



# 2020 Pickering and Darlington Nuclear Groundwater Monitoring Program Results

DNHC Update | September 17, 2021

Speaker : Ali Esmaeily





# 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



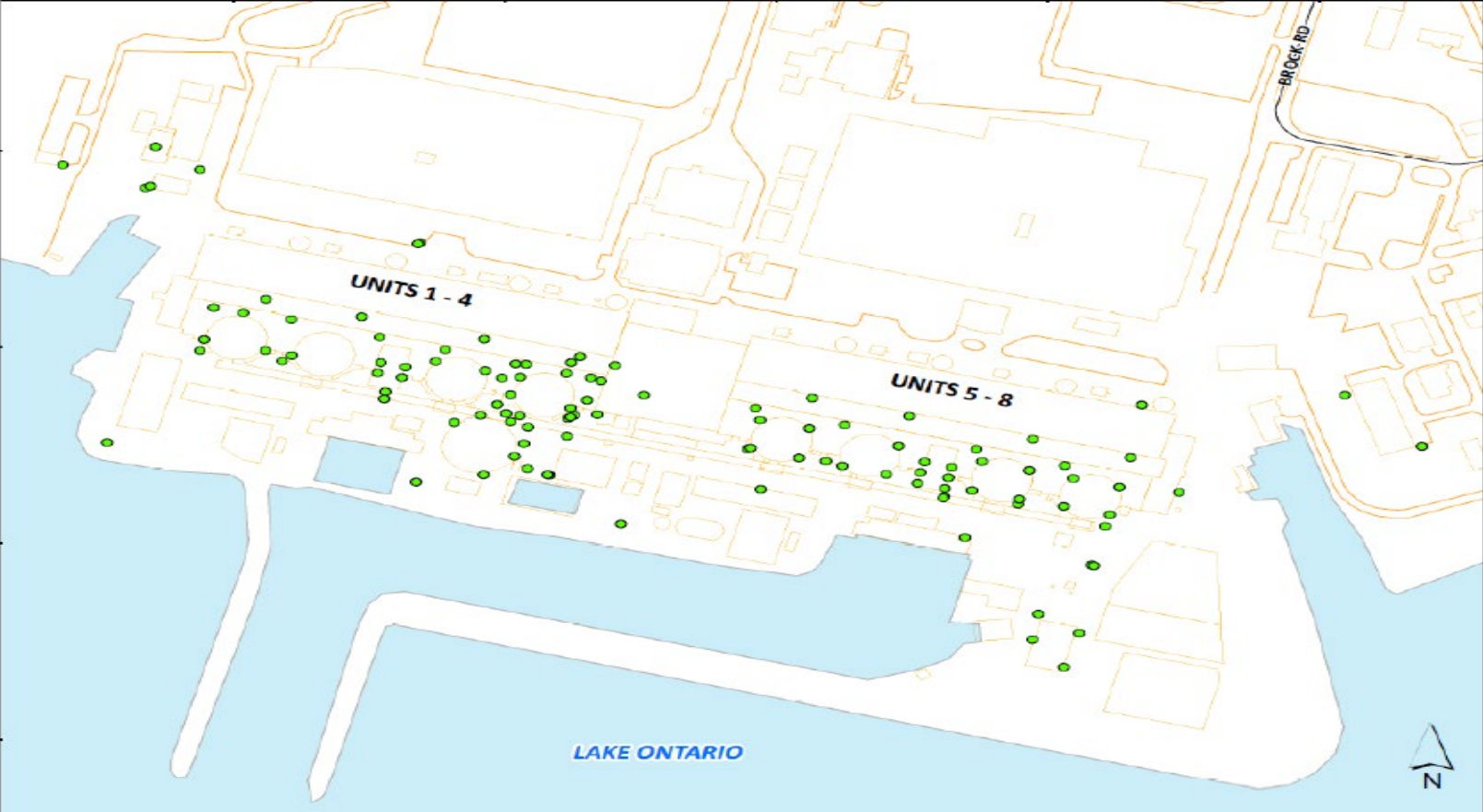


# Pickering Nuclear (PN)





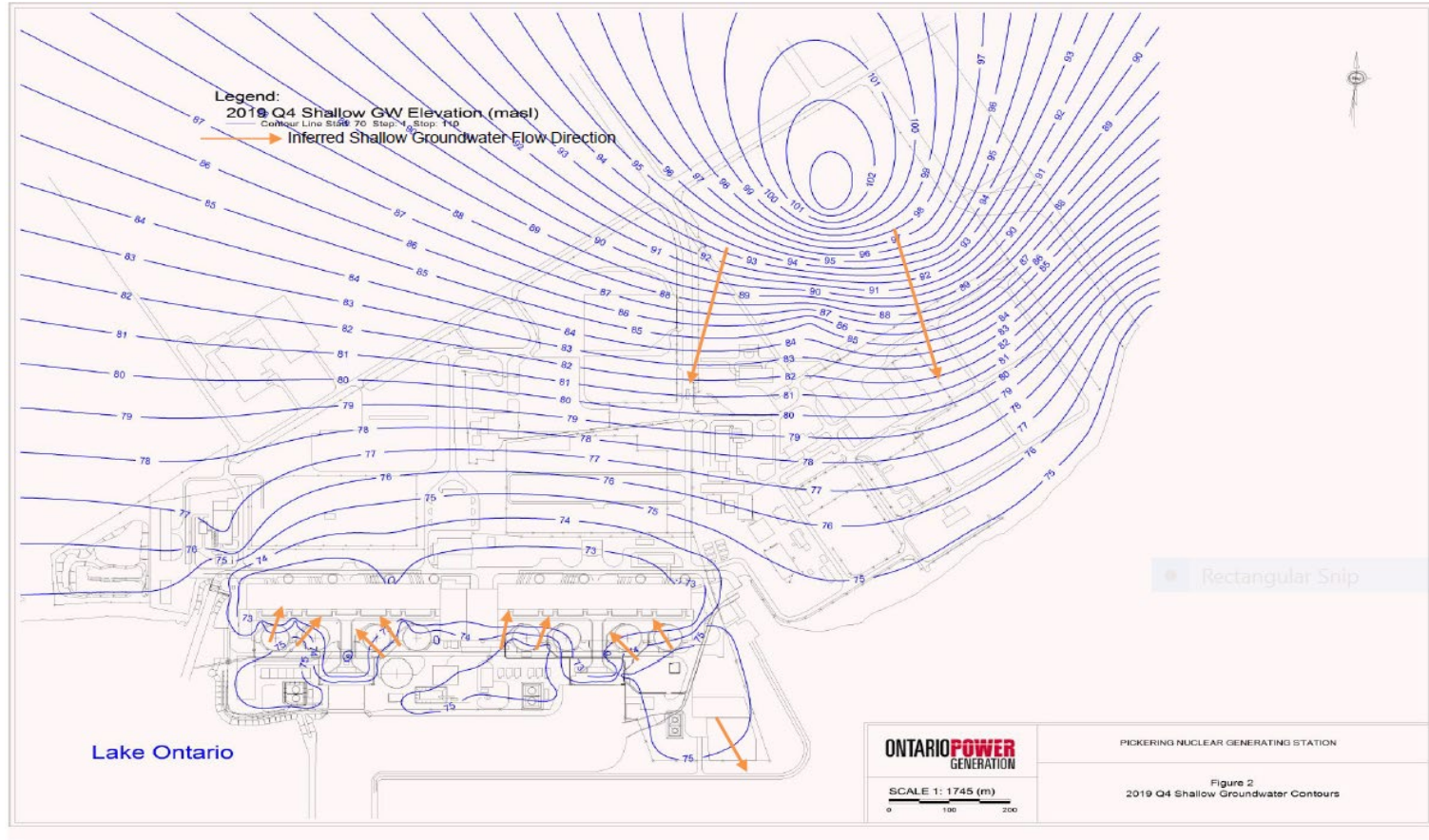
# PN | Program Overview



- ✓ 104 sampling locations
- ✓ 244 samples



# PN | Groundwater Flow Direction



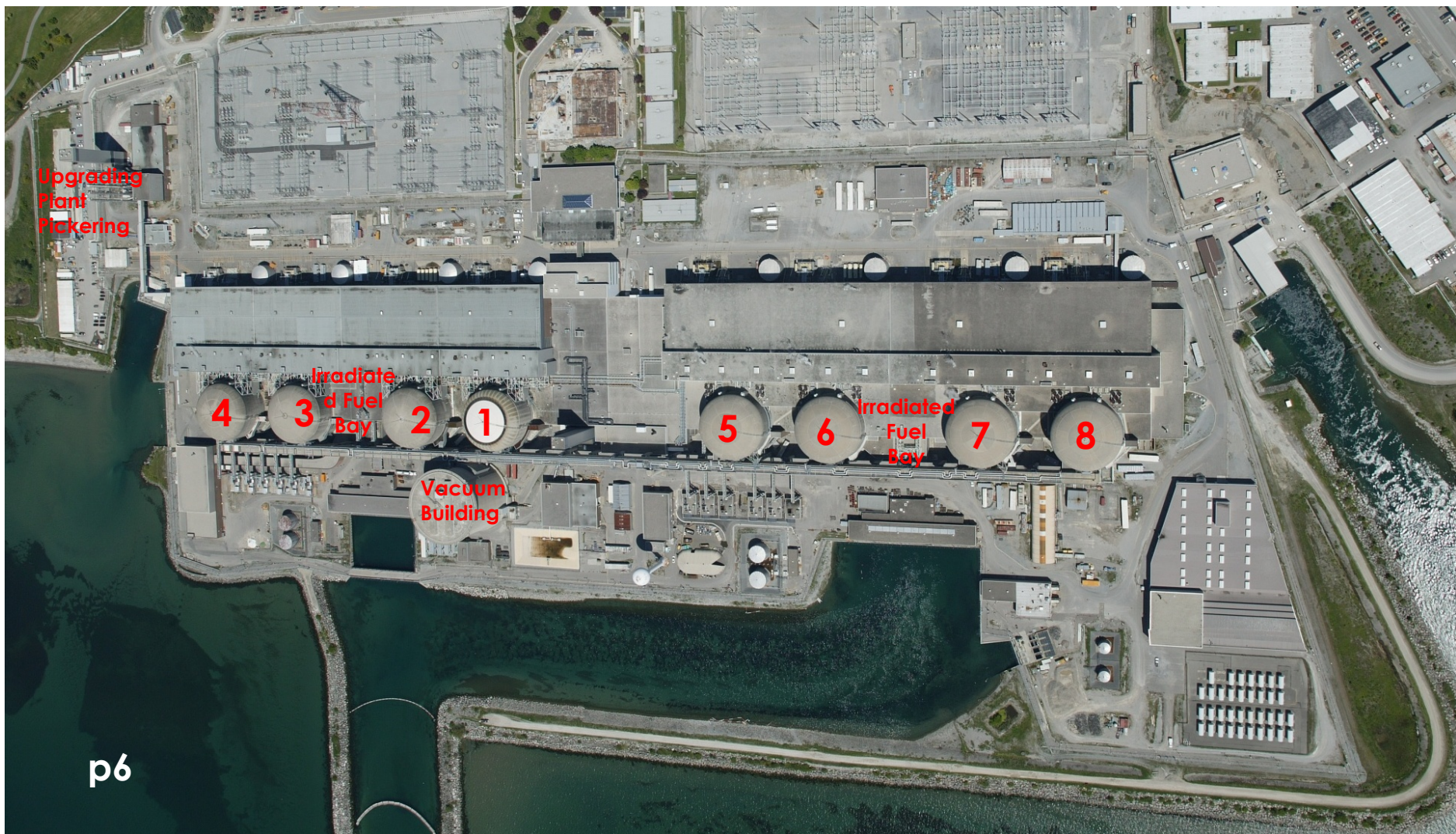
Consistent with previous interpretations





