



2021 Pickering and Darlington Nuclear Groundwater Monitoring Program Results

Pickering NGS Community Advisory Council
September 20, 2022



ONTARIO **POWER**
GENERATION

Annual Program Objectives

- Verify groundwater flow direction
- Monitor changes to on-site groundwater quality to identify new issues in a timely manner and assess historical issues
- Monitor groundwater quality at the site boundary to confirm there are no off-site impacts



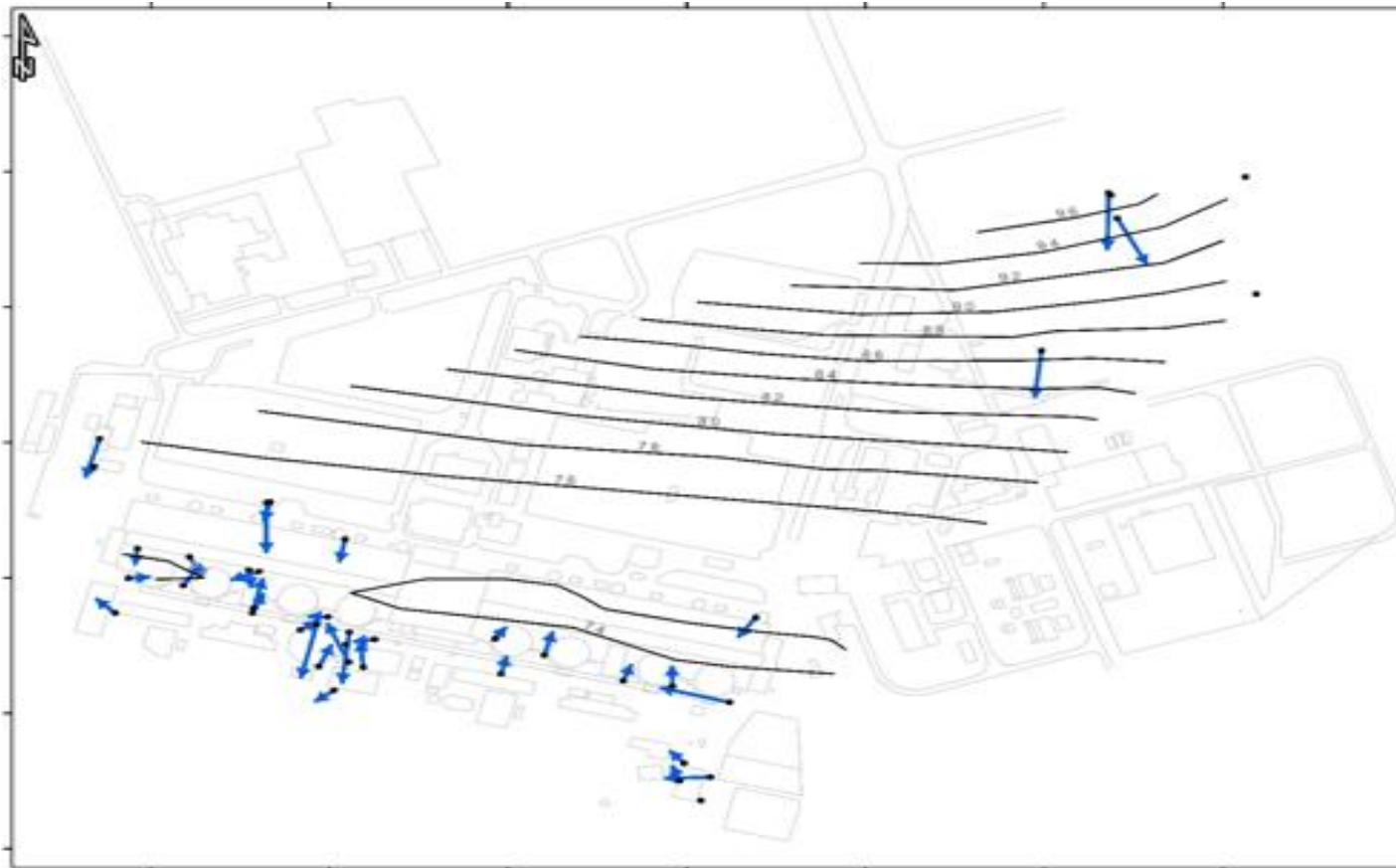
PN | Program Overview



✓ 125 sampling locations

✓ **300 samples**

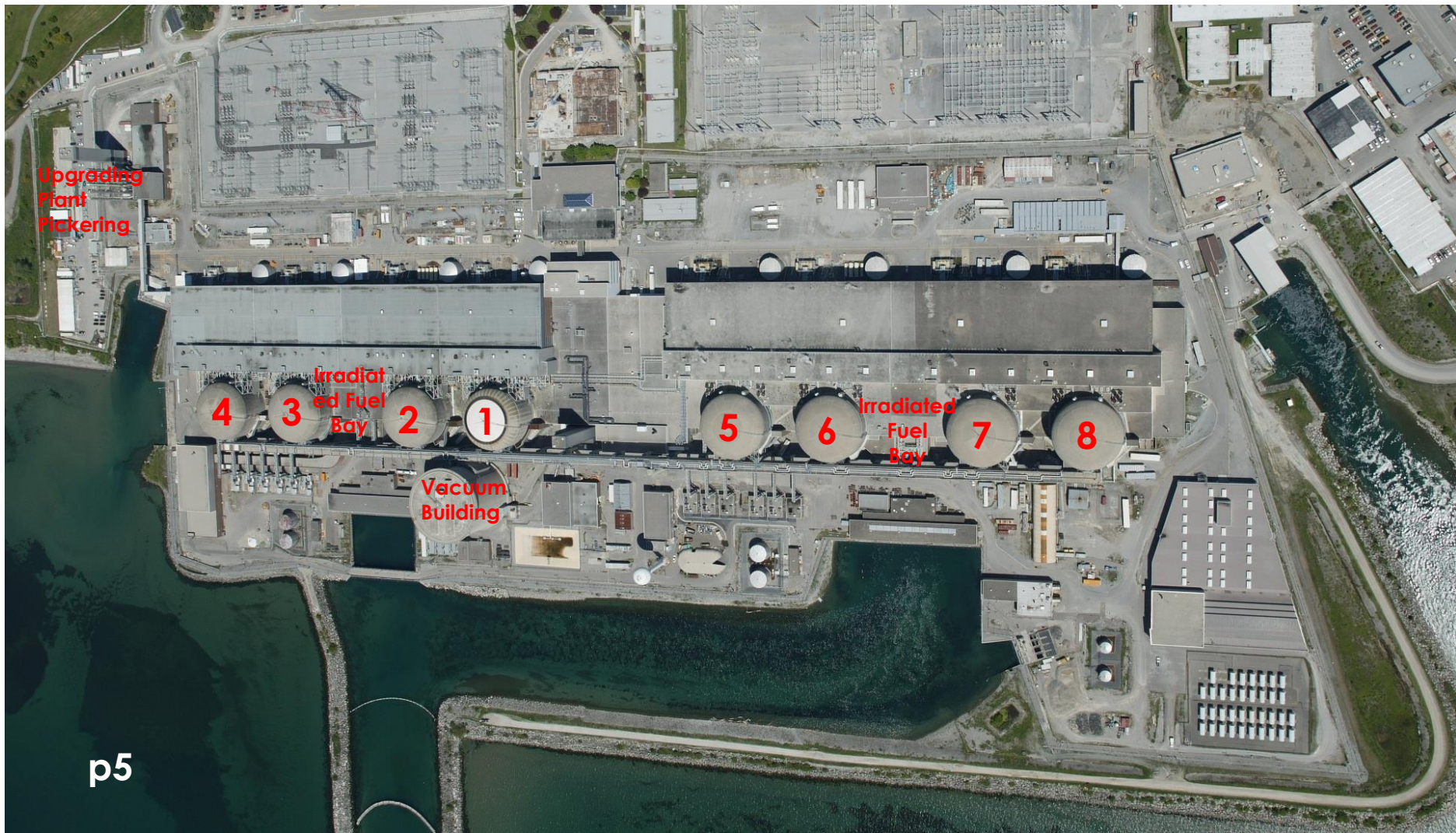
PN | Groundwater Flow Direction



Consistent with previous interpretations

PN | Groundwater Quality

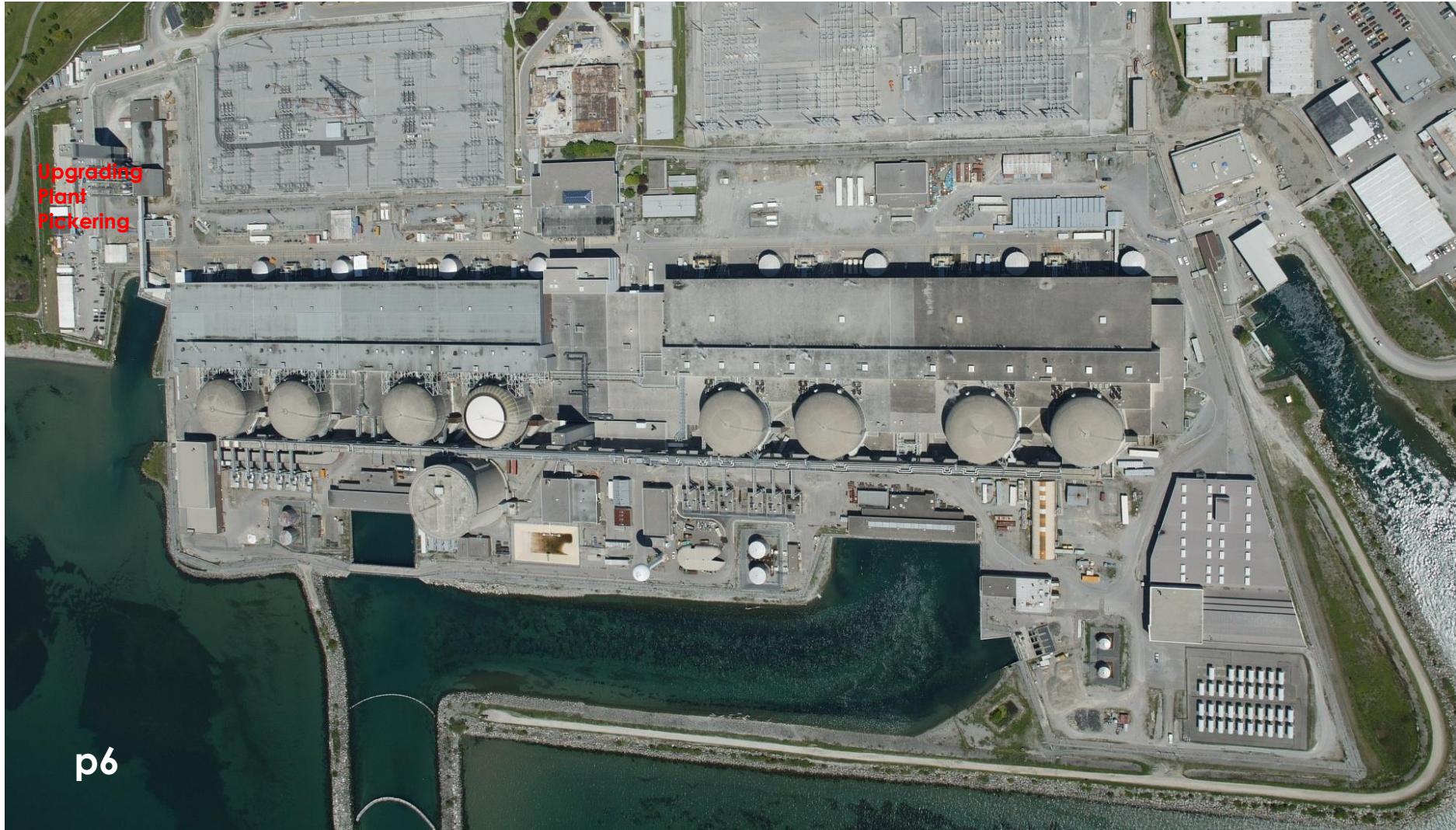
Key Areas Monitored



PN | Groundwater Quality

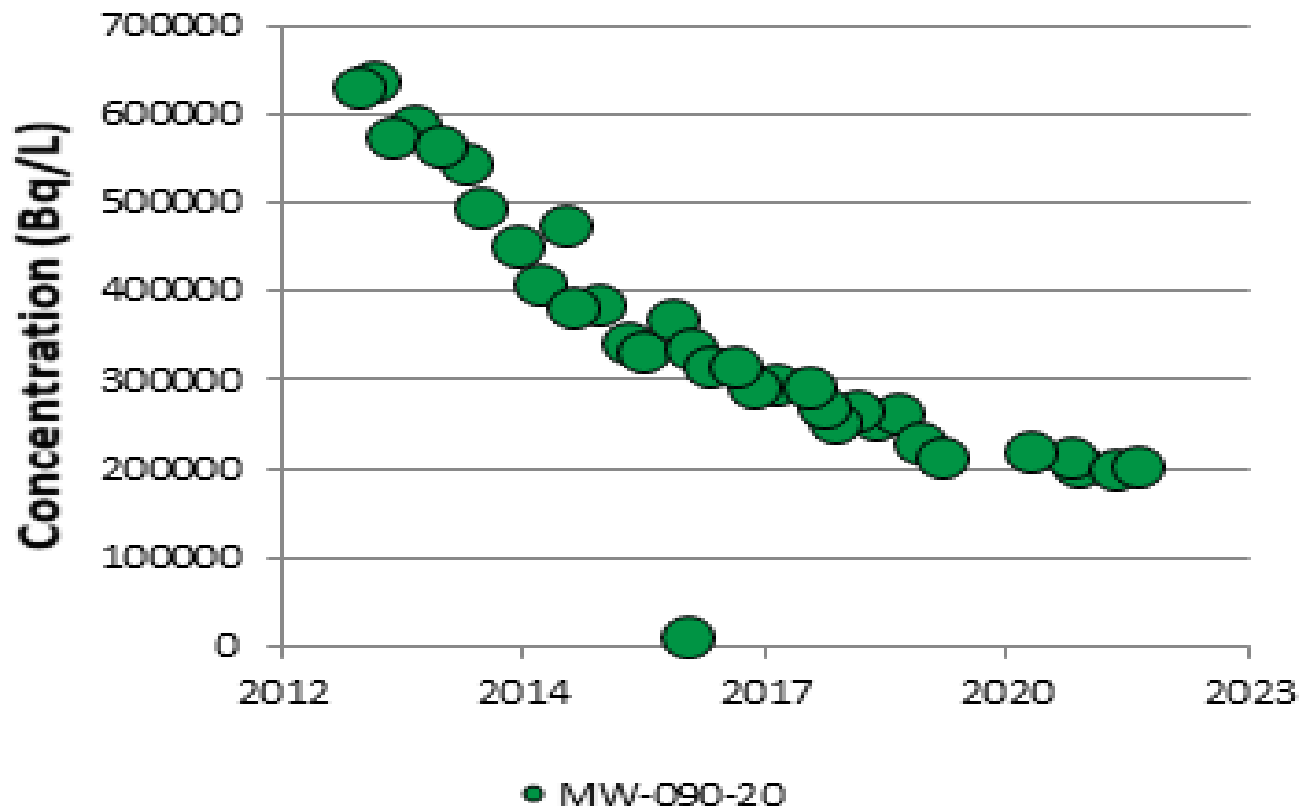
Upgrading Plant Pickering Area

Upgrading
Plant
Pickering



