



NWB Tools

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addendum to annual report for 2BM-ULU2030 email 1/8

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Draft To: Darren Lindsay <d.lindsay@bluestargold.ca>

Fri, May 10, 2024 at 2:42 PM

Hello everyone,

This is a follow up note to the 2023 Annual Report for water license 2BM-ULU2030. In Section 4.6.2 of the report, we indicated that we were waiting on our consultant's report for activities undertaken this past year on our continued monitoring for metal leaching and acid rock drainage (ML/ARD). We have received the report and would like to submit it as an addendum to the original report. The report is quite large so it will be sent in sections as listed below.

Please note that we are documenting a negative trend in water/pH in some select sections of the infrastructure pads, both the camp pad and the ore pad. Note that we had similar issues in 2021 at which time we proactively removed the problem rock from two sections of the road and replaced them with benign esker sands. This time unfortunately we are a little more reactive than proactive, however, we are committed to take interim measures in the coming field season to remove and manage problem rock and by year-end develop a longer-term waste rock management plan that we can execute moving forward.

For 2024 we have identified the highest risk rock to be on the north and south edges of the ore pad located southeast of camp. The northern section and some staged rock from 2021 will be placed on the southern section and then covered with packed esker sands to promote water shedding. This is expected to slow any chemical changes to the rock by reducing water and by promoting freezing and provide time for the Company to develop its longer-term waste rock plan. Other areas of the infrastructure pads are considered to be secondary risk at this time and will be monitored regularly throughout the season for changing conditions.

Regards,

Darren

Email attachments over several emails

Report1

Report2

Appendix A1

Appendix A2

Appendix B1

Appendix B2

Appendix C1

Appendix C2 & D

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2023 Monitoring of Metal Leaching and Acid Rock Drainage Potential at the Ulu Camp, Ulu Gold Project, Nunavut

Prepared for

Blue Star Gold Corp



Prepared by



SRK Consulting (Canada) Inc.
CAPR002649
March 2024

2023 Monitoring of Metal Leaching and Acid Rock Drainage Potential at the Ulu Camp, Ulu Gold Project, Nunavut

March 2024

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Project No.: CAPR002649

File Name: Ulu 2023 MLARD Monitoring Report_CAPR002649_FINAL_20240327.docx

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Executive Summary

The Ulu project was historically an advanced gold exploration project with underground development occurring in 1996 and 1997. Waste rock from underground was placed in infrastructure pads which remain on the surface of the site. Studies in 2020 and 2021 have shown that around 90% of the waste rock in the infrastructure pads was classified as potentially acid generating, and the rock is currently acidifying in the pads. Monitoring of the rock and seepage from the pads has been used to understand the current metal leaching and acid rock drainage (ML/ARD) conditions to inform management of the rock as part of site reclamation.

The 2023 ML/ARD program included:

- Monitoring rinse pH of rock in the infrastructure pads (with sample collection from test pits), to assess the development of acidic weathering conditions.
- A one-off pH-conductivity survey in pooled water in the tundra adjacent to the north edge of the ore pad (and the downgradient swamp), with targeted water sampling, to help determine the impact acidic rock at the edge of the ore pad is having on the downgradient environment.
- Monitoring of seepage from the infrastructure pads at freshet and through the open water season to improve understanding of ML/ARD and identify changing conditions.
- Monitoring of pH, conductivity, and redox conditions in the pools in the tundra around the ore pad (every two weeks), to improve the understanding of factors that cause pH decline.
- Monitoring of the reference stations that were established in 2022 to determine natural background levels of parameters associated with metal leaching, in tundra run-off.

Blue Star conducted most of the field program, with SRK providing training in the field and off-site support.

Results from the 2023 monitoring program combined with the previous datasets from 2020 onwards indicate the following regarding ARD:

- The waste rock-portal area and the camp pad are not generating ARD.
- The south side of the ore pad is not generating ARD.
- ARD is present seasonally (July/August) at the northwest edge of the ore pad and impacting the tundra through sub-surface drainage. Water quality has declined there since 2020 and is expected to continue to get worse unless acid generating rock in this catchment is managed.
- In July 2023, acidic conditions in the tundra extended for at least 15 m, but less than 25 m from the north edge of the ore pad.
- Rinse pH testing of samples from test pits in the pads showed that acid generating rock has been identified in each of the pads at multiple locations, and in ore and waste rock stored on the east and west side of the portal. Drainage from the camp pad, waste rock-portal area and the south side of the ore pad is currently (in 2023) being neutralized before it exits the pads. However, as carbonates continue to be depleted, the capacity for neutralization declines and ARD is expected to become more widespread without management of the rock.

- Lowest rinse pH results were pH 2.9, and lowest pH measured in drainage in the tundra was pH 4.2 therefore this site has the potential to develop more severe pH drainage conditions.
- To reiterate estimates of timing of ARD onset provided in SRK (2022b); based on calculations of site weathering rates, and measured ARD potential of the rock in the pads, delay to onset of ARD estimates for rock not covered in esker sand ranged from less than a year to six years (from 2020) for “worst case” material, depending on the depth, and six to 16 years (from 2020) for material with average ARD potential, again depending on the depth. There is therefore a short window of opportunity to manage the rock not covered in esker sand before widespread ARD is likely.

The 2023 monitoring program indicates the following regarding element leaching:

- Dissolved arsenic, copper, lead, nickel, and zinc were all below the maximum average and maximum grab sample effluent quality limits in the NWB water licence.
- Dissolved zinc was close to the NWB-WL effluent quality limit in ore pad seepage, from both the north and south edges of the ore pad. Zinc leaching has increased since 2020 and is expected to get worse unless rock in the ore pad is managed.
- Aluminum, cadmium, copper, fluoride, iron, manganese, nickel, selenium, and zinc were present in ore pad seepage at concentrations above background and above the CCME PAL-FW water quality guidelines. Concentrations of most of these parameters would be expected to get worse if conditions became more acidic.
- Leaching of sulphate, cadmium, copper, iron, nickel, manganese, selenium, and zinc is associated with sulphide oxidation, and is consistent with the presence of iron sulphides, and trace chalcopyrite, sphalerite, arsenopyrite, and millerite in the waste rock in the infrastructure pads.

The rock at Ulu needs to be managed to prevent further development of ARD and avoid deterioration of water quality. Developing and implementing an ML/ARD management plan should therefore be a priority. Several highest priority areas need management within a short time frame (in 2024).

Continued monitoring of seepage and rinse pH testing of the waste rock in the pads is recommended.

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Appendix B Seepage Charts

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Appendix D Seepage and Test Pit Co-ordinates

List of Abbreviations

ARD	Acid rock drainage
BV	Bureau Veritas Labs
CCME	Canadian Council for Ministers of the Environment
CCME PAL-FW	water quality guidelines for the protection of aquatic life freshwater
DI	de-ionized
DL	detection limit
DO	dissolved oxygen
EC	electrical conductivity
FCSAP	Federal Contaminated Sites Action Plan
ICP-MS	ICP metal scan
ML/ARD	metal leaching and acid rock drainage
NWB-WL	Nunavut Water Board Water Licence
ORP	oxidation reduction potential
PAG	potentially acid generating
QA/QC	Quality assurance/quality control
STF	soil treatment facility
TDS	total dissolved solids
TSS	total suspended solids

1 Introduction

1.1 Scope of Work

SRK Consulting (Canada) Inc. is providing support to Blue Star Gold Corp. (Blue Star) for monitoring of current metal leaching and acid rock drainage (ML/ARD) conditions at the Ulu reclamation project in Nunavut.

Objectives of the ML/ARD program for the 2023 season were to:

- Monitor seepage from infrastructure pads at the Ulu camp to inform understanding of current ML/ARD conditions from rock brought to surface during historical mining activities.
- Monitor rinse pH of rock in the infrastructure pads to assess the development of acidic weathering conditions.
- Improve the understand of pH and metal leaching conditions in the tundra down-gradient of the north side of the ore pad.
- Report on the results and interpretations related to the development of ML/ARD.
- Provide input for management of problematic rock as part of on-going reclamation activities.

This report summarizes the methods used, results, interpretations, and findings from the 2023 program and is the deliverable for Task 100 of SRK's scope of work dated May 10, 2023. It is intended for use by Blue Star.

1.2 Background Information

1.2.1 Site History and Description

The Ulu project was historically an advanced gold exploration project with underground development occurring in 1996 and 1997. An estimated 126,900 tonnes of waste rock were produced during the underground exploration program (Wolfden 2005). Development waste rock brought to surface was used to construct the camp pad, sections of the road network and to build the ore pad and waste rock-portal pad (Figure 1.1). Estimated volumes in each of the pads from BGC (2003) are 15,000 m³ in the camp pad, 20,000 m³ in the ore pad, and 8,000 m³ in the waste rock-portal pad including approximately half of which is in a waste rock stockpile on the waste rock-portal pad (4,300 m³). The pads are estimated to be around 1 to 3 m thick.

Approximately 2,200 tonnes of mineralized bulk sample were brought to surface and temporarily stored on the ore pad prior to removal off-site (Cowley et al 2015). An estimated 750 m³ of this remained on the ore pad in a stockpile when the project was abandoned, until 2018 when the mineralized rock was subsequently relocated to the portal-mine sump area (Figure 1.1).

Sand and gravel from an esker approximately 6 km south of the Ulu camp was also used as a construction material at the site and overlies waste rock on much of the ore pad and parts of the camp pad. Based on test pit programs, the earliest (central) part of the camp pad is built from

esker material with waste rock additions around the margins, as development rock from underground became available.

As part of Blue Star's reclamation activities in 2020, much of the esker sand on the ore pad surface was stockpiled along the centre of the pad to expose the underlying rock. The esker sand had reportedly been up to a meter thick in places (A. Stearman, personal communication, 2020). Waste rock from an area of approximately 6 m by 50 m along the northwest edge of the ore pad (that had not historically been covered in esker sand) was removed by excavator and stockpiled in preparation for building a new soil treatment facility (STF) on the ore pad. Some of the waste rock was used to fill in low points on the ore pad STF site and was then covered with the stockpiled esker sand (A. Stearman, personal communication, 2021). Some of this waste rock is still stockpiled on the ore pad (Figure 1.1). Both the stockpiled waste rock and residual waste rock on the tundra along the northwest edge of the ore pad are currently acid generating based on rinse test results (SRK 2021). The stockpiled waste rock was covered with tarps in July 2022 to limit precipitation ingress. The STF has not yet been built pending decisions on management of the rock in and on the ore pad.

During August and September 2021, acid generating waste rock removed from camp 3 (200 m³) and culvert 6 (68 m³) during remediation works was temporarily relocated to the ore pad (SRK 2022a). The waste rock was subsequently covered with tarps, to limit precipitation ingress, pending development of a long-term management plan for the larger volumes of acid generating and potentially acid generating (PAG) rock at the Ulu site.

The broader Ulu property is undergoing exploration by Blue Star, however, infrastructure at the Ulu camp site that is not required for the exploration program is being reclaimed. A landfill facility was constructed to the south of the camp pad during the 2021 season, and stockpiled scrap materials from various locations around the camp pad and on the waste rock-portal pad were removed and relocated to the landfill and covered with esker sand. The landfill is contoured such that drainage at freshet should run-off the frozen esker sand cover. This may subsequently drain into the eastern part of the waste rock-portal pad and into down-gradient seeps towards East Lake or may drain to compliance monitoring site ULU-15 (Figure 3.3).

PROJECT PATH: C:\Users\MSM\OneDrive\SRK Consulting\FS725 Ulu - 0040_AutoCAD\GIS\Projects\CAPR002649_Ulu_Annual_reports\CAPR002649_Ulu_Annual_reports.aprx - L-Fig 1-1_Site Layout



LEGEND

NOTES

1. Drone Imagery: Blue Star Gold Corp - 2023.
2. Basemap Imagery: ESRI, Maxar Earthstar Geographics.

REFERENCES

1. Coordinate System: NAD 1983 UTM Zone 12N



SRK JOB NO: CAPR002649

LAYOUT: CAPR002649_Ulu_Annual_reports



Ulu

2023 ML/ARD Characterization		
Site Layout		
Date: Mar 2024	Approved: KYK	Figure: 1.1

1.2.2 Geology and Mineralization

The Ulu property lies towards the southern end of the Archean High Lake greenstone belt of the Slave Geological Province. Cowley et al (2015) indicated that the greenstone belt in the Ulu area is dominated by a basaltic sequence of pillow lavas, massive flows and contemporaneous gabbro sills, with lesser turbidites and younger granites. The greenstone belt has been regionally metamorphosed to upper greenschist to amphibolite grade and is intruded by McKenzie diabase dykes.

Waste Rock

SRK has observed that waste rock in the infrastructure pads (representing waste removed during portal and ramp development) is basaltic. Mineralogy on seven test pit samples (SRK 2022b) indicated the dominant minerals are amphibole (26-38%), plagioclase feldspar (21-28%) and quartz (17-22%), with minor pyroxene, chlorite, biotite, K-feldspar, and ilmenite (2-7%). In the samples tested, total sulphide minerals were present at 0.94 to 2.3%, with pyrrhotite (or sometimes pyrite) dominating. Chalcopyrite, sphalerite, arsenopyrite and millerite were present in all samples at less than 0.1% abundance, except for one sample that contained 0.39% sphalerite. Calcite was the dominant carbonate mineral (present at 0.02% to 0.69% in five samples, and 2.1% in one sample), with dolomite also present (0.01 to 0.21%).

The waste rock in the pads is variably oxidized, and ranges from predominantly grey, to predominantly orange/brown with particle surfaces coated in the weathering products of sulphide oxidation. Accordingly, goethite/limonite was present in all the mineralogy samples at 0.60 to 1.30%, jarosite was present in all samples at 0.001 to 0.004%, and gypsum was present in two samples at 0.00003 to 0.11% (SRK 2022b). Additionally, the surface of the infrastructure pads in areas of more strongly oxidized rock, may become coated in prominent secondary minerals as the rock dries out and porewater evaporates during dry periods.

In general, the most oxidized areas of waste rock are near the surface of the pads, where there has historically been no esker sand cover, including around the edges of the pads, although strongly oxidized rock has also been found at depth (down to 1.5 m; SRK 2023).

Ore/Waste Above the Mine Sump

Rock above (and partially in) the mine sump (Figure 1.1) was previously stockpiled on the ore pad from 2006 through 2018 representing the remnants of the bulk sample removed from underground for processing at Lupin Mine. The rock includes both waste rock and ore that has been somewhat mixed during relocation. The surface rock is predominantly grey metabasalt that appears to contain only rare fresh sulphides and is not strongly oxidized; however, there are common brown oxidized surface coatings comprising up to 30% of the visible surfaces, and grey-brown fines are present just below the surface. There is also material with more abundant fresh sulphides (around 10% abundance, that appears to be predominantly pyrrhotite, and likely also contains pyrite, arsenopyrite, chalcopyrite, sphalerite, and galena, based on ore mineralogy reported in Cowley et al, 2015).

1.2.3 ML/ARD Potential at Ulu

Previous geochemical studies at Ulu have been documented by SRK (2021, 2022b, 2023). The main conclusions from the static characterization work conducted in 2020 and from rinse pH and seepage monitoring conducted in 2020, 2021 and 2022 were:

- Around 90% of the waste rock in the infrastructure pads was classified as potentially acid generating (PAG).
- Waste rock was undergoing acidification to some extent in all the pads, particularly in near-surface rock, and down the outer edges of the pads as shown by rinse pHs of 2.9 to 3.7.
- Most waste rock at depth had circum-neutral pH (6.5 to 8); however, acidic areas existed at depths of up to 1.5 m within the pads, associated with areas that were not covered in esker sand, and with higher than typical sulphide content.
- Seepage monitoring indicated that the waste rock in the camp pad and waste rock-portal pads was not generating ARD as contact water seeps and tundra seepage had pHs above 6.5 (from 2020 through 2022). Local acid generation within the waste rock was being neutralized by carbonates before drainage left the pads.
- Acidic pHs in tundra seepage down gradient of the ore pad (down to pH 4.6 in 2022) were thought to represent either ARD or be a result of extended interaction of water that was not flowing, with the naturally acidic tundra soils (measured with rinse pH down to pH 4.3).
- Based on calculations using all the available datasets, delay to onset of ARD estimates for rock not covered in esker sand ranged from less than a year to six years (from 2020) for “worst case” material, depending on the depth, and six to 16 years for material with “typical” ARD potential, again depending on the depth. Where rock had historically been covered in esker sand, the estimated delay to ARD was longer at 11 to 25 years (from 2020).
- Where surface to near-surface rock is underlain by rock with longer delay to ARD onset, the underlying materials may temporarily help maintain circum-neutral pH from acidic surface rock; however, as calcite gradually becomes depleted, acidic conditions are expected to advance and lead to ARD.
- Seepage from the infrastructure pads is impacted by metal leaching at levels above CCME water quality guidelines, which is predominantly being driven by oxidation of pyrrhotite and pyrite (as the dominant sulphides) along with trace chalcopyrite, sphalerite, arsenopyrite and millerite; resulting in widespread leaching of sulphate and zinc, in addition to leaching of cadmium, iron, manganese, nickel, and selenium in ore pad seepage, and leaching of arsenic from ore.
- Metal leaching was at levels below the Nunavut Water Board effluent water quality criteria¹; however, dissolved zinc was within an order of magnitude of the criteria.
- Trace element leaching is expected to increase if pH declines further or if local acidic conditions within the pads become more widespread.

¹ Parameters that have criteria are total arsenic, total copper, total lead, total nickel, and total zinc.

1.2.4 ML/ARD Monitoring Programs

Based on the findings and recommendations provided in SRK (2021, 2022b), a comprehensive seepage monitoring program was initiated by SRK and Blue Star in June 2021 so that changing pH conditions are identified. The program is conducted as part of Blue Star's reclamation research and was formalized in a seepage monitoring protocol (SRK 2022c). Seepage monitoring has been conducted at Ulu since 2021 during each open water season, as per the monitoring protocol. Seepage monitoring in 2020 was conducted for Blue Star by Peridotite 932 Consulting.

A rinse pH monitoring program on the waste rock in the infrastructure pads was also recommended in SRK (2022b) to provide an "early warning system" compared to seepage monitoring, providing information on the degree of acidic weathering conditions within the pads. The rinse pH monitoring protocol was formalized as SRK (2022d). Rinse pH monitoring has been conducted at Ulu in 2020, 2021 and 2023.

1.2.5 Climate Conditions and the Effect of Esker Sand Cover on the Infrastructure Pads

Based on climate normals for the nearby Lupin Mine (Environment and Climate Change Canada 2022), the Ulu site has a mean annual air temperature of around -11°C , with a mean air temperature in July at around 12°C . Mean annual snowfall recorded at the Lupin Mine is 138 mm. Mean annual rainfall is 160 mm, mostly occurring in July and August. Freshet occurs during May or June at Ulu, when the majority of flowing water is encountered at site.

The site is within continuous permafrost with an active layer that thaws seasonally. Thermal modelling work conducted by SRK (2022e) indicated that exposed (uncovered) waste rock in the infrastructure pads at Ulu that are approximately 2.0 m thick or less would be expected to completely thaw and freeze-back each year. Thaw duration is at least 4 months per year for rock down to depths of 1.3 m; however, average temperature of thawed rock declines substantially over this depth range (15°C at surface vs 0.9°C at 1.3 m depth). As temperature is a control on reaction rates, degree of sulphide oxidation is expected to decline with depth.

The modelling also showed that an esker sand cover on the pads would be expected to reduce the active layer depth and therefore limit the portion of seasonally unfrozen waste rock susceptible to oxidation of sulphides. The modelling also indicated that a sand cover is effective in reducing the seasonal thaw duration and temperature for the portion of waste rock that does become unfrozen, to an extent that would significantly limit geochemical reactions.

The modelling is consistent with observations from the site of the degree of oxidation being lowest in waste rock at depth where there was historically an esker sand cover (i.e., on the central part of the ore pad; Figure 1.1).

In 2022, Blue Star installed ground temperature monitoring instruments in the ore pad at two locations, one with and one without an esker sand cover, to ground truth the modelling work and improve the understanding of the thermal effects of an esker sand cover over the waste rock. Data collection has been on-going since August 2022 and will be used in the future as an input to determine cover thickness requirements in planning for final reclamation and closure of the site.

2 2023 ML/ARD Program

The following components were part of the 2023 ML/ARD program:

- Monitoring rinse pH of rock in the infrastructure pads (with sample collection from test pits), to assess the development of acidic weathering conditions.
- A one-off pH-conductivity survey in pooled water in the tundra adjacent to the north edge of the ore pad, and along the downgradient swampy drainage path towards Lake G43, with targeted water sampling, to help determine the impact acidic rock at the edge of the ore pad is having on the downgradient environment. This was recommended in SRK (2023).
- Monitoring of seepage from the infrastructure pads at freshet and through the open water season to improve understanding of ML/ARD and identify changing conditions.
- Monitoring of pH, conductivity, and redox conditions in the pools in the tundra around the ore pad (every two weeks), to improve the understanding of factors that cause pH decline.
- Monitoring of the reference stations that were established in 2022 to determine natural background levels of parameters associated with metal leaching, in tundra run-off.

3 Methods

SRK Principal Consultant Kirsty Ketchum (PGeo) was on site from June 8 through June 14 for the 2023 seepage monitoring program and from July 19 through July 22 for the rinse pH monitoring program and the survey of pooled water in the tundra downgradient of the north edge of the ore pad.

3.1 Rinse pH Monitoring

Blue Star environment staff were trained in rinse pH monitoring (sampling and testing) by SRK on July 19 to 21, 2023 and sampling was completed by Blue Star on July 23, 2023.

Rinse pH monitoring was conducted using the methods in the Rinse pH monitoring protocol (SRK 2022d). Sample locations were pre-selected based on a 50 m grid. The grid was modified to improve coverage of locations falling just off the grid. An additional location was added for residual waste rock sitting on the tundra where rock in the north edge of ore pad was previously removed.

Most samples were collected from excavated test pits as per the protocol. A few pits were dug by shovel or hand-shovel where excavator access was not possible, or the waste rock was not thick enough to require an excavator. Sample locations are shown in Figure 3.1 and co-ordinates are provided in Appendix D.

Sample depths are provided with the results. Rinse testing included measurement of rinse pH and rinse conductivity. Results are provided in Section 5.1.

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LEGEND

- 2023 Test Pit Locations
- Not Excavated / Not Sampled

NOTES

- Drone Imagery: Blue Star Gold Corp - 2023.
- Basemap Imagery: ESRI, Maxar Earthstar Geographics.

REFERENCES

- Coordinate System: NAD 1983 UTM Zone 12N

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Ulu

2023 ML/ARD Characterization		
2023 Test Pit Locations for Rinse pH Monitoring		
Date: Mar 2024	Approved: KYK	Figure: 3.1

3.2 In Situ pH-Conductivity Survey

To help determine the extent that acidic rock along the north edge of the ore pad is affecting the downgradient tundra, a one-off pH-conductivity survey was conducted, with in situ testing of pooled water in the tundra adjacent to the ore pad, and along the swampy drainage path towards Lake G43 (Figure 3.2). The survey was conducted by SRK and Blue Star on July 21, 2023, with follow up targeted water sampling on July 22, 2023.

The entire survey distance from the road to Lake G43 is approximately 325 m. The intention was to test water for pH and conductivity approximately every 30 m, to give 10 test locations; however fewer sites than this were found. Four sites northeast of Seep-05 and three sites west/southwest of Seep-05 were found, which in addition to Seep-05, gave eight survey sites (Figure 3.2). For sites that were along the drainage path adjacent to the ore pad, the perpendicular distance from the edge of the ore pad ranged between approximately 10 m and 50 m. Seep-12 (at the end of the drainage path), that was flowing into Lake G43 in early July had dried up.

Pools that were tested in situ are shown on Figure 3.2. Location numbers refer to meters from Seep-05 (recorded by GPS), with negative numbers indicating up-gradient (to the northeast of Seep-05) and positive numbers indicating down-gradient (i.e., beyond Seep-05, to the west/southwest, towards Lake G43). The suffix -SW indicates standing water.

Of the eight sites tested for pH and conductivity, four were sampled the next day for the full suite of seepage parameters. These included three sites closest to the north edge of the ore pad, and one site further down-gradient of the northwest corner of the ore pad (Figure 3.2). A discussion on the limitations of sampling and interpreting data from stagnant waters is provided in Section 3.6.2. Results are provided in Section 5.2.

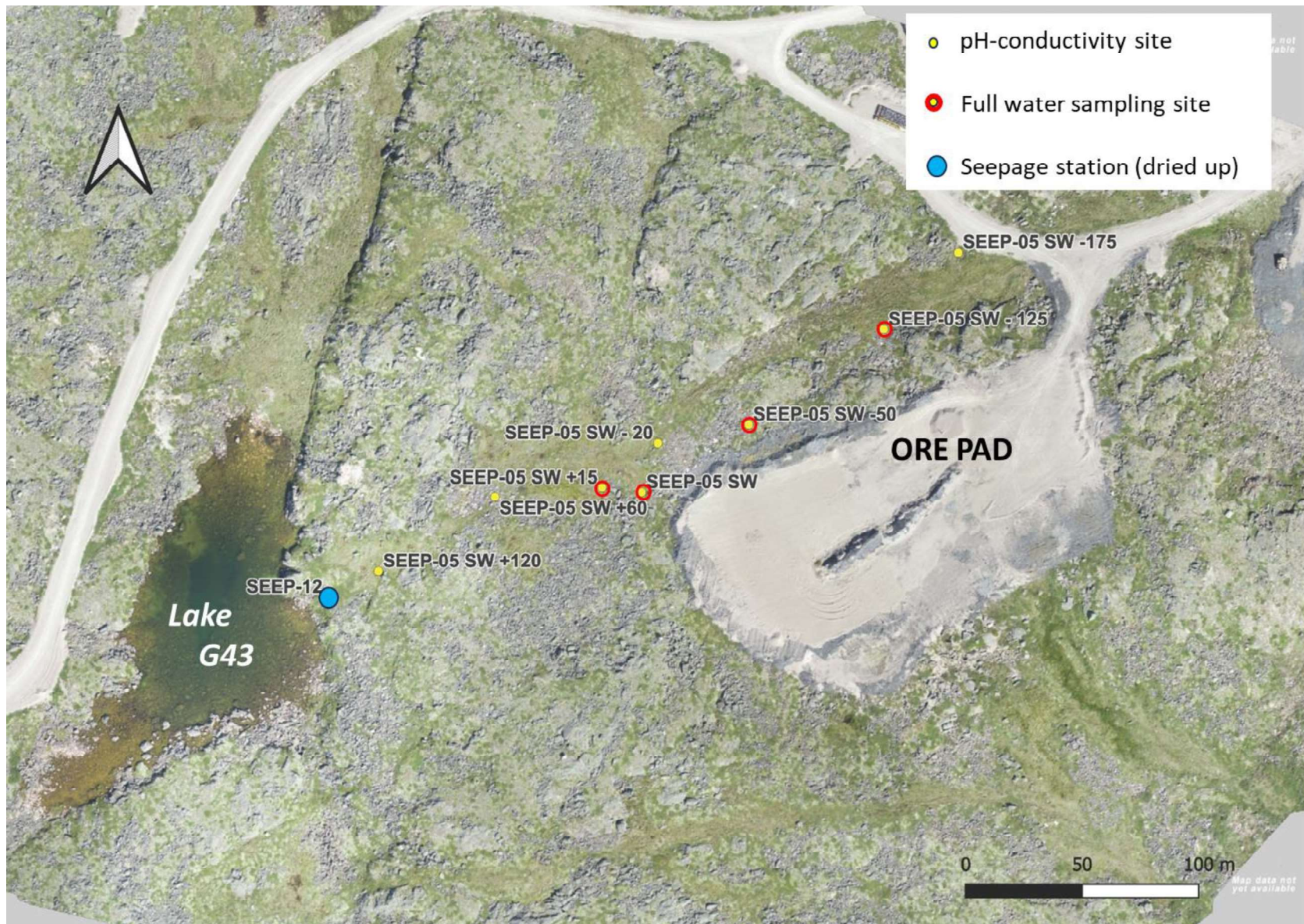


Figure 3.2. North Ore Pad July 2023 pH-Conductivity Survey Locations (source Blue Star Gold)

3.3 Seepage Monitoring

The Ulu seepage monitoring protocol (SRK 2022c) documents the methods to be used for seepage monitoring at Ulu including monitoring frequency, field data to be collected, sample collection procedures (including QC samples) and setting up new monitoring stations.

Based on the protocol, and more recent recommendations (SRK 2023) made due to acidic pH's in tundra seepage down gradient of the ore pad (down to pH 4.6 in 2022), and acid generating rock present at the edges of the ore pad and the drill core storage area of the camp pad, the monitoring included the following key components:

- Sampling all flowing seeps after freshet and after significant rain
- Sample standing water seeps at freshet (based on the assumption that water was recently flowing)
- Weekly checks for flow directly out of the ore pad and drill core area
- Bi-weekly field readings of pools surrounding the ore pad
- In addition, monthly compliance monitoring (during periods of flow, when the site is active) is required by the Nunavut Water Board for seeps that are identified in the water licence (ULU-7, ULU-8, and ULU-15).

Key information on the seepage monitoring stations is tabulated in Table 3-1 including year established, upstream and downstream locations and what the water is thought to represent. Locations are shown on Figure 3.3 and co-ordinates are provided in Appendix D.

Blue Star environment staff were trained in seepage sampling by SRK during freshet monitoring from June 9 through June 13, 2023. Freshet monitoring occurred later than peak freshet conditions as indicated by the advanced degree of snow melt when monitoring started. Although monitoring started as soon as Ulu Camp opened, conditions were unseasonably warm as was typical across the north in the spring/summer of 2023 and the snow had melted early. As a result, some of the seeps from previous years were not sampled as they had already dried up; however, 19 seeps were sampled during freshet monitoring including five new seeps that were set up as new monitoring stations (Seep-22 to Seep-26).

Subsequent monitoring was conducted by Blue Star environment staff, including sampling on June 19 to 20 after rainfall (over the three proceeding days), and field data collection with some sample collection was conducted on July 1 to 3, July 7 to 8, July 16, and July 27 to 29. The sampling/field data collection is summarized in Table 3-2. Significantly, direct flow out of the south edge of the ore pad was recognized during the weekly checks for flow. This was set up as a new seepage station, ULU-8A, which was interpreted to flow sub-surface to ULU-8 which is approximately five meters down-gradient from the edge of the ore pad. ULU-8A was sampled three times while flowing, between July 1 and July 16.

Field data were collected from several monitoring stations that had standing water, around the camp pad and waste rock-portal pad. This exceeded the requirements of the program

(highlighted in green in Table 3-2). Field data collection around the ore pad on a bi-weekly frequency generally occurred, with exceptions noted in Table 3-2 (highlighted in yellow).

Several seeps were not checked for flow during the June 19 to 20 sampling that occurred following significant rain. Most of these were likely to have been flowing based on previous years experience (highlighted in pink in Table 3-2). Two other seeps were also observed to be flowing during this sampling event but were not sampled (highlighted in red in Table 3-2).

The last seepage monitoring event occurred July 27 to 29 as the camp was closed early for the season. A total of 28 seepage samples were collected between June 9 and July 27 (not including QC samples).

In addition to the seepage samples, the two reference stations (Ref-03 and Ref-06) were sampled on June 13 and July 3. These were dry when checked on July 29. Their locations are shown on Figure 3.4.

Seepage and reference station results are provided in Section 5.3.

Quality assurance/quality control (QA/QC) sampling included collection of five field method blanks, five duplicate samples and six trip blanks. The QA/QC results are discussed in Section 4.

Table 3-1. Overview of Ulu Seepage Monitoring Stations

Seep	Area	Year established	Upstream location	Comments/represents	Downstream location	Monitoring recommendations for 2023
Seep-01	Ore pad (south)	2019	Ore pad/tundra	Ore pad tundra seep, sub-surface drainage.	Seep-06, then East Lake	Freshet monitoring. Check <u>weekly</u> for flow associated with thawing of pad at depth. Check after significant rain events. Sample if flow is present. <u>Bi-weekly</u> field readings.
Seep-02	Within tundra between waste rock pad and East Lake	2020	Seep-09	Waste rock pad seepage modified by tundra interaction	Seep-14 and seep-15 (flow splits into two), then East Lake	Freshet monitoring. Check after significant rain events, and sample if flow is present.
Seep-03	Camp pad (NE)	2020	Camp pad	Thought to be contact water. To be confirmed when flow is next observed.	Seep-20 then sub-surface to Ulu Lake	Freshet monitoring. Check <u>weekly</u> for flow associated with thawing of pad at depth. Check after significant rain events. Sample if flow is present.
Seep-04	Within tundra between waste rock pad and East Lake	2020	Seep-11 and ULU-7	Waste rock pad seepage modified by tundra interaction	Seep-13 then East Lake	Freshet monitoring. Check after significant rain events, and sample if flow is present.
Seep-05	Ore pad (NW)	2020	Ore pad/tundra	Ore pad tundra seep, likely sub-surface drainage.	Seep-12 then Lake G43	Freshet monitoring. Check <u>weekly</u> for flow associated with thawing of pad at depth. Check after significant rain events. Sample if flow is present. <u>Bi-weekly</u> field readings.
Seep-06	Inflow to East Lake (S)	2020	ULU-8 and Seep-01	Flow into East Lake from south side of ore pad	East Lake	Freshet monitoring. Check after significant rain events, and sample if flow is present.
Seep-07	Camp pad (N)	2021	Camp pad	Camp pad contact water	Sub-surface to Seep-17/Seep-20 drainage	
Seep-08	Camp pad (N)	2021	Camp pad	Camp pad contact water	Sub-surface to Seep-17/Seep-20 drainage	
Seep-09	Waste rock pad (E)	2021	Waste rock pad	Waste rock pad contact water	Sub-surface to Seep-02, -26, -14, -15 then East Lake	
Seep-10	Waste rock pad (C)	2021	Waste rock pad	Waste rock pad/stockpile contact water	Sub-surface to Seep-13 or Seep-14	
Seep-11	Waste rock pad (W)	2021	Waste rock pad	Waste rock pad/stockpile contact water	Seep-04, then Seep-13 to East Lake	
Seep-12	Inflow to small lake (G43) west of ore pad	2021	Seep-05 and boggy drainage area becoming defined surface flow	Flow into small lake (G43), part of West Lake catchment, from northwest side of ore pad	Lake G43	
Seep-13	Inflow to East Lake (W)	2021	Seep-04 (and potentially sub-surface from Seep-10)	Flow into East Lake from waste rock pad and waste rock stockpile.	East Lake	
Seep-14	Inflow to East Lake (W)	2020	Seep-02 (and sub-surface from Seep-09, -10)	Flow into East Lake from waste rock pad	East Lake	
Seep-15	Inflow to East Lake (NW)	2021	Seep-02 and higher ground to the east	Flow into East Lake from waste rock pad, also receives drainage from higher ground to the east.	East Lake	
Seep-16	Portal area	2021	Mineralized rock above mine sump	Flow from snow melt passing through a few meters of waste rock/ore above portal/mine sump.	Portal pond	
Seep-17	Camp pad (NE)	2021	Camp pad/tundra	Tundra seep from camp pad area where drill core is stored. Location also receives drainage from higher ground to the NW.	Seep-20, then sub-surface towards Ulu Lake	
Seep-18	Camp pad (NE)	2021	Seep-17	Tundra seep from camp pad area, downstream of Seep-17. Location also receives drainage from higher ground to the NW.	Seep-20, then sub-surface towards Ulu Lake	Discontinued as too close to Seep-17. Seep-20 established further downstream instead.
Seep-20	Camp pad (NE)	2022	Seep-17, Seep-03, Seep-21	Tundra seepage from Camp pad area, multiple flow paths converge upstream. This is last point before flow becomes sub-surface.	Disappears into tundra, sub-surface towards Ulu Lake	Freshet monitoring. Check after significant rain events, and sample if flow is present.
Seep-21	Camp pad (NE)	2022	Camp pad	Camp pad contact water	Seep-20	Freshet monitoring. Check <u>weekly</u> for flow associated with thawing of pad at depth. Check after significant rain events. Sample if flow is present. <u>Bi-weekly</u> field readings.
Seep-22	Ore pad (W)	2023	Ore pad	Ore pad tundra seep, likely sub-surface drainage.	Seep-06, then East Lake	
Seep-23	Ore pad (S)	2023	Ore pad	Ore pad tundra seep, sub-surface drainage.	Seep-06, then East Lake	
Seep-24	Portal area	2023	Waste rock west of portal entrance	Waste rock contact water	Waste rock-portal pad	Freshet monitoring. Check after significant rain events, and sample if flow is present.
Seep-25	Waste rock pad (C)	2023	Waste rock pad	Waste rock pad/stockpile contact water	Sub-surface to Seep-13 or Seep-14	
Seep-26	Within tundra between waste rock pad and East Lake	2023	Seep-02, -09	Waste rock pad seepage modified by tundra interaction	Sub-surface to Seep-14 then East Lake	
ULU-7	Waste rock stockpile	Historical	Waste rock stockpile	Waste rock pad/stockpile contact water	Seep-04, then seep-13 to East Lake	Freshet monitoring. Check after significant rain events, and sample if flow is present.
ULU-8	Ore pad (S)	Historical	Ore pad	Ore pad seepage, likely predominantly sub-surface.	Seep-06, then East Lake	Freshet monitoring. Check <u>weekly</u> for flow associated with thawing of pad at depth. Check after significant rain events. Sample if flow is present. <u>Bi-weekly</u> field readings.
ULU-8A	Ore pad (S)	2023	Ore pad	Direct surface flow out of ore pad	Sub-surface to ULU-8	
ULU-15	Camp pad (S)	2021	Camp pad/landfill	Seepage from south side of camp pad and drainage through/run-off from landfill.	Sub-surface, likely to Seep-02	Freshet monitoring. Check after significant rain events, and sample if flow is present.
Ref-03	North of Camp	2022	Tundra	Background conditions	Ulu Lake	Freshet and monthly monitoring. Also check after significant rain events, and sample if flow is present.
Ref-06	North of Ulu Lake	2022	Tundra	Background conditions	Ulu Lake	
Seep-19	Camp 3	2021	Camp 3 road	Camp 3 road contact water, prior to removal of acidic waste rock.	Lake K29a	All waste rock removed, therefore no longer represents waste rock seepage. Monitoring discontinued.

Source: SRK Consulting\NA CAPR002649 Ulu Reclamation SOW 2023 - Internal\Task100_ML-ARD\160_Data management\Ulu_Compiled_Seepage_CAPR002649_rtc_kyk_rev00.xlsx

Notes: highlighting indicates: grey=waste rock contact water, green=flows or daylights within tundra, blue=downstream inflow to lake.

PROJECT PATH: C:\Users\MSMT\SRK Consulting\F5725 Ulu - 1040_AutoCAD\GIS\Projects\CAPR002649_Ulu_Annual_reports\CAPR002649_Ulu_Annual_reports.aprx - L-Fig 3-3_Seepage Monitoring Locations



LEGEND

- Seepage Monitoring Locations
- Portal Pond

NOTES

1. Drone Imagery: Blue Star Gold Corp - 2023.
2. Basemap Imagery: ESRI, Maxar Earthstar Geographics.

REFERENCES

1. Coordinate System: NAD 1983 UTM Zone 12N

PROJECT PATH: C:\Users\MSM\OneDrive\SRK Consulting\FS\25 Ulu - 1040_AutoCAD\GIS\Projects\CAPR002649_Ulu_Annual_reports\appx - L\Fig 3-4_Seepage Reference Locations



LEGEND

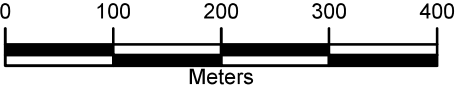
- Seepage Reference Monitoring Locations

NOTES

- 1. Drone Imagery: Blue Star Gold Corp - 2023.
- 2. Basemap Imagery: ESRI, Maxar Earthstar Geographics.

REFERENCES

- 1. Coordinate System: NAD 1983 UTM Zone 12N



SRK JOB NO: CAPR002649

LAYOUT: CAPR002649_Ulu_Annual_reports

Ulu

2023 ML/ARD Characterization		
Seepage Reference Monitoring Locations		
Date: Mar 2024	Approved: KYK	Figure: 3.4

Table 3-2. Summary of Seepage Monitoring Conducted During 2023

	Purpose/requirements	Freshet survey and June compliance sampling		Sampling after significant rain (June 16-18) and bi-weekly field readings from ore pad standing pools		Field readings from ore pad standing pools and sampling direct flow out of ore pad (new ULU-8A)						Ore pad field readings and final check/sampling of all seeps prior to camp closure		
	Date	June 9-13		June 19-20		July 1-3		July 7-8		July 16		July 27-29		
Station	Pad/area	Seep status	Sampled	Seep status	Sampled	Seep status	Sampled	Seep status	Sampled	Seep status	Sampled	Seep status	Sampled	Comments if recommendations not met
Seep-01	Ore pad	No flow	Yes	No flow	No	No flow	Field data	No flow	Field data	No flow	No	No flow	Field data	Field data frequency less than recommended for ore pad
Seep-02	Waste rock-portal pad	Flowing	Yes	Not checked/recorded		-	-	Flowing	Yes	-	-	No flow	Field data	Likely flowing, should have been checked/sampled
Seep-03	Camp pad (drill core area)	Dry	-	No flow	Field data	Dry	-	No flow	Field data	No flow	Field data	Dry	-	
Seep-04	Waste rock-portal pad	Dry	-	Not checked/recorded		-	-	-	-			Dry	-	Should have been checked after rain
Seep-05	Ore pad	No flow	Yes	No flow	Field data	No flow	Field data	No flow	Field data	No flow	Field data	No flow	Field data	
Seep-06	East Lk inflow from ore pad	Flowing	Yes	Flowing	No	-	-	-	-	-	-	Dry	-	Flow present after rain, should have been sampled
Seep-07	Camp pad	Inaccessible flow		Inaccessible flow		Inaccessible flow		-	-	-	-	No flow	-	
Seep-08	Camp pad	Flowing	Yes	No flow	-	No flow	Field data	-	-	-	-	No flow	Field data	
Seep-09	Waste rock-portal pad	Dry	-	Dry	-	Dry	-	Inaccessible flow		-	-	Dry	-	
Seep-10	Waste rock-portal pad	Dry	-	Dry	-	Dry	-	Dry	-	-	-	Dry	-	
Seep-11	Waste rock-portal pad	Flowing	Yes	Flowing	Field data	No flow	Field data	No flow	Field data	-	-	No flow	Field data	Flow present after rain, should have been sampled
Seep-12	Lk G43 inflow from ore pad	Flowing	Yes	Flowing	Yes	Flowing	Field data	-	-	-	-	Dry	-	
Seep-13	East Lk inflow from waste rock-portal pad	Flowing	Yes	Not checked/recorded		-	-	-	-	-	-	Dry	-	Likely flowing, should have been checked/sampled
Seep-14	East Lk inflow from waste rock-portal pad	Flowing	Yes	Not checked/recorded		-	-	-	-	-	-	Dry	-	Likely flowing, should have been checked/sampled
Seep-15	East Lk inflow from waste rock-portal pad	Flowing	Yes	Not checked/recorded		-	-	-	-	-	-	Dry	-	Likely flowing, should have been checked/sampled
Seep-16	Portal pond inflow (snowmelt)	Dry	-	-	-	-	-	-	-	-	-	-	-	
Seep-17	Camp pad	Flowing	Yes	Flowing	Yes	No flow	Field data	-	-	-	-	Flowing	Yes	
Seep-18	Obsolete (replaced by Seep-20)	-	-	-	-	-	-	-	-	-	-	-	-	
Seep-19	Obsolete (Camp 3)	-	-	-	-	-	-	-	-	-	-	-	-	
Seep-20	Camp pad	Flowing	Yes	Flowing	Yes	Flowing	Field data	-	-	-	-	Flowing	Yes	
Seep-21	Camp pad	Dry	-	No flow	Field data	No flow	Field data	-	-	-	-	No flow	Field data	
Seep-22	Ore pad	No flow	Yes	No flow	Field data	No flow	Field data	Dry	-	Dry	-	Dry	-	
Seep-23	Ore pad	No flow	Yes	Not checked/recorded		No flow	Field data	No flow	Field data	No flow	Field data	No flow	Field data	Should have been checked after rain
Seep-24	Portal area	Flowing	Yes	Not checked/recorded		-	-	-	-	-	-	Dry	-	Should have been checked after rain
Seep-25	Waste rock-portal pad	Flowing	Yes	Dry	-	Dry	-	Dry	-	-	-	Dry	-	
Seep-26	Waste rock-portal pad	Flowing	Yes	Dry	-	-	-	-	-	-	-	Not checked/recorded		
ULU-7	Waste rock-portal pad	Dry	-	Not checked/recorded		Dry	-	-	-	-	-	Not checked/recorded		Was likely checked as other nearby seeps were checked
ULU-8	Ore pad	No flow	Yes	No flow	No	Flowing	Yes	Not recorded		Not recorded		No flow	Field data	Field data frequency less than recommended for ore pad
ULU-8A	Ore pad	-	-	-	-	Flowing	Yes	Flowing	Yes	Flowing	Yes	No flow	Field data	
ULU-15	Camp pad-Landfill	Flowing	Yes	No flow	-	Dry	-	Dry	-	Dry	-	Dry	-	
Ref-03	-	Flowing	Yes	Not checked/recorded		Flowing	Yes	-	-	-	-	Dry	-	
Ref-06	-	Flowing	Yes	Not checked/recorded		Flowing	Yes	-	-	-	-	Dry	-	

Source: SRK Consulting\NA CAPR002649 Ulu Reclamation SOW 2023 - Internal\Task100_ML-ARD\150_Lab liaison and QC\ Ulu seep tracking.xlsx

Notes: Highlighting indicates: Green = field data collection above the recommendations, pink = not checked or no record of check, red = flow present after rain so should have been sampled, yellow = field data collection less frequent than recommended for the ore pad.

3.4 Analytical Methods

3.4.1 Rinse Tests

Where necessary prior to sieving, gravel samples were spread out on trays indoors and dried at room temperature. Rinse testing was conducted on the -2 mm fraction of each sample. The method is documented in SRK (2022d) and uses a 1:1 ratio (by weight) of sample to de-ionized water. pH and conductivity were measured in the samples, and in blank tests containing only de-ionized water.

3.4.2 Seepage Analysis

The following chemical parameters were measured in the field at seepage sampling locations:

- pH and electrical conductivity (EC),
- Oxidation reduction potential (ORP) or dissolved oxygen (depending on which meter was available/functioning at site)

Samples were submitted to Bureau Veritas Labs (BV) in Yellowknife and then forwarded to BV in Calgary for analysis of the following parameters:

- Lab pH and EC
- Total suspended solids (TSS), total dissolved solids (TDS), hardness, acidity
- Anions (alkalinity, sulphate, chloride, nitrate, nitrite, ammonia, bromide, fluoride)
- Total and dissolved metals

3.5 Seepage Data QA/QC and Compilation

SRK checked sample receipt confirmation reports issued by the lab for correct sample login and analytical requirements. SRK compiled the seepage lab results with field data provided by Blue Star, for QC assessment (Section 4). Seepage results were subsequently compiled with the seepage results from previous years of monitoring (SRK 2023) for data interpretation.

3.6 Data Interpretation Methods

3.6.1 General

Where results were below the detection limit (DLs), the DL value was used in charts and calculations.

3.6.2 pH, ARD and Acidic Water in the Tundra

For the purpose of classification, direct drainage from an infrastructure pad (contact water) that has pH of 5 or below is considered to be acidic (ARD). Drainage with pH 5 to 6.5 is considered mildly acidic. pH 6.5 to 8 is considered circum-neutral, and pH above 8 is considered alkaline.

A localized area within an infrastructure pad that has pH less than 5 (identified through rinse pH testing) is not considered ARD unless it produces drainage with pH less than 5, i.e., surface or sub-surface flow out of the pad.

Water within the tundra may have acidic pH that is not necessarily ARD as the tundra is expected to be naturally acidic due to the presence of organic acids, as indicated by rinse pHs of pH 4.3 to 5.8 from background tundra soil samples measured in 2022 (SRK 2023). Acidic waters caused by organic acids typically have much lower conductivity than acidic waters resulting from oxidation of sulphide minerals.

Seepage from the infrastructure pads is expected to interact with the tundra which may lower the pH of the seepage if the source drainage had circum-neutral pH but low alkalinity.

Within the seepage monitoring program attempts have been made to establish whether water sampled in the tundra represents:

- Flow (or recent flow) from the infrastructure pads, that may have minor interaction with the tundra but is indicative of the direct influence the pads are having on drainage chemistry, and the processes (geochemical reactions) occurring in the pads.
- Standing water (with no visible flow) that likely originated from the infrastructure pads (through sub-surface drainage) but may have been modified through extended interaction with the tundra, or evaporation. The chemistry of standing water could become more “severe” (e.g., lower pH) or concentrated, through extended tundra interaction and/or evaporation in which case it is no longer indicative of drainage chemistry from the pads; however, it would still represent the conditions present downgradient of the pads in water that may have the potential to migrate further downstream.

Where there is a lack of direct flow out of the pads, the difference between these scenarios is important for data interpretation and understanding whether ARD from the infrastructure pads is present. Water that is considered likely to have drained from an infrastructure pad (through sub-surface flow) that has pH of 5 or below may be considered ARD based on interpretation of other results such as field conductivity, concentrations of sulphate and metals, and context from the up-stream/up-gradient rock. This is discussed with the results in Section 5.

3.6.3 Metal Leaching Interpretation Methods

The 2020 to 2023 seepage data were used to interpret metal leaching characteristics and controls. Metal leaching interpretation included:

- Assessment of major ions and their proportions to indicate dominant processes controlling water chemistry;
- Assessment of the molar ratio of calcium and magnesium (representing calcite and dolomite dissolution) to sulphate (representing sulphide oxidation) with pH to provide an indication of how effectively carbonate minerals are neutralizing the acid generated by sulphide oxidation;
- Charting of key parameters against pH to assess pH control;

- Assessment of current parameters of concern through comparison of the seepage data (dissolved concentrations) to Canadian Council for Ministers of the Environment (CCME) water quality guidelines for the protection of aquatic life freshwater (CCME PAL-FW; CCME 2021). For sulphate, the BC guideline for PAL-FW (MOE 2013) was used as no CCME sulphate guideline exists; and
- Charting of key parameters against time to examine trends from 2020 through 2023.

4 Quality Control Results

SRK used the five field method blanks and five duplicate sample pairs along with the broader lab and field data for QC evaluation of the overall seepage dataset. The six trip blanks were used to evaluate potential external contamination (outside of the sampling procedures).

A summary of the QC checks performed are summarized in Table 4-1, along with SRKs acceptance criteria, and the results of the QC analysis. The QC failures are discussed below (see letter reference to the failures in the table below).

A – Three field blanks (DI water sampled and filtered in the field) had levels of dissolved barium and strontium (5 to 10 times DLs) that are often seen with the filtration cups used at Ulu. Dissolved copper and nickel were measured at 5 to 12 times DLs and dissolved zinc was measured at 24 times DL. Although these elements are expected to be in the background at Ulu and could potentially be introduced during sampling, it is unclear if this was the case as these elements were also present in the trip blanks (see next note).

B – Three trip blanks (which were not opened at site) had levels of dissolved copper (4-6 times DL), dissolved nickel (7-10 times DL), dissolved zinc (6 times DL), total copper (4 times DL), total nickel (6 to 21 times DL), and total nickel (7 times DL) that failed the QC criteria (SRK and BV's). The reruns confirmed some of these and not others. Further investigations by BV led them to indicate the trip blanks may have been contaminated in the lab during analysis but that other samples were not affected.

C – One duplicate pair failed having heterogeneity in dissolved copper, iron, lead, zinc. Also see next note.

D – Six samples failed for having dissolved metal results higher than total metal results for a few parameters. One was part of a duplicate pair (noted in C). Heterogeneity is not entirely unexpected in flowing water. For three of the samples, zinc was the only parameter that failed. Some of the samples were collected using a syringe and were challenging to collect.

Overall, the dataset from the samples was considered acceptable. The levels of contamination in the trip blanks and field blanks were below the concentrations observed in the samples.

Table 4-1. Seepage QA/QC Results

QC Test	SRK QC Criteria	Results and Comments	Comment Reference
Physical Test ¹			
Field Blank (n=5)	<5X DL	All passed.	
Trip Blank (n=6)	<2X DL	Trip Blank (7/19/2023) pH higher than typical. Rerun confirmed.	
Field vs. Lab pH Samples (n=39)	Within 1 pH unit difference.	All passed.	
Field vs. Lab Conductivity (n=39)	For samples >10X DL, should be within +/-30% RPD.	ULU-8A (7/16/2023) failed (62% RPD, field EC higher than lab EC. Lab EC consistent with TDS therefore not rechecked).	
Field Duplicate (n=5)	For samples >10X DL, should be within +/-30% RPD. For pH should be +/-0.2 difference pH units.	All passed.	
Anions and Nutrients ²			
Field Blank (n=5)	<5X DL	All passed.	
Trip Blank (n=6)	<2X DL	All passed.	
Field Duplicate (n=3)	For samples >10X DL, should be within +/-30% RPD.	1 duplicate pair failed: SEEP-05 & SEEP-105 failed for Br-not rechecked, not a parameter of concern.	
Ion Balance (n=39)	For EC>100 uS/cm, % difference should be within +/-10%.	All passed.	
Trace Elements with ICP-MS Finish			
Field Blank (n=5)	<5X DL	SEEP-00C (6/20/2023) failed for: D-Ba, D-Ni, D-Sr, D-Zn, T-P. Reruns confirmed. SEEP-00D (7/8/2023) failed for: D-Ba, T-P. Reruns confirmed. SEEP-00E (7/22/2023) failed for: D-Ba, D-Cu, D-Ni, D-Sr, T-Ba. Reruns confirmed.	A
Trip Blank (n=6)	<2X DL	TRIP BLANK (6/13/2023) failed for: D-Mn, D-Sr, D-U. Rerun results were lower. Lab suspected vial contamination for the Trip Blank vial and that samples in the batch were not affected. Lab checked instrument QC samples and all were within QC lab criteria. TRIP BLANK (7/5/2023) failed for: D-Cr, D-Cu, D-Fe, D-Ni, D-Zn, T-Cu, T-Ni, T-Zn. Rerun confirmed and the 2nd bottle was reran which had lower results. Lab validated <DL results for D-Zn, T-Cu, T-Ni, T-Zn. Lab suspected contamination due to "splashing during preparation or loading of the samples" TRIP BLANK (6/22/2023) failed for: D-Ni, D-Cu, T-Ni. Reruns confirmed. TRIP BLANK (7/19/2023) failed for: T-Ni. Rerun confirmed.	B
Field Duplicate (n=5)	For samples >10X DL, should be within +/-30% RPD. For ICP metal scan, it is acceptable for 10% of parameters to be outside of this criterion.	1 duplicate pair failed: REF-06 & REF-106 (7/3/2023) failed for D-Cu, D-Fe, D-Pb, D-Zn. Reruns confirmed.	C
Total vs. Dissolved Metals (n=44)	For samples >10X DL, Total metals>Dissolved metals, (Dissolved metals-Total metals)/(average(total metals, dissolved metals) is within +/-30% RPD. For ICP metal scan, it is acceptable for 10% of parameters to be outside of this criterion.	SEEP-12 (6/9/2023) failed for: Zn. SEEP-12 (9/19/2023) failed for: As, Sr, Na. SEEP-17 (6/19/2023) failed for: Zn. ULU-8A (7/1/2023) failed for: Pb. SEEP-00C (7/3/2023) failed for Ni, Zn. REF-106 (7/3/2023) failed for: Cu, Pb, Zn. SEEP-05 SW-125 (7/22/2023) failed for: Zn. Reruns confirmed.	D

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Notes

- 1 – parameters include Conductivity, pH, Acidity (pH 4.5), Acidity (pH 8.3), Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Turbidity.
- 2 – parameters include: total alkalinity and species, Br, F, Cl, SO₄, total ammonia, NO₂, NO₃

5 Results

5.1 2023 Rinse pH Monitoring

The 2023 test pit logs with photographs are provided in Appendix A. The rinse test results are provided in Table 5-1. The deionized water used in the tests had pH of 6.0 to 6.8 and conductivity of 1.1 to 3.6 $\mu\text{S/cm}$. For comparison, rinse tests on background tundra soil samples had pH of 4.3 to 5.8 and conductivity of 27 to 79 $\mu\text{S/cm}$ (SRK 2023). Rinse pH versus rinse conductivity are plotted in Figure 5.1 to Figure 5.3 for samples from both the 2020/2021 program and the 2023 program. The 2023 rinse pH data are shown by location in Figure 5.4 colour-coded by pH range. Results are summarized below by area.

Table 5-1. 2023 Rinse Test Results

Area	Test Pit	Sample	Sample depth (cm)	Colour of <2mm sieved rock fraction	Rinse pH	Rinse Conductivity ($\mu\text{S/cm}$)
Camp pad	TP23-23	23A	30	orange	3.4	450
Camp pad	TP23-23	23B	45	grey	6.9	110
Camp pad	TP23-24	24A	<60	brown	3.7	280
Camp pad	TP23-24	24B	100	grey	5.7	310
Camp pad	TP23-25	25A	100	orange	3.1	630
Camp pad	TP23-25	25B	50	grey	7.9	130
Camp pad	TP23-25	25C	200	grey	7.8	370
Camp pad	TP23-26	26	100	grey	8.2	150
Camp pad	TP23-27	27	100	grey	8.5	110
Camp pad	TP23-28	28	60	grey	7.7	74
Camp pad	TP23-29	29	<108	grey-brown	3.5	910
Ore pad	TP23-01	01	88	dark grey	7.9	220
Ore pad	TP23-02	02A	130	orange	3.6	490
Ore pad	TP23-02	02B	115	grey	7.4	120
Ore pad	TP23-03	03	135	grey	7.9	220
Ore pad	TP23-04	04	90	dark grey	8.4	110
Ore pad	TP23-05	05	85	grey	7.6	270
Ore pad	TP23-06	06A	75	orange	3.2	800
Ore pad	TP23-06	06B	120	grey	5.9	390
Ore pad	TP23-07	07	60	dark grey	7.9	130
Ore pad	TP23-08	08	60	grey	8.2	200
Ore pad	TP23-09	09	180	orange	3.9	670
Ore pad	TP23-10	10	120	grey	8.0	150
Ore pad	TP23-11	11	70	grey	7.9	140
Ore pad	TP23-30	30	20	orange	2.9	940
Waste rock pad	TP23-13	13A	50	orange	3.6	480
Waste rock pad	TP23-13	13B	70	grey	7.1	180
Waste rock pad	TP23-15	15	50	brown-grey	7.3	260
Waste rock pad	TP23-16	16A	50	grey	7.9	240

Area	Test Pit	Sample	Sample depth (cm)	Colour of <2mm sieved rock fraction	Rinse pH	Rinse Conductivity (µS/cm)
Waste rock pad	TP23-16	16B	45	orange	3.9	650
Waste rock pad	TP23-17	17A	10	orange	4.3	420
Waste rock pad	TP23-17	17B	50	grey	8.0	78
Portal area (relocated ore)	TP23-12	12	15	grey-brown	4.3	1120
Portal area (relocated ore)	TP23-18	18	20	brown-grey	4.3	1880
Portal area (berm)	TP23-19	19	20	orange	3.2	590
Portal area (SW of pond)	TP23-20	20	50	orange	3.6	280
Portal area (SW of pond)	TP23-21	21	50	orange	3.3	420

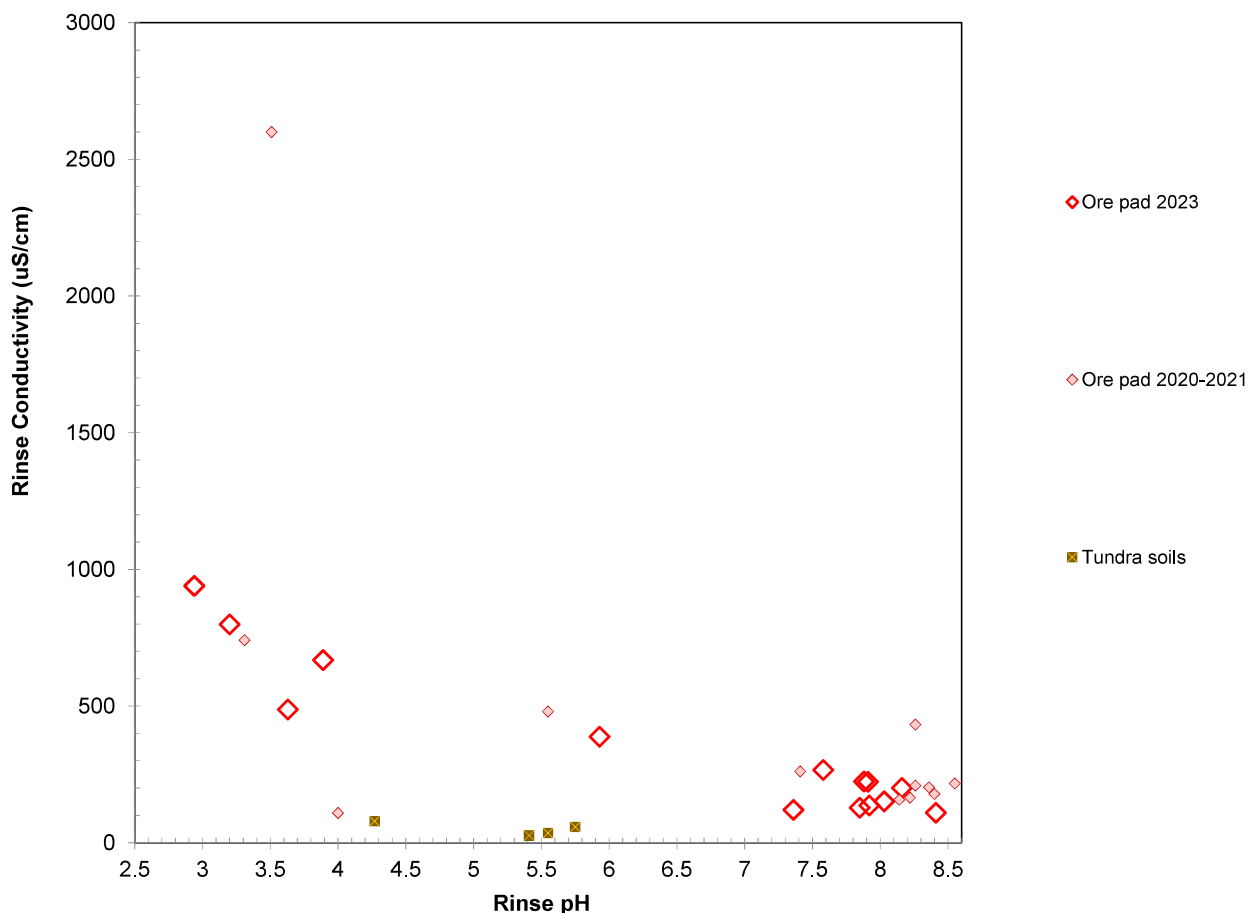
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5.1.1 Ore Pad

For reference, ore pad rinse pH results from test pits in 2020 were predominantly above pH 8.0, with only the north edge of the ore pad identified as having pH below 7 at depth (i.e., pH 5.6 from a test pit close to the north edge of the pad; SRK 2021). Near-surface samples from the edges of the pad were however acidic (i.e., pH 4.0 from brown oxidized residual rock left on the tundra after part of the north edge of the ore pad was removed (Figure 1.1); and pH 3.3 to 3.5 from orange strongly oxidized rock along the southern edge of the pad; SRK 2022b). The 2023 results were as follows:

- Test pit samples from the eastern half of the ore pad had rinse pH of 7.9 to 8.4, similar to 2020 results.
- In the western half of the ore pad results were more variable:
 - Three of the six test pits contained only rock that was grey and had rinse pH of 7.6 to 7.9
 - TP23-02 in the north edge of the ore pad had grey rock down to 115 cm depth (with rinse pH 7.4), and this was underlain by a greater than 75 cm thickness of brown-orange strongly oxidized rock (with rinse pH 3.6). The strongly oxidized rock extended for 3 m in from the edge of the pad.
 - TP23-06 had a 55 cm thickness of strongly oxidized orange rock (with rinse pH 3.2), overlying a 48 cm thickness of grey rock (with rinse pH 5.9), and
 - TP23-09 near the southern edge of the ore pad contained a 2 m thickness of strongly oxidized brown-orange rock with rinse pH 3.9.
 - The residual rock on the tundra adjacent to the north edge of the ore pad had rinse pH 2.9.

Rinse conductivity was 110 to 270 µS/cm in circum-neutral pH samples and 490 to 940 µS/cm in 2023 samples with pH below 4 (Figure 5.1). This is likely due to the presence of soluble secondary sulphate minerals and is consistent with the brown-orange colour of the low pH samples, resulting from precipitation of oxidized iron on the surfaces of the weathered rock. Both sulphate and iron are expected to be released through oxidation of the pyrrhotite and pyrite present in the waste rock.



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Figure 5.1. Rinse pH vs rinse conductivity for ore pad samples

5.1.2 Waste Rock-Portal Area

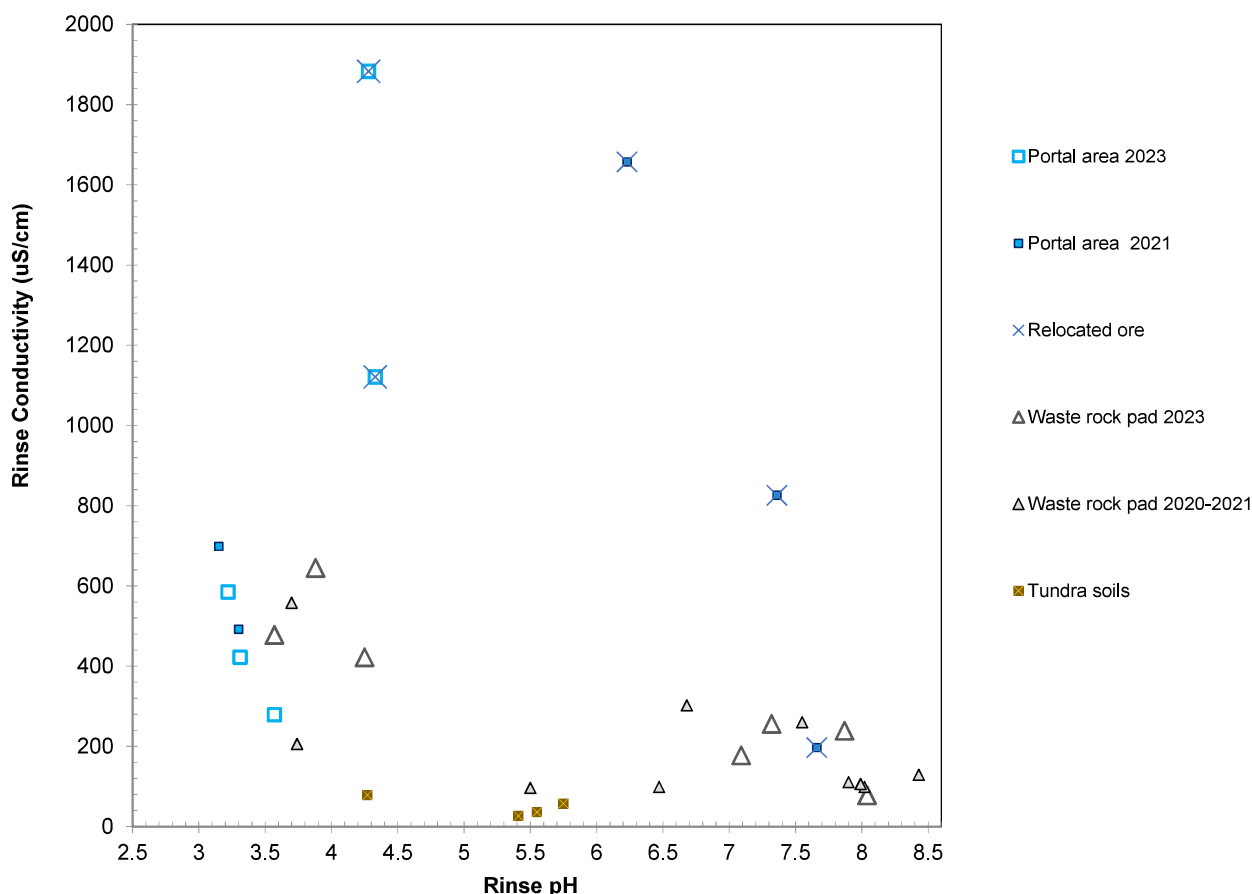
The waste rock pad previously had variable rinse pH ranging from pH 3.7 to 8.4 in 2020 and 2021 test pits; however acidic pH was only identified in one test pit just west of the waste rock stockpile (with strongly oxidized orange rock present from surface to 1.5 m).

In the five 2023 test pits in the waste rock pad, one contained only glacial deposits and was not sampled (TP23-14), one contained brown-grey rock with rinse pH 7.3 (TP23-15) and the others contained some acid generating rock as follows:

- TP23-13 and TP23-17 both contained a 15 cm to 20 cm thickness of strongly oxidized orange rock (rinse pH 3.6 to 4.3), underlain by grey rock with rinse pH of 7.1 or 8.0. These test pits both reached tundra soil at 75 to 80 cm deep.
- TP23-16 contained strongly oxidized orange rock (rinse pH 3.9) present from surface to 1.4 m on one side of the test pit, and grey rock (with rinse pH of 7.9) present from surface to 1.4 m on the other side of the test pit. There was tundra soil below this depth.

Around the portal, 2023 results for waste rock were similar to those from 2021, with rinse pH of 3.2 to 3.6.

Remnant ore that was moved in 2018 from a stockpile on the ore pad (Figure 1.1), and now sits above and to the east of the portal pond (plotted as “relocated ore” on Figure 5.2), appears to have decreased in rinse pH from pH 6.2-7.7 (n=3) in 2021, to pH 4.3 (n=2) in 2023. This rock had notably higher rinse conductivity than the waste rock in the pads, likely due to higher sulphide contents and hence more abundant soluble weathering products are expected to be generated through weathering. This material may have potential for leaching of higher levels of zinc, copper, and nickel compared to the waste rock, therefore development of acidic conditions in the ore is notable.



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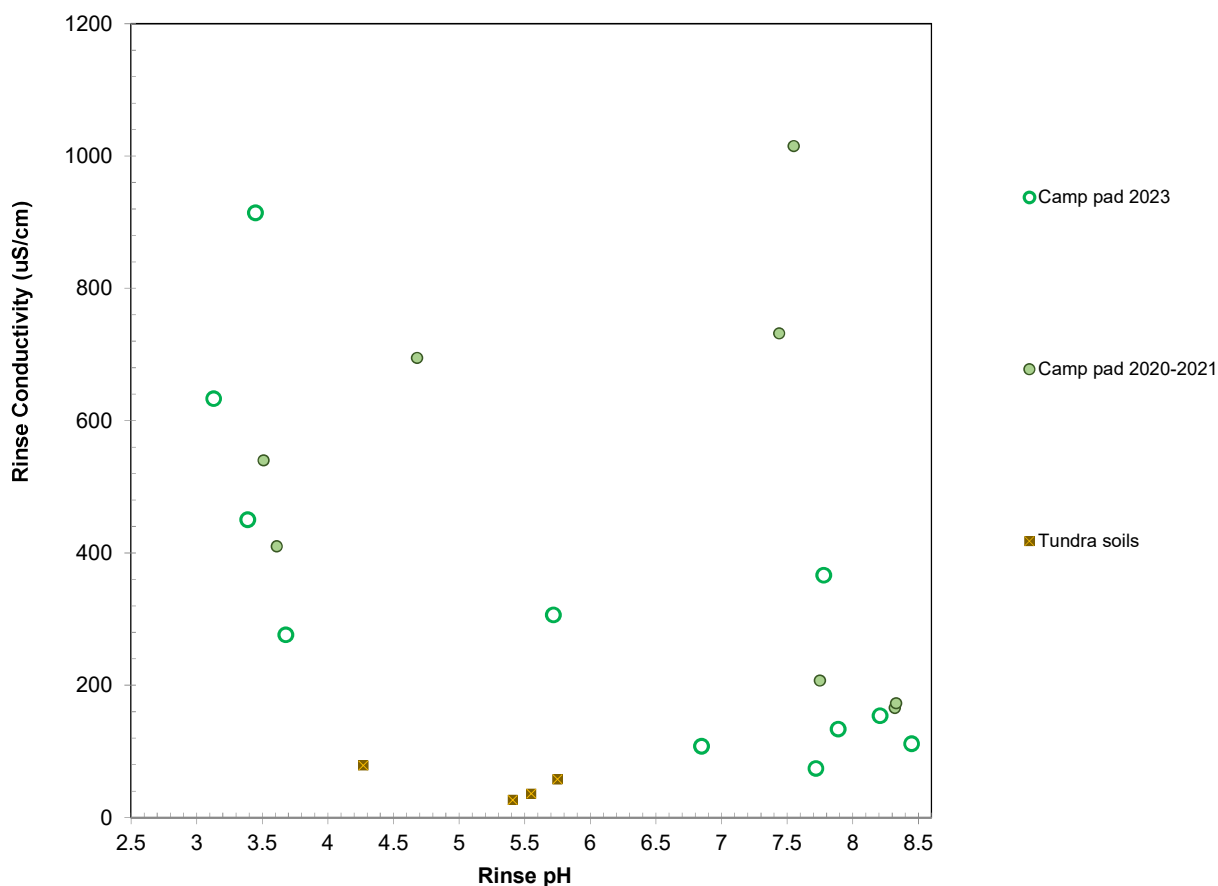
Figure 5.2. Rinse pH vs rinse conductivity for waste rock-portal area samples

5.1.3 Camp Pad

Camp pad rinse pH results from test pits in 2020/2021 were above 7.3 except at the drill core storage area (one test pit with rinse pH 3.5, with underlying rock with rinse pH 4.7) and at the northwest edge of the camp pad by the tents (rinse pH 3.6 from an intermittent orange layer, with

surrounding grey rock with rinse pH 8.3). A near surface sample from the edge of the drill core storage area also had rinse pH 2.9 in 2021. The 2023 results were as follows:

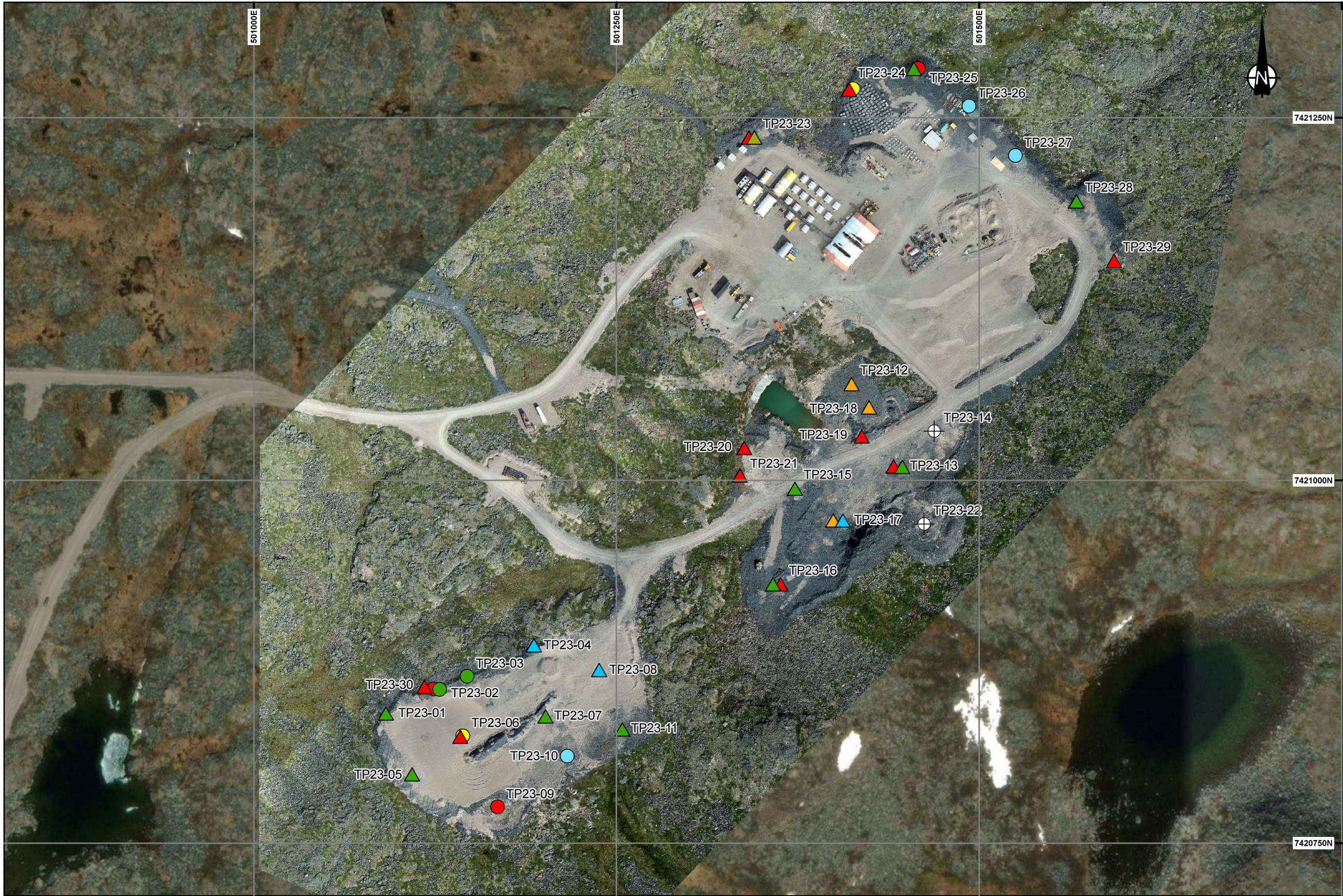
- Three test pits along the northeast edge of the camp pad contained only grey rock with rinse pHs of 7.7 to 8.5. One test pit at the far south end of this edge of the camp pad contained just over a meter thickness of brown oxidized rock (rinse pH 3.5) overlying tundra soil.
- TP23-24 in the drill core storage area contained 60 cm thickness of brown rock (rinse pH 3.7) overlying a meter of grey rock (rinse pH 5.7).
- TP23-25 at the edge of the drill core storage area contained about a 2 m thickness of orange strongly oxidized rock (rinse pH 3.1), extending for 2 to 3 m into the pad. Further towards the interior of the pad, and also underlying the orange rock (at 2 m depth), was grey rock with rinse pH of 7.8-7.9. Below 2 m the rock was frozen. The thickness of rock in the pad here above the tundra ground level was 3.6 m.
- TP23-23 at the northwest edge of the camp pad (by the tents) contained 35-70 cm of rock overlying over a meter of sand. The rock was predominantly grey (rinse pH 6.9) with an intermittent 20 cm orange oxidized layer (rinse pH 3.4).