# PN | Groundwater Quality

Key Areas Monitored

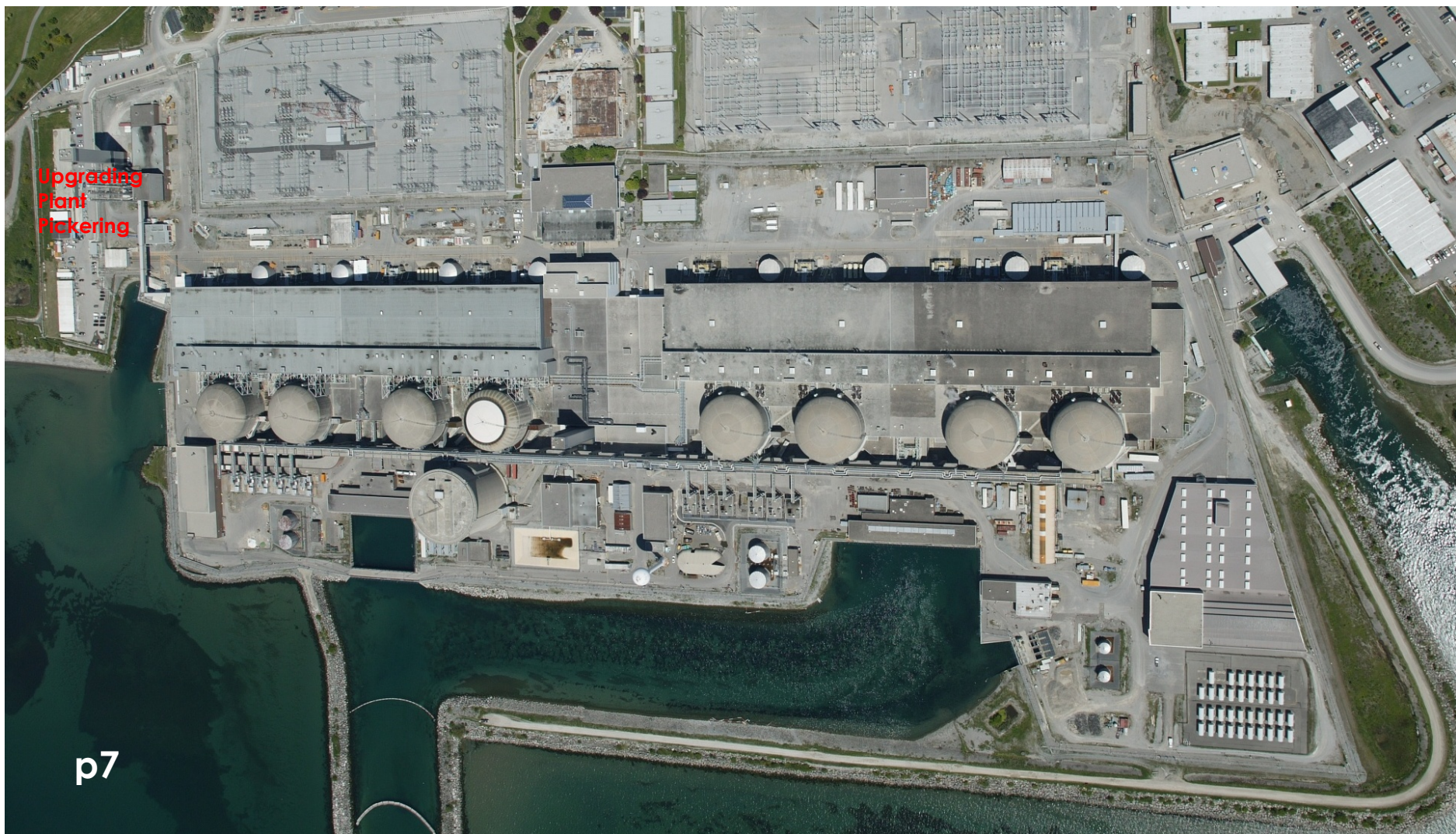






# PN | Groundwater Quality

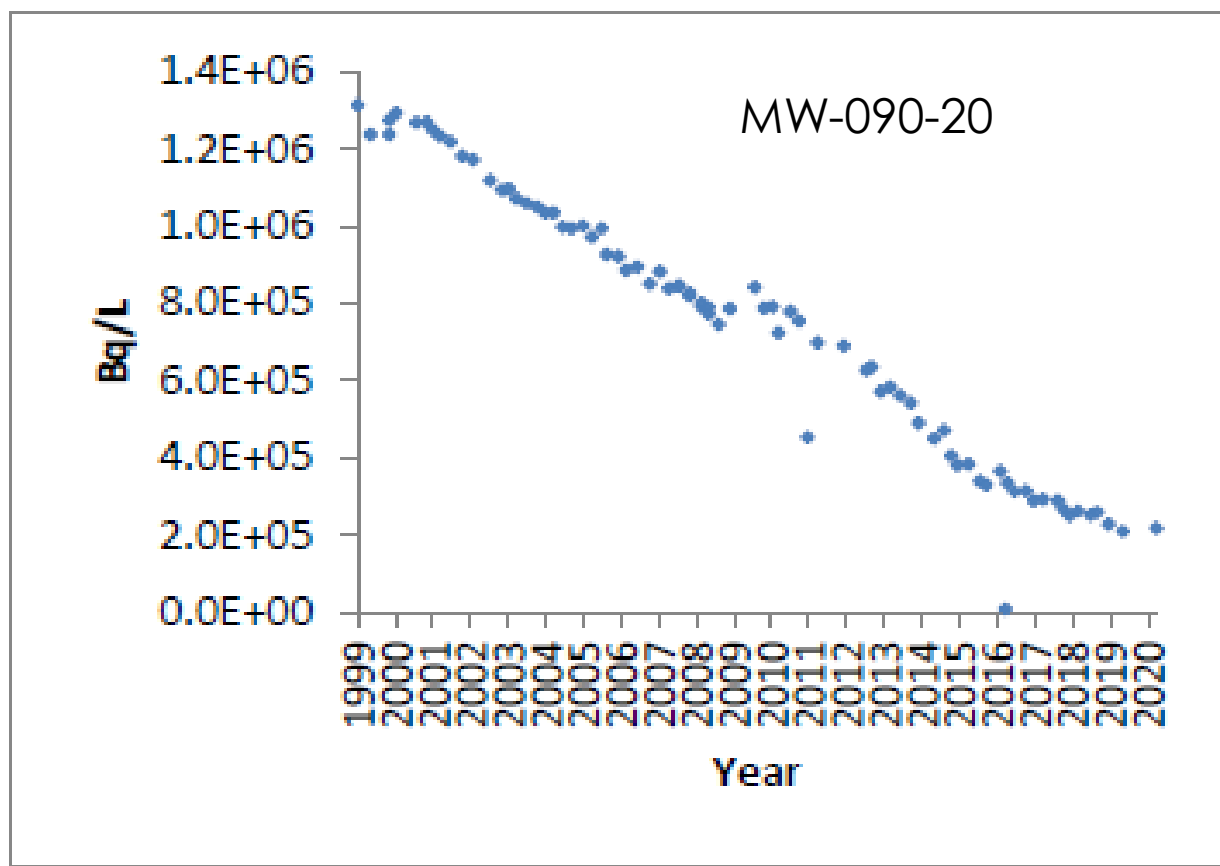
Upgrading Plant Pickering Area





# PN | Groundwater Quality

Upgrading Plant Pickering Area

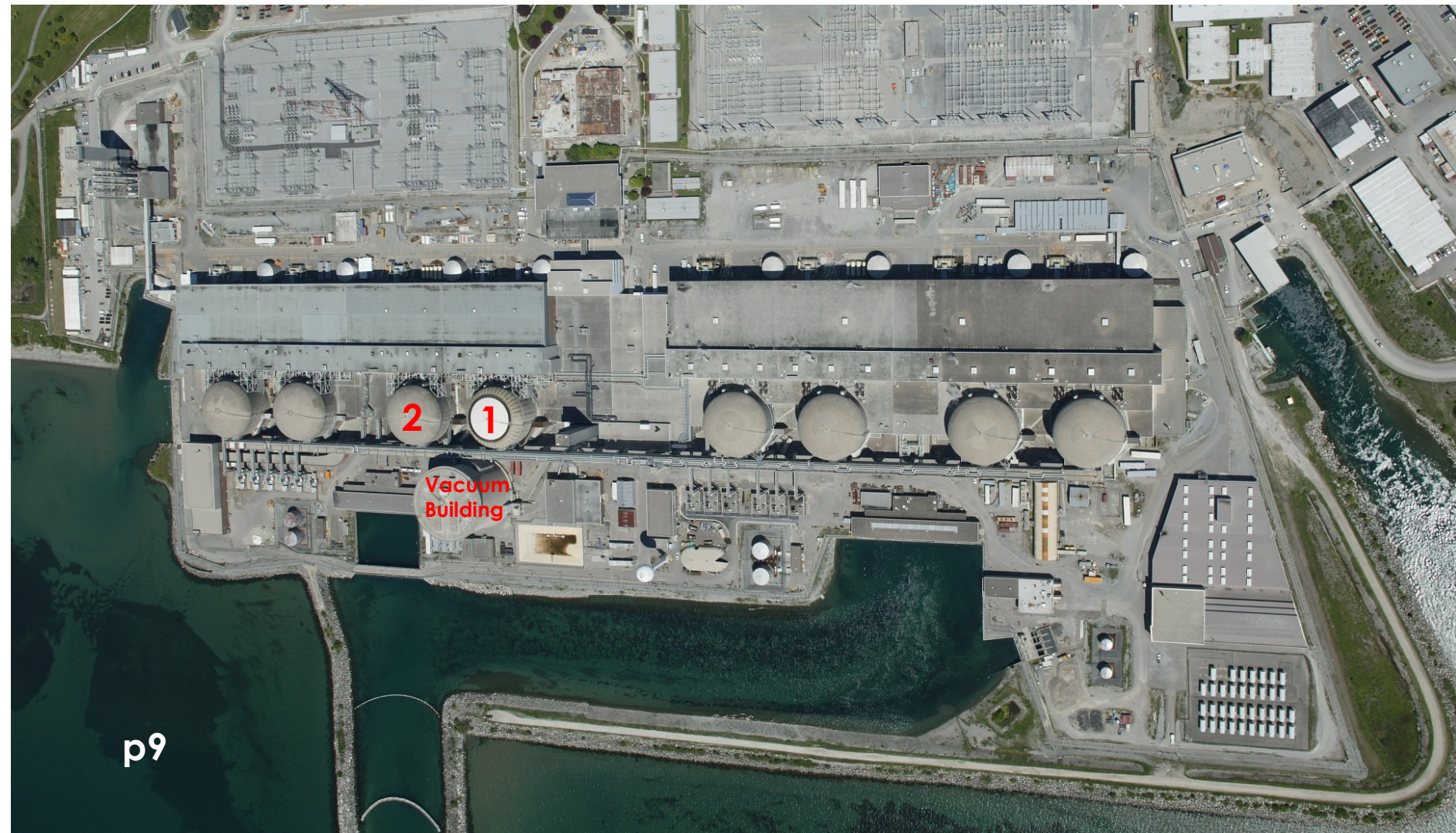






