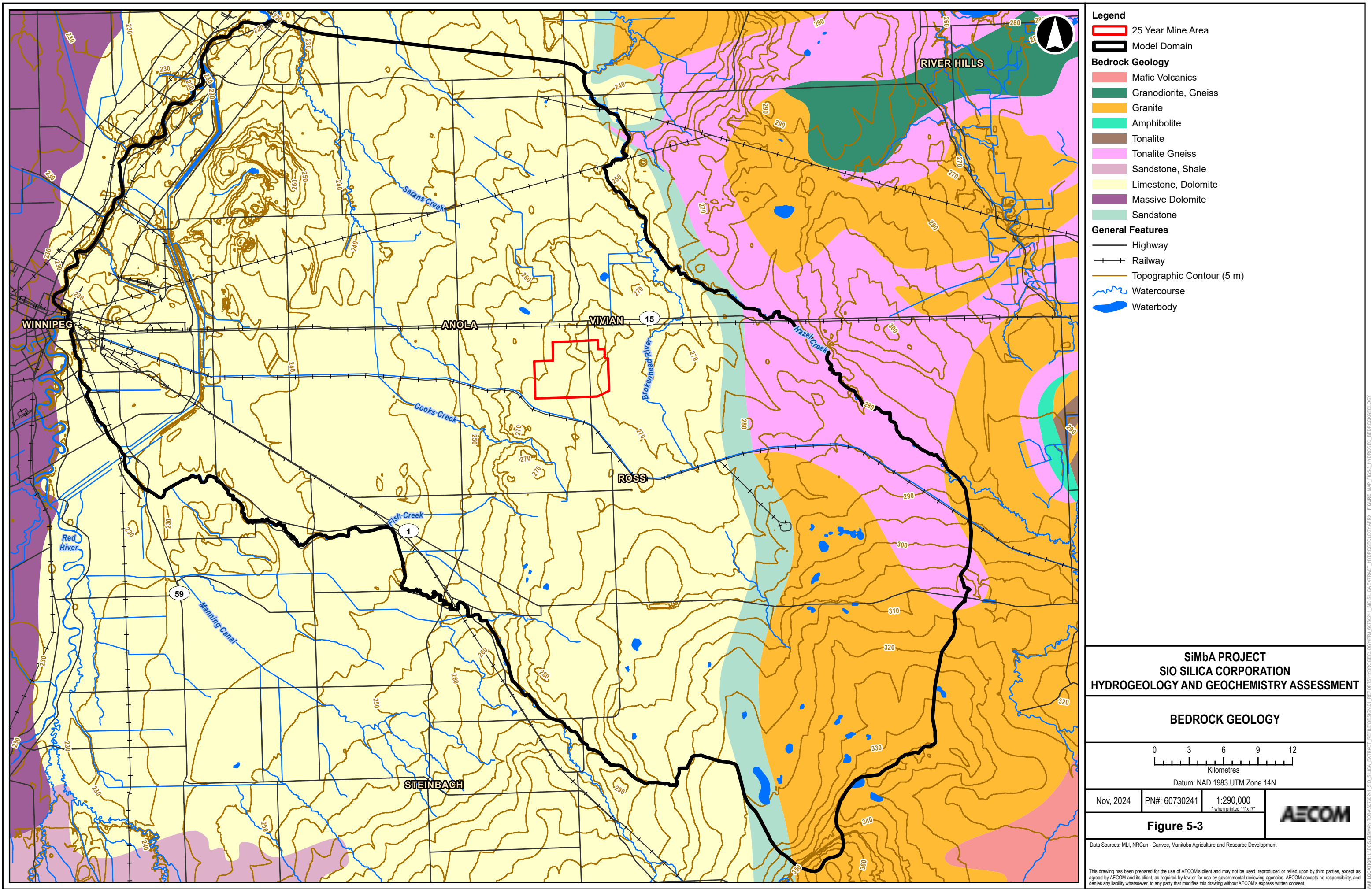
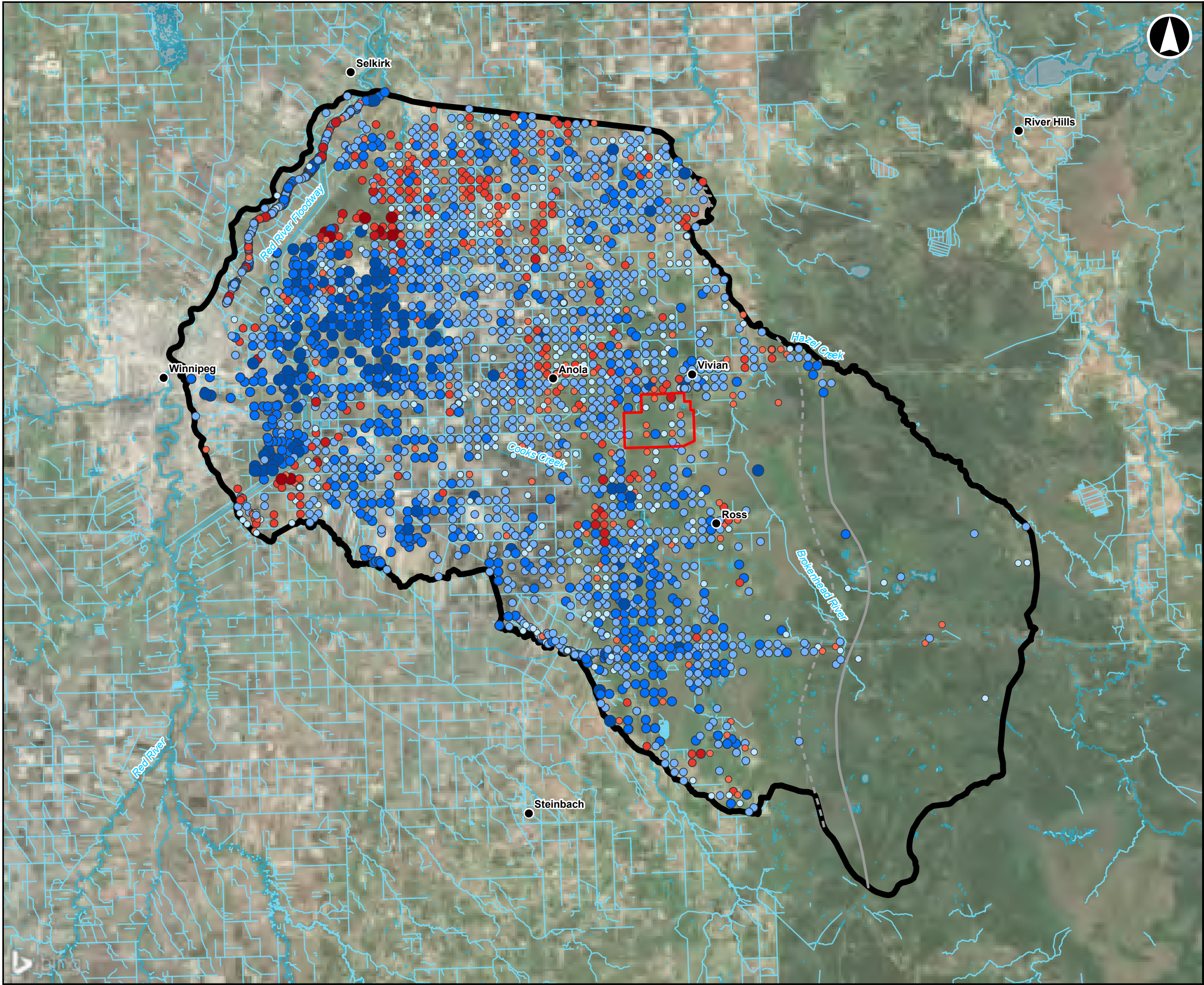