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Figure 5.3. Rinse pH vs rinse conductivity for camp pad test pit samples

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LEGEND

Depth < 1 m

Rinse pH Results

- pH < 3.99
- pH 4.0 - 4.99
- pH 5.0 - 5.99
- pH 6.0 - 6.99
- pH 7.0 - 7.99
- pH > 8.0

Depth 1 m or deeper

Rinse pH Results

- pH < 3.99
- pH 4.0 - 4.99
- pH 5.0 - 5.99
- pH 6.0 - 6.99
- pH 7.0 - 7.99
- pH > 8.0
- Not Excavated / Not Sampled

NOTES

- Drone Imagery: Blue Star Gold Corp - 2023.
- Basemap Imagery: ESRI, Maxar Earthstar Geographics.

REFERENCES

- Coordinate System: NAD 1983 UTM Zone 12N

Compilation of Acid Generating Locations

The map in Figure 5.5 shows all areas where acid generating rock (i.e. < pH 5) has been identified, in the infrastructure pads and at other site locations, based on a compilation of rinse pH results from 2020, 2021, and 2023 test pits and additional targeted near-surface sampling conducted in 2021 (at the edge of the ore pad, in the portal area, and the edge of the drill core storage area; SRK 2022b).

With the 2023 test pitting program, more areas with acid generating rock have been identified. This is a result of a combination of factors:

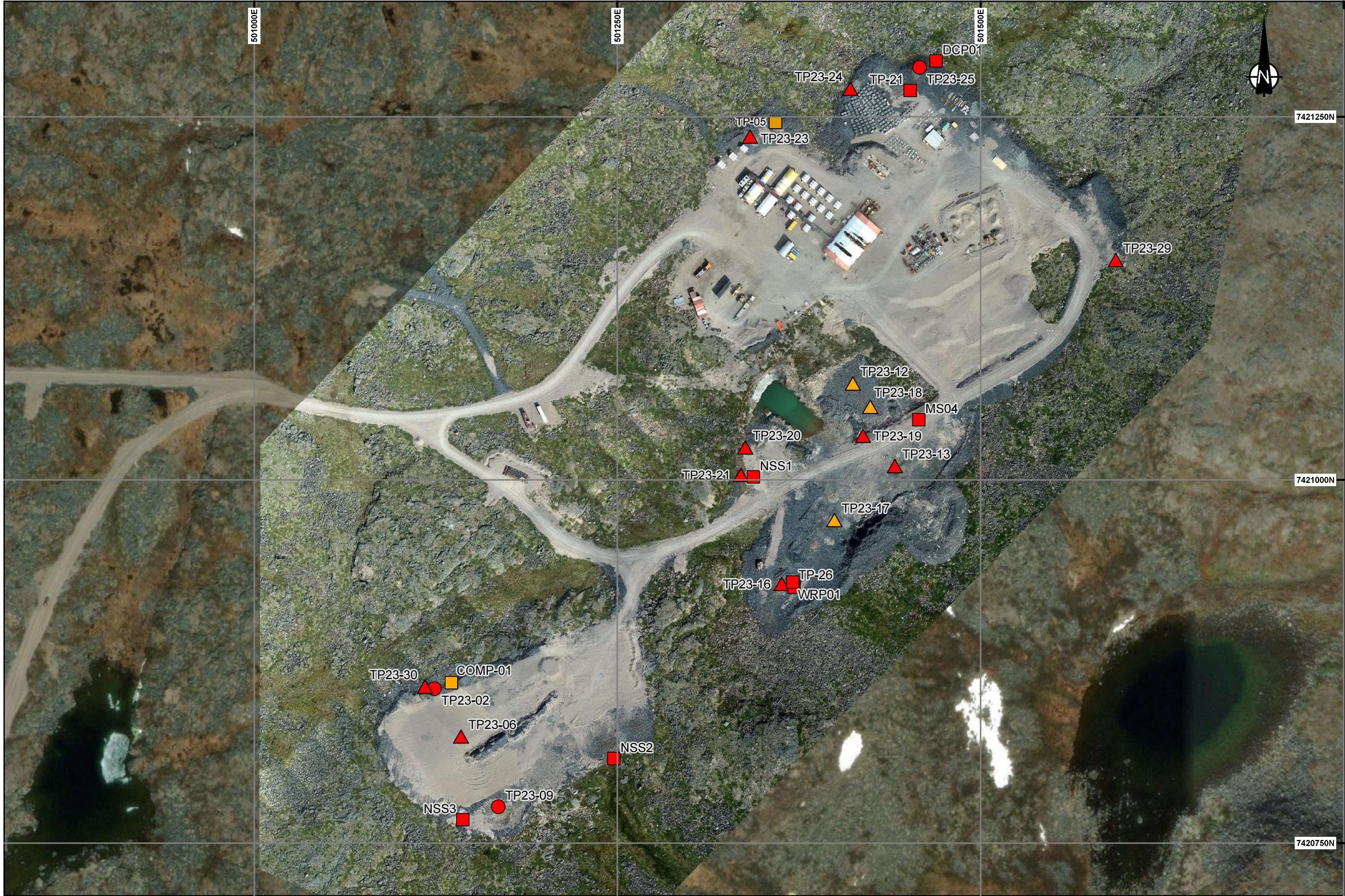
- Test pits were excavated in different places to previously, therefore there is now more coverage of the pads.
- Parts of the west part of the ore pad contain acid generating rock that was likely placed there during construction of the base of the soil treatment facility (and was previously along the north edge of the ore pad).
- pH is lower in relocated ore above the portal pond, than results indicated in 2021.

Areas where pH 2.9 to 3.3 was identified include residual rock lying on the tundra adjacent to the north edge of the ore pad, within the edge of the drill core storage area of the camp pad, and near the portal pond (at the mine sump berm east of the portal pond, and at piled rock west of the portal pond). This pH is significant as above around pH 3.5 most iron precipitates under oxidizing conditions, whereas below this pH, iron dissolves rather than precipitates. Dissolved iron can itself become an oxidizing agent and contribute to sulphide oxidation.

This highlights two concerns:

- The site has the potential to develop widespread severe pH conditions if rock is not managed appropriately.
- Low pH conditions are already present in multiple locations and developing and implementing an ML/ARD management plan should be a priority.

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LEGEND
Previous Results
pH 4.0 - 4.99
pH < 4
Depth < 1 m
Rinse pH Results
pH < 3.99
pH 4.0 - 4.99
Depth 1 m or deeper
Rinse pH Results
pH < 3.99

NOTES
1. Drone Imagery: Blue Star Gold Corp - 2023.
2. Basemap Imagery: ESRI, Maxar Earthstar Geographics.

REFERENCES
1. Coordinate System: NAD 1983 UTM Zone 12N

0255075100
Meters

2023 ML/ARD Characterization

Compilation of 2020 to 2023 Acidic Rinse pH Results

Date: Mar 2024

Approved: KYK

Figure: 5.5

5.2 In Situ pH-Conductivity Survey

The location of pooled water tested in the tundra adjacent to the ore pad, and along the swampy drainage path towards Lake G43 were shown in Figure 3.2. Photos and description below provide further context for the results in this section. Figure 5.6 shows the north edge of the ore pad photographed from a drone. The pH-conductivity survey locations that are within the view are shown (i.e., for the eastern part of the survey area). Strongly oxidized orange rock remaining on the tundra following removal of part of the ore pad in 2020 (used to level the ore pad surface for the soil treatment facility) is circled. This extends for several meters to the north of the current edge of the ore pad. Rinse testing of a sample of this material in July 2023 gave pH of 2.9 and conductivity of 940 $\mu\text{S}/\text{cm}$ (Section 5.1).

Any drainage from this north edge of the ore pad may generally be expected to proceed to the north into swampy tundra (on the left side of the photograph) and then potentially to the west, but gradients are very shallow in the eastern part of the survey area and flowing water has not been observed in the swamp. Seep-05 is shown in Figure 5.7, with the ore pad in the background. Gradients increase in the western part of the survey area beyond the ore pad (west of Seep-05) and down towards Lake G43. At freshet the swamp is relatively wet with pooled water. Flowing water has only been observed in June, and only in the last few tens of meters of the drainage path, directly upstream of Lake G43 (Figure 3.2).



Figure 5.6. Aerial view of the north edge of the ore pad (looking east)



Figure 5.7. Seep-05 with the ore pad in the background (looking southeast)

The pH and conductivity results are plotted in Table 5-2 with distance relative to Seep-05 used on the x-axis. Key location information is also shown adjacent to the x-axis, including where along the survey path the strongly oxidized rock occurs. Absolute distance to the nearest edge of the ore pad is shown as data labels on the conductivity trend, and field data from the down-gradient Seep-12 are also shown for reference from a seepage sampling event one month before the pH-conductivity survey (Seep-12 was dry when the pH-conductivity survey was conducted in July). Results are shown in Table 5-2.

Table 5-2. pH and Conductivity Survey Results

Sample name	Distance relative to Seep-05 (m)	Distance from edge of ore pad (m)	pH	EC (uS/cm)
SEEP-05 SW-175m	-175	50	6.7	170
SEEP-05 SW-125m	-125	27	6.5	190
SEEP-05 SW-50m	-50	15	4.2	580
SEEP-05 SW-20m	-20	25	6.3	340
SEEP-05 SW	0	14	4.9	1040
SEEP-05 SW+15m	15	33	6.0	380
SEEP-05 SW+63m	63	75	6.3	150
SEEP-05 SW+120m	120	130	5.9	56
Seep-12 (21 July 2023)	150	176	na	na
Seep-12 (19 June, 2023)	150	176	6.2	68

Source: SRK Consulting\NA CAPR002649 Ulu Reclamation SOW 2023 - Internal\Task100_ML-ARD\160_Data management\Ulu_Compiled_Seepage_CAPR002649_rtc_kyk_rev00.xlsx

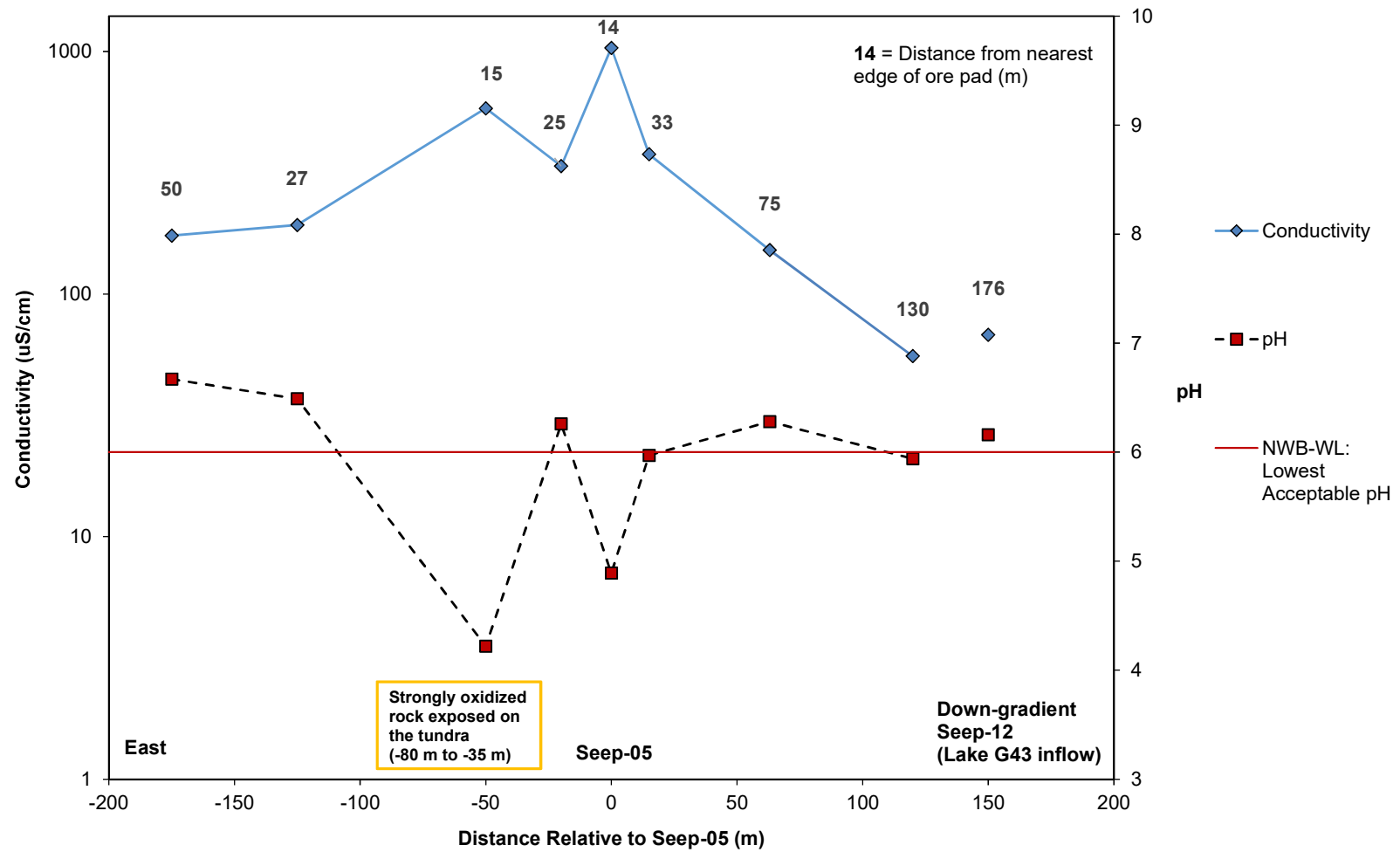
Note: na=not available as seep was dry when survey was conducted..

At the east end of the drainage path (furthest up-gradient of Seep-05), pH was 6.5 to 6.9 and conductivity was 170 to 190 $\mu\text{S/cm}$. Results showed a decrease to acidic pH (pH 4.2 and 4.9) in pooled water close to the ore pad (within 25 m from the edge) i.e. at Seep-05 and close to (6 m from) the strongly oxidized acid generating gravel on the tundra. This was associated with an increase in conductivity (580-1040 $\mu\text{S/cm}$), with Seep-05 having the highest conductivity.

15 to 20 m away from Seep-05 (at locations 25 m and 33 m from the edge of the ore pad) the pH was mildly acidic (pH 6.0-6.3), but conductivity was still elevated at 340 to 380 $\mu\text{S/cm}$. At 60 m away from Seep-05, in the down-gradient swamp (approximately 75 m from the corner of the ore pad), pH was similarly 6.3 and conductivity was reduced at 150 $\mu\text{S/cm}$. At 120 m away from Seep-05 (approximately 130 m from the corner of the pad), pH was 6.0 and conductivity was the lowest recorded in the survey (56 $\mu\text{S/cm}$). pH and conductivity were similar further down-gradient at Seep-12 (pH 6.2, 68 $\mu\text{S/cm}$). For comparison, the seepage reference stations had pH 6.6 and 6.7, with conductivity of 32 and 70 $\mu\text{S/cm}$ in July 2023, and rinse tests on background tundra soil samples had pH 4.3 to 5.8 and conductivity of 27 to 79 $\mu\text{S/cm}$ when tested last August (SRK 2023).

Comparisons to background conductivity therefore indicate that:

- Conductivity was elevated along the survey path to somewhere between 75 to 130 m down-gradient of the corner of the ore pad (there were no sampling points in between this distance due to the drier than typical conditions in the summer of 2023).
- Further down-gradient, conductivity was similar to background levels.
- Conductivity was an order of magnitude above background levels within 25 m of the edge of the ore pad, and highest at Seep-05 (1040 $\mu\text{S/cm}$), indicating the extent of greatest influence from the ore pad.
- pH was acidic (pH 4.2-4.9) at both sites within 25 m of the edge of the ore pad. Further away pHs were mildly acidic to circum-neutral. Although the acidic pHs were at the low end of the range present in tundra soil rinse tests, the drop in pH (of more than 2 pH units) and much higher conductivities of water close to the ore pad, indicate that acid generating rock in the ore pad or on the tundra next to the ore pad, is the source of acidity within 25 m of the edge of the pad, rather than natural organic tundra acidity.



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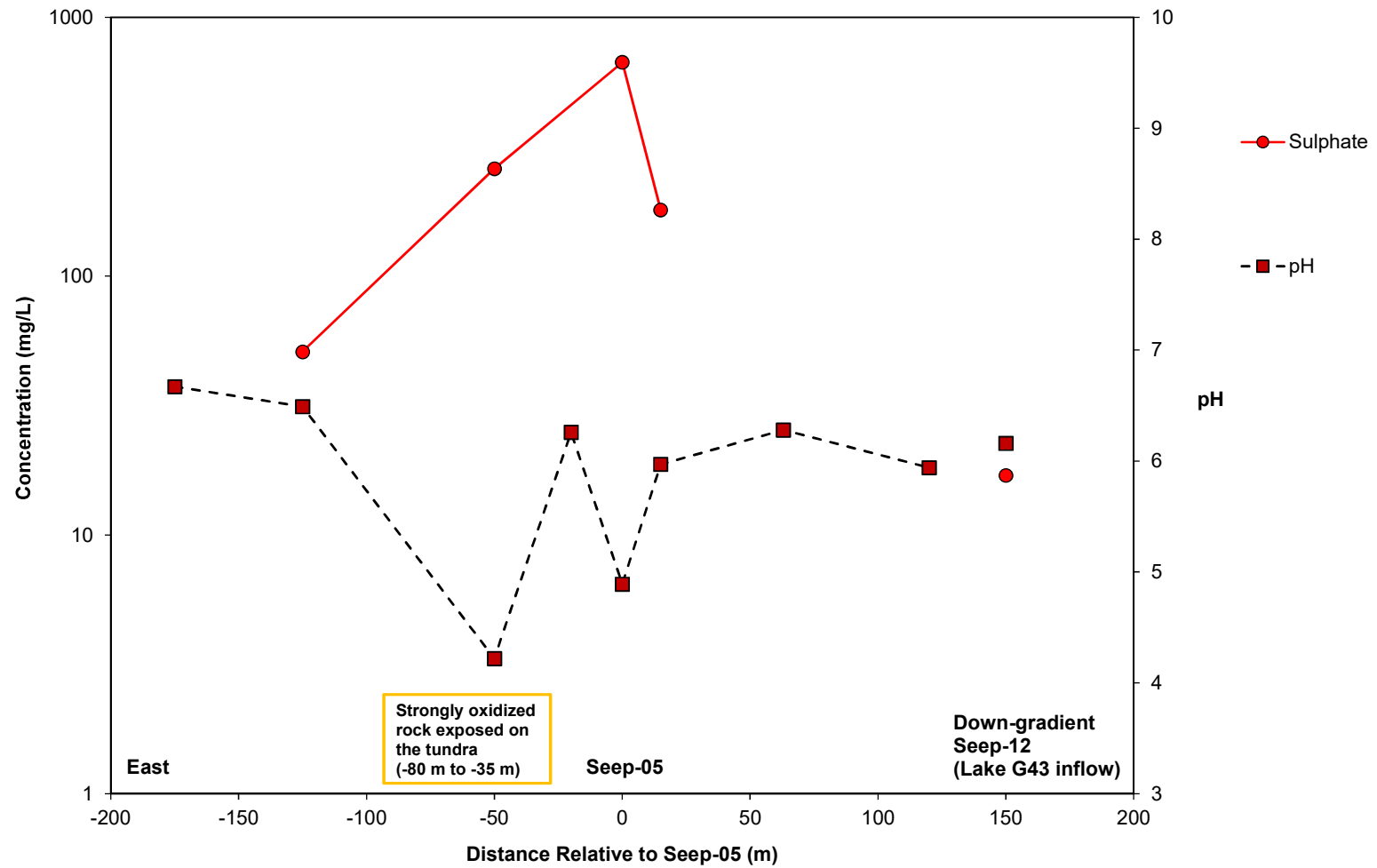
Figure 5.8. pH-conductivity results from an in-situ survey of pooled water along the drainage path adjacent to the north edge of the ore pad

Sulphate concentrations from water samples collected from four of the survey sites (Figure 3.2) are shown on Figure 5.9, and dissolved zinc and nickel are shown on Figure 5.10. Data from Seep-12 from late June are also plotted. Results showed:

- Sulphate - indicative of oxidation of sulphides in the rock, increased from 51 mg/L (27 m from the pad and up-gradient of Seep-05) to 260 mg/L closest to the strongly oxidized acid generating gravel on the tundra, and 670 mg/L at Seep-05, and decreased to 180 mg/L 15 m down-gradient from Seep-05. At the end of the drainage path Seep-12 had 17 mg/L sulphate (compared to 4.9-5.5 mg/L in the reference stations).
- Zinc – indicative of leaching from sphalerite, was 0.23-0.27 mg/L closest to the pad and one to two orders of magnitude lower further from the pad (0.009 mg/L 27 m from the pad, and 0.023 mg/L 15 m down-gradient from Seep-05). At the end of the drainage path Seep-12 had 0.0023 mg/L zinc (lower than the background of 0.0027-0.0029 mg/L measured in the reference stations).
- Nickel - indicative of leaching from millerite (or trace levels from iron sulphides), was 0.10-0.11 mg/L closest to the pad and one to two orders of magnitude lower further from the pad (0.0012 mg/L 27 m from the pad, and 0.016 mg/L 15 m down-gradient from Seep-05). At the end of the drainage path Seep-12 had 0.0011 mg/L nickel (compared to 0.00075-0.0014 mg/L in the reference stations).

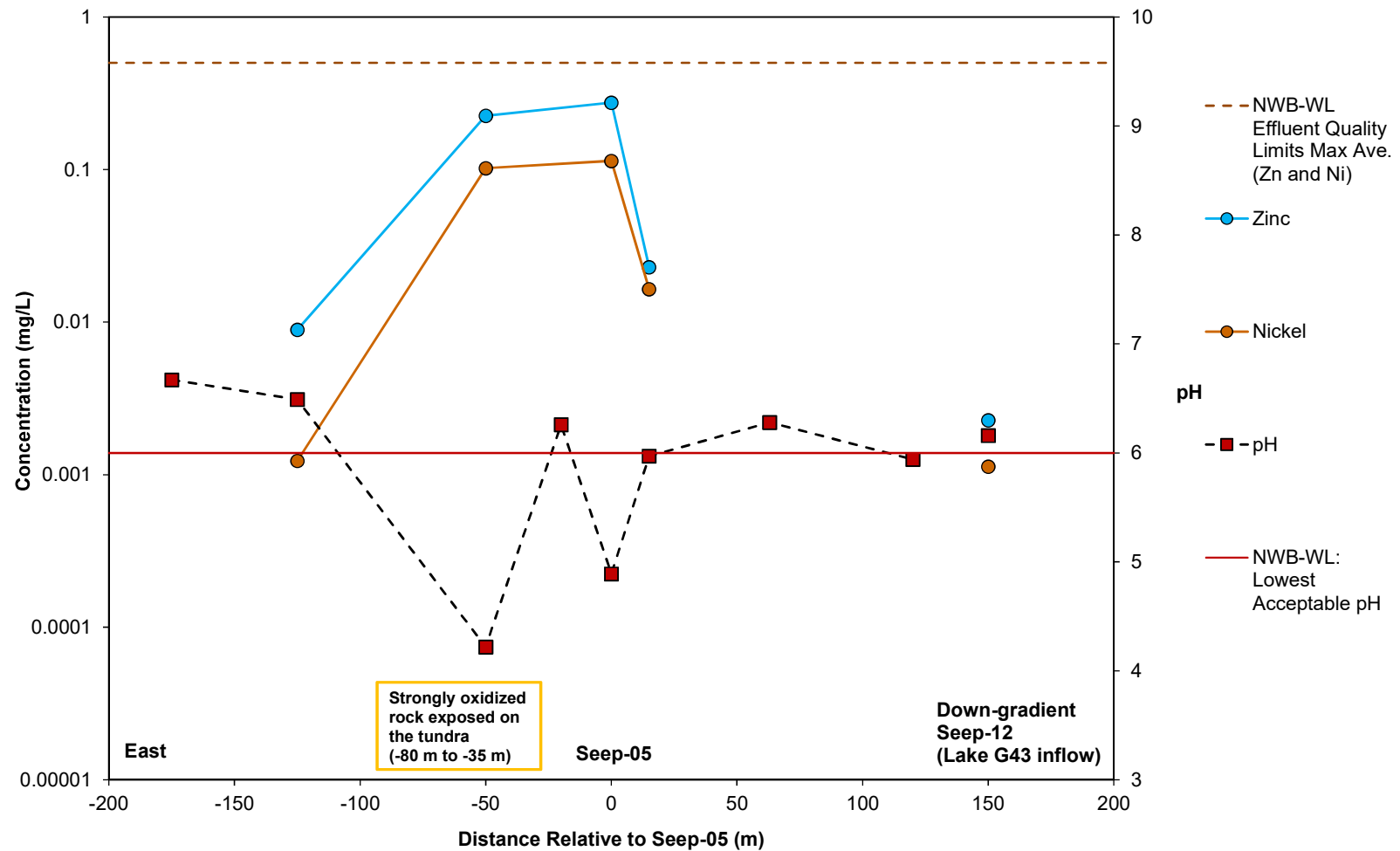
Acid generation and release of sulphate and metals through oxidation of sulphides contained in the rock at the north edge of the ore pad therefore has a significant influence on the chemistry of pooled water in the tundra within 25 m of the edge of the ore pad and close to strongly oxidized rock that remains on the tundra adjacent to the ore pad. Concentrations of zinc are close to the NWB-WL effluent quality limit (0.5 mg/L maximum average concentration) and are expected to increase further if pH continues to decline at the source, or the volume of rock that is generating acid increases.

Beyond 25 m from the edge of the ore pad, pH is mildly acidic (pH 6.0 to 6.3) suggesting that the tundra currently has minor buffering capacity to neutralize acid. Conductivity results indicate water chemistry is affected over a greater distance, but likely not more than around 100 m down-gradient from the NW corner of the ore pad.



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Figure 5.9. pH and sulphate results from pooled water along the drainage path adjacent to the north edge of the ore pad



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Figure 5.10 pH, nickel, and zinc results from pooled water along the drainage path adjacent to the north edge of the ore pad

5.3 Seepage Results

5.3.1 Introduction

The 2020-2023 seepage dataset (Appendix C) provides an indication of the recent/current pH and metal leaching conditions at the Ulu site for data interpretation purposes. Location information were summarized in Table 3-1 and sample locations are shown on Figure 3.3.

In the charts in the following sections (and Appendix B), the following formatting is used throughout:

- Samples from the two reference locations (Ref-03 and Ref-06 set up in 2022; SRK 2023) are shown with pink squares.
- Samples that represent waste rock contact water from the infrastructure pads are shown with filled grey symbols. These are seeps that drain directly from the rock without traversing the tundra.
- Seeps that flowed across or surfaced within the tundra are shown with filled green symbols. These seeps are more likely to be influenced by the tundra and background waters, than the contact water seeps.
- Seepage flowing into downstream lakes is shown with filled blue symbols. These are also expected to be influenced by the tundra and background waters and provide an indication of degree of downstream dilution or attenuation.
- Ore pad seeps are represented by circles, camp pad seeps by triangles, and waste rock-portal pad seeps by squares (includes for contact water, tundra seeps and lake inflows). Different shades (light versus dark) are used for seepage from different parts of the pads as indicated in the chart legends.
- Additional field data (samples with no lab results) are shown on a few pH and conductivity charts with the above colour formatting, but different symbols
- The portal pond water is shown for reference on the charts (open black squares) as it has at times (historically and in 2020) been discharged to the waste rock-portal pad and drained through the pad and into East Lake and is therefore expected to influence seepage water chemistry during discharge.
- Seepage in the portal area is shown with open grey squares.

Charts of key elements are shown in the text with the full set of charts shown in Appendix B.

The charts show water quality guidelines (compared to dissolved element concentrations) for CCME protection of aquatic life (freshwater; PAL-FW), long-term) which are applicable to lake inflows. Additionally, the FCSAP (2012) interim groundwater quality guidelines are applicable to groundwater in the active zone of permafrost areas and would therefore apply to seepage from the infrastructure pads that travels sub-surface through the tundra to downgradient lakes. For inorganic parameters, the FCSAP groundwater quality guidelines are based on the CCME PAL-FW guidelines (as no distinct guidelines exist for wildlife watering or soil organism pathways for

these parameters), therefore the CCME guidelines are shown on the charts; however, they should be considered applicable to all samples.

For sulphate, the BC guideline for PAL-FW (MOE 2013) of 218 mg/L is used (for soft to moderately soft water) as no CCME sulphate guideline exists. The BC guideline has been adopted for use in other Canadian jurisdictions.

The Nunavut Water Board Water licence (NWB-WL) effluent quality limits for the Ulu project are also shown on the charts. The limits are applicable to total metal concentrations; however, they are shown here on the dissolved element charts as the focus is on mineral dissolution and metal leaching.

5.3.2 pH and Conductivity of Seepage

Seepage pH results have been evaluated in detail (particularly for the ore pad), in combination with other field measurements, to understand whether ARD is present. Seepage pH versus electrical conductivity (indicating combined dissolved element concentrations) are shown against time for each area separately, including the additional field data collected around the ore pad and camp pad from seeps close to the pads, between water sampling events. Reference station results are shown for comparison and have ranged from pH 6.4 to 6.9 and conductivity of 20 to 97 $\mu\text{S}/\text{cm}$ since 2022 when there monitoring began.

Ore Pad

The ore pad seeps are generally observed as standing water pools in low points in the tundra, although surface flow has been recorded periodically at each of the three longer term monitoring sites (Seep-01, Seep-05, ULU-8), including in late July/early August in 2020, and at ULU-8 in July 2023. Sub-surface drainage into these pools from the ore pad is also assumed to occur, based on the seepage results. Ore pad seepage pH and conductivity are shown in Figure 5.12 and Figure 5.13. pH was above 6 except for at Seep-05 which had the lowest pH of all seeps in the seepage monitoring program (pH 4.8 in late July 2023). Conductivity in the three main ore pad seeps was greater than 1000 $\mu\text{S}/\text{cm}$ throughout July 2023 and highest at ULU-8A (1720 $\mu\text{S}/\text{cm}$) where seepage was flowing directly out of the south edge of the ore pad.

Lowest pH measured from 2020 to 2023 in the ore pad seeps is summarized in the map in Figure 5.11 and trends in Seep-05 and ULU-8/8A pH and conductivity are shown in Figure 5.14 and Figure 5.15 to highlight further details. At Seep-05, pH varied substantially through the summer, being pH 6.4 at freshet (in 2023) and acidic later in the season with results below the NWB lowest acceptable pH limit of 6.0. Lowest pH has been recorded during the last week of July or first week of August during all three years that have late-season data (although there are no data for July 2022 or August 2023). Lowest recorded pH was 5.5 in 2020, pH 4.6 in 2022 and pH 4.8 in 2023. The drop between pH lows in 2020 and 2022/2023 corresponds in timing to disturbance of the nearby north edge of the ore pad (Figure 5.6). As noted in previous sections, rock remaining on the tundra had rinse pH 4.0 in September 2020, and rinse pH 2.9 in July 2023, and rock within the edge of the pad (TP23-02) had rinse pH 3.6.

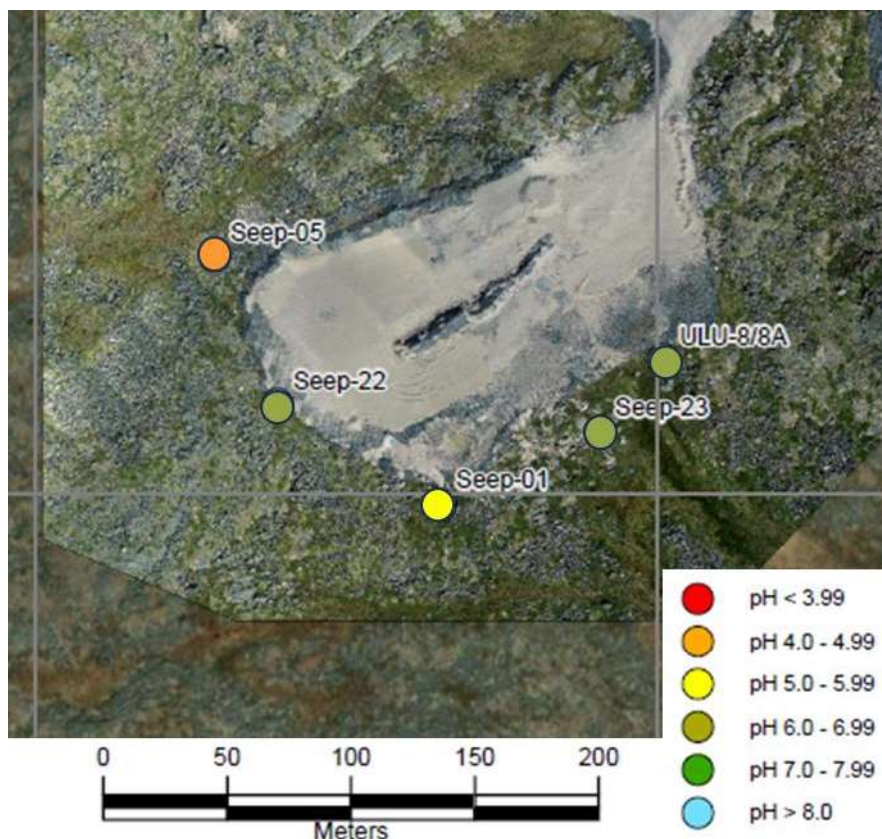


Figure 5.11. Lowest pH of ore pad seepage measured during 2020 to 2023

Conductivity at Seep-05 has been lowest at freshet (120-200 $\mu\text{S}/\text{cm}$ in 2021 to 2023), with highs late in the season, i.e., August in 2020 (520 $\mu\text{S}/\text{cm}$) and 2022 (1090 $\mu\text{S}/\text{cm}$), and at the end of July when monitoring ceased in 2023 (1100 $\mu\text{S}/\text{cm}$). The conductivity increase through the season reflects an increase in major ion concentrations, particularly sulphate which is the dominant ion present (in molar proportions; see next section) and is consistent with increased sulphide oxidation and acid generation from rock within the drainage catchment of Seep-05, likely as the edge of the ore pad thawed/warmed through the season.

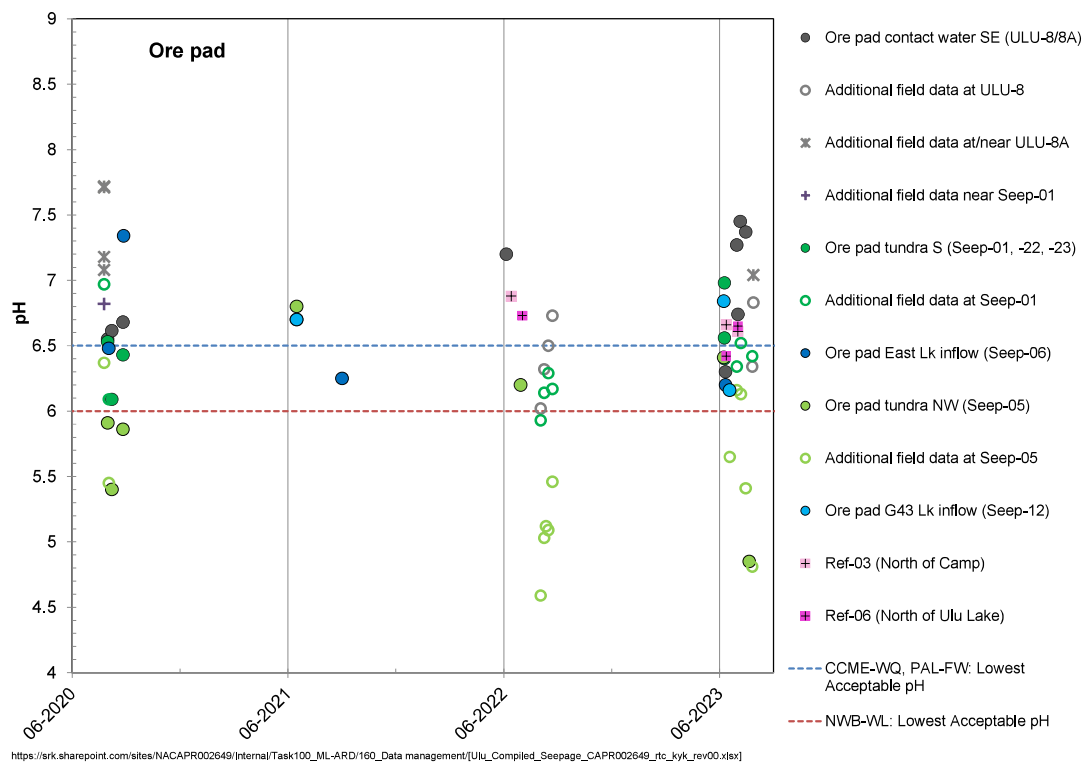


Figure 5.12. Ore pad seepage pH

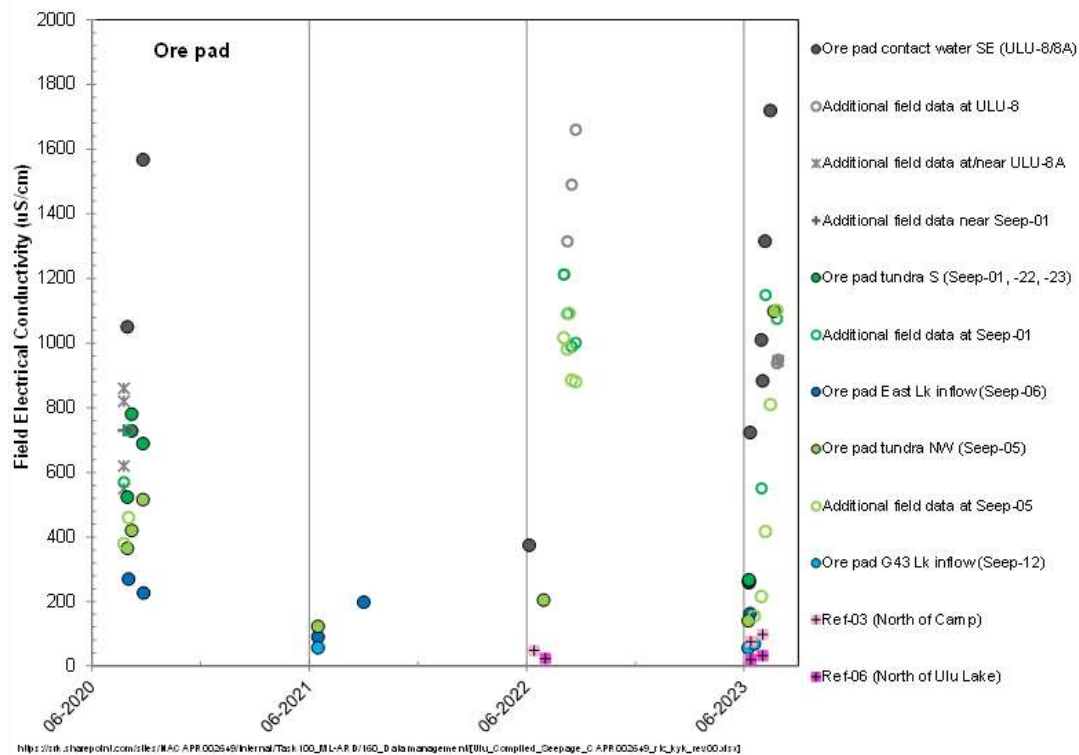


Figure 5.13. Ore pad seepage conductivity

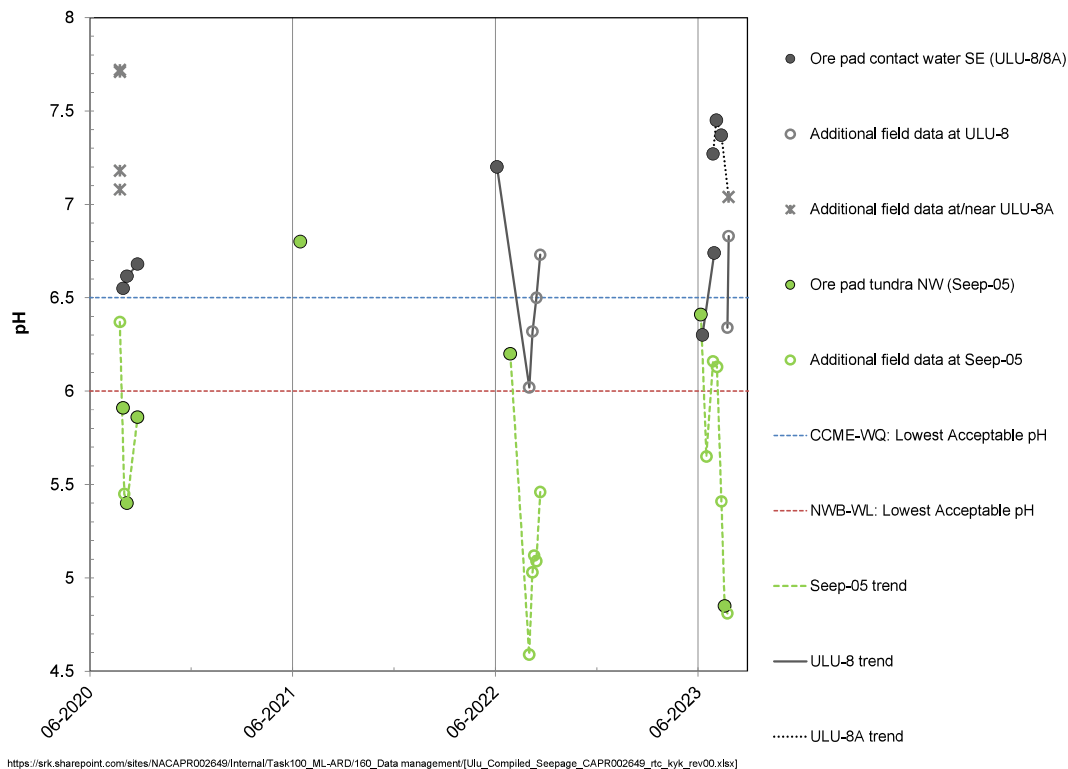


Figure 5.14. Seep-05 and ULU-8/8A pH trends

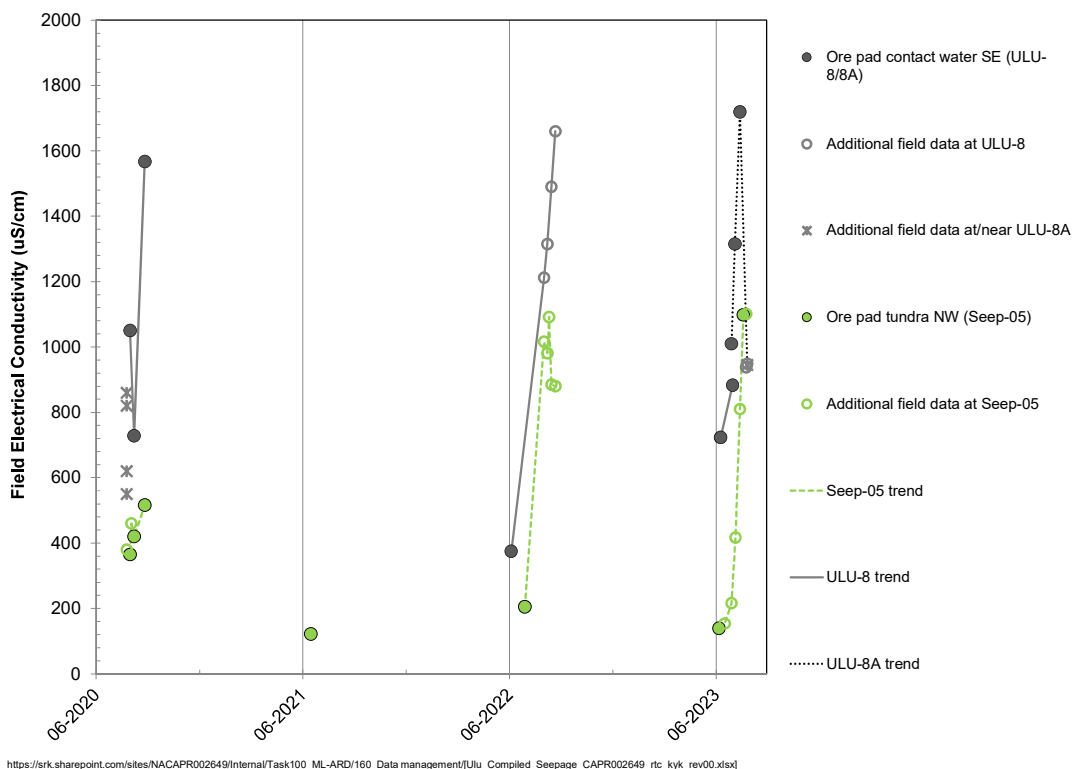


Figure 5.15. Seep-05 and ULU-8/8A conductivity trends

During 2020 to 2023 pHs at ULU-8 (about 5 m from the south edge of the pad), have been 6.0 to 6.7 when there has been no flow recorded, but pH 6.7 to 7.7 in water flowing directly out of the edge of the pad (at ULU-8A in 2023 and four additional locations informally recorded as -8a, -8b, -8c and -8d in 2020). Highest conductivities have occurred late in the season and been similar between ULU-8 and -8A and similar over time (1570 to 1720 $\mu\text{S}/\text{cm}$; Figure 5.15). Although acid generating rock has been identified at the edge of the ore pad directly up-gradient of ULU-8A, the seepage pH indicates that contact water is currently neutralized before it exits the pad and ARD is not present. The high conductivities (and sulphate concentrations; see next section) are indicative of sulphide oxidation occurring within the pad, and that this increases seasonally as the pad thaws/warms through the season.

Seep-05 and ULU-8/8A pH and conductivity data lie on different trends in Figure 5.16, with Seep-05 increasing conductivity related to declining pH, with metal leaching associated with incipient ARD; whereas ULU-8/8A increasing conductivity occurs with no pH decline, consistent with metal leaching associated with circum-neutral pH conditions.

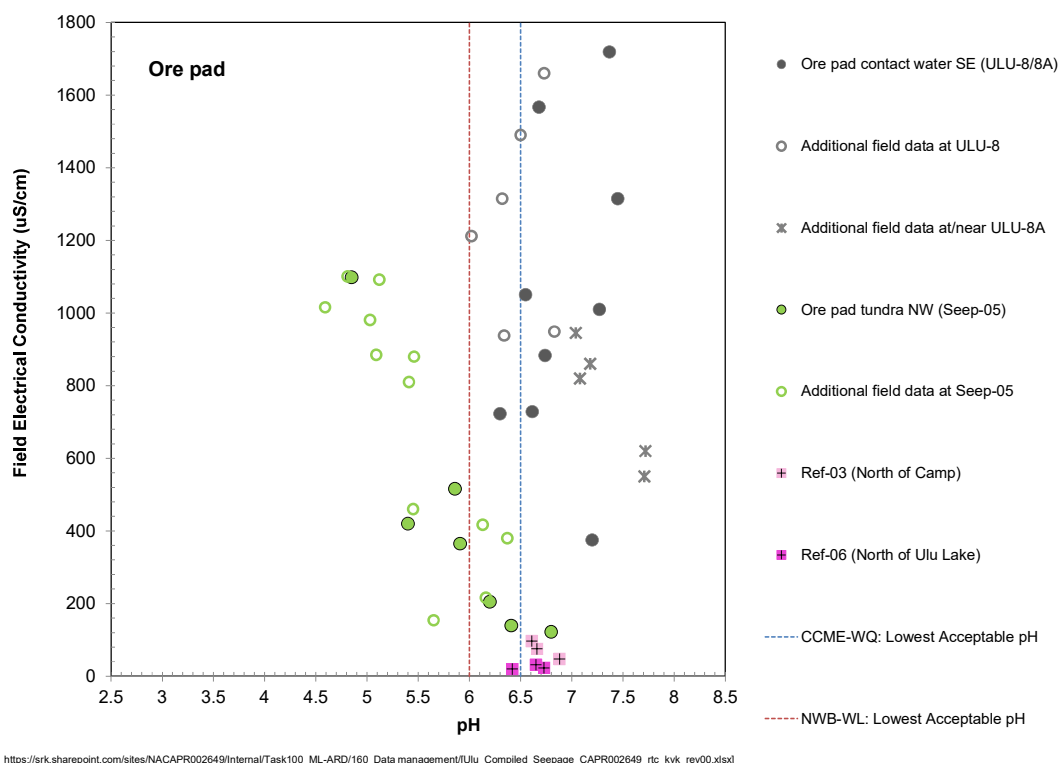


Figure 5.16. pH versus conductivity in Seep-05 and ULU-8/8A

Waste Rock-Portal Area

Seepage flows out of the waste rock pad at several locations at freshet (Figure 5.17) and flows downstream partly on the surface and partly sub-surface (and can intermittently be traced as audible flows beneath boulders in the tundra). The seepage flows into East Lake at three surface inflows. ULU-15 (that may capture drainage from the south side of the camp pad and the landfill) is included with the results for seeps from the waste rock-portal area, as it drains to the south towards East Lake and may be a sub-surface input to Seep-02.

pH of seepage draining from the waste rock-portal area has been pH 7.0 to 8.5 from the upstream sites during 2020 to 2023 monitoring, and pH 6.6 to 7.5 at the downstream East Lake inflows (except when portal pond water was discharged in 2020 and downstream pH was higher; Figure 5.18). Lowest pH measured at each seep between 2020 and 2023 is summarized on the map in Figure 5.17. The lower pHs downstream are consistent with the pHs observed in the tundra reference stations (pH 6.4 to 6.9) reflecting the influence of water flowing across the tundra. pH results currently indicate a lack of ARD from the waste rock portal area.

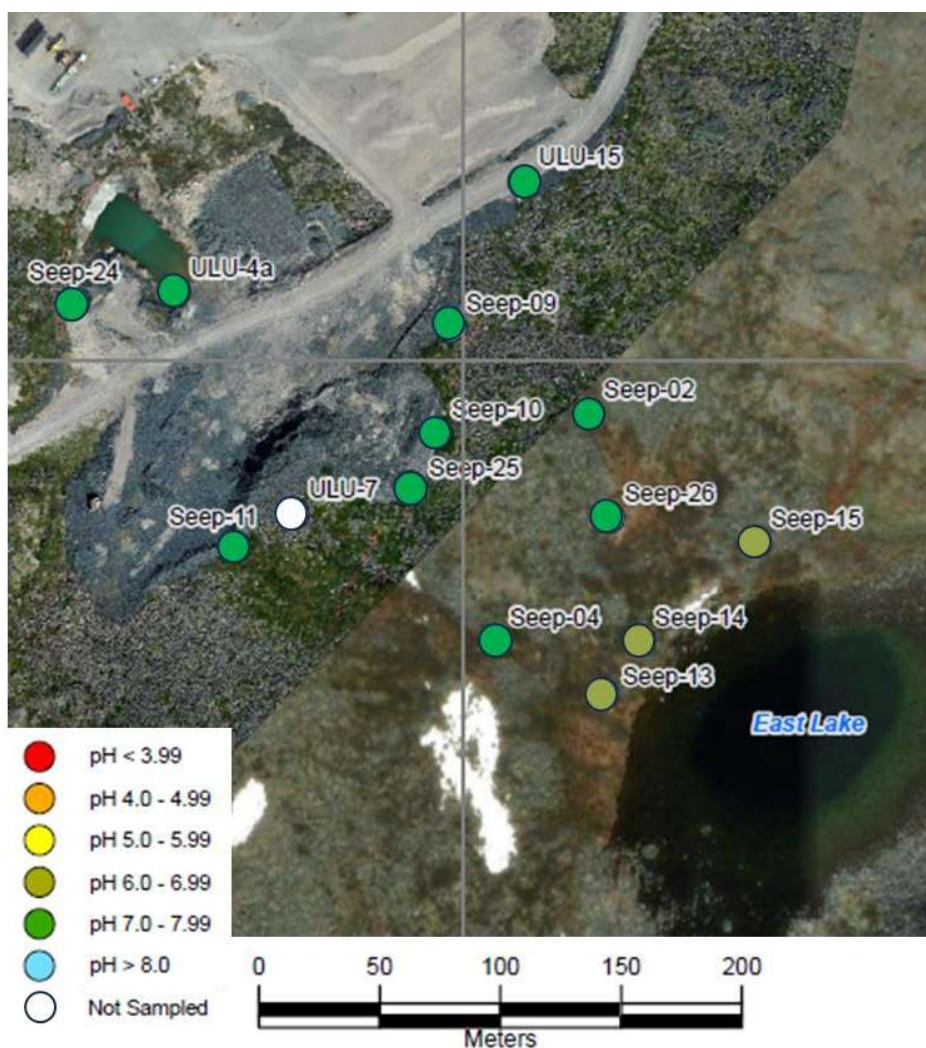


Figure 5.17. Lowest pH of waste rock-portal area seepage measured during 2020 to 2023

Conductivities in seepage from the waste rock-portal area are lower than the ore pad and in 2023 ranged from 177 to 870 $\mu\text{S}/\text{cm}$, compared to background in the reference stations of 20 to 97 $\mu\text{S}/\text{cm}$ (Figure 5.19). Seep-02, part way downgradient towards East Lake typically flows later into the season than the contact water seeps draining directly from the pad at freshet, and therefore usually has higher conductivities than the contact water seeps. Highest conductivities in this seep have not changed significantly between 2020 and 2023, being 560 to 650 $\mu\text{S}/\text{cm}$.

Conductivity at ULU-15 was higher in June 2023 (870 $\mu\text{S}/\text{cm}$) than when it was last measured in June 2021 before the landfill was built (300 $\mu\text{S}/\text{cm}$).

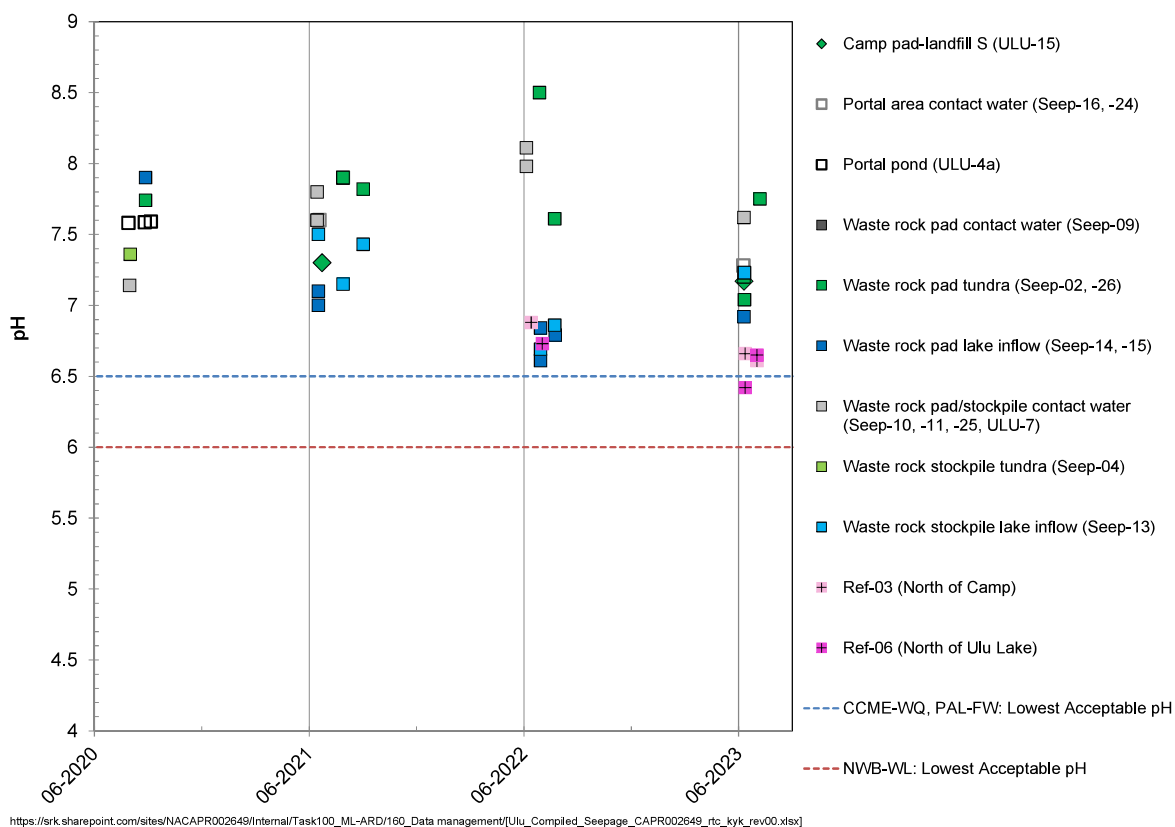


Figure 5.18. Waste rock-portal area seepage pH

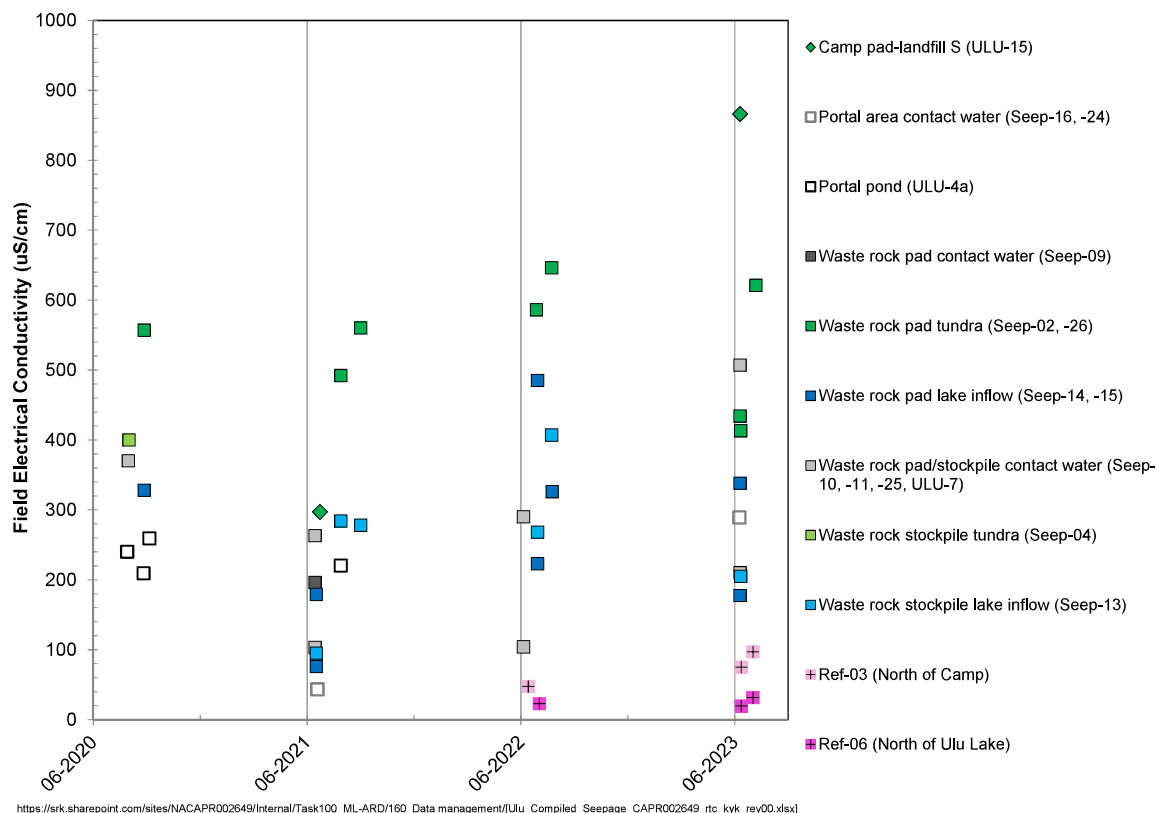


Figure 5.19. Waste rock-portal area seepage conductivity

Camp Pad

Seepage from the north side of the camp pad drains to the northeast towards Ulu Lake (Figure 3.4). Drainage from the pad at Seep-07 and Seep-08 (Figure 5.20) disappears in the tundra but is initially audible beneath boulders and parallels the edge of the pad. It potentially re-surfaces downgradient at Seep-17, 35 m northeast of the pad where water upwells from a pool where a large boulder compresses the tundra. Surface flow occurs along this small valley which is also expected to capture drainage from Seep-03 and Seep-21 from the northeast edge of the camp pad (Figure 3.3). Flow along this valley disappears into the tundra just beyond the Seep-20 downstream monitoring site (approximately 200 m NE from the edge of the pad). Seep-17 and Seep-20 appear to flow throughout the season. Seep-07 and Seep-08 typically flow at freshet although Seep-07 is not always accessible between the glacial boulders. Seep-08 is a large pool (a few meters across) with standing water present later in the season. Only small standing water pools (<0.5 m across) amongst boulders have been observed at Seep-03 and Seep-21 since the monitoring program was formalized in 2021. These pools were monitored for field pH and conductivity by Blue Star in 2023.

pH of seepage from the north side of the camp pad in 2023 was between pH 6.2 and 7.6, with conductivities of 95 to 600 $\mu\text{S}/\text{cm}$ (lower than the ore pad and similar to the waste rock-portal

pad). pH was above 7.0 in July, with the lower pHs measured when conductivities were lower ($<300 \mu\text{S}/\text{cm}$) and there was more dilution from snow melt. The extra field readings taken in pooled water close to the pads showed pH and conductivity were similar to the downstream Seep-17 and Seep-20 results, and therefore the broader set of results from Seep-17 and Seep-20 are likely a reasonable representation of drainage coming directly from the north side of the camp pad. Lowest pHs measured in seepage from 2020 to 2023 are shown on the map in Figure 5.20 and results currently indicate a lack of ARD from the camp pad.

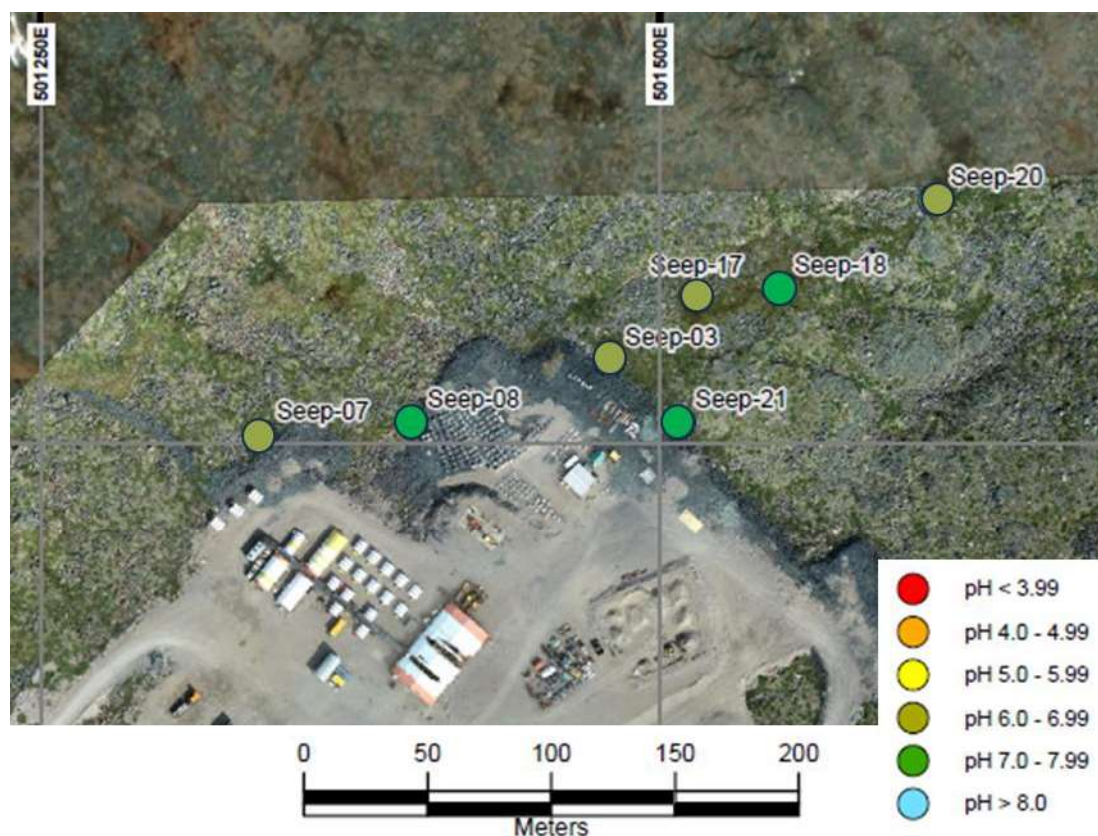


Figure 5.20. Lowest pH of camp pad seepage (draining to the north) measured during 2020 to 2023

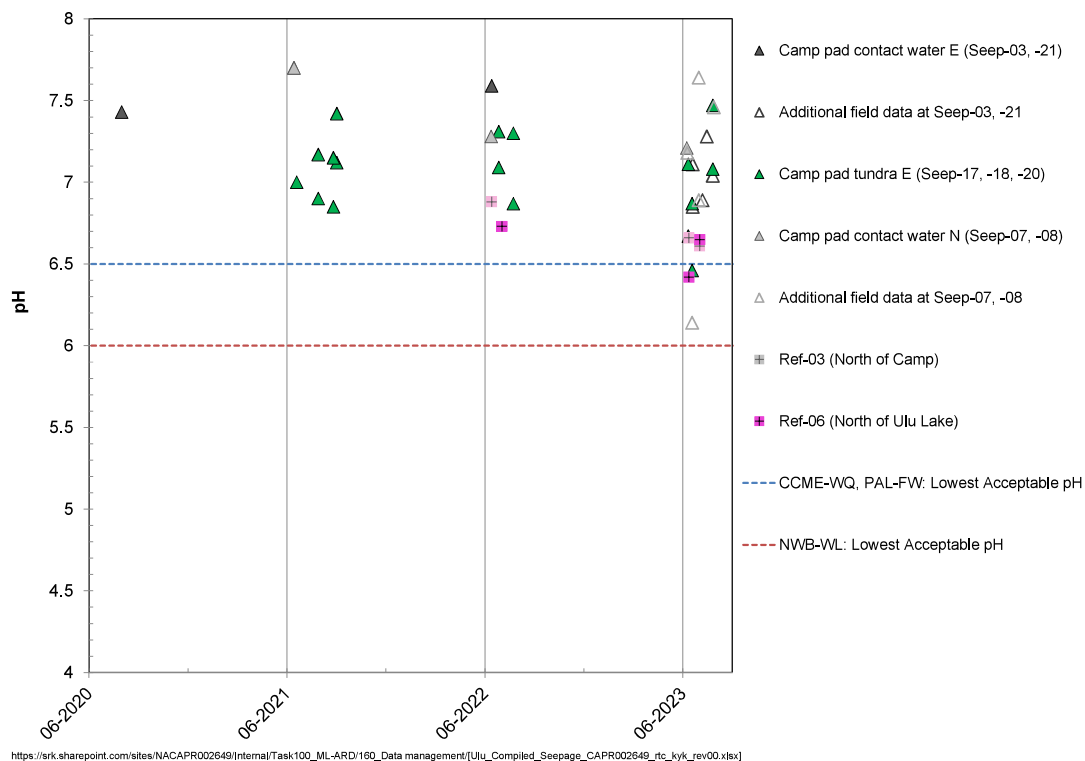


Figure 5.21. Camp pad seepage pH

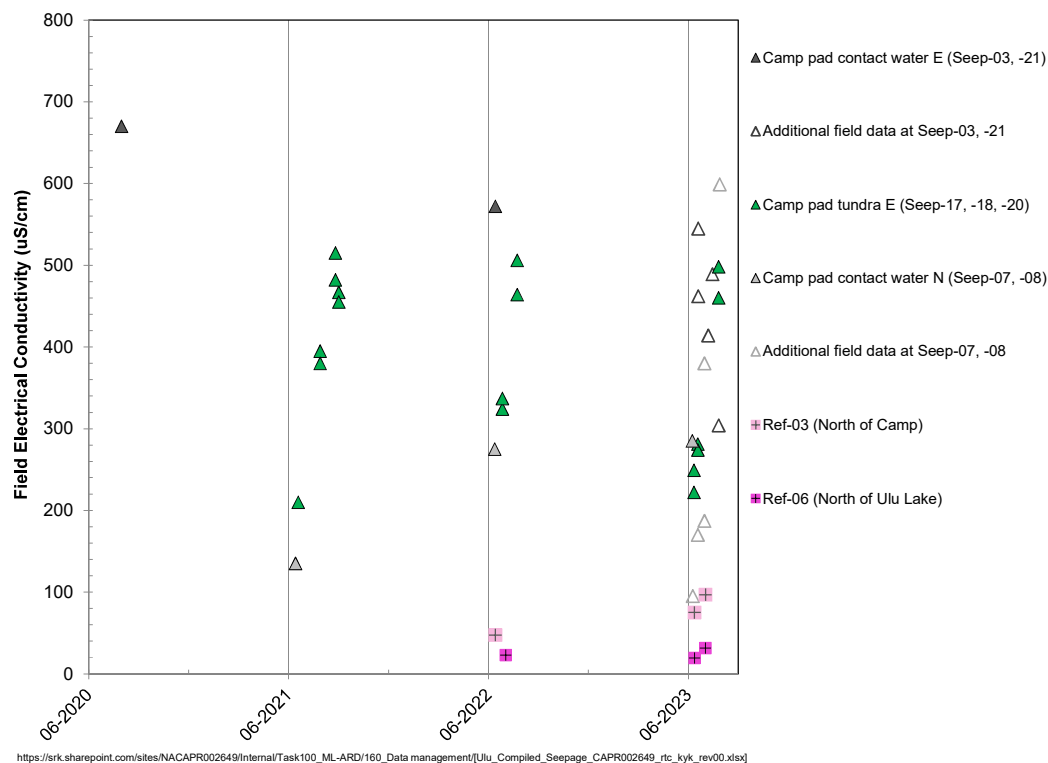


Figure 5.22. Camp pad seepage conductivity

5.3.3 Leaching of Major Ions

The dominant dissolved major anions and cations provide information on the main chemical processes that are operating to generate the observed water chemistry. Major anion and cation molar equivalent proportions are shown in Appendix C with the compiled seepage data, and concentrations of major ions against pH are shown with the full set of charts in Appendix B.

Major Anion Proportions

During 2023, the major anions present in seepage were sulphate, alkalinity, and chloride. In terms of molar equivalent proportions:

- Sulphate was the dominant anion in most seepage, comprising greater than 55% (and up to 99%) of total anions present.
- In Seep-01, Seep-05 and ULU-8/8A seepage from the ore pad, sulphate comprised 84% to 99% of the total anions, followed by alkalinity (0-14%) then chloride.
- In seepage on the north side of the camp pad, sulphate comprised 55% to 70% of the total anions, followed by alkalinity (25-43%) then chloride.
- In seepage on the south side of the waste rock-portal area, sulphate comprised 57% to 88% of the total anions, followed by alkalinity (6-39%) then chloride. The exception to this was Seep-24 just west of the portal where the dominant anion was chloride (65% of total anions present), followed by sulphate (29%) then alkalinity.
- For comparison, Ref-06 contained sub-equal proportions of sulphate and alkalinity (chloride was undetectable), and Ref-03 was dominated by chloride (52% to 64% of total anions present), followed by alkalinity (24-31%), then sulphate (12-17%).

The anion molar proportions indicate that sulphide oxidation was the dominant process influencing water chemistry. Alkalinity represents the waters capacity to neutralize acid and limit pH decline and is generated through carbonate (and to a lesser degree silicate) mineral dissolution.

The presence of chloride in some of the seepage appears to be related to use of sodium chloride during portal development and ore extraction (Klohn-Krippen 1998). Saline water was present in the portal pond when samples were analyzed in 2020 and 2021, and similarly chloride was present in Seep-24 close to the portal in 2023. Chloride has shown a decline at ULU-8/8A in terms of both concentrations and molar proportion of total anions between 2020 and 2023, from 24-42% of the total anions in 2020 to 2-5% of the total anions in 2023. This is likely to be related to removal of the stockpiled ore from the ore pad in 2018 when it was relocated to the portal-mine sump area (Figure 1.1). Prior to 2018, saline water was likely predominantly frozen in the stockpiled ore porewater and/or in the pad beneath the stockpile (frozen due to the greater thickness of rock associated with the stockpile). Removal of the ore stockpile appears to have allowed thawing at that location, facilitating the saline water to seep out of the ore pad at ULU-8/8A. Chloride molar proportions and concentrations at ULU-8/8A in 2023 had dropped to similar level at most other seeps.