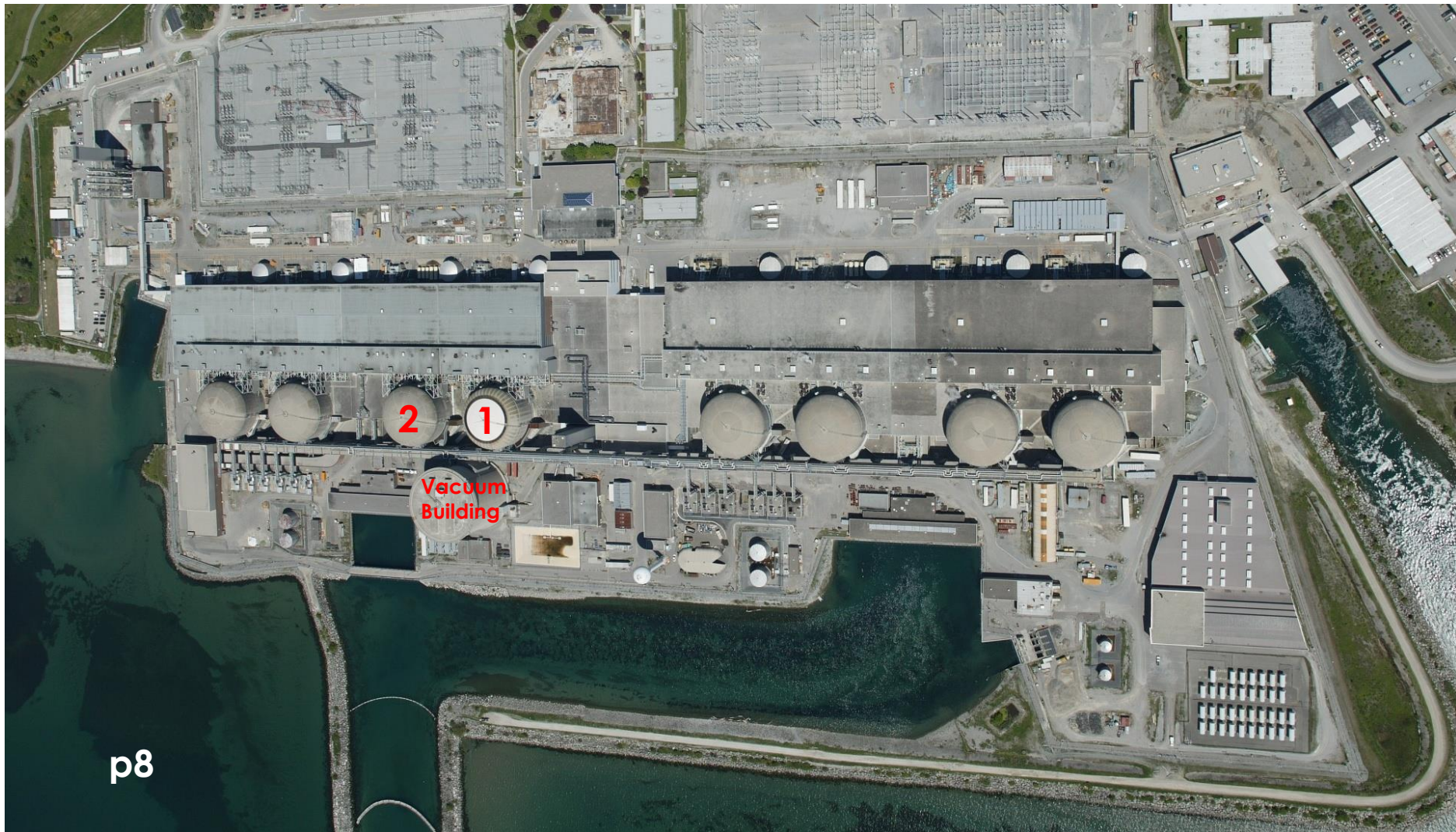
PN | Groundwater Quality

Upgrading Plant Pickering Area



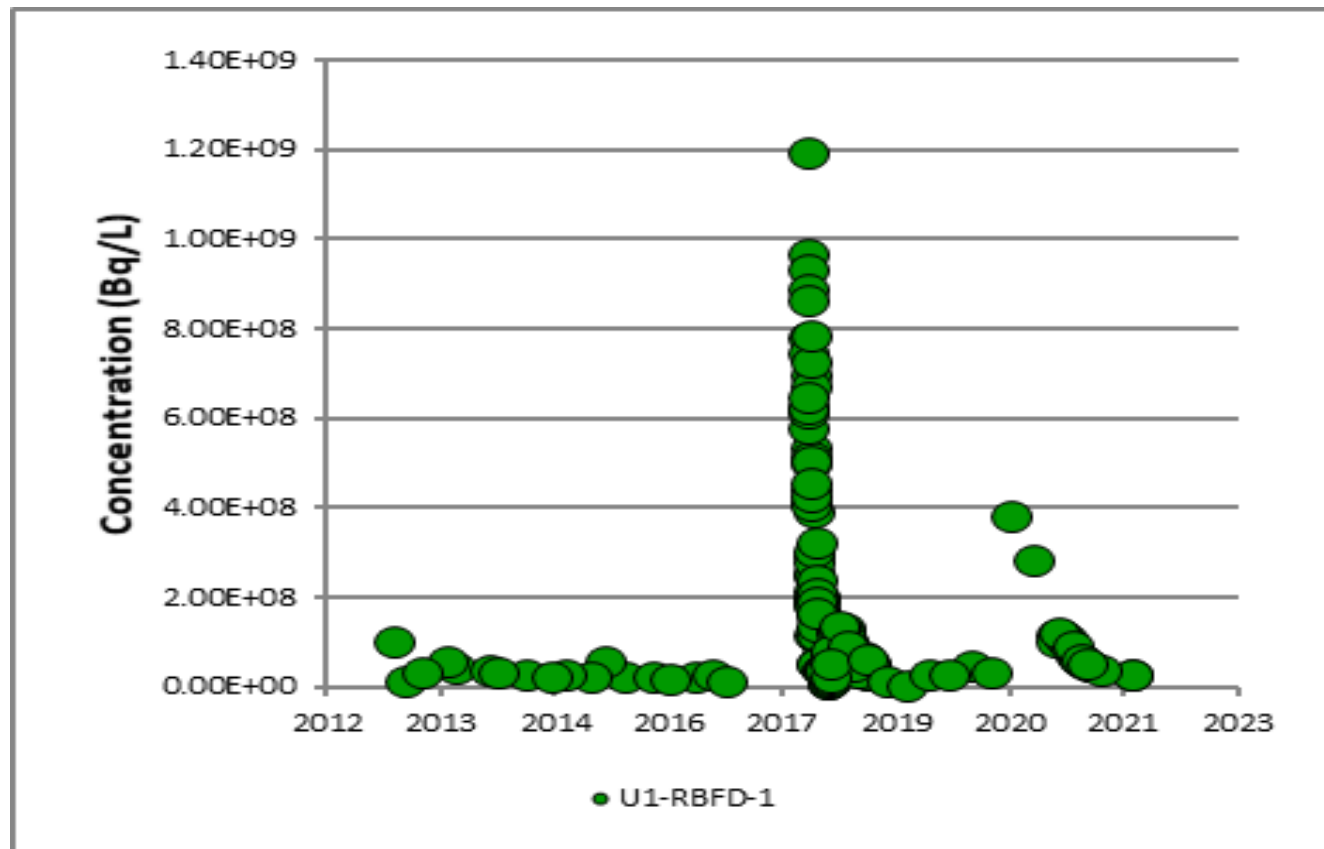
PN | Groundwater Quality

Unit 1, Unit 2, and Vacuum Building Areas



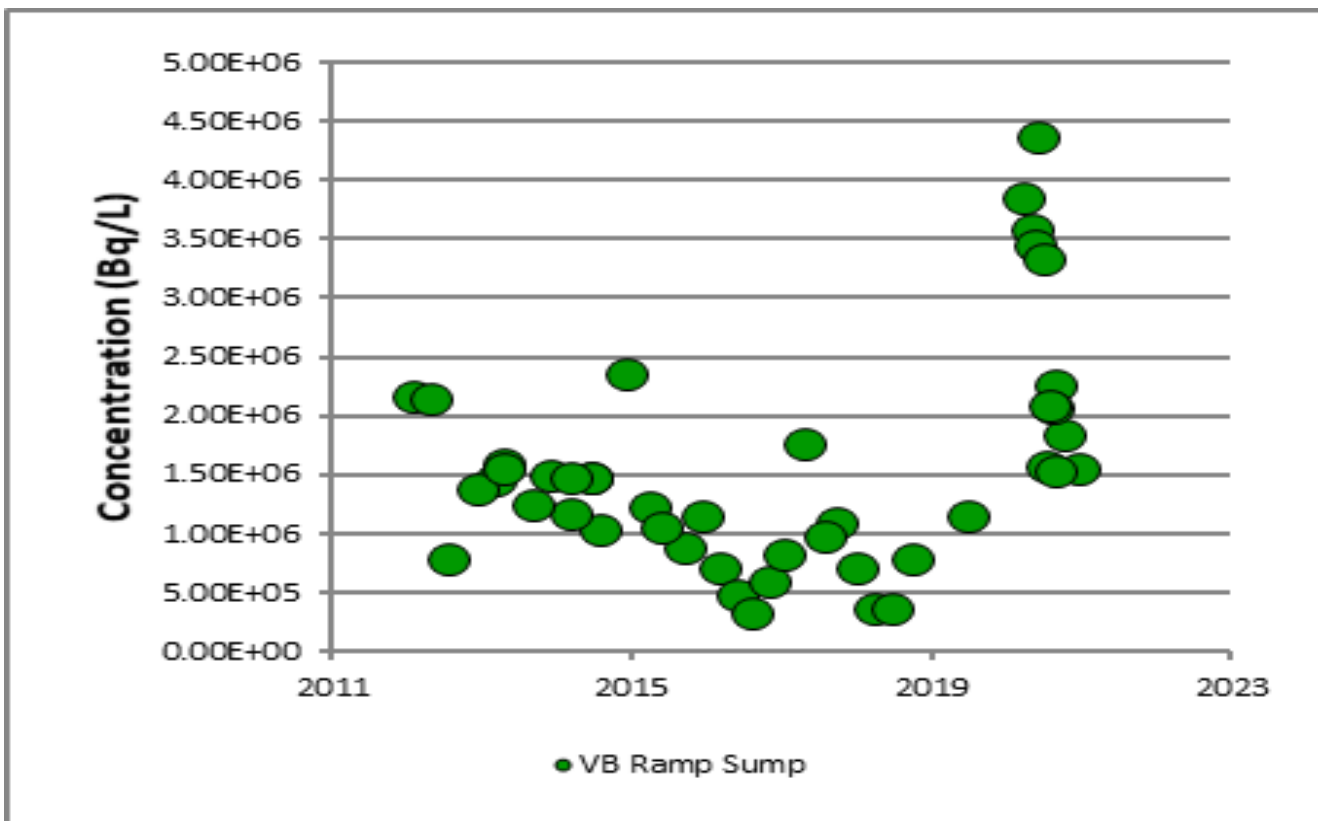
PN | Groundwater Quality

Unit 1, Unit 2, and Vacuum Building Areas



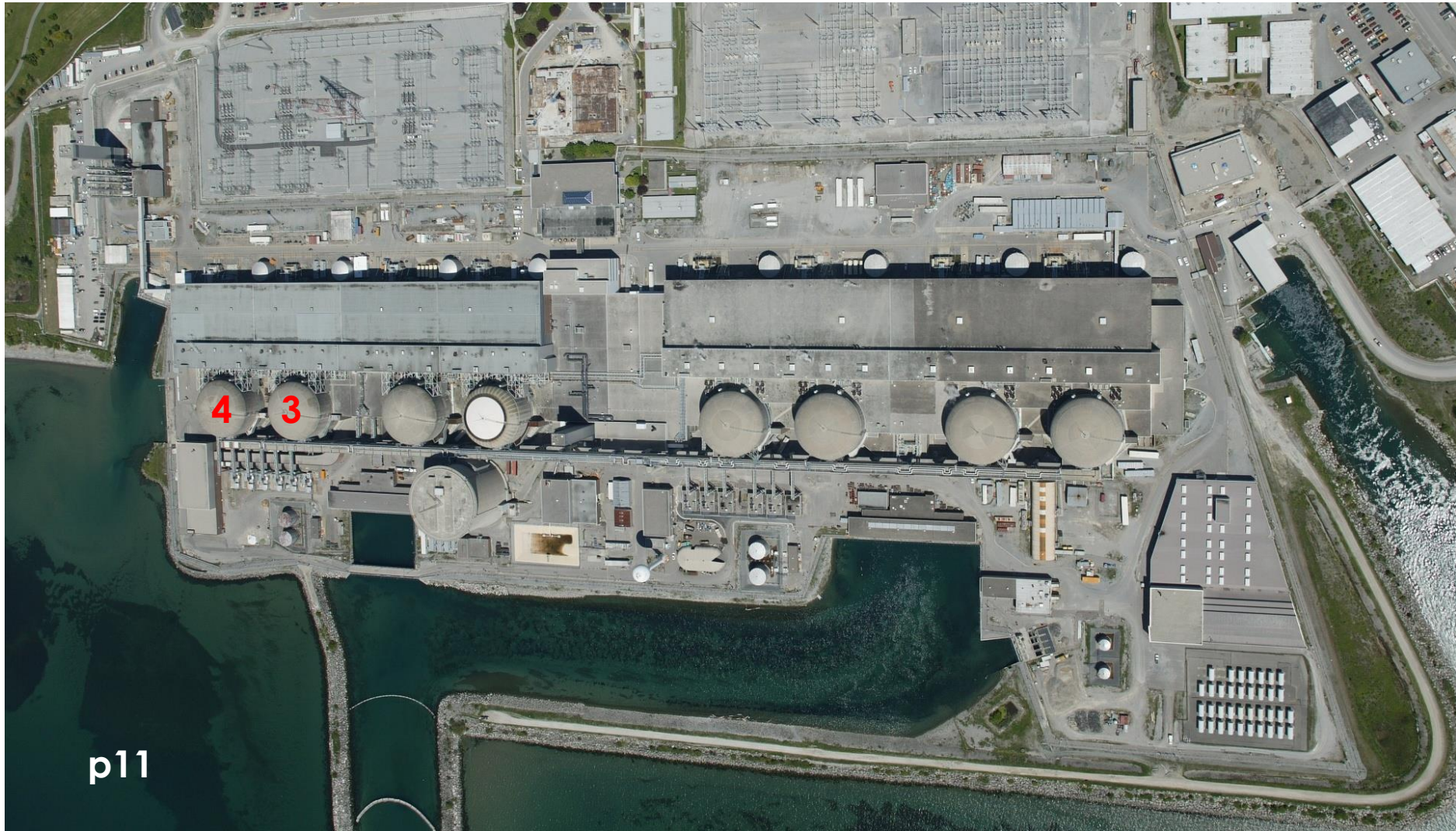
PN | Groundwater Quality

Unit 1, Unit 2, and Vacuum Building Areas