# PN | Groundwater Quality

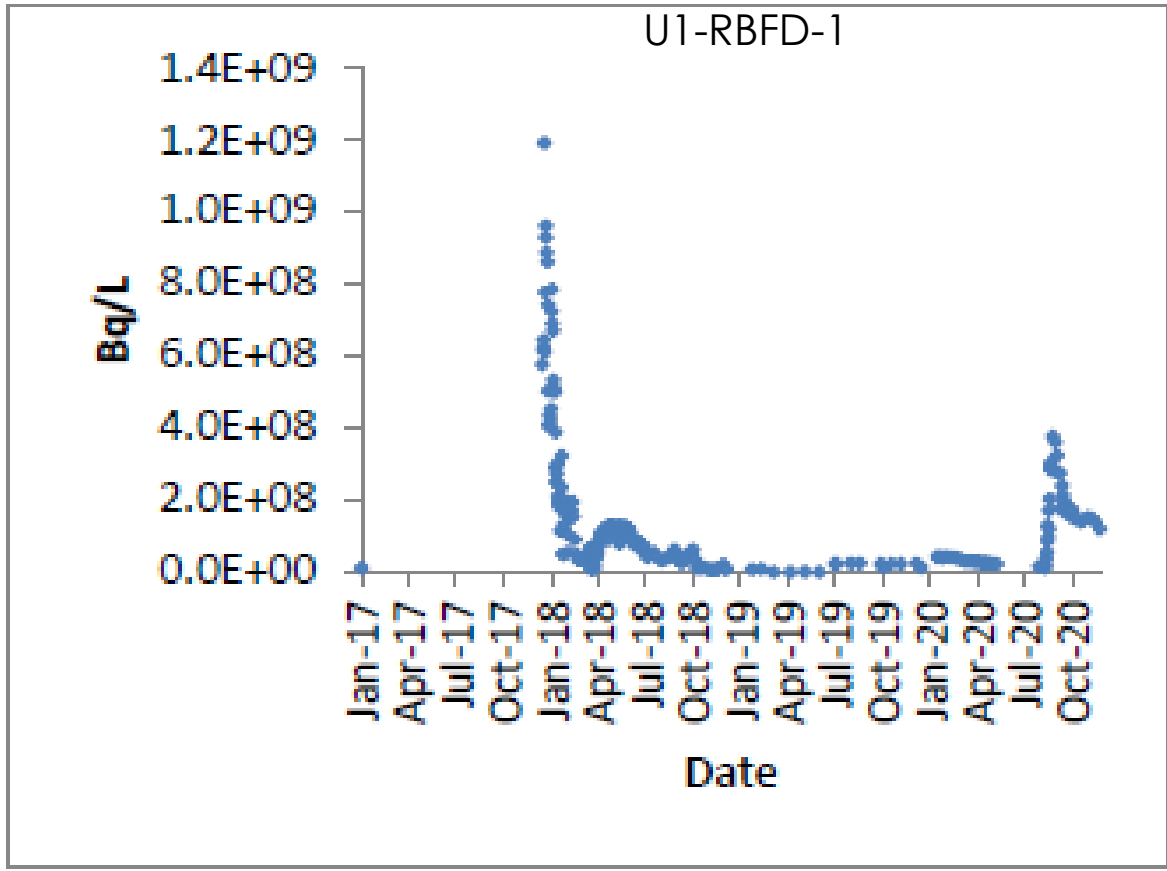
Unit 1, Unit 2, and Vacuum Building Areas





# PN | Groundwater Quality

Unit 1, Unit 2, and Vacuum Building Areas

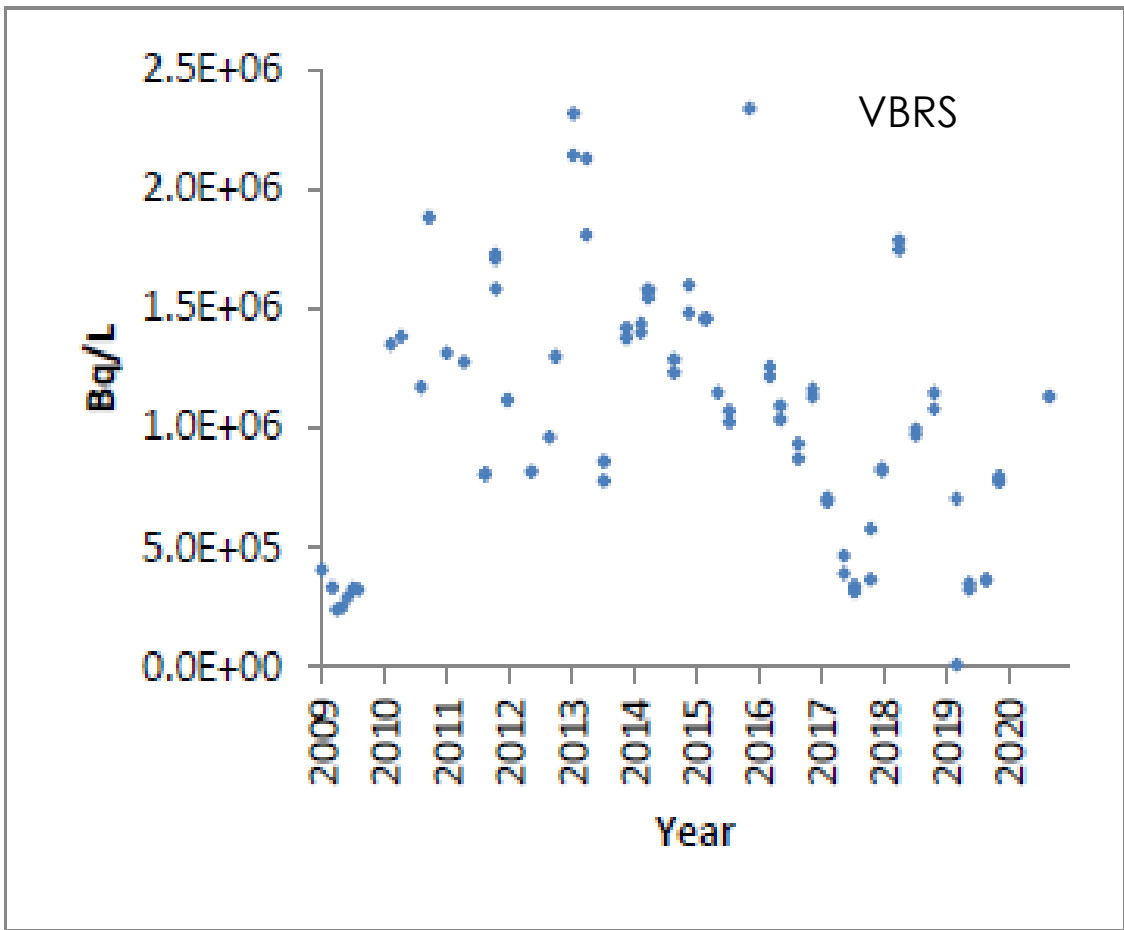






# PN | Groundwater Quality

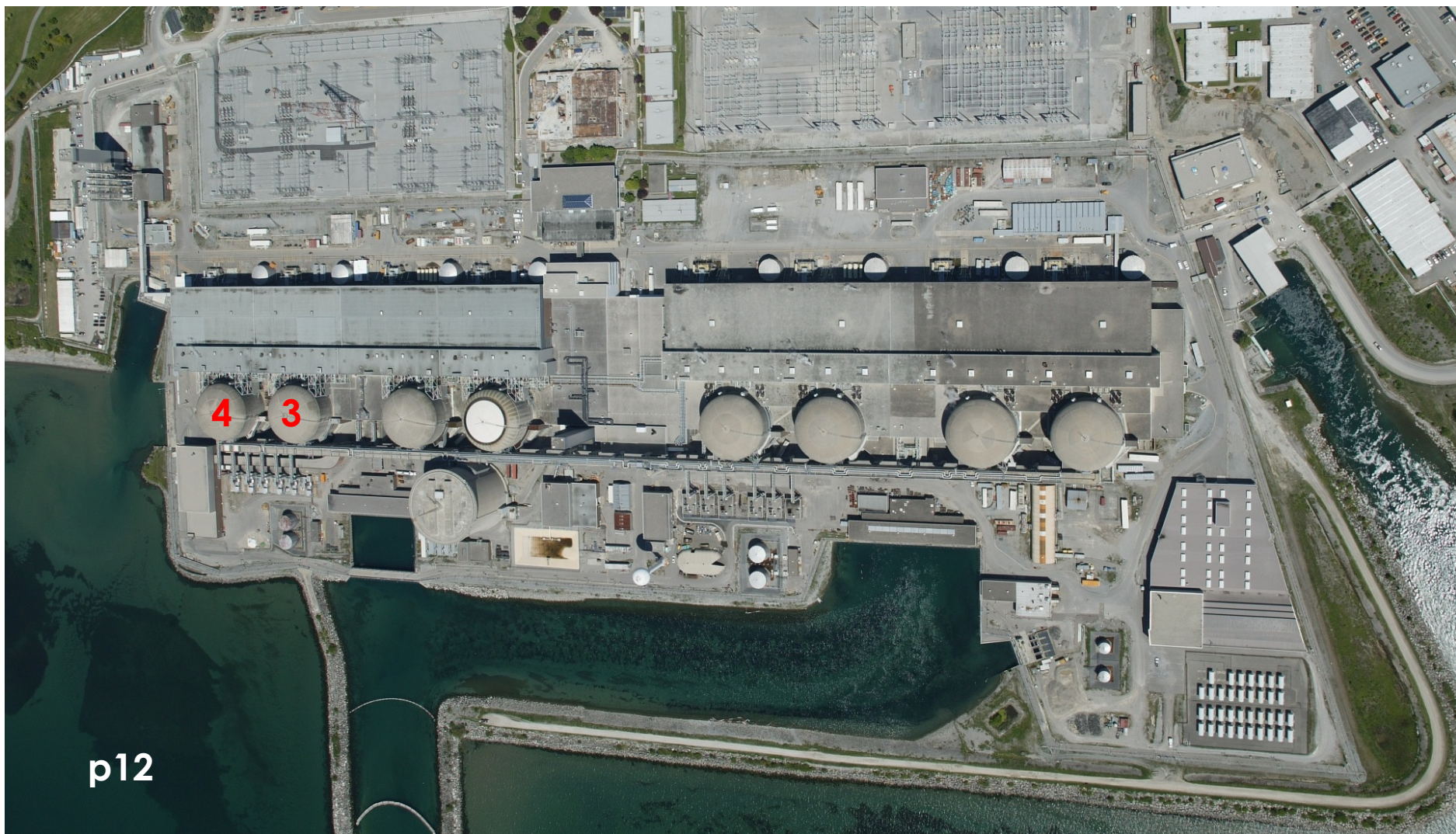
Unit 1, Unit 2, and Vacuum Building Areas