Major Cation Proportions

The major dissolved cations present in seepage were calcium, magnesium, sodium, and potassium. In terms of molar equivalent proportions:

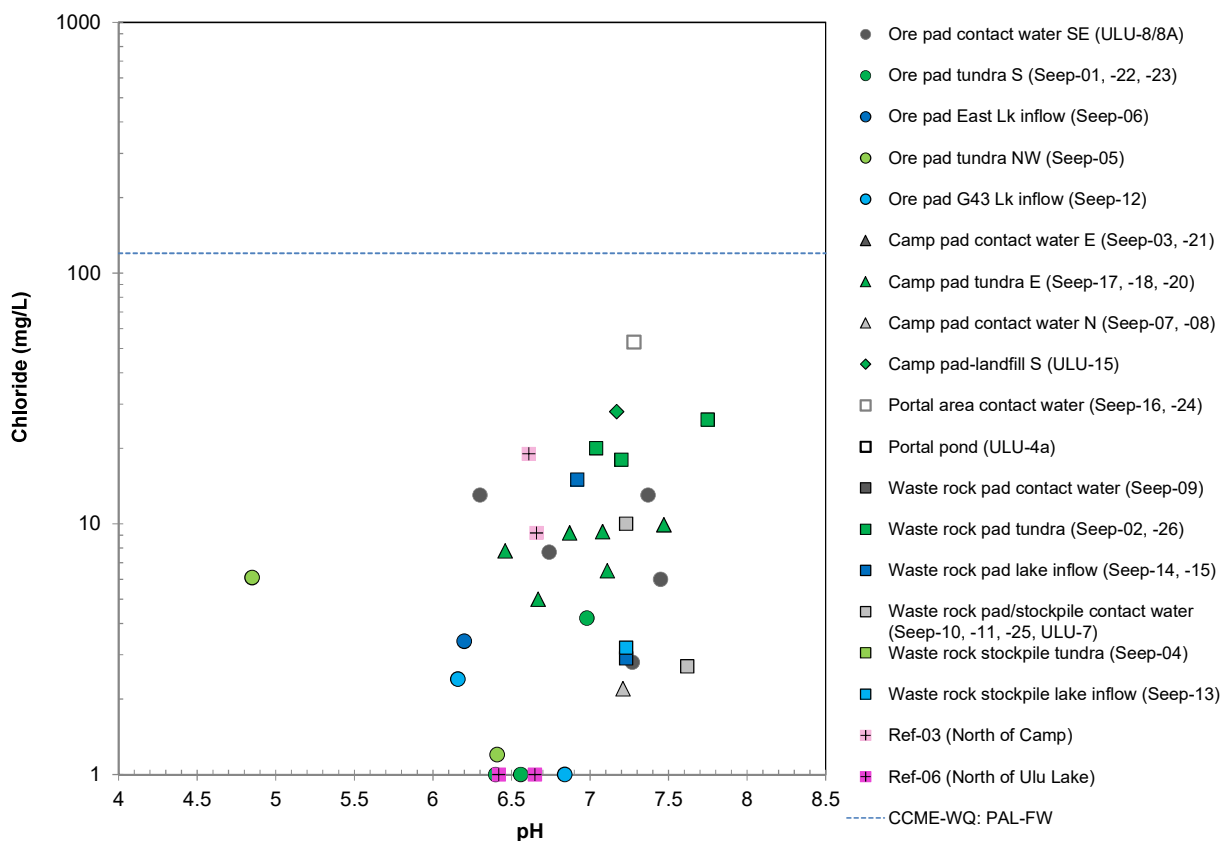
- During 2023, the dominant cation in all seepage was calcium comprising greater than 59% (and up to 84%) of total anions present. At all but Seep-24, calcium was followed by magnesium, and together they proportionally made up 80% to 96% of the total cations.
- At Seep-24 close to the portal, calcium (64%) was followed by sodium (18%) and then magnesium (16%). The proportionally higher sodium was consistent with the proportionally higher chloride in this seep.
- In contact water seepage where the influence from saline water is lacking, sodium was present at around 2 to 8% of the total cations and potassium was present at around 1 to 3% of the total cations. The proportion of sodium was slightly higher in some of the downstream monitoring sites, up to 11% of the total cations downstream of the waste rock pad, and 16 to 17% of total cations downstream of the ore pad (at both the Lake G43 and East Lake inflows).

The dominance of calcium indicates dissolution of calcite is a significant process in the pads. Magnesium likely includes a contribution from both dolomite and the abundant mafic silicate minerals in the rock; and sodium and potassium also suggest minor dissolution of silicate minerals. Silicate mineral dissolution is expected to be minor at neutral pH but to increase at acidic pH. The higher downstream proportions of sodium may reflect historical conditions and placement of the rock in the pads. For context, limited monitoring data from 2006 show that seepage downstream of the waste rock-portal pad was strongly dominated by sodium and chloride (on average comprising 80% of the major cations and major anions respectively).

Major Ion Concentrations

Alkalinity and the major cations are not regulated therefore charts showing concentrations are provided in Appendix B rather than here. Chloride and sulphate have water quality guidelines and concentrations in 2023 seepage are shown in Figure 5.23 and Figure 5.24 respectively.

Chloride concentrations were below the CCME water quality guideline in 2023, whereas they had previously been above the guideline at ULU-8 in 2020. Highest concentrations in 2023 were in Seep-24 close to the portal (53 mg/L).



https://srk.sharepoint.com/sites/NACAPR002649/Internal/Task100_ML-ARD/160_Data management/Ulu_Compiled_Seepage_CAPR002649_rtc_kyk_rev00.xlsx

Figure 5.23. Chloride in 2023 Seepage

Sulphate concentrations were highest (and above the 218 mg/L water quality guideline) in ore pad seepage, at ULU-8/8A with 290 to 490 mg/L, and Seep-05 in July with 670 mg/L, with lower concentrations present at Seep-05 at freshet (47 mg/L; Figure 5.24). Sulphate has increased since 2020 in ULU-8/8A and Seep-05 (Figure 5.25). In both 2020 and 2023 these seeps were sampled in July, whereas in the intervening years they were only sampled at freshet when concentrations are diluted.

The downgradient flows from the ore pad had significantly lower sulphate (and below the guideline), i.e., 55 mg/L into East Lake (Seep-06) and 13 to 17 mg/L into Lake G43 (Seep-12). In comparison, sulphate concentrations in reference stations in 2023 were 3.5 to 5.5 mg/L.

Sulphate concentrations in the ore pad seepage indicate leaching of weathering products generated through sulphide oxidation. The increase in sulphate since 2020 indicates that contact waters are being increasingly impacted by sulphide oxidation on both the north and south side of the ore pad. Dilution and/or attenuation of sulphate appears to be occurring downgradient from the ore pad along both drainage pathways through the tundra before water drains into East Lake and Lake G43.

Sulphate was also above the water quality guideline at ULU-15 draining the south side of the camp pad and the landfill. Sulphate was 280 mg/L (in June 2023) which was higher than in June 2021 when it was last measured before the landfill was built (74 mg/L; Figure 5.25).

Sulphate concentrations in waste rock-portal pad contact waters were 53 to 140 mg/L, and in camp pad contact water was 71 mg/L. Downstream waters within the tundra were higher as they were flowing later into the season, with 110 to 180 mg/L sulphate in the tundra below the waste rock-portal pad and 68 to 160 mg/L in the tundra below the north side of the camp pad.

Inflows to East Lake from the waste rock-portal pad had 56 to 86 mg/L sulphate but these were only sampled at freshet and not later in the summer (Table 3-2). Sulphate in waste rock-portal pad and camp pad seepage samples was below the sulphate water quality guideline but indicated leaching of weathering products generated through sulphide oxidation.

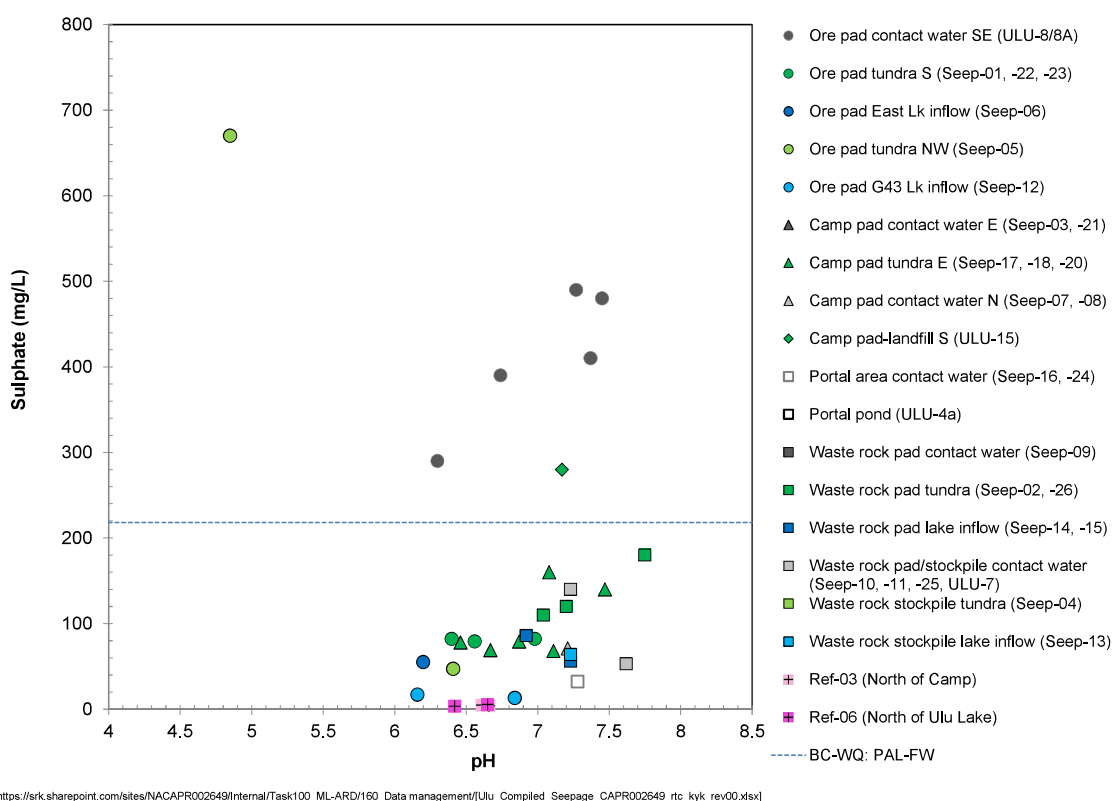


Figure 5.24. Sulphate in 2023 Seepage

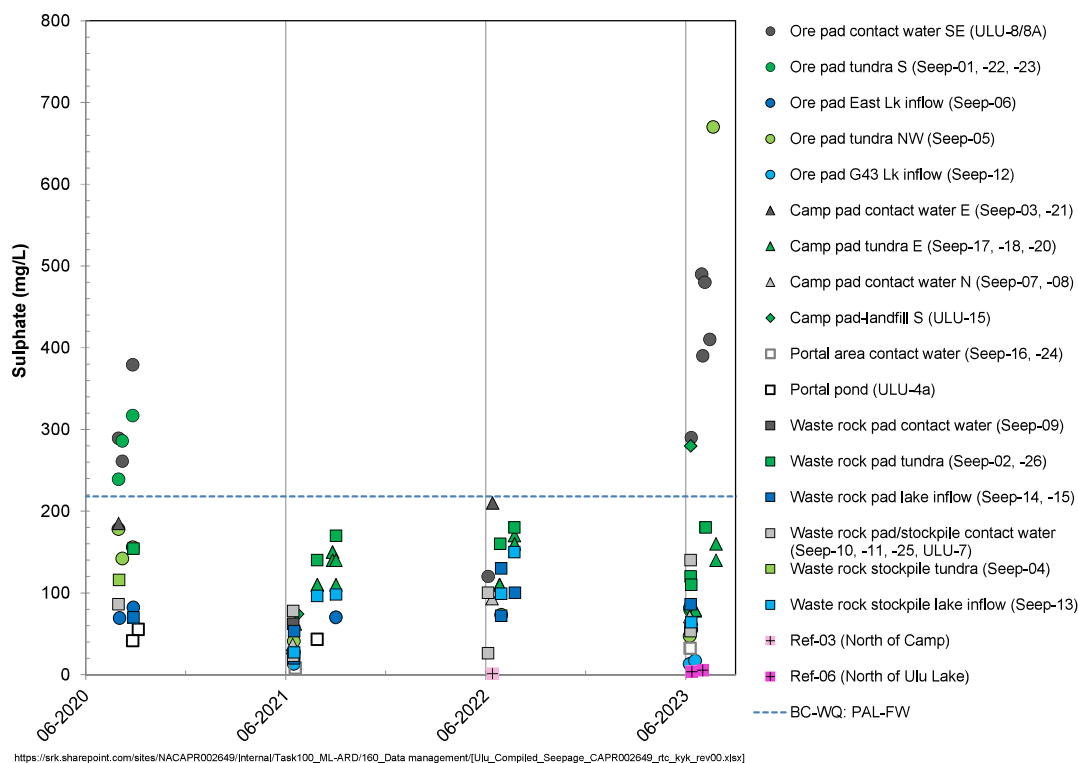


Figure 5.25. Sulphate over time in seepage

Carbonate-Sulphate Molar Ratio

The molar ratio of dissolved calcium and magnesium to sulphate in contact waters, can be used with pH to provide an indication of the effectiveness of carbonate minerals to neutralize the acid generated by sulphide oxidation in the pads.

Based on 2022 and 2023 samples, contact water seepage from the camp pad and the waste rock-portal area had a carbonate:sulphate molar ratio of 1.2 to 1.6 with pHs above 7.0 (Figure 5.26), indicating that local acid generation from the rock in these areas is being neutralized by carbonates, and resulting in net-neutral pH drainage.

Contact water seepage from the SE part of the ore pad (ULU-8/8A) had a carbonate:sulphate molar ratio of 0.90 to 1.2 (average of 0.99), with pHs of 6.3 to 7.5, and higher sulphate concentrations (Figure 5.26), indicating that carbonate dissolution rates were just barely keeping up with the rates of local acid generation.

The carbonate:sulphate molar ratio of seepage from the northwest part of the ore pad is not plotted as it is not considered contact water. It is uncertain whether the molar ratio may have been modified through tundra interaction or evaporation (Seep-05 is approximately 14 m from the edge of the ore pad). However, the carbonate:sulphate molar ratio at Seep-05 was 0.99 at freshet 2023 (pH 6.4) and 0.77 in late July (pH 4.9) (Appendix C), so the results are as expected and

consistent with the trends described from the field data above, indicating that ARD is present seasonally at the northwest edge of the ore pad, and rates of sulphide oxidation (and corresponding acid generation) overwhelm rates of neutralization once the ore pad has thawed later in the season.

The only other tundra seepage that had a carbonate:sulphate molar ratio of less than 1.1 was also associated with the ore pad. This was Seep-01 at the southwest corner of the ore pad (CMR of 1.0 and pH of 6.6) and two other sites from the late July pH-conductivity survey along the north edge of the ore pad (Figure 3.2); at Seep-05 SW-50 (closest to the acid generating gravel on the tundra, with CMR of 0.71 and pH 4.3) and Seep-05 SW+15 (15 m downgradient of Seep-05, with CMR of 0.82 and pH 5.9 (Appendix C).

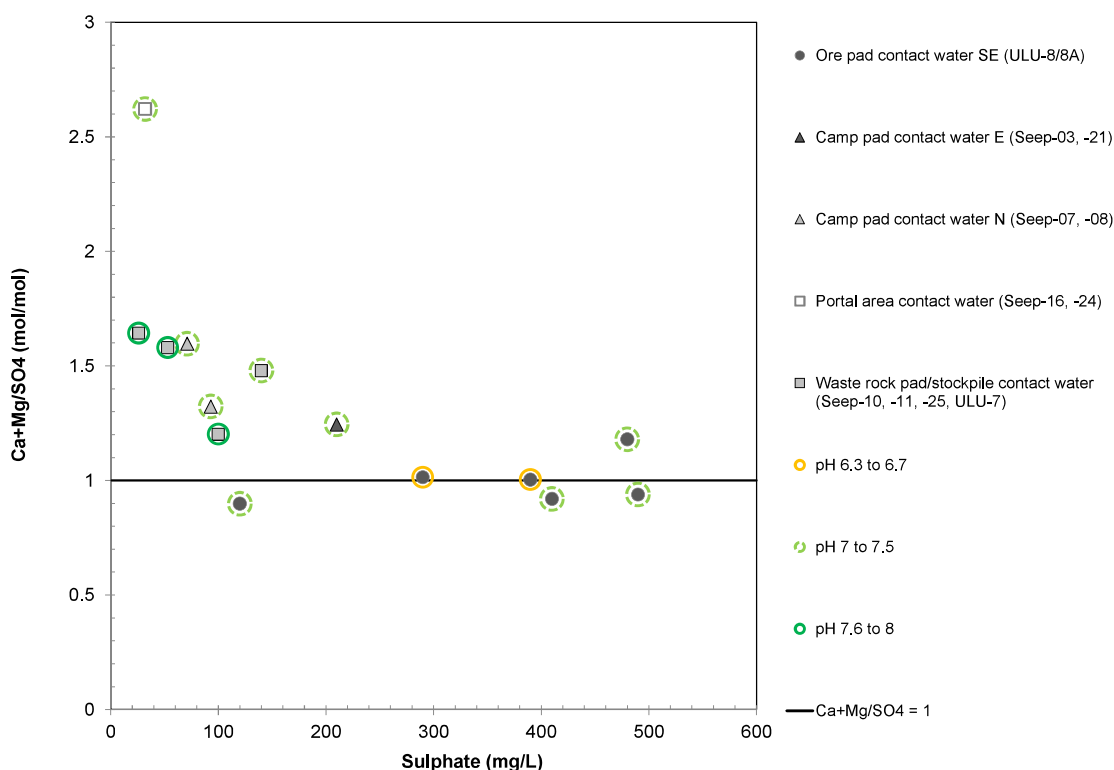


Figure 5.26. Carbonate-sulphate molar ratio vs sulphate concentration in 2022 and 2023 contact water seepage samples

5.3.4 Leaching of Trace Ions with CCME Guidelines or NWB-WL Limits

Nitrate, ammonia, arsenic, boron, chromium, lead, mercury, molybdenum, silver, thallium, and uranium concentrations were below the CCME water quality guidelines in the contact water seeps and downgradient seepage in the 2023 samples. Charts of these parameters showing dissolved concentrations in the 2023 seepage compared to the guidelines are shown in Appendix B (except for arsenic that is shown below). A single sample also exceeded the nitrite CCME guideline

(Seep-17 at the end of July). This seems anomalous based on below DL results downstream on the same day, and below DL results usually measured at Seep-17 (Appendix C).

The following parameters had some results above the CCME PAL-FW water quality guidelines and are shown on Figure 5.27 to Figure 5.36 (with full page charts also shown in Appendix B):

- In seepage around the ore pad: aluminum, **fluoride**, **cadmium**, copper, **iron**, **manganese**, **nickel**, **selenium**, and **zinc**. Exceedances in bold were in contact water and tundra seepage, whereas those not in bold were also present in downstream lake inflows.
- In ULU-15 draining the south side of the camp pad and landfill: cadmium, copper, fluoride, and zinc.
- In seepage draining the waste rock-portal pad: aluminum, copper, and fluoride.
- In seepage draining the north side of the camp pad: aluminum, copper, and fluoride.
- In downstream lake inflows: aluminum (Lake G43 and East Lake inflows via drainage paths from the ore pad), copper (Lake G43 inflow), and fluoride (East Lake inflow via drainage paths from the waste rock pad).
- In the reference monitoring stations: aluminum (Ref-06), and fluoride (both Ref-03 and Ref-06).

Background levels of aluminum (Figure 5.28), copper (Figure 5.31), and fluoride (Figure 5.27) are naturally elevated in the Ulu area based on concentrations in the reference stations in 2022 and 2023. The concentrations of these parameters in seepage were similar to the background except for at Seep-05. Concentrations in the pH 4.9 sample from Seep-05 were one to two orders of magnitude higher than background for aluminum and copper; and three times higher than background for fluoride.

Aluminum concentrations are conventionally higher at lower pH. Aluminum is typically released through weathering of aluminosilicate minerals and the tundra is a potential source (the mineral component of tundra soils) based on aluminum concentrations present in the reference stations, or acidic weathering of aluminosilicate minerals in the waste rock.

Leaching of arsenic (Figure 5.29), cadmium (Figure 5.30), copper, iron (Figure 5.32), nickel (Figure 5.34), selenium (Figure 5.35), and zinc (Figure 5.36) are associated with sulphide oxidation, and consistent with the presence of iron sulphides and trace chalcopyrite, sphalerite, arsenopyrite, and millerite in the waste rock (SRK 2022b). Leaching of manganese (Figure 5.33) may also be associated with sulphide oxidation or carbonate dissolution.

Arsenic, copper, lead, nickel, and zinc have effluent quality limits through the NWB water licence, and dissolved concentrations of these parameters were all below the maximum average and maximum grab sample limits. Recent highest zinc concentrations however at ULU-8/8A (0.31 mg/L), ULU-15 (0.29 mg/L), and Seep-05 (0.27 mg/L) are just below the 0.5 mg/L NWB effluent quality limit, and concentrations will be expected to increase with declining pH.

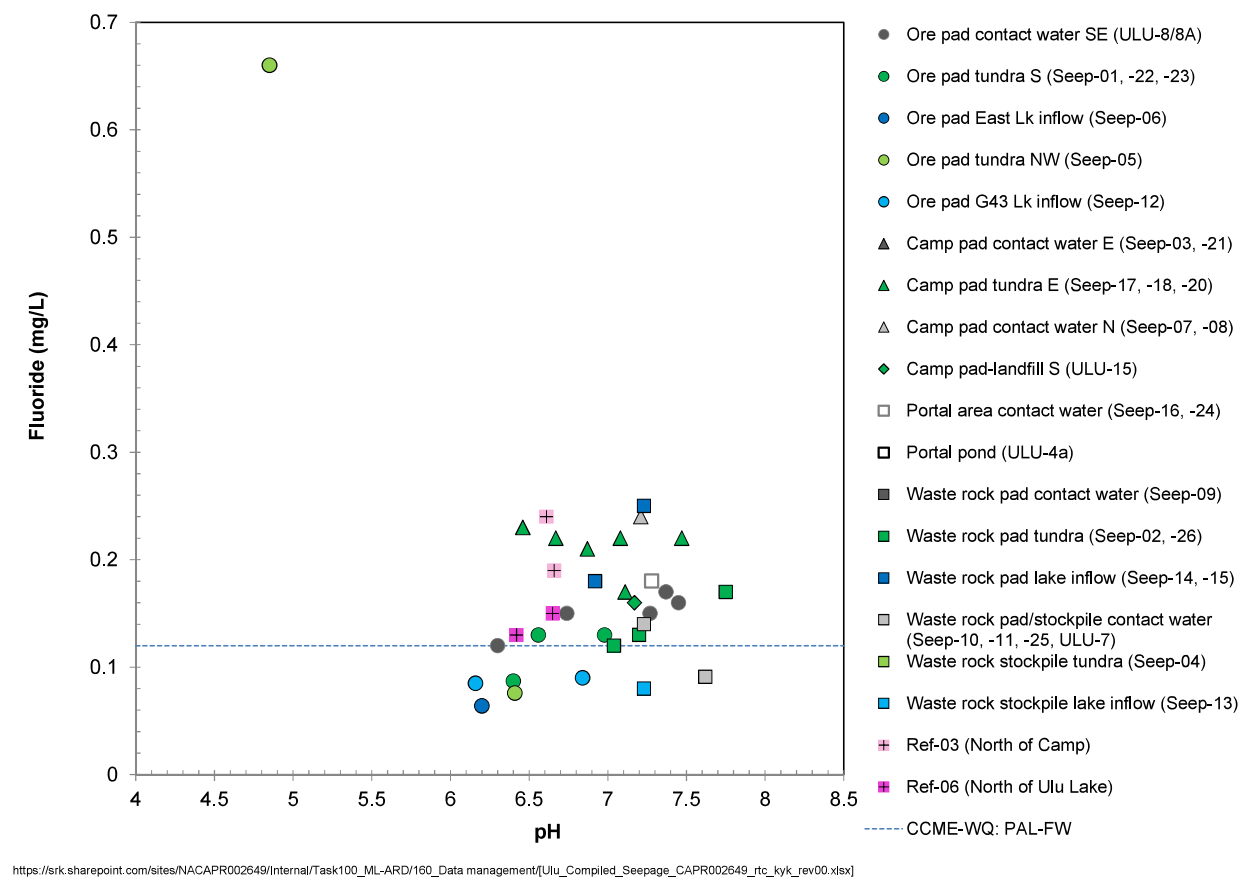


Figure 5.27. Fluoride in 2023 seepage

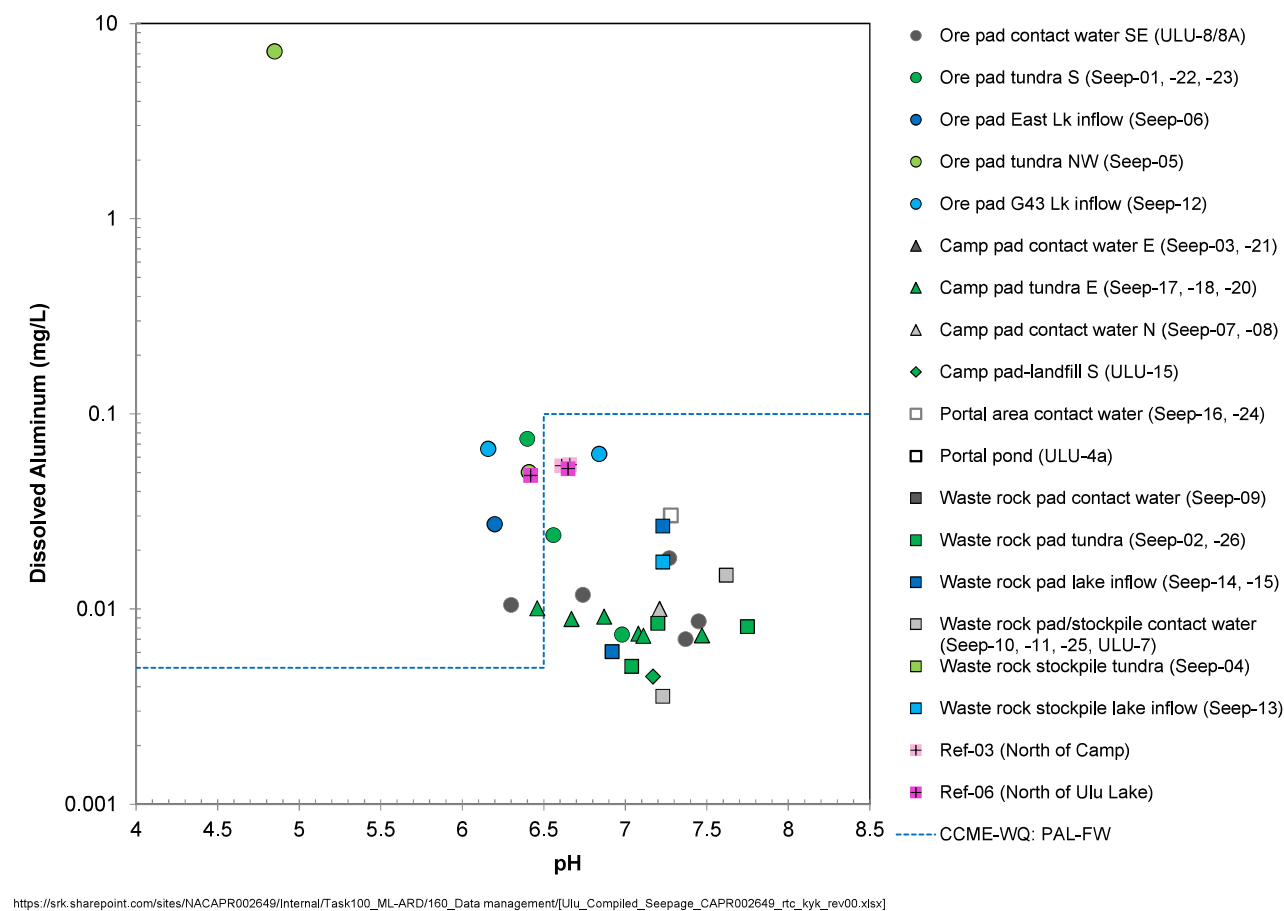


Figure 5.28. Aluminum in 2023 seepage

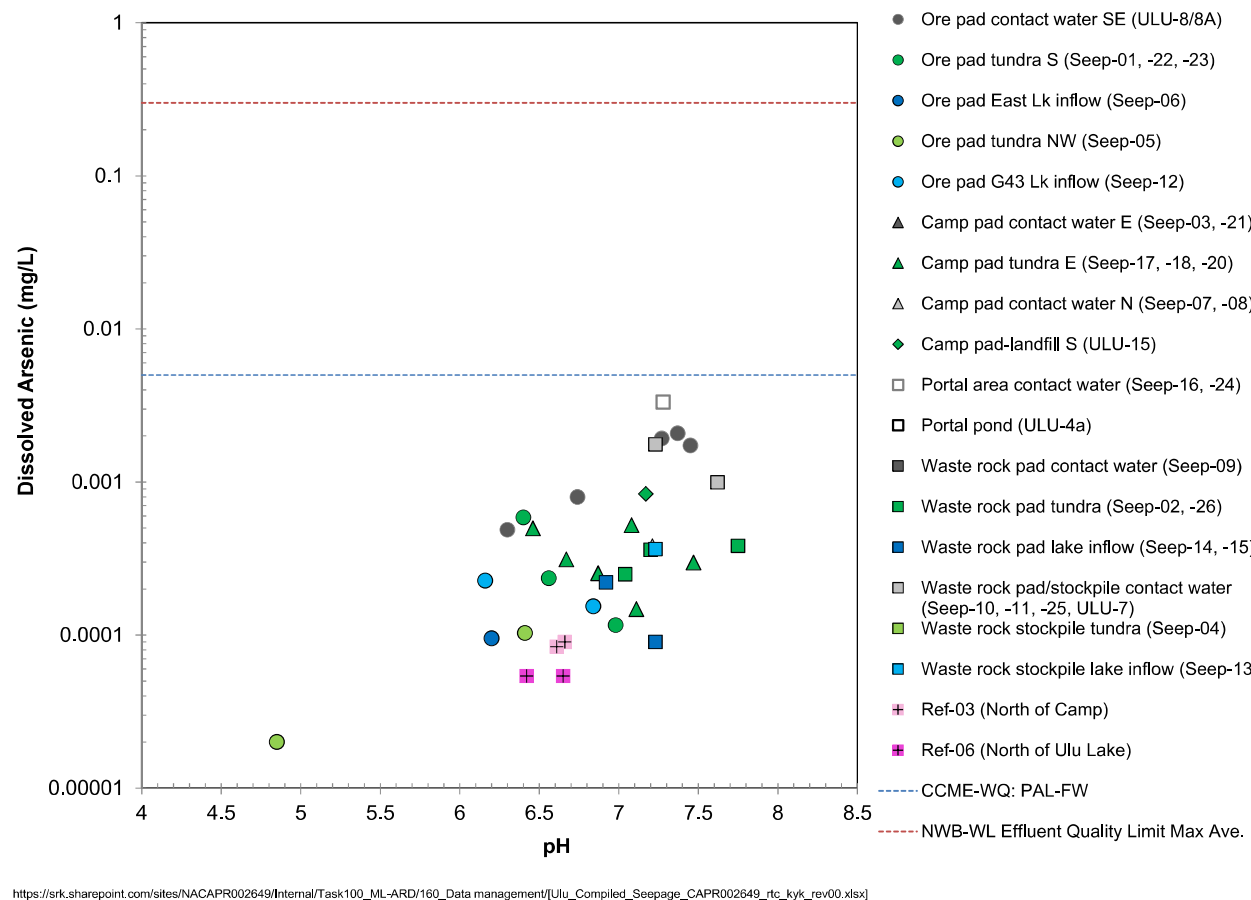


Figure 5.29. Arsenic in 2023 seepage

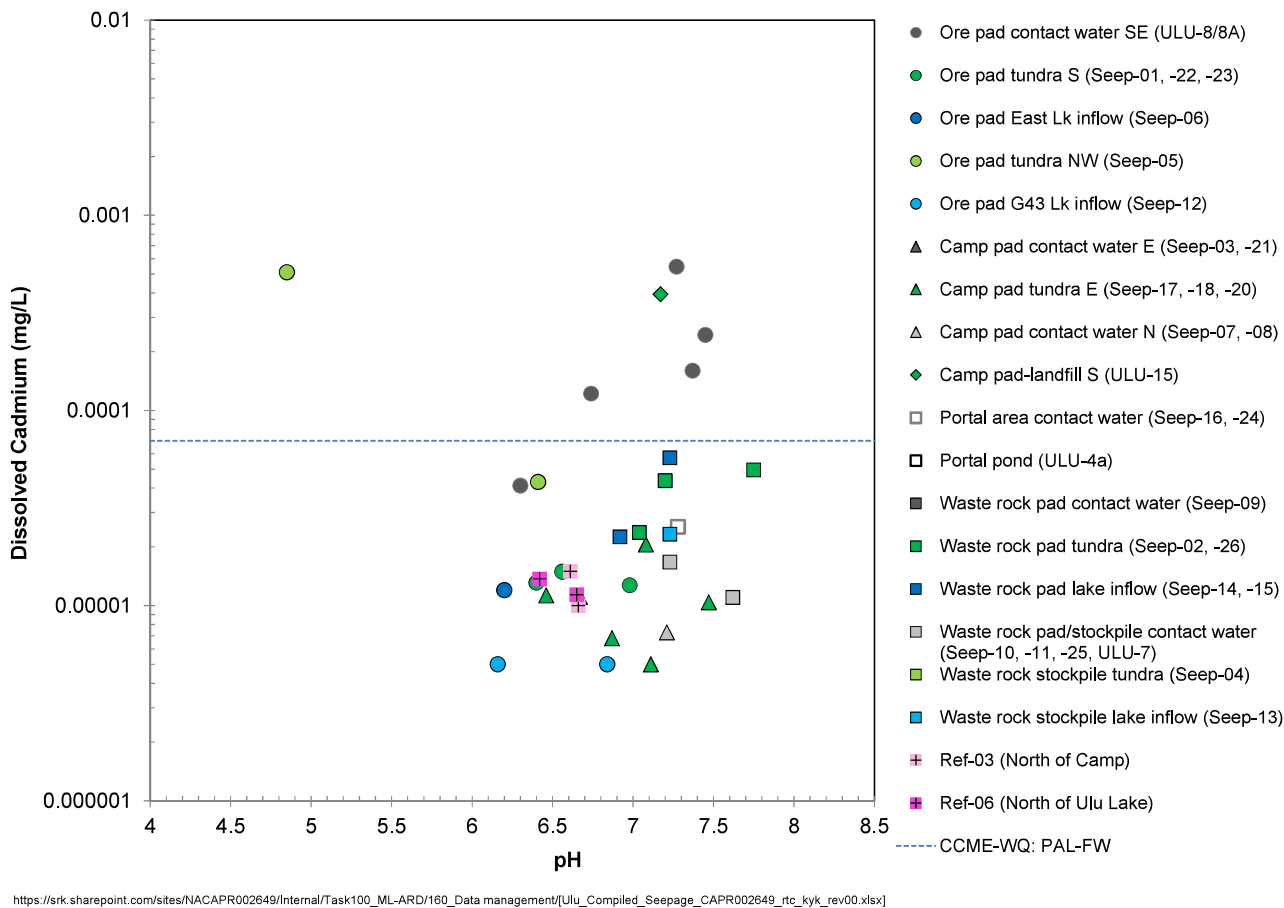


Figure 5.30. Cadmium in 2023 seepage

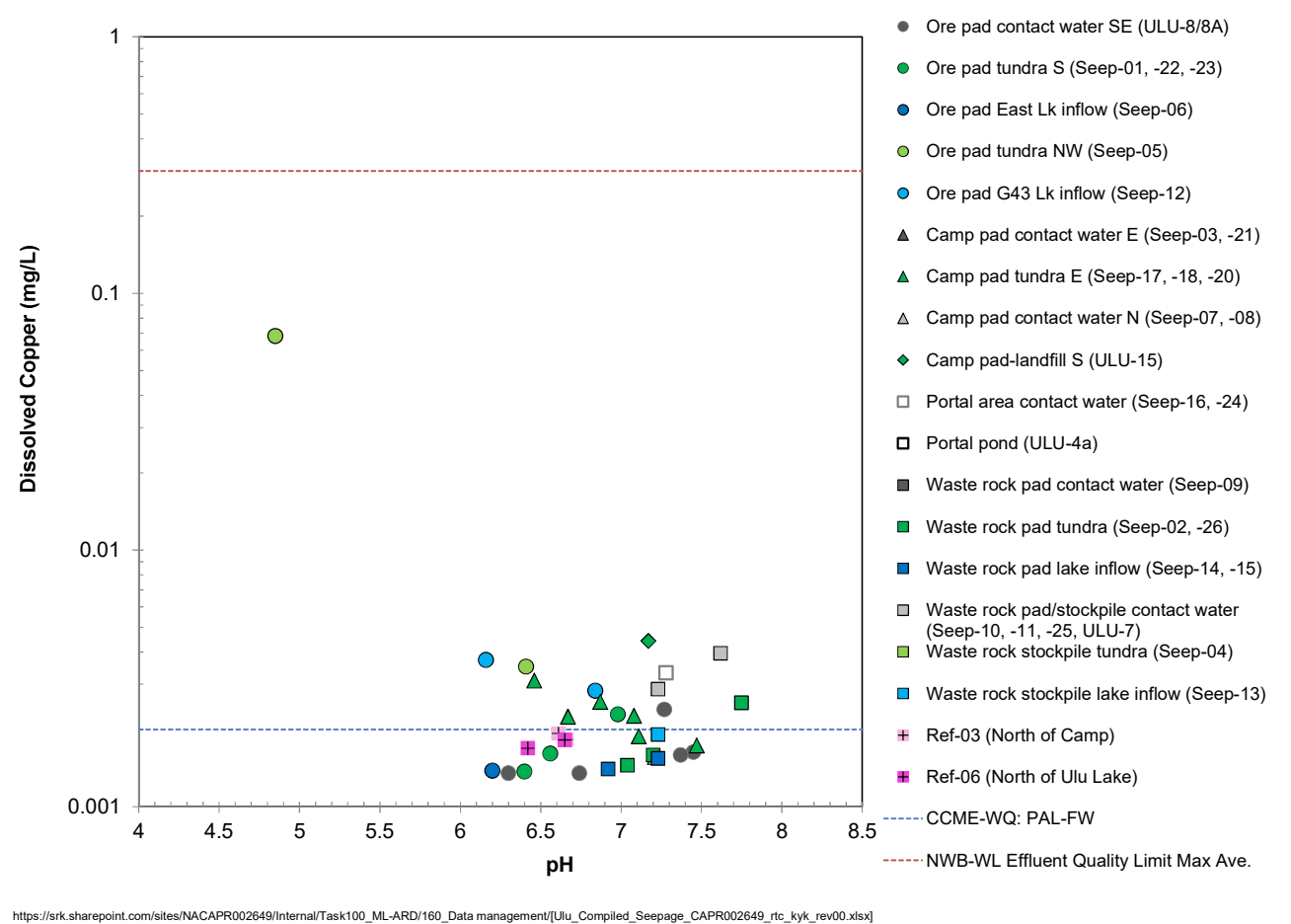


Figure 5.31. Copper in 2023 seepage

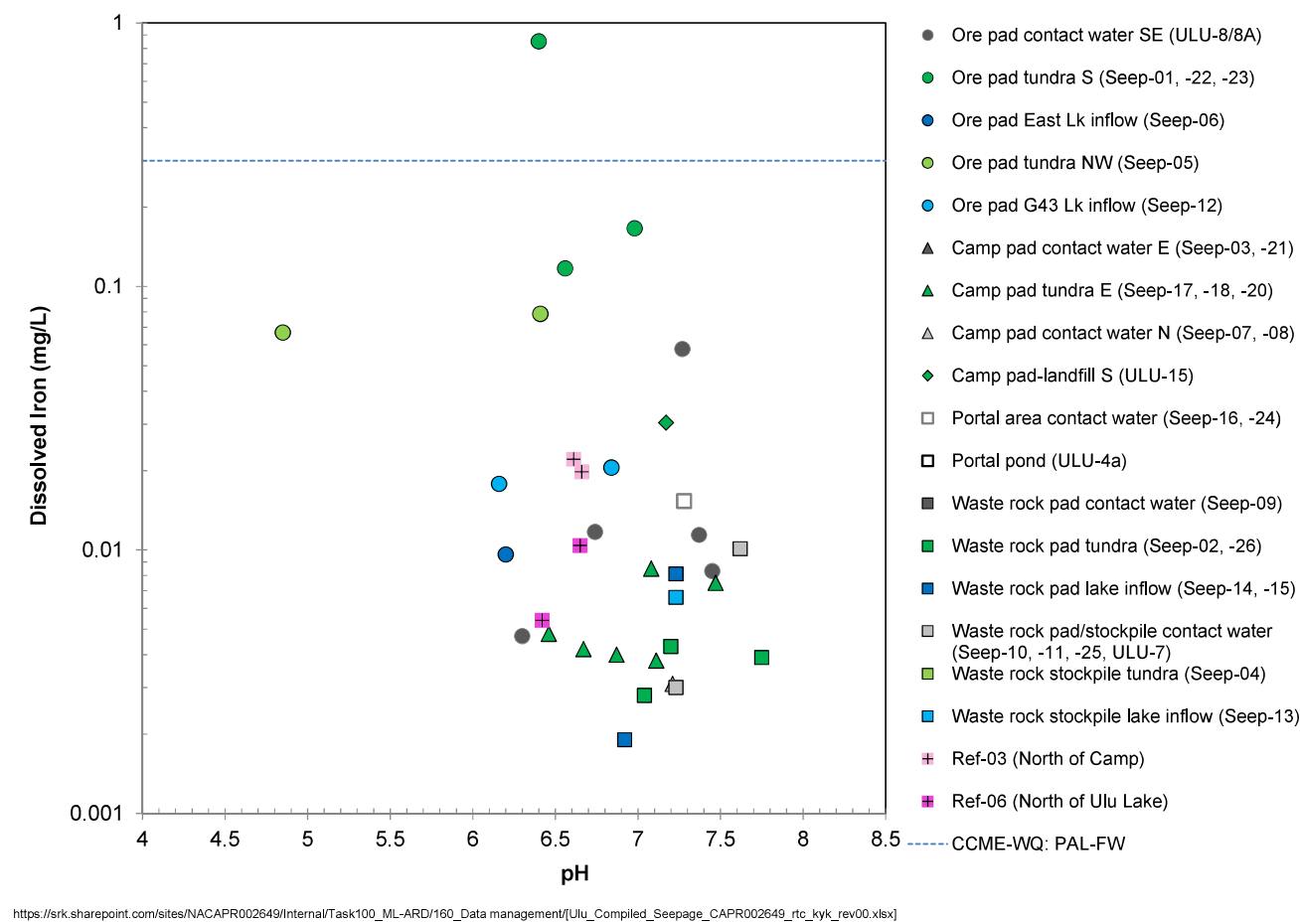


Figure 5.32. Iron in 2023 seepage

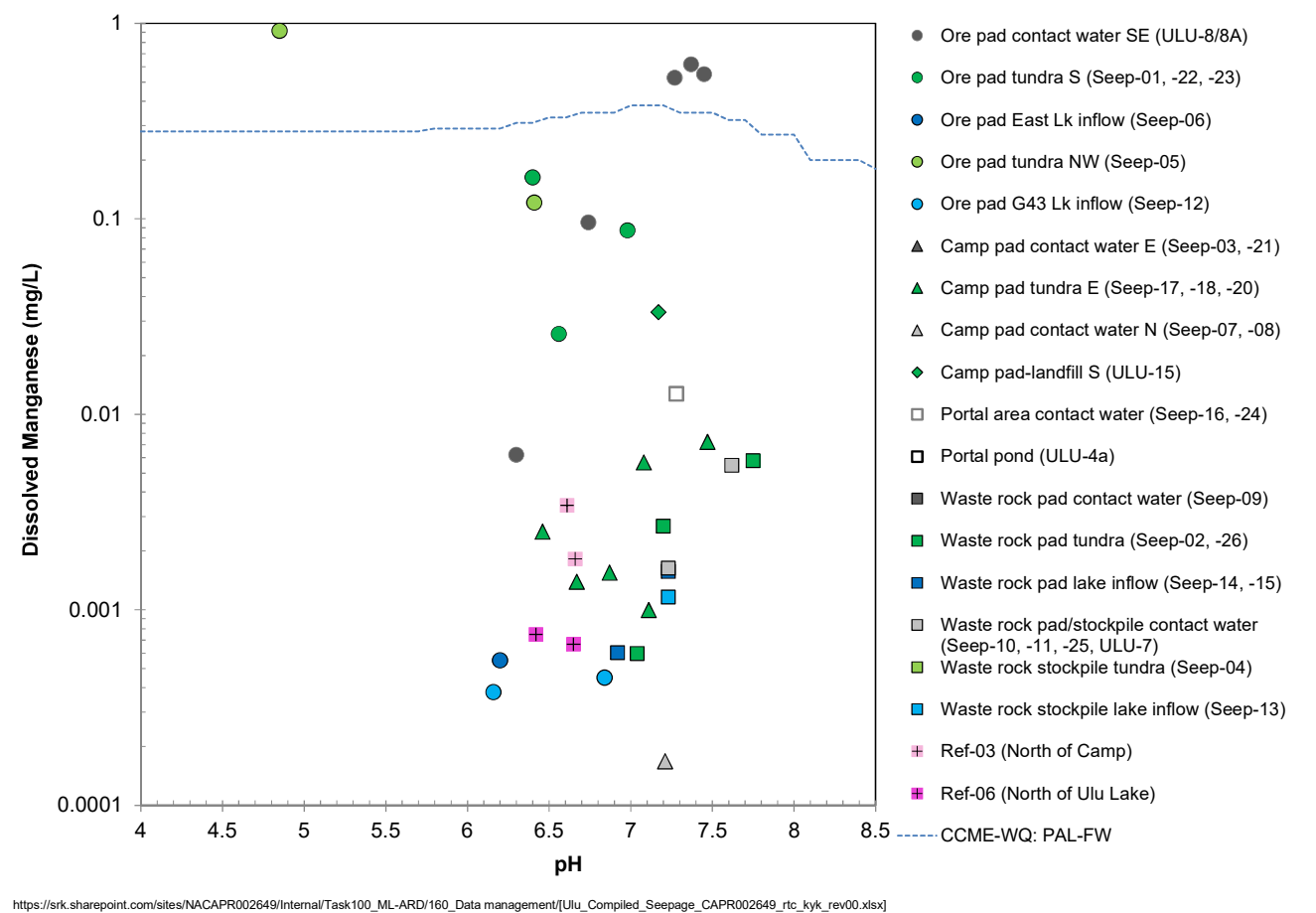


Figure 5.33. Manganese in 2023 seepage

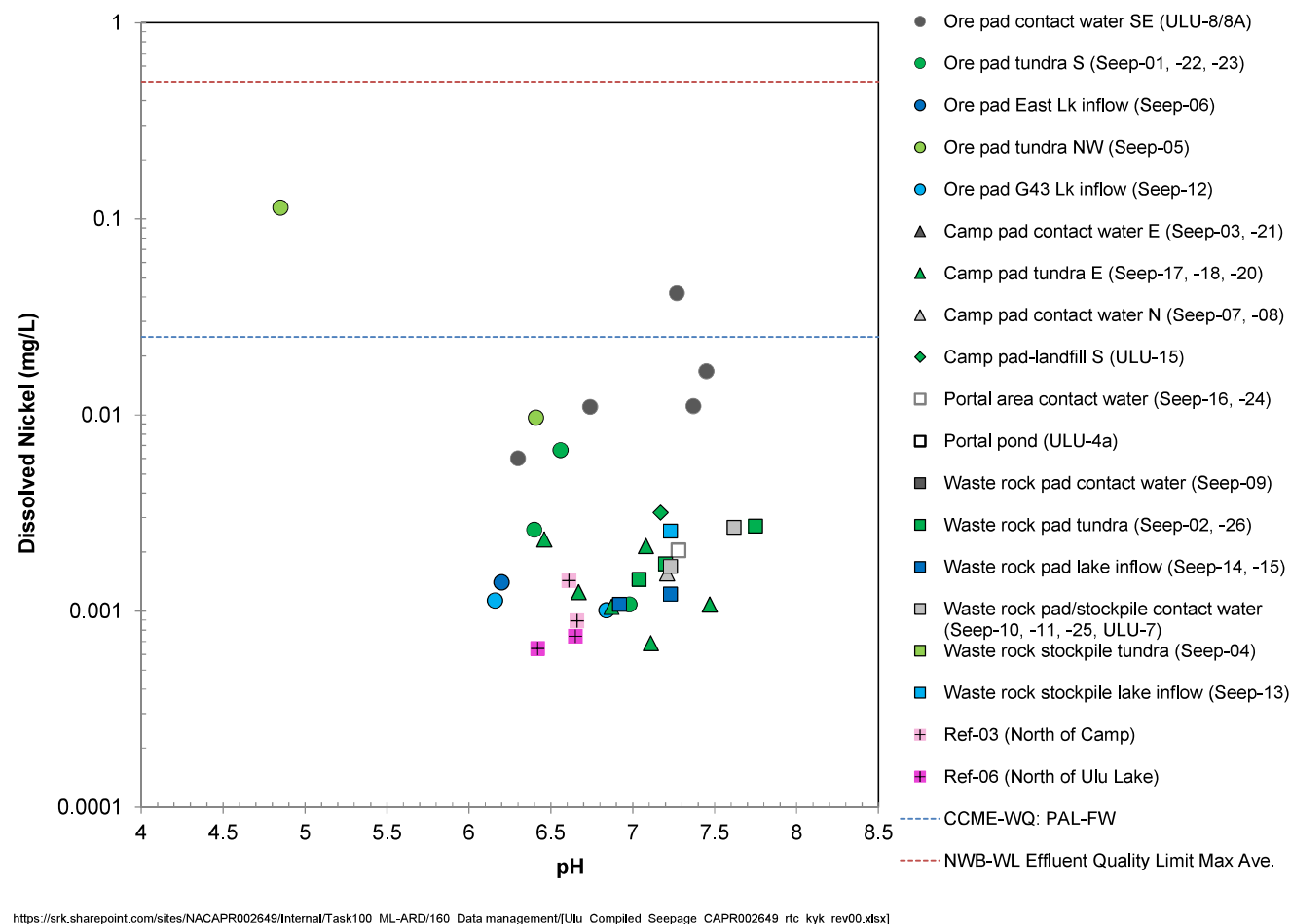


Figure 5.34. Nickel in 2023 seepage

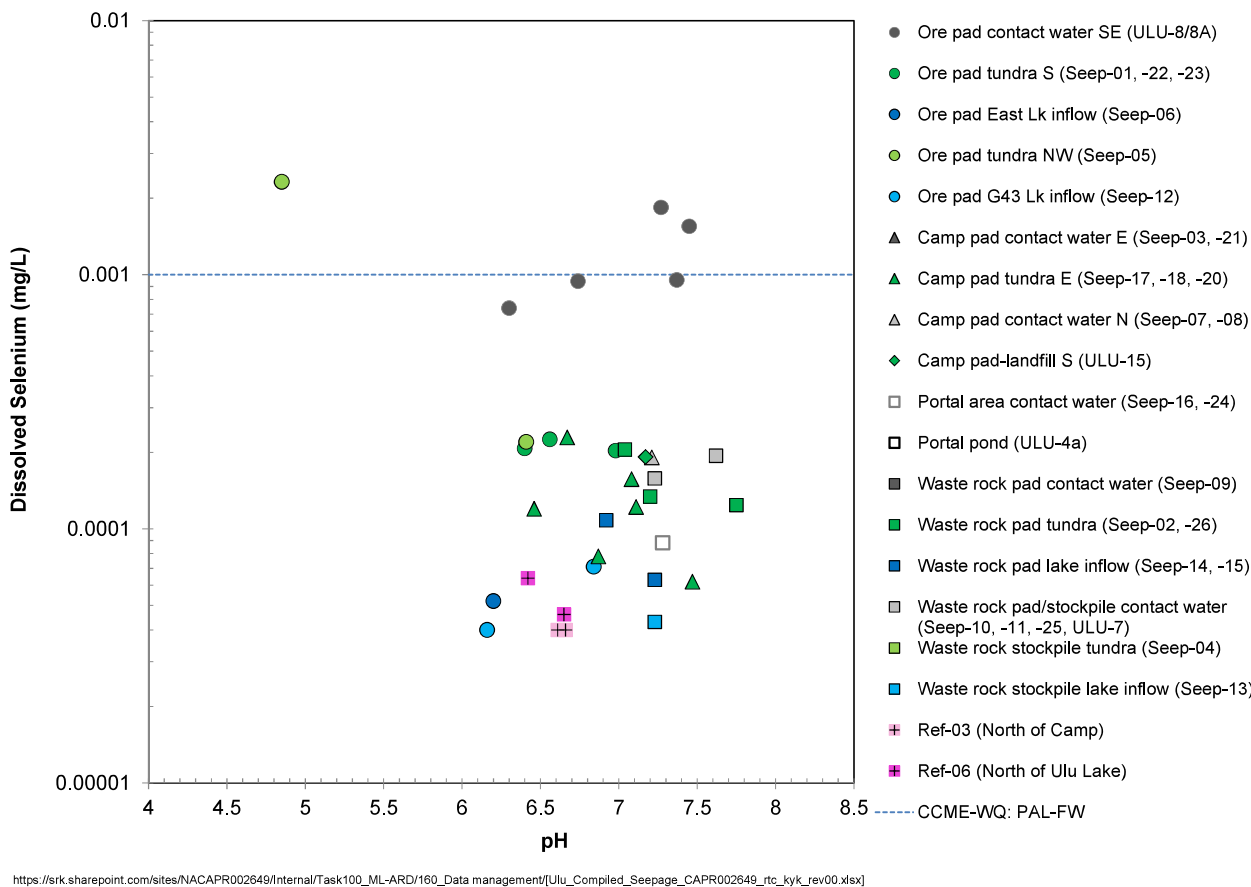


Figure 5.35. Selenium in 2023 seepage

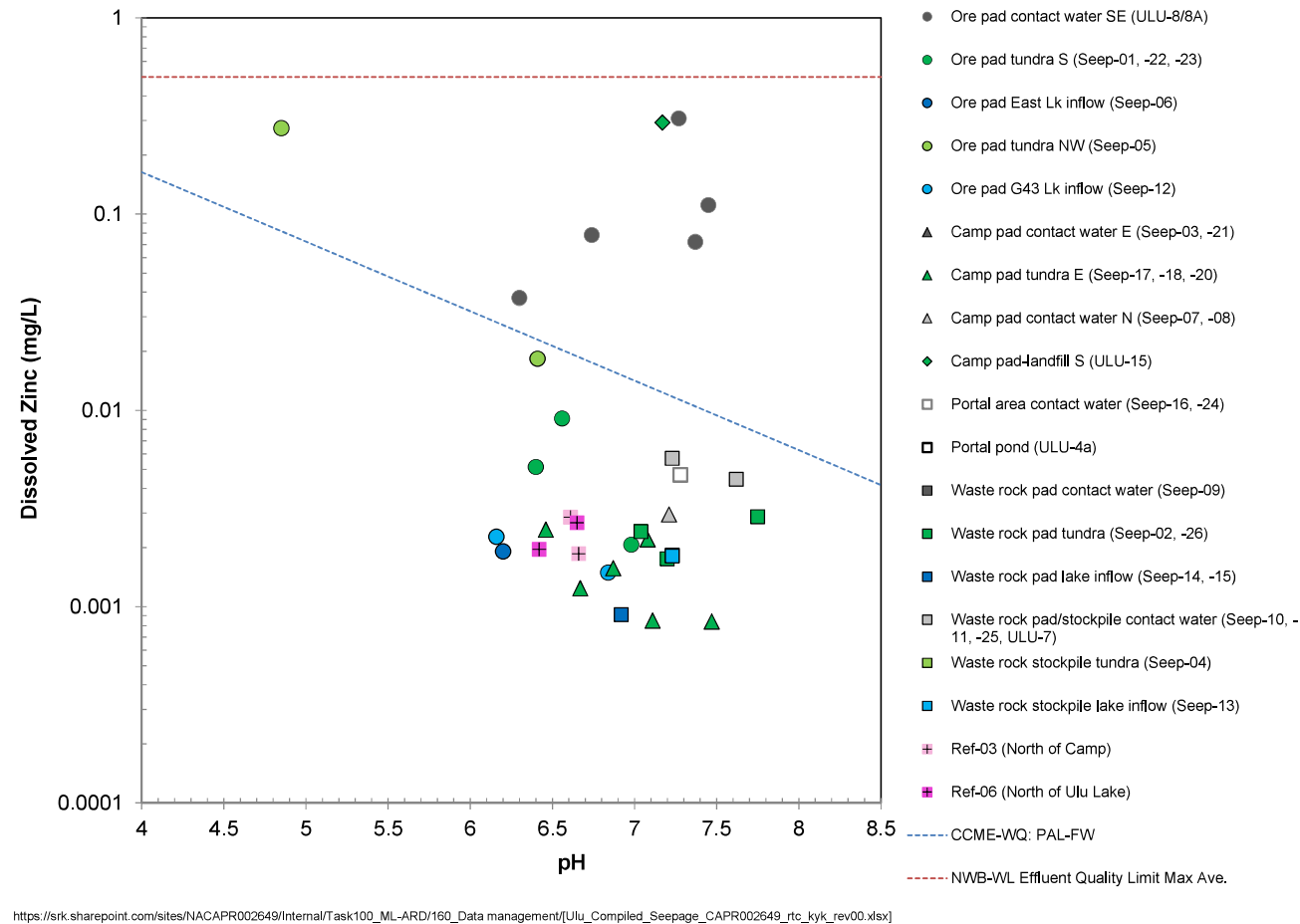


Figure 5.36. Zinc in 2023 seepage

5.3.5 Leaching Trends Over Time

Leaching trends over time are shown for key parameters that exceeded the CCME guidelines in Figure 5.37 to Figure 5.39 (and sulphate over time was shown in Figure 5.25). The vertical gridlines are shown for June 1 each year. The log scale has been removed from the y-axes to focus on the most significant data in relation to the guidelines.

The variation in concentrations within a single season, can be large (orders of magnitude) compared to variation between years. Within a single season lower concentrations are typically observed during freshet (due to dilution) and higher concentrations are expected later in the season when there is a greater thawed rock thickness, which facilitates weathering of greater volumes of rock, and reaction rates are higher due to higher temperatures. Variation between years can also be expected due to different precipitation patterns (e.g., a wet year vs a dry year). But highest concentrations between years, providing there are data from throughout the season may be an indicator of changing conditions.

In 2021 and 2022 the ore pad seeps were not sampled in July/August as the focus was on flowing water to indicate seepage. The 2020 and 2023 datasets are therefore more insightful for comparing highest concentrations in late season seepage from the ore pad. As with sulphate discussed above, nickel, selenium, and zinc concentrations were all higher in 2023 than 2020 in ore pad seepage and provide an indication that contact waters are being increasingly impacted by metal leaching associated with sulphide oxidation on both the north and south sides of the ore pad.

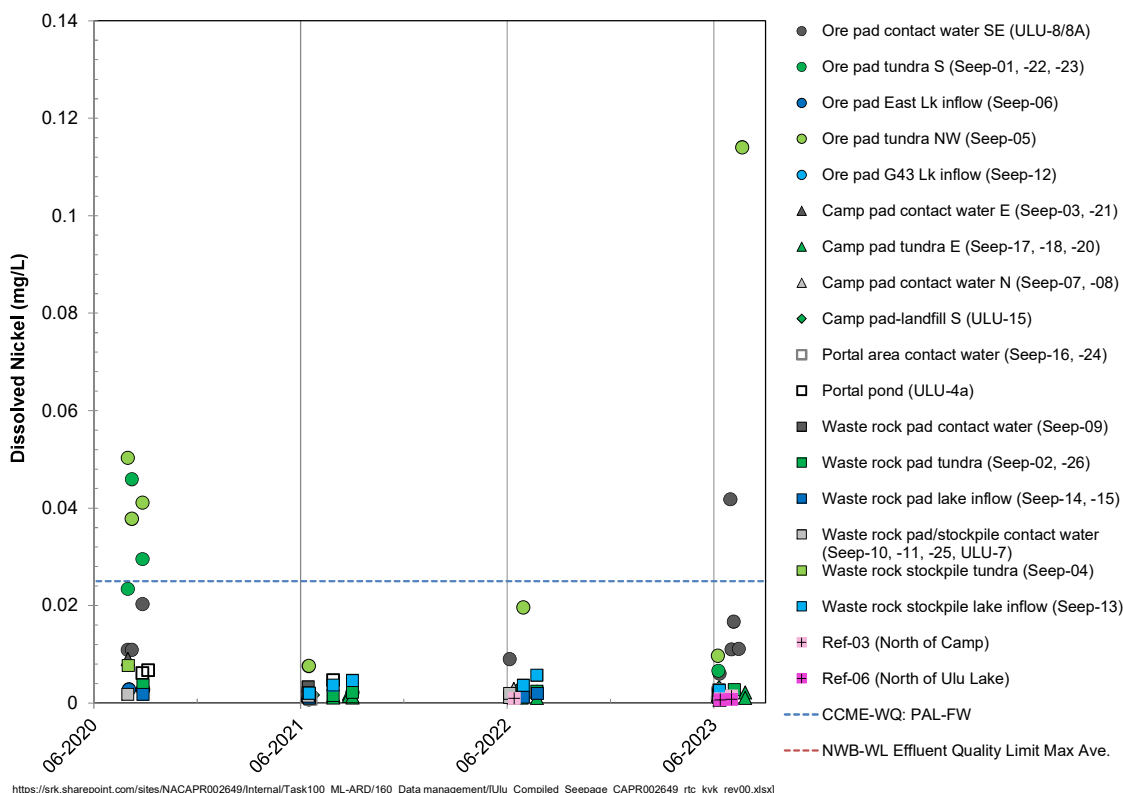


Figure 5.37. Nickel over time in seepage

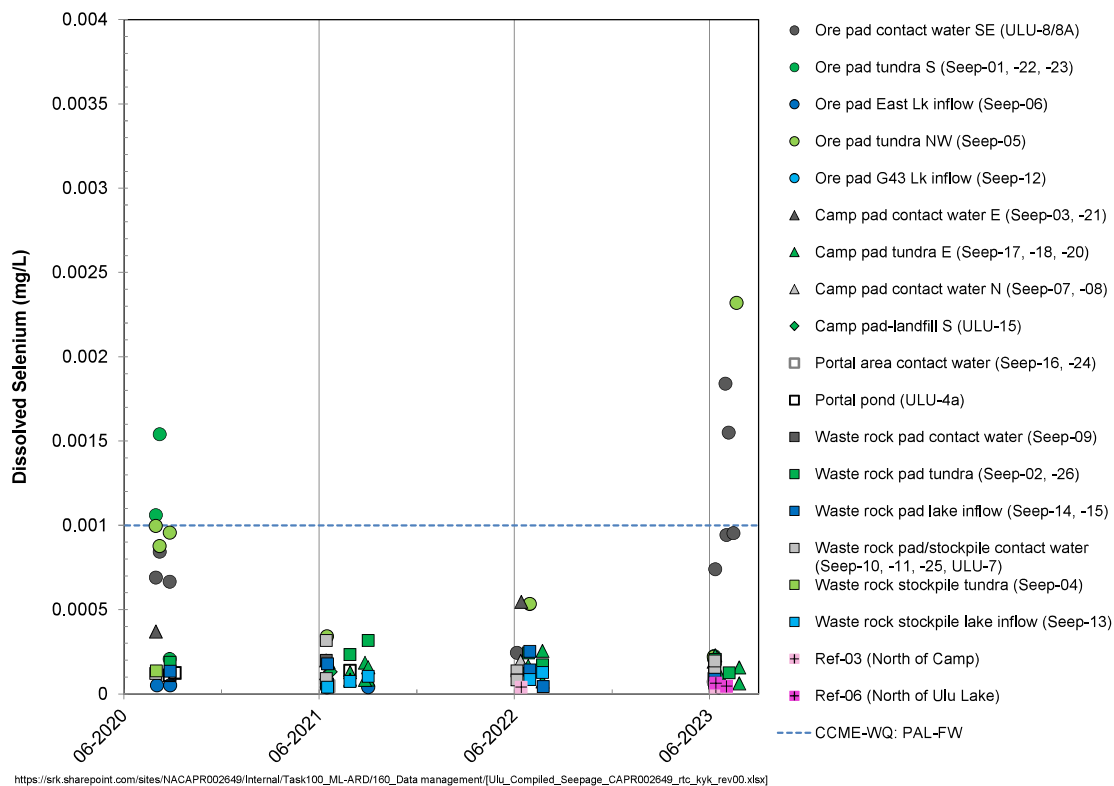


Figure 5.38. Selenium over time in seepage

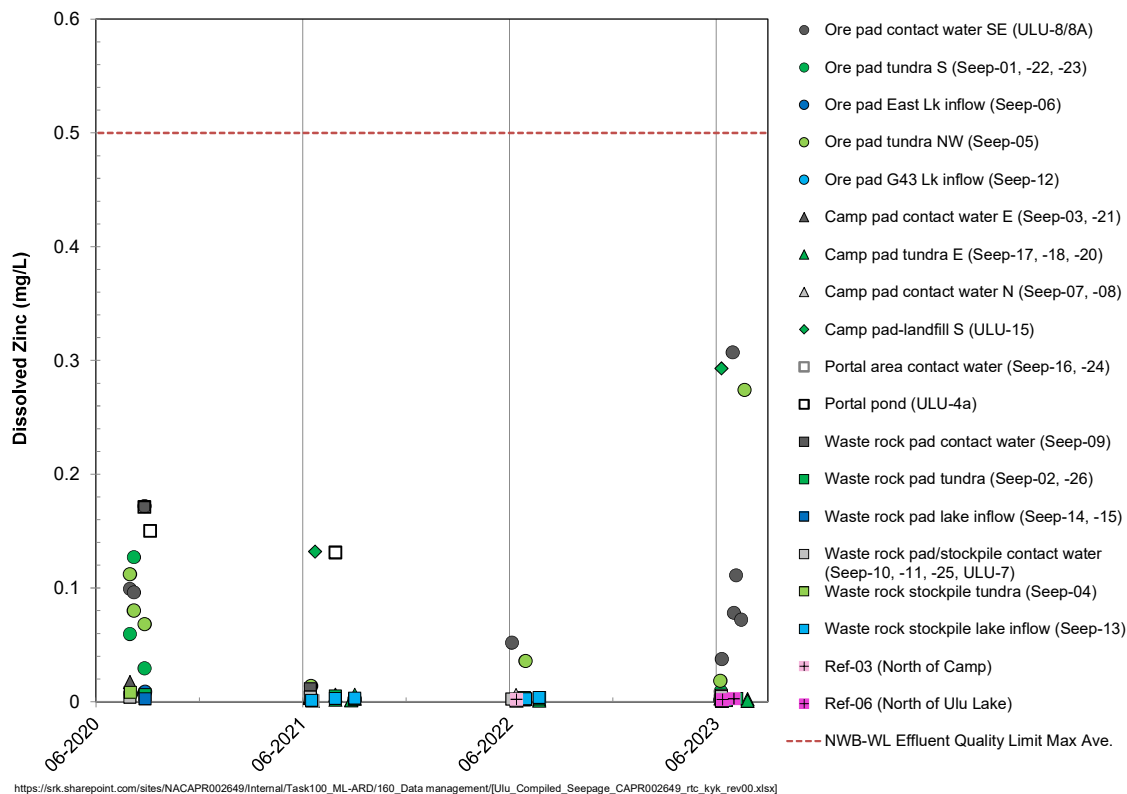


Figure 5.39. Zinc over time in seepage

6 Conclusions

The 2023 monitoring program indicates the following regarding ARD:

- The waste rock-portal area and the camp pad are not at present generating ARD.
- The south side of the ore pad is not at present generating ARD.
- ARD is present seasonally (July/August) at the northwest edge of the ore pad and impacting the tundra through sub-surface drainage. Water quality has declined there since 2020 and is expected to continue to get worse unless acid generating rock in this catchment is managed.
- In July 2023, acidic conditions in the tundra extended for at least 15 m, but less than 25 m from the north edge of the ore pad.
- Rinse pH testing of samples from test pits in the pads showed that acid generating rock has been identified in each of the pads at multiple locations, and in ore and waste rock stored on the east and west side of the portal. Drainage from the camp pad, waste rock-portal area and the south side of the ore pad is currently (in 2023) being neutralized before it exits the pads. However, as carbonates continue to be depleted, the capacity for neutralization declines and ARD is expected to become more widespread without management of the rock.
- Lowest rinse pH results were pH 2.9, and lowest pH measured in drainage in the tundra was pH 4.2 therefore this site has the potential to develop more severe pH drainage conditions.
- To reiterate estimates of timing of ARD onset provided in SRK (2022b); based on calculations of site weathering rates, and measured ARD potential of the rock in the pads, delay to onset of ARD estimates for rock not covered in esker sand ranged from less than a year to six years (from 2020) for “worst case” material, depending on the depth, and six to 16 years (from 2020) for material with average ARD potential, again depending on the depth. There is therefore a short window of opportunity to manage the rock not covered in esker sand before widespread ARD is likely.

The 2023 monitoring program indicates the following regarding element leaching:

- Dissolved arsenic, copper, lead, nickel, and zinc were all below the maximum average and maximum grab sample effluent quality limits in the NWB water licence.
- Dissolved zinc was close to the NWB-WL effluent quality limit in ore pad seepage, from both the north and south edges of the ore pad. Zinc leaching has increased since 2020 and is expected to get worse unless rock in the ore pad is managed.
- Aluminum, cadmium, copper, fluoride, iron, manganese, nickel, selenium, and zinc were present in ore pad seepage at concentrations above background and above the CCME PAL-FW water quality guidelines. Concentrations of most of these parameters would be expected to get worse if conditions became more acidic.

7 Recommendations

7.1 ML/ARD Management

SRK (2021) showed that 90% of the waste rock in the infrastructure pads was classified as potentially acid generating, therefore areas of the pads that currently contain circum-neutral pH rock will need managing to prevent ML/ARD.

Therefore, SRK recommends the rock at Ulu be managed to prevent further development of ARD and acceleration of leaching of regulated parameters. Limiting pH decline in the infrastructure pads is necessary to avoid deterioration of water quality and remain compliant with the water licence. Developing and implementing an ML/ARD management plan should therefore be a priority.

Highest priority areas that need management within a short time frame (in 2024) to limit ML/ARD are currently:

- The north edge of the ore pad where the rock was not historically covered in esker sand, including residual waste rock lying on the tundra. Rock here is currently at risk of generating more severe ARD.
- The southeast part of the ore pad where ore was previously stockpiled (this is currently at high risk of developing more severe metal leaching conditions).
- The southern edge of the ore pad where there is limited sand cover (also at risk of generating ARD and more severe metal leaching).

Additional acidic rock that has the capacity to locally generate severe contact water chemistry, but water drains into the portal pond or into the waste rock pad before it may exit the site, include:

- Waste rock just west of the portal pond and in the mine sump berm (seepage drains across the road into the waste rock pad).
- Ore above the portal. Seepage drains into the mine sump pond or the portal pond; however, the integrity of the mine sump liner is uncertain since rock was pushed into part of it, and seepage may drain into the waste rock pad.

Managing this rock may limit localized release of acidity and metals into water that may drain through the waste rock pad (acidic water draining through this pad contributes to depleting its neutralization capacity).

The drill core storage area has a significant volume of rock around pH 3 but due to the pads greater thickness (more than 3 m on the northeast side), it may remain frozen at the base providing some mitigation. Managing acid generating rock in this area is needed, but drainage chemistry is currently less problematic than ore pad drainage chemistry.

In May 2022, SRK presented Blue Star with a variety of preliminary options for managing the waste rock at Ulu to limit ML/ARD (SRK 2022f). SRK recommends that Blue Star revisit this and

decide on a long-term management plan so that rock that needs management in 2024 does not have to be re-handled in the future.

7.2 ML/ARD Monitoring

There is now a substantial ML/ARD monitoring dataset to feed into ML/ARD management planning. SRK therefore recommends that seepage monitoring as per the protocol (SRK 2022c) can be reduced to a few key monitoring stations that can be used to identify any significant changes in the site conditions. The sites are based on coverage of the different areas that generate drainage and the likelihood that flow will continue for the summer. The main ore pad seeps are included to monitor sub-surface drainage. Table 7-1 shows the recommended seeps and frequency for on-going monitoring of ML/ARD conditions at Ulu. Monitoring of the reference stations is also no longer considered necessary.

Table 7-1. Summary of On-going Seepage Monitoring Recommendations

Area	Monitoring Location	Sampling Frequency	Additional Comments
Ore pad, southwest	Seep-01	At freshet, then after significant rainfall (as defined in the protocol), or monthly if there is no significant rainfall.	
Ore pad, northwest	Seep-05		
Ore pad, southeast	ULU-8A if flowing, otherwise ULU-8		Weekly checks of ULU-8A during July are recommended to identify if flow is present, associated with thawing of the pad at depth.
Camp pad, north	Seep-17	At freshet, then after significant rainfall (as defined in the protocol), or monthly if there is no significant rainfall.	Weekly checks of the edge of the camp pad upstream of Seep-17 during July/August are recommended to identify if direct flow out of the pad is present, associated with thawing of the pad at depth. If present, then sample this upstream flowing seepage too (monthly frequency).
Waste rock portal area, east	Seep-02	At freshet, then after significant rainfall (as defined in the protocol), or monthly if there is no significant rainfall.	
Waste rock portal area, west	Seep-13		

- Continue rinse pH monitoring of the waste rock in the infrastructure pads as per the rinse pH monitoring protocol (SRK 2022d), at a frequency of every two years. This provides an “early warning system” compared to seepage monitoring, providing information on the degree of acidic weathering conditions within the pads.
- Conduct rinse pH testing of additional samples of ore above the portal pond to determine whether the two samples tested in 2023 are representative of development of acidic weathering conditions in the ore.

This report, 2023 Monitoring of Metal Leaching and Acid Rock Drainage Potential at the Ulu Camp, Ulu Gold Project, Nunavut, was prepared by


March 27, 2024
Kirsty Ketchum, PhD, PGeo (NT/NU)
Principal Consultant (Geochemistry)

and reviewed by


This signature has been used with the author's approval for the use in this document; any other use is not authorized.
Stephen Day, PGeo (NT/NU)
Practice Leader (Geochemistry)

NAPEG Permit to Practice P255.

All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

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The opinions expressed in this document have been based on the information available to SRK at the time of preparation. SRK has exercised all due care in reviewing information supplied by others for use on this project. While SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information, except to the extent that SRK was hired to verify the data.

8 References

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- SRK 2023. Monitoring of Metal Leaching and Acid Rock Drainage Potential at the Ulu Camp, Ulu Gold Project, Nunavut, Canada. Prepared for Blue Star Gold Corp. Project number CAPR001821. Final report issued February 2023.
- Wolfden Resources Inc. 2005 Annual Report, Ulu Gold Project, Nunavut.