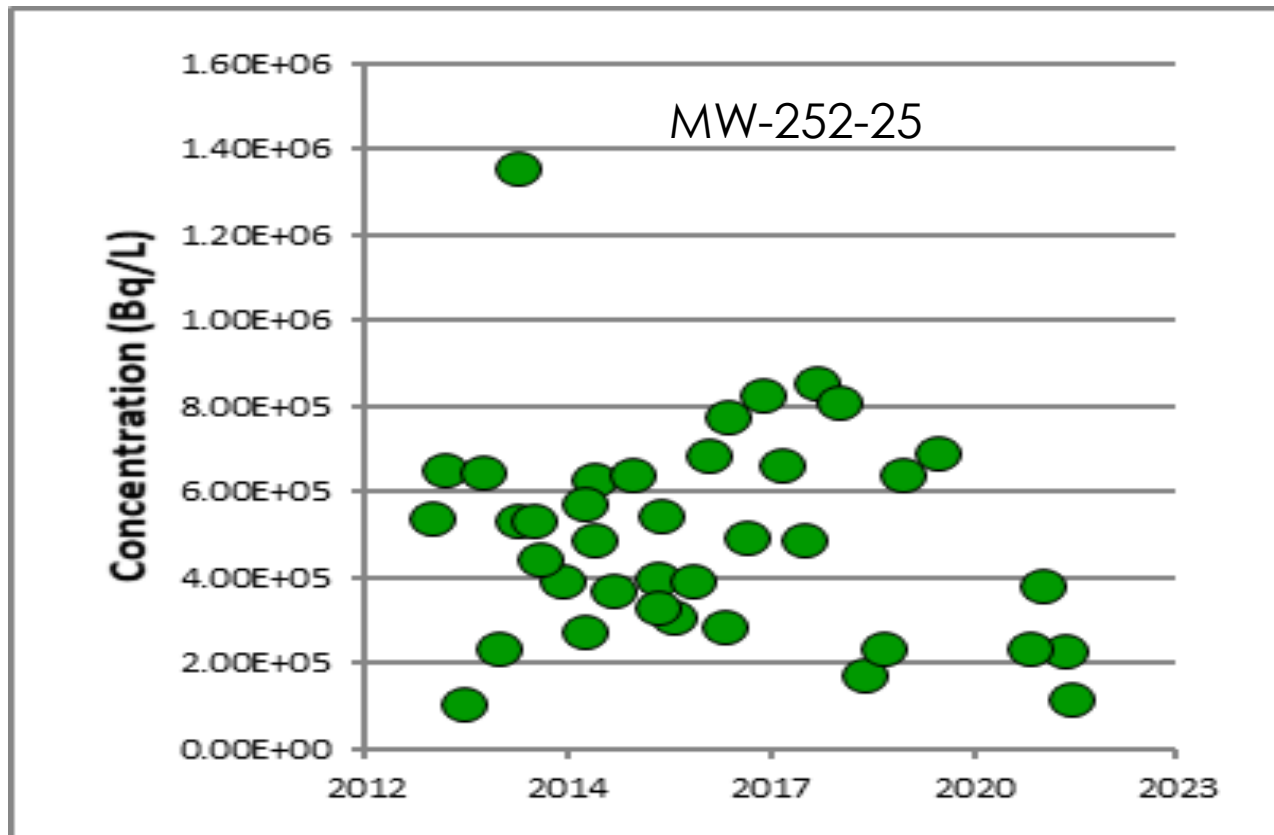
PN | Groundwater Quality

Unit 3 and Unit 4 Areas



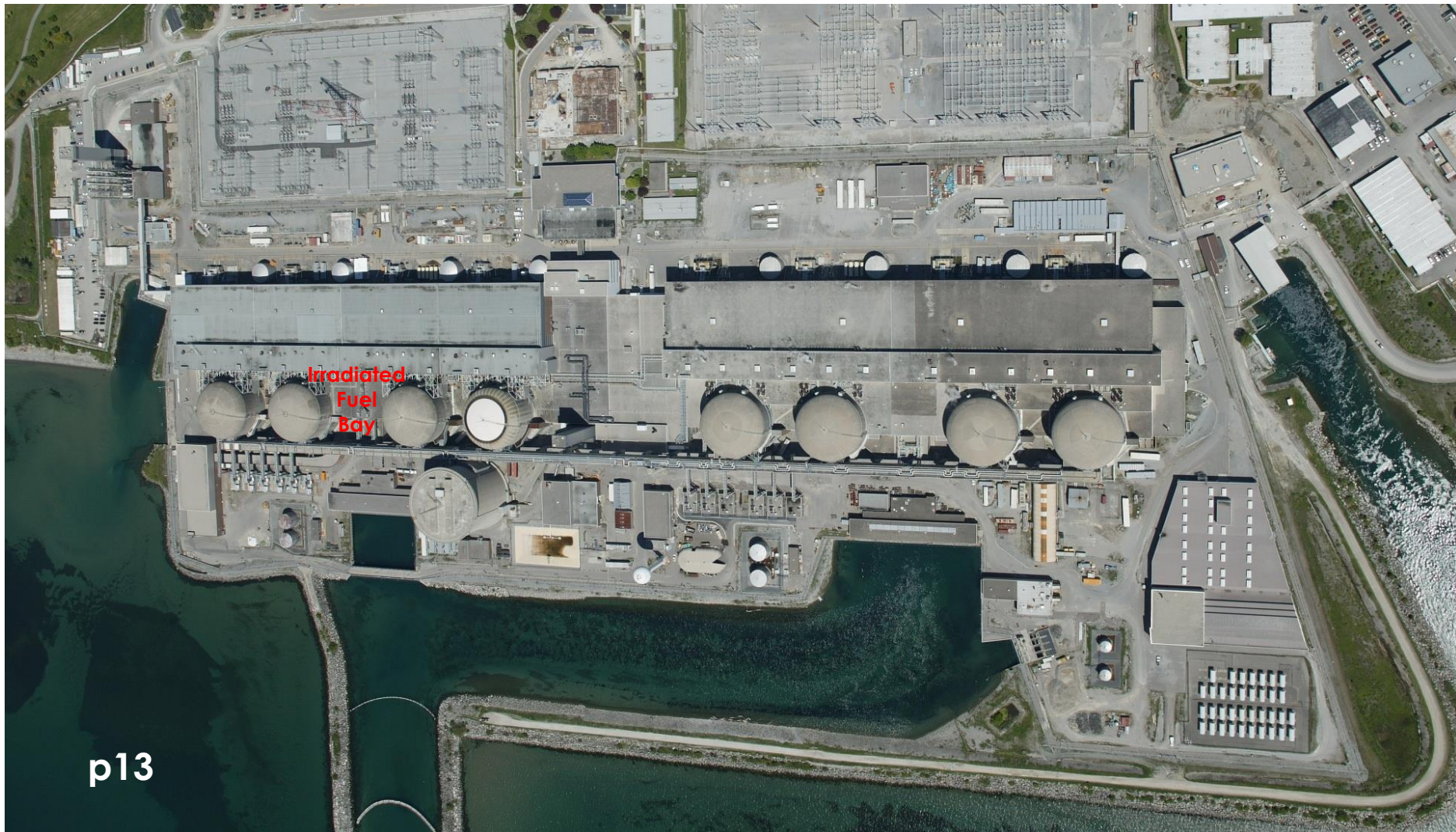
PN | Groundwater Quality

Unit 3 and Unit 4 Areas



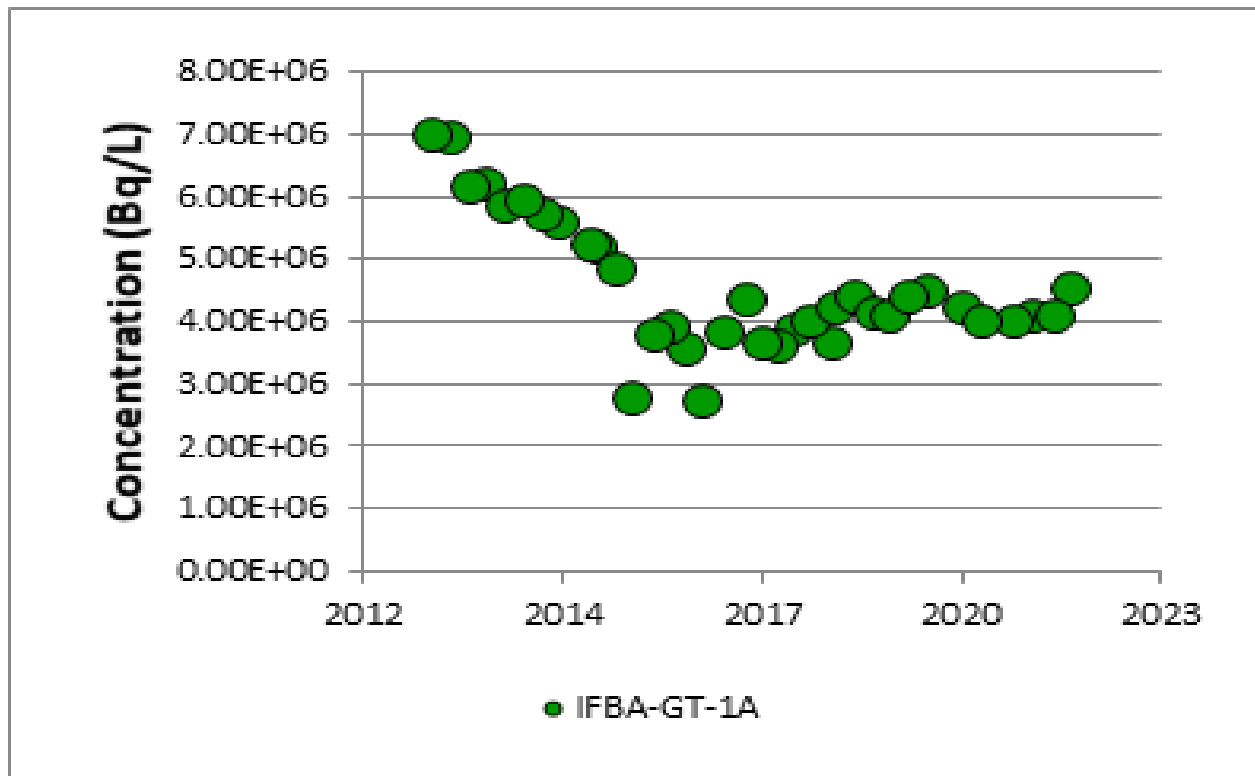
PN | Groundwater Quality

Unit 1 – 4 Irradiated Fuel Bay Area



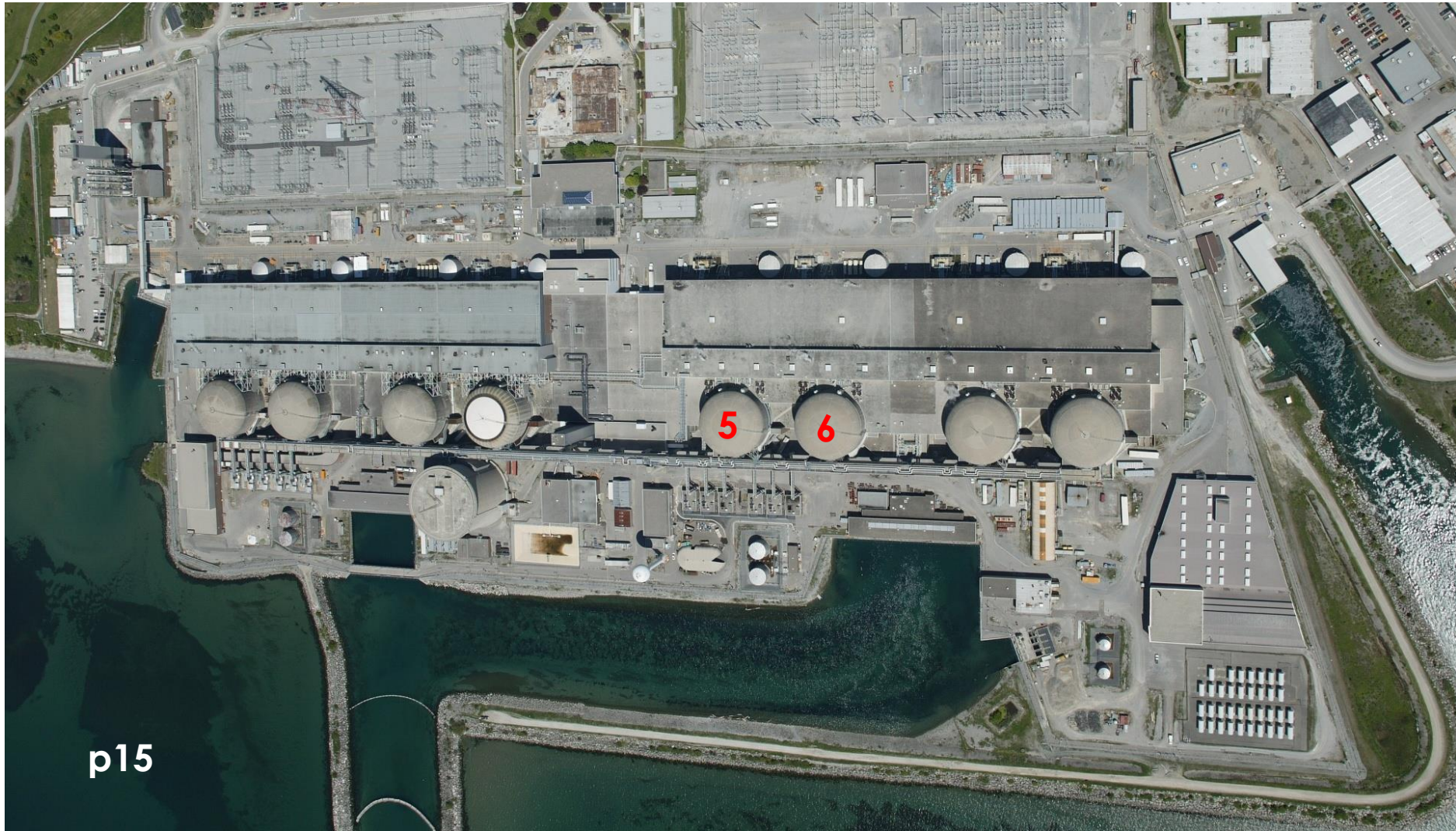
PN | Groundwater Quality

Unit 1 – 4 Irradiated Fuel Bay Area



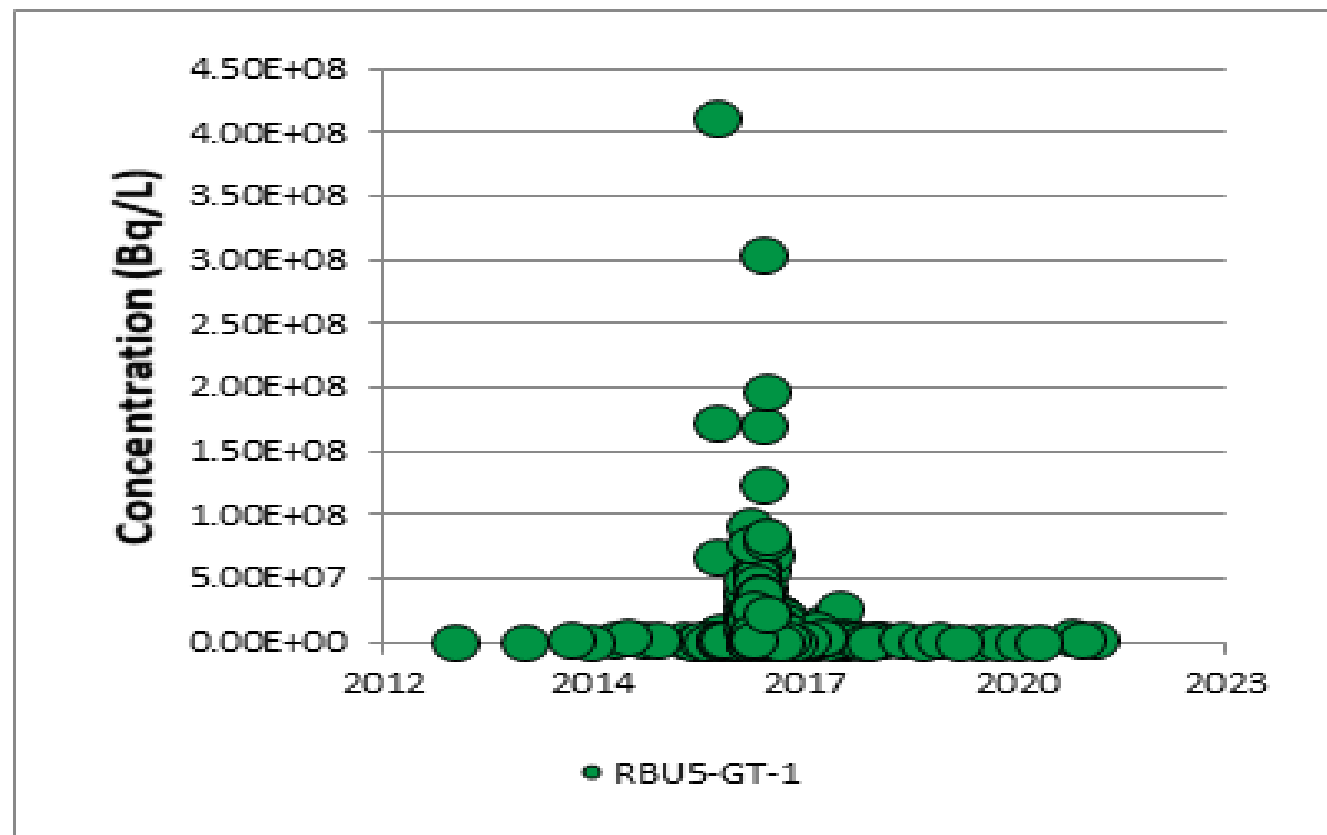
PN | Groundwater Quality