# PN | Groundwater Quality

Unit 3 and Unit 4 Areas

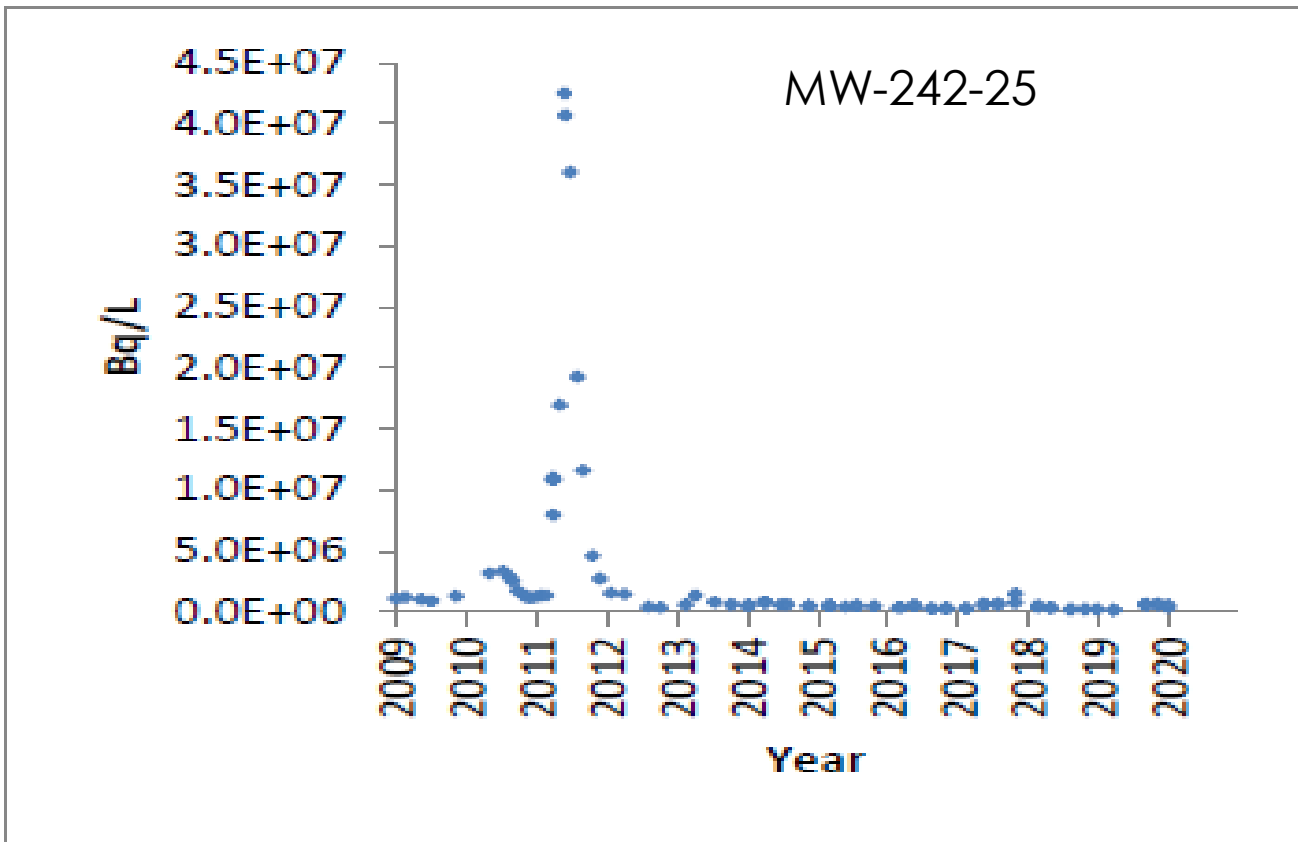






# PN | Groundwater Quality

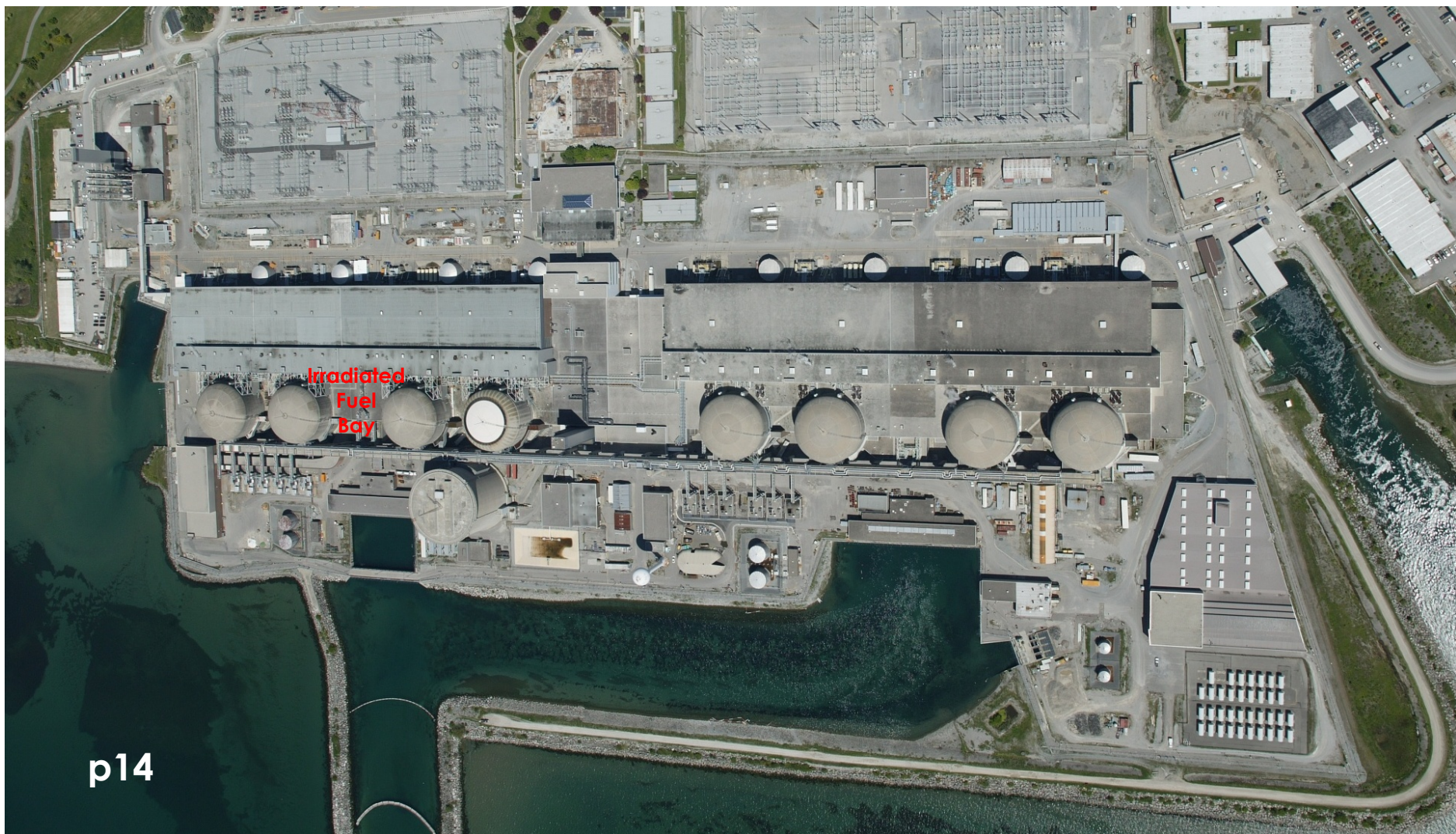
Unit 3 and Unit 4 Areas





# PN | Groundwater Quality

Unit 1 – 4 Irradiated Fuel Bay Area

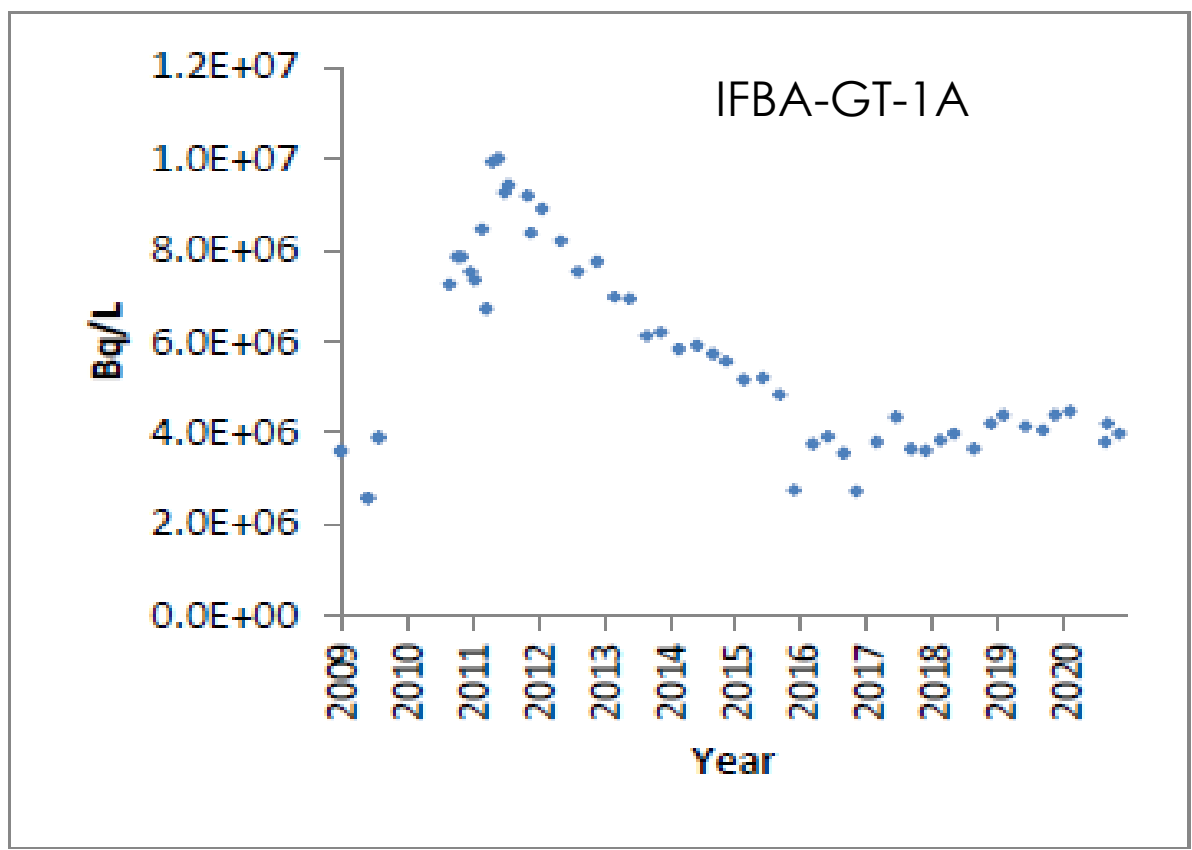






# PN | Groundwater Quality

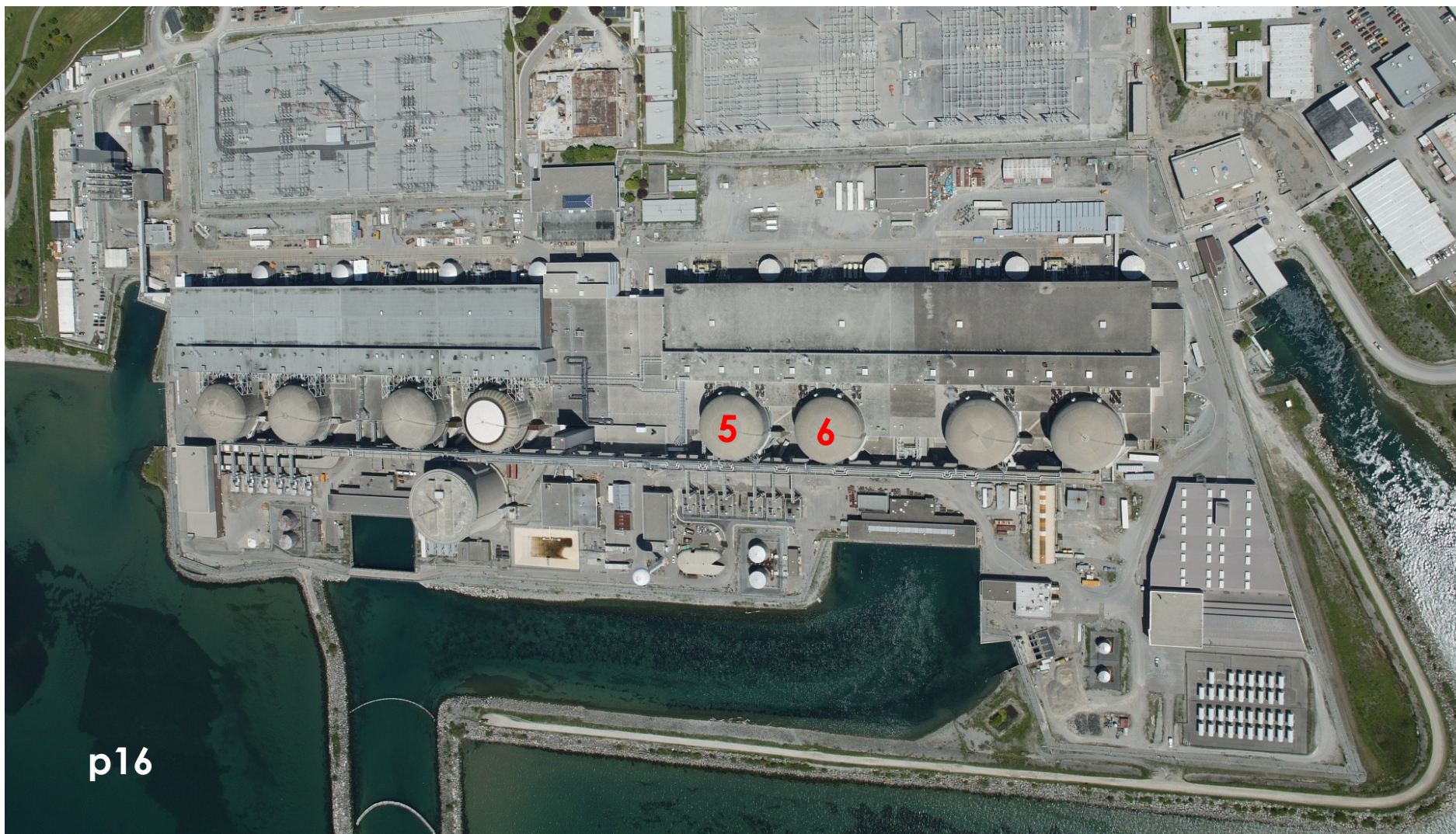