Appendix A – Test Pit Photo Logs

Location	Ore pad
Samples Collected	Depth (m)
TP23-01	0.88

Interval/sample	From (m)	To (m)	Description
	0	0.58	Sand
TP23-01	0.58	0.88+	Grey metabasalt



Photo 1: TP23-01

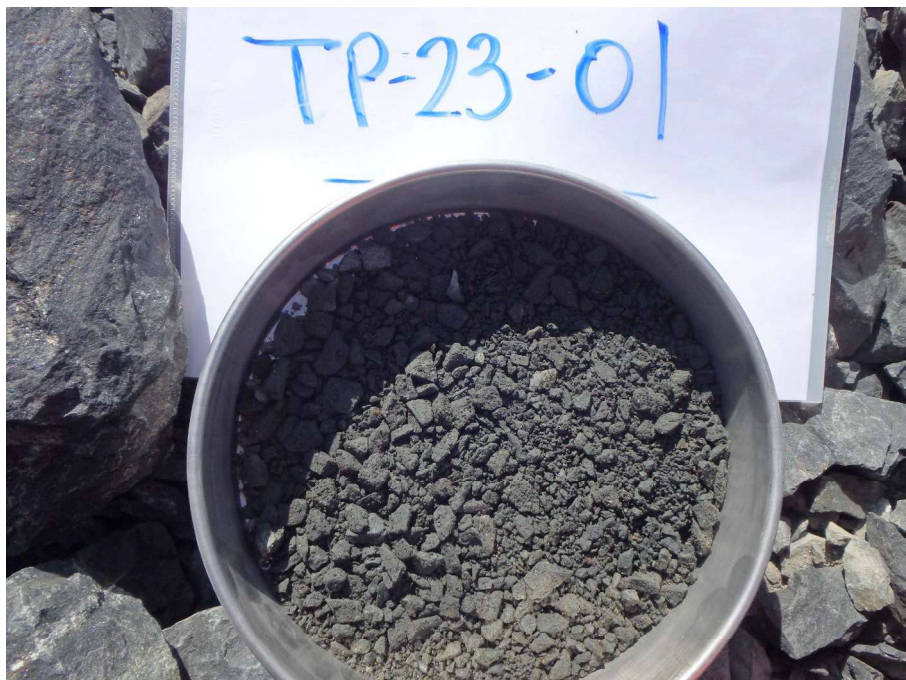


Photo 2: Sample before 2mm sieving

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-01	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Ore pad
Samples Collected	Depth (m)
TP23-02A	1.30
TP23-02B	1.15

Interval/sample	From (m)	To (m)	Description
TP23-02A	0	1.15	Grey metabasalt
TP23-02B	1.15	1.90	Orange rock
	1.9+		Outcrop or large glacial boulder

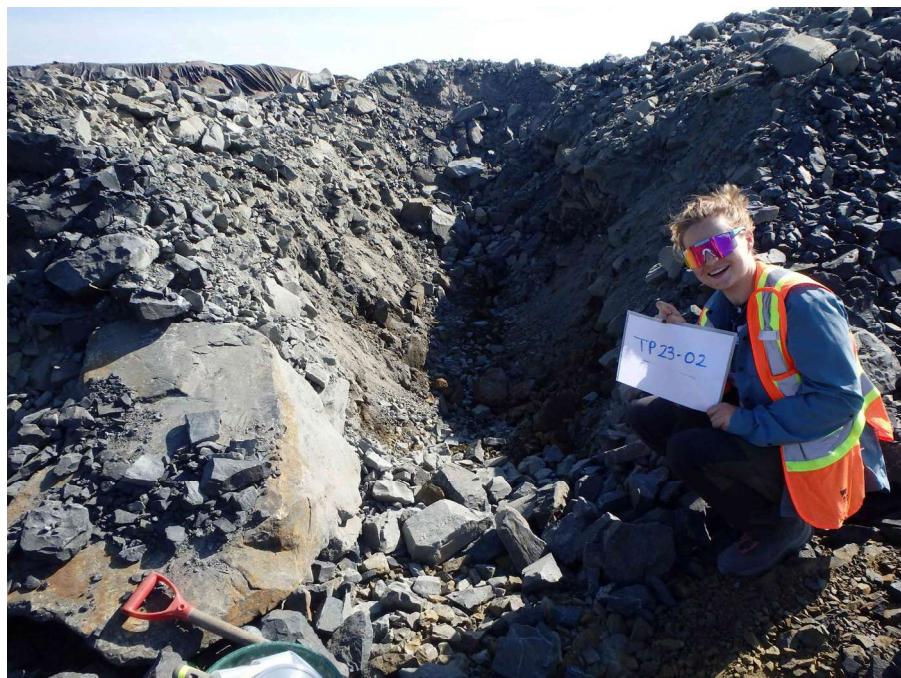


Photo 1: TP23-02



Photo 2: Orange strongly oxidized rock

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-02	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Ore pad		Interval/sample	From (m)	To (m)	Description
Samples Collected	Depth (m)		TP23-03	0	1.90	Grey metabasalt
TP23-03	1.35			1.9+		Tundra soil



Photo 1: TP23-03

	Ulu ML/ARD Monitoring		Test Pits (July 2023) Photo Log	
			Test Pit TP23-03	
	AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Ore pad		Interval/sample	From (m)	To (m)	Description
Samples Collected	Depth (m)		TP23-04	0	1.5	Grey metabasalt
TP23-04	0.90			1.5+		Tundra soil



Photo 1: TP23-04



Photo 2: Grey metabasalt

Location	Ore pad
Samples Collected	Depth (m)
TP23-05	0.85

Interval/sample	From (m)	To (m)	Description
	0	0.45	Sand
TP23-05	0.45	1.4	Grey metabasalt



Photo 1: TP23-05



Photo 2: Grey metabasalt

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-05	
	AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx	Date: March 2023	Appendix A

Location	Ore pad
Samples Collected	Depth (m)
TP23-06A	0.75
TP23-06B	1.20

Interval/sample	From (m)	To (m)	Description
	0	0.42	Sand
TP23-06A	0.42	0.75	Orange rock
TP23-06B	0.75	1.45	Grey metabasalt



Photo 1: TP23-06



Photo 2: Orange strongly oxidized rock (some sand also present)

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-06	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Ore pad
Samples Collected	Depth (m)
TP23-07	0.60

Interval/sample	From (m)	To (m)	Description
	0	0.02	Sand
TP23-07	0.02	1.25	Grey metabasalt



Photo 1: TP23-07

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-07	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Ore pad
Samples Collected	Depth (m)
TP23-08	0.60

Interval/sample	From (m)	To (m)	Description
	0	0.20	Sand
TP23-08	0.2	0.60+	Grey metabasalt



Photo 1: TP23-08



Photo 2: Grey metabasalt (some sand present)

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-08	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Ore pad
Samples Collected	Depth (m)
TP23-09	1.80

Interval/sample	From (m)	To (m)	Description
TP23-09	0	2.0	Orange rock
	2+		Frozen ground



Photo 1: TP23-09



Photo 2: Orange strongly oxidized rock sampled with excavator bucket

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-09	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Ore pad
Samples Collected	Depth (m)
TP23-10	1.20

Interval/sample	From (m)	To (m)	Description
TP23-10	0	1.35	Grey metabasalt



Photo 1: TP23-10



Photo 2: Grey metabasalt sampled with excavator bucket

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-10	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Ore pad
Samples Collected	Depth (m)
TP23-11	0.70

Interval/sample	From (m)	To (m)	Description
	0	0.3	Sand and rock mixture
TP23-11	0.3	1.2	Grey metabasalt
	1.2+		Frozen ground



Photo 1: TP23-11



Photo 2: Grey metabasalt

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-11	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Portal area (relocated ore)
Samples Collected	Depth (m)
TP23-12	0.15

Interval/sample	From (m)	To (m)	Description
TP23-12	0	0.2	Ore with grey-brown fines



Photo 1: TP23-12

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-12	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Waste rock pad
Samples Collected	Depth (m)
TP23-13A	0.50
TP23-13B	0.70

Interval/sample	From (m)	To (m)	Description
	0	0.35	Mixed sand and grey rock
TP23-13A	0.35	0.55	Orange rock
TP23-13B	0.55	0.8	Grey rock
	0.8+		Glacial till



Photo 1: TP23-13



Photo 2: Strongly oxidized orange rock

	Ulu ML/ARD Monitoring		Test Pits (July 2023) Photo Log	
			Test Pit TP23-13	
	AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Waste rock pad	Interval/sample	From (m)	To (m)	Description
Samples Collected	Depth (m)	TP23-14	0	0.96	Sand and glacial boulders
TP23-14	Not sampled				



Photo 1: TP23-14

Location	Waste rock pad
Samples Collected	Depth (m)
TP23-15	0.50

Interval/sample	From (m)	To (m)	Description
TP23-15	0	0.8	Brown-grey rock
	0.8+		Tundra soil



Photo 1: TP23-15



Photo 2: Brown-grey rock

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-15	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Waste rock pad
Samples Collected	Depth (m)
TP23-16A	0.50
TP23-16B	0.45

Interval/sample	From (m)	To (m)	Description
TP23-16A	0	1.4	Grey metabasalt
TP23-16B	0	1.4	Orange rock
	1.4+		Tundra soil



Photo 1: TP23-16



Photo 2: Strongly oxidized orange rock

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-16	
	AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx	Date: March 2023	Appendix A

Location	Waste rock pad
Samples Collected	Depth (m)
TP23-17	0.10
TP23-17	0.50

Interval/sample	From (m)	To (m)	Description
TP23-17	0	0.05	Mixed grey rock and sand
	0.05	0.2	Orange rock
	0.2	0.75	Grey metabasalt
	0.75+		Tundra soil



Photo 1: TP23-17



Photo 2: Strongly oxidized orange rock overlying grey metabasalt

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-17	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Portal area (relocated ore)
Samples Collected	Depth (m)
TP23-18	0.20

Interval/sample	From (m)	To (m)	Description
TP23-18	0	0.2	Ore with grey-brown fines



Photo 1: TP23-18

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-18	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Portal area (berm)
Samples Collected	Depth (m)
TP23-19	0.20

Interval/sample	From (m)	To (m)	Description
TP23-19	0	0.4	Orange strongly oxidized rock



Photo 1: TP23-19

	Ulu ML/ARD Monitoring		Test Pits (July 2023) Photo Log	
			Test Pit TP23-19	
	AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Portal area (SW of pond)
Samples Collected	Depth (m)
TP23-20	0.50

Interval/sample	From (m)	To (m)	Description
TP23-20	0	0.7	Strongly oxidized orange rock
	0.7+		Sand



Photo 1: TP23-20

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-20	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Portal area (SW of pond)
Samples Collected	Depth (m)
TP23-21	0.50

Interval/sample	From (m)	To (m)	Description
TP23-21	0	0.7	Strongly oxidized orange rock
	0.7+		Tundra soil/sand



Photo 1: TP23-21

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-21	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Waste rock pile	Interval/sample	From (m)	To (m)	Description
Samples Collected	Depth (m)	TP23-22			NA
TP23-22	NA				

No test pit was dug for TP23-22

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-22	
	AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx	Date: March 2023	Appendix A

Location	Camp pad
Samples Collected	Depth (m)
TP23-23A	0.30 (from orange layer)
TP23-23B	0.45 (grey rock)

Interval/sample	From (m)	To (m)	Description
TP23-23A	0	0.35-0.7	Mostly grey rock with intermittent 10-20 cm thick orange layer
	0.7	1.5	Sand



Photo 1: TP23-23

	Ulu ML/ARD Monitoring		Test Pits (July 2023) Photo Log
			Test Pit TP23-23
	AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023 Appendix A

Location	Camp pad (drill core storage area)
Samples Collected	Depth (m)
TP23-24A	<0.60
TP23-24B	1.0

Interval/sample	From (m)	To (m)	Description
TP23-24A	0	0.6	Brown oxidized rock
TP23-24B	0.6	1.58	Grey rock



Photo 1: TP23-24

	Ulu ML/ARD Monitoring		Test Pits (July 2023) Photo Log
			Test Pit TP23-24
	AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023 Appendix A

Location	Camp pad (drill core storage area)	Interval/sample	From (m)	To (m)	Description
Samples Collected	Depth (m)	TP23-25A	0	2	Strongly oxidized orange rock
TP23-25A	1.0	TP23-25C	2+		Grey rock
TP23-25B	0.50	TP23-25B	0	2	Grey rock
TP23-25C	2.0				



Photo 1: TP23-25

	Ulu ML/ARD Monitoring		Test Pits (July 2023) Photo Log	
			Test Pit TP23-25	
	AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Camp pad
Samples Collected	Depth (m)
TP23-26	1.0

Interval/sample	From (m)	To (m)	Description
TP23-26	0	1.5	Grey rock



Photo 1: TP23-26

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-26	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Camp pad		Interval/sample	From (m)	To (m)	Description
Samples Collected	Depth (m)			0	0.35	Sand mixed in with grey rock
TP23-27	1.0		TP23-27	0.35	1.75	Grey rock



**Photo 1: TP23-27 grey rock sampled
(no photo of test pit)**

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-27	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

Location	Camp pad	Interval/sample	From (m)	To (m)	Description
Samples Collected	Depth (m)				
TP23-28	0.60				
		TP23-28	0.25	0.8	Coarse rock and sand
			0.8+		Grey rock
					Tundra soil



Photo 1: TP23-28

Location	Camp pad
Samples Collected	Depth (m)
TP23-29	<1.08

Interval/sample	From (m)	To (m)	Description
TP23-29	0	1.08	Brown oxidized rock
	1.08+		Soil and bedrock



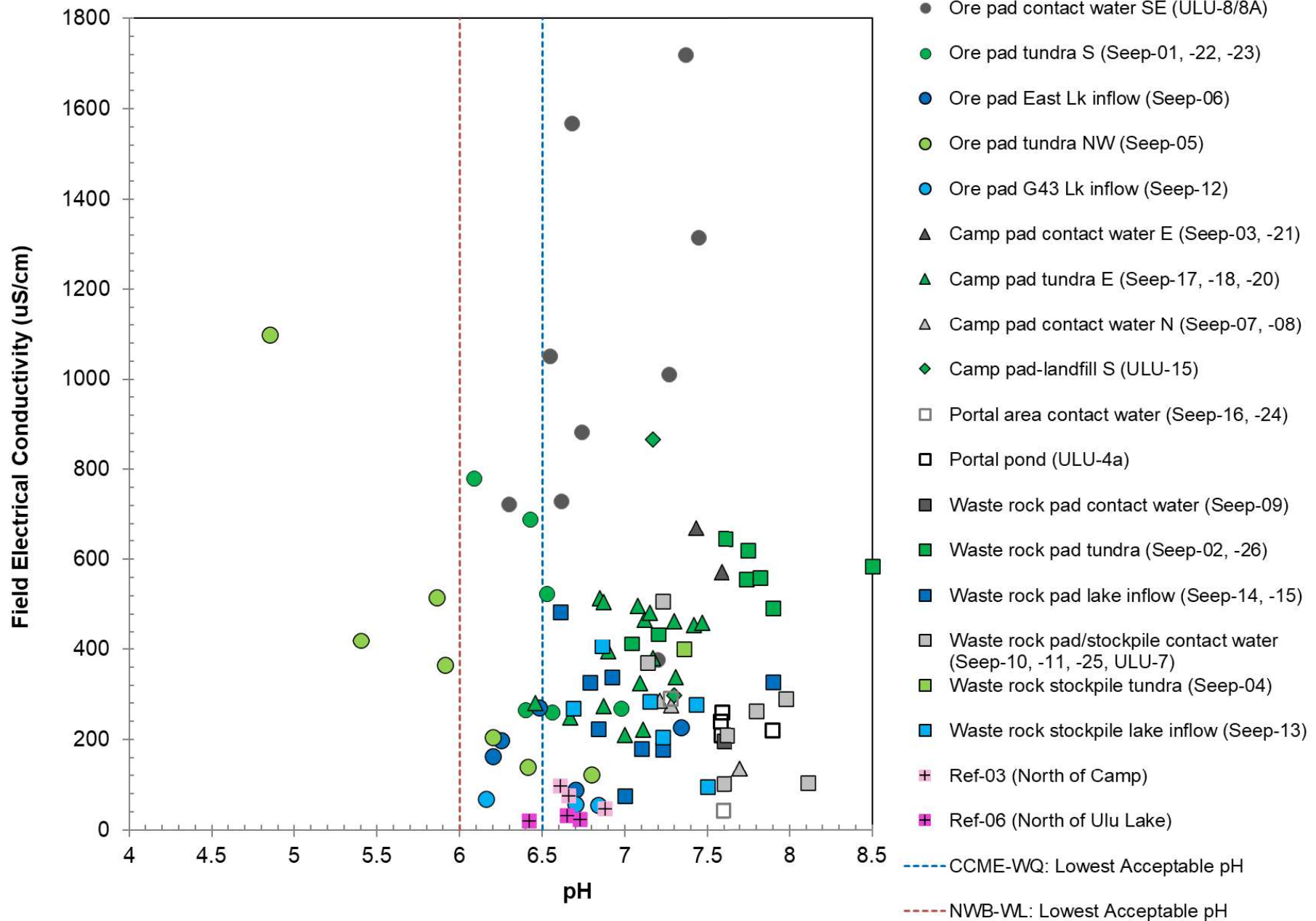
Photo 1: TP23-29

	Ulu ML/ARD Monitoring	Test Pits (July 2023) Photo Log	
		Test Pit TP23-29	
AppA_Ulu Test_Pit_Photo_Log_CAPR002649_Rev00.pptx		Date: March 2023	Appendix A

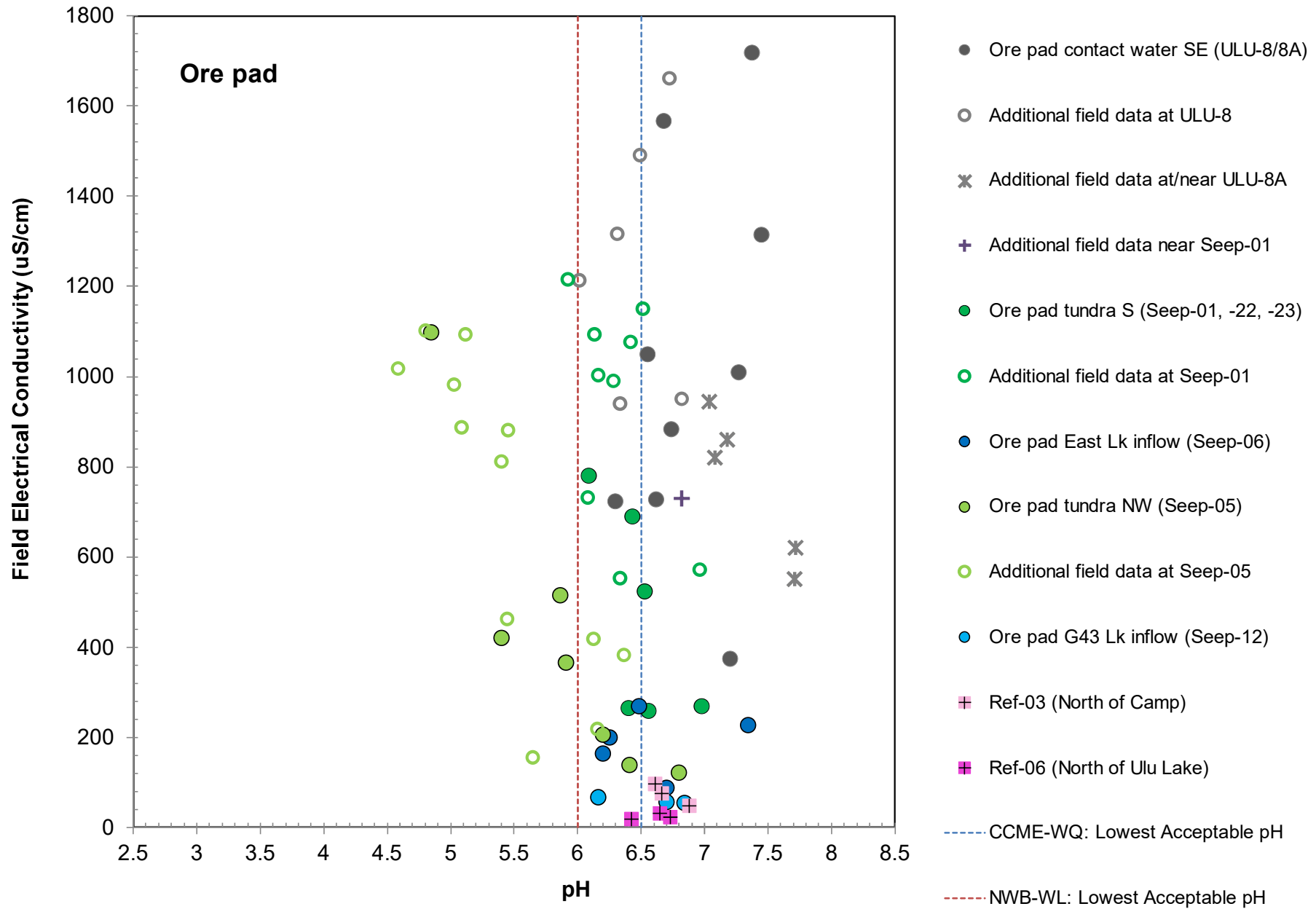
Location	Ore pad (just off north edge)	Interval/sample	From (m)	To (m)	Description
Samples Collected	Depth (m)				
TP23-30	0.20				