Unit 5 and Unit 6 Areas



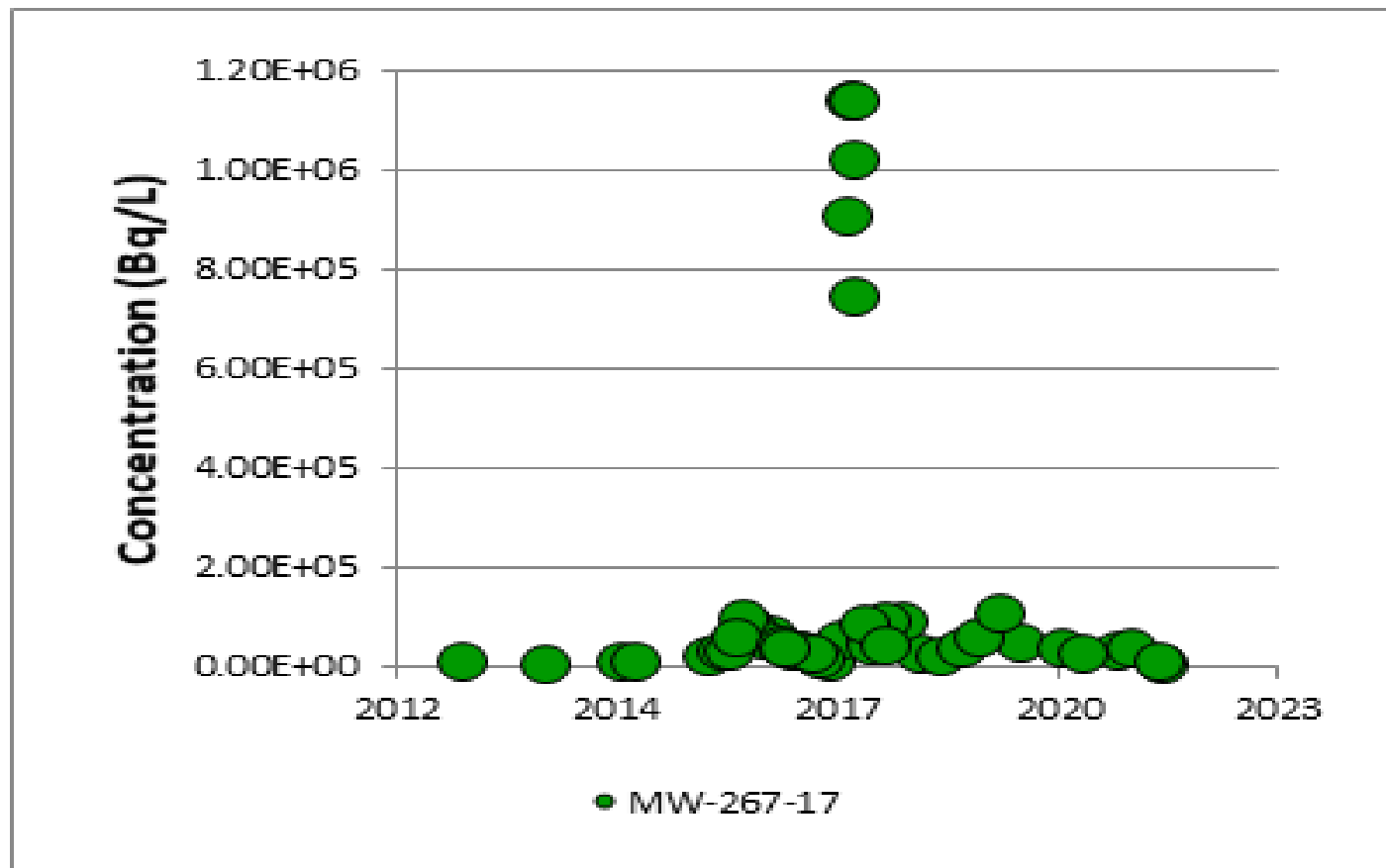
PN | Groundwater Quality

Unit 5 and Unit 6 Areas



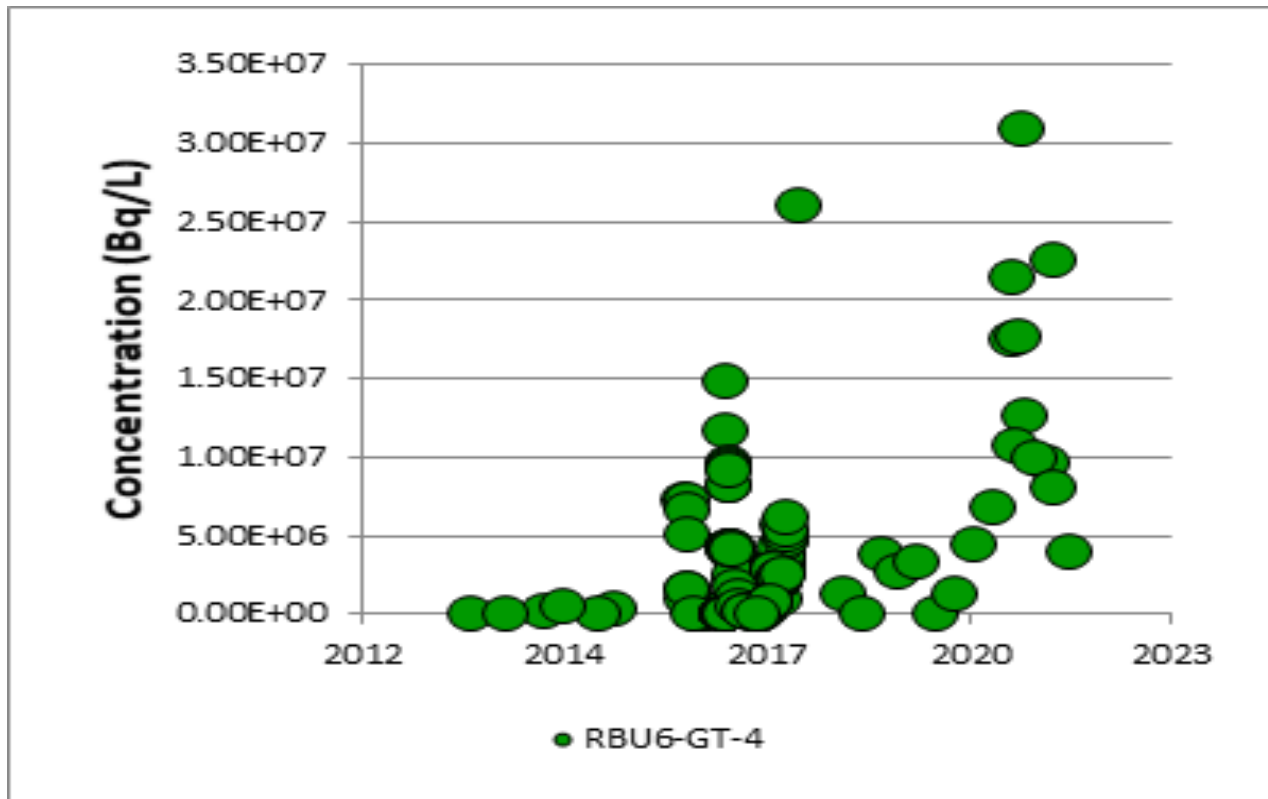
PN | Groundwater Quality

Unit 5 and Unit 6 Areas



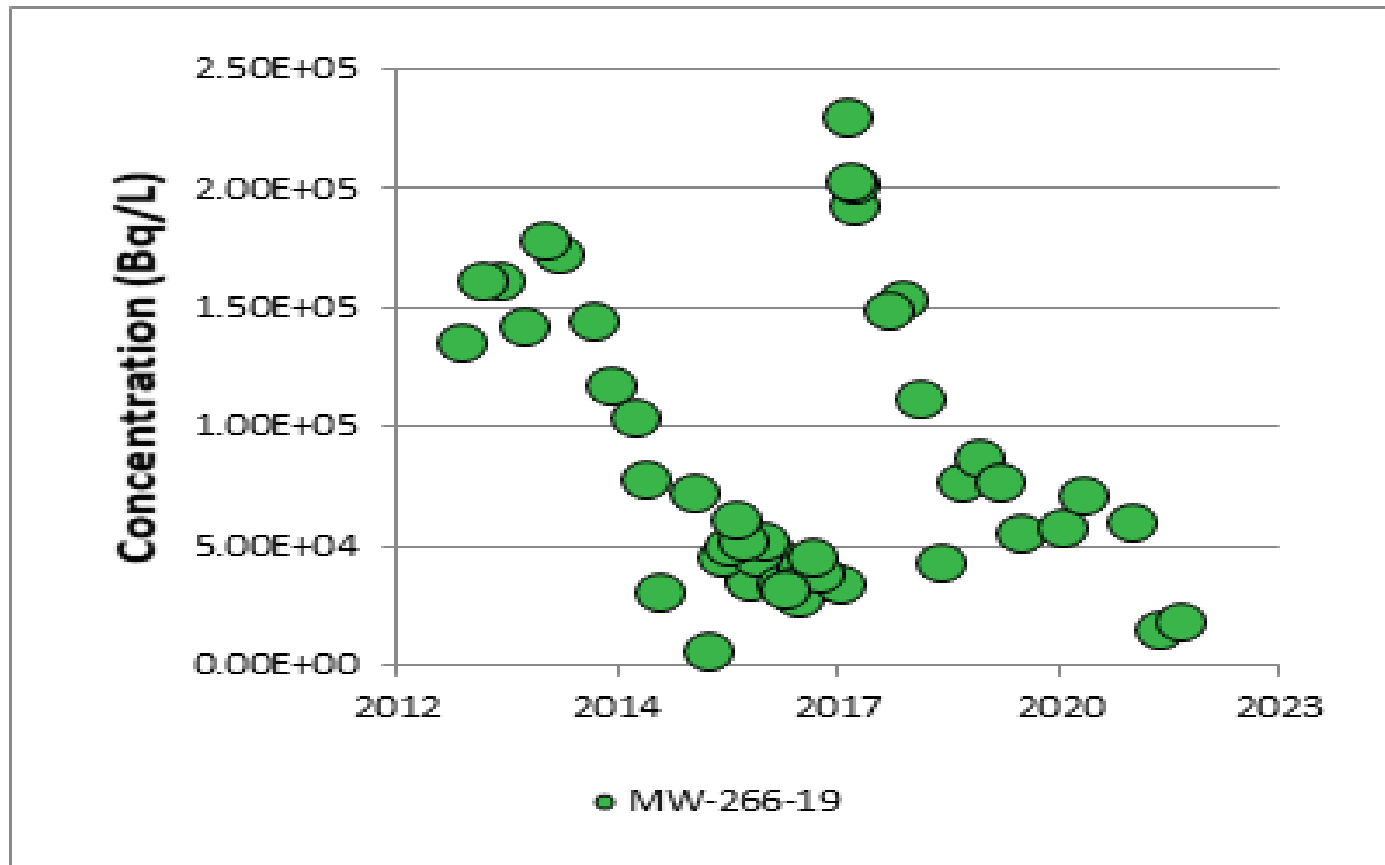
PN | Groundwater Quality

Unit 5 and Unit 6 Areas



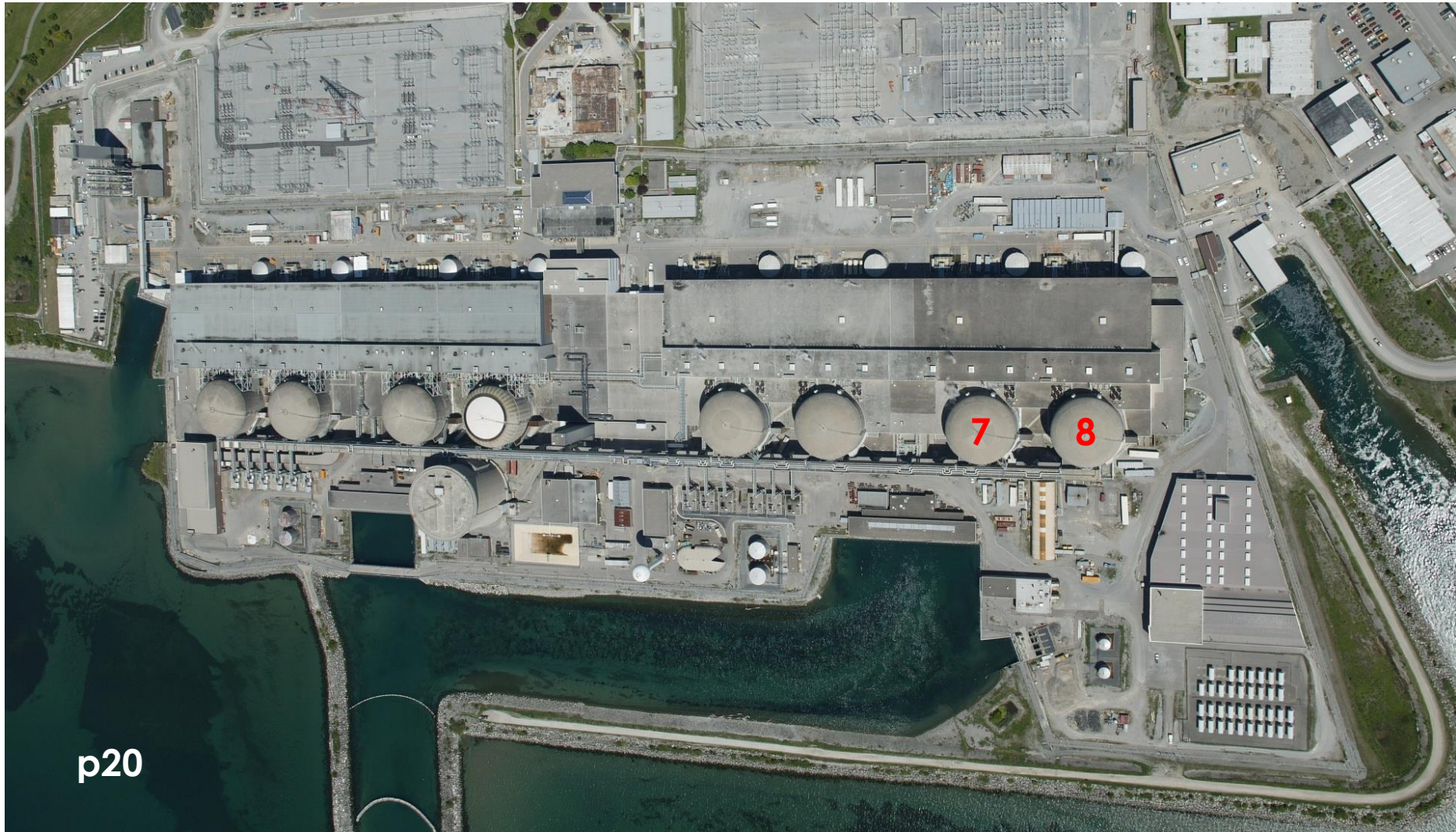
PN | Groundwater Quality

Unit 5 and Unit 6 Areas



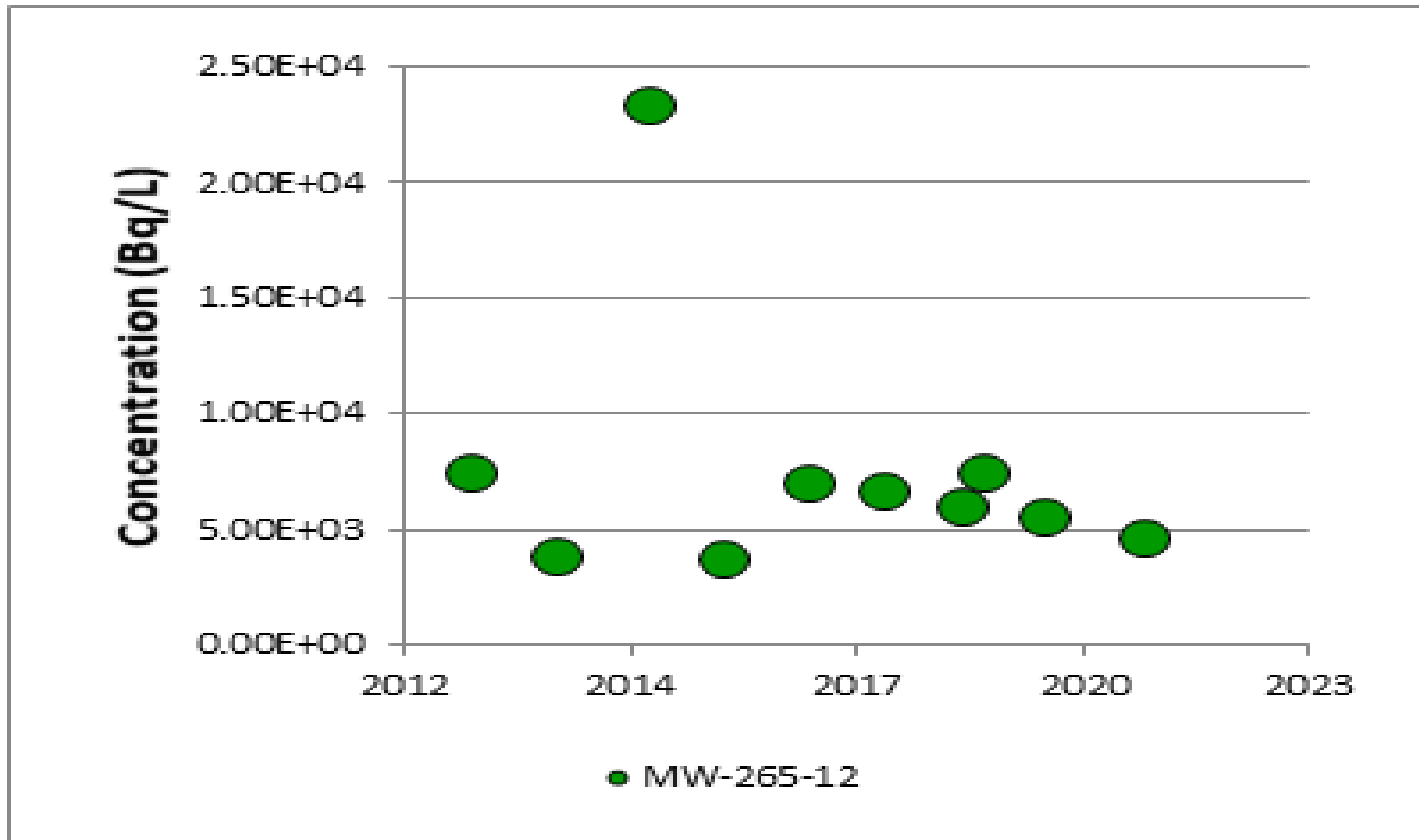