Unit 1 – 4 Irradiated Fuel Bay Area





# PN | Groundwater Quality

Unit 5 and Unit 6 Areas

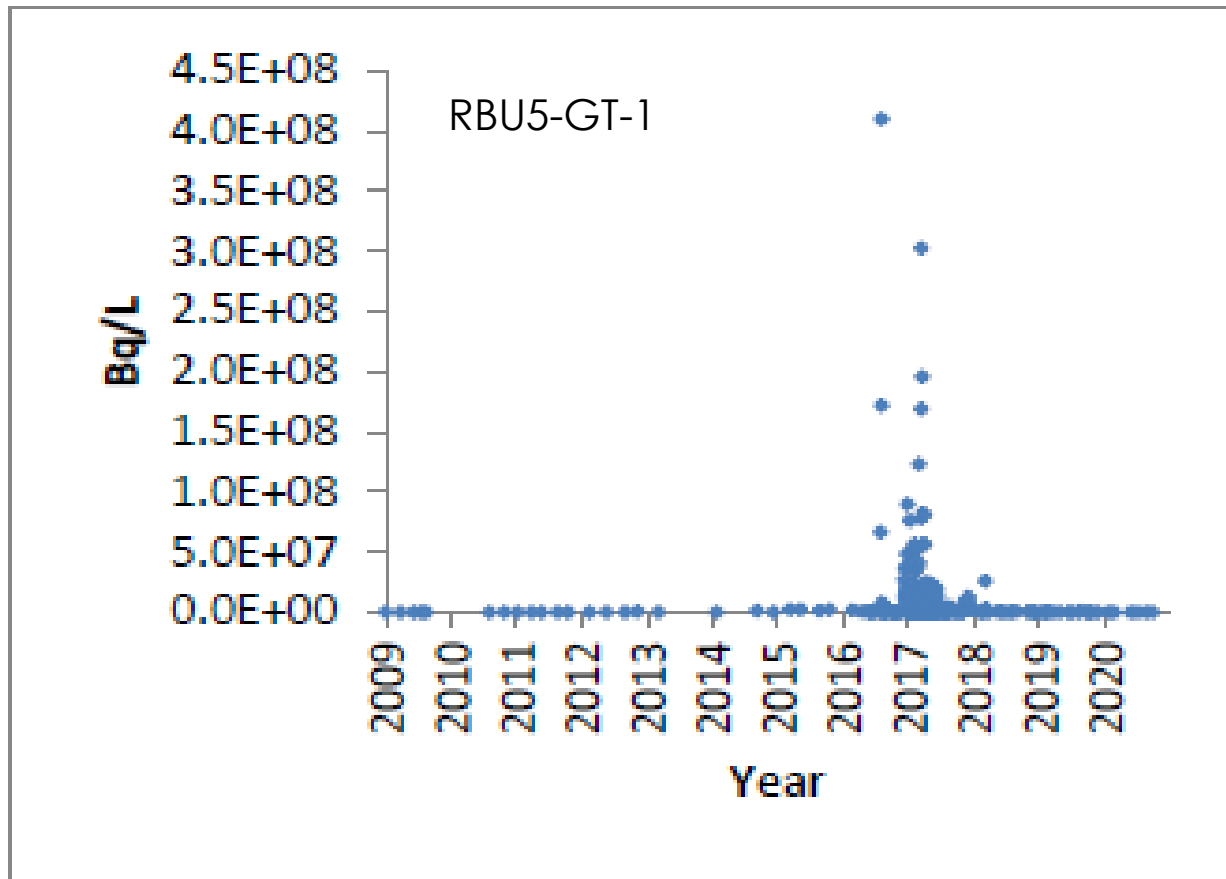






# PN | Groundwater Quality

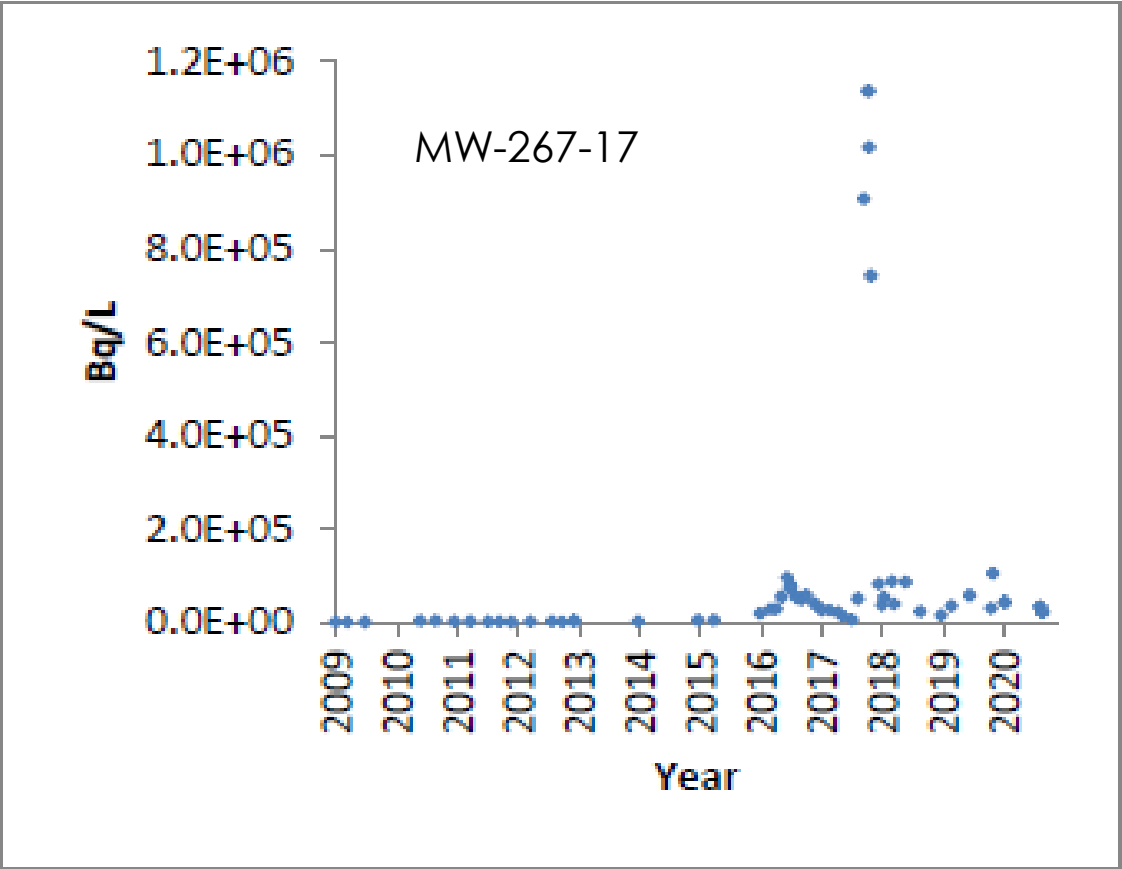
Unit 5 and Unit 6 Areas





# PN | Groundwater Quality

Unit 5 and Unit 6 Areas

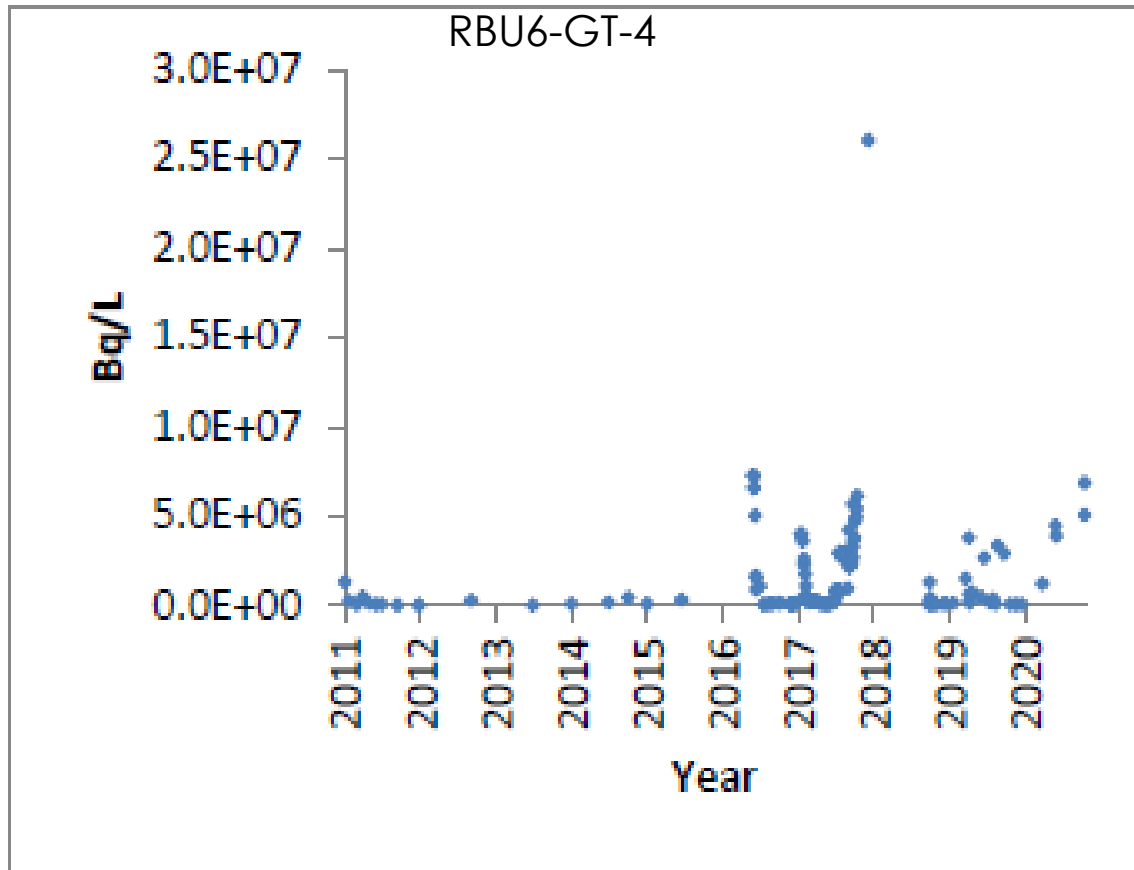






# PN | Groundwater Quality

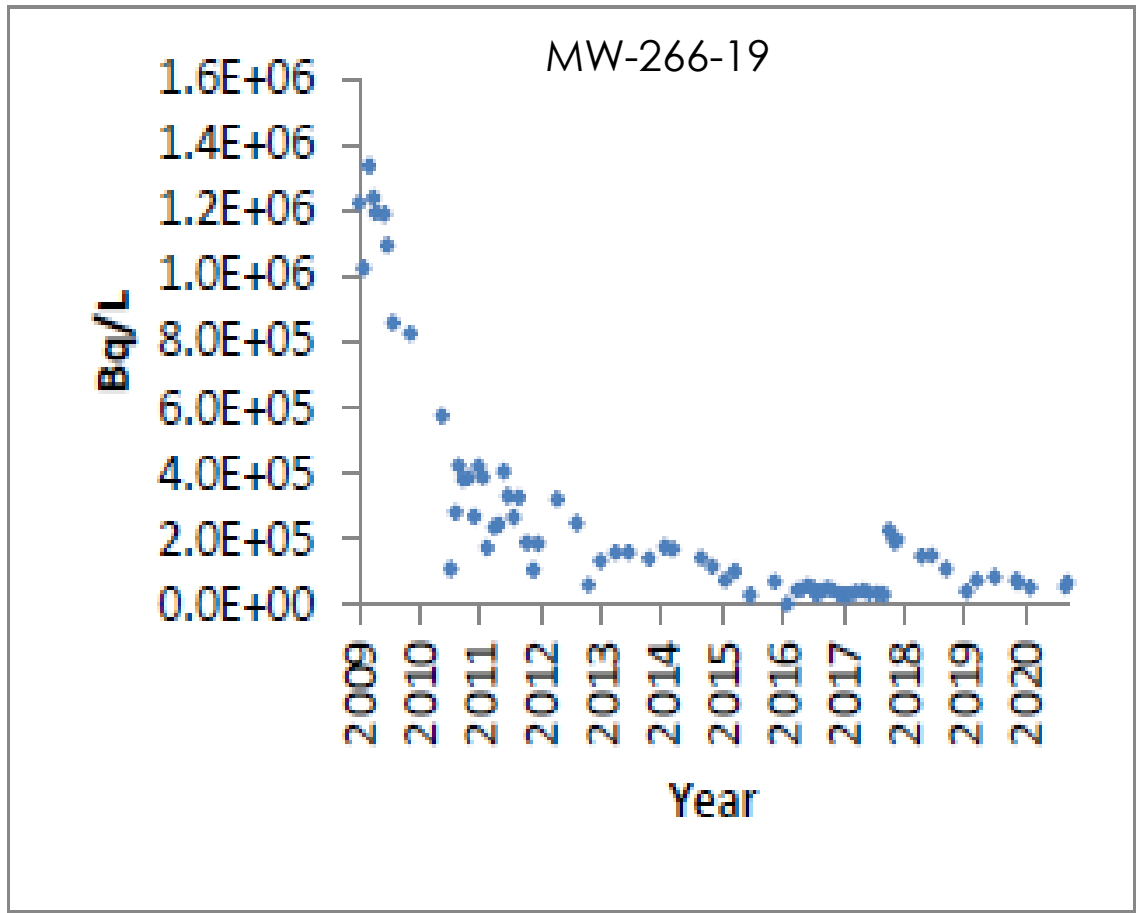