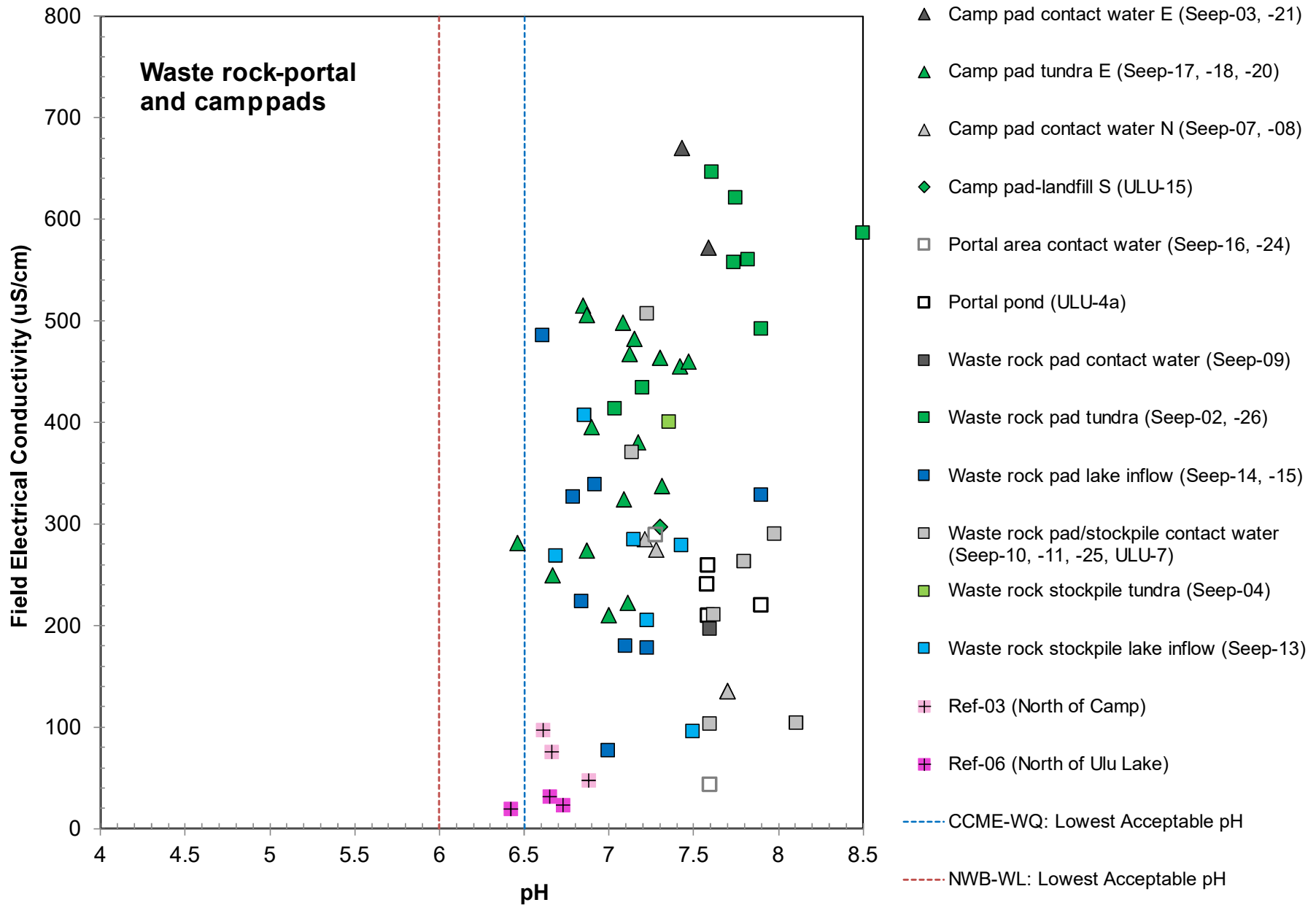
Photo 1: TP23-30



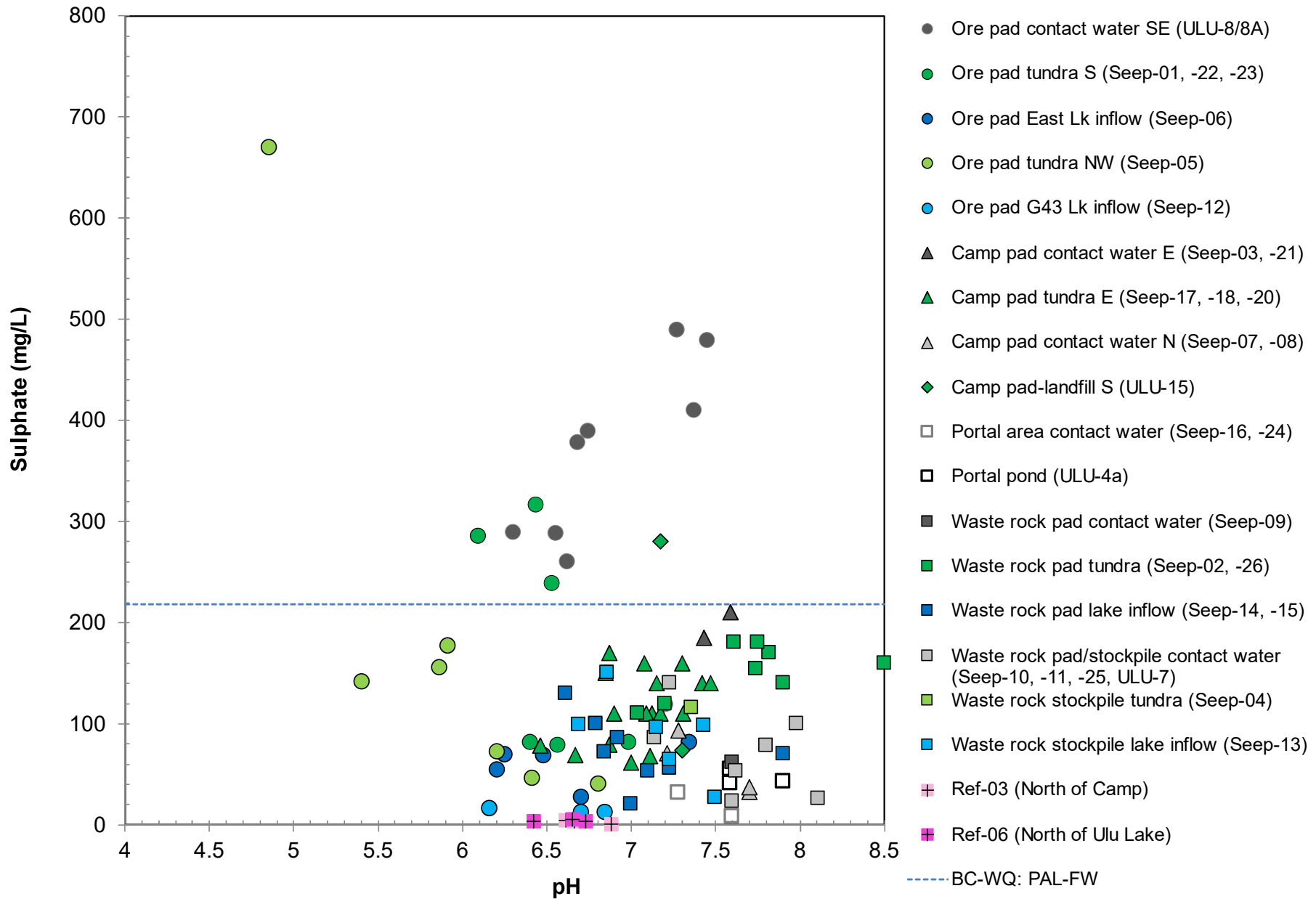
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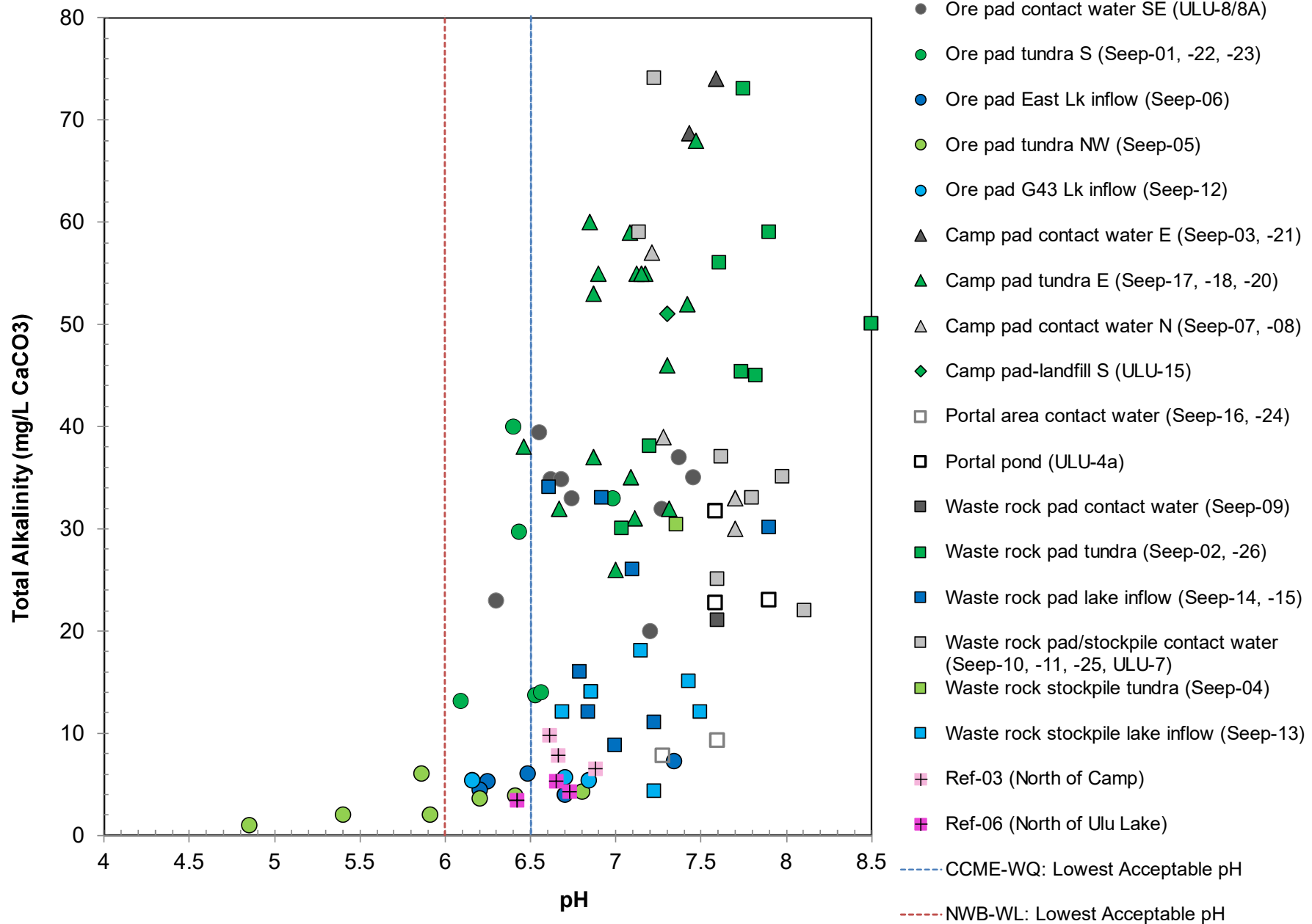
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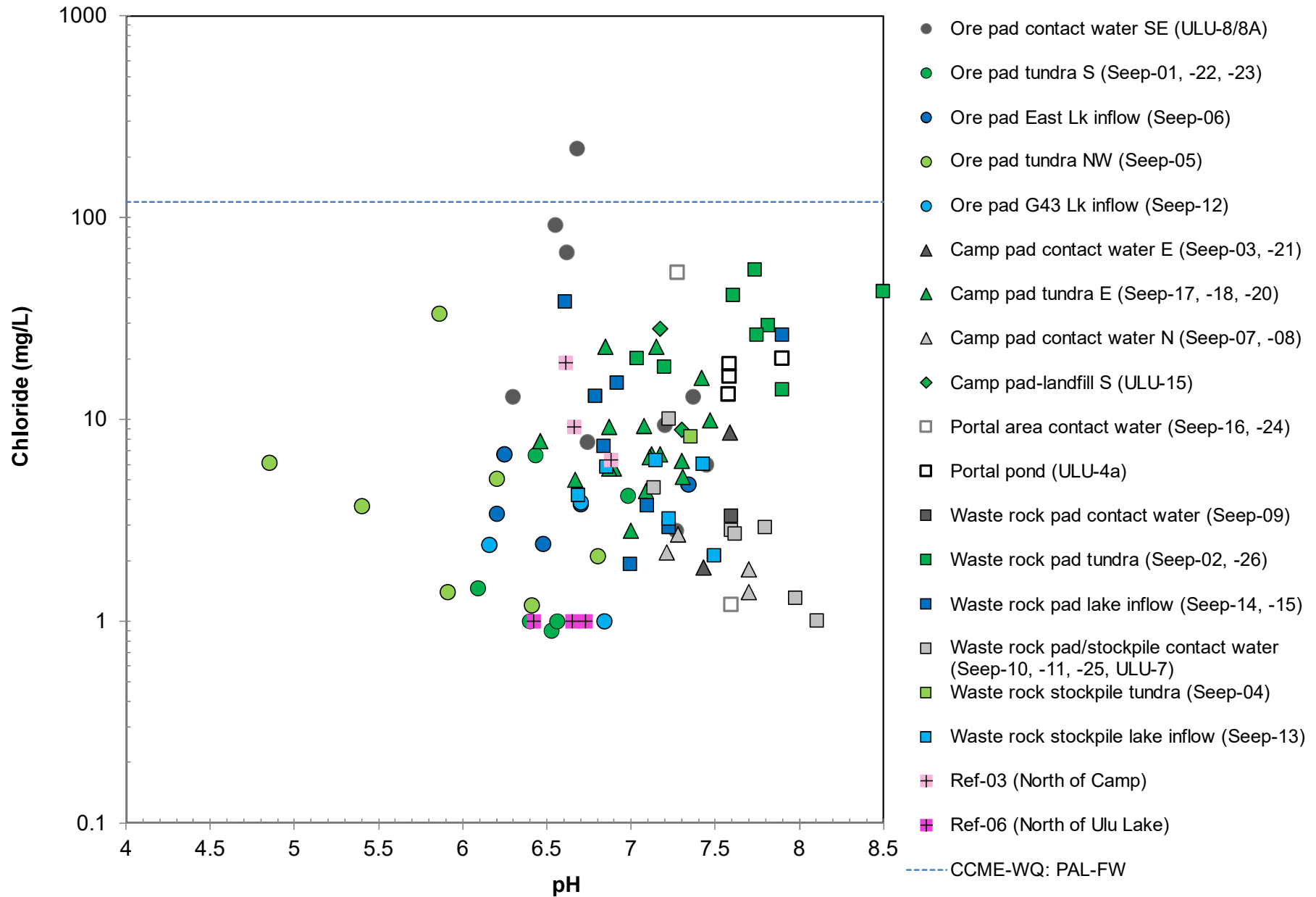
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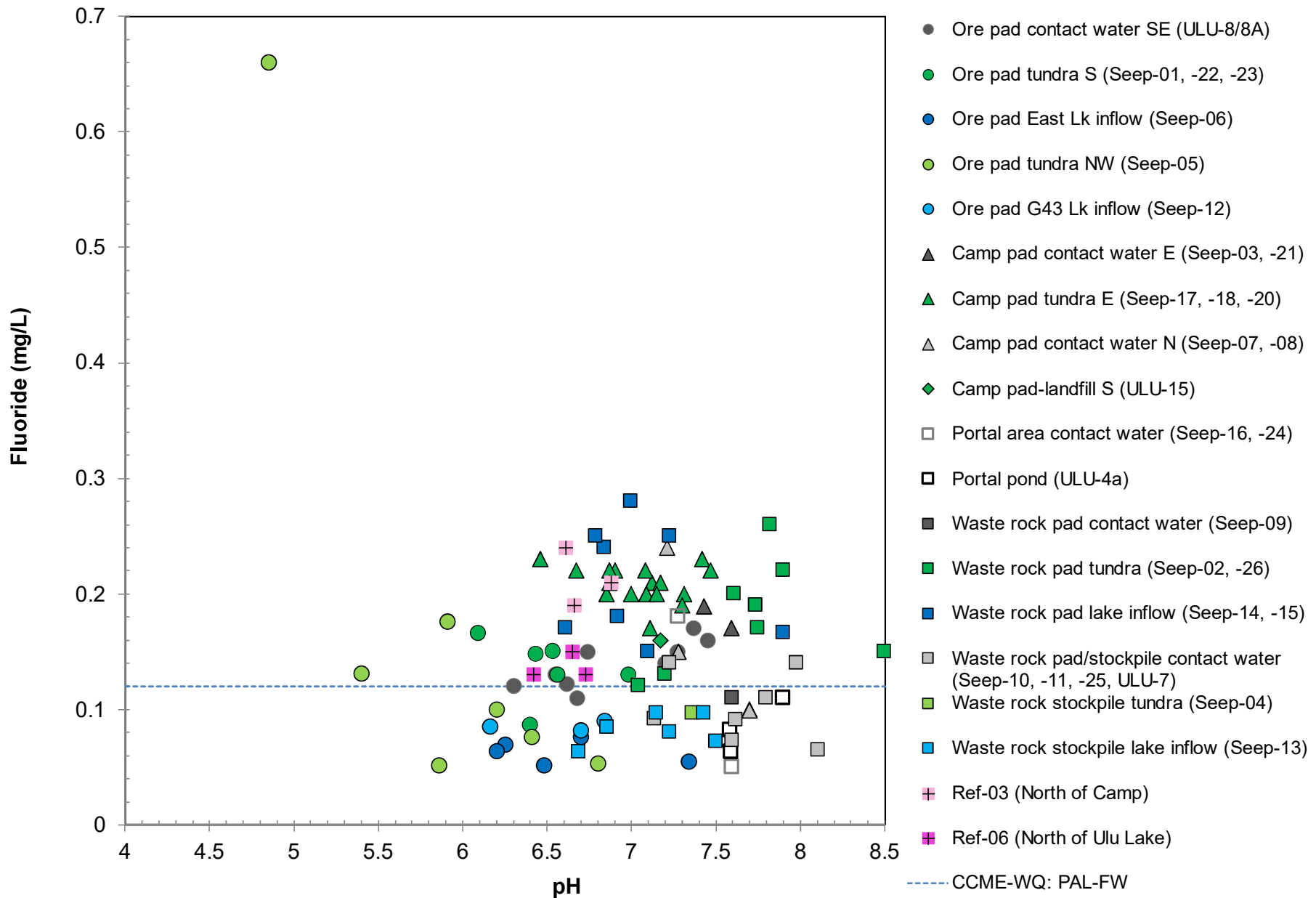
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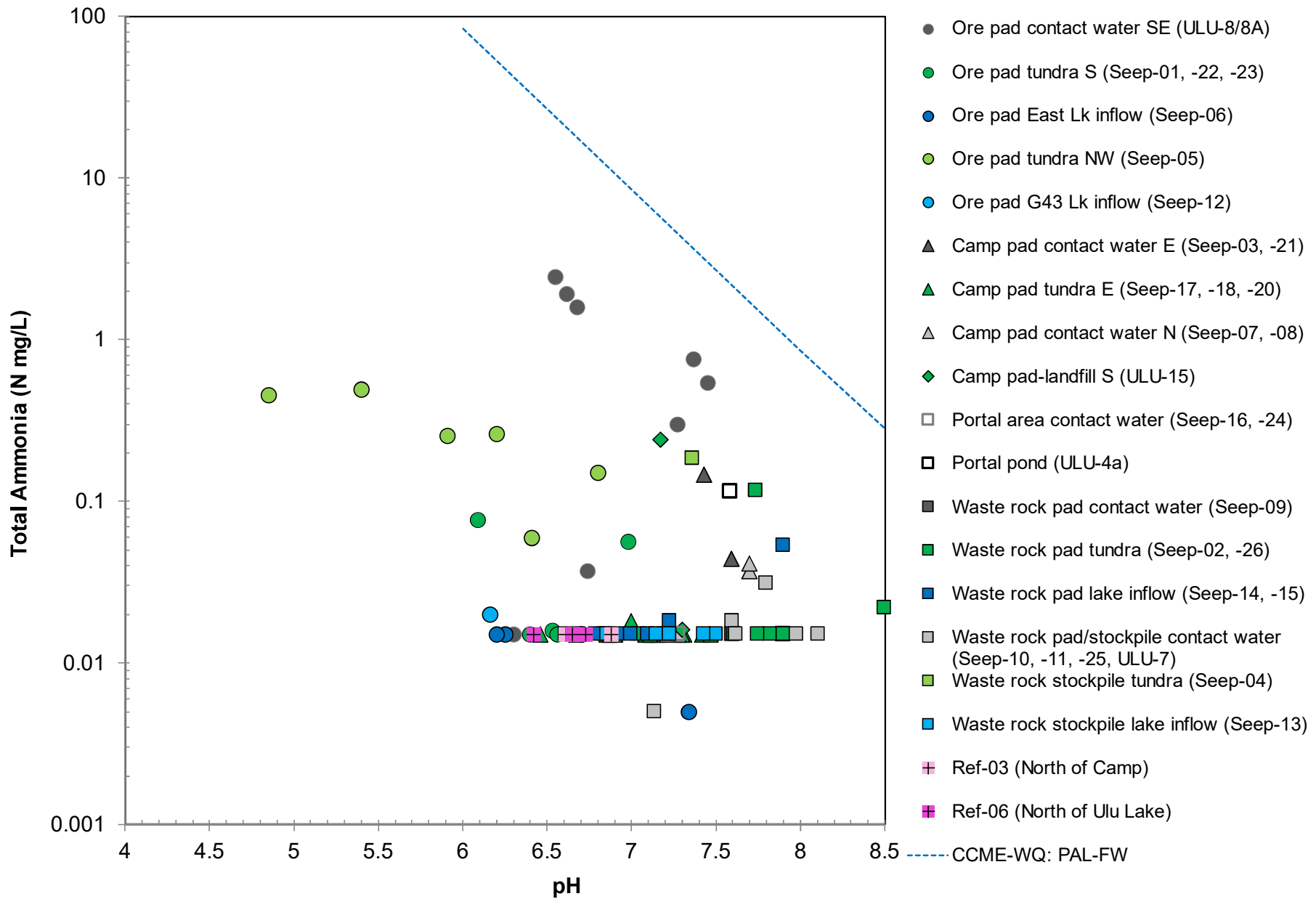
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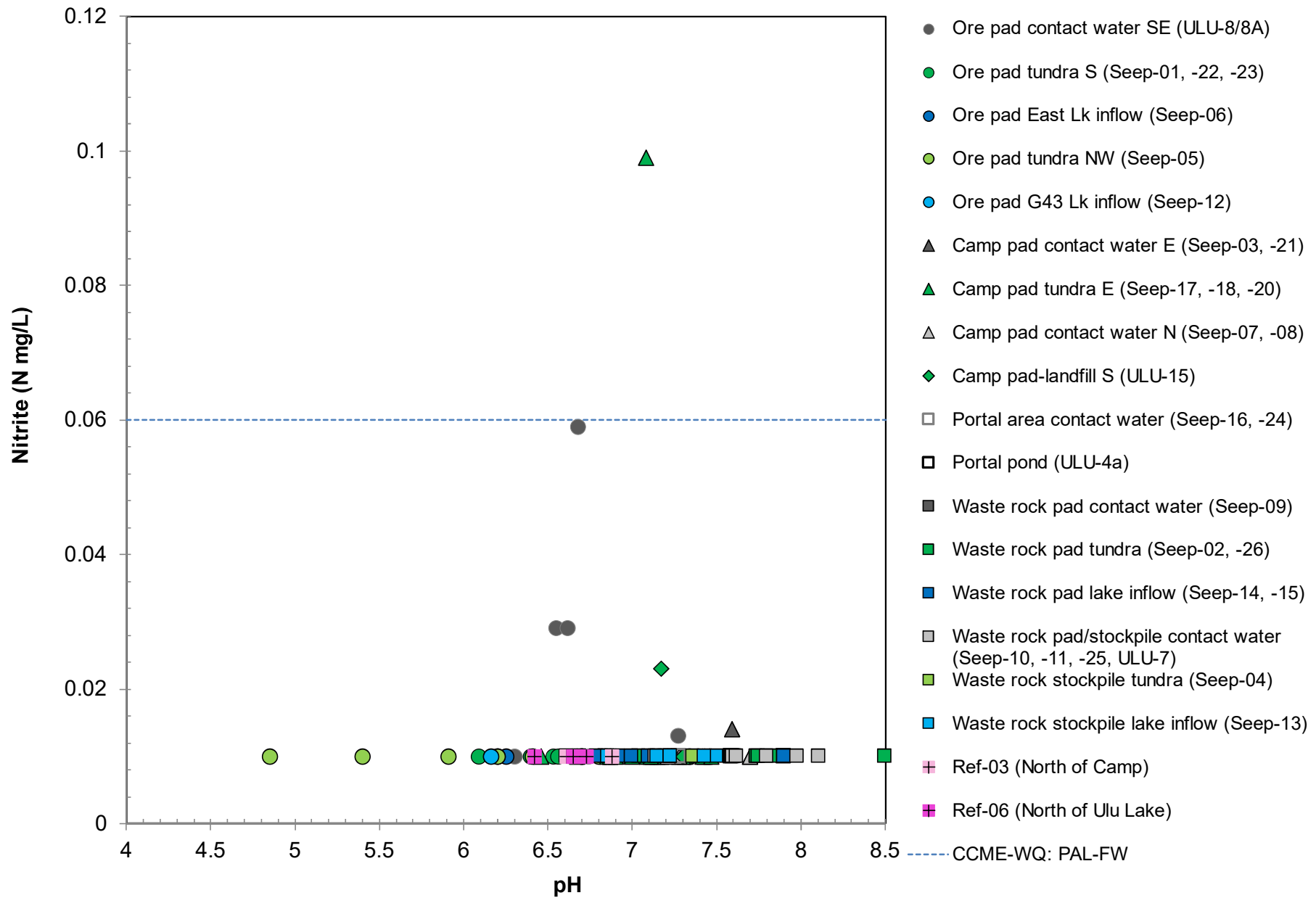
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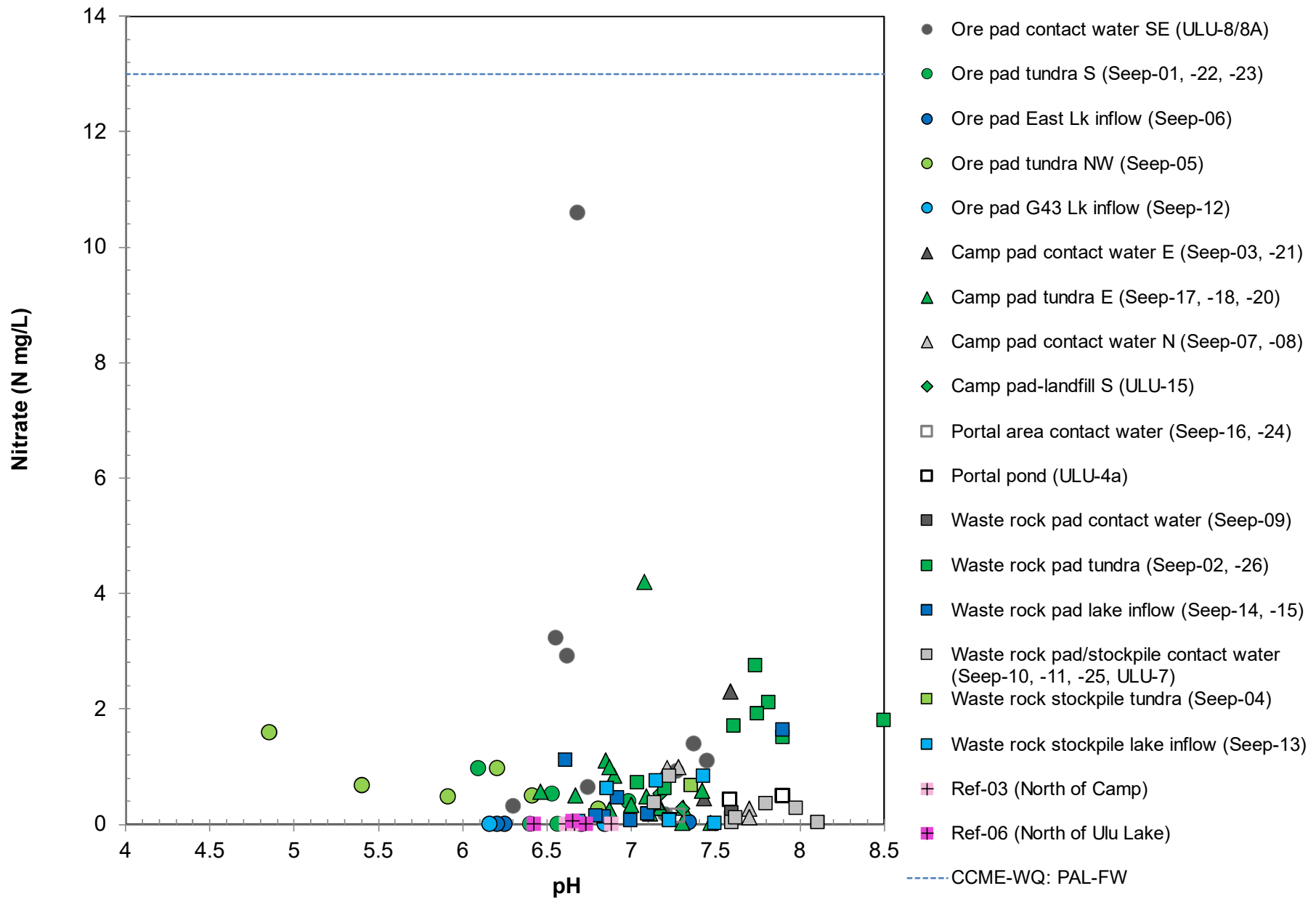
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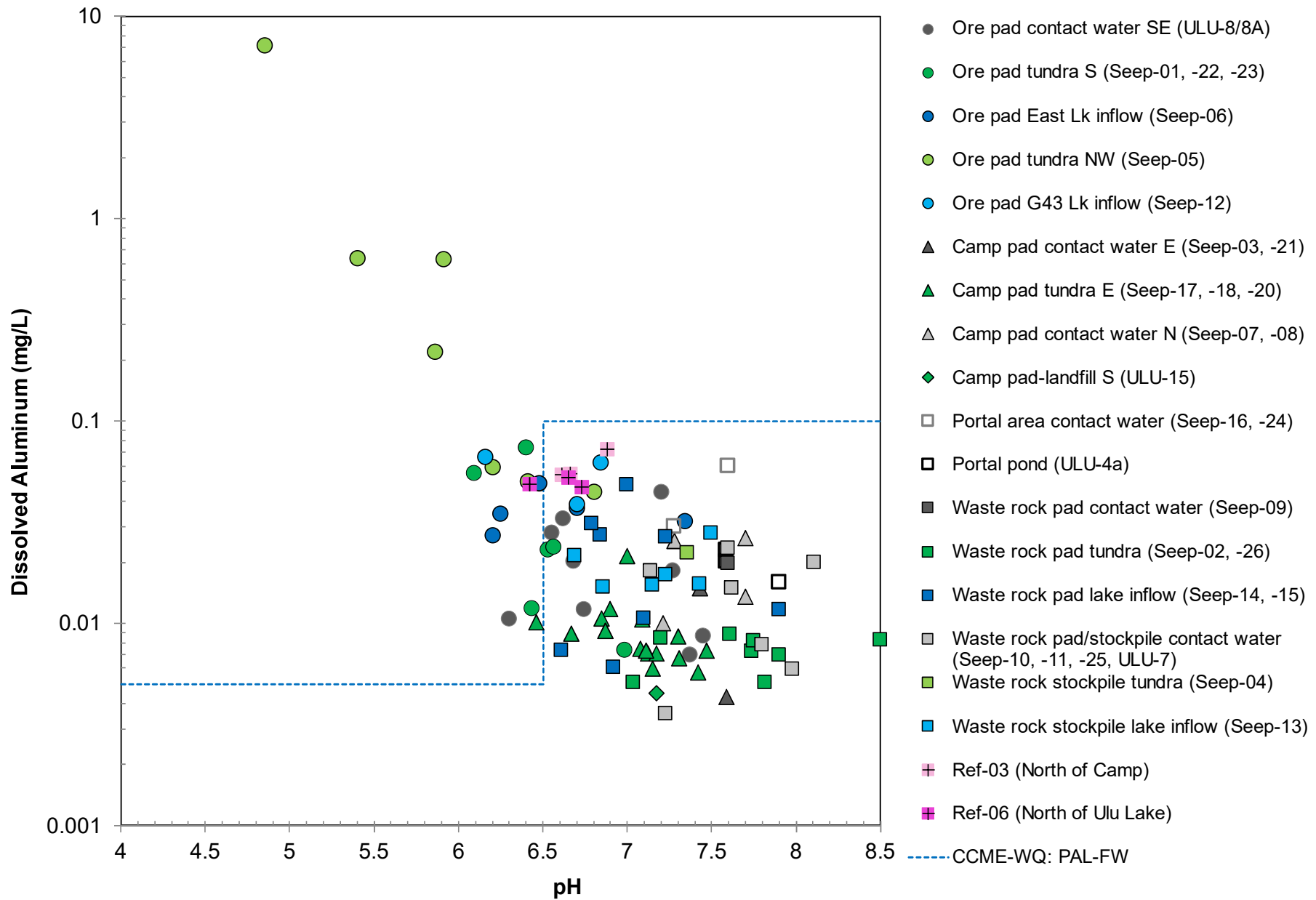
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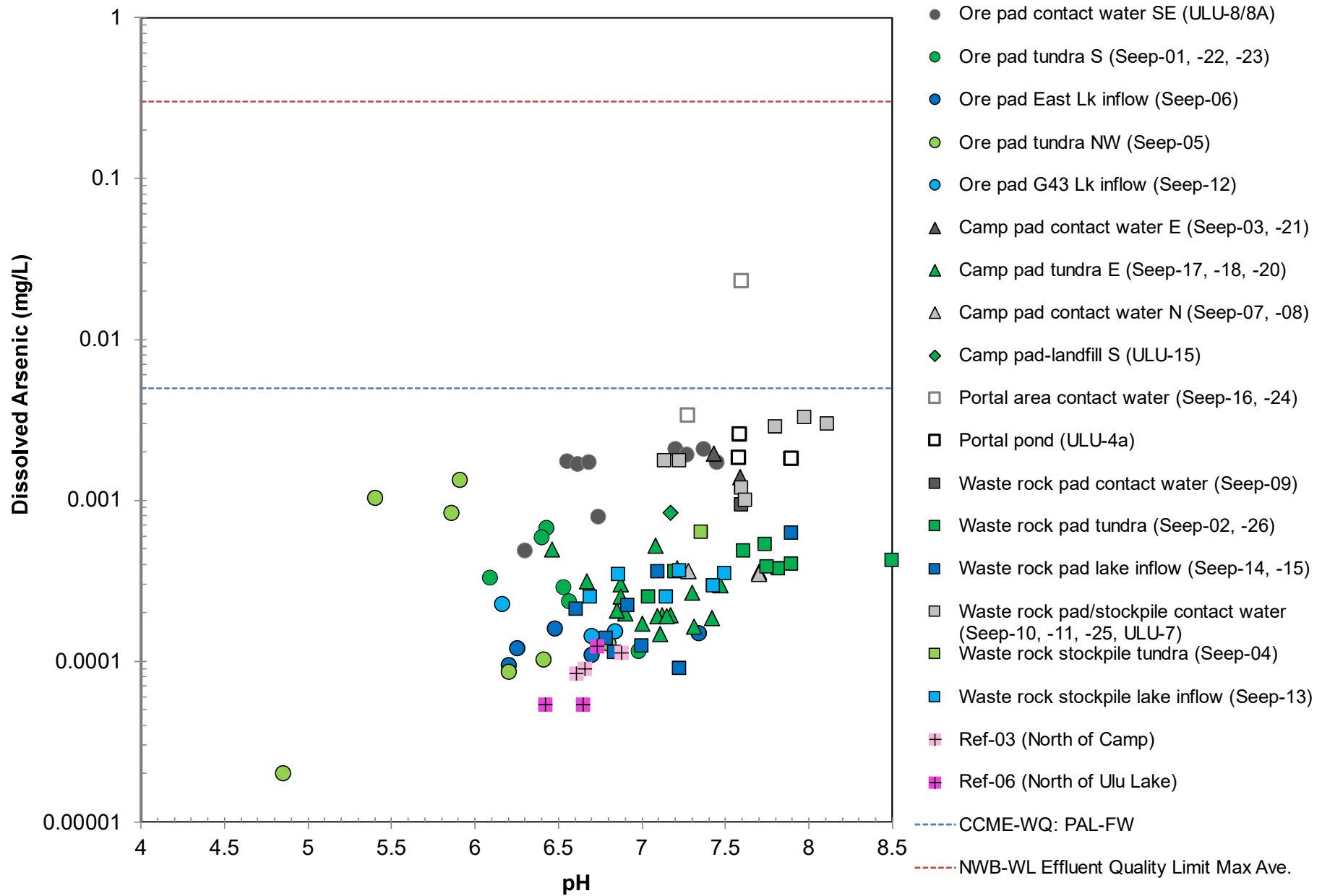
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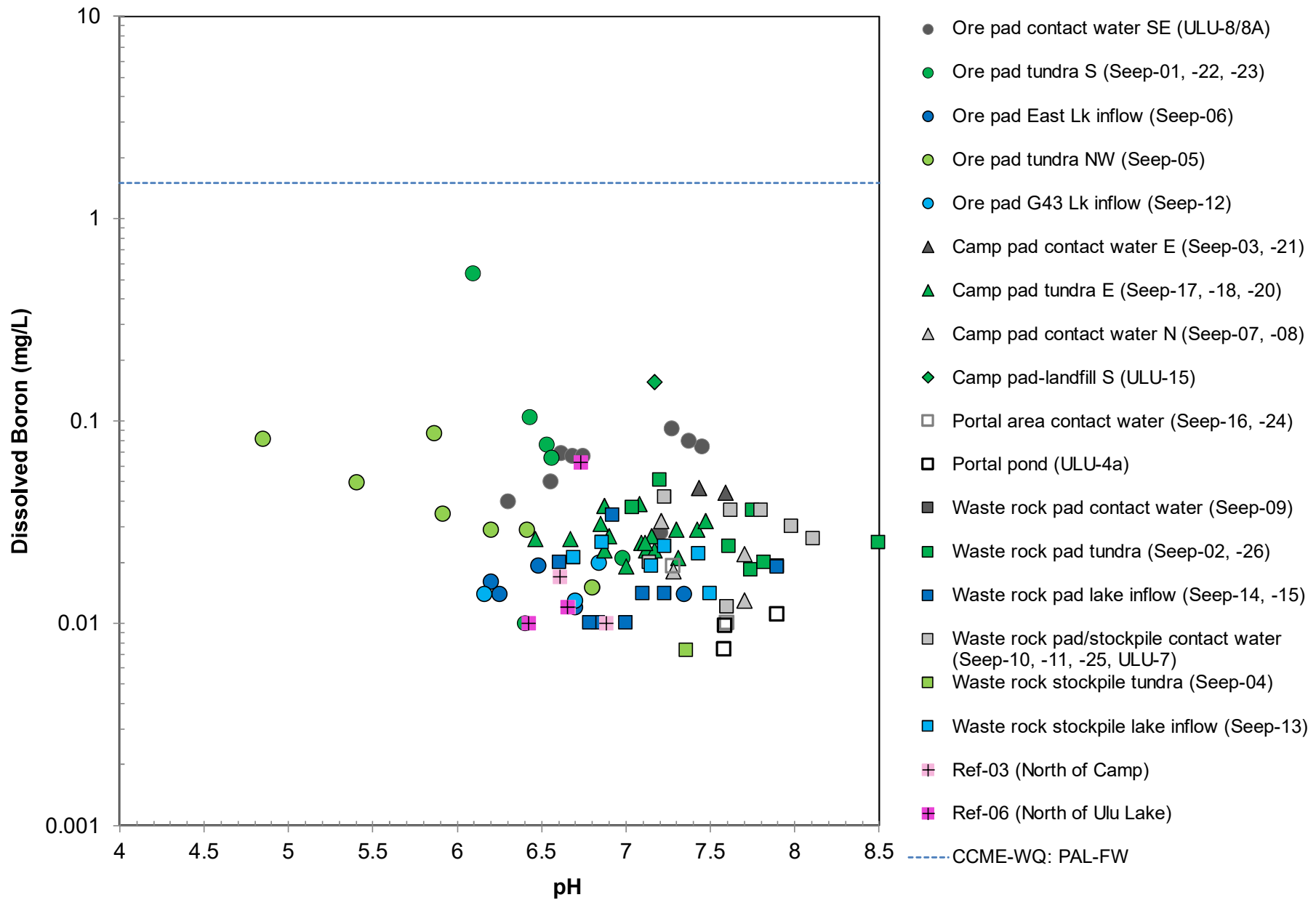
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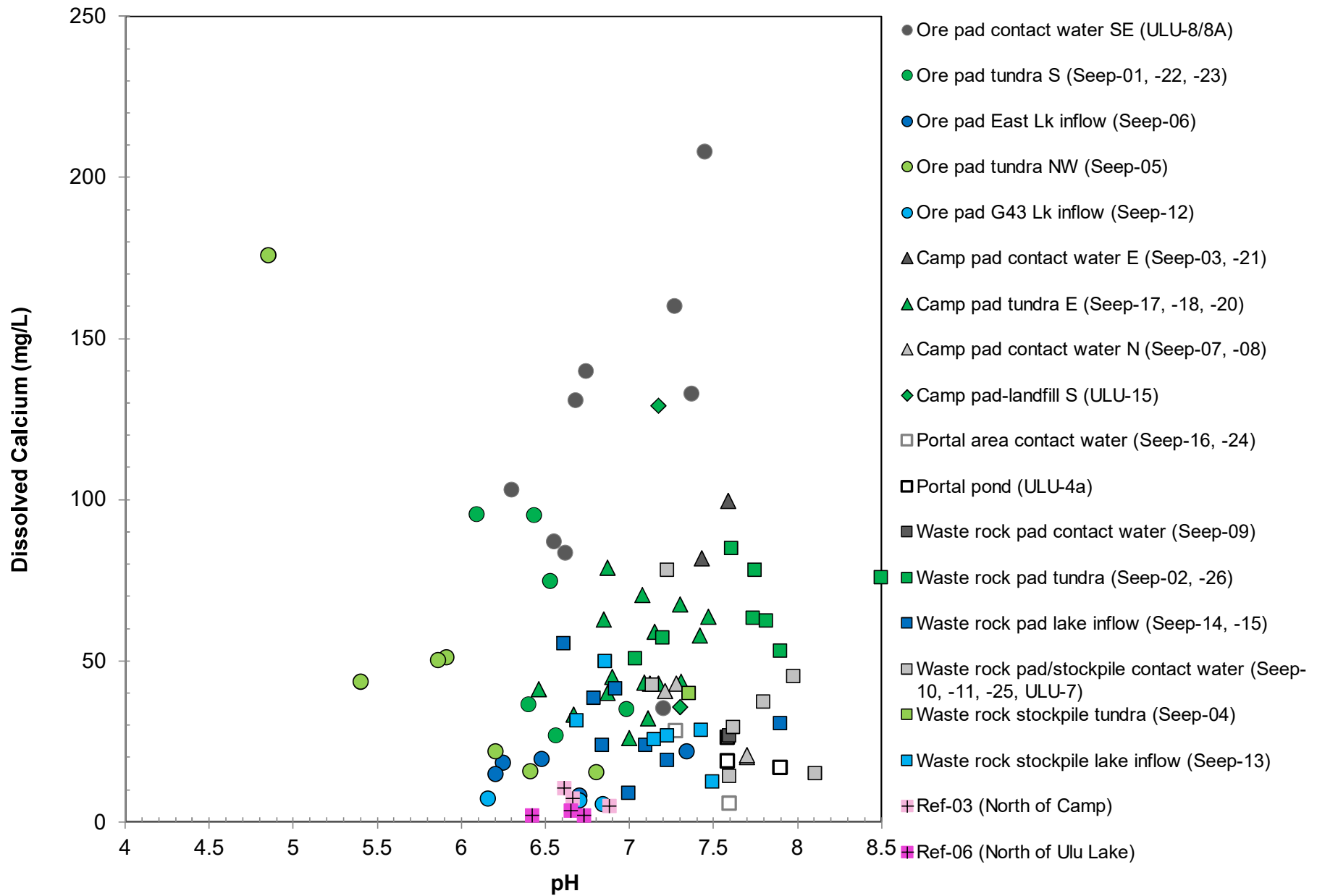
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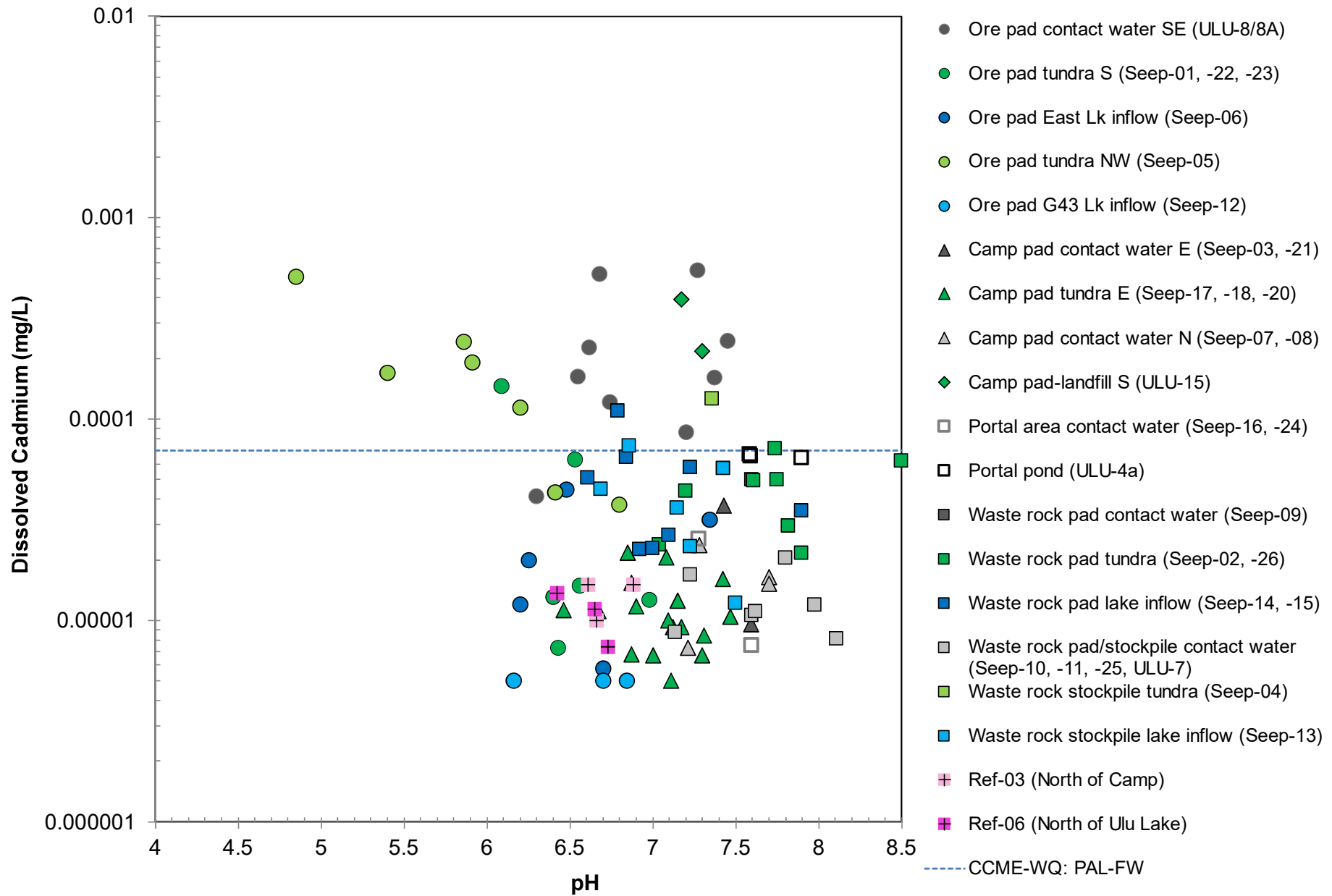
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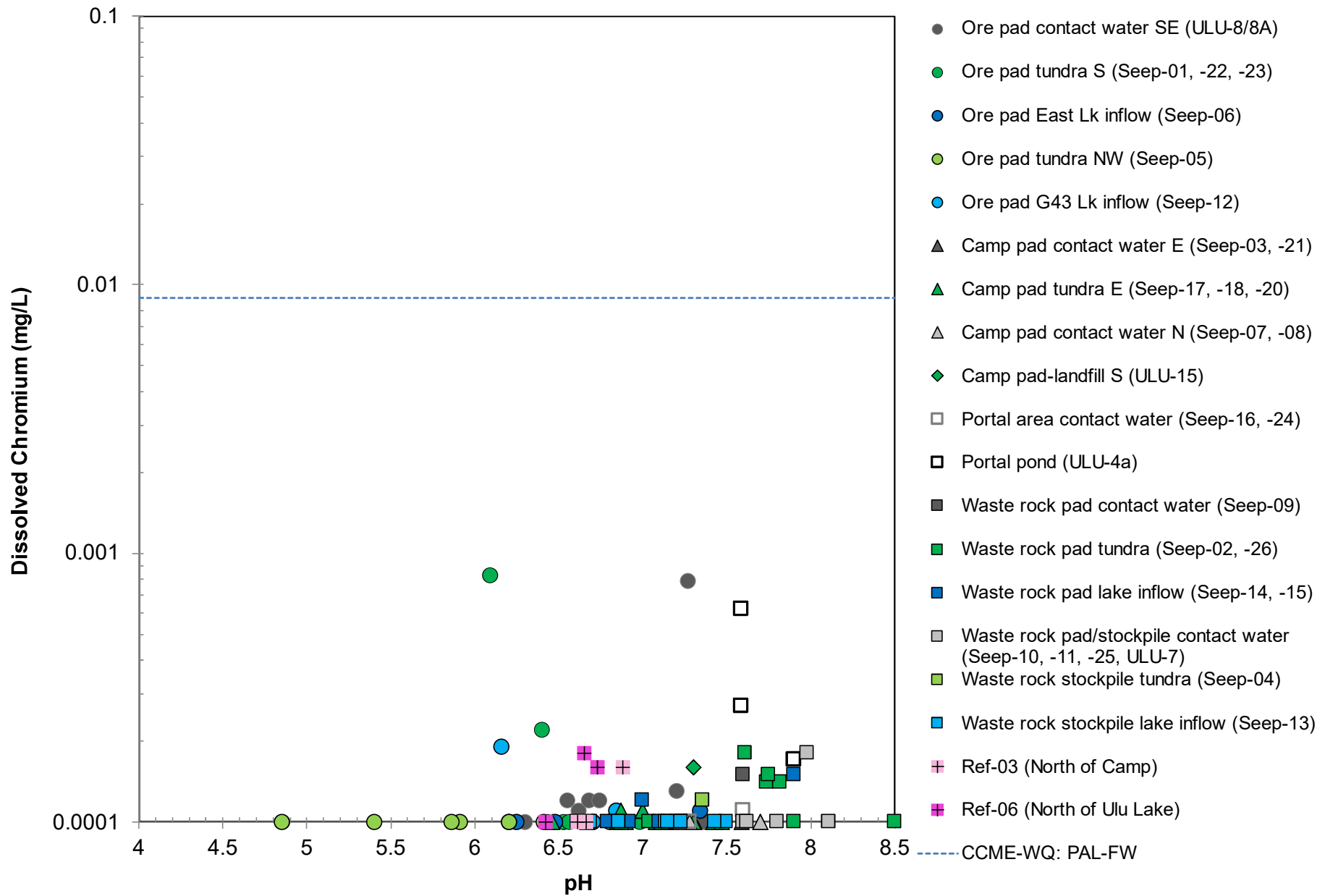
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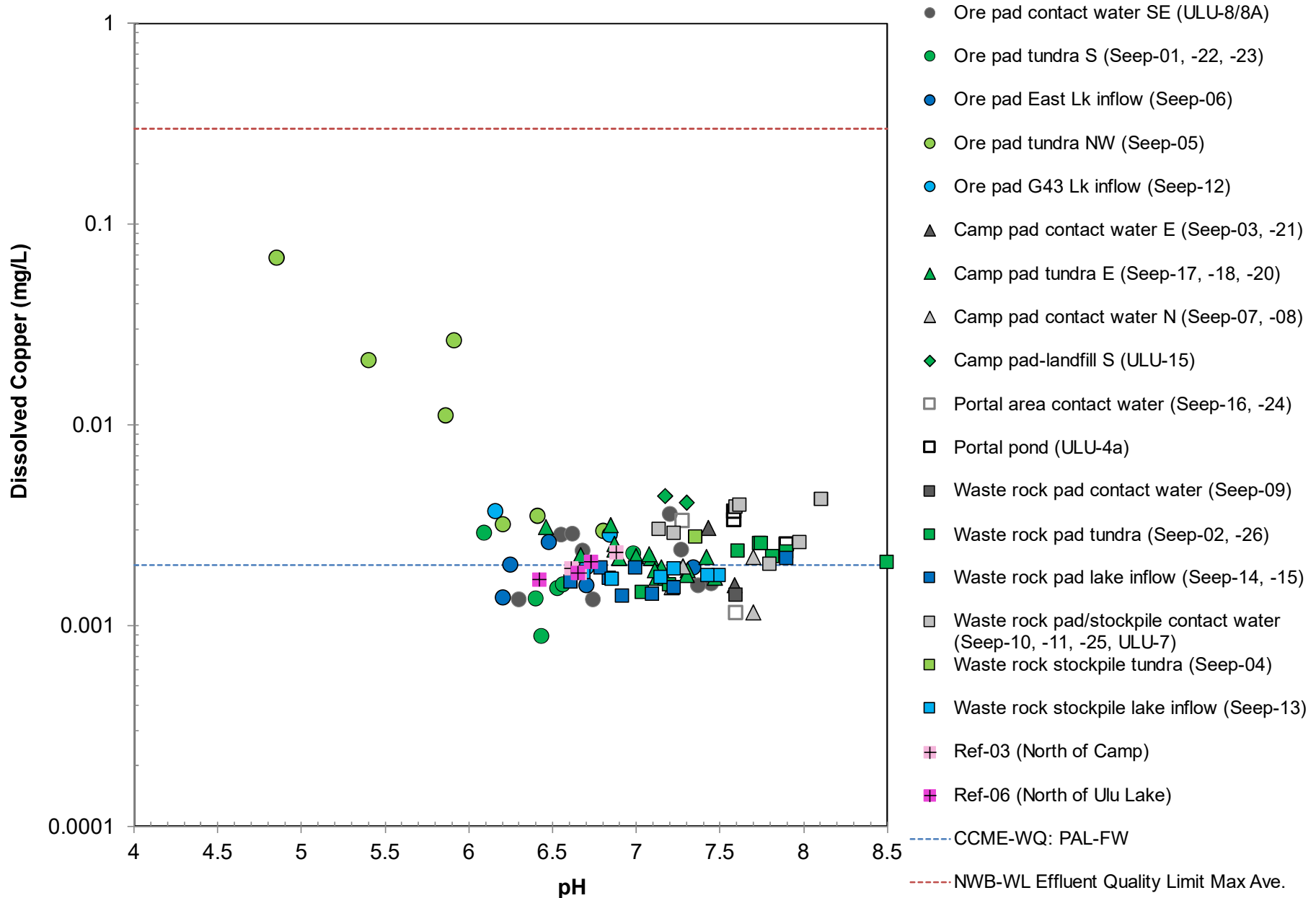
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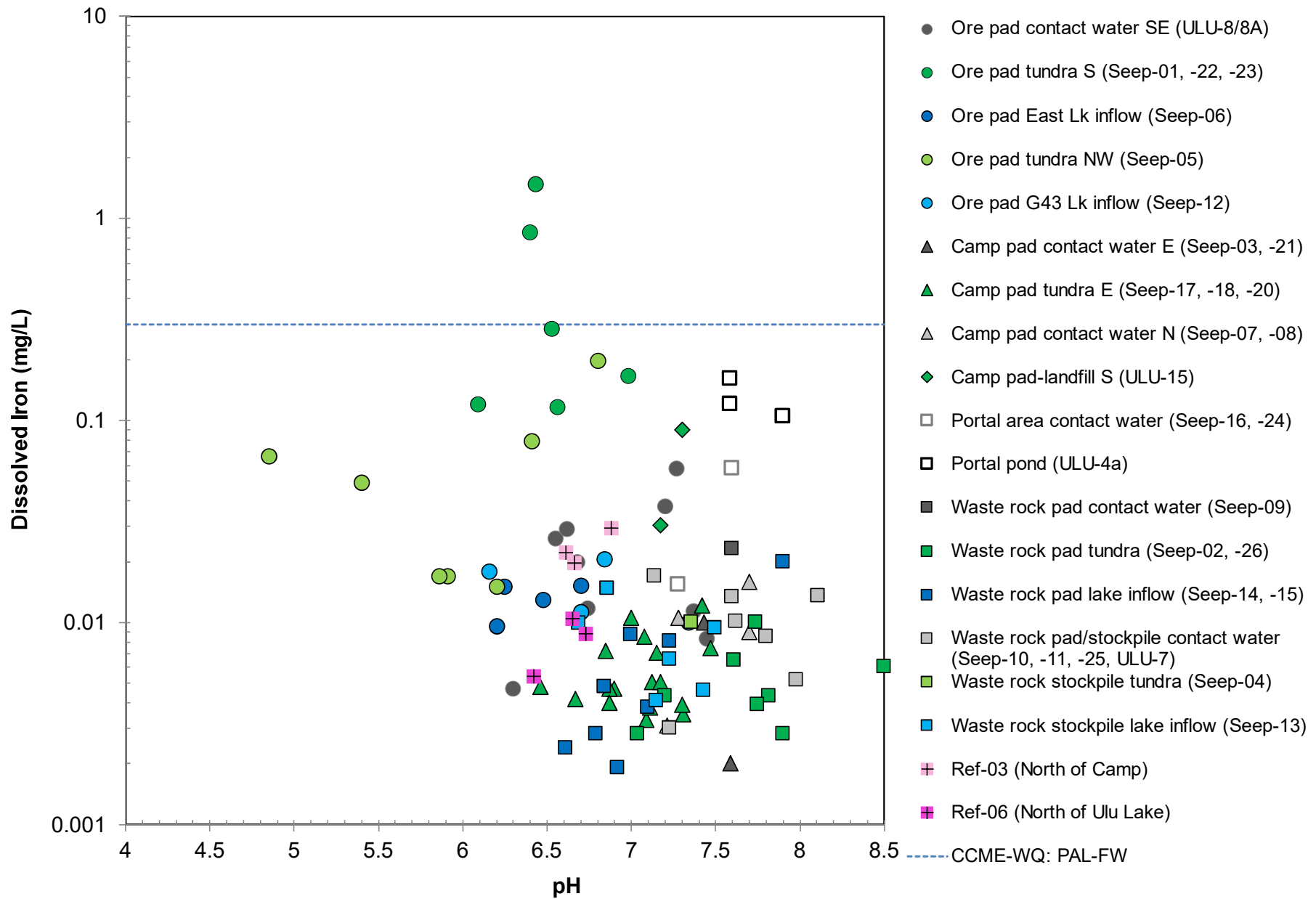
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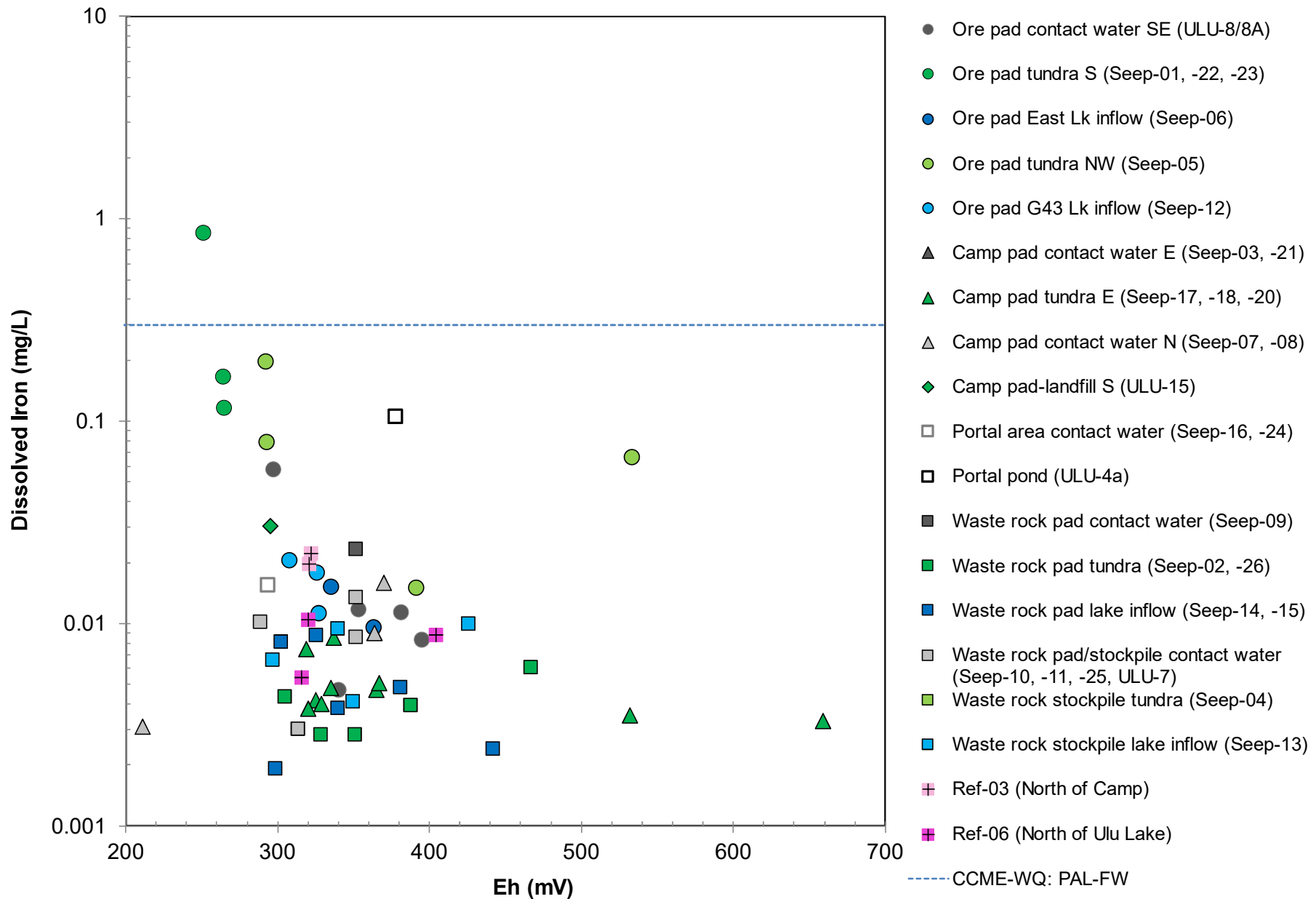
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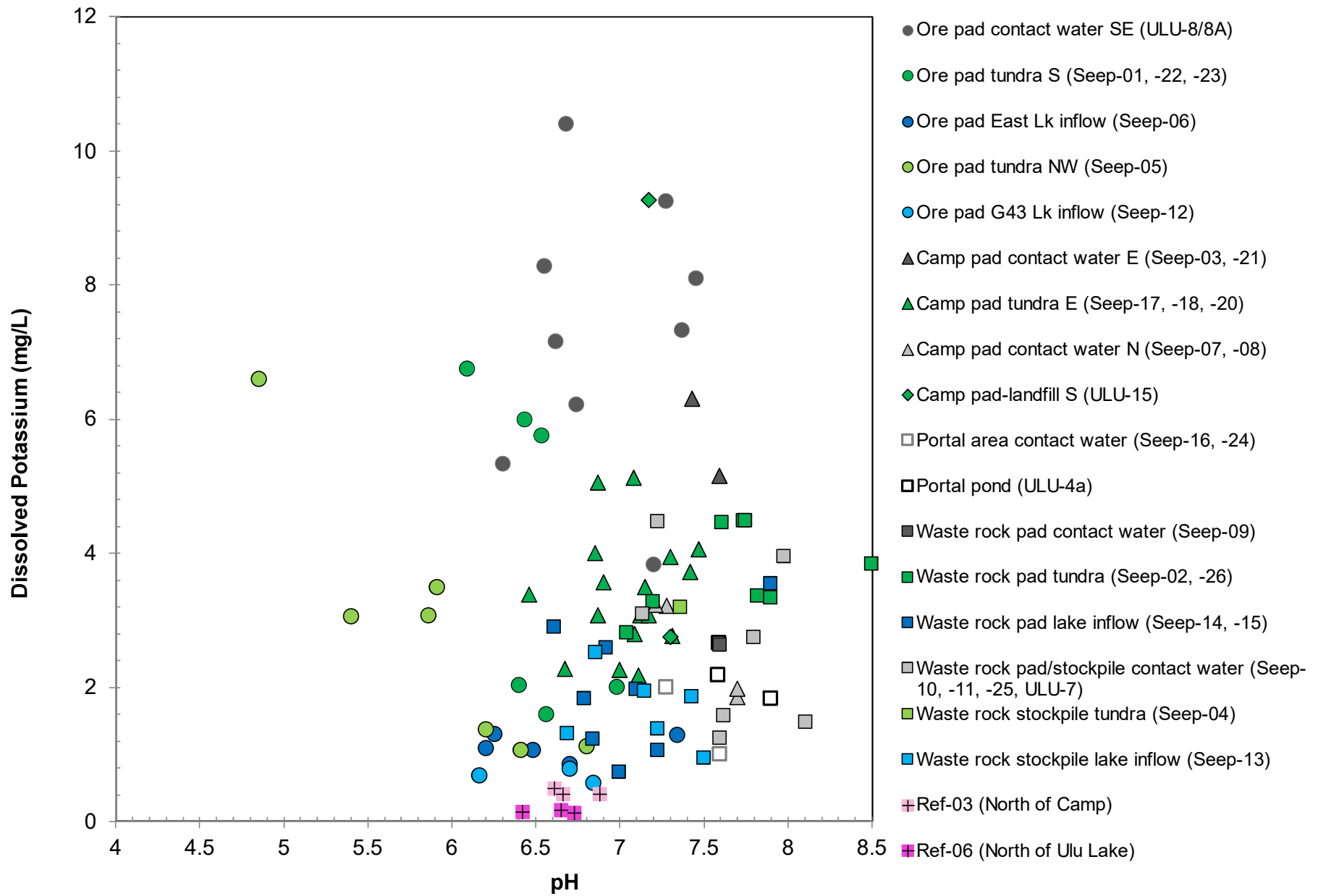
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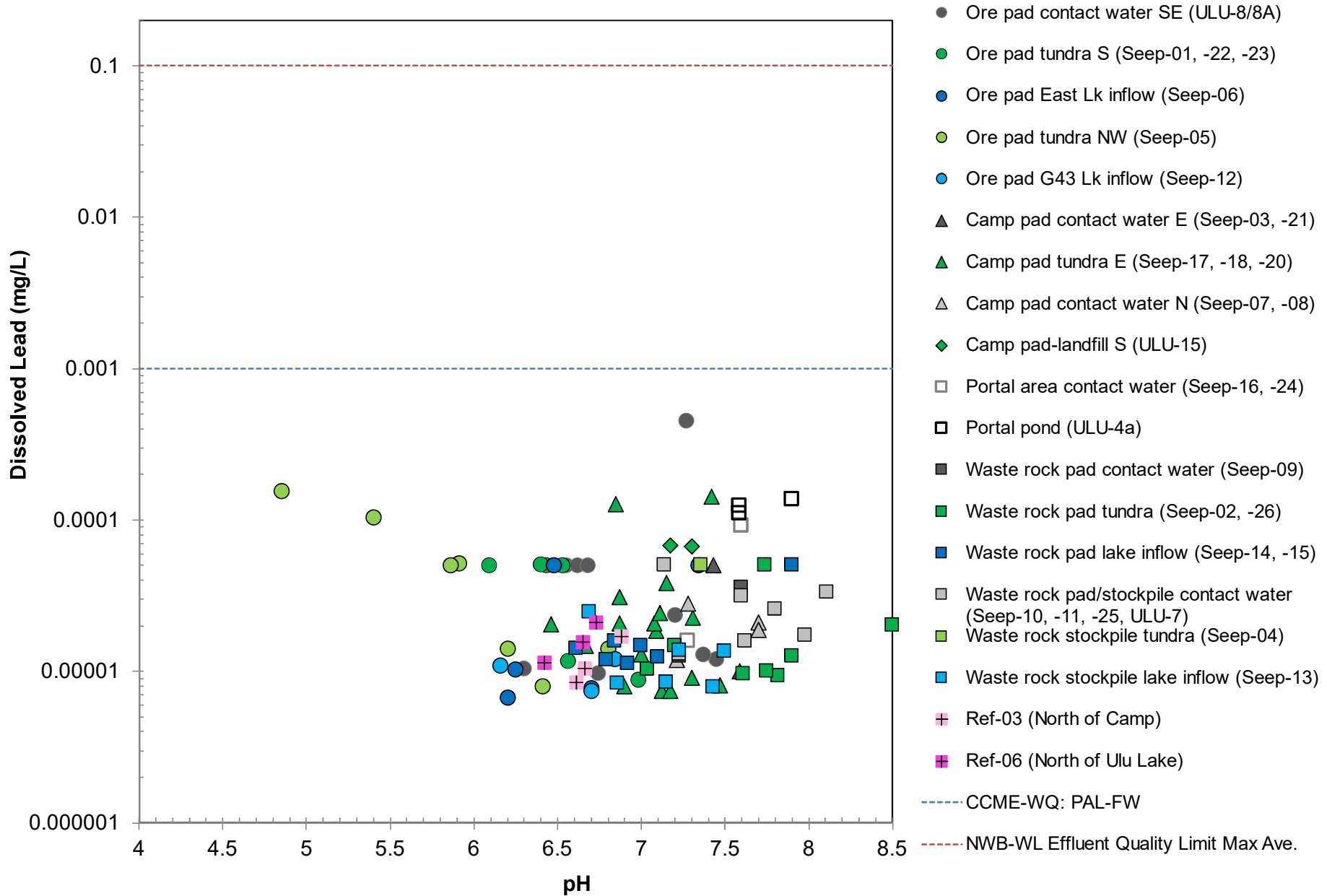
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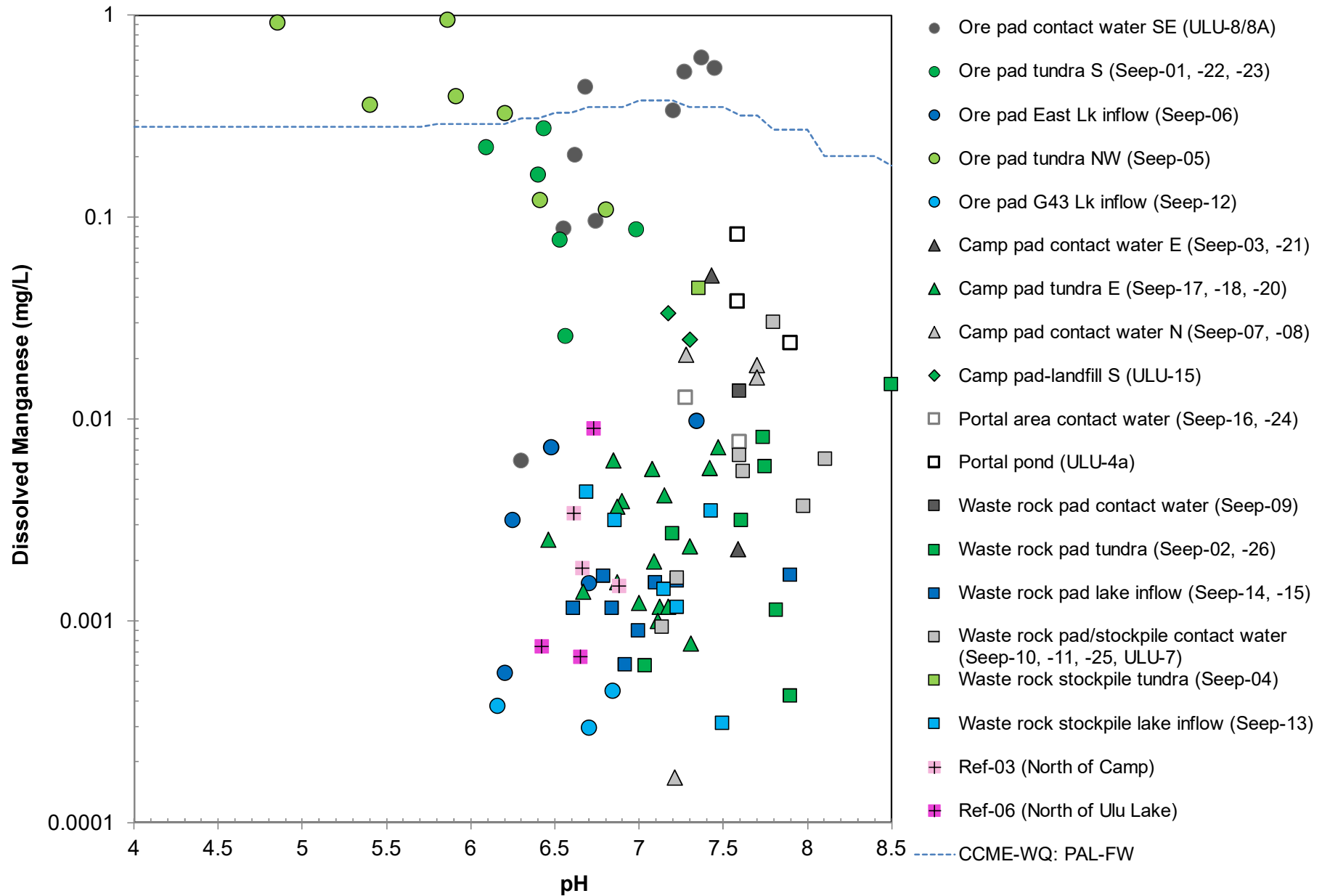
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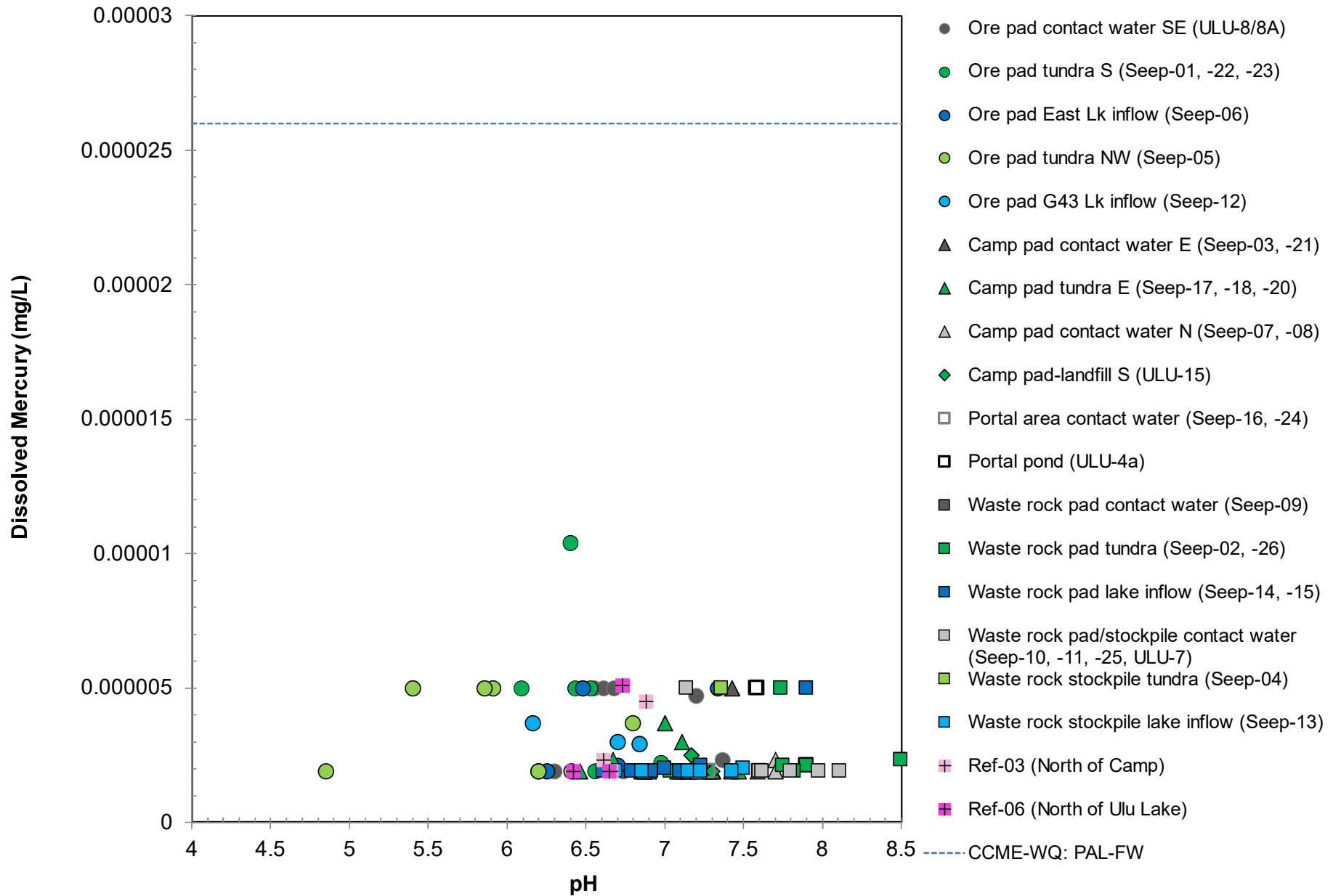
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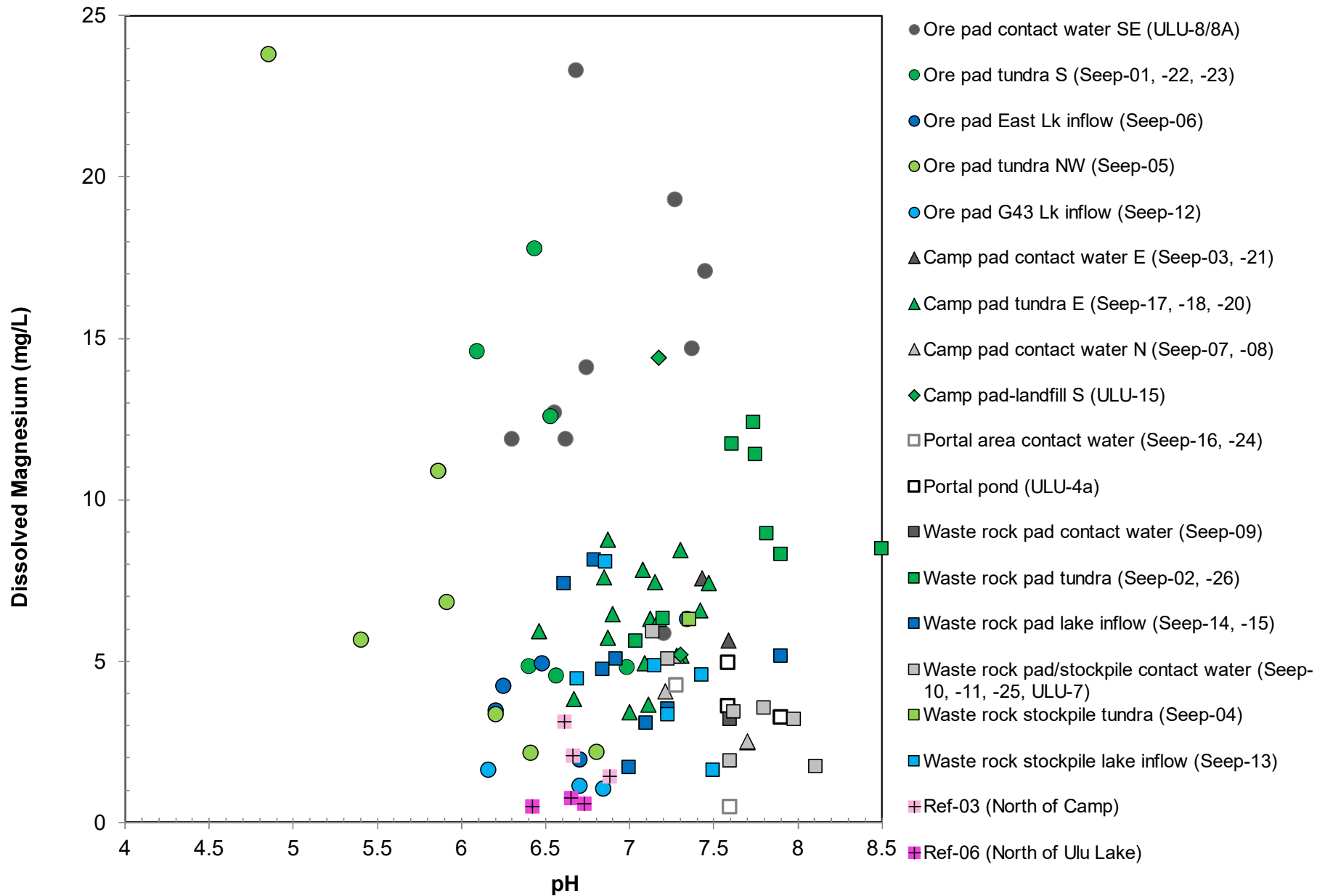
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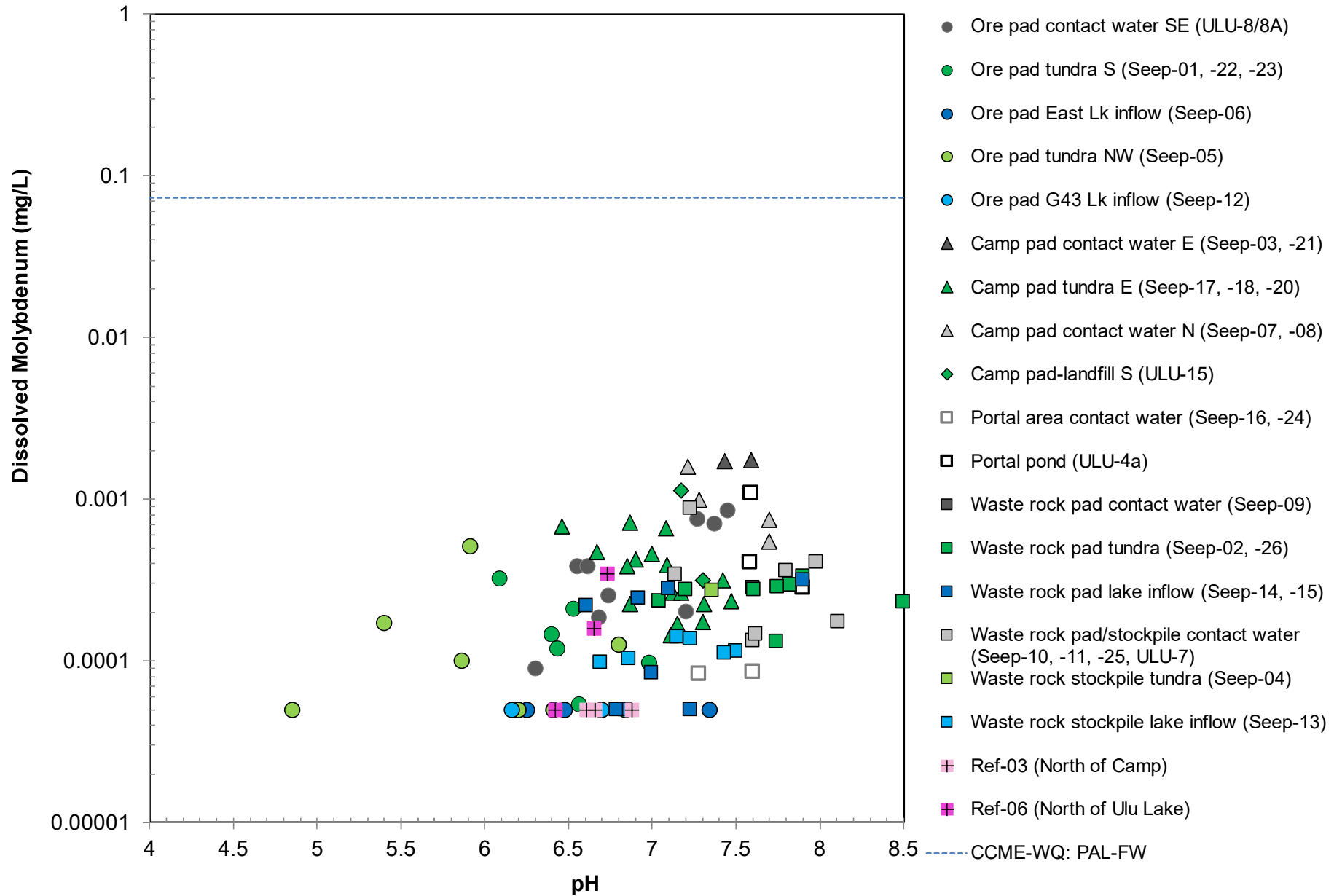
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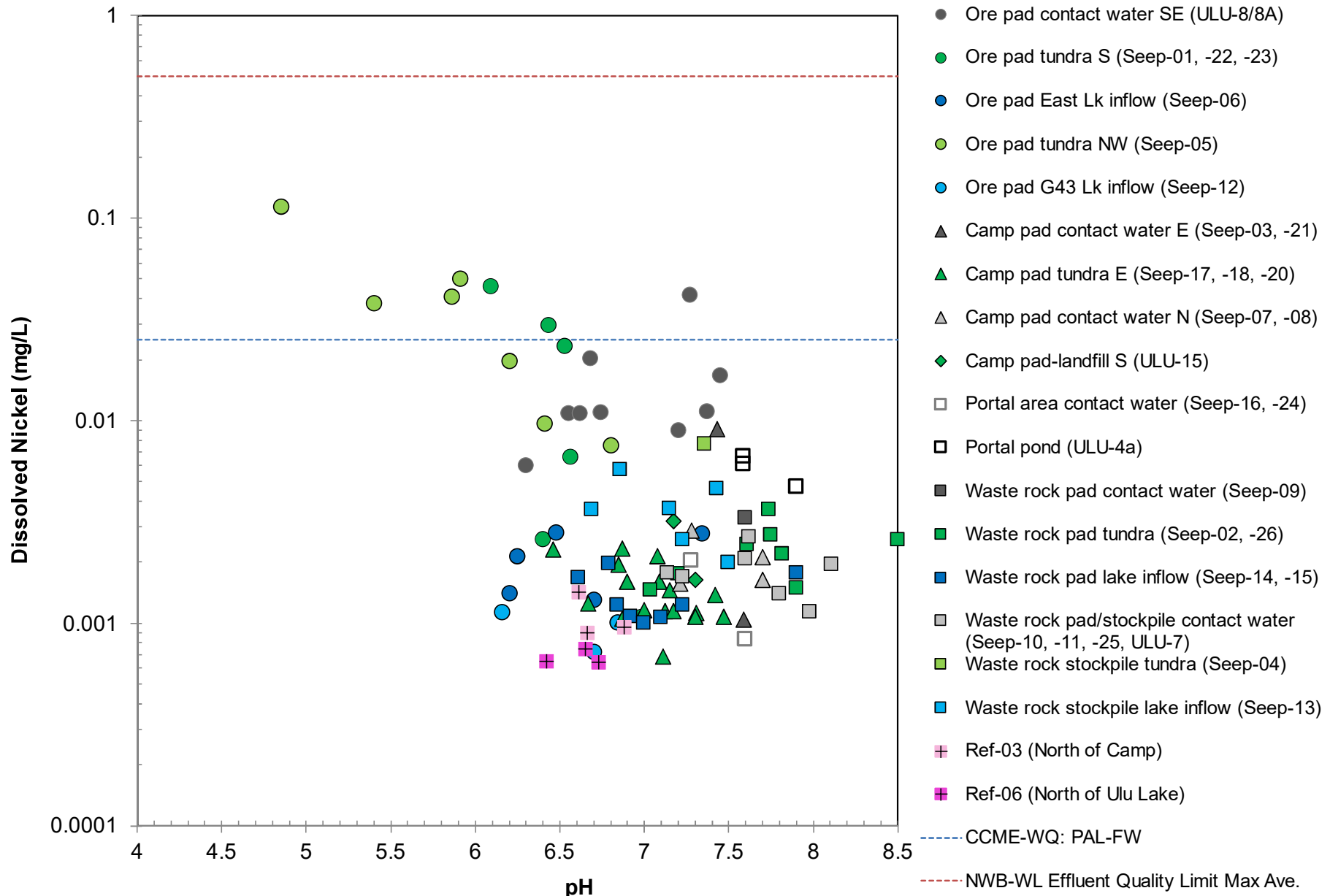
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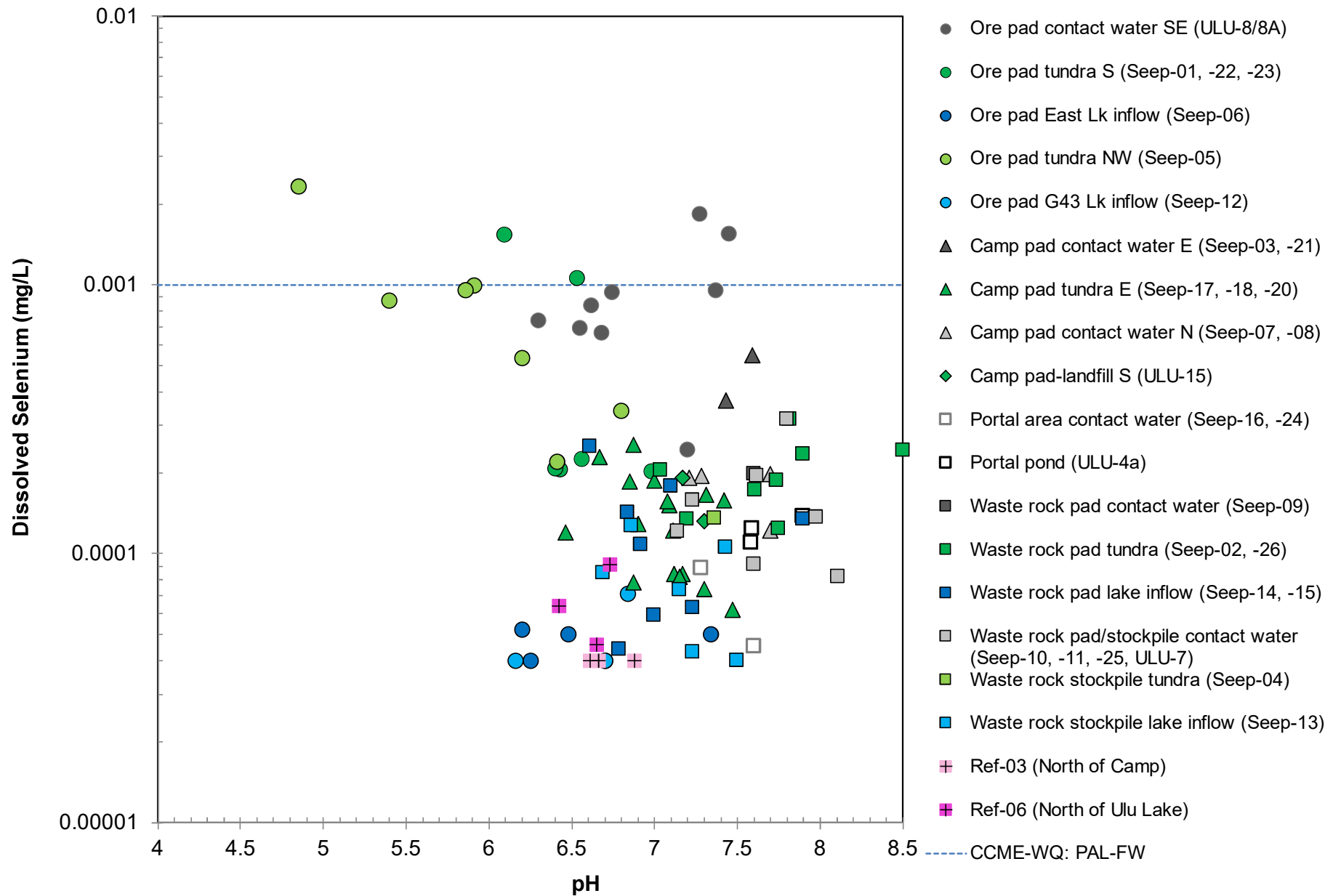
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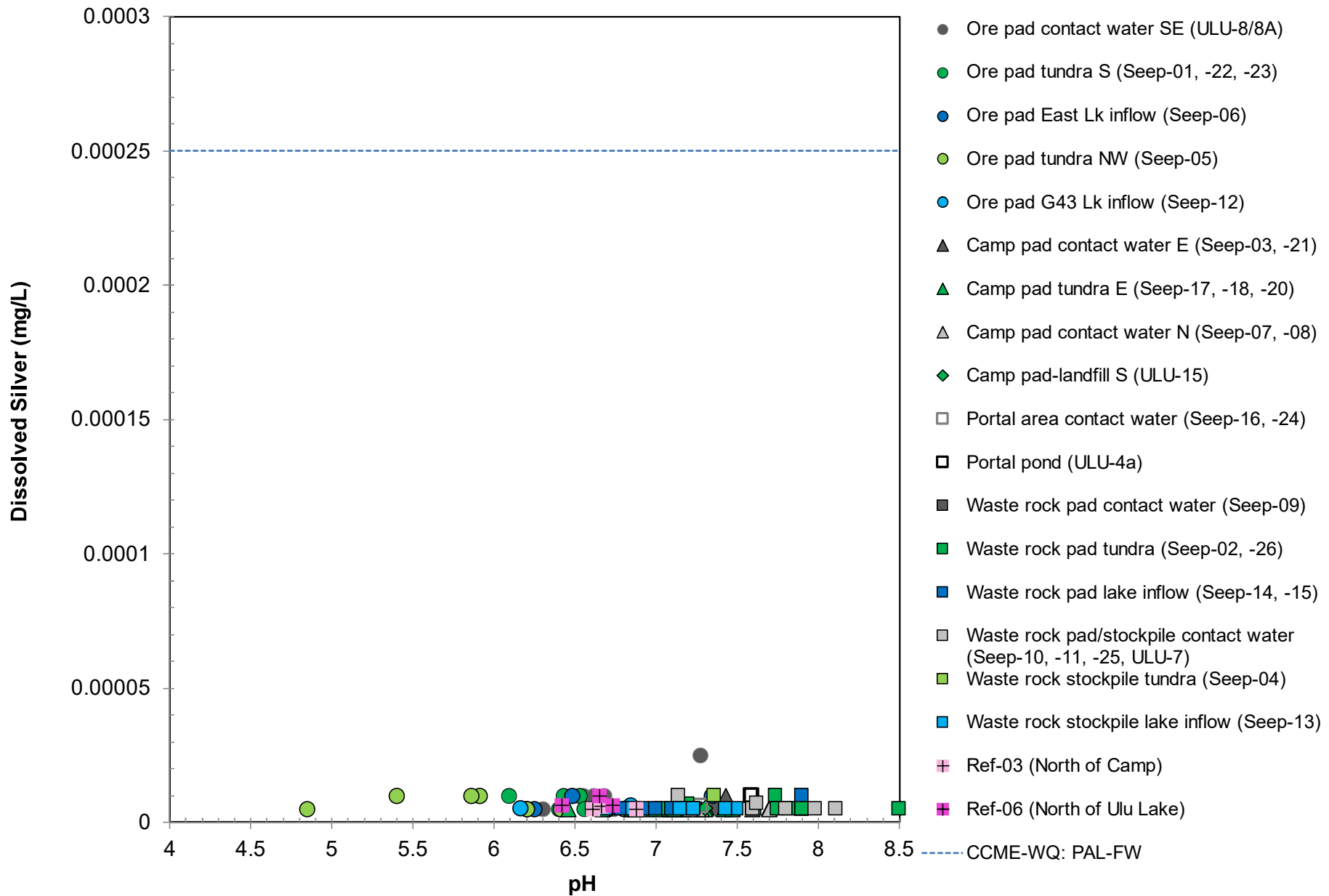
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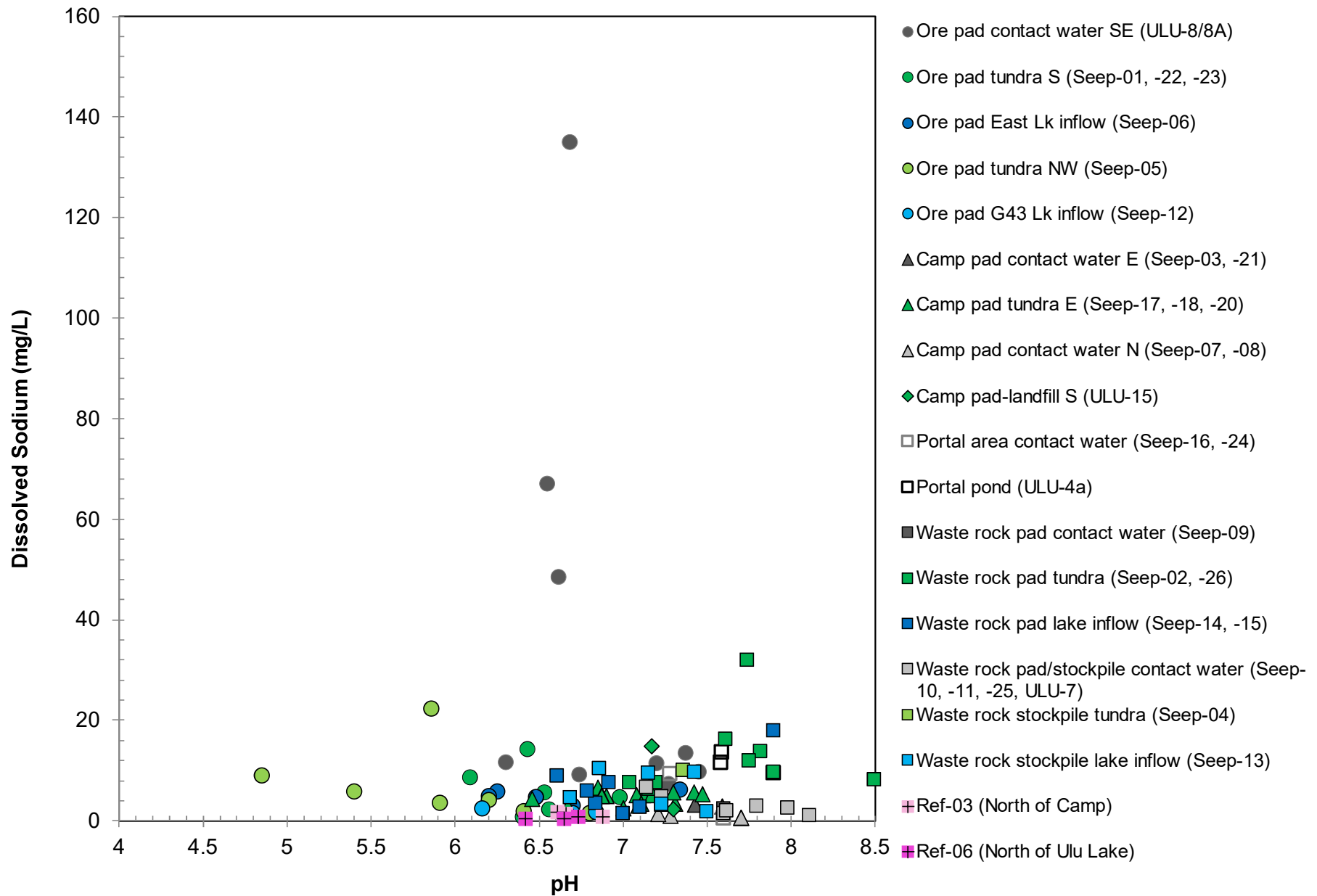
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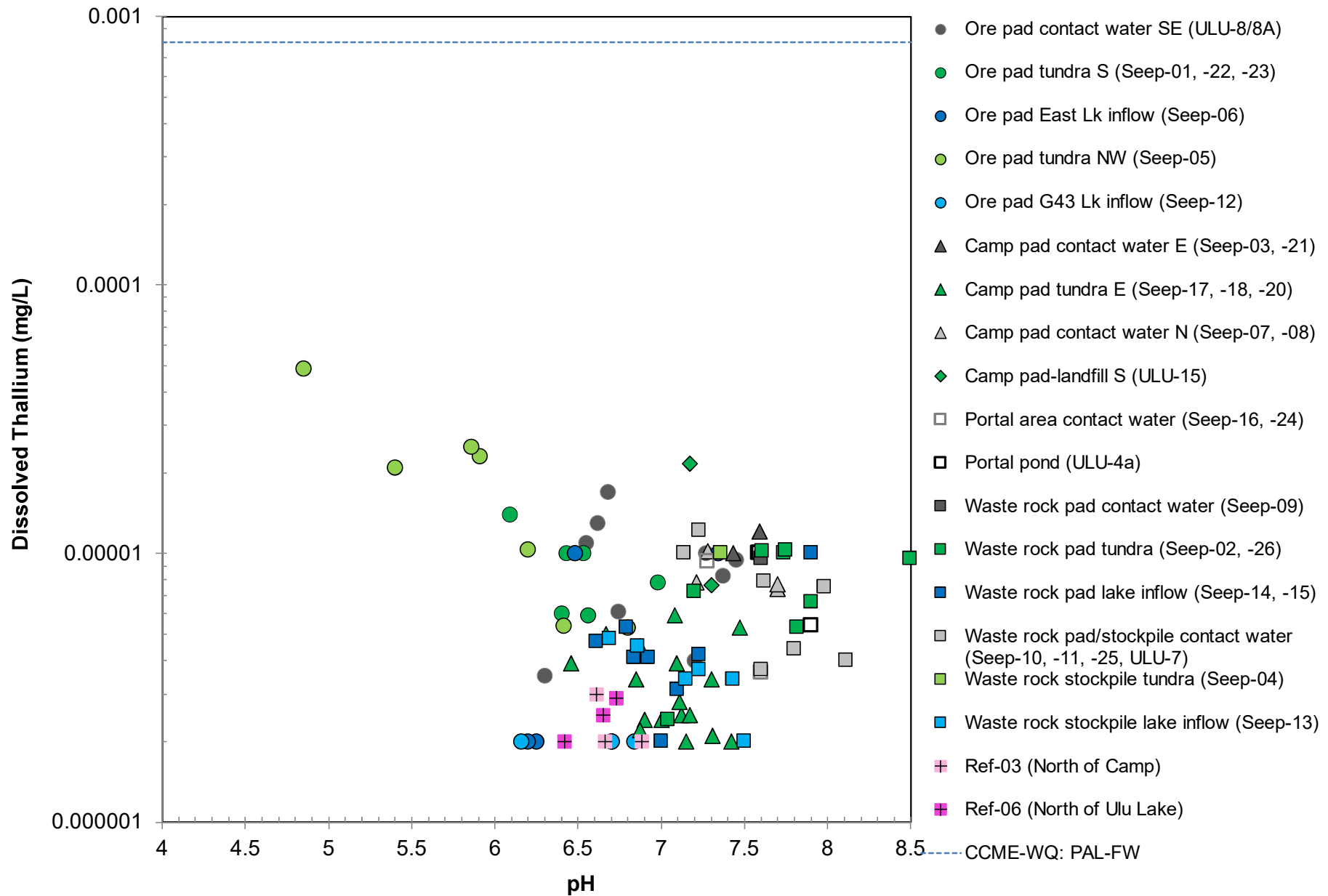
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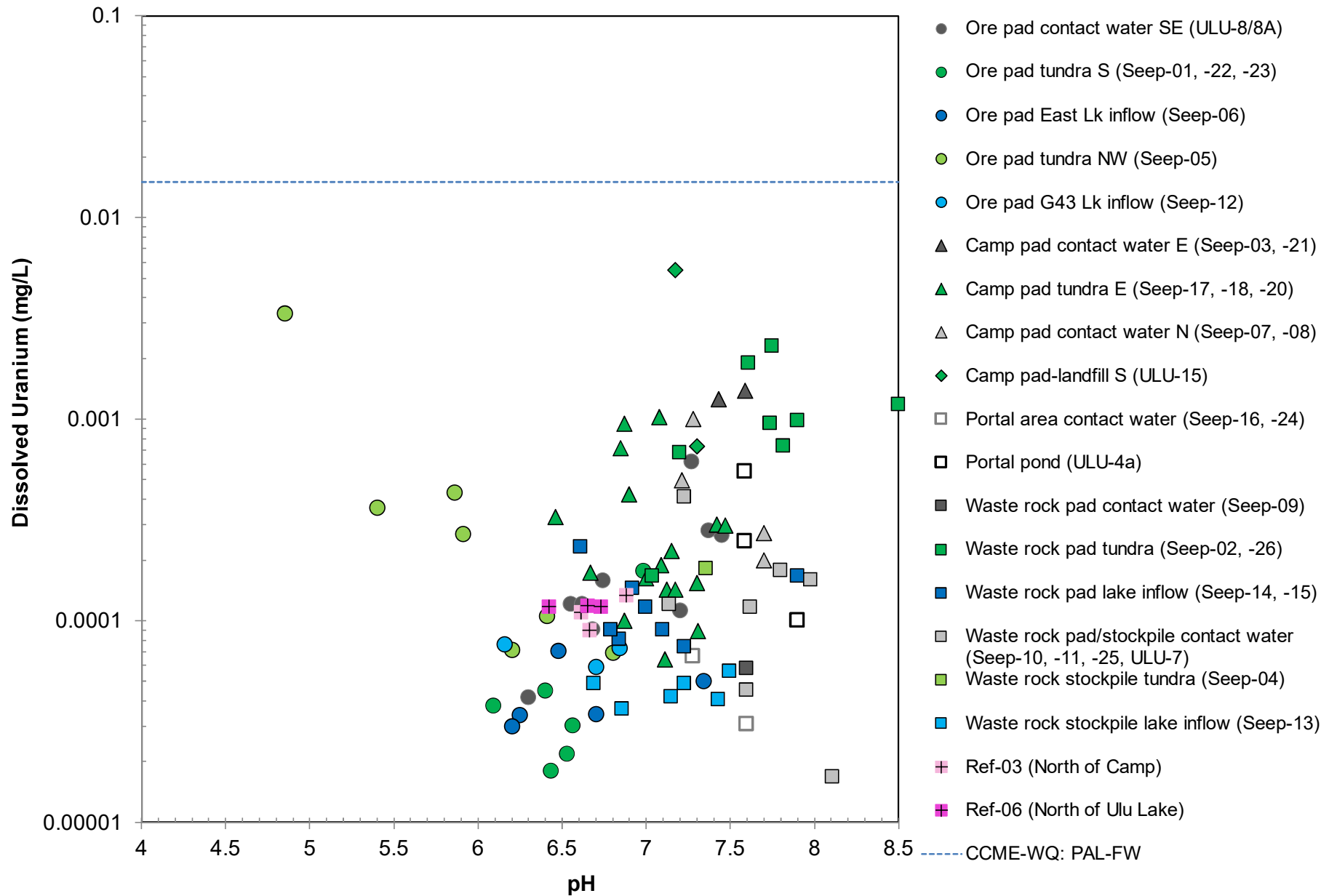
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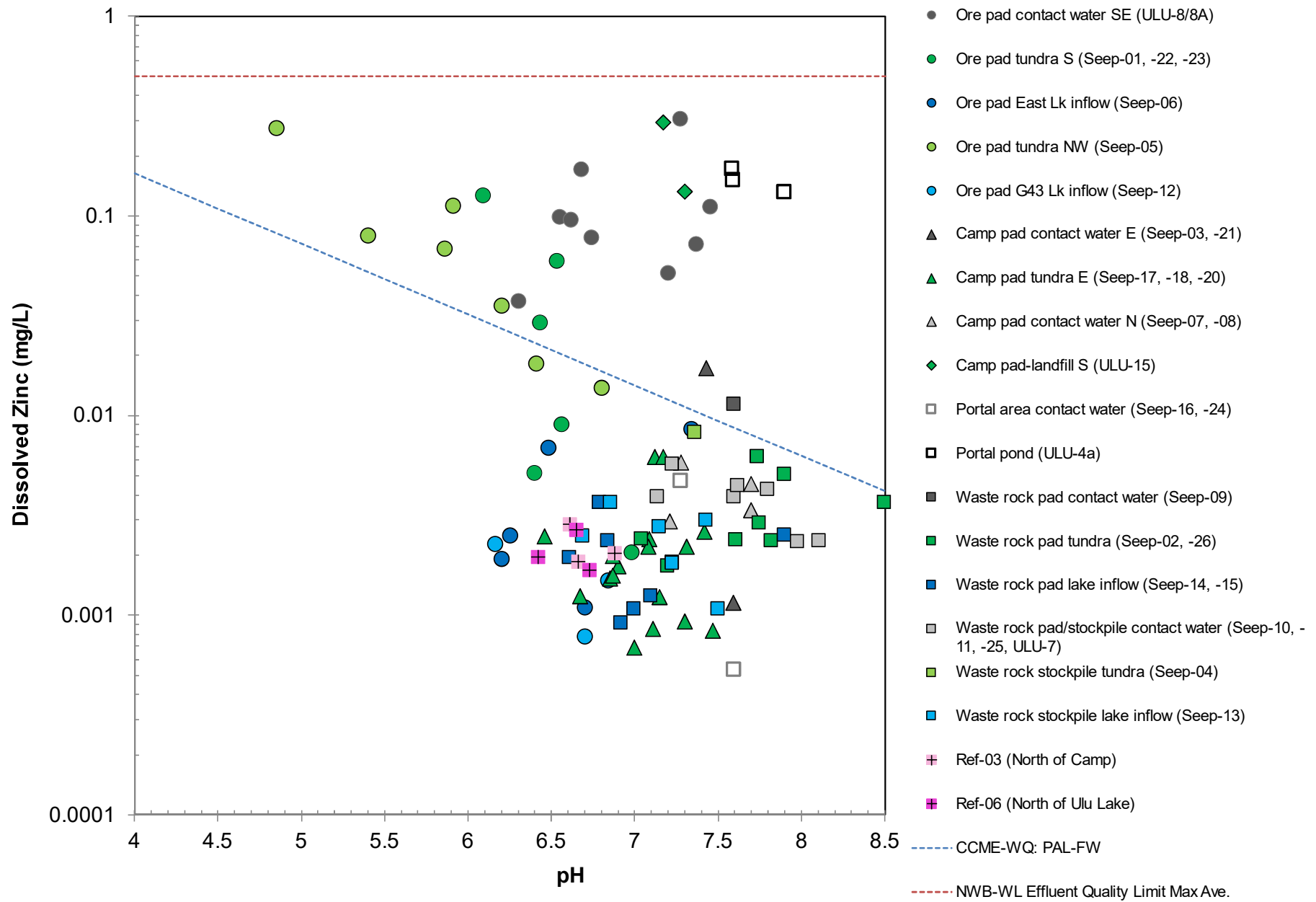
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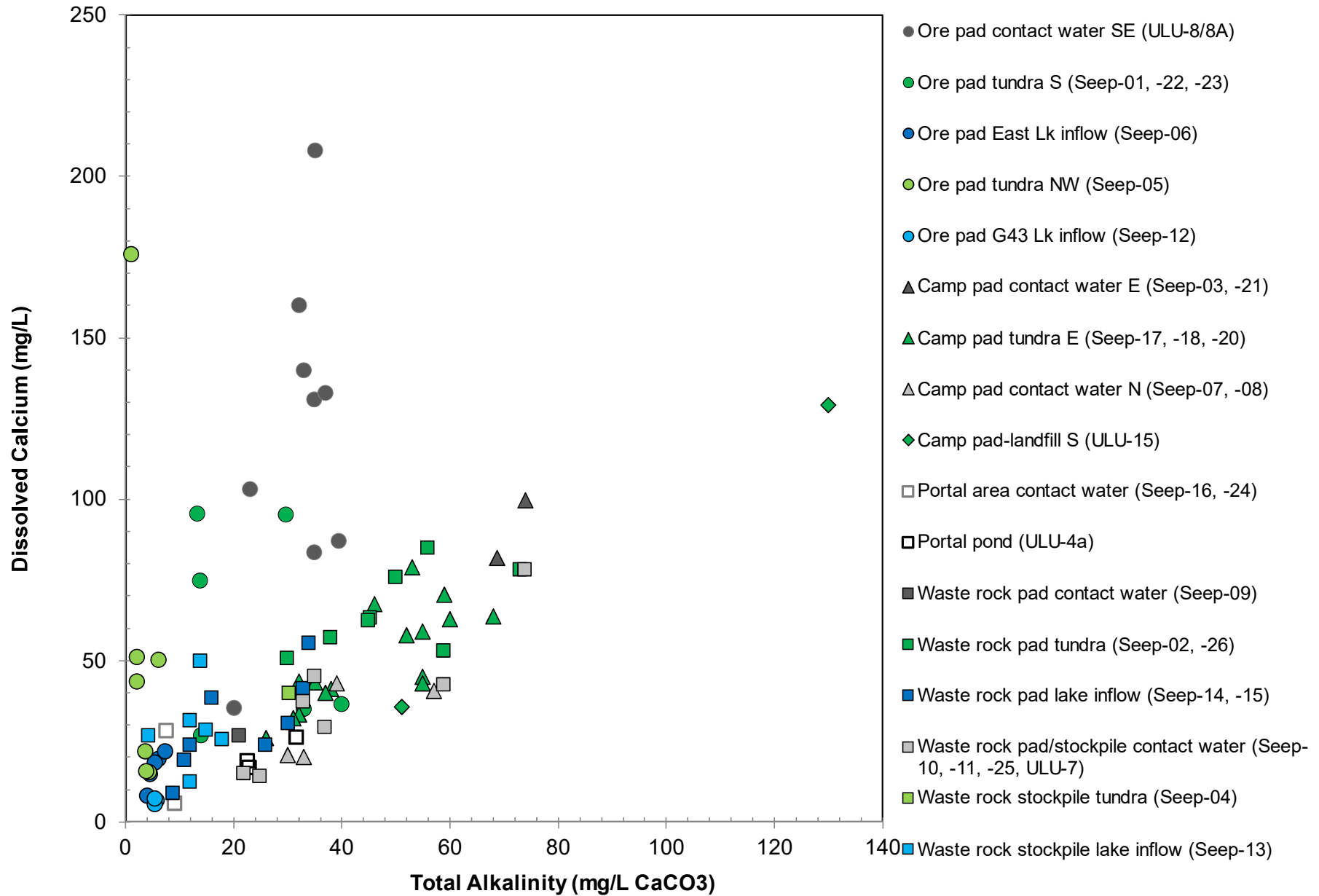
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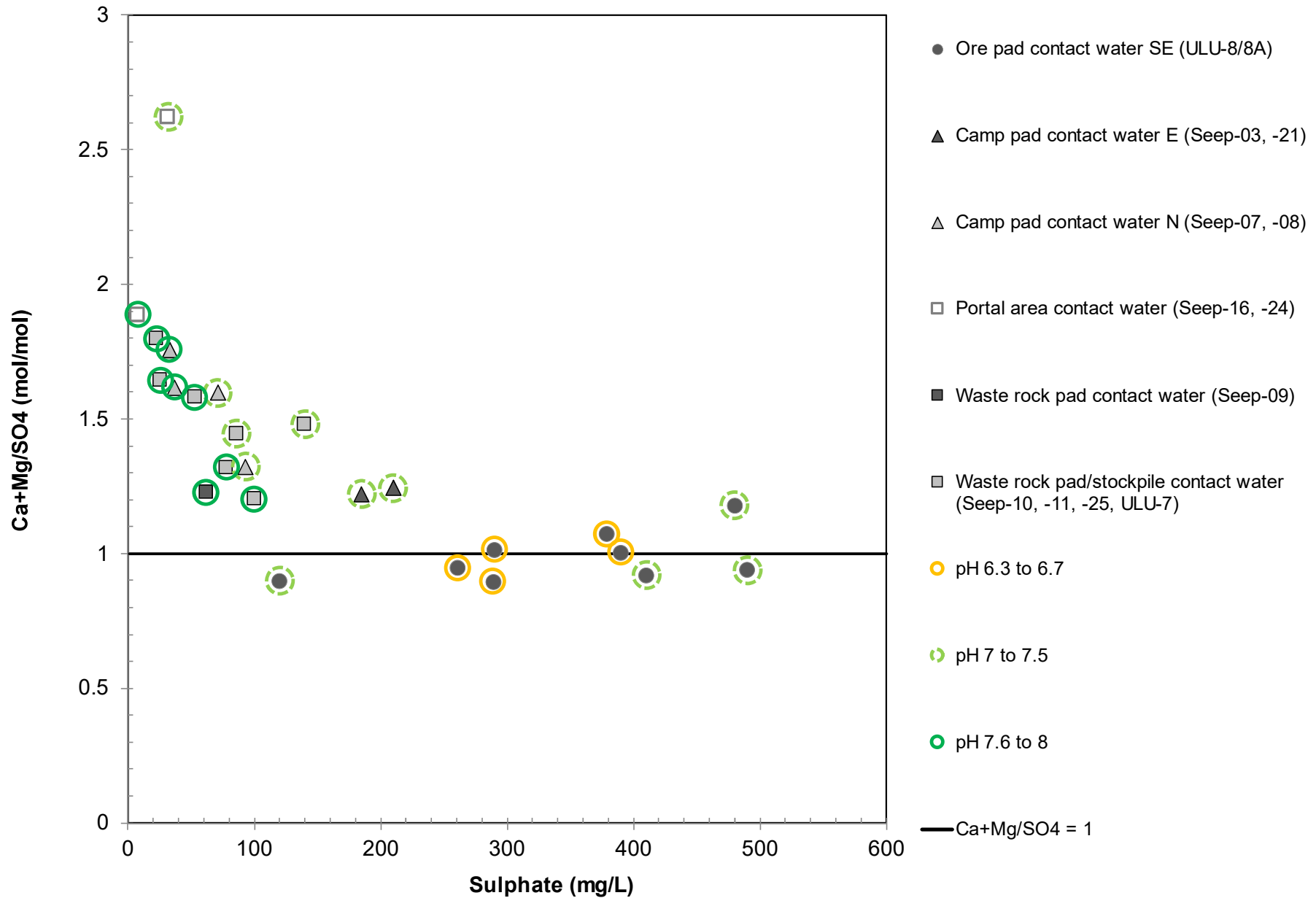
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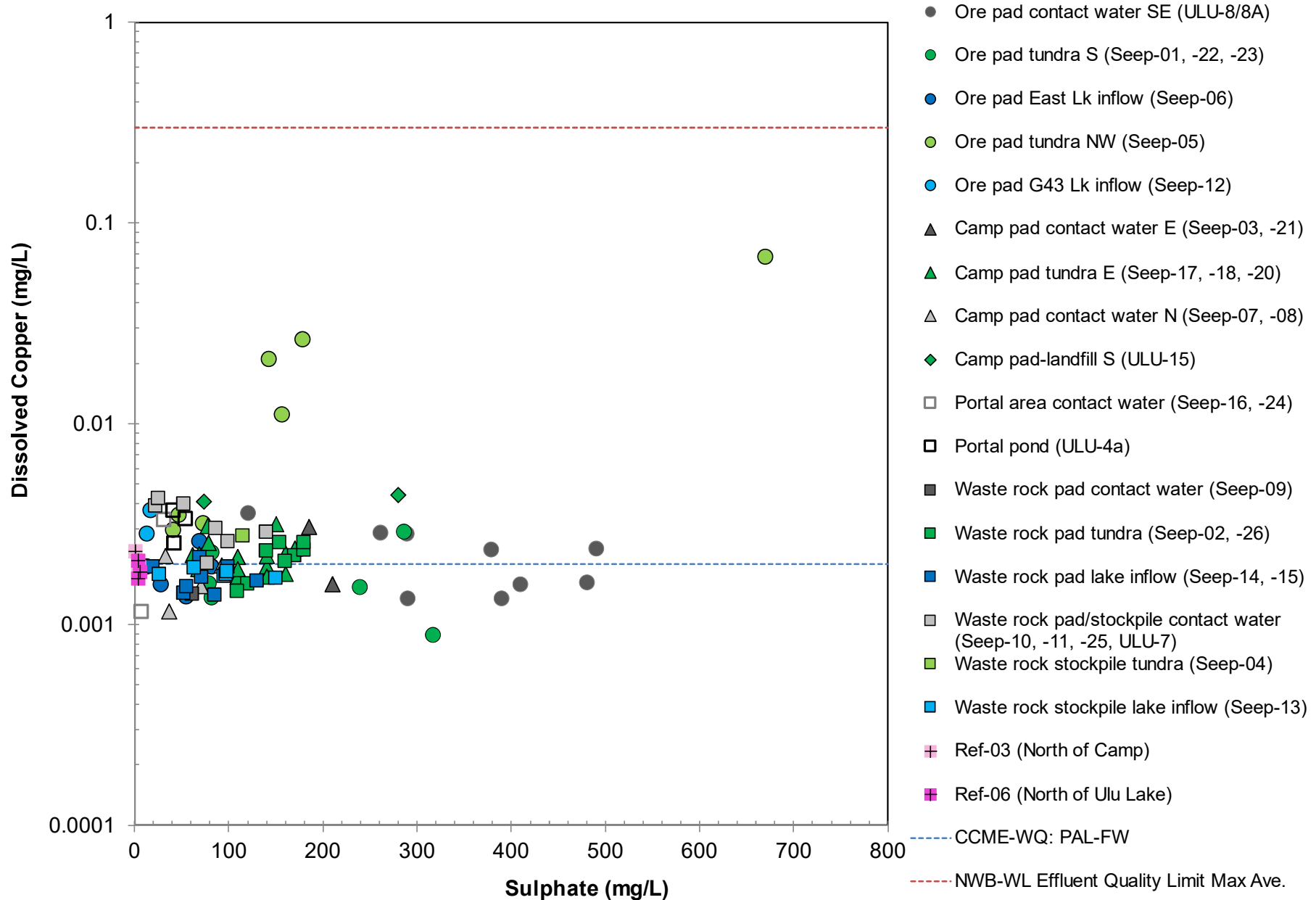
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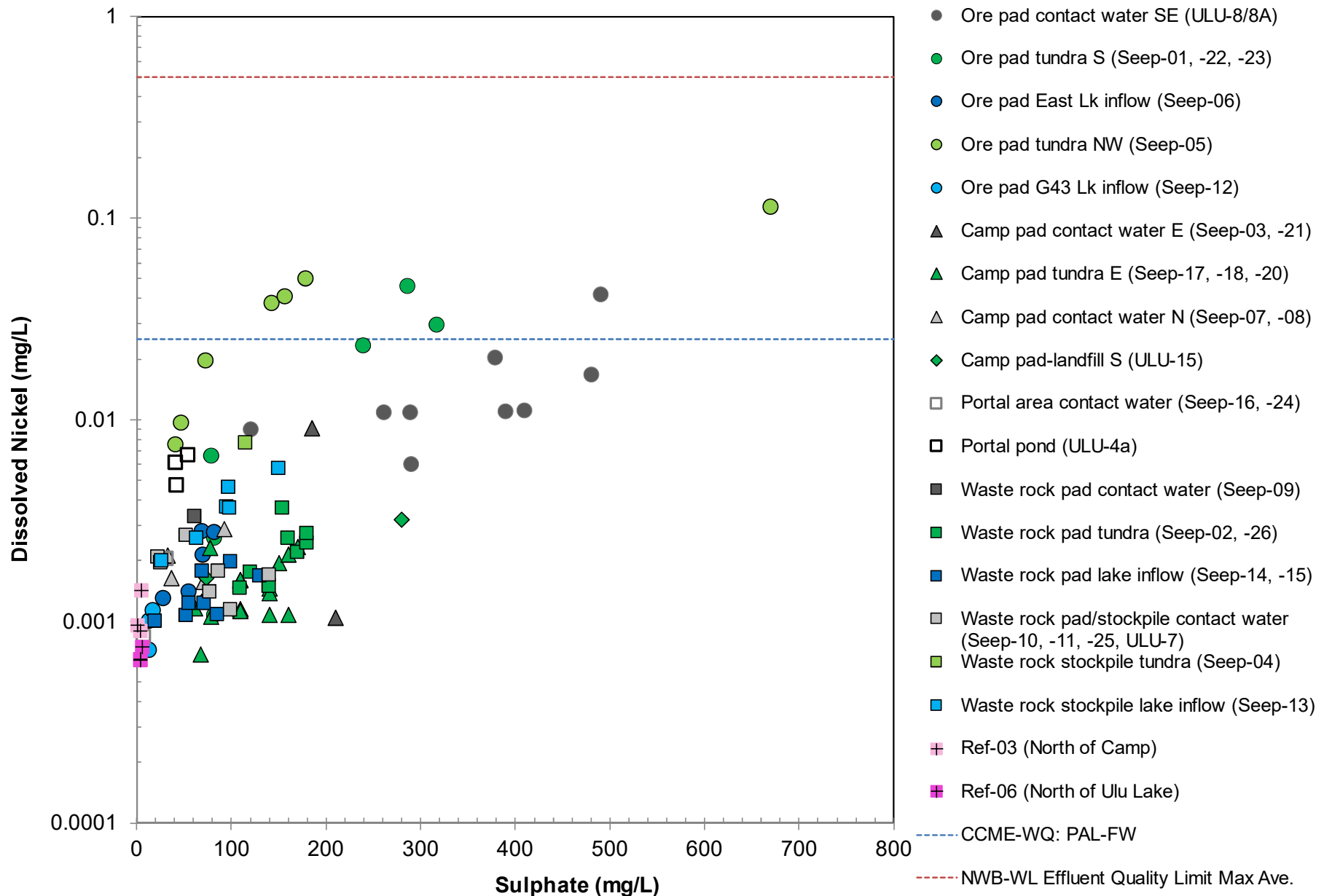
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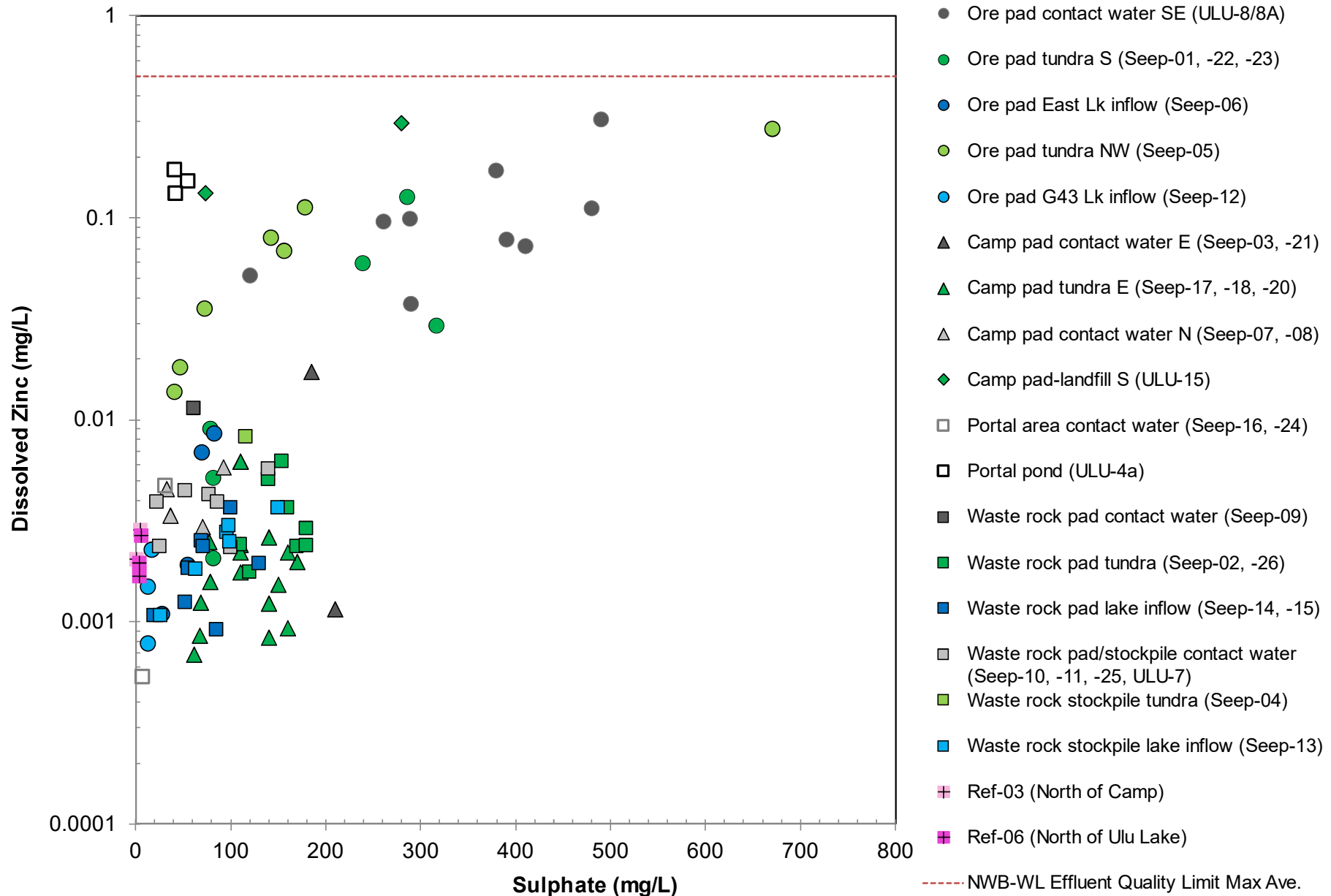
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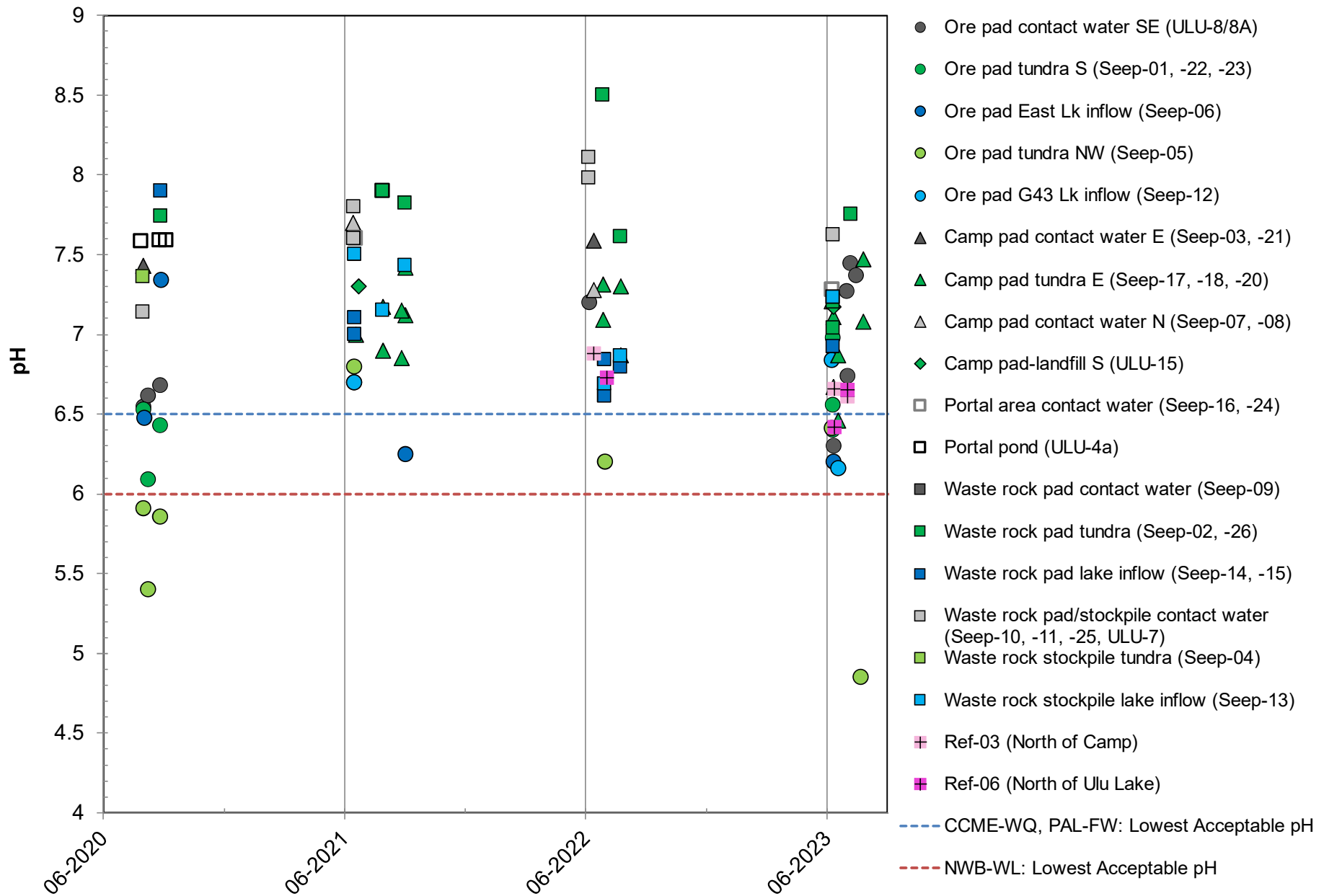
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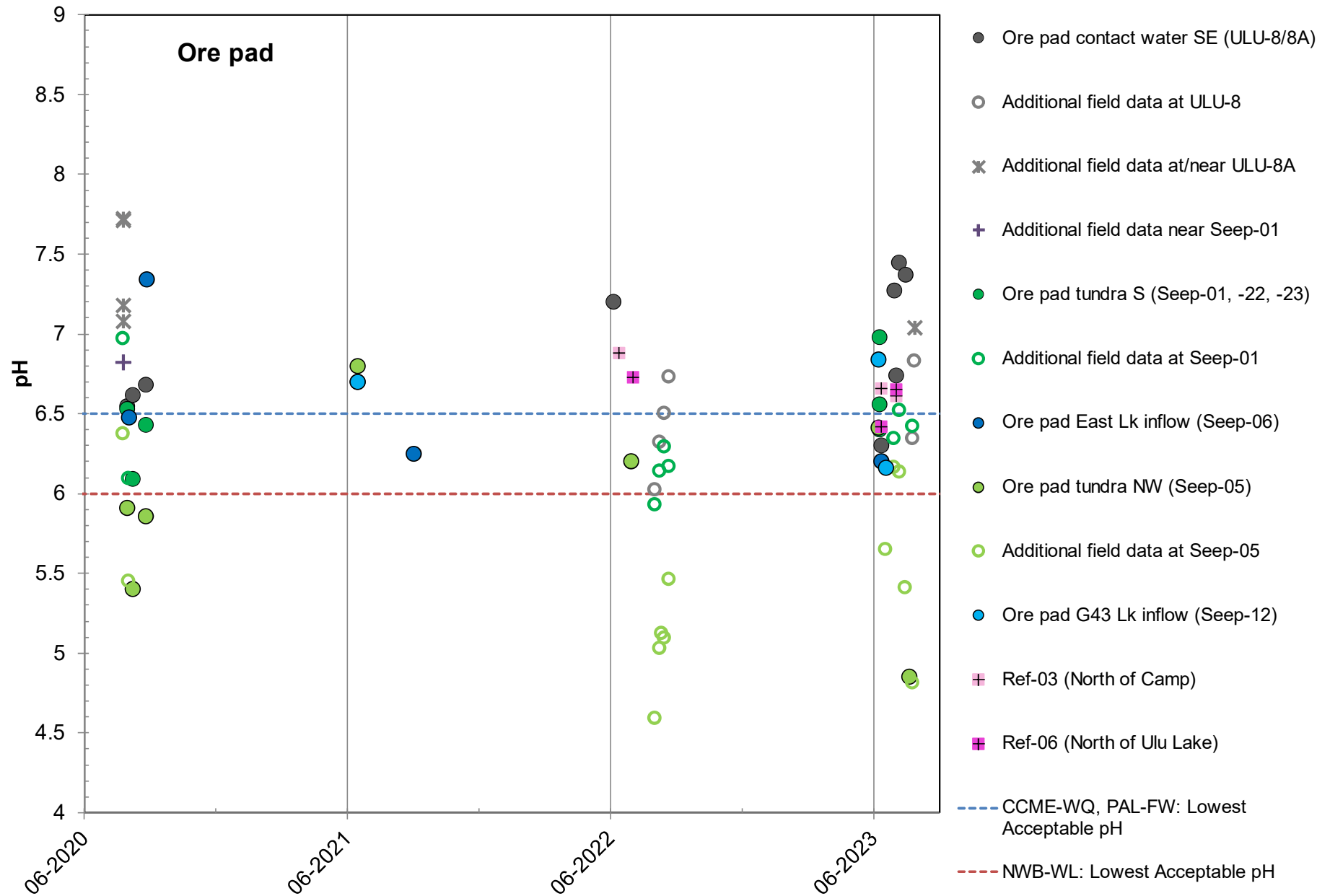
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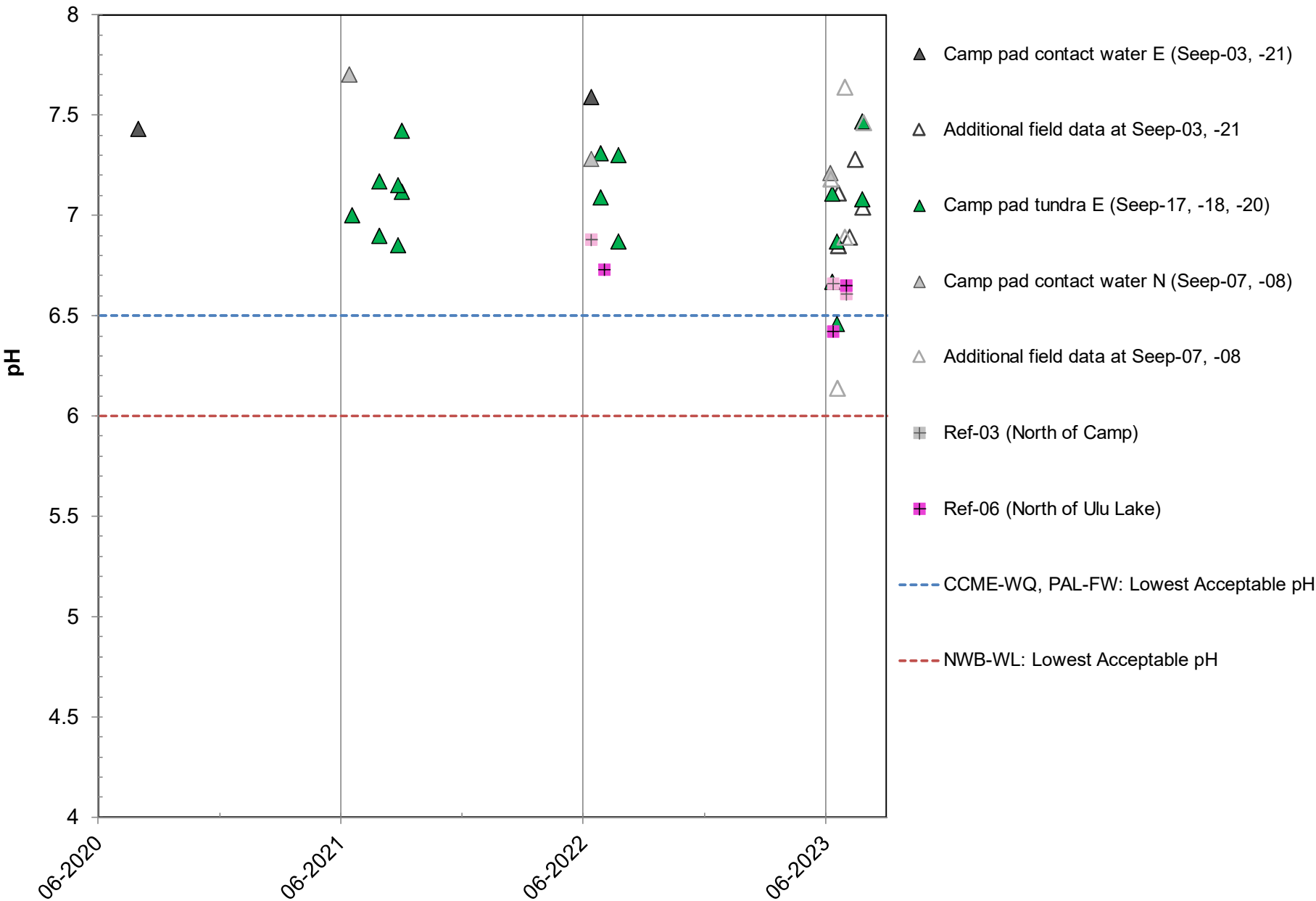
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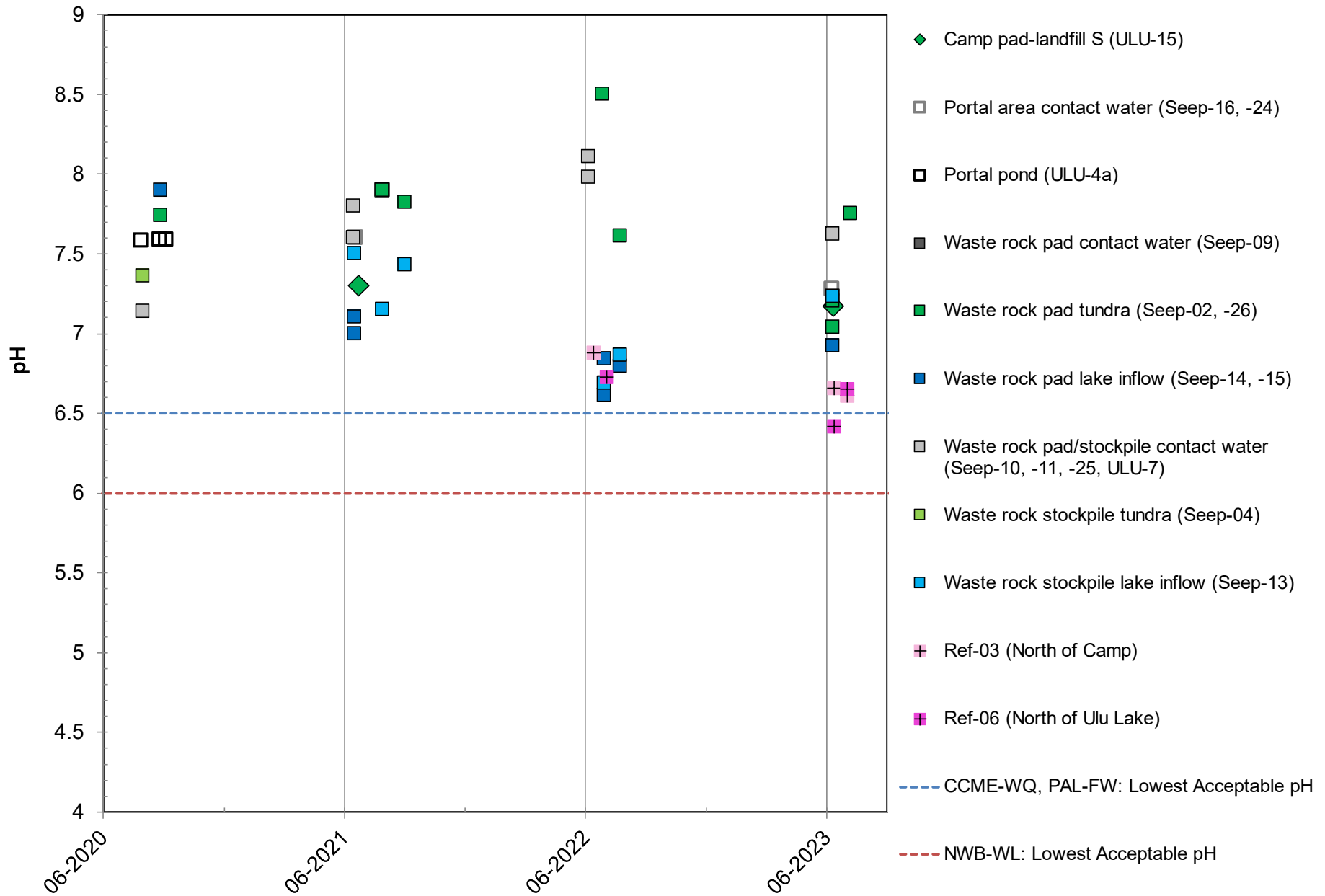
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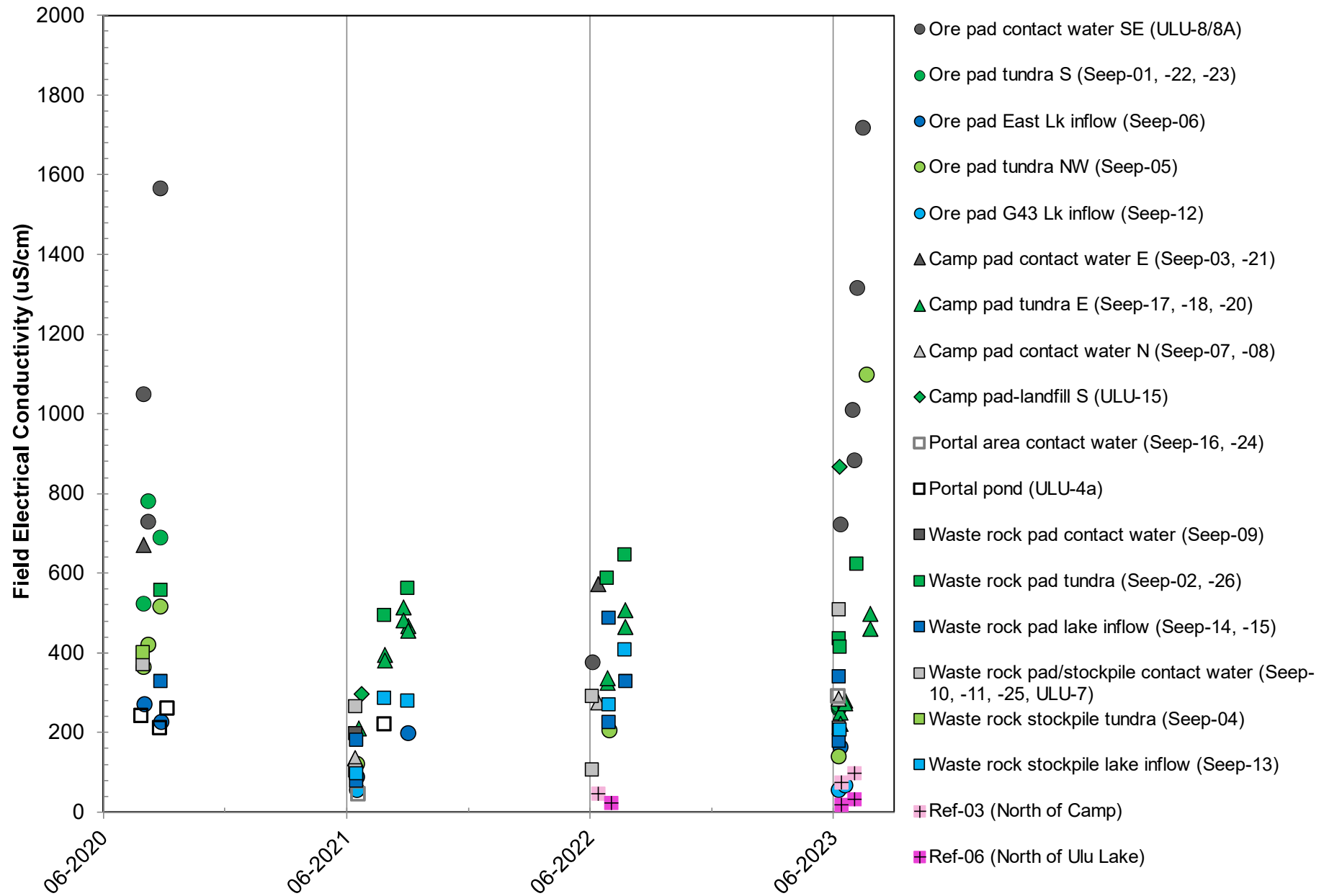
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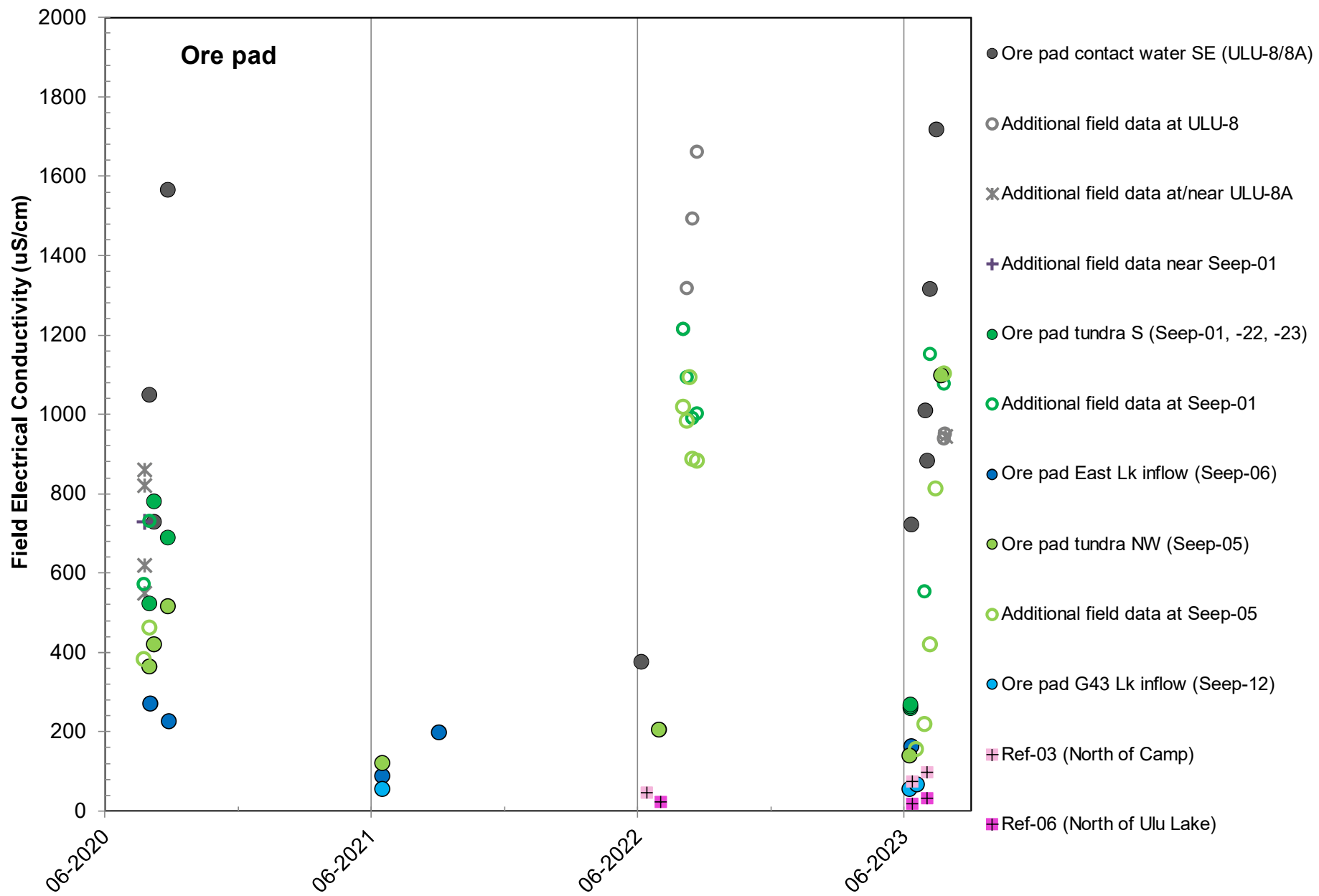
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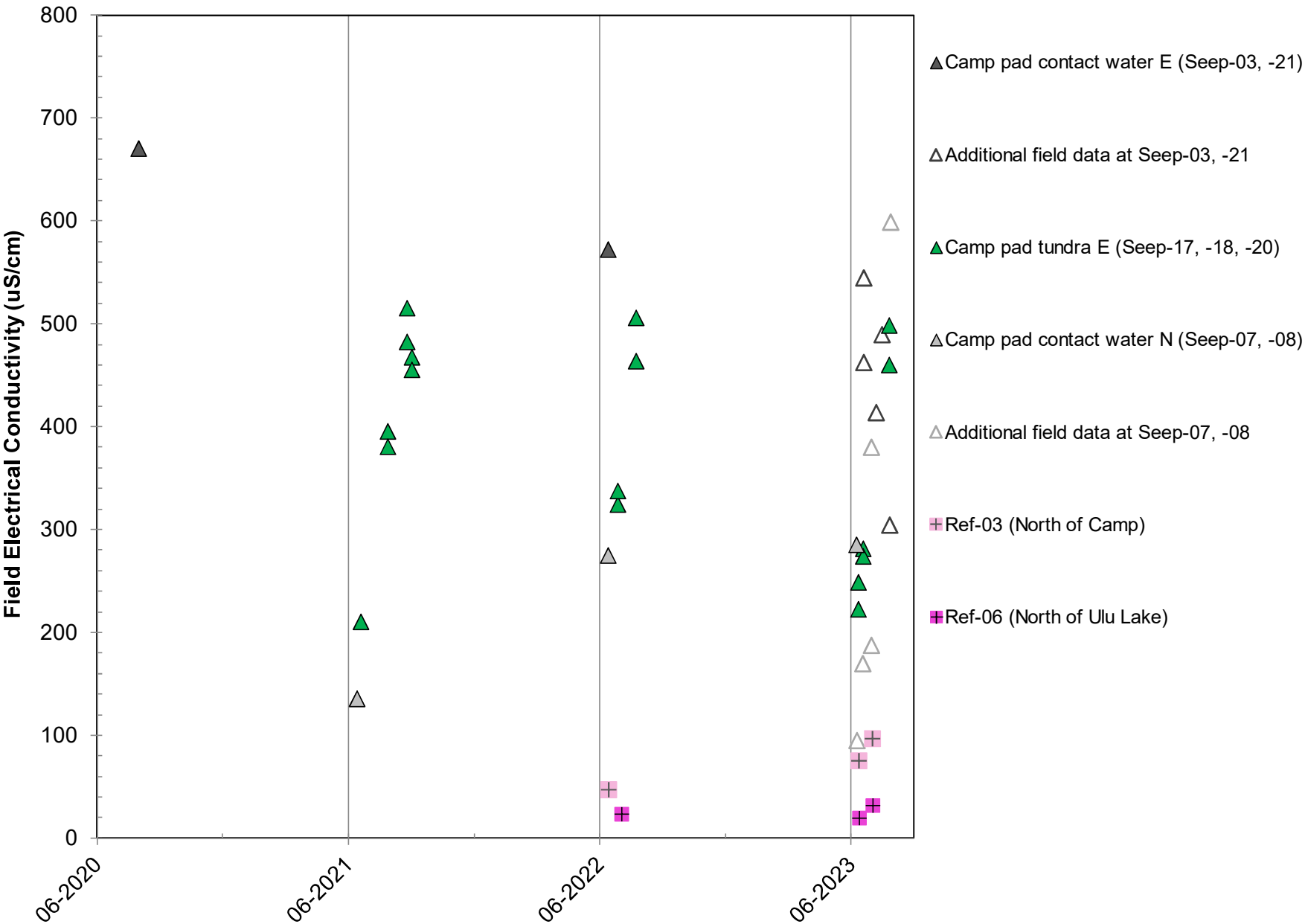
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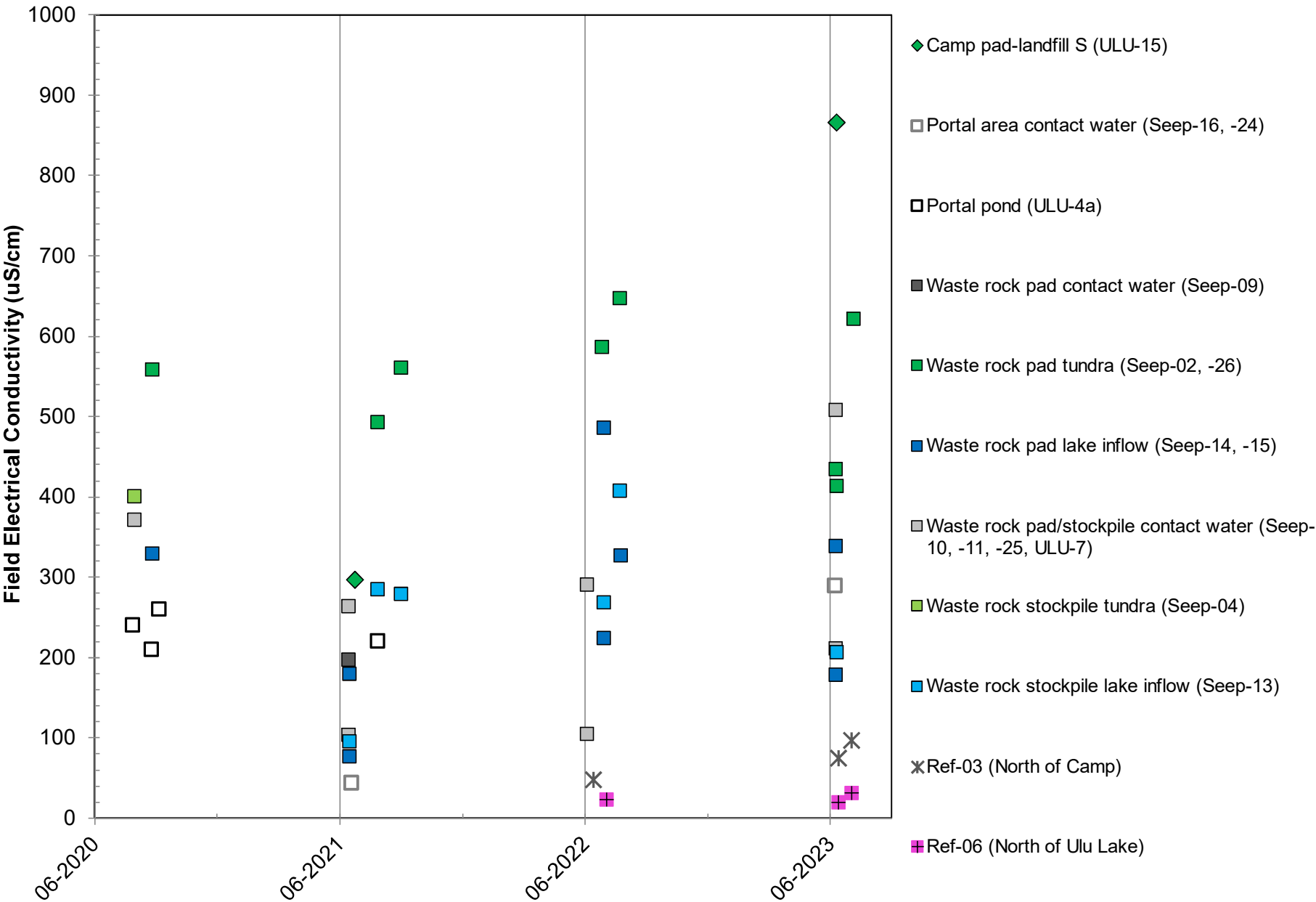
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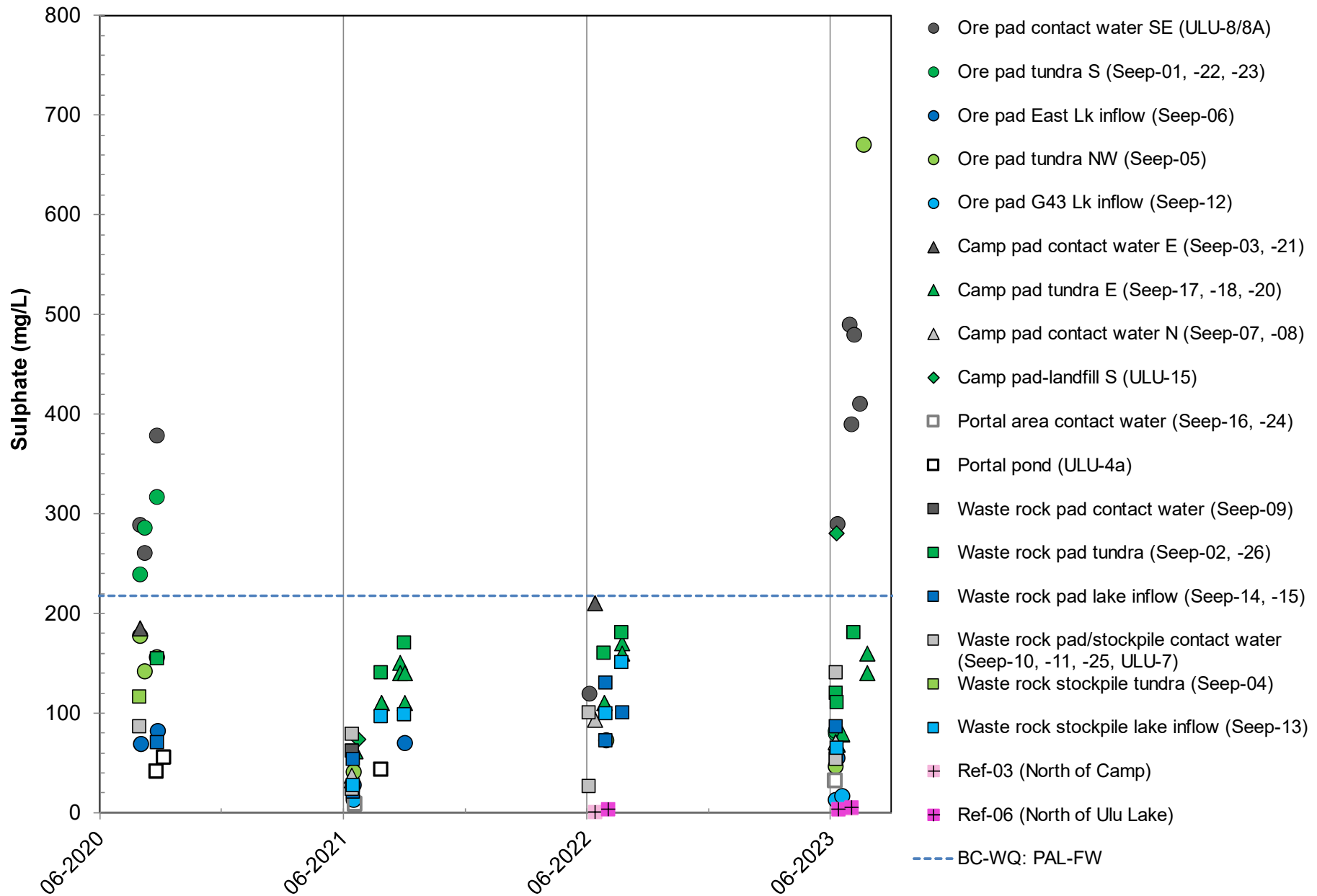
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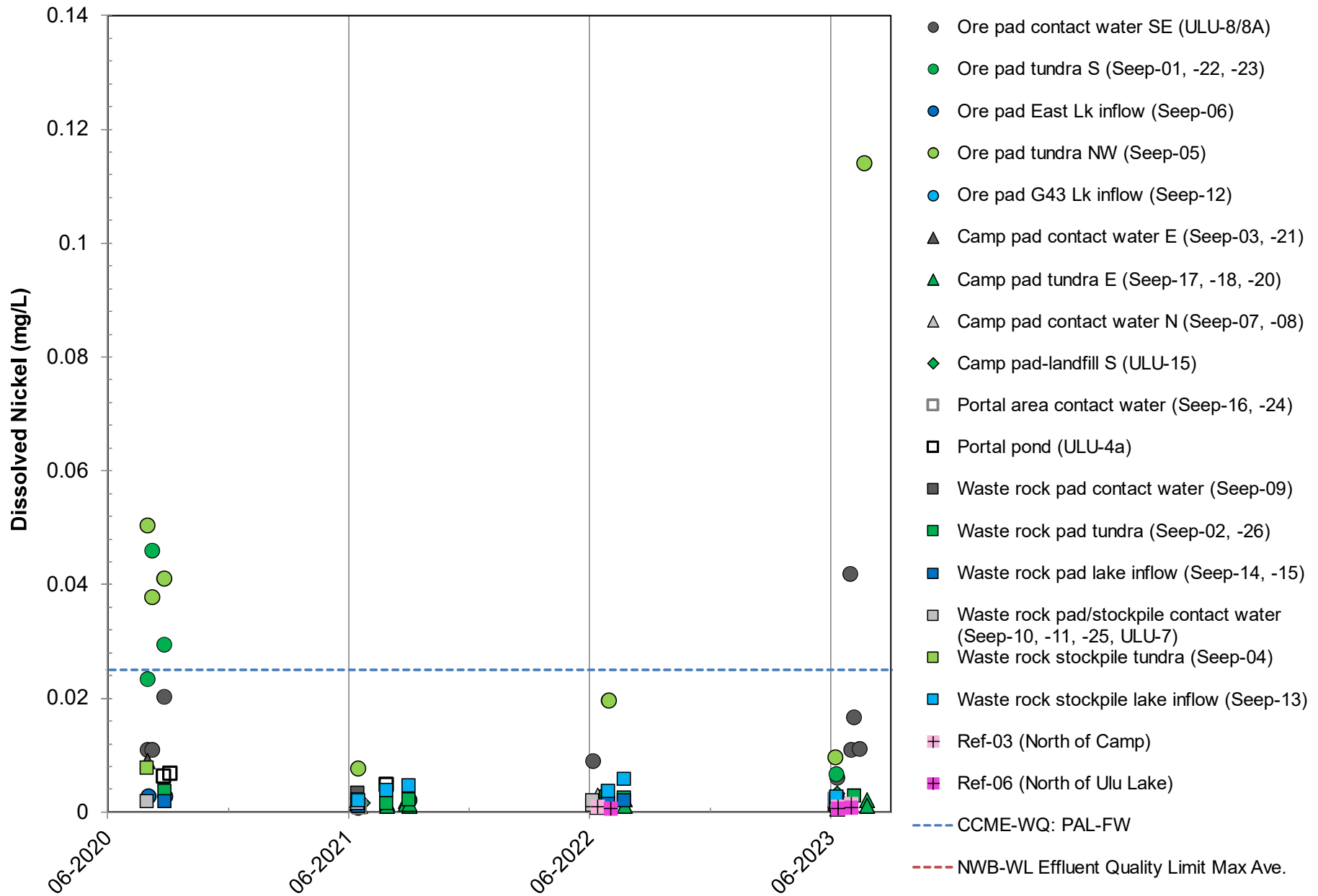
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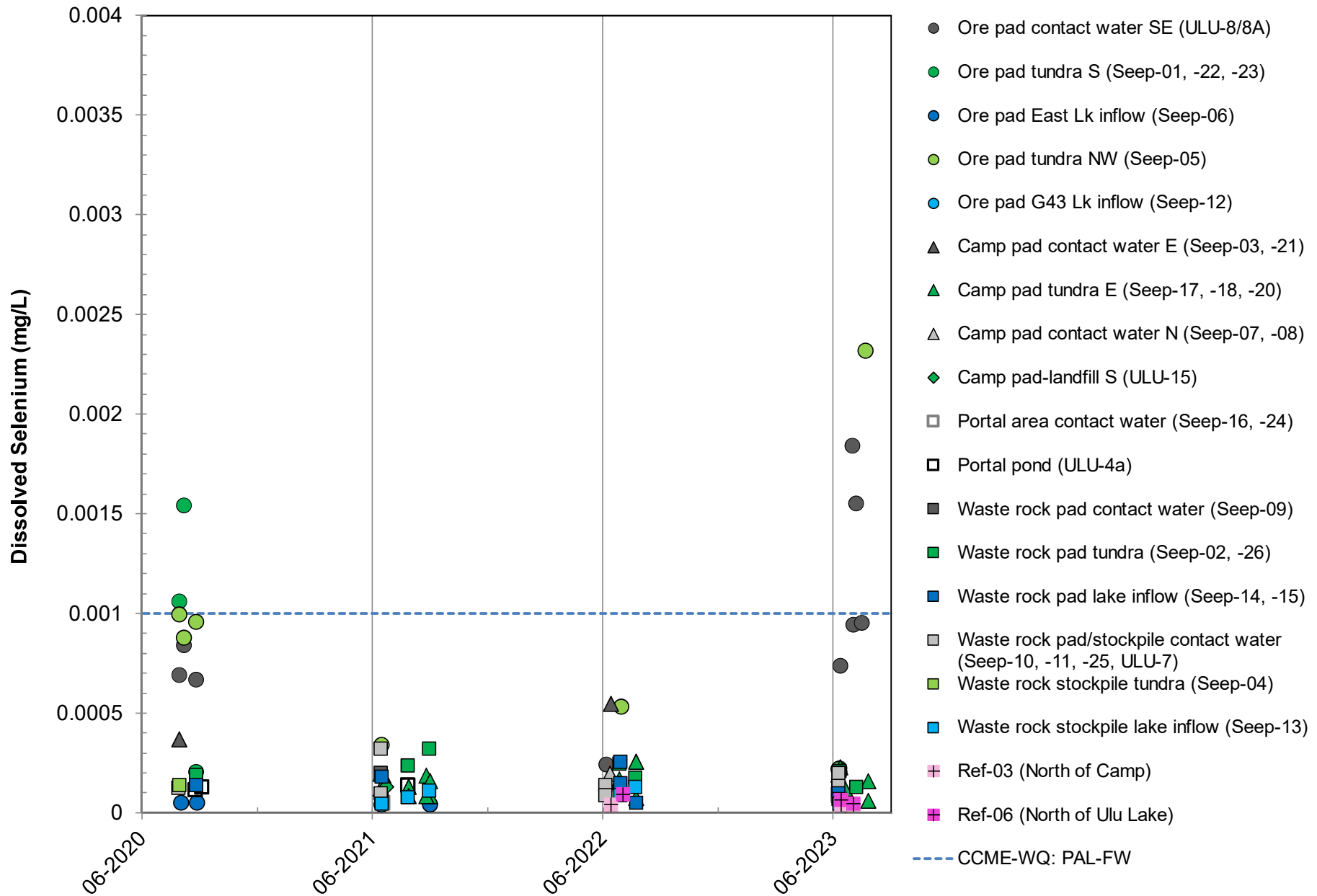
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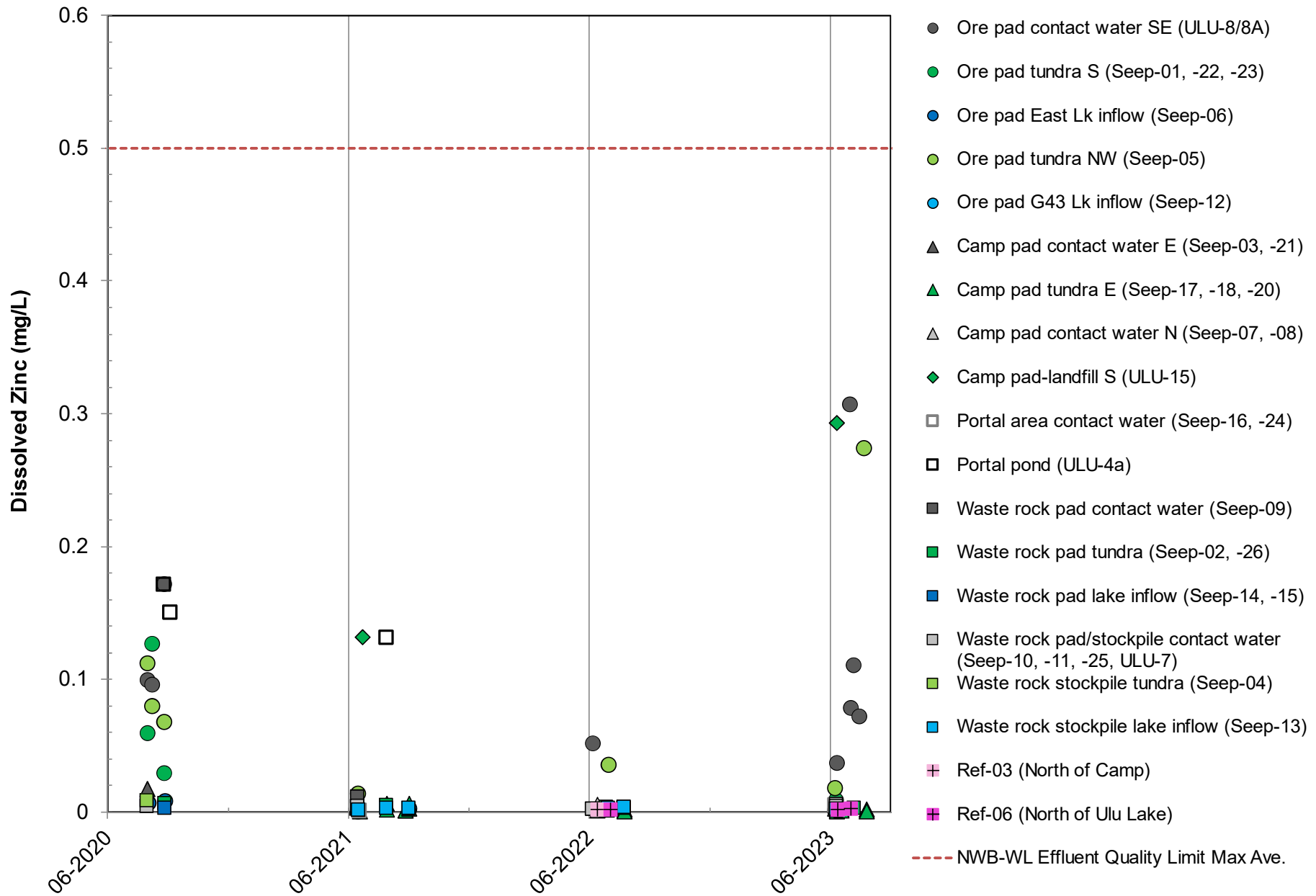
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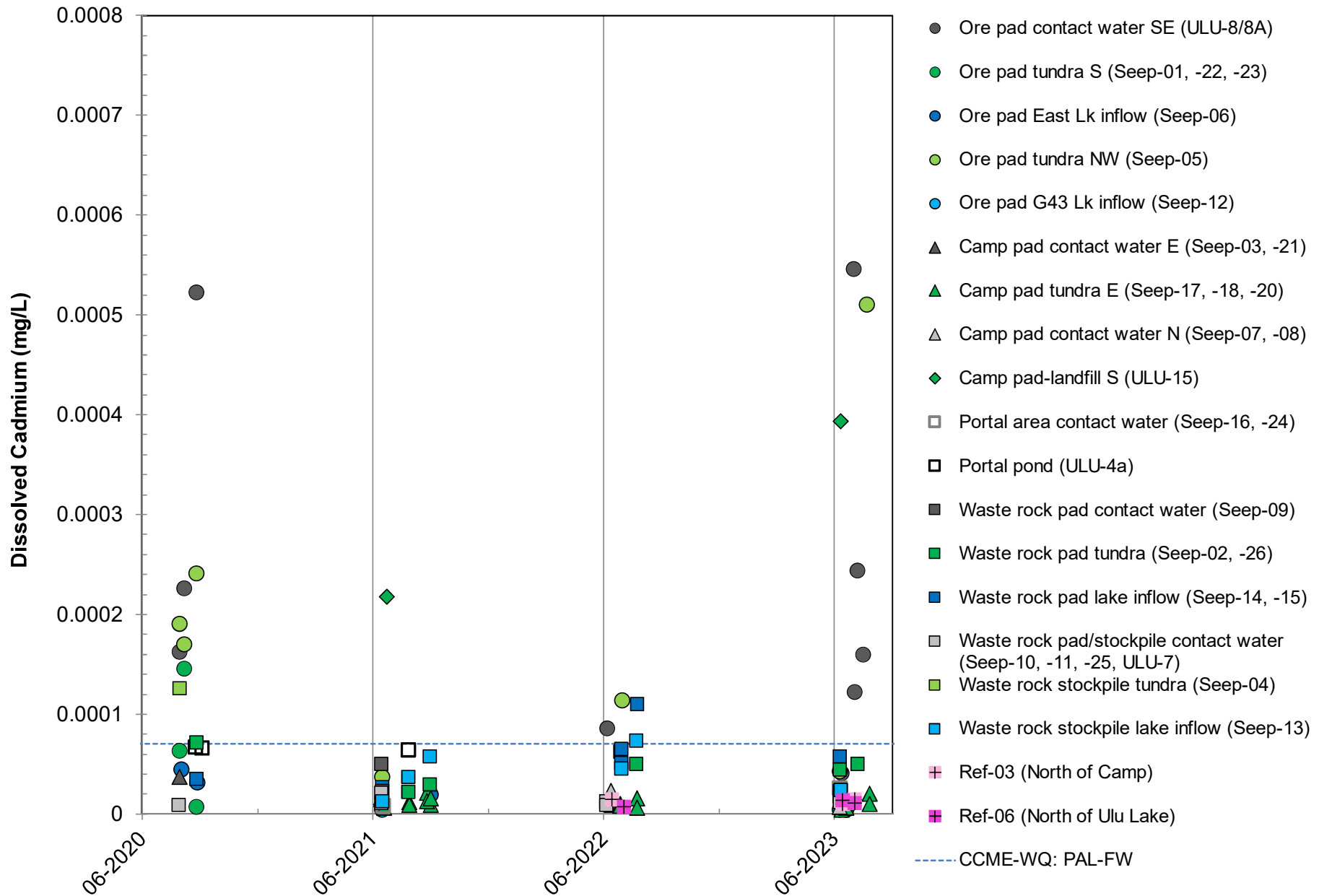
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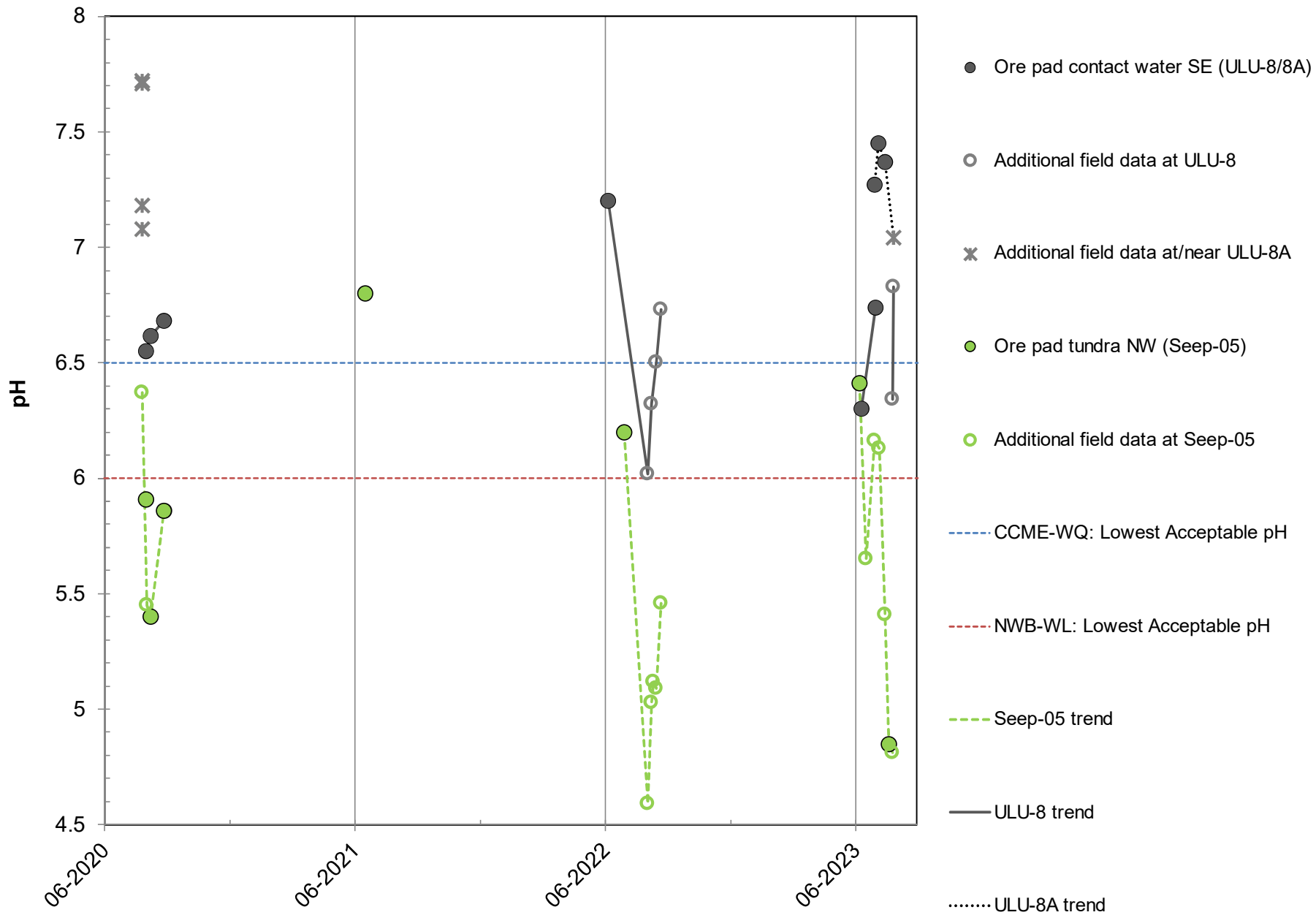
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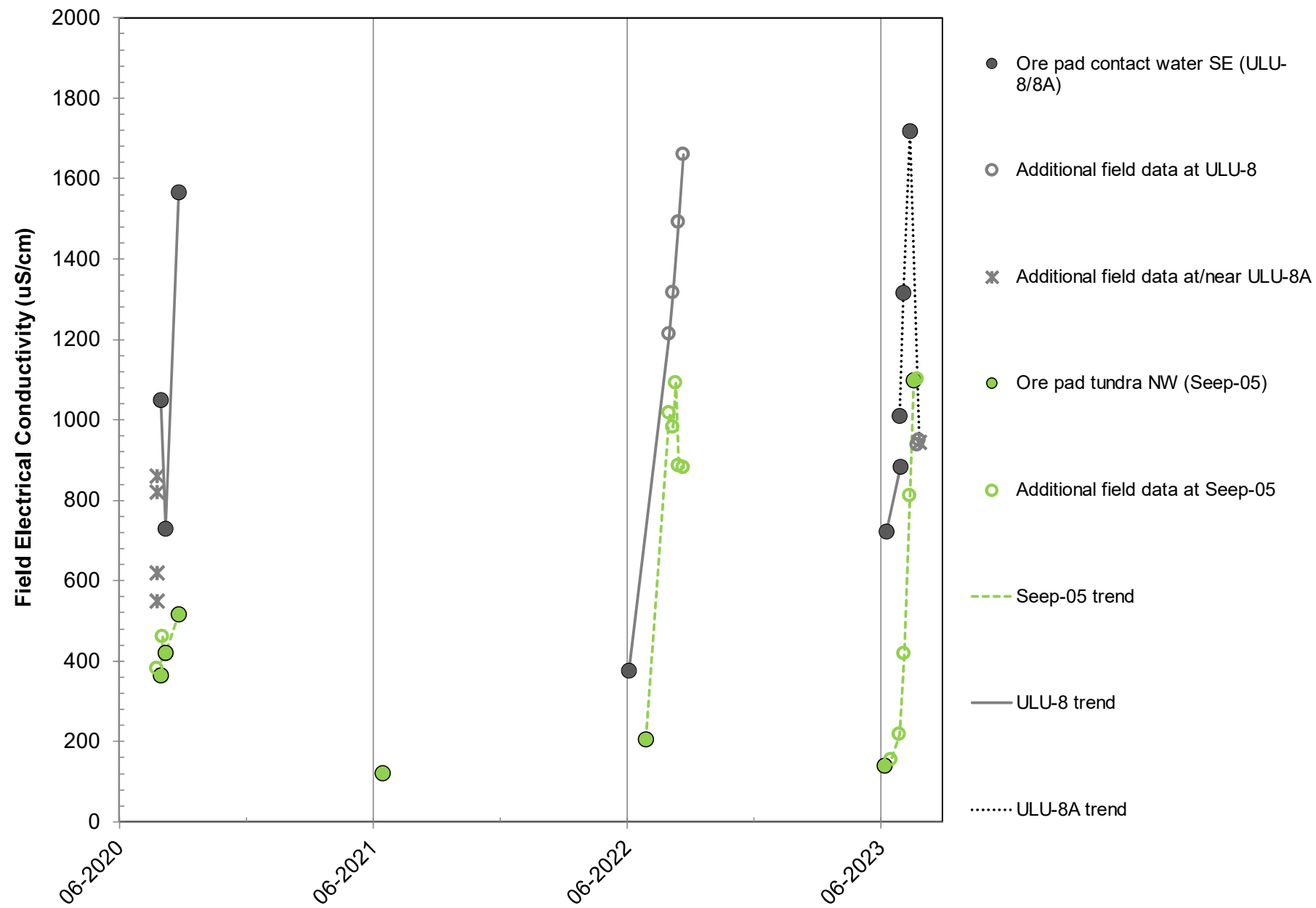
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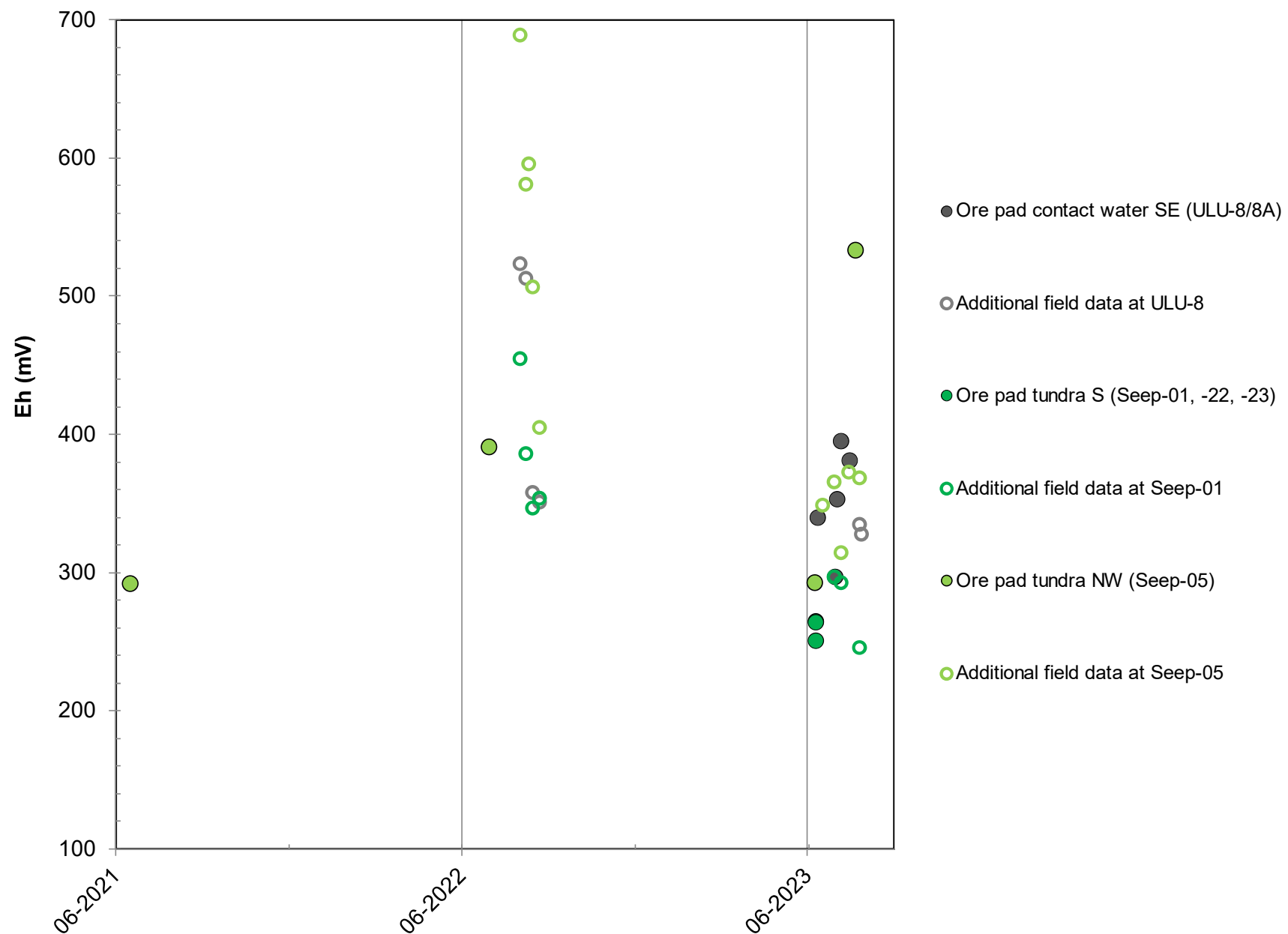
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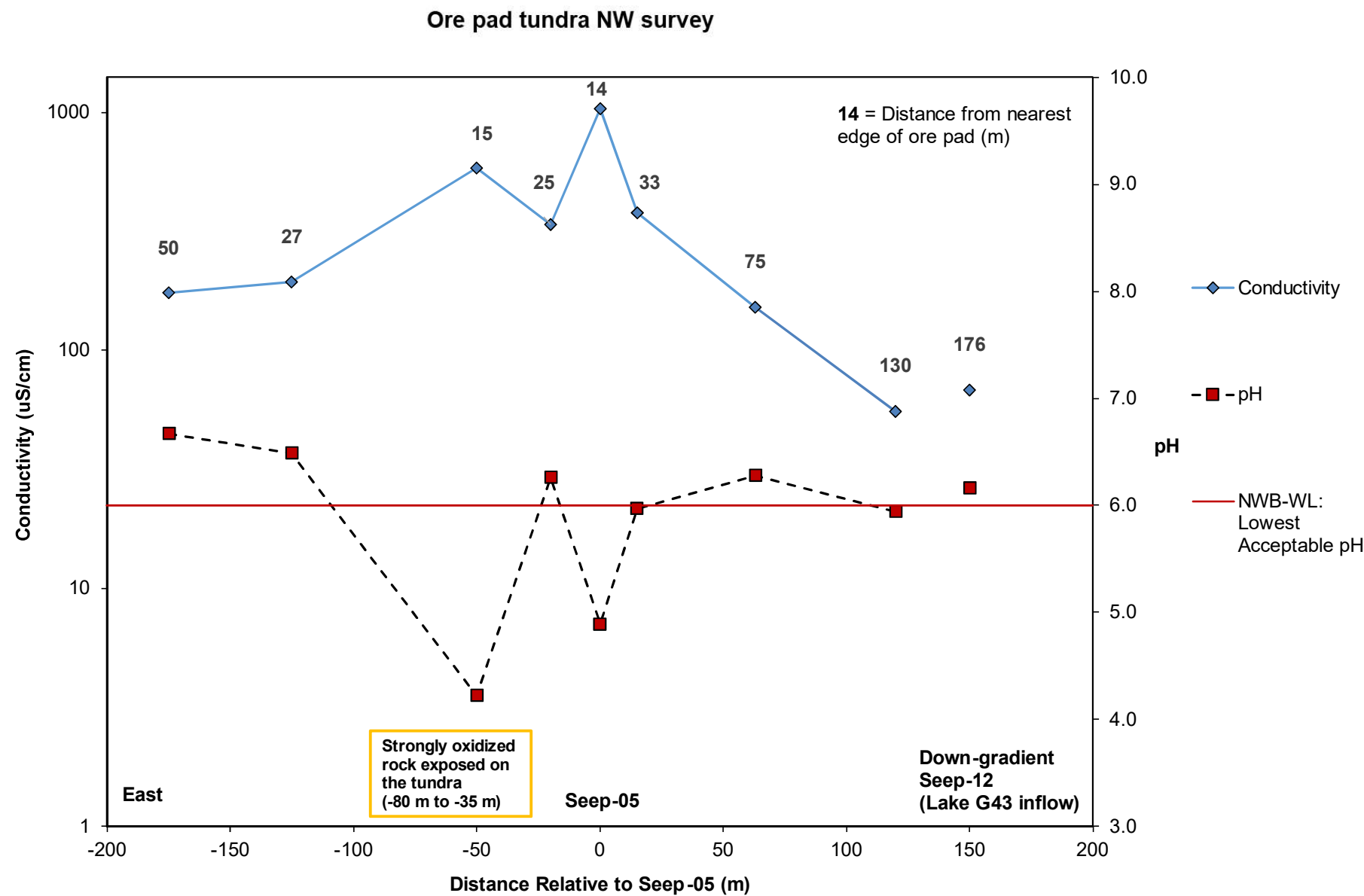