FIGURES







Legend

25 Year Mine Area

Model Domain

General Features

Watercourse

Waterbody

Winnipeg Sandstone Subcrop Upper Contact

Lower Contact

Upper Contact

Simulated Minus Observed Groundwater Elevation (i.e. Residual)

● < 10

● 5 to 10

● 1 to 5

● 1 to 0

● 0 to -1

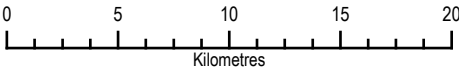
● -1 to -5

● -5 to -10

● > -10

SIMBA PROJECT
SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT

**OBSERVED MINUS SIMULATED GROUNDWATER
ELEVATION (EXISTING CONDITIONS)**



Datum: NAD 1983 UTM Zone 14N

Nov, 2024	PN#: 60730241	1:340,000 * when printed 11"x17"	
Figure 6-3			

Data Sources: ML, NRCan - Canvec
© 2024 Microsoft Corporation Earthstar Geographics SIO

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.

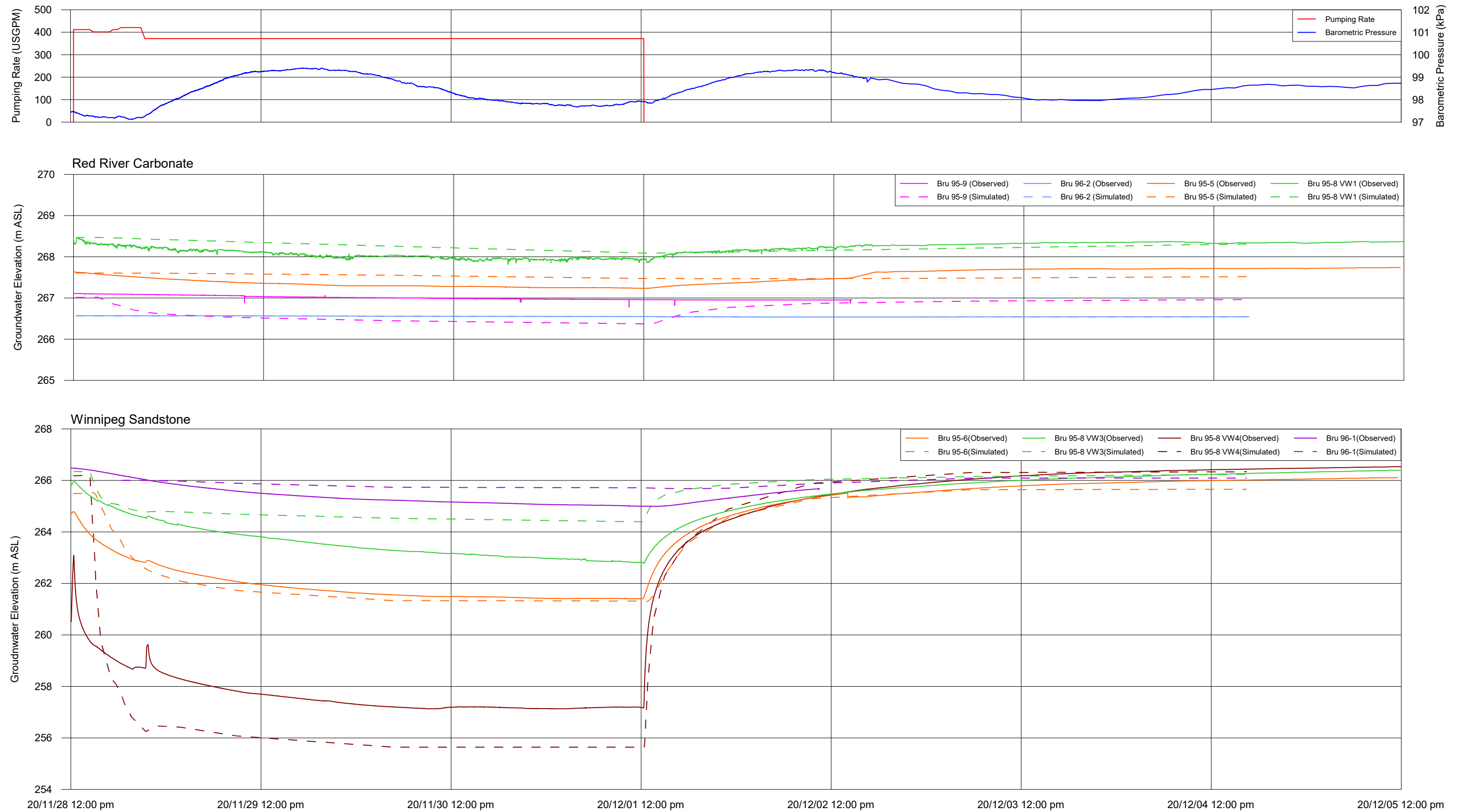
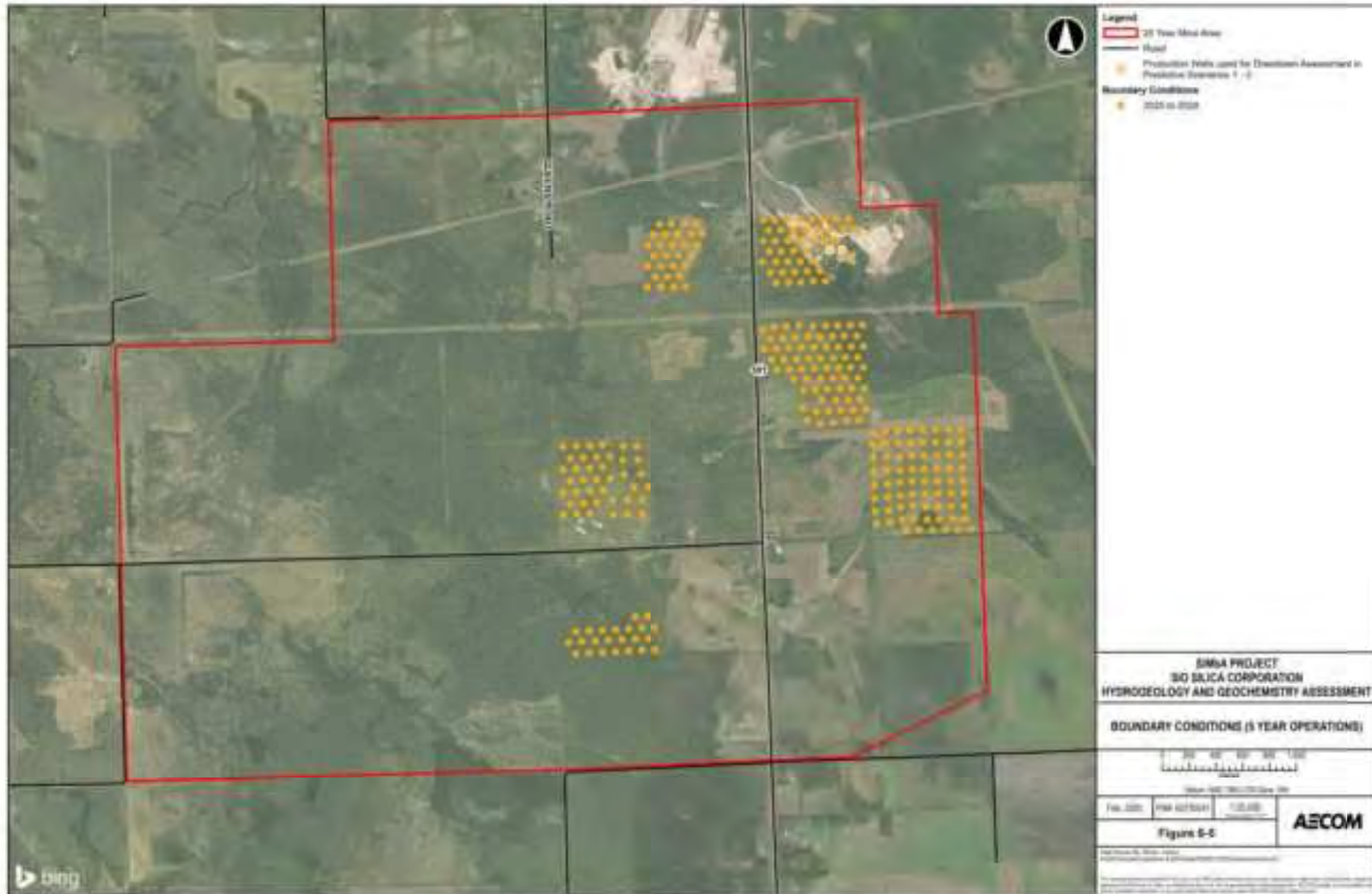


Figure 6-4. Transient Calibration Time Series Plot (Pumping Test)