Unit 5 and Unit 6 Areas





# PN | Groundwater Quality

Unit 5 and Unit 6 Areas

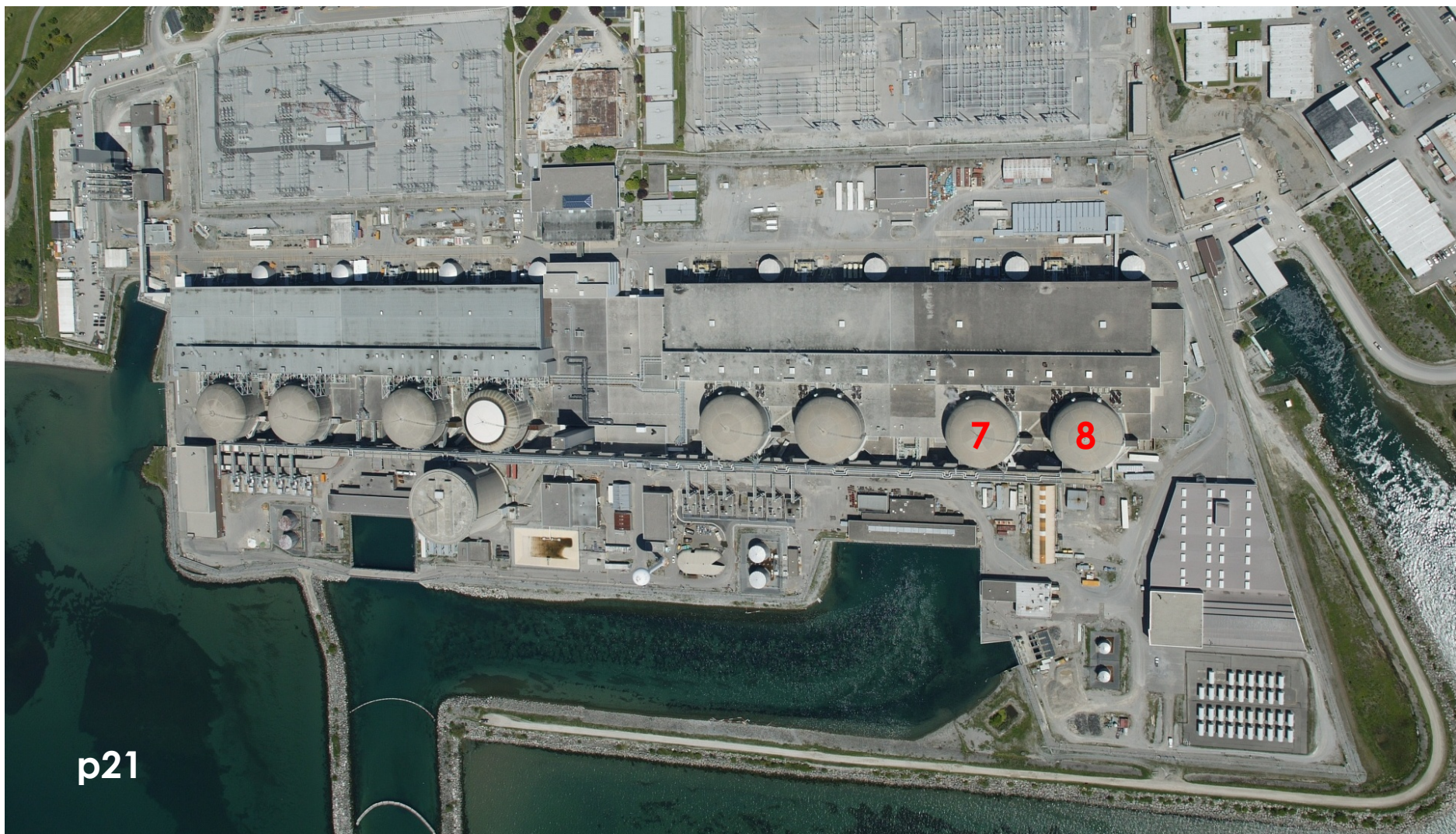






# PN | Groundwater Quality

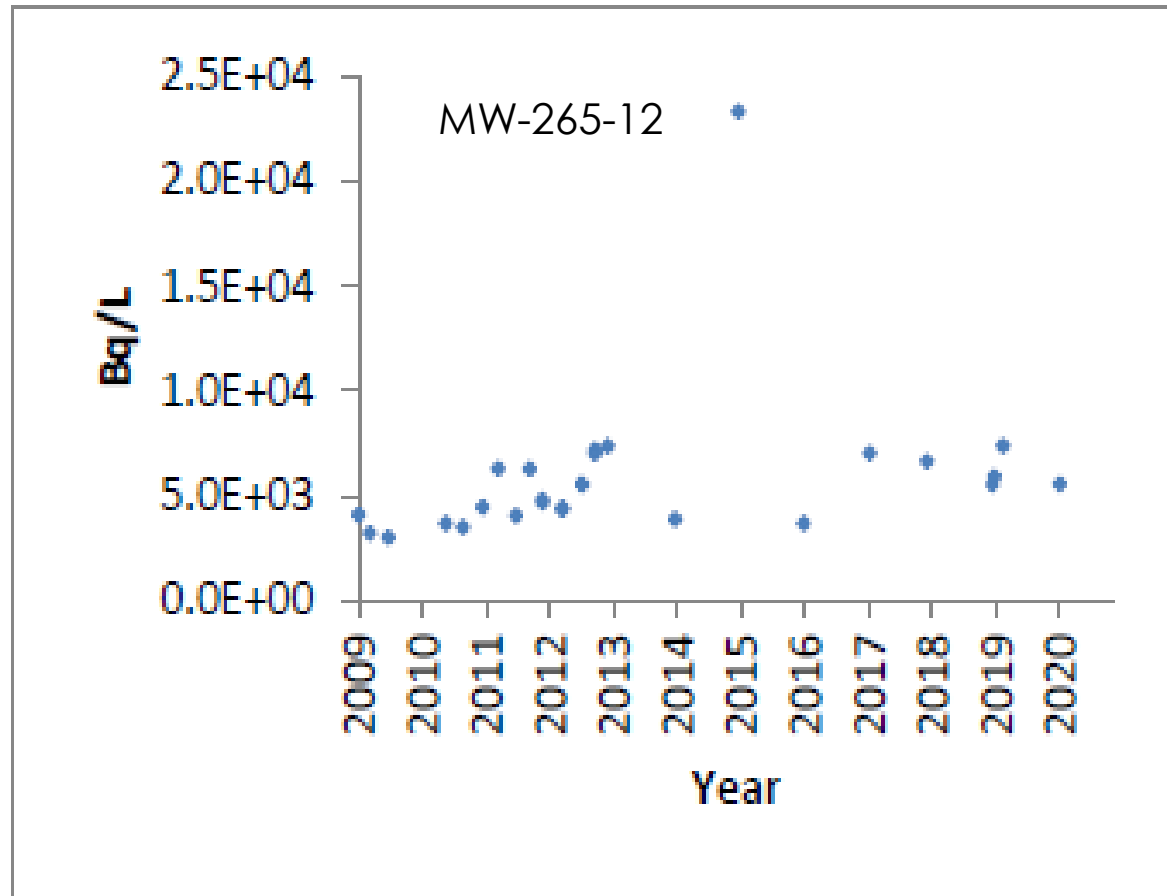
Unit 7 and Unit 8 Areas





# PN | Groundwater Quality

Unit 7 and Unit 8 Areas

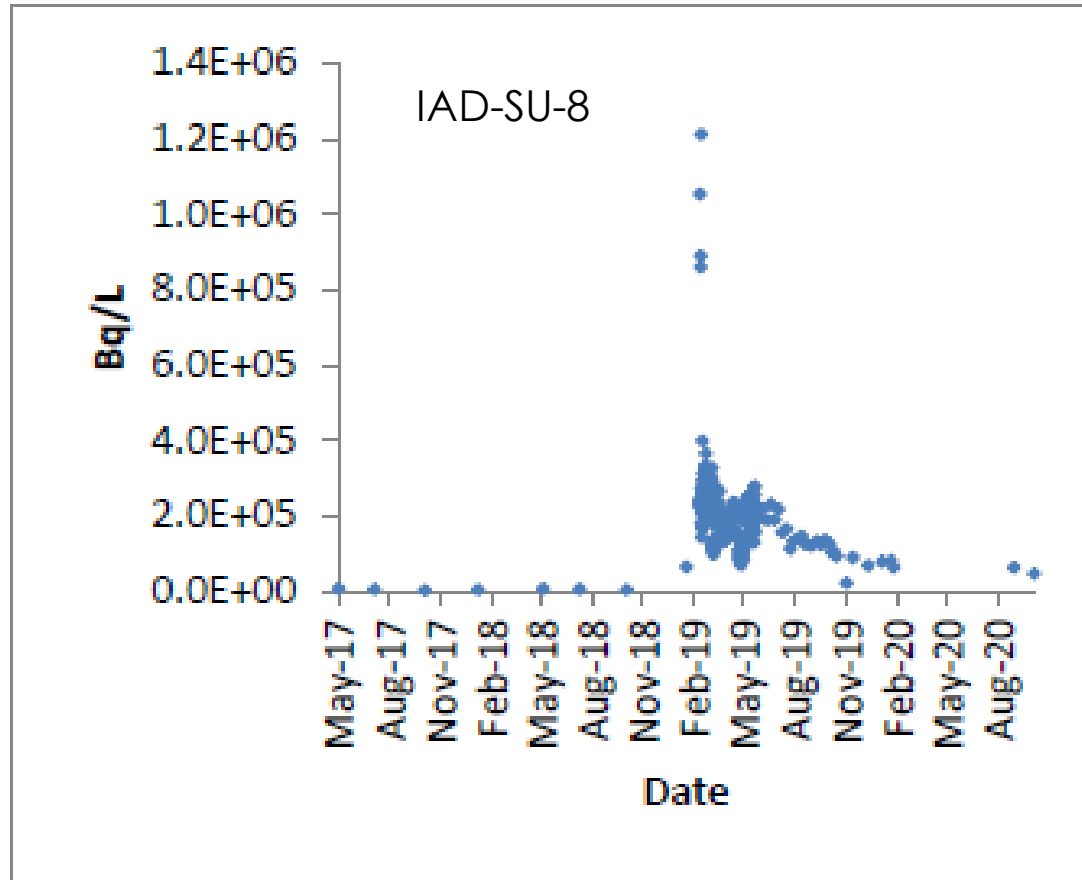






# PN | Groundwater Quality

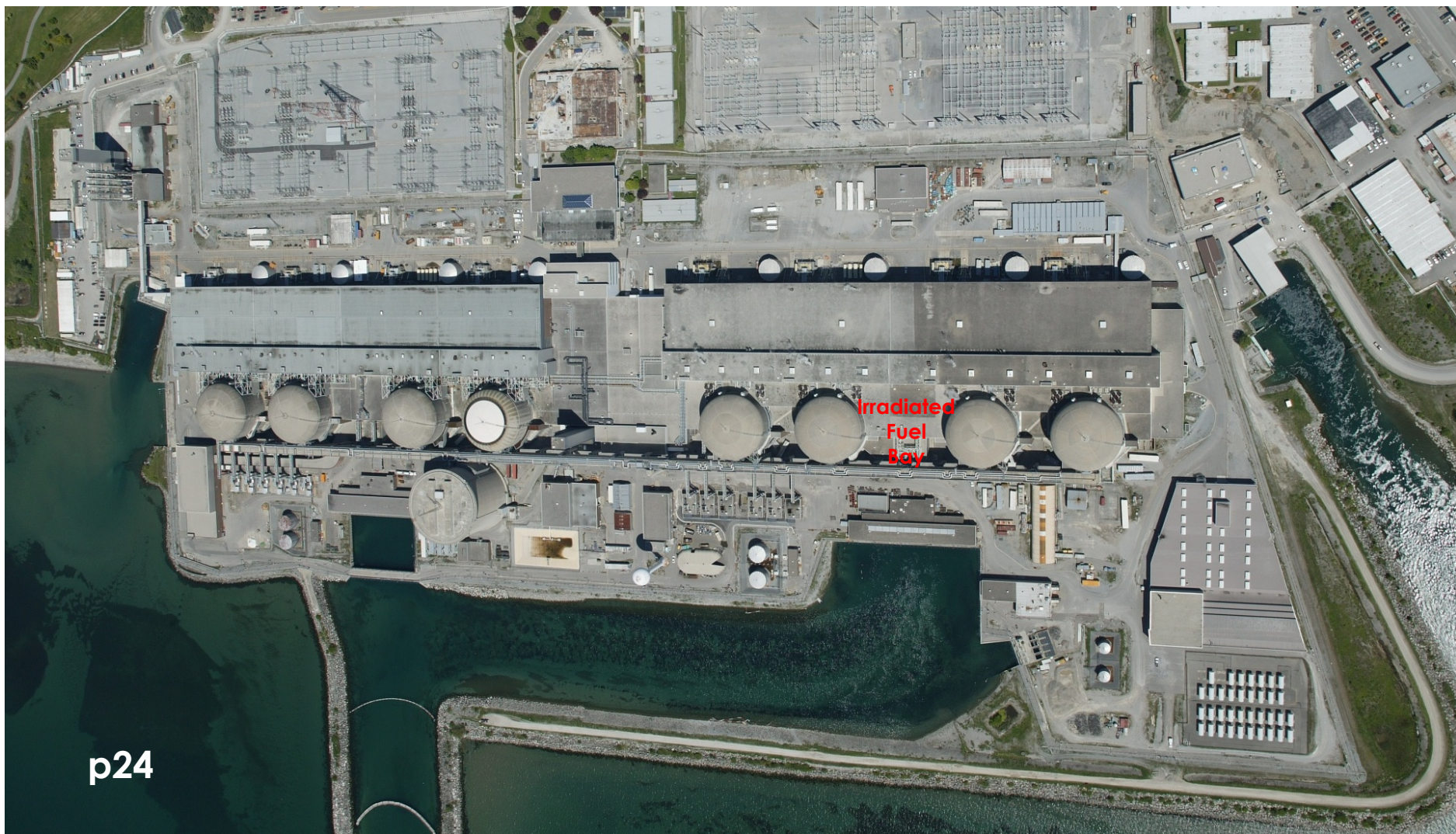