PN | Groundwater Quality

Unit 7 and Unit 8 Areas



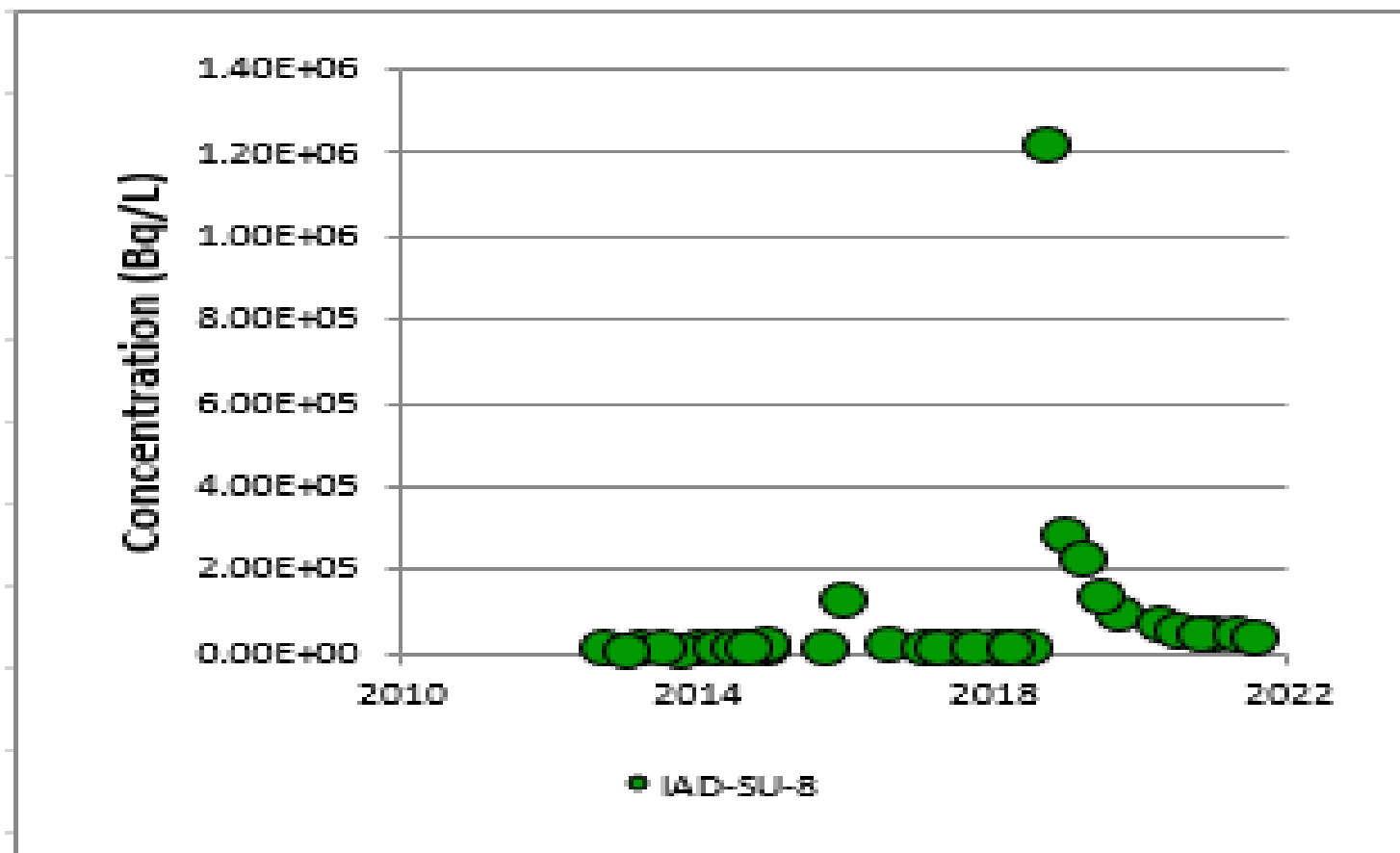
PN | Groundwater Quality

Unit 7 and Unit 8 Areas



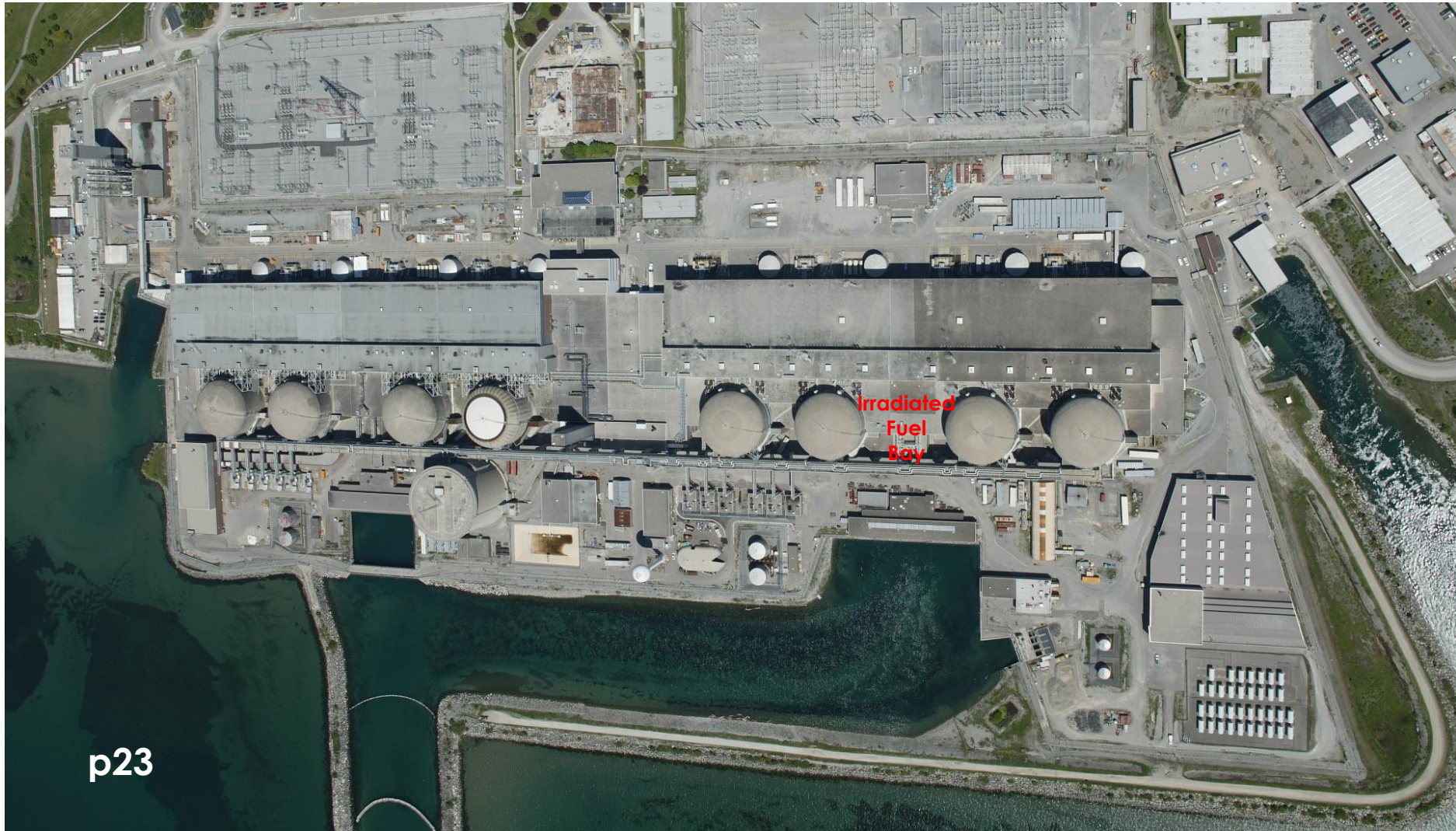
PN | Groundwater Quality

Unit 7 and Unit 8 Areas



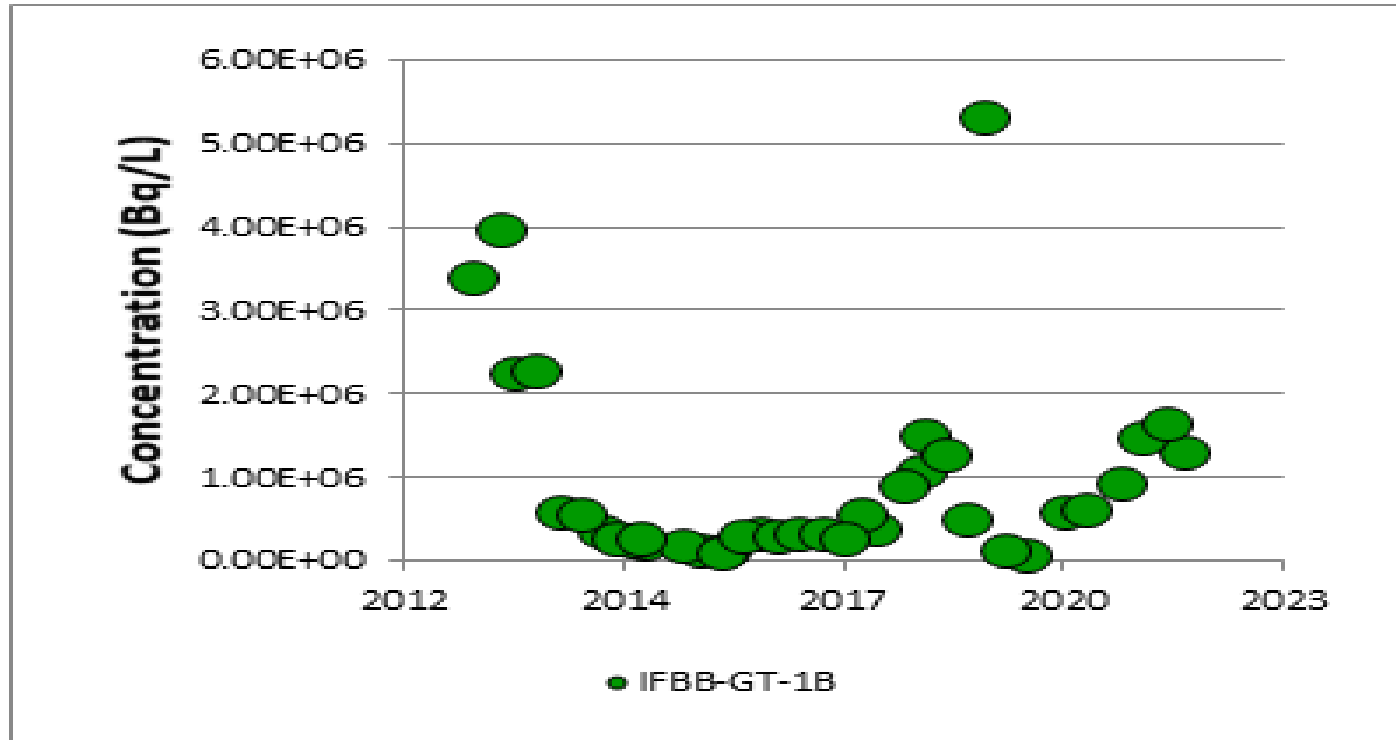
PN | Groundwater Quality

Unit 5 – 8 Irradiated Fuel Bay Area



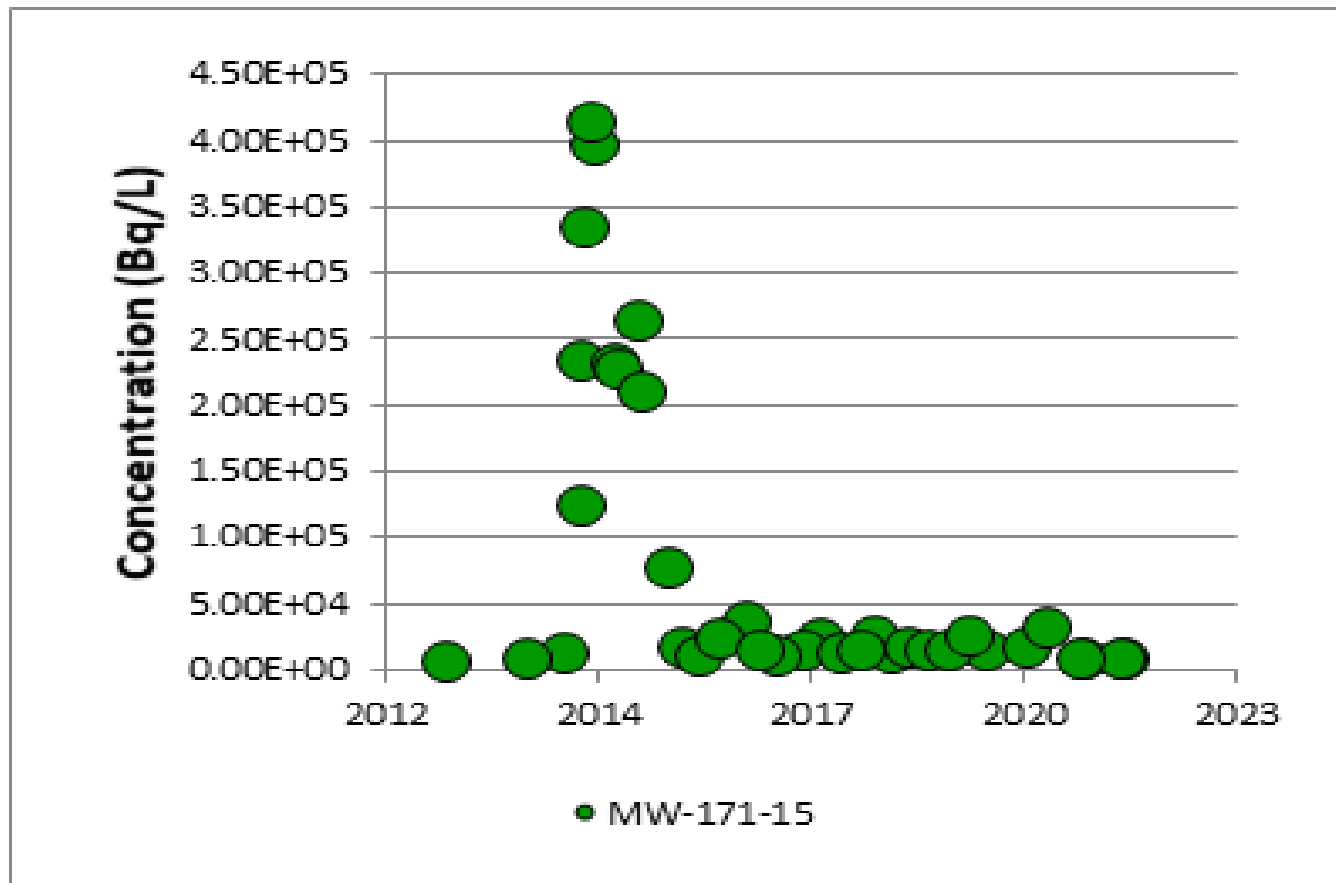
PN | Groundwater Quality

Unit 5 – 8 Irradiated Fuel Bay Area