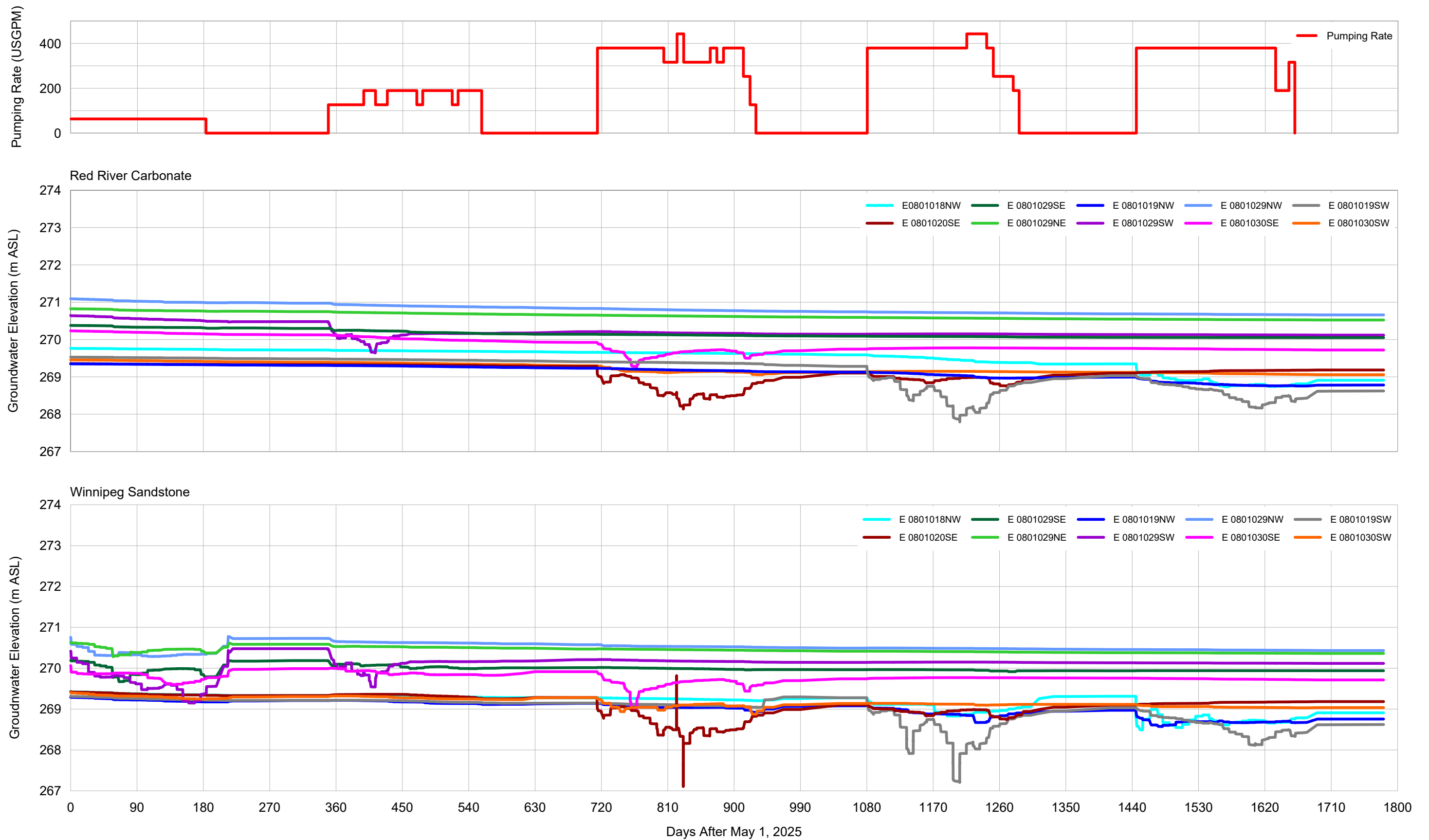
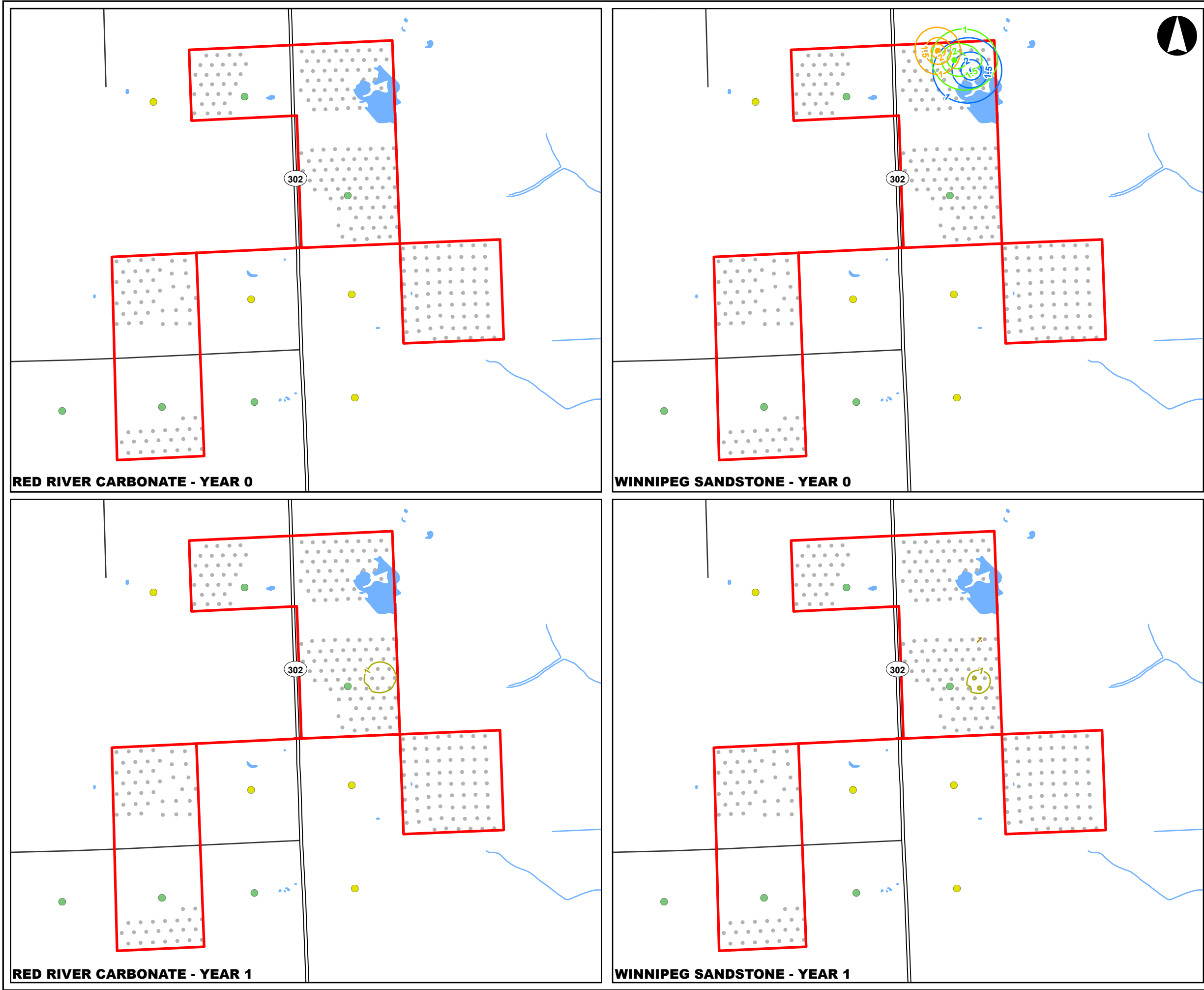


Figure 6-7. Simulated Drawdown and Recovery Hydrograph (Production Years 0 to 4)



Legend

- Production Well
- Project Area - Years 0 - 4

General Features

- Highway
- Road
- Railway
- Watercourse
- Waterbody

Existing Groundwater Users by Aquifer

- Quaternary Sediments
- Red River Carbonate
- Winnipeg Shale
- Winnipeg Sandstone
- Lower Shale / Precambrian

Drawdown Year 0

- Day 0 (No Drawdown)
- Day 30
- Day 90
- Day 180

Drawdown Year 1

- Day 360 (No Drawdown)
- Day 450
- Day 540
- Day 630 (No Drawdown)

SIMBA PROJECT
SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT

SIMULATED DRAWDOWN (YEAR 0 AND YEAR 1)

0 0.5 1 1.5 2
Kilometres

Datum: NAD 1983 UTM Zone 14N

Nov, 2024	PN#: 60730241	1:30,000 *when printed 11"x17"	AECOM
Figure 6-8			

Data Sources: ML, NRCan - Canvec

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.