Unit 7 and Unit 8 Areas





# PN | Groundwater Quality

Unit 5 – 8 Irradiated Fuel Bay Area

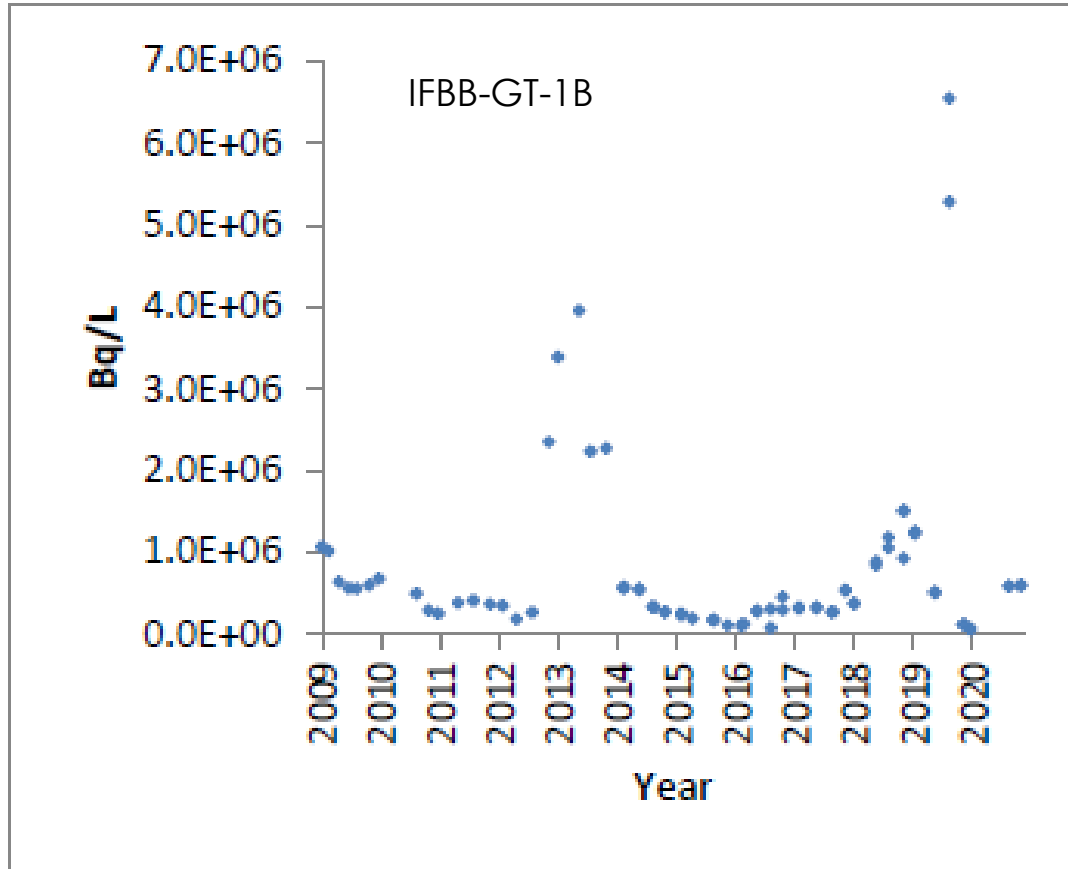






# PN | Groundwater Quality

Unit 5 – 8 Irradiated Fuel Bay Area

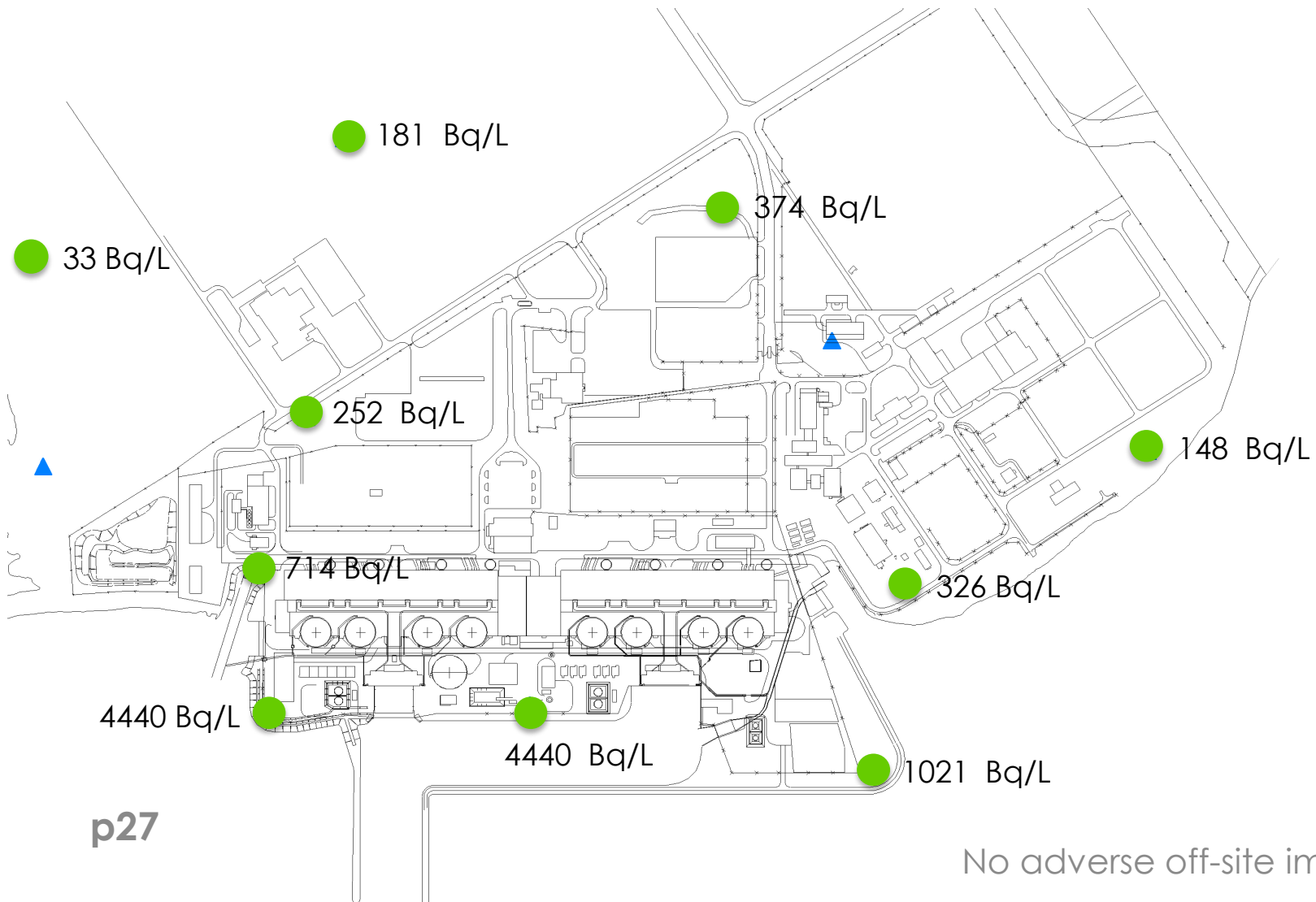








# PN | Site Boundary Groundwater Quality







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# Darlington Nuclear (DN)