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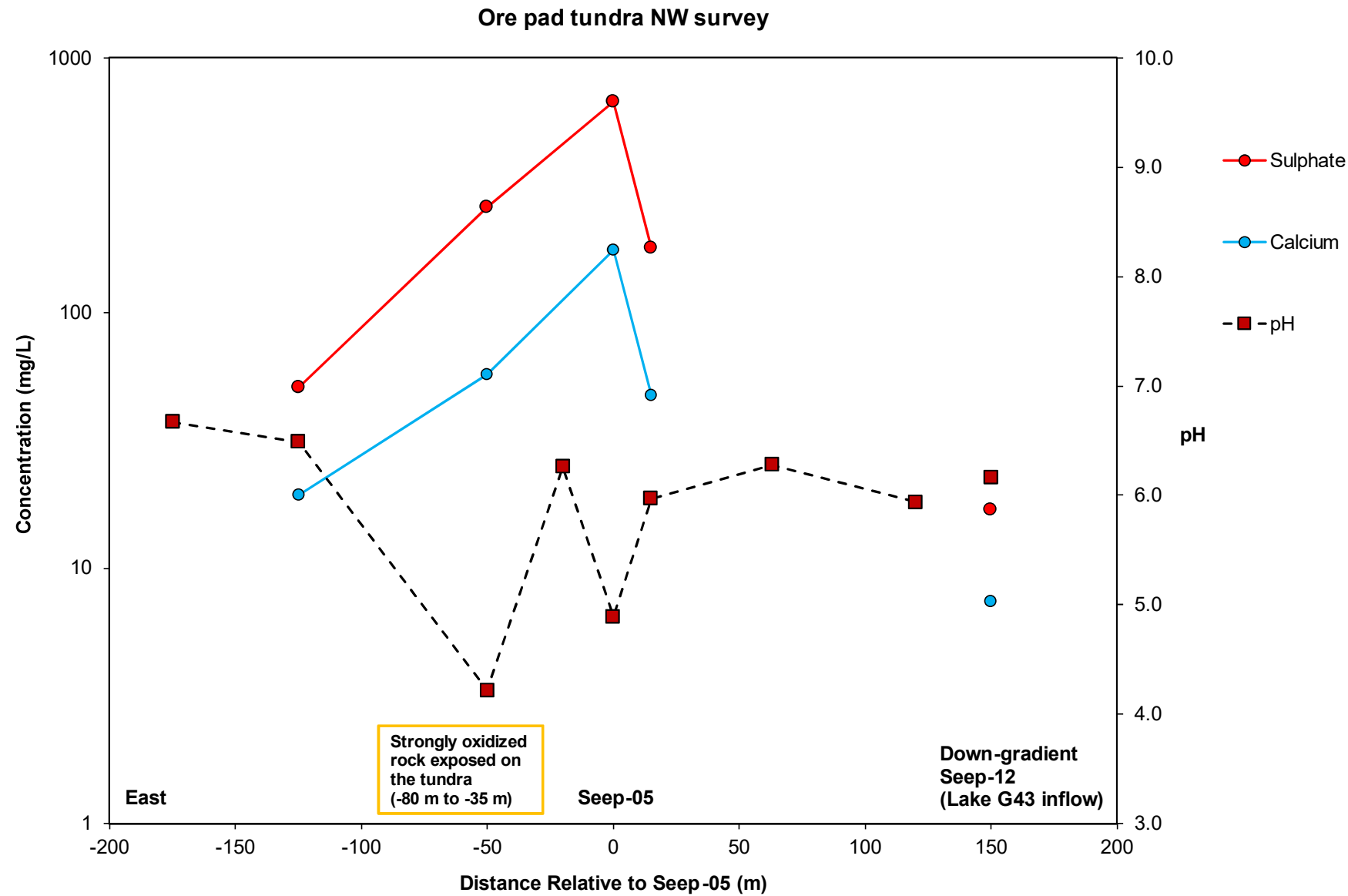


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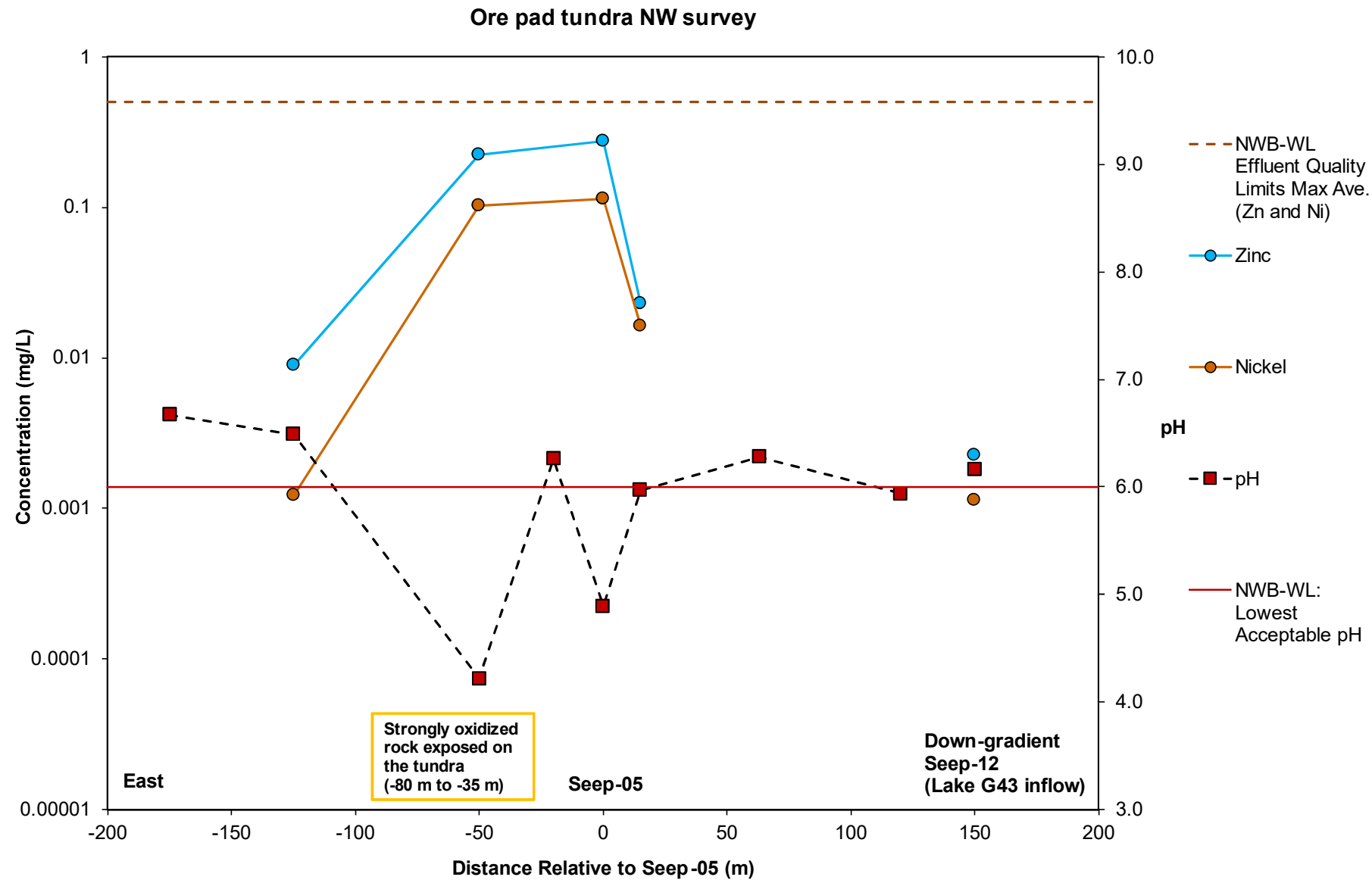




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Sample ID Convention	Area	Represents	Sampling Date	Plotting group/Legend entry	Time (24hr)	Sampled by	Field	Field	Field	Field	Field	Lab pH	Lab Conductivity	Total Dissolved Solids	
							pH	EC	Flow	DO	ORP				ORP (Eh)
							pH units	uS/cm	L/s	mg/L	mV				mV
Units															
DL													2	10	
ULU-8	Ore pad E	Contact water?	7/31/2020	Ore pad contact water SE (ULU-8/8A)	14:45	AS	6.6	1050	?	#N/A	#N/A	#N/A	#N/A	927	585
ULU-8	Ore pad E	Contact water?	8/7/2020	Ore pad contact water S	10:00	AS	6.6	728	?	#N/A	#N/A	#N/A	7.12	728	515
ULU-8	Ore pad E	Contact water?	8/26/2020	Ore pad contact water S	17:05	AS	6.7	1567	0	#N/A	#N/A	#N/A	#N/A	1390	1020
ULU-8	Ore pad E	Contact water	6/6/2022	Ore pad contact water S	13:58	LW	7.2	375	0	#N/A	#N/A	#N/A	7.2	375	220
ULU-8	Ore pad E	Contact water?	6/12/2023	Ore pad contact water S	14:25	ML, OR, KK	6.3	723	0	#N/A	140	340	6.3	690	610
ULU-8	Ore pad E	Contact water	7/3/2023	Ore pad contact water S	11:28	ML, JK	6.7	883	0.035	#N/A	153	353	6.74	880	760
ULU-8A	Ore pad E	Contact water	7/1/2023	Ore pad contact water SE (ULU-8/8A)	15:38	ML, Avalak	7.3	1010	0.023	#N/A	97	297	7.27	1000	850
ULU-8A	Ore pad E	Contact water	7/7/2023	Ore pad contact water S	14:27	OR, TM	7.5	1315	0.0119	1.73	195	395	7.45	990	760
ULU-8A	Ore pad E	Contact water	7/16/2023	Ore pad contact water S	9:45	OR	7.4	1719	0.0182	2.57	181	381	7.37	910	710
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	9/5/2019	Ore pad tundra S (Seep-01, -22, -23)		AS	#N/A	713	?	#N/A	#N/A	#N/A	7.33	713	598
Seep-01	Ore pad S	Surface flow?	7/31/2020	Ore pad tundra S	9:30	AS	6.5	523	<0.017	#N/A	#N/A	#N/A	#N/A	523	370
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/7/2020	Ore pad tundra S	10:15	AS	6.1	780	0	#N/A	#N/A	#N/A	6.82	578	409
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/26/2020	Ore pad tundra S	16:40	AS	6.4	689	0	#N/A	#N/A	#N/A	#N/A	740	523
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	6/10/2023	Ore pad tundra S	10:25	OR, KK	6.6	259	0	#N/A	65	265	6.56	200	120
Seep-22	Ore pad W	Ore pad sub-surface drainage in tundra?	6/10/2023	Ore pad tundra W (Seep-01, -22, -23)	9:10	ML, OR, KK	6.4	264	0	#N/A	51	251	6.4	240	170
Seep-23	Ore pad E	Ore pad sub-surface drainage in boulders	6/10/2023	Ore pad tundra S (Seep-01, -22, -23)	11:20	ML, OR, KK	7.0	268	0	#N/A	64	264	6.98	250	160
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	7/31/2020	Ore pad tundra NW (Seep-05)	10:00	AS	5.9	365	?	#N/A	#N/A	#N/A	#N/A	365	258
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/7/2020	Ore pad tundra NW	9:40	AS	5.4	420	?	#N/A	#N/A	#N/A	5.52	283	200
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/26/2020	Ore pad tundra NW	16:20	AS	5.9	516	0	#N/A	#N/A	#N/A	#N/A	474	335
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/16/2021	Ore pad tundra NW	10:05	KK/LW	6.8	122	0	#N/A	92	292	6.54	130	100
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/30/2022	Ore pad tundra NW	15:18	LW	6.2	205	0	#N/A	191	391	5.74	210	130
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/9/2023	Ore pad tundra NW	15:17	OR, ML, KK	6.4	139	0	#N/A	93	293	6.41	130	76
Seep-05 SW	Ore pad W	Ore pad sub-surface drainage in tundra?	7/22/2023	Ore pad tundra NW	8:15	or, kk	4.9	1098	0	8	333	533	4.85	1100	810
Seep-05 SW +15	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	NOT PLOTTED on regular charts	9:30	or, kk	5.9	419	0	#N/A	162	362	5.93	420	260
Seep-05 SW-50	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	NOT PLOTTED on regular charts	10:10	or, kk	4.3	621	0	5.6	407	607	4.26	620	360
Seep-05 SW-125	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	NOT PLOTTED on regular charts	11:29	or, kk	6.4	182	0	3.8	195	395	6.41	190	88
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/2/2020	Ore pad East Lk inflow (Seep-06)	15:00	AS	6.5	270	?	#N/A	#N/A	#N/A	#N/A	214	151
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/27/2020	Ore pad East Lk inflow	10:00	AS	7.3	227	?	#N/A	#N/A	#N/A	#N/A	198	140
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/16/2021	Ore pad East Lk inflow	16:00	KK/LW	6.7	89	0.37	#N/A	135	335	6.56	91	56
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	9/1/2021	Ore pad East Lk inflow	20:18	LW	6.3	199	0.108	8.4	#N/A	#N/A	6.42	200	150
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/12/2023	Ore pad East Lk inflow	13:24	OR, KK	6.2	163	0.03	#N/A	163	363	6.2	150	160
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/16/2021	Ore pad G43 Lk inflow (Seep-12)	14:15	KK/LW	6.7	56	0.021	#N/A	127	327	6.55	61	92
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/9/2023	Ore pad G43 Lk inflow	16:20	OR, KK	6.8	55	0.0141	#N/A	108	308	6.84	51	48
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/19/2023	Ore pad G43 Lk inflow	14:14	OR, ML	6.2	68	0.0169	#N/A	126	326	6.16	66	88
Seep-03	Camp pad N	Contact water?	7/31/2020	Camp pad contact water E (Seep-03, -21)	8:45	AS	7.4	670	?	#N/A	#N/A	#N/A	#N/A	471	333
Seep-21	Camp pad N	Contact water?	6/14/2022	Camp pad contact water E	15:33	LW	7.6	572	0	#N/A	#N/A	#N/A	7.09	600	400