Legend

- Production Well
- Project Area - Years 0 - 4

General Features

- Highway
- Road
- Railway
- Watercourse
- Waterbody

Existing Groundwater Users by Aquifer

- Quaternary Sediments
- Red River Carbonate
- Winnipeg Shale
- Winnipeg Sandstone
- Lower Shale / Precambrian

Drawdown Year 2

- Day 720
- Day 810
- Day 900
- Day 990 (No Drawdown)

Downdraw Year 3

- Day 1080 (No Drawdown)
- Day 1170
- Day 1260
- Day 1350 (No Drawdown)

SIMba PROJECT
SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT

SIMULATED DRAWDOWN (YEAR 2 AND YEAR 3)

0 0.5 1 1.5 2
Kilometres

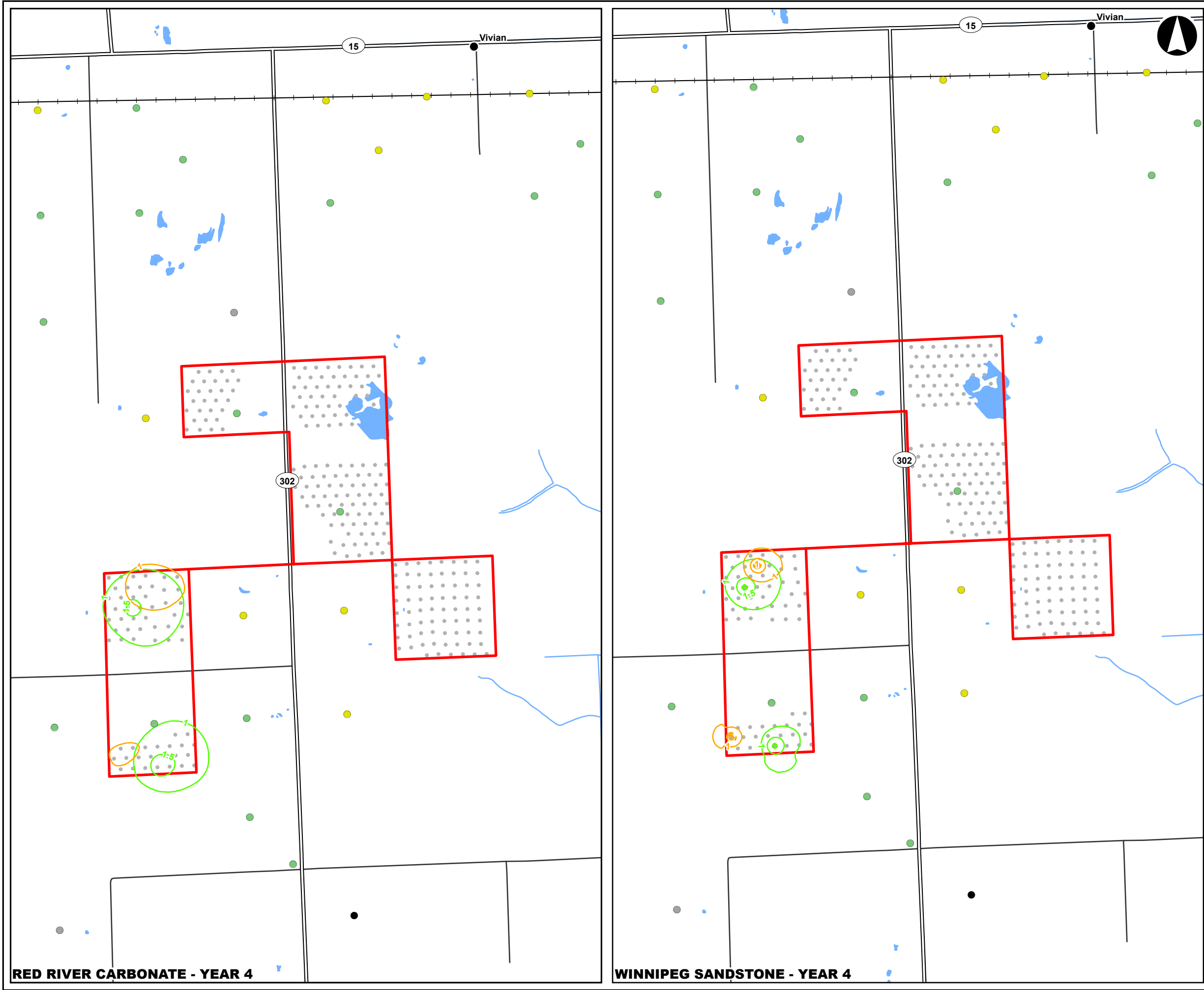
Datum: NAD 1983 UTM Zone 14N

Nov, 2024	PN#: 60730241	1:30,000 *when printed 11"x17"	
Figure 6-9			

Data Sources: ML, NRCan - Canvec

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.