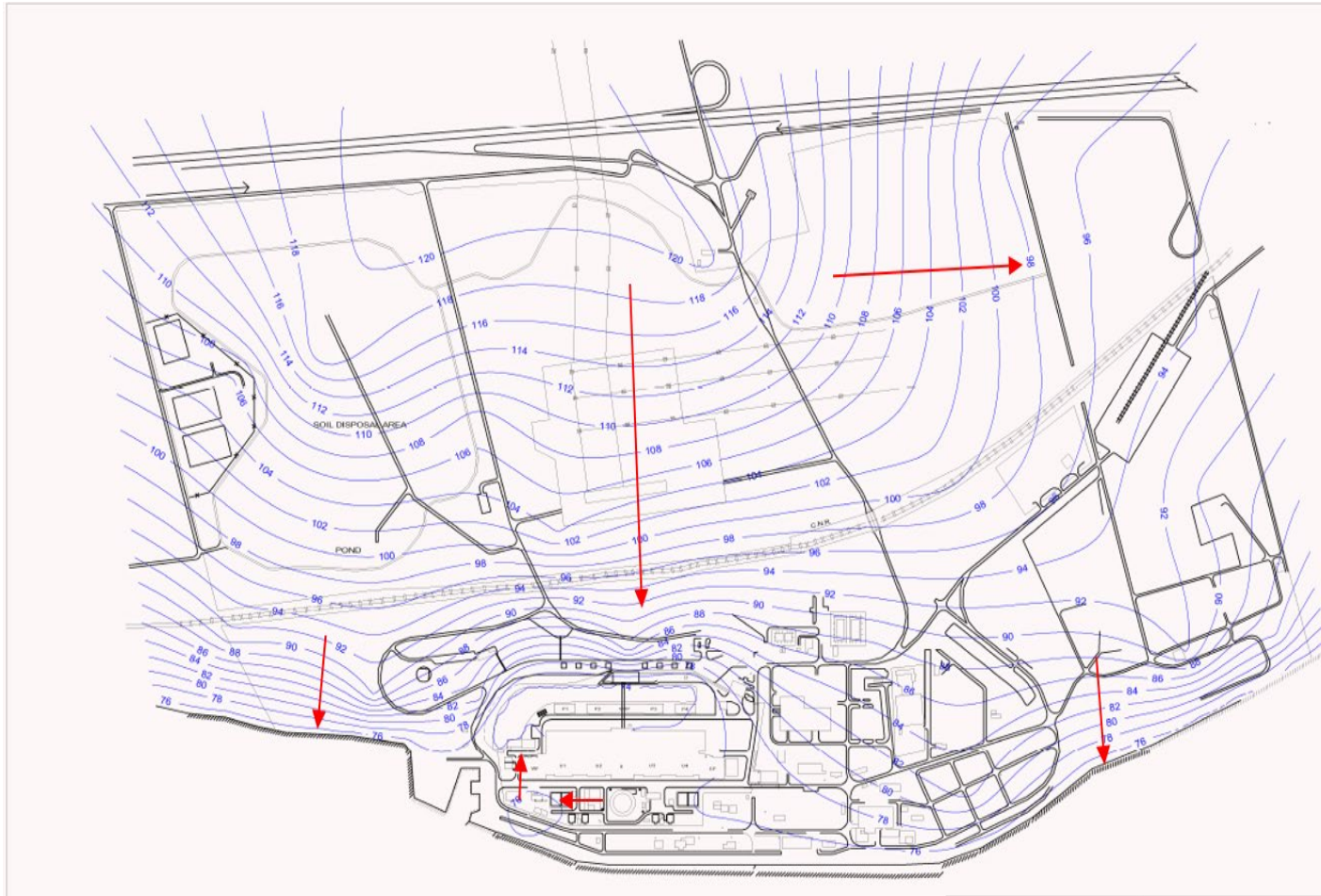
# DN | Program Overview



- ✓ 81 sampling locations
- ✓ 160 samples



# DN | Groundwater Flow Direction





# DN | Groundwater Quality

Reactor Building Area

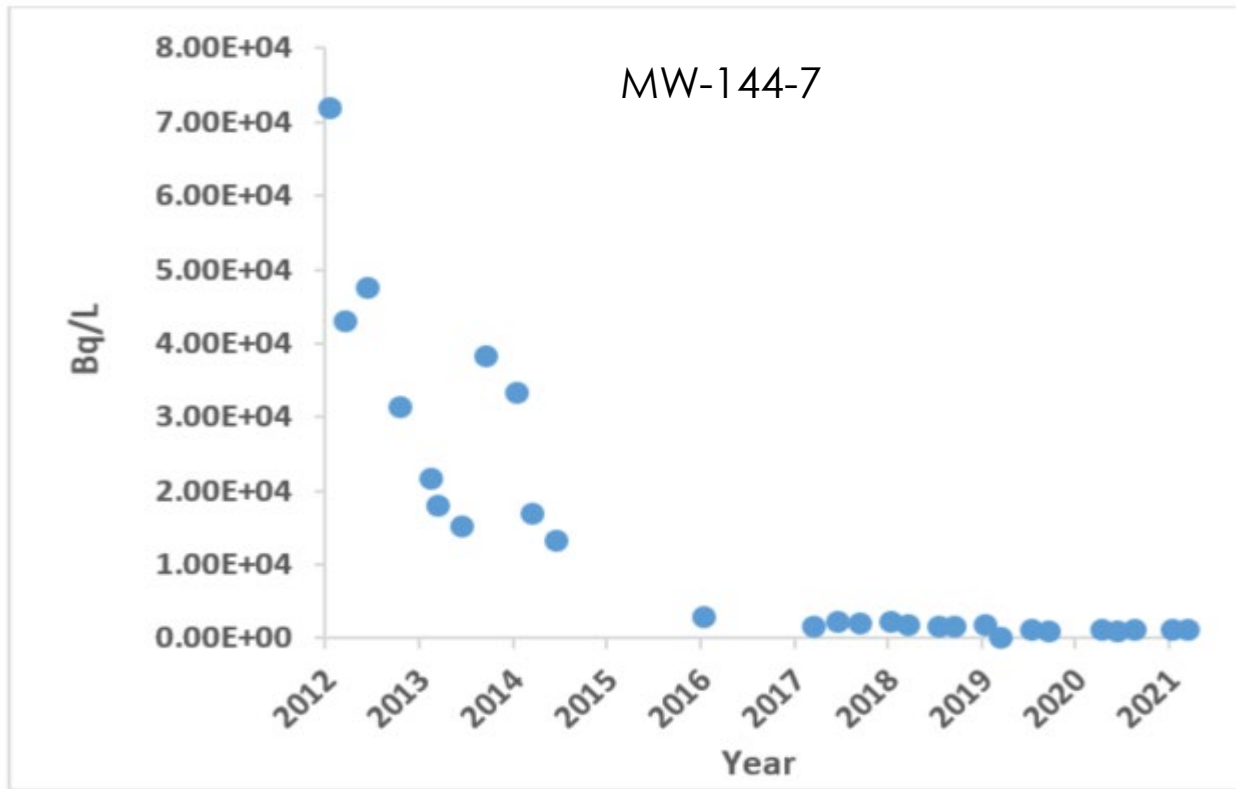






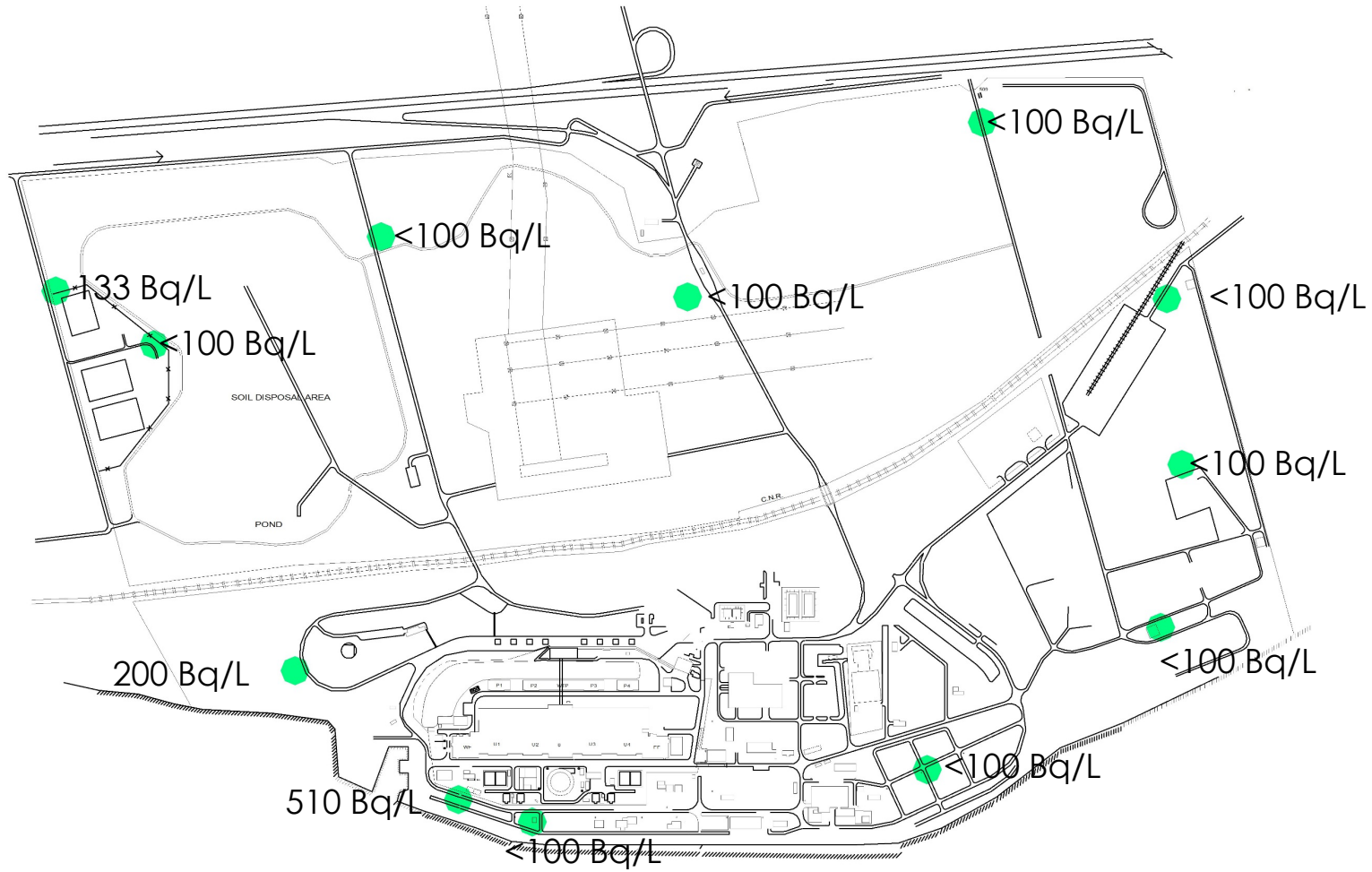
# DN | Groundwater Quality

Reactor Building Area





# DN | Site Boundary Groundwater Quality





## 2020 Summary

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





# ONTARIO **POWER** GENERATION

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