Sample ID Convention	Area	Represents	Sampling Date	Plotting group/Legend entry	Time (24hr)	Sampled by	Field	Field	Field	Field	Field	Field	Lab pH	Lab Conductivity	Total Dissolved Solids
							pH	EC	Flow	DO	ORP	ORP (Eh)			
							pH units	uS/cm	L/s	mg/L	mV	mV			
Units															
DL													2	10	
Seep-07	Camp pad N	Contact water	6/14/2021	Camp pad contact water N (Seep-07, -08)	10:25	KK/LW	7.7	135	0.1	#N/A	170	370	7.56	150	88
Seep-08	Camp pad N	Contact water	6/14/2021	Camp pad contact water N	14:30	KK/LW	7.7	135	0.067	#N/A	164	364	7.37	150	110
Seep-08	Camp pad N	Contact water	6/13/2022	Camp pad contact water N	13:52	LW	7.3	275	0.31	#N/A	#N/A	#N/A	7.22	290	180
Seep-08	Camp pad N	Contact water	6/9/2023	Camp pad contact water N	13:38	OR, KK	7.2	285	0.0006	#N/A	11.4	211	7.21	270	280
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2021	Camp pad tundra E (Seep-17, -18, -20)	19:30	KK/LW	7.0	210	0.08	#N/A	#N/A	#N/A	6.93	200	140
Seep-17	Drill core/Camp pad	Tundra seep	7/29/2021	Camp pad tundra E	16:53	LW	6.9	395	0.054	#N/A	165	365	6.71	370	220
Seep-17	Drill core/Camp pad	Tundra seep	8/26/2021	Camp pad tundra E	14:40	LW	6.9	515	0.082	3.7	#N/A	#N/A	7.46	510	320
Seep-17	Drill core/Camp pad	Tundra seep	9/1/2021	Camp pad tundra E	10:45	LW	7.1	467	0.553	7.6	#N/A	#N/A	6.8	370	180
Seep-17	Drill core/Camp pad	Tundra seep	6/27/2022	Camp pad tundra E	14:11	LW	7.1	324	0.215	#N/A	459	659	6.52	310	200
Seep-17	Drill core/Camp pad	Tundra seep	7/24/2022	Camp pad tundra E	14:54	LW	6.9	506	0.406	7.7	#N/A	#N/A	7.01	500	340
Seep-17	Drill core/Camp pad	Tundra seep	6/12/2023	Camp pad tundra E	16:10	ML, OR, KK	6.7	249	0.2613	#N/A	125	325	6.67	240	100
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2023	Camp pad tundra E	16:16	OR, ML	6.5	281	0.1125	#N/A	135	335	6.46	290	210
Seep-17	Drill core/Camp pad	Tundra seep	7/27/2023	Camp pad tundra E	13:34	RE, ML	7.1	498	0.27	4.3	137	337	7.08	490	360
Seep-18	Drill core/Camp pad	Downstream flow in tundra	7/29/2021	Camp pad tundra E	19:10	LW	7.2	380	0.197	#N/A	167	367	6.8	370	180
Seep-18	Drill core/Camp pad	Downstream flow in tundra	8/26/2021	Camp pad tundra E	13:59	LW	7.2	482	0.086	7	#N/A	#N/A	6.66	470	310
Seep-18	Drill core/Camp pad	Downstream flow in tundra	9/1/2021	Camp pad tundra E	13:51	LW	7.4	455	0.529	9.4	#N/A	#N/A	7.27	440	310
Seep-18	Drill core/Camp pad	Downstream flow in tundra	6/27/2022	Camp pad tundra E	16:55	LW	7.3	337	0.262	#N/A	332	532	7.31	337	210
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/24/2022	Camp pad tundra E	13:51	LW	7.3	464	0.236	9.7	#N/A	#N/A	6.94	450	300
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/12/2023	Camp pad tundra E	17:40	OR, ML	7.1	222	0.0799	#N/A	120	320	7.11	220	230
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/19/2023	Camp pad tundra E	16:55	OR, ML	6.9	274	0.1845	#N/A	129	329	6.87	280	180
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/27/2023	Camp pad tundra E	14:25	RE, ML	7.5	460	0.17	6.4	119	319	7.47	460	320
ULU-15	Landfill	Pre-land fill run off from Camp pad S	6/23/2021	Camp pad-landfill S (ULU-15)	9:40	LW	7.3	297	0.28	#N/A	#N/A	#N/A	7.41	280	
ULU-15	Landfill	Run off from Camp pad S/landfill	6/11/2023	Camp pad tundra S	13:49	ML, OR, KK	7.2	866	0.007	#N/A	95	295	7.17	830	670
Seep-16	Portal	Contact water/snow melt	6/19/2021	Portal area contact water (Seep-16, -24)	16:55	KK/LW	7.6	43	0.262	#N/A	#N/A	#N/A	6.76	44	36
Seep-24	Portal	Contact water	6/10/2023	Portal area contact water	16:00	ML, OR	7.3	289	0.0125	#N/A	94	294	7.28	270	270
ULU-4a	Portal	Portal Pond	7/29/2020	Portal pond (ULU-4a)	20:15	AS	7.6	240	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-4a	Portal	Portal Pond	8/26/2020	Portal pond	17:45	AS	7.6	209	0	#N/A	#N/A	#N/A	#N/A	181	106
ULU-4a	Portal	Portal Pond	9/5/2020	Portal pond		AS	7.6	259	0	#N/A	#N/A	#N/A	7.29	229	151
ULU-4a	Portal	Portal Pond	7/29/2021	Portal pond	11:30	LW	7.9	220	0	#N/A	178	378	6.51	210	92
Seep-09	Waste rock pad	Contact water	6/15/2021	Waste rock pad contact water (Seep-09)	9:35	KK/LW	7.6	196	0.139	#N/A	152	352	7.19	200	360
Seep-10	Waste rock pad	Contact water	6/15/2021	Waste rock pad/stockpile contact water (Seep-10, -11, -25, ULL	14:20	KK/LW	7.8	263	0.116	#N/A	152	352	7.42	270	240
Seep-10	Waste rock pad	Contact water	6/6/2022	Waste rock pad/stockpile contact water	14:12	LW	8.0	290	1.04	#N/A	#N/A	#N/A	6.69	290	200
Seep-25	Waste rock pad	Contact water	6/11/2023	Waste rock pad/stockpile contact water	11:25	OR, KK	7.2	507	0.0052	#N/A	114	314	7.23	460	290
ULU-7	Waste rock pad	Contact water	7/31/2020	Waste rock pad/stockpile contact water	15:30	AS	7.1	370	?	#N/A	#N/A	#N/A	#N/A	307	186

																Field	Field	Field	Field	Field		
Sample ID Convention	Area	Represents	Sampling Date	Plotting group/Legend entry	Time (24hr)	Sampled by	pH	EC	Flow	DO	ORP	ORP (Eh)	Lab pH	Lab Conductivity	Total Dissolved Solids							
Units							pH units	uS/cm	L/s	mg/L	mV	mV	pH units	uS/cm	mg/L							
DL														2	10							
Seep-11	Waste rock pad	Contact water	6/15/2021	Waste rock pad/stockpile contact water	15:35	KK/LW	7.6	103	1.7	#N/A	152	352	7.14	110	180							
Seep-11	Waste rock pad	Contact water	6/6/2022	Waste rock pad/stockpile contact water	17:51	LW	8.1	104	0.89	#N/A	#N/A	#N/A	6.63	110	68							
Seep-11	Waste rock pad	Contact water	6/11/2023	Waste rock pad/stockpile contact water	10:15	OR, ML, KK	7.6	210	0.0222	#N/A	89	289	7.62	190	140							
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	8/27/2020	Waste rock pad tundra (Seep-02, -26)	9:10	AS	7.7	557	0.033	#N/A	#N/A	#N/A	#N/A	557	375							
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/29/2021	Waste rock pad tundra	20:49	LW	7.9	492	0.023	#N/A	151	351	6.92	460	270							
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	9/1/2021	Waste rock pad tundra	18:00	LW	7.8	560	0.064	7	#N/A	#N/A	6.95	530	360							
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/28/2022	Waste rock pad tundra	10:00	LW	8.5	586	1.535	#N/A	267	467	6.83	550	370							
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/24/2022	Waste rock pad tundra	16:46	LW	7.6	646	0.427	1.71	#N/A	#N/A	7.31	630	400							
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/11/2023	Waste rock pad tundra	15:05	OR, ML, KK	7.2	434	0.07	#N/A	105	305	7.2	400	260							
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/8/2023	Waste rock pad tundra	13:15	OR, JB	7.8	621	0.1401	2.21	188	388	7.75	590	400							
Seep-26	Waste rock pad	WR pad seep-surface flow in tundra	6/12/2023	Waste rock pad tundra (Seep-02, -26)	9:20	ML, OR,KK	7.0	413	0.0675	#N/A	129	329	7.04	370	300							
Seep-04	Waste rock pad	WR pad seep-surface flow in tundra	8/1/2020	Waste rock stockpile tundra (Seep-04)	9:15	AS	7.4	400	0.033	#N/A	#N/A	#N/A	#N/A	281	199							
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	Waste rock stockpile lake inflow (Seep-13)	9:38	KK/LW	7.5	95	0.418	#N/A	140	340	6.95	98	100							
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/29/2021	Waste rock stockpile lake inflow	9:25	LW	7.2	284	0.009	#N/A	150	350	6.48	280	140							
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	9/1/2021	Waste rock stockpile lake inflow	19:37	LW	7.4	278	0.089	8.7	#N/A	#N/A	6.58	280	260							
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	Waste rock stockpile lake inflow	8:45	LW	6.7	268	0.205	#N/A	226	426	6.09	260	180							
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/24/2022	Waste rock stockpile lake inflow	15:18	LW	6.9	407	0.065	1.85	#N/A	#N/A	6.54	390	260							
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/12/2023	Waste rock stockpile lake inflow	10:35	ML, OR,KK	7.2	205	0.1731	#N/A	97	297	7.23	190	180							
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	8/27/2020	Waste rock pad lake inflow (Seep-14, -15)	9:30	AS	7.9	328	0.05	#N/A	#N/A	#N/A	#N/A	279	197							
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	Waste rock pad lake inflow	11:00	KK/LW	7.1	179	0.905	#N/A	140	340	7.12	180	160							
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	Waste rock pad lake inflow	9:55	LW	6.6	485	0.008	#N/A	242	442	6.45	460	320							
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	Waste rock pad lake inflow	17:37	OR, KK	6.9	338	0.384	#N/A	99	299	6.92	300	190							
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	Waste rock pad lake inflow	14:38	KK/LW	7.0	76	0.092	#N/A	126	326	6.87	79	88							
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	Waste rock pad lake inflow	10:50	LW	6.8	223	0.149	#N/A	181	381	6.21	210	140							
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	7/25/2022	Waste rock pad lake inflow	14:30	LW	6.8	326	0.048	1.73	#N/A	#N/A	6.61	310	200							
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	Waste rock pad lake inflow	16:48	ML, OR,KK	7.2	177	0.087	#N/A	103	303	7.23	170	120							
Seep-19	Camp 3	Contact water?	7/30/2021	Camp 3 road contact water (Seep-19)	10:15	LW	7.7	220	0.205	#N/A	148	348	7	200	120							
Ref-03		Camp impacted background	6/14/2022	Ref-03 (North of Camp)	13:00	LW+IL	6.9	47	0.372	#N/A	#N/A	#N/A	6.13	50	20							
Ref-03		Camp impacted background	6/13/2023		8:40	ML, OR,KK	6.7	75	0.109	#N/A	121	321	6.66	69	64							
Ref-03		Camp impacted background	7/3/2023		10:26	ML, JK	6.6	97	0.078	#N/A	122	322	6.61	96	76							
Ref-06		Background	7/3/2022	Ref-06 (North of Ulu Lake)	10:10	LW	6.7	23	0.1	#N/A	204	404	6.01	22	16							
Ref-06		Background	6/13/2023		10:30	ML, OR,KK	6.4	20	0.202	#N/A	116	316	6.42	18	56							
Ref-06		Background	7/3/2023		8:30	ML, JK	6.7	32	0.117	#N/A	120	320	6.65	31	16							
Notes																						
Renamed ID's																						
Italics <DL																						
Calculated from other value																						

Sample ID Convention	Area	Represents	Sampling Date	Total Suspended Solids	Turbidity	Acidity (pH 4.5)	Acidity (pH 8.3)	Alkalinity (Total as CaCO3)	Alkalinity (PP as CaCO3)	Total Kjeldahl Nitrogen	Dissolved Nitrate	Dissolved Nitrate	Dissolved Nitrite	Dissolved Nitrite	Dissolved Nitrate plus Nitrite	Dissolved ortho- phosphate	Total Phosphorus
Units				mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	NO3 mg/L	N mg/L	NO2 mg/L	N mg/L	N mg/L	mg/L	mg/L
DL				1	0.1	1	1	1	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
ULU-8	Ore pad E	Contact water?	7/31/2020	7.3		#N/A	#N/A	39.4	#N/A	#N/A	#N/A	3.24	#N/A	0.029	3.27	#N/A	#N/A
ULU-8	Ore pad E	Contact water?	8/7/2020	#N/A	0.57	#N/A	#N/A	34.9	#N/A	#N/A	#N/A	2.93	#N/A	0.029	2.96	#N/A	#N/A
ULU-8	Ore pad E	Contact water?	8/26/2020	5.3	0.35	#N/A	#N/A	34.9	#N/A	#N/A	#N/A	10.6	#N/A	0.059	10.6	#N/A	#N/A
ULU-8	Ore pad E	Contact water	6/6/2022	2.6	0.86	1	5.4	20	1	#N/A	0.79	0.18	#N/A	0.01	0.18	#N/A	#N/A
ULU-8	Ore pad E	Contact water?	6/12/2023	2.2	0.89	1	4.7	23	1	#N/A	1.4	0.32	0.033	0.01	0.32	#N/A	#N/A
ULU-8	Ore pad E	Contact water	7/3/2023	1	0.17	1	5.6	33	1	#N/A	2.9	0.65	0.033	0.01	0.65	#N/A	#N/A
ULU-8A	Ore pad E	Contact water	7/1/2023	1	0.16	1	5	32	1	#N/A	4.1	0.92	0.042	0.013	0.94	#N/A	#N/A
ULU-8A	Ore pad E	Contact water	7/7/2023	4.1	0.15	1	9.1	35	1	#N/A	4.8	1.1	0.033	0.01	1.1	#N/A	#N/A
ULU-8A	Ore pad E	Contact water	7/16/2023	1	1	1	5.4	37	1	#N/A	6.4	1.4	0.033	0.01	1.4	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	9/5/2019	3	#N/A	#N/A	4.9	20.9	#N/A	#N/A	#N/A	0.368	#N/A	0.002	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Surface flow?	7/31/2020	#N/A	#N/A	#N/A	#N/A	13.7	#N/A	#N/A	#N/A	0.528	#N/A	0.01	0.528	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/7/2020	#N/A	0.69	#N/A	#N/A	13.2	#N/A	#N/A	#N/A	0.974	#N/A	0.01	0.974	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/26/2020	#N/A	#N/A	#N/A	#N/A	29.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	6/10/2023	1.2	1.4	1	7.9	14	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Seep-22	Ore pad W	Ore pad sub-surface drainage in tundra?	6/10/2023	1.4	2.3	1	21.5	40	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Seep-23	Ore pad E	Ore pad sub-surface drainage in boulders	6/10/2023	1.5	1.3	1	5.5	33	1	#N/A	1.8	0.4	0.033	0.01	0.4	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	7/31/2020	#N/A	#N/A	#N/A	#N/A	2	#N/A	#N/A	#N/A	0.476	#N/A	0.01	0.476	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/7/2020	#N/A	11.7	#N/A	#N/A	2	#N/A	#N/A	#N/A	0.673	#N/A	0.01	0.673	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/26/2020	#N/A	#N/A	#N/A	#N/A	6.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/16/2021	10	8.3	1	2.5	4.3	1	#N/A	1.2	0.27	0.033	0.01	0.27	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/30/2022	0.99	0.76	1	3.4	3.6	1	#N/A	4.3	0.97	0.033	0.01	0.97	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/9/2023	1	2.5	1	2.6	3.9	1	#N/A	2.2	0.5	0.033	0.01	0.5	#N/A	#N/A
Seep-05 SW	Ore pad W	Ore pad sub-surface drainage in tundra?	7/22/2023	3.6	4.5	1	65.9	1	1	#N/A	6.9	1.6	0.033	0.01	1.6	#N/A	#N/A
Seep-05 SW +15	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	1	0.19	1	12.4	9.2	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Seep-05 SW-50	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	8.6	0.26	1	48.4	1	1	#N/A	7.2	1.6	0.033	0.01	1.6	#N/A	#N/A
Seep-05 SW-125	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	7.3	3.6	1	5.3	35	1	#N/A	0.1	0.024	0.033	0.01	0.024	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/2/2020	#N/A	#N/A	#N/A	#N/A	6.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/27/2020	#N/A	#N/A	#N/A	#N/A	7.3	#N/A	#N/A	#N/A	0.049	#N/A	0.01	0.049	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/16/2021	1	0.5	1	2.1	4	1		0.044	0.01	0.033	0.01	0.01		
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	9/1/2021	1	0.22	1	2.8	5.3	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/12/2023	1	0.96	1	1.5	4.5	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/16/2021	3.4	0.33	1	3	5.7	1		0.084	0.019	0.033	0.01	0.019		
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/9/2023	1	1.4	1	1.2	5.4	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/19/2023	1.3	0.12	1	1	5.4	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Seep-03	Camp pad N	Contact water?	7/31/2020	#N/A	#N/A	#N/A	#N/A	68.7	#N/A	#N/A	#N/A	0.454	#N/A	0.01	0.454	#N/A	#N/A
Seep-21	Camp pad N	Contact water?	6/14/2022	2.4	0.31	1	3.4	74	1	#N/A	10	2.3	0.047	0.014	2.3	#N/A	#N/A

Sample ID Convention	Area	Represents	Sampling Date	Total Suspended Solids	Turbidity	Acidity (pH 4.5)	Acidity (pH 8.3)	Alkalinity (Total as CaCO3)	Alkalinity (PP as CaCO3)	Total Kjeldahl Nitrogen	Dissolved Nitrate	Dissolved Nitrate	Dissolved Nitrite	Dissolved Nitrite	Dissolved Nitrate plus Nitrite	Dissolved ortho- phosphate	Total Phosphorus
Units				mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	NO3 mg/L	N mg/L	NO2 mg/L	N mg/L	N mg/L	mg/L	mg/L
DL				1	0.1	1	1	1	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Seep-07	Camp pad N	Contact water	6/14/2021	6.5	3	1	2.6	33	1		1.2	0.27	0.033	0.01	0.27		
Seep-08	Camp pad N	Contact water	6/14/2021	1.3	2	1	2.4	30	1		0.6	0.13	0.033	0.01	0.13		
Seep-08	Camp pad N	Contact water	6/13/2022	1.2	2.1	1	1.7	39	1	#N/A	4.4	0.99	0.033	0.01	0.99	#N/A	#N/A
Seep-08	Camp pad N	Contact water	6/9/2023	1	0.67	1	4.5	57	1	#N/A	4.3	0.98	0.033	0.01	0.98	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2021	1	0.75	1	3	26	1		1.5	0.34	0.033	0.01	0.34		
Seep-17	Drill core/Camp pad	Tundra seep	7/29/2021	1	0.31	1	5	55	1	#N/A	3.7	0.84	0.033	0.01	0.84	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	8/26/2021	1	0.17	1	8.8	60	1	#N/A	4.8	1.1	0.033	0.01	1.1	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	9/1/2021	10	0.37	1	2.1	55	1	#N/A	1.3	0.29	0.033	0.01	0.29	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	6/27/2022	0.96	0.28	1	4.2	35	1	#N/A	2.2	0.49	0.033	0.01	0.49	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	7/24/2022	1	0.37	1	6.2	53	1	#N/A	4.4	0.99	0.033	0.01	0.99	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	6/12/2023	1	0.61	1	4.7	32	1	#N/A	2.2	0.5	0.033	0.01	0.5	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2023	1	0.1	1	4.4	38	1	#N/A	2.5	0.57	0.033	0.01	0.57	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	7/27/2023	1	0.1	1	9.5	59	1	#N/A	19	4.2	0.33	0.099	4.3	#N/A	#N/A
Seep-18	Drill core/Camp pad	Downstream flow in tundra	7/29/2021	10	0.37	1	2.1	55	1	#N/A	1.3	0.29	0.033	0.01	0.29	#N/A	#N/A
Seep-18	Drill core/Camp pad	Downstream flow in tundra	8/26/2021	5.9	0.78	1	4.8	55	1	#N/A	1.7	0.39	0.033	0.01	0.39	#N/A	#N/A
Seep-18	Drill core/Camp pad	Downstream flow in tundra	9/1/2021	1	0.31	1	2.5	52	1	#N/A	2.6	0.58	0.033	0.01	0.58	#N/A	#N/A
Seep-18	Drill core/Camp pad	Downstream flow in tundra	6/27/2022	5.5	2.2	1	2.3	32	1	#N/A	1.3	0.29	0.033	0.01	0.29	#N/A	#N/A
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/24/2022	5.2	1.1	1	2	46	1	#N/A	0.11	0.024	0.033	0.01	0.024	#N/A	#N/A
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/12/2023	3.2	0.89	1	2.4	31	1	#N/A	0.83	0.19	0.033	0.01	0.19	#N/A	#N/A
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/19/2023	0.99	0.26	1	2	37	1	#N/A	1.1	0.25	0.033	0.01	0.25	#N/A	#N/A
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/27/2023	1.9	0.11	1	7.3	68	1	#N/A	0.14	0.032	0.033	0.01	0.032	#N/A	#N/A
ULU-15	Landfill	Pre-land fill run off from Camp pad S	6/23/2021	4.7	2.9			51	1		1.2	0.27	0.033	0.01	0.27		
ULU-15	Landfill	Run off from Camp pad S/landfill	6/11/2023	2	2	#N/A	#N/A	130	1	#N/A	2.4	0.53	0.076	0.023	0.56	#N/A	#N/A
Seep-16	Portal	Contact water/snow melt	6/19/2021	11	18	1	1	9.2	1		0.43	0.098	0.033	0.01	0.098		
Seep-24	Portal	Contact water	6/10/2023	1	0.8	1	2	7.7	1	#N/A	0.62	0.14	0.033	0.01	0.14	#N/A	#N/A
ULU-4a	Portal	Portal Pond	7/29/2020	3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-4a	Portal	Portal Pond	8/26/2020	3	#N/A	#N/A	#N/A	22.7	#N/A	#N/A	#N/A	0.415	#N/A	0.01	0.415	#N/A	#N/A
ULU-4a	Portal	Portal Pond	9/5/2020	3	#N/A	#N/A	#N/A	31.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-4a	Portal	Portal Pond	7/29/2021	1	2	1	1.7	23	1	#N/A	2.2	0.49	0.033	0.01	0.49	#N/A	#N/A
Seep-09	Waste rock pad	Contact water	6/15/2021	94	27	1	2.5	21	1		0.86	0.19	0.033	0.01	0.19		
Seep-10	Waste rock pad	Contact water	6/15/2021	2.3	8.1	1	2	33	1		1.6	0.36	0.033	0.01	0.36		
Seep-10	Waste rock pad	Contact water	6/6/2022	2.6	4.2	1	1.3	35	1	#N/A	1.2	0.27	0.033	0.01	0.27	#N/A	#N/A
Seep-25	Waste rock pad	Contact water	6/11/2023	38	7.6	1	3.9	74	1	#N/A	3.7	0.83	0.033	0.01	0.83	#N/A	#N/A
ULU-7	Waste rock pad	Contact water	7/31/2020	3.4	#N/A	#N/A	#N/A	59	#N/A	#N/A	#N/A	0.366	#N/A	0.01	0.366	#N/A	#N/A

Sample ID Convention	Area	Represents	Sampling Date	Total Suspended Solids	Turbidity	Acidity (pH 4.5)	Acidity (pH 8.3)	Alkalinity (Total as CaCO3)	Alkalinity (PP as CaCO3)	Total Kjeldahl Nitrogen	Dissolved Nitrate	Dissolved Nitrate	Dissolved Nitrite	Dissolved Nitrite	Dissolved Nitrate plus Nitrite	Dissolved ortho- phosphate	Total Phosphorus
Units				mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	NO3 mg/L	N mg/L	NO2 mg/L	N mg/L	N mg/L	mg/L	mg/L
DL				1	0.1	1	1	1	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Seep-11	Waste rock pad	Contact water	6/15/2021	5	3.7	1	1.7	25	1		0.13	0.03	0.033	0.01	0.03		
Seep-11	Waste rock pad	Contact water	6/6/2022	1.7	3.7	1	1	22	1	#N/A	0.14	0.031	0.033	0.01	0.031	#N/A	#N/A
Seep-11	Waste rock pad	Contact water	6/11/2023	29	8.7	1	1.7	37	1	#N/A	0.46	0.1	0.033	0.01	0.1	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	8/27/2020	3	#N/A	#N/A	#N/A	45.3	#N/A	#N/A	#N/A	2.74	#N/A	0.01	2.74	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/29/2021	1.3	0.46	1	1.5	59	1	#N/A	6.6	1.5	0.033	0.01	1.5	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	9/1/2021	1	0.85	1	2.1	45	1	#N/A	9.1	2.1	0.033	0.01	2.1	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/28/2022	4.1	5.1	1	1.6	50	1	#N/A	8.1	1.8	0.033	0.01	1.8	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/24/2022	1	0.8	1	1.8	56	1	#N/A	7.4	1.7	0.033	0.01	1.7	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/11/2023	4.4	4.3	1	3.9	38	1	#N/A	2.7	0.62	0.033	0.01	0.62	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/8/2023	1	0.13	1	2.8	73	1	#N/A	8.2	1.9	0.033	0.01	1.9	#N/A	#N/A
Seep-26	Waste rock pad	WR pad seep-surface flow in tundra	6/12/2023	1	1.4	1	3	30	1	#N/A	3.1	0.71	0.033	0.01	0.71	#N/A	#N/A
Seep-04	Waste rock pad	WR pad seep-surface flow in tundra	8/1/2020	#N/A	#N/A	#N/A	#N/A	30.4	#N/A	#N/A	#N/A	0.668	#N/A	0.01	0.668	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	1	0.39	1	1.3	12	1		0.044	0.01	0.033	0.01	0.01		
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/29/2021	1	0.46	1	2.3	18	1	#N/A	3.3	0.75	0.033	0.01	0.75	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	9/1/2021	1	0.55	1	2.3	15	1	#N/A	3.7	0.83	0.033	0.01	0.83	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	1	0.23	1	3.9	12	1	#N/A	0.21	0.046	0.033	0.01	0.046	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/24/2022	1	1.2	1	2.4	14	1	#N/A	2.7	0.61	0.033	0.01	0.61	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/12/2023	1	0.54	1	2.4	4.3	1	#N/A	0.24	0.054	0.033	0.01	0.054	#N/A	#N/A
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	8/27/2020	#N/A	#N/A	#N/A	#N/A	30.1	#N/A	#N/A	#N/A	1.63	#N/A	0.01	1.63	#N/A	#N/A
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	1	0.39	1	2	26	1		0.76	0.17	0.033	0.01	0.17		
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	1	0.3	1	4.4	34	1	#N/A	5	1.1	0.033	0.01	1.1	#N/A	#N/A
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	1	0.29	1	2.8	33	1	#N/A	2	0.45	0.033	0.01	0.45	#N/A	#N/A
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	1	1.4	1	1.4	8.8	1		0.25	0.057	0.033	0.01	0.057		
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	1.8	1.8	1	3	12	1	#N/A	0.52	0.12	0.033	0.01	0.12	#N/A	#N/A
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	7/25/2022	14	1.8	1	3.2	16	1	#N/A	0.61	0.14	0.033	0.01	0.14	#N/A	#N/A
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	1	0.16	1	1.7	11	1	#N/A	0.31	0.071	0.033	0.01	0.071	#N/A	#N/A
Seep-19	Camp 3	Contact water?	7/30/2021	2.1	0.33	1	2	60	1	#N/A	3.4	0.78	0.033	0.01	0.78	#N/A	#N/A
Ref-03		Camp impacted background	6/14/2022	1.2	0.88	1	3.3	6.5	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Ref-03		Camp impacted background	6/13/2023	1	0.11	1	5	7.8	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Ref-03		Camp impacted background	7/3/2023	0.95	0.4	1	1	9.8	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Ref-06		Background	7/3/2022	0.97	0.16	1	4.4	4.3	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Ref-06		Background	6/13/2023	1	0.1	1	1	3.4	1	#N/A	0.044	0.01	0.033	0.01	0.01	#N/A	#N/A
Ref-06		Background	7/3/2023	1	0.65	1	1	5.3	1	#N/A	0.23	0.052	0.033	0.01	0.052	#N/A	#N/A

Notes
Renamed ID's
Italics <DL
Calculated from other value

Sample ID Convention	Area	Represents	Sampling Date	Total Ammonia	Dissolved Bromide (Br)	Dissolved Fluoride (F)	Dissolved Chloride (Cl)	Dissolved Sulphate (SO4)	Bicarbonate (HCO3)	Carbonate (CO3)	Hydroxide (OH)	Total Organic Carbon	Dissolved Organic Carbon	Total Hardness (CaCO3)	Total Aluminum (Al)	Total Antimony (Sb)
Units				N mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.015	0.01	0.05	1	1	1	1	1			0.5	0.0005	0.00002
ULU-8	Ore pad E	Contact water?	7/31/2020	2.43	0.1	0.13	91.7	289	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0455	0.00039
ULU-8	Ore pad E	Contact water?	8/7/2020	1.92	0.1	0.122	67.2	261	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-8	Ore pad E	Contact water?	8/26/2020	1.58	0.1	0.11	219	379	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0216	0.00028
ULU-8	Ore pad E	Contact water	6/6/2022	0.015	0.019	0.14	9.4	120	24	1	1	#N/A	#N/A	#N/A	0.0968	0.000234
ULU-8	Ore pad E	Contact water?	6/12/2023	0.015	0.029	0.12	13	290	28	1	1	#N/A	#N/A	288	0.0255	0.000199
ULU-8	Ore pad E	Contact water	7/3/2023	0.037	0.072	0.15	7.7	390	40	1	1	#N/A	#N/A	426	0.0282	0.000368
ULU-8A	Ore pad E	Contact water	7/1/2023	0.3	0.12	0.15	2.8	490	39	1	1	#N/A	#N/A	642	0.126	0.00058
ULU-8A	Ore pad E	Contact water	7/7/2023	0.54	0.13	0.16	6	480	42	1	1	#N/A	#N/A	442	0.117	0.000495
ULU-8A	Ore pad E	Contact water	7/16/2023	0.76	0.068	0.17	13	410	45	1	1	#N/A	#N/A	413	0.0234	0.000437
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	9/5/2019	0.0502	0.05	0.185	1.97	329	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0425	0.0001
Seep-01	Ore pad S	Surface flow?	7/31/2020	0.0159	0.1	0.151	0.9	239	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/7/2020	0.0766	0.1	0.166	1.46	286	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/26/2020	#N/A	0.1	0.148	6.65	317	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	6/10/2023	0.015	0.013	0.13	1	79	17	1	1	#N/A	#N/A	85.5	0.0347	0.000024
Seep-22	Ore pad W	Ore pad sub-surface drainage in tundra?	6/10/2023	0.015	0.01	0.087	1	82	48	1	1	#N/A	#N/A	118	0.0962	0.000033
Seep-23	Ore pad E	Ore pad sub-surface drainage in boulders	6/10/2023	0.056	0.016	0.13	4.2	82	40	1	1	#N/A	#N/A	110	0.0335	0.000137
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	7/31/2020	0.254	0.1	0.176	1.4	178	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/7/2020	0.49	0.1	0.131	3.72	142	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/26/2020	#N/A	0.1	0.052	33.5	156	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/16/2021	0.15	0.013	0.053	2.1	41	5.3	1	1	#N/A	#N/A	52.5	0.344	0.000029
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/30/2022	0.26	0.027	0.1	5.1	73	4.4	1	1	#N/A	#N/A	#N/A	0.128	0.000027
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/9/2023	0.059	0.011	0.076	1.2	47	4.8	1	1	#N/A	#N/A	48.3	0.19	0.00002
Seep-05 SW	Ore pad W	Ore pad sub-surface drainage in tundra?	7/22/2023	0.45	0.063	0.66	6.1	670	1	1	1	#N/A	#N/A	638	8.21	0.000058
Seep-05 SW +15	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.015	0.031	0.16	6.9	180	11	1	1	#N/A	#N/A	168	0.044	0.000057
Seep-05 SW-50	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	1.6	0.05	0.42	14	260	1	1	1	#N/A	#N/A	200	4.77	0.00002
Seep-05 SW-125	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.015	0.021	0.083	2.8	51	43	1	1	#N/A	#N/A	78.5	0.0177	0.000035
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/2/2020	#N/A	0.1	0.052	2.42	69	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/27/2020	0.005	0.1	0.055	4.76	82	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/16/2021	0.015	0.01	0.076	3.8	28	4.8	1	1			31.6	0.055	0.00002
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	9/1/2021	0.015	0.011	0.07	6.7	70	6.4	1	1	#N/A	#N/A	63.1	0.0358	0.00002
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/12/2023	0.015	0.01	0.064	3.4	55	5.5	1	1	#N/A	#N/A	50.1	0.108	0.00002
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/16/2021	0.015	0.01	0.082	3.9	13	7	1	1			23.1	0.0562	0.00002
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/9/2023	0.015	0.01	0.09	1	13	6.5	1	1	#N/A	#N/A	18.3	0.08	0.00002
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/19/2023	0.02	0.01	0.085	2.4	17	6.6	1	1	#N/A	#N/A	22.1	0.0562	0.00002
Seep-03	Camp pad N	Contact water?	7/31/2020	0.146	0.1	0.189	1.85	185	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-21	Camp pad N	Contact water?	6/14/2022	0.044	0.088	0.17	8.6	210	90	1	1	#N/A	#N/A	#N/A	0.0197	0.000715

Sample ID Convention	Area	Represents	Sampling Date	Total Ammonia	Dissolved Bromide (Br)	Dissolved Fluoride (F)	Dissolved Chloride (Cl)	Dissolved Sulphate (SO4)	Bicarbonate (HCO3)	Carbonate (CO3)	Hydroxide (OH)	Total Organic Carbon	Dissolved Organic Carbon	Total Hardness (CaCO3)	Total Aluminum (Al)	Total Antimony (Sb)
Units				N mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.015	0.01	0.05	1	1	1	1	1			0.5	0.0005	0.00002
Seep-07	Camp pad N	Contact water	6/14/2021	0.037	0.02	0.1	1.8	33	40	1	1			63.3	0.222	0.000147
Seep-08	Camp pad N	Contact water	6/14/2021	0.041	0.01	0.099	1.4	37	36	1	1			62.2	0.101	0.000329
Seep-08	Camp pad N	Contact water	6/13/2022	0.015	0.017	0.15	2.7	93	47	1	1	#N/A	#N/A	#N/A	0.207	0.000278
Seep-08	Camp pad N	Contact water	6/9/2023	0.015	0.01	0.24	2.2	71	69	1	1	#N/A	#N/A	124	0.0232	0.000342
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2021	0.018	0.021	0.2	2.8	62	32	1	1			78.5	0.0882	0.000207
Seep-17	Drill core/Camp pad	Tundra seep	7/29/2021	0.015	0.046	0.22	5.7	110	68	1	1	#N/A	#N/A	164	0.0204	0.000339
Seep-17	Drill core/Camp pad	Tundra seep	8/26/2021	0.015	0.23	0.2	23	150	73	1	1	#N/A	#N/A	187	0.0132	0.000283
Seep-17	Drill core/Camp pad	Tundra seep	9/1/2021	0.015	0.03	0.21	6.7	110	68	1	1	#N/A	#N/A	154	0.129	0.000227
Seep-17	Drill core/Camp pad	Tundra seep	6/27/2022	0.015	0.045	0.2	4.4	110	43	1	1	#N/A	#N/A	#N/A	0.011	0.000276
Seep-17	Drill core/Camp pad	Tundra seep	7/24/2022	0.015	0.052	0.22	5.7	170	64	1	1	#N/A	#N/A	#N/A	0.0267	0.000443
Seep-17	Drill core/Camp pad	Tundra seep	6/12/2023	0.015	0.017	0.22	5	69	38	1	1	#N/A	#N/A	103	0.0163	0.000275
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2023	0.015	0.023	0.23	7.8	78	47	1	1	#N/A	#N/A	139	0.0105	0.000319
Seep-17	Drill core/Camp pad	Tundra seep	7/27/2023	0.015	0.041	0.22	9.3	160	72	1	1	#N/A	#N/A	214	0.00976	0.000728
Seep-18	Drill core/Camp pad	Downstream flow in tundra	7/29/2021	0.015	0.03	0.21	6.7	110	68	1	1	#N/A	#N/A	154	0.129	0.000227
Seep-18	Drill core/Camp pad	Downstream flow in tundra	8/26/2021	0.015	0.2	0.2	23	140	67	1	1	#N/A	#N/A	189	0.0387	0.000178
Seep-18	Drill core/Camp pad	Downstream flow in tundra	9/1/2021	0.015	0.12	0.23	16	140	63	1	1	#N/A	#N/A	179	0.0163	0.00024
Seep-18	Drill core/Camp pad	Downstream flow in tundra	6/27/2022	0.015	0.028	0.2	5.2	110	39	1	1	#N/A	#N/A	#N/A	0.0139	0.000267
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/24/2022	0.015	0.034	0.19	6.2	160	56	1	1	#N/A	#N/A	#N/A	0.0164	0.000202
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/12/2023	0.015	0.011	0.17	6.5	68	38	1	1	#N/A	#N/A	98.3	0.0121	0.000235
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/19/2023	0.015	0.01	0.21	9.2	79	45	1	1	#N/A	#N/A	108	0.0224	0.000235
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/27/2023	0.015	0.032	0.22	9.9	140	83	1	1	#N/A	#N/A	194	0.0116	0.000209
ULU-15	Landfill	Pre-land fill run off from Camp pad S	6/23/2021	0.016			8.9	74	63	1	1			110	0.0681	0.000278
ULU-15	Landfill	Run off from Camp pad S/landfill	6/11/2023	0.24	0	0.16	28	280	160	1	1	#N/A	#N/A	365	0.0216	0.000571
Seep-16	Portal	Contact water/snow melt	6/19/2021	0.015	0.01	0.05	1.2	7.9	11	1	1			19.8	1.23	0.000201
Seep-24	Portal	Contact water	6/10/2023	0.015	0.37	0.18	53	32	9.3	1	1	#N/A	#N/A	92.4	0.0537	0.000106
ULU-4a	Portal	Portal Pond	7/29/2020	#N/A	#N/A	#N/A	13.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0959	0.00028
ULU-4a	Portal	Portal Pond	8/26/2020	0.114	0.1	0.082	16.3	41.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0419	0.00031
ULU-4a	Portal	Portal Pond	9/5/2020	#N/A	0.1	0.063	18.6	55.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0452	0.0004
ULU-4a	Portal	Portal Pond	7/29/2021	0.015	0.07	0.11	20	43	28	1	1	#N/A	#N/A	64.6	0.144	0.00029
Seep-09	Waste rock pad	Contact water	6/15/2021	0.015	0.014	0.11	3.3	62	26	1	1			80.6	1.4	0.000366
Seep-10	Waste rock pad	Contact water	6/15/2021	0.031	0.016	0.11	2.9	78	41	1	1			119	0.154	0.000212
Seep-10	Waste rock pad	Contact water	6/6/2022	0.015	0.018	0.14	1.3	100	42	1	1	#N/A	#N/A	#N/A	0.117	0.00031
Seep-25	Waste rock pad	Contact water	6/11/2023	0.015	0.052	0.14	10	140	90	1	1	#N/A	#N/A	218	4.07	0.000463
ULU-7	Waste rock pad	Contact water	7/31/2020	0.005	0.1	0.092	4.57	86	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0335	0.00052

Sample ID Convention	Area	Represents	Sampling Date	Total Ammonia	Dissolved Bromide (Br)	Dissolved Fluoride (F)	Dissolved Chloride (Cl)	Dissolved Sulphate (SO4)	Bicarbonate (HCO3)	Carbonate (CO3)	Hydroxide (OH)	Total Organic Carbon	Dissolved Organic Carbon	Total Hardness (CaCO3)	Total Aluminum (Al)	Total Antimony (Sb)
Units				N mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.015	0.01	0.05	1	1	1	1	1			0.5	0.0005	0.00002
Seep-11	Waste rock pad	Contact water	6/15/2021	0.018	0.01	0.073	2.8	23	31	1	1			48.5	0.24	0.000114
Seep-11	Waste rock pad	Contact water	6/6/2022	0.015	0.01	0.065	1	26	27	1	1	#N/A	#N/A	#N/A	0.108	0.000336
Seep-11	Waste rock pad	Contact water	6/11/2023	0.015	0.01	0.091	2.7	53	46	1	1	#N/A	#N/A	86.2	0.149	0.000222
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	8/27/2020	0.116	0.1	0.19	55.1	154	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0459	0.00017
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/29/2021	0.015	0.054	0.22	14	140	72	1	1	#N/A	#N/A	187	0.0289	0.000181
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	9/1/2021	0.015	0.072	0.26	29	170	55	1	1	#N/A	#N/A	192	0.025	0.000119
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/28/2022	0.022	0.073	0.15	43	160	61	1	1	#N/A	#N/A	#N/A	0.0631	0.000178
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/24/2022	0.015	0.12	0.2	41	180	68	1	1	#N/A	#N/A	#N/A	0.0279	0.000174
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/11/2023	0.015	0.054	0.13	18	120	47	1	1	#N/A	#N/A	160	0.149	0.000224
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/8/2023	0.015	0.063	0.17	26	180	89	1	1	#N/A	#N/A	249	0.0351	0.000214
Seep-26	Waste rock pad	WR pad seep-surface flow in tundra	6/12/2023	0.015	0.04	0.12	20	110	37	1	1	#N/A	#N/A	158	0.0276	0.000229
Seep-04	Waste rock pad	WR pad seep-surface flow in tundra	8/1/2020	0.184	0.1	0.097	8.18	116	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.015	0.01	0.072	2.1	27	15	1	1			41	0.0395	0.000099
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/29/2021	0.015	0.027	0.097	6.2	96	22	1	1	#N/A	#N/A	101	0.0429	0.000061
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	9/1/2021	0.015	0.026	0.097	6	98	18	1	1	#N/A	#N/A	88.9	0.0347	0.00004
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.015	0.027	0.063	4.2	99	15	1	1	#N/A	#N/A	#N/A	0.0288	0.000053
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/24/2022	0.015	0.053	0.084	5.8	150	17	1	1	#N/A	#N/A	#N/A	0.0191	0.00005
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/12/2023	0.015	0.016	0.08	3.2	64	5.3	1	1	#N/A	#N/A	80.3	0.024	0.00008
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	8/27/2020	0.0535	0.1	0.166	26.2	70	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.015	0.017	0.15	3.7	53	31	1	1			76.7	0.0462	0.000167
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.015	0.068	0.17	38	130	42	1	1	#N/A	#N/A	#N/A	0.0166	0.000117
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.015	0.051	0.18	15	86	40	1	1	#N/A	#N/A	118	0.0146	0.000139
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.015	0.01	0.28	1.9	20	11	1	1			31.6	0.106	0.00005
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.015	0.057	0.24	7.3	72	15	1	1	#N/A	#N/A	#N/A	0.067	0.000046
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	7/25/2022	0.015	0.09	0.25	13	100	19	1	1	#N/A	#N/A	#N/A	0.133	0.000051
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.018	0.02	0.25	2.9	56	14	1	1	#N/A	#N/A	66.5	0.0665	0.000061
Seep-19	Camp 3	Contact water?	7/30/2021	0.015	0.01	0.11	1.4	38	73	1	1	#N/A	#N/A	94.4	0.0187	0.000057
Ref-03		Camp impacted background	6/14/2022	0.015	0.029	0.21	6.3	1	8	1	1	#N/A	#N/A	#N/A	0.0945	0.000024
Ref-03		Camp impacted background	6/13/2023	0.015	0.017	0.19	9.2	4	9.5	1	1	#N/A	#N/A	25.7	0.0604	0.00002
Ref-03		Camp impacted background	7/3/2023	0.015	0.029	0.24	19	4.9	12	1	1	#N/A	#N/A	35.8	0.0584	0.00002
Ref-06		Background	7/3/2022	0.015	0.01	0.13	1	3.5	5.2	1	1	#N/A	#N/A	#N/A	0.0582	0.00002
Ref-06		Background	6/13/2023	0.015	0.01	0.13	1	3.5	4.1	1	1	#N/A	#N/A	6.71	0.0503	0.00002
Ref-06		Background	7/3/2023	0.015	0.01	0.15	1	5.5	6.5	1	1	#N/A	#N/A	11.9	0.0772	0.00002
Notes																
Renamed ID's																
Italics <DL																
Calculated from other value																

Sample ID Convention	Area	Represents	Sampling Date	Total Arsenic (As)	Total Barium (Ba)	Total Beryllium (Be)	Total Bismuth (Bi)	Total Boron (B)	Total Cadmium (Cd)	Total Calcium (Ca)	Total Chromium (Cr)	Total Cobalt (Co)	Total Copper (Cu)	Total Iron (Fe)	Total Lead (Pb)	Total Lithium (Li)	Total Magnesium (Mg)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.00002	0.00002	0.00001	0.000005	0.01	0.000005	0.05	0.0001	0.000005	0.00005	0.001	0.000005	0.0005	0.05
ULU-8	Ore pad E	Contact water?	7/31/2020	0.00184	0.0269	0.0001	0.00005	0.0481	0.000174	80.8	0.00015	0.00069	0.00315	0.061	0.00005	0.0114	11.3
ULU-8	Ore pad E	Contact water?	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-8	Ore pad E	Contact water?	8/26/2020	0.00175	0.041	0.0001	0.00005	0.0509	0.000525	135	0.0001	0.00144	0.00247	0.02	0.00005	0.0122	23
ULU-8	Ore pad E	Contact water	6/6/2022	0.00174	0.00761	0.00001	0.000005	0.02	0.0000732	42.7	0.0001	0.00215	0.00303	0.137	0.0000251	0.005	5.55
ULU-8	Ore pad E	Contact water?	6/12/2023	0.000803	0.0147	0.00001	0.000005	0.054	0.0000477	96.4	0.0001	0.000266	0.00206	0.0406	0.0000308	0.0087	11.6
ULU-8	Ore pad E	Contact water	7/3/2023	0.00112	0.0164	0.00001	0.000005	0.06	0.00014	144	0.00014	0.00971	0.00254	0.0179	0.0000172	0.0161	15.9
ULU-8A	Ore pad E	Contact water	7/1/2023	0.00238	0.0189	0.00001	0.000005	0.072	0.00052	228	0.00011	0.0611	0.00308	0.173	0.000142	0.0212	17.7
ULU-8A	Ore pad E	Contact water	7/7/2023	0.00233	0.0186	0.00001	0.00001	0.068	0.000233	148	0.00017	0.0387	0.00243	0.24	0.000198	0.0173	17.5
ULU-8A	Ore pad E	Contact water	7/16/2023	0.00245	0.0183	0.00001	0.000005	0.071	0.000177	140	0.0001	0.0242	0.002	0.0451	0.0000723	0.0158	15.2
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	9/5/2019	0.00057	0.0275	0.0001	0.00005	0.104	0.0000391	105	0.00014	0.0165	0.00127	1.06	0.00005	0.0145	19.6
Seep-01	Ore pad S	Surface flow?	7/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	6/10/2023	0.000274	0.00995	0.00001	0.000005	0.057	0.0000214	26.6	0.0001	0.00277	0.00196	0.354	0.0000132	0.0031	4.65
Seep-22	Ore pad W	Ore pad sub-surface drainage in tundra?	6/10/2023	0.00083	0.024	0.000012	0.000005	0.01	0.0000171	37.3	0.00034	0.0066	0.00198	1.08	0.000083	0.00429	6.1
Seep-23	Ore pad E	Ore pad sub-surface drainage in boulders	6/10/2023	0.000173	0.00805	0.00001	0.000005	0.019	0.0000141	34.8	0.00012	0.00102	0.00284	0.203	0.0000363	0.00179	5.67
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	7/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/16/2021	0.000317	0.008	0.000024	0.000005	0.016	0.0000467	17.1	0.00018	0.0185	0.00506	0.405	0.000123	0.00235	2.37
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/30/2022	0.000062	0.00785	0.000037	0.000005	0.036	0.000115	24.4	0.0001	0.0384	0.00485	0.0463	0.0000153	0.00565	3.64
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/9/2023	0.000151	0.00643	0.000025	0.000005	0.015	0.000052	15.6	0.0001	0.0223	0.00597	0.178	0.0000314	0.00433	2.23
Seep-05 SW	Ore pad W	Ore pad sub-surface drainage in tundra?	7/22/2023	0.00002	0.0387	0.000976	0.000005	0.088	0.000584	209	0.0001	0.284	0.081	0.393	0.00019	0.0401	28
Seep-05 SW +15	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.000208	0.0274	0.000019	0.000005	0.058	0.0000698	51.4	0.0001	0.0139	0.0029	0.357	0.0000238	0.00494	9.73
Seep-05 SW-50	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.000101	0.023	0.000738	0.00001	0.055	0.000623	59.3	0.0001	0.223	0.0456	0.113	0.000345	0.0219	12.7
Seep-05 SW-125	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.000428	0.0156	0.00001	0.000005	0.012	0.0000102	21.4	0.00033	0.0004	0.00203	0.186	0.0000389	0.00105	6.08
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/2/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/27/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/16/2021	0.000123	0.00687	0.00001	0.000005	0.011	0.000005	9.11	0.00016	0.0000772	0.00162	0.0287	0.0000124	0.0005	2.14
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	9/1/2021	0.000115	0.0163	0.000011	0.000005	0.014	0.0000222	18.3	0.0001	0.000121	0.00171	0.0176	0.000005	0.0005	4.21
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/12/2023	0.000136	0.0145	0.00001	0.000005	0.01	0.0000061	14.5	0.00023	0.000188	0.00153	0.179	0.0000629	0.00067	3.38
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/16/2021	0.000153	0.00859	0.00001	0.000005	0.013	0.000005	7.26	0.00011	0.0000478	0.0021	0.0245	0.0000159	0.00129	1.2
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/9/2023	0.000168	0.0098	0.000016	0.000005	0.01	0.000005	5.66	0.0001	0.0000901	0.00293	0.0558	0.0000184	0.00134	1
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/19/2023	0.000154	0.00994	0.000021	0.000005	0.014	0.000005	6.83	0.0001	0.0000532	0.00258	0.0172	0.0000055	0.00168	1.22
Seep-03	Camp pad N	Contact water?	7/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-21	Camp pad N	Contact water?	6/14/2022	0.00122	0.0239	0.00001	0.000005	0.044	0.0000108	99.4	0.00011	0.000422	0.00163	0.0497	0.0000459	0.0085	5.41

Sample ID Convention	Area	Represents	Sampling Date	Total Arsenic (As)	Total Barium (Ba)	Total Beryllium (Be)	Total Bismuth (Bi)	Total Boron (B)	Total Cadmium (Cd)	Total Calcium (Ca)	Total Chromium (Cr)	Total Cobalt (Co)	Total Copper (Cu)	Total Iron (Fe)	Total Lead (Pb)	Total Lithium (Li)	Total Magnesium (Mg)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.00002	0.00002	0.00001	0.000005	0.01	0.000005	0.05	0.0001	0.000005	0.00005	0.001	0.000005	0.0005	0.05
Seep-07	Camp pad N	Contact water	6/14/2021	0.000789	0.012	0.00001	0.0000103	0.025	0.000028	21	0.00033	0.00503	0.00342	0.549	0.00064	0.00196	2.62
Seep-08	Camp pad N	Contact water	6/14/2021	0.000503	0.00844	0.00001	0.000005	0.016	0.0000168	20.6	0.00011	0.00229	0.00174	0.12	0.000169	0.00176	2.61
Seep-08	Camp pad N	Contact water	6/13/2022	0.000983	0.0174	0.000014	0.000005	0.112	0.0000254	41.7	0.00022	0.00446	0.00327	0.167	0.000214	0.00252	5.15
Seep-08	Camp pad N	Contact water	6/9/2023	0.000506	0.0179	0.00001	0.000005	0.029	0.000012	41.1	0.0001	0.000241	0.00207	0.0121	0.0000173	0.00258	5.1
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2021	0.00022	0.00732	0.00001	0.000005	0.019	0.0000085	25.7	0.00018	0.00027	0.00239	0.0802	0.0000287	0.00087	3.49
Seep-17	Drill core/Camp pad	Tundra seep	7/29/2021	0.000236	0.0166	0.00001	0.000005	0.037	0.0000142	52.9	0.0001	0.000286	0.00258	0.017	0.0000253	0.00211	7.77
Seep-17	Drill core/Camp pad	Tundra seep	8/26/2021	0.000218	0.0176	0.00001	0.000005	0.031	0.0000264	62.2	0.0001	0.000384	0.00327	0.0118	0.000136	0.00149	7.6
Seep-17	Drill core/Camp pad	Tundra seep	9/1/2021	0.000502	0.0192	0.000029	0.0000055	0.03	0.0000568	49.1	0.00021	0.00549	0.00346	0.408	0.000134	0.00184	7.55
Seep-17	Drill core/Camp pad	Tundra seep	6/27/2022	0.000191	0.0121	0.00001	0.000005	0.028	0.0000147	43.3	0.00011	0.000359	0.00237	0.0046	0.000013	0.00205	5.13
Seep-17	Drill core/Camp pad	Tundra seep	7/24/2022	0.000346	0.0214	0.00001	0.000005	0.034	0.0000188	74.8	0.0001	0.000495	0.00251	0.0381	0.000026	0.00313	8.31
Seep-17	Drill core/Camp pad	Tundra seep	6/12/2023	0.000368	0.0102	0.00001	0.000005	0.026	0.0000108	33.1	0.0001	0.000373	0.00272	0.0136	0.0000204	0.00178	4.84
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2023	0.000425	0.0117	0.00001	0.000005	0.027	0.0000105	47	0.0001	0.000329	0.00261	0.0026	0.0000124	0.00191	5.32
Seep-17	Drill core/Camp pad	Tundra seep	7/27/2023	0.000518	0.0218	0.00001	0.000005	0.04	0.0000228	72	0.0001	0.000371	0.00233	0.0113	0.0000054	0.00377	8.18
Seep-18	Drill core/Camp pad	Downstream flow in tundra	7/29/2021	0.000502	0.0192	0.000029	0.0000055	0.03	0.0000568	49.1	0.00021	0.00549	0.00346	0.408	0.000134	0.00184	7.55
Seep-18	Drill core/Camp pad	Downstream flow in tundra	8/26/2021	0.000288	0.0176	0.00001	0.00001	0.03	0.0000241	63.5	0.00015	0.000929	0.00263	0.13	0.000131	0.0014	7.4
Seep-18	Drill core/Camp pad	Downstream flow in tundra	9/1/2021	0.000239	0.0148	0.00001	0.00001	0.03	0.0000199	60.3	0.00012	0.000612	0.00241	0.0606	0.000141	0.00151	6.9
Seep-18	Drill core/Camp pad	Downstream flow in tundra	6/27/2022	0.000184	0.0134	0.00001	0.00001	0.032	0.0000117	50.3	0.0001	0.000403	0.00207	0.0196	0.000026	0.00188	5.77
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/24/2022	0.000286	0.0189	0.00001	0.00001	0.028	0.0000073	64.3	0.0001	0.000279	0.00187	0.0151	0.000031	0.00142	7.9
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/12/2023	0.000172	0.00893	0.00001	0.000005	0.024	0.0000051	32	0.0001	0.000284	0.0022	0.0069	0.0000272	0.00111	4.49
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/19/2023	0.000244	0.00888	0.000028	0.000005	0.023	0.0000186	35.9	0.0001	0.00066	0.00224	0.0157	0.0000266	0.00144	4.47
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/27/2023	0.000307	0.0197	0.00001	0.000005	0.031	0.0000092	64.6	0.0001	0.000342	0.00192	0.0166	0.0000089	0.00193	7.96
ULU-15	Landfill	Pre-land fill run off from Camp pad S	6/23/2021	0.000593	0.0225	0.00001	0.000005	0.029	0.000218	35.5	0.00016	0.000301	0.00408	0.0894	0.0000674	0.00207	5.21
ULU-15	Landfill	Run off from Camp pad S/landfill	6/11/2023	0.00133	0.0406	0.00001	0.000005	0.188	0.000467	123	0.00019	0.000377	0.00602	0.167	0.000182	0.00277	13.8
Seep-16	Portal	Contact water/snow melt	6/19/2021	0.0603	0.00821	0.000056	0.0000685	0.01	0.0000315	6.15	0.00173	0.00173	0.00393	2.51	0.0019	0.00234	1.09
Seep-24	Portal	Contact water	6/10/2023	0.00448	0.0213	0.00001	0.000005	0.016	0.000033	28.5	0.00012	0.0017	0.00442	0.0513	0.0000337	0.00381	5.17
ULU-4a	Portal	Portal Pond	7/29/2020	0.00313	0.0121	0.0001	0.00005	0.0088	0.0000827	17.6	0.00036	0.00238	0.00675	0.236	0.000226	0.0028	3.07
ULU-4a	Portal	Portal Pond	8/26/2020	0.00255	0.012	0.0001	0.00005	0.0104	0.0000628	18.1	0.0003	0.00191	0.00498	0.216	0.000242	0.0031	3.17
ULU-4a	Portal	Portal Pond	9/5/2020	0.00369	0.0163	0.0001	0.00005	0.0099	0.0000806	25	0.00068	0.00218	0.00463	0.609	0.000318	0.0041	4.33
ULU-4a	Portal	Portal Pond	7/29/2021	0.00325	0.0144	0.000012	0.0000072	0.018	0.0000881	19.3	0.00038	0.00261	0.00425	0.367	0.000533	0.00436	3.97
Seep-09	Waste rock pad	Contact water	6/15/2021	0.00429	0.0173	0.00007	0.000048	0.013	0.000071	26.3	0.00313	0.00407	0.00556	2.12	0.00159	0.00508	3.65
Seep-10	Waste rock pad	Contact water	6/15/2021	0.0037	0.0182	0.00001	0.0000052	0.038	0.0000237	41.5	0.00026	0.000749	0.00257	0.222	0.000282	0.0018	3.8
Seep-10	Waste rock pad	Contact water	6/6/2022	0.00403	0.0141	0.00001	0.0000054	0.031	0.0000153	41.6	0.00042	0.000482	0.00305	0.237	0.000325	0.00205	2.92
Seep-25	Waste rock pad	Contact water	6/11/2023	0.0242	0.0526	0.000245	0.000312	0.03	0.000131	76.2	0.009	0.00642	0.0242	9.66	0.00724	0.0173	6.83
ULU-7	Waste rock pad	Contact water	7/31/2020	0.00172	0.0164	0.0001	0.00005	0.0553	0.000006	42.7	0.00014	0.00017	0.00315	0.051	0.00005	0.0044	5.48

Sample ID Convention	Area	Represents	Sampling Date	Total Arsenic (As)	Total Barium (Ba)	Total Beryllium (Be)	Total Bismuth (Bi)	Total Boron (B)	Total Cadmium (Cd)	Total Calcium (Ca)	Total Chromium (Cr)	Total Cobalt (Co)	Total Copper (Cu)	Total Iron (Fe)	Total Lead (Pb)	Total Lithium (Li)	Total Magnesium (Mg)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.00002	0.00002	0.00001	0.000005	0.01	0.000005	0.05	0.0001	0.000005	0.00005	0.001	0.000005	0.0005	0.05
Seep-11	Waste rock pad	Contact water	6/15/2021	0.00198	0.00642	0.00001	0.000005	0.013	0.0000155	15.7	0.00023	0.00268	0.00529	0.406	0.000424	0.0017	2.24
Seep-11	Waste rock pad	Contact water	6/6/2022	0.00344	0.00469	0.00001	0.000005	0.027	0.000014	13.5	0.00021	0.00165	0.00474	0.223	0.000314	0.00259	1.55
Seep-11	Waste rock pad	Contact water	6/11/2023	0.00147	0.00993	0.00001	0.0000064	0.023	0.0000106	28.6	0.00011	0.00238	0.00511	0.435	0.000344	0.00297	3.6
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	8/27/2020	0.00064	0.0234	0.0001	0.00005	0.0178	0.0000726	62.4	0.00018	0.00018	0.00331	0.061	0.000072	0.0017	10.8
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/29/2021	0.000455	0.0183	0.00001	0.000005	0.026	0.0000335	58.5	0.00014	0.000266	0.00252	0.0371	0.0000629	0.00077	9.8
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	9/1/2021	0.00047	0.0157	0.00001	0.000005	0.021	0.0000337	62.1	0.00016	0.000314	0.00225	0.0338	0.0000455	0.0005	8.99
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/28/2022	0.000643	0.0256	0.00001	0.0000052	0.031	0.0000791	74.3	0.00026	0.000441	0.00258	0.0992	0.000122	0.00094	8.91
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/24/2022	0.000509	0.0245	0.00001	0.000005	0.022	0.0000626	82.7	0.00012	0.000252	0.00234	0.0432	0.000033	0.00065	11
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/11/2023	0.000679	0.0202	0.00001	0.000006	0.038	0.0000495	54	0.0003	0.000333	0.0022	0.278	0.000142	0.00111	6.21
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/8/2023	0.000511	0.0228	0.00001	0.000005	0.042	0.0000593	81.2	0.00014	0.000252	0.00258	0.0491	0.0000453	0.00074	11.3
Seep-26	Waste rock pad	WR pad seep-surface flow in tundra	6/12/2023	0.00034	0.0179	0.00001	0.000005	0.04	0.0000356	51.5	0.00011	0.000168	0.00165	0.0403	0.0000431	0.00067	7.05
Seep-04	Waste rock pad	WR pad seep-surface flow in tundra	8/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.000375	0.00819	0.00001	0.000005	0.015	0.0000158	13.4	0.0001	0.0000962	0.00189	0.0153	0.0000088	0.0005	1.81
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/29/2021	0.000429	0.0171	0.000011	0.000005	0.028	0.0000601	30.1	0.00018	0.000237	0.00225	0.0401	0.0000472	0.0005	6.2
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	9/1/2021	0.000353	0.0148	0.00001	0.000005	0.021	0.0000574	28.2	0.00011	0.000211	0.00174	0.0335	0.0000375	0.0005	4.47
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.000338	0.0238	0.000016	0.000005	0.025	0.0000919	35.1	0.00013	0.000506	0.00191	0.0128	0.0000533	0.0005	5.13
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/24/2022	0.000357	0.0248	0.00001	0.000005	0.023	0.0000775	48.2	0.0001	0.000214	0.00167	0.0249	0.000007	0.0005	7.76
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/12/2023	0.000329	0.0147	0.00001	0.000005	0.012	0.000029	26.5	0.0001	0.000136	0.00194	0.016	0.0000114	0.0005	3.44
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	8/27/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.000472	0.00768	0.000014	0.000005	0.014	0.0000202	25.5	0.00013	0.000112	0.00147	0.0395	0.0000461	0.00051	3.17
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.000262	0.0189	0.000014	0.000005	0.024	0.000067	61.4	0.0001	0.00017	0.00164	0.0093	0.0000285	0.00055	7.61
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.000226	0.0124	0.00001	0.000005	0.019	0.0000196	39.2	0.0001	0.0000814	0.00139	0.0142	0.0000111	0.0005	4.94
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.000186	0.00502	0.000021	0.000005	0.01	0.0000392	9.57	0.00015	0.000159	0.00213	0.0553	0.0000641	0.0005	1.86
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.00016	0.0154	0.000026	0.000005	0.011	0.0000732	26.7	0.0001	0.000172	0.00185	0.0391	0.0000631	0.0005	5.35
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	7/25/2022	0.000247	0.0224	0.000026	0.00001	0.01	0.000105	36.7	0.0002	0.000275	0.00224	0.137	0.000131	0.0005	7.64
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.000279	0.0123	0.000022	0.000005	0.012	0.0000728	19.3	0.00037	0.000378	0.00333	0.0488	0.0000614	0.0005	4.45
Seep-19	Camp 3	Contact water?	7/30/2021	0.000151	0.0177	0.00001	0.000005	0.013	0.0000099	29.2	0.0001	0.000229	0.002	0.0155	0.0000116	0.00148	5.23
Ref-03		Camp impacted background	6/14/2022	0.000137	0.0081	0.000043	0.000005	0.01	0.0000281	4.98	0.00018	0.0000579	0.00244	0.0511	0.0000403	0.00117	1.42
Ref-03		Camp impacted background	6/13/2023	0.000097	0.00849	0.000024	0.000005	0.01	0.0000141	7.01	0.0001	0.0000298	0.0019	0.0312	0.0000075	0.00085	2
Ref-03		Camp impacted background	7/3/2023	0.000107	0.0124	0.000021	0.000005	0.01	0.0000204	8.99	0.00018	0.0000442	0.0024	0.0257	0.0000067	0.00105	3.24
Ref-06		Background	7/3/2022	0.000054	0.00259	0.000022	0.000005	0.043	0.0000166	2.32	0.0001	0.000311	0.0021	0.0125	0.0000251	0.0005	0.584
Ref-06		Background	6/13/2023	0.000061	0.00209	0.000013	0.000005	0.01	0.0000134	1.96	0.0001	0.0000902	0.00175	0.0107	0.0000121	0.0005	0.444
Ref-06		Background	7/3/2023	0.000093	0.00337	0.000019	0.000005	0.01	0.0000169	3.25	0.00013	0.000154	0.00281	0.026	0.0000449	0.0005	0.923
Notes																	
Renamed ID's																	
Italics <DL																	
Calculated from other value																	

Sample ID Convention	Area	Represents	Sampling Date	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Phosphorus (P)	Total Potassium (K)	Total Selenium (Se)	Total Silicon (Si)	Total Silver (Ag)	Total Sodium (Na)	Total Strontium (Sr)	Total Sulphur (S)	Total Thallium (Tl)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.00005	0.0000019	0.00005	0.00002	0.002	0.05	0.00004	0.05	0.000005	0.05	0.00005	3	0.000002
ULU-8	Ore pad E	Contact water?	7/31/2020	0.0755	0.000005	0.000364	0.0106	0.05	7.59	0.000738	3.35	0.00001	63.9	0.098	95.5	0.000013
ULU-8	Ore pad E	Contact water?	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-8	Ore pad E	Contact water?	8/26/2020	0.44	0.000005	0.000178	0.0202	0.05	10.6	0.000631	3.37	0.00001	126	0.18	129	0.000017
ULU-8	Ore pad E	Contact water	6/6/2022	0.261	0.0000073	0.000153	0.00784	0.0392	3.35	0.000273	2.09	0.0000081	11.1	0.0378	27.4	0.000004
ULU-8	Ore pad E	Contact water?	6/12/2023	0.0122	0.0000019	0.0001	0.00698	0.0074	5.93	0.000602	2.34	0.000005	12.6	0.0967	98.5	0.0000041
ULU-8	Ore pad E	Contact water	7/3/2023	0.132	0.0000019	0.00038	0.0162	0.0051	8.16	0.000941	2.26	0.000005	9.94	0.142	133	0.000005
ULU-8A	Ore pad E	Contact water	7/1/2023	0.532	0.0000021	0.000922	0.0417	0.0262	9.61	0.00148	2.35	0.0000056	7.19	0.169	161	0.0000093
ULU-8A	Ore pad E	Contact water	7/7/2023	0.597	0.0000019	0.000809	0.0183	0.0303	8.07	0.00139	2.42	0.00001	9.78	0.151	153	0.000009
ULU-8A	Ore pad E	Contact water	7/16/2023	0.693	0.0000034	0.000723	0.0123	0.009	7.86	0.000981	2.4	0.000005	14.1	0.154	142	0.0000087
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	9/5/2019	0.167	0.000005	0.000108	0.0248	0.05	6.96	0.000803	3.41	0.00001	8.12	0.139	125	0.00001
Seep-01	Ore pad S	Surface flow?	7/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	6/10/2023	0.0303	0.0000019	0.00005	0.00759	0.0108	1.65	0.00023	1.31	0.0000088	2.22	0.0297	19.3	0.0000037
Seep-22	Ore pad W	Ore pad sub-surface drainage in tundra?	6/10/2023	0.208	#N/A	0.000188	0.00318	0.0254	2.62	0.000225	2.45	0.0000069	1.02	0.041	25.1	0.0000042
Seep-23	Ore pad E	Ore pad sub-surface drainage in boulders	6/10/2023	0.0873	#N/A	0.000147	0.00126	0.0114	2.54	0.000146	1.69	0.000009	5.09	0.0375	25.6	0.0000097
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	7/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/16/2021	0.123	0.0000043	0.000152	0.00916	0.0243	1.29	0.000361	1.24	0.0000083	1.66	0.0198	7.6	0.0000073
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/30/2022	0.351	0.0000019	0.00005	0.0213	0.0052	1.41	0.000556	1.6	0.000005	4.46	0.0296	22.5	0.0000104
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/9/2023	0.136	0.0000019	0.00005	0.0118	0.0075	1.2	0.000212	1.63	0.000005	1.88	0.0212	8.8	0.0000098
Seep-05 SW	Ore pad W	Ore pad sub-surface drainage in tundra?	7/22/2023	0.989	0.0000019	0.000056	0.13	0.0073	7.15	0.00262	5.68	0.000005	10.5	0.14	196	0.0000567
Seep-05 SW +15	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.235	0.0000025	0.00005	0.0198	0.0071	1.96	0.000216	1.88	0.0000089	8.66	0.0744	57.1	0.0000068
Seep-05 SW-50	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	1.52	0.0000028	0.00005	0.102	0.005	3.33	0.00151	4.7	0.00001	13.8	0.0747	80.6	0.0000506
Seep-05 SW-125	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.0358	0.0000038	0.00005	0.00102	0.0157	1.42	0.000049	1.08	0.0000054	2.98	0.0428	15	0.0000051
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/2/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/27/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/16/2021	0.00188	0.000003	0.00005	0.00148	0.0057	0.941	0.00004	0.959	0.000005	3.24	0.0115	5.6	0.000002
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	9/1/2021	0.00322	0.0000019	0.00005	0.00219	0.002	1.32	0.00004	2.41	0.000005	5.89	0.027	12.5	0.000002
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/12/2023	0.00466	0.0000019	0.00005	0.00171	0.006	1.16	0.00004	1.59	0.000005	4.67	0.0209	10.5	0.000002
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/16/2021	0.000488	0.0000056	0.00005	0.000727	0.0065	0.801	0.00004	1.07	0.0000054	1.53	0.0201	3	0.000002
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/9/2023	0.00265	0.0000019	0.00005	0.000987	0.0052	0.619	0.00004	1.63	0.0000105	1.54	0.0247	3	0.000002
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/19/2023	0.00056	0.0000035	0.00005	0.000929	0.0058	0.565	0.00004	2.13	0.0000055	1.65	0.0269	7	0.000002
Seep-03	Camp pad N	Contact water?	7/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-21	Camp pad N	Contact water?	6/14/2022	0.00387	0.0000019	0.00164	0.00102	0.008	4.87	0.000531	2.22	0.000005	2.64	0.106	61.2	0.0000134

Sample ID Convention	Area	Represents	Sampling Date	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Phosphorus (P)	Total Potassium (K)	Total Selenium (Se)	Total Silicon (Si)	Total Silver (Ag)	Total Sodium (Na)	Total Strontium (Sr)	Total Sulphur (S)	Total Thallium (Tl)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.00005	0.0000019	0.00005	0.00002	0.002	0.05	0.00004	0.05	0.000005	0.05	0.00005	3	0.000002
Seep-07	Camp pad N	Contact water	6/14/2021	0.0265	0.0000023	0.000544	0.00292	0.0192	1.82	0.000219	1.29	0.0000423	0.587	0.0198	9.8	0.0000111
Seep-08	Camp pad N	Contact water	6/14/2021	0.0186	0.0000019	0.000708	0.00196	0.0086	1.9	0.000156	0.715	0.000005	0.658	0.0198	11.9	0.0000077
Seep-08	Camp pad N	Contact water	6/13/2022	0.0222	0.0000019	0.00318	0.00322	0.0118	3.13	0.000532	0.865	0.000005	0.98	0.0414	25.8	0.0000097
Seep-08	Camp pad N	Contact water	6/9/2023	0.000329	0.0000019	0.00192	0.00209	0.0044	4.15	0.000121	0.943	0.000005	1.67	0.042	21.7	0.0000106
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2021	0.00213	0.0000025	0.000395	0.00132	0.009	2.23	0.000203	1.28	0.000005	2.38	0.029	8.1	0.0000036
Seep-17	Drill core/Camp pad	Tundra seep	7/29/2021	0.00603	0.0000019	0.000526	0.00203	0.0056	4.24	0.000215	1.65	0.000005	5.98	0.0617	39.9	0.0000023
Seep-17	Drill core/Camp pad	Tundra seep	8/26/2021	0.00602	0.0000019	0.000404	0.00201	0.004	3.96	0.000191	1.45	0.0000123	6.4	0.0696	29.3	0.0000042
Seep-17	Drill core/Camp pad	Tundra seep	9/1/2021	0.224	0.000003	0.000456	0.00363	0.0176	3.67	0.000109	0.982	0.0000076	5.95	0.0594	39.2	0.0000056
Seep-17	Drill core/Camp pad	Tundra seep	6/27/2022	0.00208	0.0000019	0.000426	0.00158	0.002	2.99	0.000209	1.41	0.000005	3.37	0.048	33.4	0.0000038
Seep-17	Drill core/Camp pad	Tundra seep	7/24/2022	0.00572	0.0000019	0.000712	0.00237	0.004	4.99	0.000232	1.73	0.000005	4.96	0.0865	58	0.0000042
Seep-17	Drill core/Camp pad	Tundra seep	6/12/2023	0.00195	0.0000019	0.000575	0.00161	0.0028	2.98	0.000217	1.47	0.0000054	3.62	0.0381	22.9	0.0000036
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2023	0.0019	0.0000021	0.000635	0.00172	0.003	3.16	0.000153	1.77	0.000005	3.96	0.0445	28.9	0.0000042
Seep-17	Drill core/Camp pad	Tundra seep	7/27/2023	0.00547	0.0000019	0.00068	0.00232	0.002	5.18	0.000167	1.83	0.0000051	5.46	0.0824	53	0.0000058
Seep-18	Drill core/Camp pad	Downstream flow in tundra	7/29/2021	0.224	0.000003	0.000456	0.00363	0.0176	3.67	0.000109	0.982	0.0000076	5.95	0.0594	39.2	0.0000056
Seep-18	Drill core/Camp pad	Downstream flow in tundra	8/26/2021	0.0337	0.0000019	0.000245	0.00186	0.0133	3.6	0.000139	0.809	0.00001	6.51	0.068	29.9	0.0000071
Seep-18	Drill core/Camp pad	Downstream flow in tundra	9/1/2021	0.0191	0.0000019	0.000338	0.00156	0.0075	3.82	0.000216	1.19	0.00001	5.89	0.0668	29.7	0.0000042
Seep-18	Drill core/Camp pad	Downstream flow in tundra	6/27/2022	0.00387	0.0000019	0.000308	0.00115	0.0084	2.93	0.000129	0.928	0.00001	3.9	0.0528	36.5	0.0000028
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/24/2022	0.00553	0.0000019	0.000173	0.0011	0.0065	3.87	0.000064	0.758	0.00001	5.28	0.0785	51.3	0.0000032
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/12/2023	0.00145	0.0000019	0.000219	0.000888	0.0049	2.78	0.000082	1	0.000005	4.22	0.0364	21.9	0.000002
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/19/2023	0.0293	0.000002	0.000194	0.000992	0.0061	2.55	0.000064	0.969	0.000005	3.74	0.0388	25.9	0.0000036
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/27/2023	0.00993	0.0000019	0.000234	0.00122	0.0025	4.09	0.000063	1.38	0.000005	5.54	0.0806	47.8	0.0000048
ULU-15	Landfill	Pre-land fill run off from Camp pad S	6/23/2021	0.0246	0.0000019	0.000314	0.00164	0.0154	2.75	0.000132	1.42	0.0000052	2.35	0.0693	13.6	0.0000076
ULU-15	Landfill	Run off from Camp pad S/landfill	6/11/2023	0.0379	0.0000019	0.00129	0.00361	0.0221	10.3	0.000206	2.33	0.0000089	15.9	0.158	83.7	0.0000233
Seep-16	Portal	Contact water/snow melt	6/19/2021	0.0353	0.0000019	0.000151	0.00314	0.0302	1.21	0.000065	2.05	0.000005	0.384	0.00555	3	0.0000174
Seep-24	Portal	Contact water	6/10/2023	0.0152	0.0000019	0.000096	0.00264	0.0043	2.46	0.000063	2.67	0.0000232	11	0.117	9.9	0.0000105
ULU-4a	Portal	Portal Pond	7/29/2020	0.0366	0.000005	0.000497	0.00594	0.05	1.91	0.000106	1.51	0.000012	8.62	0.0264	13.9	0.00001
ULU-4a	Portal	Portal Pond	8/26/2020	0.0341	0.000005	0.000438	0.0058	0.05	1.96	0.000124	1.36	0.00001	9.84	0.03	14.5	0.000017
ULU-4a	Portal	Portal Pond	9/5/2020	0.0864	0.000005	0.00135	0.00683	0.05	2.58	0.000136	1.66	0.00001	13.4	0.041	18.5	0.00001
ULU-4a	Portal	Portal Pond	7/29/2021	0.0349	0.0000019	0.000348	0.00646	0.0163	2.14	0.000237	1.24	0.0000168	11	0.0529	13.3	0.0000092
Seep-09	Waste rock pad	Contact water	6/15/2021	0.0503	0.0000019	0.000313	0.00629	0.0495	2.8	0.000225	2.79	0.000014	2.35	0.03	19.9	0.0000285
Seep-10	Waste rock pad	Contact water	6/15/2021	0.035	0.0000019	0.000372	0.00166	0.0185	2.96	0.000377	1.76	0.000005	3.07	0.0418	15.1	0.0000074
Seep-10	Waste rock pad	Contact water	6/6/2022	0.00675	0.0000019	0.000422	0.00151	0.0135	3.48	0.000255	1.77	0.0000092	2.15	0.0642	27.7	0.0000114
Seep-25	Waste rock pad	Contact water	6/11/2023	0.124	0.0000019	0.00104	0.0177	0.113	5.14	0.000376	8	0.000122	4.4	0.082	31.4	0.000102
ULU-7	Waste rock pad	Contact water	7/31/2020	0.0018	0.000005	0.000342	0.00156	0.05	2.88	0.000152	3.05	0.00001	6.33	0.0597	29.4	0.00001