MAP LOCATION: L:\GIS\GISMAN\T03\60730241_SIO_SILICA\EXTRACT\REPORTS\HYDROGEOLOGY\PRJ_B0730241_SIO_SILICA\EXTRACT\HYDROGEOLOGY\APRX_FIGURE_MAP_F06-9_HYDROGEOG_SIMULATEDDRAWDOWN_102193.DWG
DATE SAVED: 2024-11-21 USER: NAME PAGE CROSSMAN



Legend

- Production Well
- Project Area - Years 0 - 4

General Features

- Highway
- Road
- Railway
- Watercourse
- Waterbody

Existing Groundwater Users by Aquifer

- Quaternary Sediments
- Red River Carbonate
- Winnipeg Shale
- Winnipeg Sandstone
- Lower Shale / Precambrian

Drawdown Year 4

- Day 1410 (No Drawdown)
- Day 1530
- Day 1620
- Day 1710 (No Drawdown)
- Day 1781 (No Drawdown)

SIMBA PROJECT
SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT

SIMULATED DRAWDOWN (YEAR 4)

00.511.52

Kilometres

Datum: NAD 1983 UTM Zone 14N

Nov, 2024

PN#: 60730241

1:30,000
*when printed 11"x17"

Figure 6-10

AECOM

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.

MAP LOCATION: L:\GIS\SI\SIANT\03\60730241_SIO_SILICA\EXTRACT\HYDROGEOLOGY\B0730241_SIO_SILICA\EXTRACT\HYDROGEOLOGY\APRX_FIGURE_MAP_FIG-10_HYDROGED_SIMULATEDDRAWDOWN_Y44
DATE SAVED: 2024-11-21 USER: NAME: PAGE: CROSSMAN