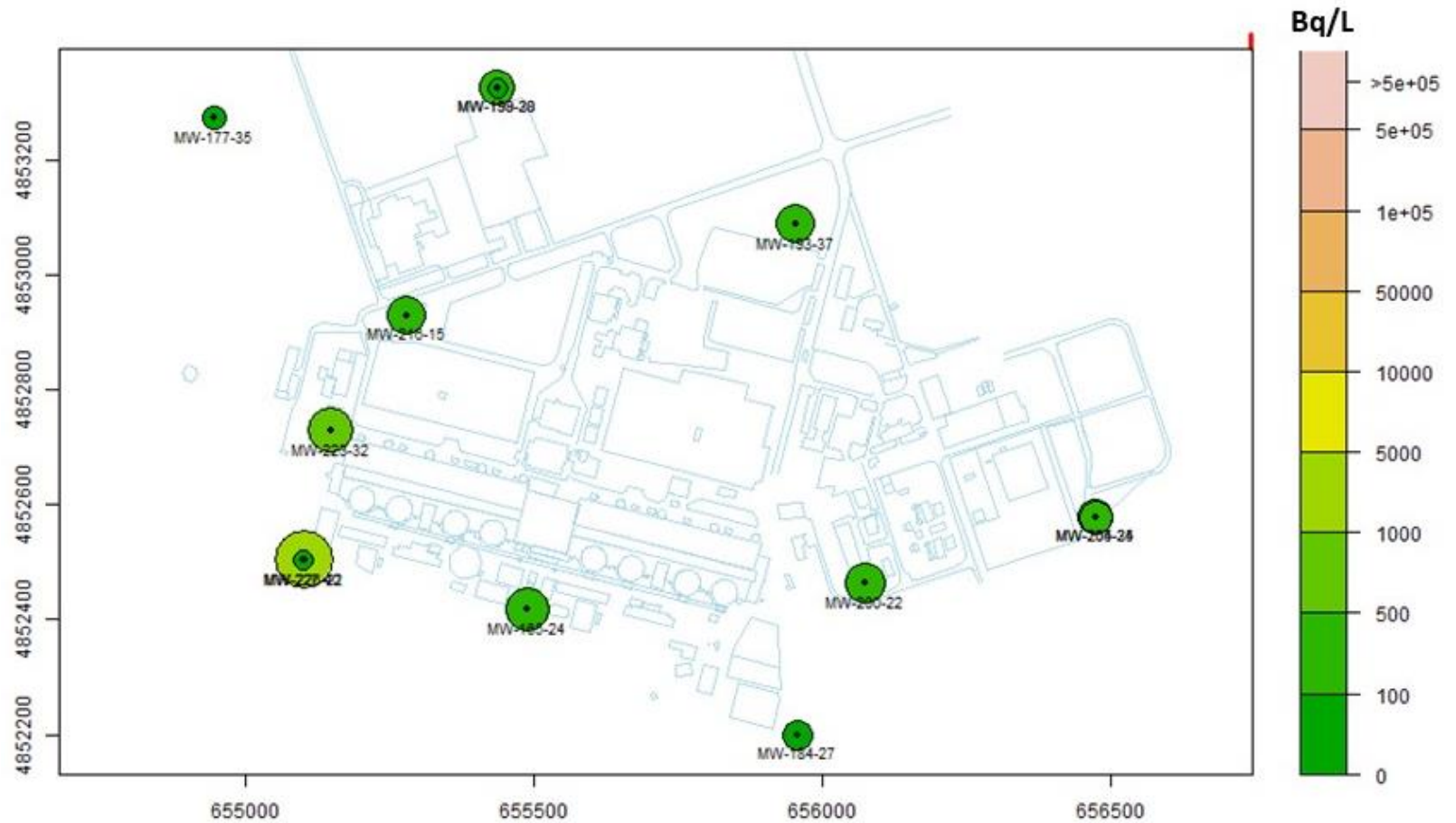


PN | Groundwater Quality

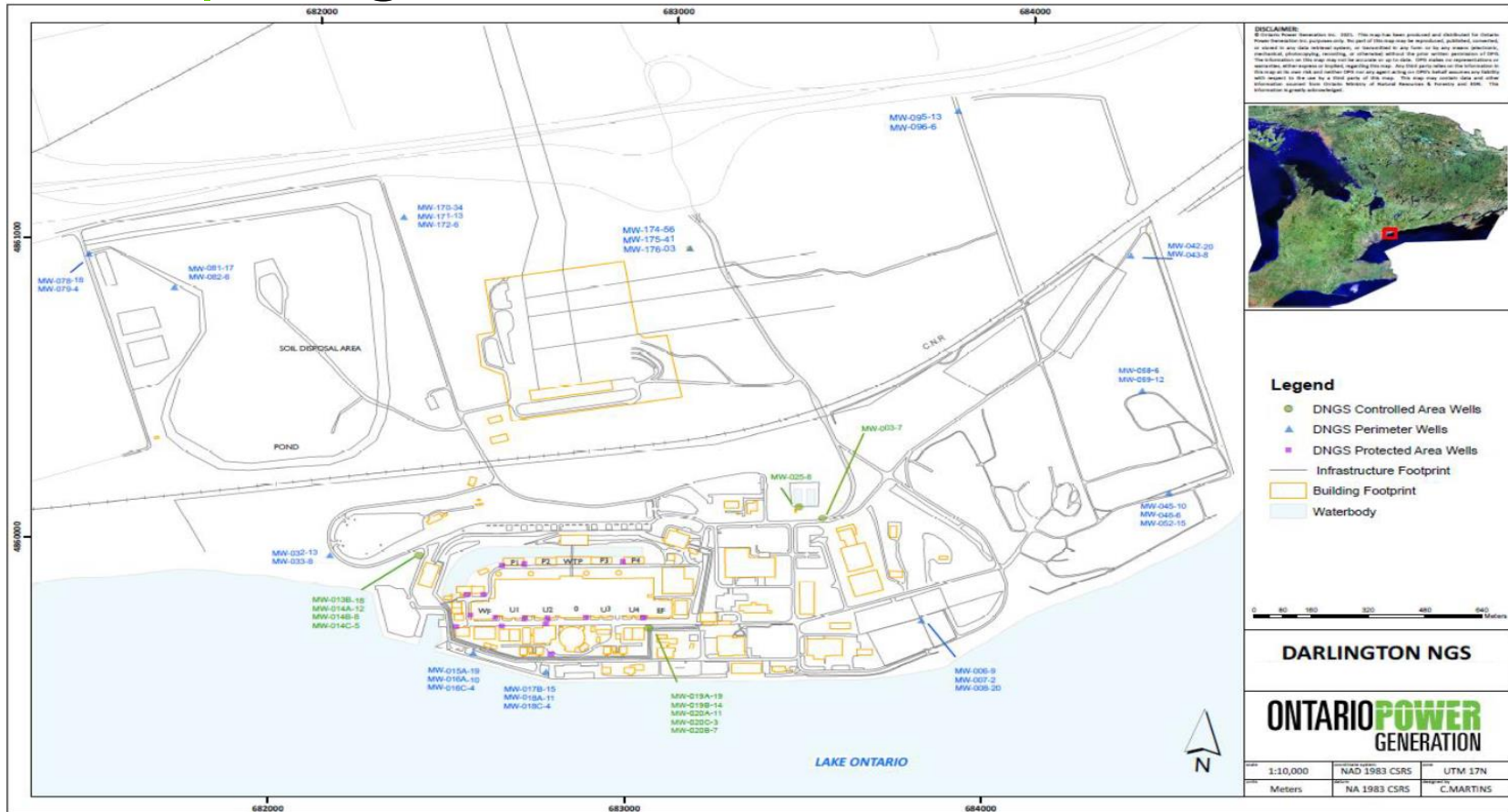
Unit 5 – 8 Irradiated Fuel Bay Area



PN | Site Boundary Groundwater Quality



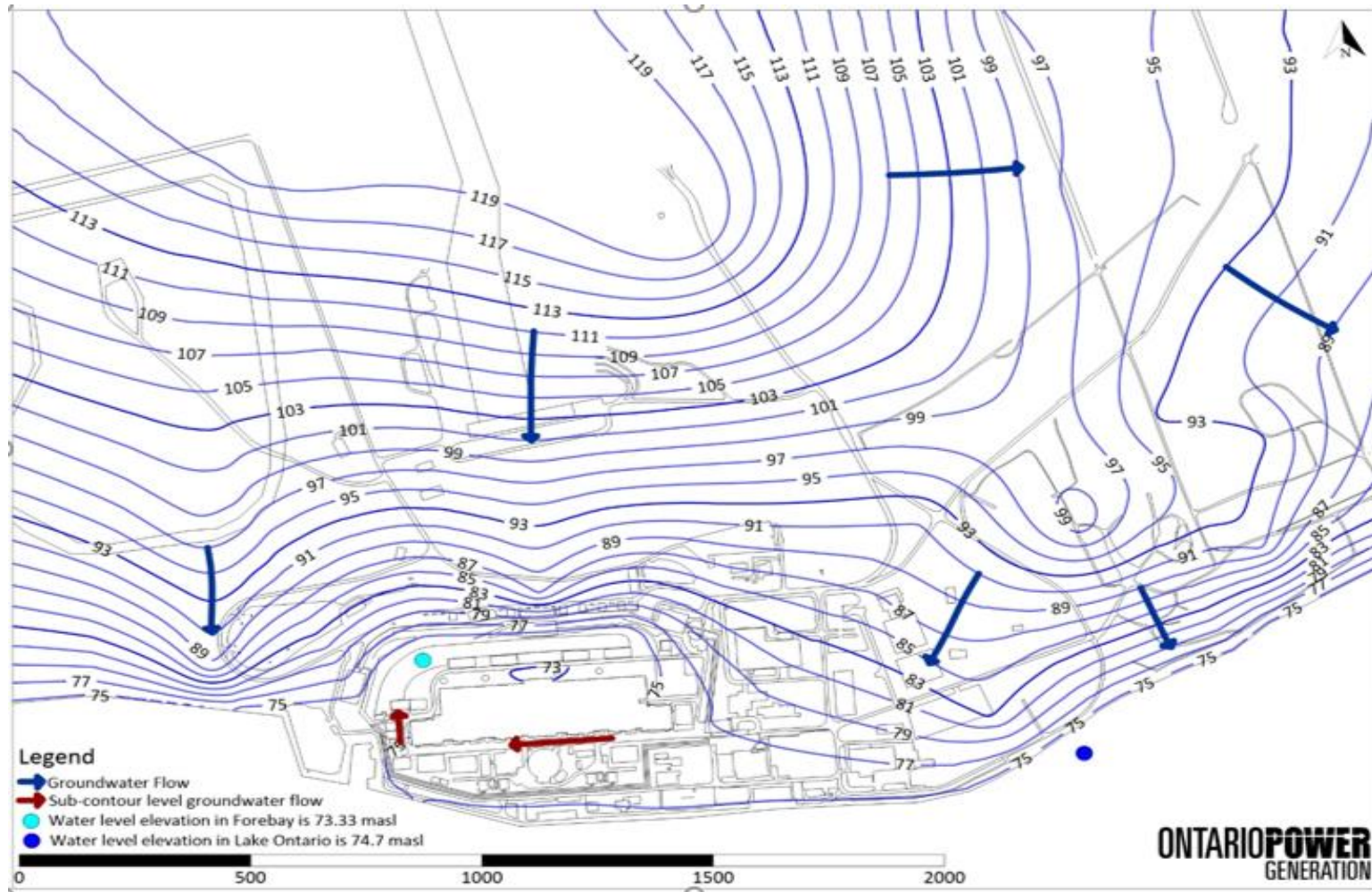
DN | Program Overview



✓ 81 sampling locations

✓ 180 samples

DN | Groundwater Flow Direction



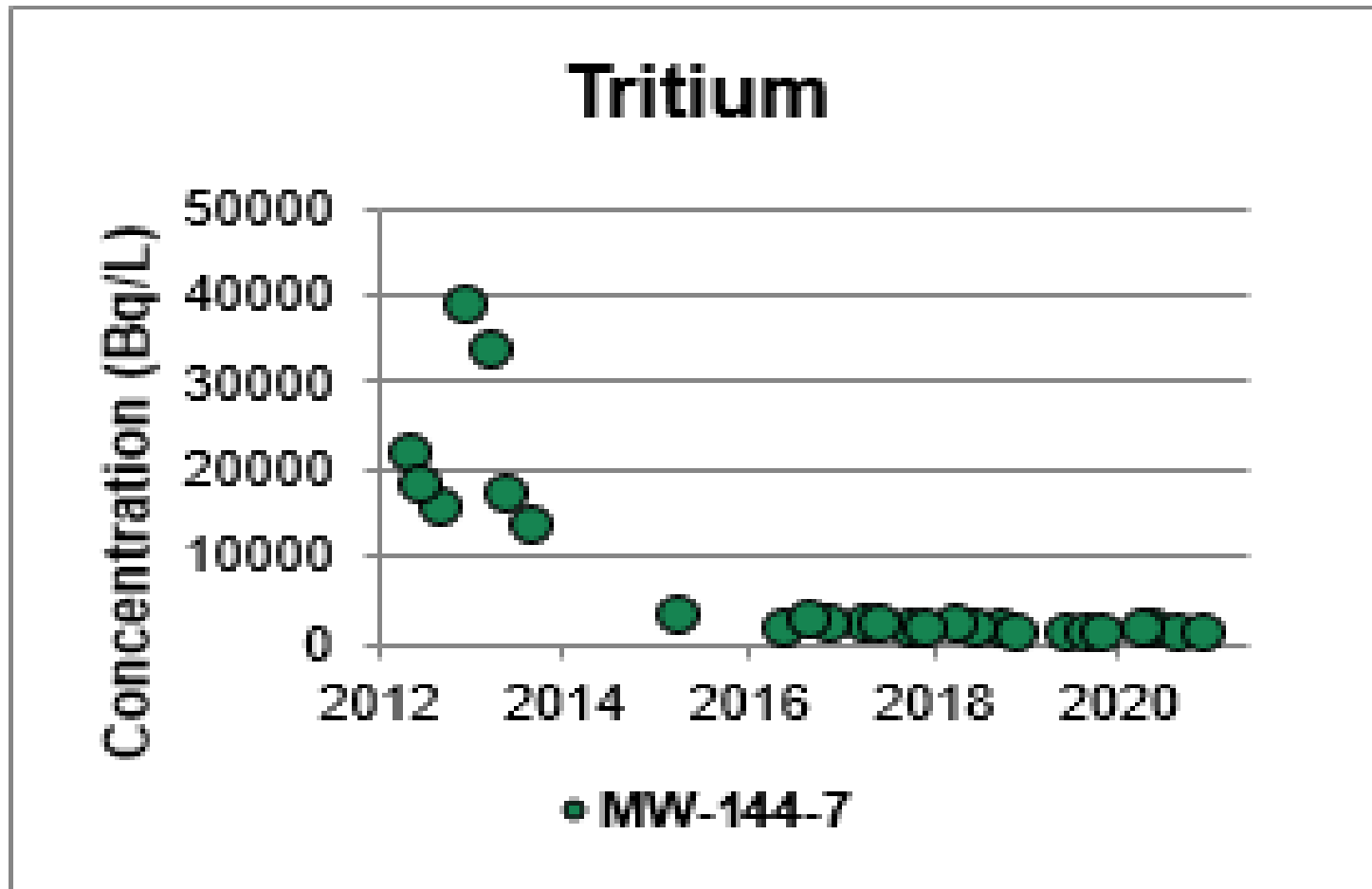
DN | Groundwater Quality

Reactor Building Area

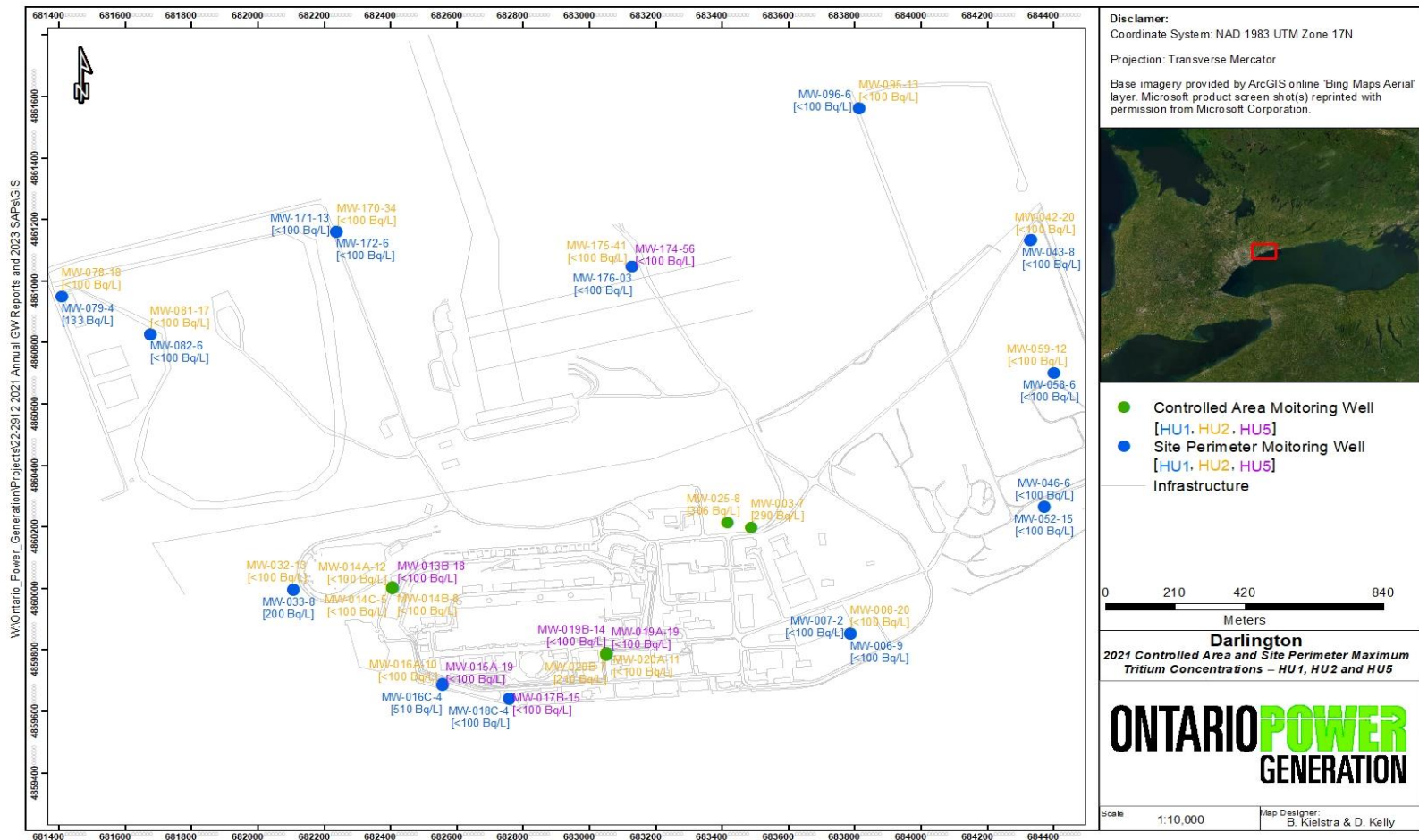


DN | Groundwater Quality

Reactor Building Area



DN | Site Boundary Groundwater Quality





2021 Summary

- For both Pickering Nuclear and Darlington Nuclear, the groundwater flow patterns remain consistent with original interpretations
- Groundwater data collected from key areas remained stable, which indicate consistent environmental performance
- There were no indications of off-site impacts from PN and DN groundwater



Questions ???