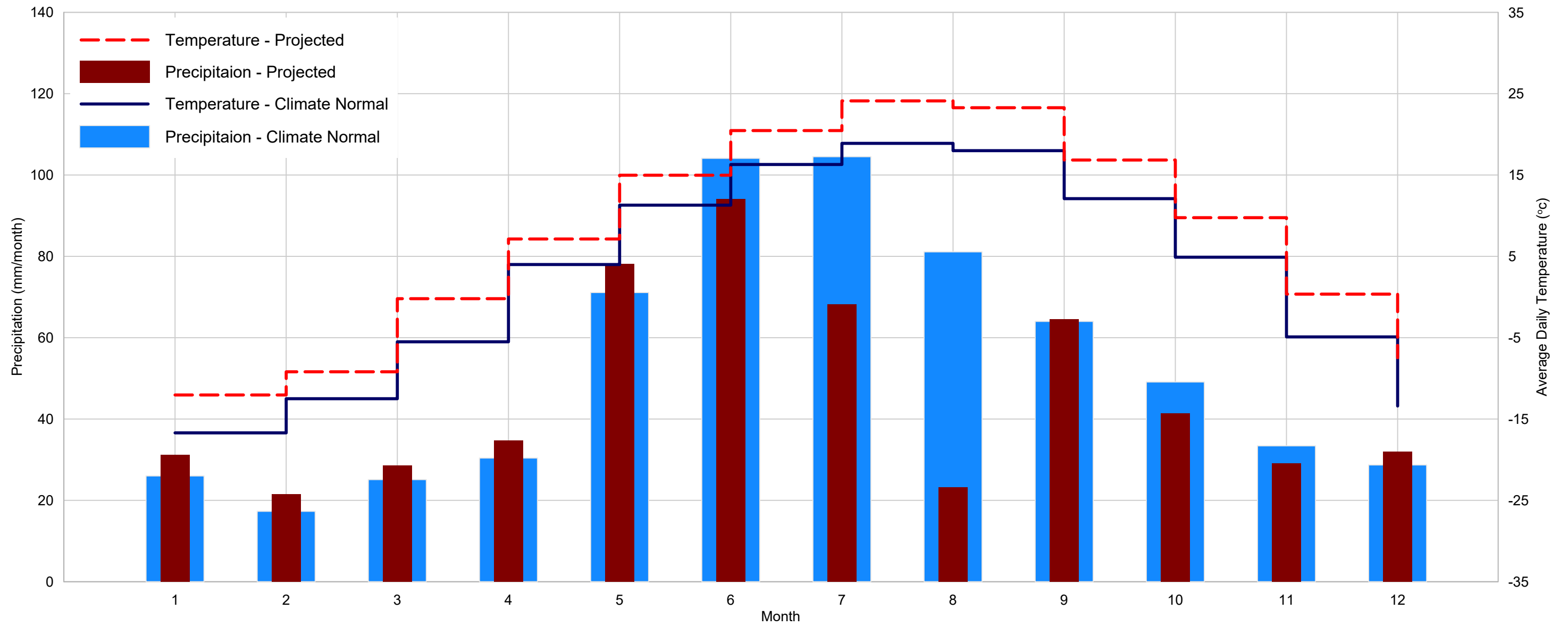
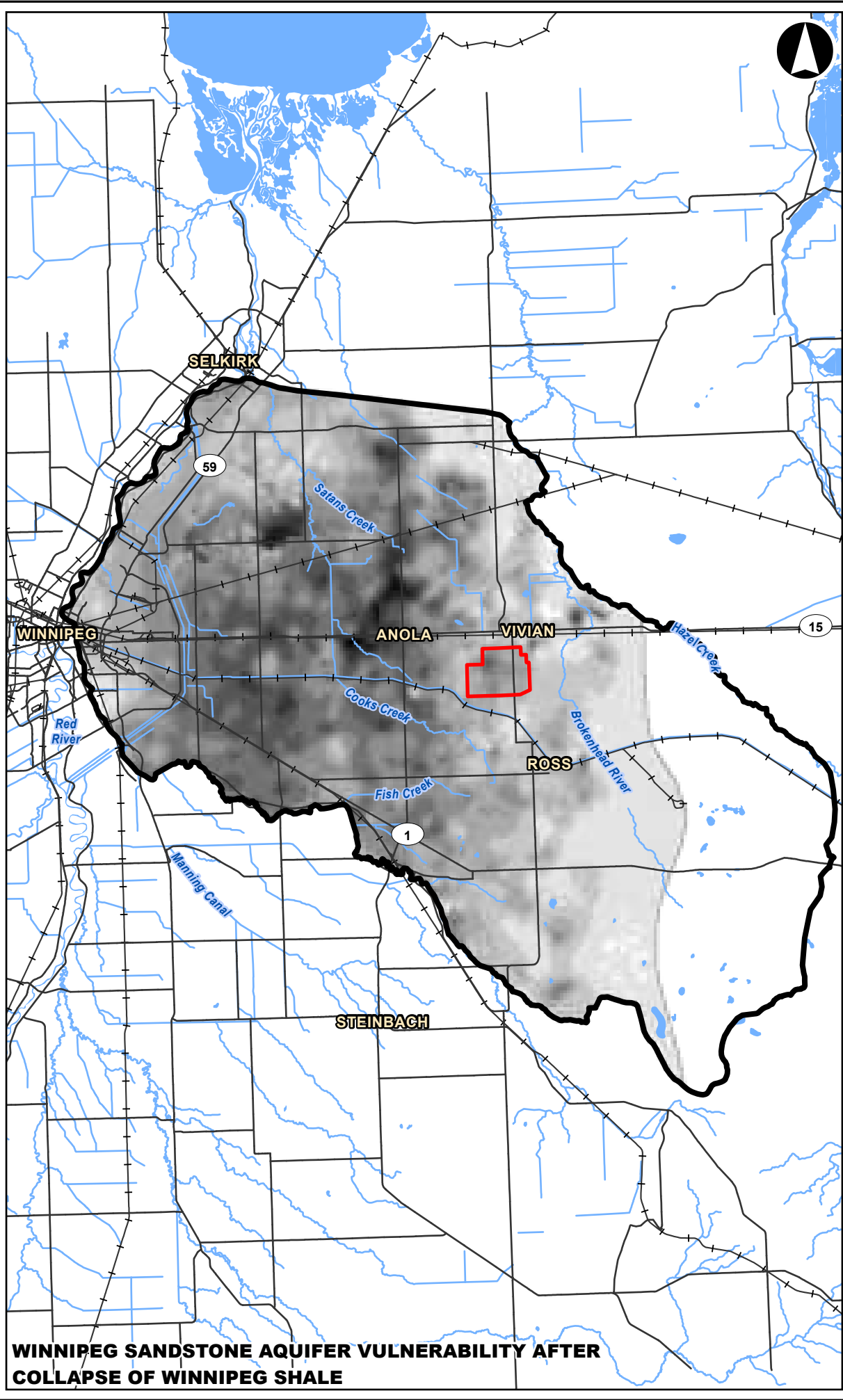
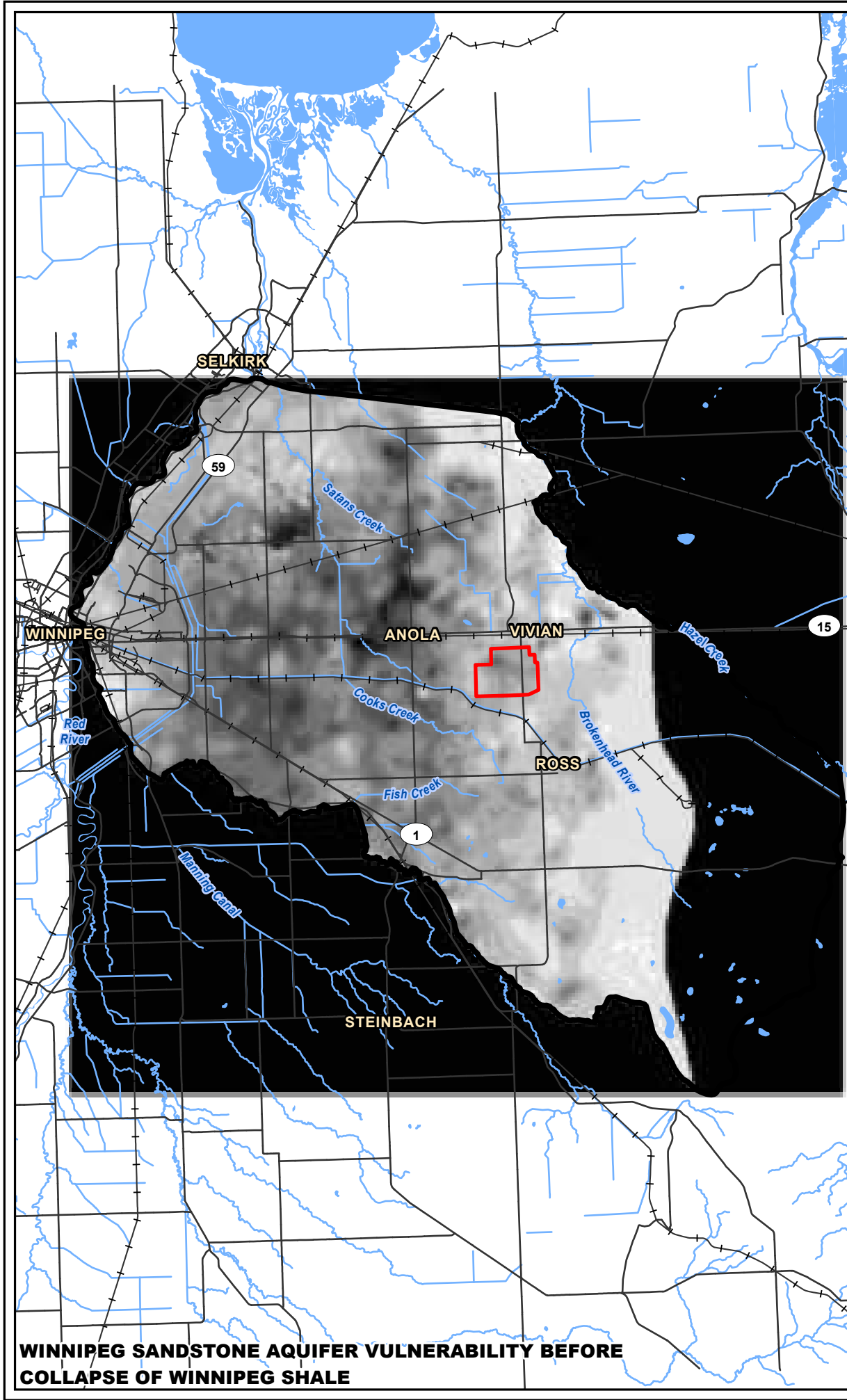


Figure 6-11. Existing and Projected Climate Conditions





Legend

- Groundwater Modeling Domain
- 25 Year Mine Area

General Features

- Highway
- Railway
- Watercourse
- Waterbody

Intrinsic Aquifer Vulnerability (-)

- 0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- 0.6 - 0.7
- 0.7 - 0.8
- 0.8 - 0.9
- 0.9 - 1.0

SIMBA PROJECT
SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT

CHANGE TO AQUIFER VULNERABILITY
BEFORE COLLAPSE OF WINNIPEG SANDSTONE

05101520

Kilometres

Datum: NAD 1983 UTM Zone 14N

Nov, 2024

PN#: 60730241

1:543,396
* when printed 11"x17"

Figure 7-1

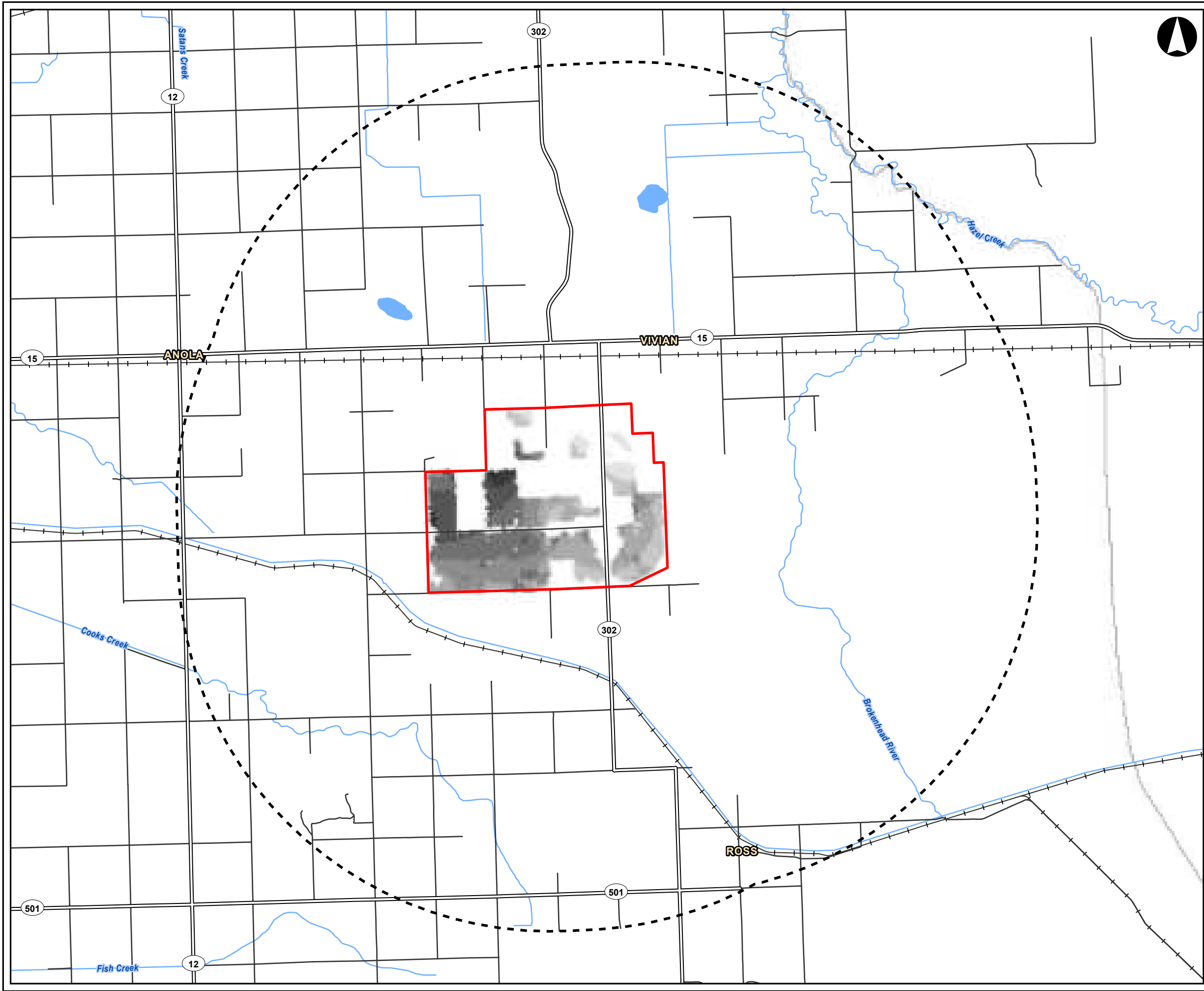
AECOM

Data Sources: ML, NRCan - Canvec

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.

MAP LOCATION: L:\GIS\SI\WANT\03060730241_SIO_SILICA\EXTRACT_HYDROGEOLOGY\APPROX. FIGURE 7-1_1_HYDROGEO SS_VULNERABILITY

DATE SAVED: 2024-11-21 USER: NAME: PAGE: CROSSMAN



Legend

- 25 Year Mine Area
- Regional Project Area

General Features

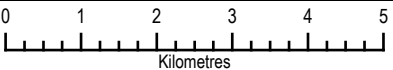
- Highway
- Road
- Railway
- ~ Watercourse
- Waterbody

Change in Intrinsic Aquifer Vulnerability (-)

- 0.001 - 0.015
- 0.016 - 0.030
- 0.031 - 0.045
- 0.046 - 0.060
- 0.061 - 0.075
- 0.076 - 0.090
- 0.091 - 0.105
- 0.106 - 0.120
- 0.121 - 0.135
- 0.136 - 0.150

**SIMBA PROJECT
SIO SILICA CORPORATION
HYDROGEOLOGY AND GEOCHEMISTRY ASSESSMENT**

**CHANGE TO AQUIFER VULNERABILITY
AFTER COLLAPSE OF WINNIPEG SANDSTONE**



Datum: NAD 1983 UTM Zone 14N

Nov, 2024

PN#: 60730241

1:100,000
* when printed 11"x17"



Figure 7-2

Data Sources: ML, NRCan - Canvec

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.