Sample ID Convention	Area	Represents	Sampling Date	Total Manganese (Mn)	Total Mercury (Hg)	Total Molybdenum (Mo)	Total Nickel (Ni)	Total Phosphorus (P)	Total Potassium (K)	Total Selenium (Se)	Total Silicon (Si)	Total Silver (Ag)	Total Sodium (Na)	Total Strontium (Sr)	Total Sulphur (S)	Total Thallium (Tl)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.00005	0.0000019	0.00005	0.00002	0.002	0.05	0.00004	0.05	0.000005	0.05	0.00005	3	0.000002
Seep-11	Waste rock pad	Contact water	6/15/2021	0.0125	0.0000042	0.000181	0.0027	0.0246	1.39	0.000136	1.3	0.0000101	1.34	0.0169	3.4	0.0000057
Seep-11	Waste rock pad	Contact water	6/6/2022	0.00869	0.0000023	0.000161	0.0023	0.0104	1.25	0.000147	0.956	0.0000054	0.82	0.017	7.2	0.0000074
Seep-11	Waste rock pad	Contact water	6/11/2023	0.0104	0.0000019	0.000149	0.00314	0.0191	1.74	0.000169	2.01	0.000009	2.04	0.035	9.9	0.0000063
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	8/27/2020	0.00872	0.0000005	0.000136	0.00359	0.05	4.26	0.000196	2.21	0.000001	27.1	0.0884	51.9	0.000023
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/29/2021	0.00132	0.00000019	0.000418	0.00185	0.0118	3.79	0.000294	1.69	0.0000005	11	0.0741	49.6	0.0000071
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	9/1/2021	0.00228	0.00000019	0.000286	0.00228	0.0039	3.46	0.000342	1.82	0.0000005	13.6	0.0727	32.4	0.0000057
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/28/2022	0.019	0.00000019	0.000262	0.00273	0.0078	4.05	0.000279	1.73	0.0000052	8.86	0.0849	47.7	0.0000114
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/24/2022	0.00398	0.00000027	0.000243	0.00247	0.007	4.33	0.000181	1.89	0.0000056	15.1	0.0997	56.9	0.0000097
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/11/2023	0.00751	0.00000019	0.0003	0.00229	0.0087	3.46	0.000207	1.53	0.0000005	6.92	0.0657	27.6	0.0000133
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/8/2023	0.00714	0.00000019	0.00029	0.0029	0.0086	4.59	0.000165	1.77	0.0000005	11.9	0.0973	55.9	0.0000107
Seep-26	Waste rock pad	WR pad seep-surface flow in tundra	6/12/2023	0.00321	0.00000019	0.000297	0.00182	0.007	3.62	0.000205	1.5	0.0000005	9.12	0.0622	35.5	0.0000053
Seep-04	Waste rock pad	WR pad seep-surface flow in tundra	8/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.000526	0.00000037	0.000125	0.00224	0.012	1.08	0.000043	1.03	0.0000005	1.91	0.0167	5	0.0000002
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/29/2021	0.00379	0.00000019	0.000159	0.00508	0.0102	2.4	0.000127	2.14	0.0000005	11.7	0.0523	34.2	0.0000044
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	9/1/2021	0.00473	0.00000019	0.000141	0.00475	0.0025	1.81	0.000112	2.24	0.0000005	9.38	0.0425	17.4	0.0000037
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.00518	0.00000027	0.000324	0.00428	0.017	1.43	0.000069	1.92	0.0000092	5.45	0.0514	31.1	0.0000099
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/24/2022	0.00341	0.00000019	0.000099	0.00588	0.0021	2.57	0.000097	2.38	0.0000005	9.94	0.0735	47.2	0.0000043
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/12/2023	0.00172	0.00000019	0.00017	0.00325	0.0028	1.46	0.000073	1.74	0.0000005	3.21	0.0377	16.4	0.0000028
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	8/27/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.00246	0.00000029	0.000259	0.00114	0.0074	2.07	0.000196	1.05	0.0000005	2.71	0.0268	7.8	0.0000031
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.00172	0.00000019	0.000232	0.00189	0.0076	2.95	0.000256	1.67	0.0000005	9.7	0.0694	38	0.0000066
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.000909	0.00000019	0.000265	0.00125	0.004	2.73	0.000078	1.32	0.0000005	7	0.0484	19.3	0.0000042
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.00207	0.0000002	0.000053	0.00115	0.0075	0.84	0.000062	1.41	0.0000005	1.54	0.0117	4.6	0.0000032
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.00229	0.00000019	0.000053	0.00144	0.0095	1.29	0.000088	1.85	0.0000005	3.54	0.0344	22.7	0.0000051
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	7/25/2022	0.00566	0.00000019	0.000057	0.0022	0.0155	1.82	0.00004	2.31	0.000001	5.45	0.0515	32.9	0.0000068
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.00484	0.00000019	0.000066	0.00177	0.0263	1.39	0.000045	1.6	0.0000005	3.79	0.0253	17.7	0.0000052
Seep-19	Camp 3	Contact water?	7/30/2021	0.00118	0.00000019	0.000524	0.00181	0.0085	3.26	0.000156	1.77	0.0000005	0.905	0.0328	13.6	0.0000066
Ref-03		Camp impacted background	6/14/2022	0.00182	0.00000035	0.00005	0.00123	0.006	0.446	0.000054	1.61	0.0000005	0.895	0.00892	3	0.0000035
Ref-03		Camp impacted background	6/13/2023	0.00193	0.00000019	0.00005	0.000973	0.0023	0.433	0.00004	1.87	0.0000005	1.15	0.0131	3	0.0000002
Ref-03		Camp impacted background	7/3/2023	0.00379	0.00000019	0.00005	0.00245	0.002	0.581	0.00004	2.54	0.0000005	1.83	0.0199	3	0.0000002
Ref-06		Background	7/3/2022	0.0129	0.00000019	0.00191	0.000818	0.002	0.137	0.000093	1.33	0.0000005	0.581	0.00358	3	0.0000032
Ref-06		Background	6/13/2023	0.000552	0.00000019	0.00005	0.000662	0.0042	0.139	0.00004	0.985	0.0000005	0.324	0.00302	3	0.0000002
Ref-06		Background	7/3/2023	0.00105	0.00000019	0.00005	0.00218	0.002	0.232	0.00004	1.49	0.0000005	0.514	0.00535	3	0.0000037
Notes																
Renamed ID's																
Italics <DL																
Calculated from other value																

Sample ID Convention	Area	Represents	Sampling Date	Total Tin (Sn)	Total Titanium (Ti)	Total Uranium (U)	Total Vanadium (V)	Total Zinc (Zn)	Total Zirconium (Zr)	Total Tungsten (W)	Total Thorium (Th)	Total Lanthanum (La)	Total Cesium (Cs)	Total Tellurium (Te)	Total Rubidium (Rb)	Dissolved Hardness (CaCO3)	Dissolved Aluminum (Al)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.0002	0.0005	0.000002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0004	0.00001	0.0002	0.0002	0.5	0.0005
ULU-8	Ore pad E	Contact water?	7/31/2020	0.0001	0.00133	0.000132	0.0005	0.0976	0.00033	0.0001	0.0001	#N/A	0.000263	0.0002	0.0113	#N/A	0.028
ULU-8	Ore pad E	Contact water?	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.033
ULU-8	Ore pad E	Contact water?	8/26/2020	0.0001	0.00036	0.000077	0.0005	0.171	0.0002	0.0001	0.0001	#N/A	0.000286	0.0002	0.0131	#N/A	0.0203
ULU-8	Ore pad E	Contact water	6/6/2022	0.0002	0.00293	0.000145	0.0002	0.046	0.0002	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	112	0.0445
ULU-8	Ore pad E	Contact water?	6/12/2023	0.0002	0.00091	0.0000682	0.0002	0.0409	0.00013	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	306	0.0105
ULU-8	Ore pad E	Contact water	7/3/2023	0.0002	0.0005	0.000227	0.0002	0.0974	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	408	0.0118
ULU-8A	Ore pad E	Contact water	7/1/2023	0.0002	0.00138	0.000678	0.0002	0.29	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	478	0.0182
ULU-8A	Ore pad E	Contact water	7/7/2023	0.0002	0.0071	0.000336	0.00052	0.116	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	590	0.00865
ULU-8A	Ore pad E	Contact water	7/16/2023	0.0002	0.0005	0.000327	0.0002	0.0842	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	391	0.007
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	9/5/2019	0.0001	0.0015	0.000026	0.0005	0.0543	0.0002	0.0001	0.0001	#N/A	0.00006	0.0002	0.00832	366	0.0151
Seep-01	Ore pad S	Surface flow?	7/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0231
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0556
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0119
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	6/10/2023	0.0002	0.0005	0.0000403	0.0002	0.0146	0.0002	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	86	0.0239
Seep-22	Ore pad W	Ore pad sub-surface drainage in tundra?	6/10/2023	0.0002	0.00147	0.0000563	0.00032	0.00579	0.00037	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	111	0.0744
Seep-23	Ore pad E	Ore pad sub-surface drainage in boulders	6/10/2023	0.0002	0.00138	0.000322	0.0002	0.00162	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	107	0.00738
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	7/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.632
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/7/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.639
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/26/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.22
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/16/2021	0.0002	0.00487	0.000197	0.00021	0.017	0.00014							47.7	0.0446
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/30/2022	0.0002	0.0005	0.000161	0.0002	0.0429	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	68.7	0.0592
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/9/2023	0.0002	0.00054	0.000235	0.0002	0.0242	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	48.5	0.0502
Seep-05 SW	Ore pad W	Ore pad sub-surface drainage in tundra?	7/22/2023	0.0002	0.0005	0.00413	0.0002	0.3	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	537	7.2
Seep-05 SW +15	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.0002	0.0005	0.000034	0.0002	0.0263	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	154	0.0262
Seep-05 SW-50	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.0002	0.002	0.00101	0.0002	0.22	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	193	4.45
Seep-05 SW-125	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.0002	0.0005	0.0000391	0.0002	0.00377	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	69.4	0.0102
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/2/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0492
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/27/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.032
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/16/2021	0.0002	0.00081	0.0000417	0.0002	0.00089	0.00015	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	28.7	0.037
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	9/1/2021	0.0002	0.0005	0.0000349	0.0002	0.00196	0.00013	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	63.3	0.0347
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/12/2023	0.0002	0.00392	0.0000365	0.00021	0.00252	0.00019	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	51.5	0.0272
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/16/2021	0.0002	0.00089	0.0000712	0.0002	0.00709	0.00019							21.1	0.0389
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/9/2023	0.0002	0.00119	0.0000714	0.0002	0.00075	0.00027	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	18.1	0.0623
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/19/2023	0.0002	0.0005	0.0000648	0.0002	0.00213	0.00021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	25.1	0.0662
Seep-03	Camp pad N	Contact water?	7/31/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0149
Seep-21	Camp pad N	Contact water?	6/14/2022	0.0002	0.001	0.00128	0.0002	0.00151	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	272	0.00432

Sample ID Convention	Area	Represents	Sampling Date	Total Tin (Sn)	Total Titanium (Ti)	Total Uranium (U)	Total Vanadium (V)	Total Zinc (Zn)	Total Zirconium (Zr)	Total Tungsten (W)	Total Thorium (Th)	Total Lanthanum (La)	Total Cesium (Cs)	Total Tellurium (Te)	Total Rubidium (Rb)	Dissolved Hardness (CaCO3)	Dissolved Aluminum (Al)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.0002	0.0005	0.000002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0004	0.00001	0.0002	0.0002	0.5	0.0005
Seep-07	Camp pad N	Contact water	6/14/2021	0.0002	0.0124	0.000304	0.00062	0.00949	0.00011							60.3	0.0263
Seep-08	Camp pad N	Contact water	6/14/2021	0.0002	0.00193	0.000404	0.0002	0.0045	0.0001							62.3	0.0135
Seep-08	Camp pad N	Contact water	6/13/2022	0.0002	0.00402	0.00128	0.00027	0.00698	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	128	0.0254
Seep-08	Camp pad N	Contact water	6/9/2023	0.0002	0.0005	0.000602	0.0002	0.0028	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	118	0.01
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2021	0.0002	0.0024	0.000239	0.0002	0.0001	0.00013							79.2	0.0214
Seep-17	Drill core/Camp pad	Tundra seep	7/29/2021	0.0002	0.0005	0.000638	0.0002	0.0022	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	139	0.0118
Seep-17	Drill core/Camp pad	Tundra seep	8/26/2021	0.0002	0.0005	0.000805	0.0002	0.00247	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	188	0.0105
Seep-17	Drill core/Camp pad	Tundra seep	9/1/2021	0.0002	0.00199	0.000351	0.00027	0.00707	0.00013	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	133	0.00708
Seep-17	Drill core/Camp pad	Tundra seep	6/27/2022	0.0002	0.0005	0.000272	0.0002	0.00173	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	128	0.0104
Seep-17	Drill core/Camp pad	Tundra seep	7/24/2022	0.0002	0.0005	0.000946	0.0002	0.00274	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	233	0.00921
Seep-17	Drill core/Camp pad	Tundra seep	6/12/2023	0.0002	0.0005	0.000294	0.0002	0.00106	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	98.7	0.00889
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2023	0.0002	0.0005	0.000405	0.0002	0.00134	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	127	0.0101
Seep-17	Drill core/Camp pad	Tundra seep	7/27/2023	0.0002	0.0005	0.00106	0.0002	0.00201	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	208	0.00748
Seep-18	Drill core/Camp pad	Downstream flow in tundra	7/29/2021	0.0002	0.00199	0.000351	0.00027	0.00707	0.00013	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	133	0.00708
Seep-18	Drill core/Camp pad	Downstream flow in tundra	8/26/2021	0.0002	0.002	0.000265	0.0002	0.0041	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	178	0.00594
Seep-18	Drill core/Camp pad	Downstream flow in tundra	9/1/2021	0.0002	0.002	0.000364	0.0002	0.0021	0.00011	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	171	0.00573
Seep-18	Drill core/Camp pad	Downstream flow in tundra	6/27/2022	0.0002	0.002	0.000133	0.0002	0.0025	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	130	0.00671
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/24/2022	0.0002	0.002	0.000142	0.0002	0.002	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	203	0.00858
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/12/2023	0.0002	0.0005	0.000113	0.0002	0.00043	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	95.1	0.00729
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/19/2023	0.0002	0.0005	0.000118	0.0002	0.00117	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	123	0.00914
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/27/2023	0.0002	0.0005	0.000296	0.0002	0.00086	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	190	0.00733
ULU-15	Landfill	Pre-land fill run off from Camp pad S	6/23/2021	0.0002	0.00183	0.000735	0.0002	0.132	0.00012							#N/A	#N/A
ULU-15	Landfill	Run off from Camp pad S/landfill	6/11/2023	0.0002	0.00105	0.00535	0.0002	0.33	0.00011	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	382	0.00451
Seep-16	Portal	Contact water/snow melt	6/19/2021	0.0002	0.0562	0.00013	0.00427	0.0125	0.00025							15.5	0.06
Seep-24	Portal	Contact water	6/10/2023	0.0002	0.00067	0.000101	0.0002	0.00413	0.00015	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	87.4	0.0301
ULU-4a	Portal	Portal Pond	7/29/2020	0.0001	0.00305	0.000232	0.0005	0.167	0.0002	0.00047	0.0001	#N/A	0.000067	0.0002	0.00282	#N/A	#N/A
ULU-4a	Portal	Portal Pond	8/26/2020	0.0001	0.00097	0.000251	0.0005	0.167	0.0002	0.00066	0.0001	#N/A	0.000063	0.0002	0.00295	#N/A	0.023
ULU-4a	Portal	Portal Pond	9/5/2020	0.0001	0.00108	0.00067	0.0005	0.145	0.0002	0.00068	0.0001	#N/A	0.000072	0.0002	0.00388	#N/A	0.0202
ULU-4a	Portal	Portal Pond	7/29/2021	0.0002	0.0046	0.000233	0.00035	0.186	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	54.8	0.0159
Seep-09	Waste rock pad	Contact water	6/15/2021	0.0002	0.0679	0.000348	0.00339	0.0226	0.00022							79.1	0.0198
Seep-10	Waste rock pad	Contact water	6/15/2021	0.0002	0.00554	0.000267	0.00039	0.0053	0.00012							107	0.00783
Seep-10	Waste rock pad	Contact water	6/6/2022	0.00025	0.00555	0.000258	0.00044	0.00524	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	125	0.0059
Seep-25	Waste rock pad	Contact water	6/11/2023	0.0002	0.243	0.00106	0.0151	0.0905	0.00045	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	216	0.00357
ULU-7	Waste rock pad	Contact water	7/31/2020	0.0001	0.00111	0.000142	0.0005	0.0056	0.00024	0.0001	0.0001	#N/A	0.000071	0.0002	0.00416	#N/A	0.018

Sample ID Convention	Area	Represents	Sampling Date	Total Tin (Sn)	Total Titanium (Ti)	Total Uranium (U)	Total Vanadium (V)	Total Zinc (Zn)	Total Zirconium (Zr)	Total Tungsten (W)	Total Thorium (Th)	Total Lanthanum (La)	Total Cesium (Cs)	Total Tellurium (Te)	Total Rubidium (Rb)	Dissolved Hardness (CaCO3)	Dissolved Aluminum (Al)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.0002	0.0005	0.000002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0004	0.00001	0.0002	0.0002	0.5	0.0005
Seep-11	Waste rock pad	Contact water	6/15/2021	0.0002	0.00698	0.0000847	0.0007	0.0063	0.00015							43.1	0.0234
Seep-11	Waste rock pad	Contact water	6/6/2022	0.00074	0.00406	0.0000858	0.00044	0.00579	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	44.5	0.02
Seep-11	Waste rock pad	Contact water	6/11/2023	0.0002	0.00447	0.000117	0.00056	0.00713	0.00015	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	87.2	0.0149
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	8/27/2020	0.0001	0.0018	0.000978	0.0005	0.0058	0.0002	0.0001	0.0001	#N/A	0.000025	0.0002	0.00493	#N/A	0.0072
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/29/2021	0.0002	0.00104	0.00134	0.0002	0.00207	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	166	0.00692
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	9/1/2021	0.0002	0.00104	0.00087	0.0002	0.00287	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	192	0.00506
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/28/2022	0.0002	0.00317	0.00136	0.0002	0.00367	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	223	0.00822
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/24/2022	0.0002	0.00083	0.00182	0.0002	0.00343	0.00013	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	259	0.00883
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/11/2023	0.0002	0.00815	0.00068	0.00042	0.00335	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	168	0.00845
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/8/2023	0.0002	0.00184	0.00219	0.0002	0.0031	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	242	0.00813
Seep-26	Waste rock pad	WR pad seep-surface flow in tundra	6/12/2023	0.0002	0.00108	0.000344	0.0002	0.00295	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	149	0.00508
Seep-04	Waste rock pad	WR pad seep-surface flow in tundra	8/1/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0221
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.0002	0.00055	0.0000671	0.0002	0.00106	0.00017							36.9	0.0277
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/29/2021	0.0002	0.00172	0.0000686	0.0002	0.00619	0.0002	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	83.6	0.0154
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	9/1/2021	0.0002	0.00116	0.0000503	0.0002	0.00292	0.00014	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	89.1	0.0155
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.0002	0.0005	0.0000991	0.00027	0.00222	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	96.2	0.0214
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/24/2022	0.0002	0.0005	0.0000481	0.0002	0.00391	0.00011	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	157	0.015
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/12/2023	0.0002	0.0005	0.0000559	0.0002	0.00205	0.00018	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	80.1	0.0174
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	8/27/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.0116
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.0002	0.00163	0.000133	0.0002	0.00119	0.00012							71.2	0.0106
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.0002	0.0005	0.000378	0.0002	0.00196	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	168	0.00734
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.0002	0.0005	0.000227	0.0002	0.00104	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	124	0.00605
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.0002	0.00234	0.000157	0.0002	0.00104	0.00021							28.5	0.0483
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.0002	0.00164	0.000125	0.0002	0.00282	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	78.6	0.0273
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	7/25/2022	0.0002	0.0038	0.000155	0.0002	0.005	0.00014	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	128	0.0308
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.0002	0.0016	0.000135	0.00027	0.00435	0.00015	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	61.9	0.0266
Seep-19	Camp 3	Contact water?	7/30/2021	0.0002	0.0005	0.000559	0.0002	0.00899	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	81.2	0.0128
Ref-03		Camp impacted background	6/14/2022	0.0002	0.00112	0.000154	0.0002	0.00446	0.00015	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	17.9	0.0723
Ref-03		Camp impacted background	6/13/2023	0.0002	0.0005	0.0000953	0.0002	0.00211	0.00022	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	26.8	0.0549
Ref-03		Camp impacted background	7/3/2023	0.0002	0.0005	0.000103	0.0002	0.00312	0.00027	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	39.3	0.0543
Ref-06		Background	7/3/2022	0.0002	0.0005	0.000135	0.0002	0.00252	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	7.46	0.0473
Ref-06		Background	6/13/2023	0.0002	0.0005	0.000123	0.0002	0.00257	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	7.13	0.0484
Ref-06		Background	7/3/2023	0.0002	0.0005	0.000157	0.0002	0.00409	0.00013	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	11.9	0.0524
Notes																	
Renamed ID's																	
Italics <DL																	
Calculated from other value																	

Sample ID Convention	Area	Represents	Sampling Date	Dissolved Antimony (Sb)	Dissolved Arsenic (As)	Dissolved Barium (Ba)	Dissolved Beryllium (Be)	Dissolved Bismuth (Bi)	Dissolved Boron (B)	Dissolved Cadmium (Cd)	Dissolved Calcium (Ca)	Dissolved Chromium (Cr)	Dissolved Cobalt (Co)	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Lead (Pb)	Dissolved Lithium (Li)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.00002	0.00002	0.00002	0.00001	0.000005	0.01	0.000005	0.05	0.0001	0.000005	0.00005	0.001	0.000005	0.0005
ULU-8	Ore pad E	Contact water?	7/31/2020	0.00038	0.00174	0.0271	0.0001	0.00005	0.0503	0.000163	87	0.00012	0.00066	0.00285	0.026	0.00005	0.0117
ULU-8	Ore pad E	Contact water?	8/7/2020	0.00032	0.00169	0.0264	0.0001	0.00005	0.0696	0.000226	83.4	0.00011	0.00131	0.00288	0.029	0.00005	0.0116
ULU-8	Ore pad E	Contact water?	8/26/2020	0.00029	0.00173	0.0397	0.0001	0.00005	0.067	0.000523	131	0.00012	0.00151	0.00237	0.02	0.00005	0.0129
ULU-8	Ore pad E	Contact water	6/6/2022	0.0002	0.0021	0.00783	0.00001	0.000005	0.028	0.0000859	35.3	0.00013	0.00286	0.00359	0.0374	0.0000236	0.00542
ULU-8	Ore pad E	Contact water?	6/12/2023	0.000178	0.000487	0.0136	0.00001	0.000005	0.04	0.0000412	103	0.0001	0.000133	0.00135	0.0047	0.0000104	0.00877
ULU-8	Ore pad E	Contact water	7/3/2023	0.000313	0.000796	0.0159	0.00001	0.000005	0.067	0.000122	140	0.00012	0.00669	0.00135	0.0117	0.0000097	0.0174
ULU-8A	Ore pad E	Contact water	7/1/2023	0.00057	0.00192	0.0185	0.00005	0.000025	0.092	0.000546	160	0.00079	0.0594	0.00239	0.0578	0.00045	0.0253
ULU-8A	Ore pad E	Contact water	7/7/2023	0.00051	0.00173	0.0183	0.00001	0.000005	0.075	0.000244	208	0.0001	0.0339	0.00163	0.0083	0.000012	0.018
ULU-8A	Ore pad E	Contact water	7/16/2023	0.000398	0.00208	0.0176	0.00001	0.000005	0.08	0.00016	133	0.0001	0.022	0.00159	0.0114	0.0000129	0.0158
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	9/5/2019	0.0001	0.00046	0.0291	0.0001	0.00005	0.096	0.0000247	112	0.00013	0.0112	0.00097	0.524	0.00005	0.015
Seep-01	Ore pad S	Surface flow?	7/31/2020	0.00016	0.00029	0.0223	0.0001	0.00005	0.0761	0.0000631	74.9	0.0001	0.0124	0.00154	0.283	0.00005	0.011
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/7/2020	0.00027	0.00033	0.0184	0.363	0.00005	0.535	0.000146	95.4	0.00083	0.0435	0.00291	0.12	0.00005	0.019
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/26/2020	0.0001	0.00067	0.0219	0.0001	0.00005	0.105	0.0000073	95.1	0.0001	0.0235	0.00089	1.48	0.00005	0.0124
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	6/10/2023	0.000032	0.000235	0.00837	0.00001	0.000005	0.066	0.0000149	26.9	0.0001	0.00237	0.00161	0.117	0.0000117	0.00264
Seep-22	Ore pad W	Ore pad sub-surface drainage in tundra?	6/10/2023	0.00002	0.000587	0.0188	0.000013	0.000005	0.01	0.0000131	36.5	0.00022	0.00508	0.00137	0.851	0.0000508	0.0041
Seep-23	Ore pad E	Ore pad sub-surface drainage in boulders	6/10/2023	0.000113	0.000116	0.00715	0.00001	0.000005	0.021	0.0000127	35	0.0001	0.000883	0.00229	0.166	0.0000088	0.0017
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	7/31/2020	0.0001	0.00134	0.02	0.00015	0.00005	0.035	0.000191	51.2	0.0001	0.101	0.0263	0.017	0.000052	0.0127
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/7/2020	0.0001	0.00103	0.0167	0.00016	0.00005	0.0496	0.00017	43.5	0.0001	0.0756	0.0211	0.049	0.000104	0.0113
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/26/2020	0.0001	0.00083	0.0195	0.0001	0.00005	0.0867	0.000241	50.1	0.0001	0.0748	0.0112	0.017	0.00005	0.0086
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/16/2021	0.000031	0.000128	0.00631	0.00001	0.000005	0.015	0.0000374	15.5	0.0001	0.0161	0.00296	0.197	0.0000141	0.00232
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/30/2022	0.00003	0.000086	0.00783	0.000025	0.000005	0.029	0.000114	22	0.0001	0.0361	0.00321	0.0151	0.0000142	0.00471
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/9/2023	0.00002	0.000103	0.00587	0.000018	0.000005	0.029	0.000043	15.8	0.0001	0.0196	0.00351	0.0786	0.000008	0.00365
Seep-05 SW	Ore pad W	Ore pad sub-surface drainage in tundra?	7/22/2023	0.000041	0.00002	0.0365	0.000909	0.000005	0.082	0.00051	176	0.0001	0.251	0.0682	0.0668	0.000156	0.0411
Seep-05 SW +15	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.000051	0.000131	0.0261	0.00002	0.000005	0.052	0.0000586	47.7	0.0001	0.0118	0.00216	0.0792	0.0000056	0.00522
Seep-05 SW-50	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.00002	0.000046	0.0222	0.000718	0.000005	0.052	0.000605	57.2	0.0001	0.22	0.0447	0.07	0.000315	0.021
Seep-05 SW-125	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.000035	0.000357	0.0143	0.00001	0.000005	0.012	0.000011	19.3	0.00011	0.000353	0.00183	0.0714	0.0000212	0.00116
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/2/2020	0.0001	0.00016	0.0194	0.0001	0.00005	0.0192	0.0000445	19.6	0.0001	0.00016	0.0026	0.013	0.00005	0.0011
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/27/2020	0.0001	0.00015	0.0223	0.0001	0.00005	0.0139	0.0000318	22	0.00011	0.0001	0.00194	0.01	0.00005	0.001
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/16/2021	0.00002	0.000109	0.00609	0.00001	0.000005	0.012	0.0000058	8.26	0.0001	6.02E-05	0.00159	0.0152	0.0000078	0.00005
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	9/1/2021	0.00002	0.00012	0.0159	0.00001	0.000005	0.014	0.0000199	18.4	0.0001	0.000117	0.00201	0.015	0.0000103	0.00005
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/12/2023	0.00002	0.000095	0.0112	0.00001	0.000005	0.016	0.000012	14.9	0.0001	3.63E-05	0.00138	0.0096	0.0000067	0.00005
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/16/2021	0.00002	0.000143	0.00774	0.00001	0.000005	0.013	0.000005	6.57	0.0001	0.000039	0.00195	0.0113	0.0000074	0.00131
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/9/2023	0.00002	0.000154	0.00742	0.000011	0.000005	0.02	0.000005	5.56	0.00011	4.74E-05	0.00283	0.0205	0.000012	0.00111
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/19/2023	0.000035	0.000227	0.0116	0.000013	0.000005	0.014	0.000005	7.39	0.00019	5.91E-05	0.00373	0.0178	0.000011	0.00153
Seep-03	Camp pad N	Contact water?	7/31/2020	0.00198	0.00196	0.0165	0.0001	0.00005	0.0464	0.0000373	81.8	0.0001	0.0138	0.00306	0.01	0.00005	0.0076
Seep-21	Camp pad N	Contact water?	6/14/2022	0.000738	0.00139	0.0249	0.00001	0.000005	0.044	0.0000096	99.7	0.0001	0.00043	0.00158	0.002	0.0000101	0.00855

Sample ID Convention	Area	Represents	Sampling Date	Dissolved Antimony (Sb)	Dissolved Arsenic (As)	Dissolved Barium (Ba)	Dissolved Beryllium (Be)	Dissolved Bismuth (Bi)	Dissolved Boron (B)	Dissolved Cadmium (Cd)	Dissolved Calcium (Ca)	Dissolved Chromium (Cr)	Dissolved Cobalt (Co)	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Lead (Pb)	Dissolved Lithium (Li)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.00002	0.00002	0.00002	0.00001	0.000005	0.01	0.000005	0.05	0.0001	0.000005	0.00005	0.001	0.000005	0.0005
Seep-07	Camp pad N	Contact water	6/14/2021	0.000121	0.000358	0.0106	0.00001	0.000005	0.022	0.0000164	20.1	0.0001	0.0041	0.0022	0.0158	0.0000211	0.00166
Seep-08	Camp pad N	Contact water	6/14/2021	0.000289	0.000349	0.0086	0.00001	0.000005	0.013	0.0000152	20.8	0.0001	0.00206	0.00116	0.009	0.0000189	0.0019
Seep-08	Camp pad N	Contact water	6/13/2022	0.000223	0.000364	0.0166	0.00001	0.000005	0.018	0.0000237	42.8	0.0001	0.00432	0.00198	0.0105	0.0000279	0.00269
Seep-08	Camp pad N	Contact water	6/9/2023	0.000299	0.00038	0.0144	0.00001	0.000005	0.032	0.0000073	40.6	0.0001	0.000198	0.00156	0.0031	0.0000119	0.00234
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2021	0.000192	0.000171	0.00737	0.00001	0.000005	0.019	0.0000067	26.1	0.00011	0.000177	0.00222	0.0105	0.000013	0.00083
Seep-17	Drill core/Camp pad	Tundra seep	7/29/2021	0.000269	0.000198	0.0137	0.00001	0.000005	0.027	0.0000118	44.9	0.0001	0.000192	0.00218	0.0047	0.000008	0.00166
Seep-17	Drill core/Camp pad	Tundra seep	8/26/2021	0.000263	0.000205	0.0178	0.00001	0.000005	0.031	0.0000216	62.9	0.0001	0.000369	0.00316	0.0072	0.000128	0.00179
Seep-17	Drill core/Camp pad	Tundra seep	9/1/2021	0.000178	0.000194	0.0132	0.00001	0.000005	0.023	0.0000093	42.9	0.0001	0.00012	0.00174	0.0051	0.0000074	0.00137
Seep-17	Drill core/Camp pad	Tundra seep	6/27/2022	0.000266	0.000191	0.012	0.00001	0.000005	0.025	0.00001	43.1	0.0001	0.000318	0.00216	0.0033	0.0000184	0.00176
Seep-17	Drill core/Camp pad	Tundra seep	7/24/2022	0.000442	0.0003	0.0212	0.00001	0.000005	0.038	0.0000153	78.8	0.00011	0.000421	0.00238	0.0047	0.0000207	0.00315
Seep-17	Drill core/Camp pad	Tundra seep	6/12/2023	0.000221	0.000312	0.00846	0.00001	0.000005	0.026	0.0000111	33.2	0.0001	0.000289	0.00224	0.0042	0.0000147	0.00176
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2023	0.000343	0.000497	0.0124	0.00001	0.000005	0.026	0.0000113	41.2	0.0001	0.000408	0.0031	0.0048	0.0000204	0.00219
Seep-17	Drill core/Camp pad	Tundra seep	7/27/2023	0.000736	0.000522	0.0214	0.00001	0.000005	0.039	0.0000206	70.4	0.0001	0.000345	0.00226	0.0085	0.0000209	0.0037
Seep-18	Drill core/Camp pad	Downstream flow in tundra	7/29/2021	0.000178	0.000194	0.0132	0.00001	0.000005	0.023	0.0000093	42.9	0.0001	0.00012	0.00174	0.0051	0.0000074	0.00137
Seep-18	Drill core/Camp pad	Downstream flow in tundra	8/26/2021	0.000182	0.00019	0.0161	0.00001	0.000005	0.027	0.0000125	58.9	0.0001	0.000273	0.00195	0.0071	0.0000384	0.00149
Seep-18	Drill core/Camp pad	Downstream flow in tundra	9/1/2021	0.000224	0.000186	0.0139	0.00001	0.000005	0.029	0.000016	57.8	0.0001	0.000322	0.0022	0.0122	0.000142	0.00131
Seep-18	Drill core/Camp pad	Downstream flow in tundra	6/27/2022	0.00023	0.000163	0.0121	0.00001	0.000005	0.021	0.0000084	43.4	0.0001	0.000297	0.00189	0.0035	0.0000225	0.00141
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/24/2022	0.00021	0.000265	0.0187	0.00001	0.000005	0.029	0.0000067	67.5	0.0001	0.00025	0.00178	0.0039	0.0000091	0.00154
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/12/2023	0.000191	0.000148	0.00742	0.00001	0.000005	0.025	0.000005	32.1	0.0001	0.000227	0.00188	0.0038	0.0000244	0.0011
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/19/2023	0.000258	0.000253	0.0112	0.00001	0.000005	0.023	0.0000068	39.9	0.0001	0.000344	0.00256	0.004	0.000031	0.00137
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/27/2023	0.000206	0.000298	0.0193	0.00001	0.000005	0.032	0.0000104	63.6	0.0001	0.000284	0.00173	0.0075	0.0000081	0.0019
ULU-15	Landfill	Pre-land fill run off from Camp pad S	6/23/2021	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.000218	35.5	0.00016	0.000301	0.00408	0.0894	0.0000674	0.00207
ULU-15	Landfill	Run off from Camp pad S/landfill	6/11/2023	0.000506	0.000837	0.0364	0.00001	0.000005	0.155	0.000394	129	0.0001	0.000304	0.00442	0.0304	0.0000681	0.00254
Seep-16	Portal	Contact water/snow melt	6/19/2021	0.000134	0.0229	0.00328	0.00001	0.000005	0.01	0.0000075	5.46	0.00011	0.000361	0.00115	0.0576	0.0000919	0.0005
Seep-24	Portal	Contact water	6/10/2023	0.000088	0.00332	0.0168	0.00001	0.000005	0.019	0.0000253	28	0.0001	0.00135	0.00332	0.0153	0.0000159	0.00375
ULU-4a	Portal	Portal Pond	7/29/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-4a	Portal	Portal Pond	8/26/2020	0.00027	0.00182	0.0125	0.0001	0.00005	0.0074	0.0000667	18.8	0.00027	0.00208	0.00366	0.12	0.000123	0.0029
ULU-4a	Portal	Portal Pond	9/5/2020	0.00036	0.00256	0.0155	0.0001	0.00005	0.0097	0.0000652	26.1	0.00062	0.00188	0.00334	0.16	0.00011	0.0032
ULU-4a	Portal	Portal Pond	7/29/2021	0.000178	0.00181	0.011	0.00001	0.000005	0.011	0.0000635	16.6	0.00017	0.00192	0.00251	0.104	0.000137	0.00322
Seep-09	Waste rock pad	Contact water	6/15/2021	0.000359	0.000931	0.0112	0.00001	0.000005	0.012	0.0000497	26.5	0.00015	0.00227	0.00141	0.0231	0.0000355	0.00237
Seep-10	Waste rock pad	Contact water	6/15/2021	0.000211	0.00286	0.0115	0.00001	0.000005	0.036	0.0000203	37.1	0.0001	0.00054	0.00201	0.0085	0.0000256	0.00168
Seep-10	Waste rock pad	Contact water	6/6/2022	0.000278	0.00324	0.014	0.00001	0.000005	0.03	0.0000119	44.9	0.00018	0.000294	0.00258	0.0052	0.0000172	0.0021
Seep-25	Waste rock pad	Contact water	6/11/2023	0.000368	0.00176	0.0237	0.00001	0.000005	0.042	0.0000167	78.1	0.0001	0.000167	0.00287	0.003	0.000013	0.00243
ULU-7	Waste rock pad	Contact water	7/31/2020	0.0005	0.00174	0.0171	0.0001	0.00005	0.0199	0.0000087	42.2	0.0001	0.00011	0.00299	0.017	0.00005	0.0055

Sample ID Convention	Area	Represents	Sampling Date	Dissolved Antimony (Sb)	Dissolved Arsenic (As)	Dissolved Barium (Ba)	Dissolved Beryllium (Be)	Dissolved Bismuth (Bi)	Dissolved Boron (B)	Dissolved Cadmium (Cd)	Dissolved Calcium (Ca)	Dissolved Chromium (Cr)	Dissolved Cobalt (Co)	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Lead (Pb)	Dissolved Lithium (Li)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.00002	0.00002	0.00002	0.00001	0.000005	0.01	0.000005	0.05	0.0001	0.000005	0.00005	0.001	0.000005	0.0005
Seep-11	Waste rock pad	Contact water	6/15/2021	0.000112	0.00119	0.00506	0.00001	0.000005	0.012	0.0000106	14.1	0.0001	0.00195	0.00389	0.0133	0.0000315	0.00149
Seep-11	Waste rock pad	Contact water	6/6/2022	0.000337	0.00296	0.00462	0.00001	0.000005	0.026	0.0000081	15	0.0001	0.00144	0.00421	0.0135	0.0000331	0.00283
Seep-11	Waste rock pad	Contact water	6/11/2023	0.000227	0.000994	0.00828	0.00001	0.000005	0.036	0.000011	29.3	0.0001	0.00166	0.00396	0.0101	0.0000158	0.00226
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	8/27/2020	0.00015	0.00053	0.0237	0.0001	0.00005	0.0182	0.0000707	63.1	0.00014	0.00012	0.00256	0.01	0.00005	0.0011
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/29/2021	0.000162	0.000398	0.0167	0.00001	0.000005	0.019	0.0000215	52.9	0.0001	0.000195	0.00231	0.0028	0.0000126	0.00055
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	9/1/2021	0.000116	0.000375	0.0157	0.00001	0.000005	0.02	0.0000292	62.1	0.00014	0.000262	0.00219	0.0043	0.0000094	0.0005
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/28/2022	0.000177	0.00042	0.0239	0.00001	0.000005	0.025	0.0000617	75.5	0.0001	0.000278	0.00206	0.006	0.0000201	0.00064
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/24/2022	0.000175	0.000484	0.0248	0.00001	0.000005	0.024	0.0000491	84.6	0.00018	0.000222	0.00233	0.0065	0.0000096	0.00063
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/11/2023	0.000213	0.00036	0.0184	0.00001	0.000005	0.051	0.0000436	56.9	0.0001	0.000146	0.00159	0.0043	0.0000147	0.00057
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/8/2023	0.000185	0.000382	0.0224	0.00001	0.000005	0.036	0.0000496	78.1	0.00015	0.000186	0.00254	0.0039	0.0000101	0.00062
Seep-26	Waste rock pad	WR pad seep-surface flow in tundra	6/12/2023	0.000169	0.000249	0.0143	0.00001	0.000005	0.037	0.0000237	50.4	0.0001	7.56E-05	0.00145	0.0028	0.0000103	0.00057
Seep-04	Waste rock pad	WR pad seep-surface flow in tundra	8/1/2020	0.00015	0.00063	0.0181	0.0001	0.00005	0.0073	0.000125	39.6	0.00012	0.00094	0.00276	0.01	0.00005	0.001
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.000094	0.00035	0.00726	0.00001	0.000005	0.014	0.0000121	12.2	0.0001	8.17E-05	0.00177	0.0094	0.0000136	0.0005
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/29/2021	0.000056	0.00025	0.0138	0.00001	0.000005	0.019	0.0000361	25.5	0.0001	0.00012	0.00173	0.0041	0.0000085	0.0005
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	9/1/2021	0.000045	0.000292	0.0152	0.00001	0.000005	0.022	0.0000565	28.2	0.0001	0.000162	0.00176	0.0046	0.0000079	0.0005
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.000053	0.00025	0.0219	0.00001	0.000005	0.021	0.0000448	31.2	0.0001	0.000399	0.00182	0.0099	0.0000248	0.0005
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/24/2022	0.000054	0.000343	0.0243	0.00001	0.000005	0.025	0.0000729	49.5	0.0001	0.000208	0.00169	0.0148	0.0000083	0.0005
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/12/2023	0.000078	0.000364	0.013	0.00001	0.000005	0.024	0.0000232	26.6	0.0001	0.000105	0.00191	0.0066	0.0000138	0.0005
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	8/27/2020	0.0002	0.00062	0.0139	0.0001	0.00005	0.0188	0.0000348	30.4	0.00015	0.0001	0.00214	0.02	0.00005	0.001
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.000168	0.000358	0.00769	0.00001	0.000005	0.014	0.0000263	23.5	0.0001	7.82E-05	0.00142	0.0038	0.0000124	0.0005
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.000122	0.00021	0.0189	0.00001	0.000005	0.02	0.0000508	55.2	0.0001	0.000132	0.00164	0.0024	0.0000142	0.0005
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.000144	0.000221	0.0119	0.00001	0.000005	0.034	0.0000225	41.3	0.0001	7.44E-05	0.0014	0.0019	0.0000112	0.0005
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.000046	0.000124	0.00449	0.000015	0.000005	0.01	0.0000226	8.66	0.00012	0.000111	0.00193	0.0087	0.0000148	0.0005
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.000044	0.000112	0.0146	0.000017	0.000005	0.01	0.0000642	23.7	0.0001	0.000129	0.00171	0.0048	0.0000158	0.0005
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	7/25/2022	0.000046	0.000137	0.022	0.000015	0.000005	0.01	0.000109	38.1	0.0001	0.000141	0.00192	0.0028	0.0000119	0.0005
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.000049	0.00009	0.00986	0.000016	0.000005	0.014	0.0000571	19	0.0001	0.000136	0.00154	0.0081	0.0000126	0.0005
Seep-19	Camp 3	Contact water?	7/30/2021	0.000049	0.000104	0.0147	0.00001	0.000005	0.01	0.0000086	25.7	0.0001	0.000153	0.00172	0.0042	0.000005	0.00123
Ref-03		Camp impacted background	6/14/2022	0.000021	0.000113	0.00749	0.00003	0.000005	0.01	0.0000151	4.84	0.00016	3.57E-05	0.00231	0.0294	0.000017	0.00098
Ref-03		Camp impacted background	6/13/2023	0.00002	0.00009	0.00743	0.000017	0.000005	0.012	0.00001	7.32	0.0001	2.83E-05	0.00183	0.0198	0.0000105	0.00069
Ref-03		Camp impacted background	7/3/2023	0.00002	0.000084	0.0133	0.000024	0.000005	0.017	0.000015	10.6	0.0001	3.42E-05	0.00193	0.0221	0.0000085	0.0015
Ref-06		Background	7/3/2022	0.00002	0.000124	0.00219	0.000013	0.000005	0.062	0.0000074	2.03	0.00016	0.000215	0.00208	0.0088	0.000021	0.0005
Ref-06		Background	6/13/2023	0.00002	0.000054	0.00182	0.000017	0.000005	0.01	0.0000137	2.02	0.0001	6.85E-05	0.00169	0.0054	0.0000114	0.0005
Ref-06		Background	7/3/2023	0.00002	0.000054	0.00321	0.000015	0.000005	0.012	0.0000114	3.51	0.00018	9.76E-05	0.00182	0.0104	0.0000156	0.0005
Notes																	
Renamed ID's																	
Italics <DL																	
Calculated from other value																	

Sample ID Convention	Area	Represents	Sampling Date	Dissolved Magnesium (Mg)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Nickel (Ni)	Dissolved Phosphorus (P)	Dissolved Potassium (K)	Dissolved Selenium (Se)	Dissolved Silicon (Si)	Dissolved Silver (Ag)	Dissolved Sodium (Na)	Dissolved Strontium (Sr)	Dissolved Sulphur (S)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.05	0.00005	0.0000019	0.00005	0.00002	0.002	0.05	0.00004	0.05	0.000005	0.05	0.00005	3
ULU-8	Ore pad E	Contact water?	7/31/2020	12.7	0.0881	0.000005	0.000387	0.0109	0.05	8.28	0.00069	3.37	0.00001	67.1	0.1	94.8
ULU-8	Ore pad E	Contact water?	8/7/2020	11.9	0.204	0.000005	0.000384	0.0109	0.05	7.16	0.000842	3.37	0.00001	48.6	0.0988	83.6
ULU-8	Ore pad E	Contact water?	8/26/2020	23.3	0.441	0.000005	0.000187	0.0203	0.05	10.4	0.000666	3.27	0.00001	135	0.169	137
ULU-8	Ore pad E	Contact water	6/6/2022	5.86	0.34	0.0000047	0.000202	0.00898	0.0156	3.83	0.000244	1.82	0.000005	11.5	0.0416	35.8
ULU-8	Ore pad E	Contact water?	6/12/2023	11.9	0.00621	0.0000019	0.00009	0.006	0.0033	5.34	0.000739	2.22	0.000005	11.7	0.0907	78.8
ULU-8	Ore pad E	Contact water	7/3/2023	14.1	0.0958	0.0000019	0.000255	0.011	0.0022	6.22	0.000942	2.35	0.000005	9.3	0.12	110
ULU-8A	Ore pad E	Contact water	7/1/2023	19.3	0.527	0.0000019	0.00075	0.0418	0.013	9.25	0.00184	2.38	0.000025	7.28	0.156	155
ULU-8A	Ore pad E	Contact water	7/7/2023	17.1	0.55	0.0000019	0.000851	0.0167	0.0102	8.1	0.00155	2.37	0.000005	9.78	0.145	152
ULU-8A	Ore pad E	Contact water	7/16/2023	14.7	0.617	0.0000023	0.000702	0.0111	0.002	7.33	0.000953	2.2	0.000005	13.5	0.139	134
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	9/5/2019	20.7	0.13	0.000005	0.00007	0.0259	0.05	7.45	0.000656	3.18	0.00001	8.97	0.142	110
Seep-01	Ore pad S	Surface flow?	7/31/2020	12.6	0.0772	0.000005	0.000211	0.0234	0.05	5.75	0.00106	3.82	0.00001	5.73	0.0946	82.2
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/7/2020	14.6	0.222	0.000005	0.000323	0.0459	0.05	6.76	0.00154	5.1	0.00001	8.68	0.117	100
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/26/2020	17.8	0.275	0.000005	0.00012	0.0295	0.05	5.99	0.000206	2.41	0.00001	14.2	0.124	114
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	6/10/2023	4.56	0.0258	0.0000019	0.000054	0.00661	0.0058	1.6	0.000225	1.19	0.000005	2.29	0.027	18.9
Seep-22	Ore pad W	Ore pad sub-surface drainage in tundra?	6/10/2023	4.84	0.163	0.0000104	0.000145	0.0026	0.0118	2.04	0.000207	2.3	0.000005	0.891	0.0332	21.1
Seep-23	Ore pad E	Ore pad sub-surface drainage in boulders	6/10/2023	4.83	0.0872	0.0000022	0.000097	0.00108	0.0035	2.01	0.000203	1.62	0.000005	4.68	0.0332	25.1
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	7/31/2020	6.84	0.398	0.000005	0.000512	0.0503	0.05	3.49	0.000997	4.09	0.00001	3.55	0.0674	51.7
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/7/2020	5.66	0.359	0.000005	0.000171	0.0378	0.05	3.06	0.000877	4.51	0.00001	5.92	0.0572	44.8
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/26/2020	10.9	0.946	0.000005	0.0001	0.0411	0.05	3.08	0.000956	4.19	0.00001	22.3	0.0782	57.4
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/16/2021	2.18	0.109	0.0000037	0.000126	0.00759	0.0042	1.12	0.000341	1.07	0.000005	1.58	0.0184	6.9
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/30/2022	3.37	0.327	0.0000019	0.00005	0.0196	0.0041	1.38	0.000534	1.45	0.000005	4.2	0.0299	22.6
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/9/2023	2.17	0.121	0.0000019	0.00005	0.00969	0.0022	1.06	0.00022	1.65	0.000005	1.85	0.0191	9.6
Seep-05 SW	Ore pad W	Ore pad sub-surface drainage in tundra?	7/22/2023	23.8	0.916	0.0000019	0.00005	0.114	0.002	6.6	0.00232	5.42	0.000005	9.11	0.143	184
Seep-05 SW +15	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	8.54	0.21	0.0000019	0.00005	0.0164	0.0047	1.9	0.000154	1.73	0.000005	7.78	0.072	52.3
Seep-05 SW-50	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	12.2	1.54	0.0000019	0.00005	0.102	0.0021	3.33	0.00146	4.61	0.000005	13.3	0.0772	77.9
Seep-05 SW-125	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	5.15	0.0318	0.0000031	0.00005	0.00123	0.0031	1.32	0.00004	0.993	0.000005	2.67	0.0411	14.2
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/2/2020	4.93	0.00723	0.000005	0.00005	0.00279	0.05	1.06	0.00005	2.85	0.00001	4.76	0.0321	20.9
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/27/2020	6.32	0.00981	0.000005	0.00005	0.00278	0.05	1.29	0.00005	3.25	0.00001	6.26	0.0378	28.5
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/16/2021	1.96	0.00153	0.0000021	0.00005	0.00131	0.002	0.862	0.00004	1.03	0.000005	3.05	0.0111	5.2
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	9/1/2021	4.23	0.00316	0.0000019	0.00005	0.00215	0.0021	1.3	0.00004	2.43	0.000005	5.94	0.0271	12.3
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/12/2023	3.48	0.000551	0.0000019	0.00005	0.0014	0.0025	1.09	0.000052	1.5	0.000005	4.98	0.0202	12.9
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/16/2021	1.14	0.000296	0.000003	0.00005	0.000719	0.0029	0.781	0.00004	1.17	0.0000055	1.5	0.0197	3
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/9/2023	1.04	0.000449	0.0000029	0.00005	0.00101	0.0043	0.581	0.000071	1.58	0.0000064	1.67	0.0216	3
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/19/2023	1.62	0.000379	0.0000037	0.00005	0.00113	0.002	0.69	0.00004	2.32	0.0000052	2.52	0.0382	8.1
Seep-03	Camp pad N	Contact water?	7/31/2020	7.55	0.0512	0.000005	0.00172	0.00903	0.05	6.31	0.00037	2.33	0.00001	3.19	0.0973	59.4
Seep-21	Camp pad N	Contact water?	6/14/2022	5.65	0.00227	0.0000019	0.00174	0.00104	0.004	5.15	0.000546	2.23	0.000005	2.79	0.11	61.9

Sample ID Convention	Area	Represents	Sampling Date	Dissolved Magnesium (Mg)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Nickel (Ni)	Dissolved Phosphorus (P)	Dissolved Potassium (K)	Dissolved Selenium (Se)	Dissolved Silicon (Si)	Dissolved Silver (Ag)	Dissolved Sodium (Na)	Dissolved Strontium (Sr)	Dissolved Sulphur (S)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.05	0.00005	0.0000019	0.00005	0.00002	0.002	0.05	0.00004	0.05	0.000005	0.05	0.00005	3
Seep-07	Camp pad N	Contact water	6/14/2021	2.47	0.0184	0.0000023	0.000547	0.00213	0.0042	1.86	0.000198	1.14	0.0000052	0.666	0.0224	10.4
Seep-08	Camp pad N	Contact water	6/14/2021	2.52	0.0161	0.0000019	0.000748	0.00164	0.002	1.98	0.000122	0.727	0.000005	0.715	0.0214	12.3
Seep-08	Camp pad N	Contact water	6/13/2022	5.17	0.0209	0.0000019	0.000988	0.00288	0.0065	3.22	0.000195	0.79	0.000005	1.04	0.0435	27.7
Seep-08	Camp pad N	Contact water	6/9/2023	4.06	0.000168	0.0000019	0.00158	0.00156	0.0023	3.23	0.000191	0.901	0.000005	1.43	0.0361	21.7
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2021	3.42	0.00123	0.0000037	0.000458	0.00116	0.006	2.26	0.000187	1.16	0.000005	2.46	0.0287	7.6
Seep-17	Drill core/Camp pad	Tundra seep	7/29/2021	6.45	0.00394	0.0000019	0.000423	0.00161	0.0043	3.57	0.000129	1.46	0.000005	5.02	0.0579	32.5
Seep-17	Drill core/Camp pad	Tundra seep	8/26/2021	7.6	0.00624	0.0000019	0.000387	0.00194	0.0031	4	0.000185	1.5	0.000005	6.57	0.071	29.9
Seep-17	Drill core/Camp pad	Tundra seep	9/1/2021	6.31	0.00117	0.0000019	0.000263	0.00115	0.0056	3.07	0.000084	0.826	0.000005	5.09	0.0548	30.8
Seep-17	Drill core/Camp pad	Tundra seep	6/27/2022	4.92	0.00197	0.0000019	0.000388	0.0016	0.002	2.79	0.000152	1.39	0.000005	3.14	0.0462	35.8
Seep-17	Drill core/Camp pad	Tundra seep	7/24/2022	8.77	0.00368	0.0000019	0.000717	0.00233	0.0021	5.05	0.000255	1.72	0.000005	5.09	0.0875	58.1
Seep-17	Drill core/Camp pad	Tundra seep	6/12/2023	3.81	0.00139	0.0000023	0.000472	0.00125	0.0021	2.28	0.000229	1.45	0.000005	2.86	0.032	20.1
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2023	5.92	0.00251	0.0000019	0.000677	0.00232	0.002	3.38	0.00012	1.61	0.000005	4.42	0.0518	30.9
Seep-17	Drill core/Camp pad	Tundra seep	7/27/2023	7.82	0.00568	0.0000019	0.000663	0.00215	0.002	5.13	0.000157	1.79	0.000005	5.19	0.0842	52.3
Seep-18	Drill core/Camp pad	Downstream flow in tundra	7/29/2021	6.31	0.00117	0.0000019	0.000263	0.00115	0.0056	3.07	0.000084	0.826	0.000005	5.09	0.0548	30.8
Seep-18	Drill core/Camp pad	Downstream flow in tundra	8/26/2021	7.44	0.00417	0.0000019	0.000169	0.00146	0.0029	3.49	0.000082	0.731	0.000005	6.54	0.0636	30.1
Seep-18	Drill core/Camp pad	Downstream flow in tundra	9/1/2021	6.57	0.00571	0.0000019	0.000314	0.00138	0.002	3.72	0.000158	1.12	0.000005	5.64	0.0643	26.5
Seep-18	Drill core/Camp pad	Downstream flow in tundra	6/27/2022	5.16	0.00077	0.0000019	0.000224	0.00112	0.002	2.77	0.000166	0.781	0.0000056	3.47	0.0502	47.1
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/24/2022	8.45	0.00234	0.0000019	0.000173	0.00107	0.0023	3.94	0.000074	0.764	0.000005	5.64	0.0807	52.7
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/12/2023	3.64	0.000997	0.000003	0.000144	0.000686	0.0031	2.17	0.000122	0.969	0.000005	3.47	0.031	18.1
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/19/2023	5.71	0.00155	0.0000019	0.000225	0.00105	0.002	3.08	0.000078	1.06	0.000005	4.93	0.0517	31
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/27/2023	7.43	0.00722	0.0000019	0.000233	0.00108	0.002	4.06	0.000062	1.34	0.000005	5.32	0.0791	46
ULU-15	Landfill	Pre-land fill run off from Camp pad S	6/23/2021	5.21	0.0246	0.0000019	0.000314	0.00164	0.0154	2.75	0.000132	1.42	0.0000052	2.35	0.0693	13.6
ULU-15	Landfill	Run off from Camp pad S/landfill	6/11/2023	14.4	0.0333	0.0000025	0.00113	0.00318	0.0132	9.26	0.000192	2.24	0.0000057	14.8	0.148	70.1
Seep-16	Portal	Contact water/snow melt	6/19/2021	0.457	0.00767	0.0000019	0.000085	0.000829	0.0069	0.993	0.000045	0.378	0.000005	0.385	0.00553	3
Seep-24	Portal	Contact water	6/10/2023	4.24	0.0127	0.0000019	0.000083	0.00204	0.003	1.99	0.000088	2.41	0.0000058	9.22	0.1	7.9
ULU-4a	Portal	Portal Pond	7/29/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-4a	Portal	Portal Pond	8/26/2020	3.59	0.0381	0.000005	0.000404	0.00612	0.05	2.18	0.00011	1.41	0.00001	11.5	0.0311	15.2
ULU-4a	Portal	Portal Pond	9/5/2020	4.93	0.0813	0.000005	0.00109	0.00667	0.05	2.66	0.000124	1.66	0.00001	13.6	0.0409	19.8
ULU-4a	Portal	Portal Pond	7/29/2021	3.24	0.0238	0.0000021	0.000283	0.00469	0.0062	1.83	0.000137	0.992	0.000005	9.51	0.0488	11
Seep-09	Waste rock pad	Contact water	6/15/2021	3.17	0.0137	0.0000019	0.000284	0.00329	0.0031	2.63	0.000198	1.15	0.000005	2.39	0.0311	21.4
Seep-10	Waste rock pad	Contact water	6/15/2021	3.54	0.03	0.0000019	0.000362	0.00139	0.004	2.74	0.000317	1.5	0.000005	2.94	0.0403	10.2
Seep-10	Waste rock pad	Contact water	6/6/2022	3.17	0.00367	0.0000019	0.000406	0.00113	0.0059	3.95	0.000136	1.58	0.000005	2.43	0.0732	30
Seep-25	Waste rock pad	Contact water	6/11/2023	5.04	0.00163	0.0000019	0.000878	0.00169	0.0056	4.46	0.000158	2.49	0.000005	4.73	0.0733	34.2
ULU-7	Waste rock pad	Contact water	7/31/2020	5.9	0.00093	0.000005	0.000341	0.00177	0.05	3.09	0.000121	3.02	0.00001	6.53	0.0588	29.5

Sample ID Convention	Area	Represents	Sampling Date	Dissolved Magnesium (Mg)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Nickel (Ni)	Dissolved Phosphorus (P)	Dissolved Potassium (K)	Dissolved Selenium (Se)	Dissolved Silicon (Si)	Dissolved Silver (Ag)	Dissolved Sodium (Na)	Dissolved Strontium (Sr)	Dissolved Sulphur (S)
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.05	0.00005	0.0000019	0.00005	0.00002	0.002	0.05	0.00004	0.05	0.000005	0.05	0.00005	3
Seep-11	Waste rock pad	Contact water	6/15/2021	1.9	0.00658	0.0000019	0.000132	0.00207	0.0066	1.24	0.000091	0.867	0.000005	1.29	0.016	3.8
Seep-11	Waste rock pad	Contact water	6/6/2022	1.71	0.00631	0.0000019	0.000173	0.00195	0.0077	1.47	0.000082	0.837	0.000005	1.01	0.02	7.3
Seep-11	Waste rock pad	Contact water	6/11/2023	3.41	0.00548	0.0000019	0.000145	0.00267	0.0056	1.57	0.000194	1.83	0.0000071	2.02	0.0314	11
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	8/27/2020	12.4	0.00811	0.000005	0.000131	0.00365	0.05	4.48	0.000187	2.28	0.00001	31.8	0.0905	53.3
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/29/2021	8.3	0.000424	0.0000021	0.000333	0.00149	0.0069	3.33	0.000234	1.56	0.000005	9.54	0.0709	41.5
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	9/1/2021	8.95	0.00113	0.0000019	0.000294	0.00218	0.0023	3.36	0.000317	1.83	0.000005	13.7	0.073	33
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/28/2022	8.47	0.0148	0.0000023	0.00023	0.00258	0.0057	3.83	0.000243	1.67	0.000005	8.15	0.0825	62.3
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/24/2022	11.7	0.00314	0.0000019	0.000275	0.00243	0.005	4.45	0.000173	1.86	0.000005	16.2	0.102	60.6
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/11/2023	6.3	0.00268	0.0000019	0.000274	0.00174	0.0044	3.27	0.000134	1.39	0.0000066	7.5	0.062	30.5
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/8/2023	11.4	0.00579	0.0000021	0.000285	0.00271	0.0063	4.48	0.000124	1.74	0.000005	11.8	0.0967	57
Seep-26	Waste rock pad	WR pad seep-surface flow in tundra	6/12/2023	5.62	0.000597	0.0000019	0.000233	0.00145	0.0037	2.81	0.000205	1.36	0.000005	7.5	0.0531	29.3
Seep-04	Waste rock pad	WR pad seep-surface flow in tundra	8/1/2020	6.27	0.044	0.000005	0.000272	0.00767	0.05	3.19	0.000135	2.7	0.00001	9.94	0.0624	38
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	1.59	0.000309	0.000002	0.000114	0.00199	0.0031	0.938	0.00004	1.13	0.000005	1.71	0.0151	4.3
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/29/2021	4.85	0.00142	0.0000019	0.00014	0.00367	0.0054	1.94	0.000073	1.85	0.000005	9.38	0.046	25.7
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	9/1/2021	4.54	0.0035	0.0000019	0.000112	0.00462	0.0021	1.86	0.000105	2.25	0.000005	9.57	0.0438	18.3
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	4.44	0.00434	0.0000019	0.000097	0.00363	0.0092	1.31	0.000085	1.65	0.000005	4.6	0.0464	30
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/24/2022	8.06	0.00312	0.0000019	0.000103	0.0057	0.002	2.51	0.000127	2.44	0.000005	10.3	0.0755	50.4
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/12/2023	3.34	0.00116	0.0000019	0.000136	0.00256	0.0029	1.37	0.000043	1.66	0.000005	3.25	0.0334	15.5
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	8/27/2020	5.15	0.00167	0.000005	0.000316	0.00176	0.05	3.54	0.000134	1.94	0.00001	17.9	0.0451	24.4
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	3.06	0.00154	0.0000019	0.000277	0.00106	0.0023	1.96	0.000178	1.06	0.000005	2.68	0.0266	8.5
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	7.4	0.00115	0.0000019	0.000219	0.00167	0.008	2.89	0.000251	1.48	0.000005	8.95	0.0688	37.6
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	5.04	0.000603	0.0000019	0.000242	0.00108	0.0046	2.59	0.000108	1.4	0.000005	7.57	0.0462	22.3
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	1.68	0.00089	0.000002	0.000084	0.000999	0.0036	0.733	0.000059	1.31	0.000005	1.45	0.0108	3.6
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	4.72	0.00115	0.0000019	0.00005	0.00122	0.0038	1.22	0.000142	1.63	0.000005	3.38	0.0333	21.4
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	7/25/2022	8.12	0.00166	0.0000019	0.00005	0.00197	0.002	1.82	0.000044	2.21	0.000005	5.82	0.0527	34.3
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	3.51	0.00157	0.0000021	0.00005	0.00122	0.0026	1.05	0.000063	1.46	0.000005	3.06	0.0225	17.9
Seep-19	Camp 3	Contact water?	7/30/2021	4.15	0.000348	0.0000019	0.000436	0.00137	0.0048	2.84	0.000073	1.6	0.000005	0.784	0.0308	9.9
Ref-03		Camp impacted background	6/14/2022	1.42	0.00149	0.0000045	0.00005	0.000956	0.0047	0.413	0.00004	1.58	0.000005	0.901	0.00932	3.1
Ref-03		Camp impacted background	6/13/2023	2.07	0.00182	0.0000019	0.00005	0.000892	0.0021	0.413	0.00004	1.95	0.0000059	1.28	0.0129	3
Ref-03		Camp impacted background	7/3/2023	3.12	0.00342	0.0000023	0.00005	0.00143	0.002	0.495	0.00004	3.21	0.000005	1.69	0.0201	3.5
Ref-06		Background	7/3/2022	0.579	0.00894	0.0000051	0.000345	0.000644	0.002	0.123	0.000091	1.21	0.0000062	0.766	0.00439	3
Ref-06		Background	6/13/2023	0.505	0.000748	0.0000019	0.00005	0.000645	0.002	0.136	0.000064	0.989	0.0000064	0.404	0.00389	3
Ref-06		Background	7/3/2023	0.762	0.000666	0.0000019	0.000159	0.000745	0.0026	0.168	0.000046	1.56	0.00001	0.47	0.00567	3
Notes																
Renamed ID's																
Italics <DL																
Calculated from other value																

Sample ID Convention	Area	Represents	Sampling Date	Dissolved Thallium (TI)	Dissolved Tin (Sn)	Dissolved Titanium (Ti)	Dissolved Uranium (U)	Dissolved Vanadium (V)	Dissolved Zinc (Zn)	Dissolved Zirconium (Zr)	Tungsten (W)- dissolved	Thorium (Th)- dissolved	Cesium (Cs)- dissolved	Tellurium (Te)- dissolved	Rubidium (Rb)- dissolved
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.000002	0.0002	0.0005	0.000002	0.0002	0.0001	0.0001	0.0001	0.0001	0.00001	0.0002	0.0002
ULU-8	Ore pad E	Contact water?	7/31/2020	0.000011	0.0001	0.00041	0.000122	0.0005	0.0992	0.00033	0.0001	0.0001	0.00031	0.0002	0.0121
ULU-8	Ore pad E	Contact water?	8/7/2020	0.000013	0.0001	0.00042	0.000122	0.0005	0.0961	0.00036	0.00043	0.0001	0.000191	0.0002	0.00922
ULU-8	Ore pad E	Contact water?	8/26/2020	0.000017	0.0001	0.00036	0.000091	0.0005	0.172	0.0003	0.0001	0.0001	0.000308	0.0002	0.0129
ULU-8	Ore pad E	Contact water	6/6/2022	0.000004	0.0002	0.00057	0.000112	0.0002	0.0518	0.0004	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-8	Ore pad E	Contact water?	6/12/2023	0.0000035	0.0002	0.0005	0.0000416	0.0002	0.0374	0.00013	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-8	Ore pad E	Contact water	7/3/2023	0.0000061	0.0002	0.0005	0.000158	0.0002	0.0781	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-8A	Ore pad E	Contact water	7/1/2023	0.00001	0.001	0.0025	0.000618	0.001	0.307	0.0005	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-8A	Ore pad E	Contact water	7/7/2023	0.0000095	0.0002	0.0005	0.000265	0.0002	0.111	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-8A	Ore pad E	Contact water	7/16/2023	0.0000083	0.0002	0.0005	0.00028	0.0002	0.0721	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	9/5/2019	0.00001	0.0001	0.0003	0.000014	0.0005	0.0561	0.0002	0.0001	0.0001	0.000053	0.0002	0.0088
Seep-01	Ore pad S	Surface flow?	7/31/2020	0.00001	0.0001	0.0003	0.000022	0.0005	0.0595	0.0003	0.0001	0.0001	0.000043	0.0002	0.00698
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/7/2020	0.000014	0.0001	0.0003	0.000038	0.0005	0.127	0.0003	0.0003	0.0001	0.000092	0.0002	0.00847
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/26/2020	0.00001	0.0001	0.0003	0.000018	0.0005	0.0293	0.0003	0.0001	0.0001	0.00006	0.0002	0.00837
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	6/10/2023	0.0000059	0.0002	0.0005	0.0000304	0.0002	0.00908	0.00016	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-22	Ore pad W	Ore pad sub-surface drainage in tundra?	6/10/2023	0.000006	0.0002	0.00076	0.000045	0.00023	0.00515	0.00034	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-23	Ore pad E	Ore pad sub-surface drainage in boulders	6/10/2023	0.0000078	0.0002	0.0005	0.000177	0.0002	0.00207	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	7/31/2020	0.000023	0.0001	0.0003	0.000269	0.0005	0.112	0.0003	0.0001	0.0001	0.000176	0.0002	0.00775
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/7/2020	0.000021	0.0001	0.0003	0.000363	0.0005	0.0801	0.0003	0.00045	0.0001	0.000149	0.0002	0.00591
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/26/2020	0.000025	0.0001	0.0003	0.000432	0.0005	0.0682	0.0003	0.0001	0.0001	0.000215	0.0002	0.00731
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/16/2021	0.0000053	0.0002	0.0005	0.0000694	0.0002	0.0137	0.0001					
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/30/2022	0.0000104	0.0002	0.0005	0.0000717	0.0002	0.0357	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/9/2023	0.0000054	0.0002	0.0005	0.000106	0.0002	0.0183	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05 SW	Ore pad W	Ore pad sub-surface drainage in tundra?	7/22/2023	0.000049	0.0002	0.0005	0.00334	0.0002	0.274	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05 SW +15	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.0000057	0.0002	0.0005	0.0000164	0.0002	0.0229	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05 SW-50	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.0000473	0.0002	0.0005	0.000838	0.0002	0.225	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-05 SW-125	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023	0.0000042	0.0002	0.0005	0.0000284	0.0002	0.0089	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/2/2020	0.00001	0.0001	0.0003	0.000071	0.0005	0.0069	0.0003	0.00028	0.0001	0.00001	0.0002	0.00146
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/27/2020	0.00001	0.0001	0.0003	0.00005	0.0005	0.0086	0.0003	0.0001	0.0001	0.00001	0.0002	0.0016
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/16/2021	0.000002	0.0002	0.0005	0.0000345	0.0002	0.00109	0.00012					
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	9/1/2021	0.000002	0.0002	0.0005	0.000034	0.0002	0.0025	0.0002	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/12/2023	0.000002	0.0002	0.0005	0.0000299	0.0002	0.00191	0.00018	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/16/2021	0.000002	0.0002	0.0005	0.0000588	0.0002	0.00078	0.00014					
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/9/2023	0.000002	0.0002	0.0005	0.000073	0.0002	0.00149	0.00027	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/19/2023	0.000002	0.0002	0.0005	0.0000763	0.0002	0.00227	0.00034	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-03	Camp pad N	Contact water?	7/31/2020	0.00001	0.0001	0.0003	0.00126	0.0005	0.0173	0.0003	0.00048	0.0001	0.000338	0.0002	0.00871
Seep-21	Camp pad N	Contact water?	6/14/2022	0.0000121	0.0002	0.0005	0.00138	0.0002	0.00116	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A

Sample ID Convention	Area	Represents	Sampling Date	Dissolved Thallium (TI)	Dissolved Tin (Sn)	Dissolved Titanium (Ti)	Dissolved Uranium (U)	Dissolved Vanadium (V)	Dissolved Zinc (Zn)	Dissolved Zirconium (Zr)	Tungsten (W)- dissolved	Thorium (Th)- dissolved	Cesium (Cs)- dissolved	Tellurium (Te)- dissolved	Rubidium (Rb)- dissolved
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.000002	0.0002	0.0005	0.000002	0.0002	0.0001	0.0001	0.0001	0.0001	0.00001	0.0002	0.0002
Seep-07	Camp pad N	Contact water	6/14/2021	0.0000074	0.0002	0.0005	0.0002	0.0002	0.00452	0.0001					
Seep-08	Camp pad N	Contact water	6/14/2021	0.0000077	0.0002	0.0005	0.000273	0.0002	0.00337	0.0001					
Seep-08	Camp pad N	Contact water	6/13/2022	0.0000102	0.0002	0.0005	0.001	0.0002	0.00582	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-08	Camp pad N	Contact water	6/9/2023	0.0000078	0.0002	0.0005	0.000498	0.0002	0.00295	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2021	0.0000024	0.0002	0.0005	0.000162	0.0002	0.0007	0.00012					
Seep-17	Drill core/Camp pad	Tundra seep	7/29/2021	0.0000024	0.0002	0.0005	0.000423	0.0002	0.0018	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	8/26/2021	0.0000034	0.0002	0.0005	0.00072	0.0002	0.0015	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	9/1/2021	0.0000025	0.0002	0.0005	0.000142	0.0002	0.0062	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	6/27/2022	0.0000039	0.0002	0.0005	0.000189	0.0002	0.0024	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	7/24/2022	0.0000045	0.0002	0.0005	0.000949	0.0002	0.0020	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	6/12/2023	0.0000005	0.0002	0.0005	0.000173	0.0002	0.0012	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2023	0.0000039	0.0002	0.0005	0.000325	0.0002	0.0025	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-17	Drill core/Camp pad	Tundra seep	7/27/2023	0.0000059	0.0002	0.0005	0.00102	0.0002	0.0022	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-18	Drill core/Camp pad	Downstream flow in tundra	7/29/2021	0.0000025	0.0002	0.0005	0.000142	0.0002	0.0062	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-18	Drill core/Camp pad	Downstream flow in tundra	8/26/2021	0.0000002	0.0002	0.0005	0.000221	0.0002	0.0012	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-18	Drill core/Camp pad	Downstream flow in tundra	9/1/2021	0.0000002	0.0002	0.0005	0.000299	0.0002	0.0026	0.00014	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-18	Drill core/Camp pad	Downstream flow in tundra	6/27/2022	0.0000021	0.0002	0.0005	0.0000892	0.0002	0.0022	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/24/2022	0.0000034	0.0002	0.0005	0.000154	0.0002	0.0009	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/12/2023	0.0000028	0.0002	0.0005	0.0000642	0.0002	0.0009	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/19/2023	0.0000022	0.0002	0.0005	0.0001	0.0002	0.0016	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/27/2023	0.0000053	0.0002	0.0005	0.000297	0.0002	0.0008	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-15	Landfill	Pre-land fill run off from Camp pad S	6/23/2021	0.0000076	0.0002	0.00183	0.000735	0.0002	0.132	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-15	Landfill	Run off from Camp pad S/landfill	6/11/2023	0.0000216	0.0002	0.0005	0.00546	0.0002	0.293	0.00011	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-16	Portal	Contact water/snow melt	6/19/2021	0.0000036	0.0002	0.00179	0.0000305	0.0002	0.00053	0.0001					
Seep-24	Portal	Contact water	6/10/2023	0.0000093	0.0002	0.0005	0.0000661	0.0002	0.00469	0.00015	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-4a	Portal	Portal Pond	7/29/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-4a	Portal	Portal Pond	8/26/2020	0.00001	0.0001	0.00039	0.000247	0.0005	0.171	0.0003	0.00068	0.0001	0.000064	0.0002	0.00319
ULU-4a	Portal	Portal Pond	9/5/2020	0.00001	0.0001	0.0003	0.000547	0.0005	0.15	0.0003	0.00059	0.0001	0.000066	0.0002	0.00361
ULU-4a	Portal	Portal Pond	7/29/2021	0.0000054	0.0002	0.0005	0.0000999	0.0002	0.131	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-09	Waste rock pad	Contact water	6/15/2021	0.0000096	0.0002	0.0006	0.0000575	0.0002	0.0113	0.0001					
Seep-10	Waste rock pad	Contact water	6/15/2021	0.0000044	0.0002	0.0005	0.000176	0.0002	0.00423	0.0001					
Seep-10	Waste rock pad	Contact water	6/6/2022	0.0000075	0.0002	0.0005	0.000158	0.0002	0.00232	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-25	Waste rock pad	Contact water	6/11/2023	0.0000122	0.0002	0.0005	0.000408	0.0002	0.0057	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-7	Waste rock pad	Contact water	7/31/2020	0.00001	0.0001	0.00034	0.00012	0.0005	0.0039	0.0003	0.0001	0.0001	0.000069	0.0002	0.00469

Sample ID Convention	Area	Represents	Sampling Date	Dissolved Thallium (Tl)	Dissolved Tin (Sn)	Dissolved Titanium (Ti)	Dissolved Uranium (U)	Dissolved Vanadium (V)	Dissolved Zinc (Zn)	Dissolved Zirconium (Zr)	Tungsten (W)- dissolved	Thorium (Th)- dissolved	Cesium (Cs)- dissolved	Tellurium (Te)- dissolved	Rubidium (Rb)- dissolved
Units				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL				0.000002	0.0002	0.0005	0.000002	0.0002	0.0001	0.0001	0.0001	0.0001	0.00001	0.0002	0.0002
Seep-11	Waste rock pad	Contact water	6/15/2021	0.0000037	0.0002	0.0005	0.0000449	0.0002	0.00391	0.0001					
Seep-11	Waste rock pad	Contact water	6/6/2022	0.000004	0.0002	0.0005	0.0000167	0.0002	0.00235	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-11	Waste rock pad	Contact water	6/11/2023	0.0000079	0.0002	0.0005	0.000116	0.0002	0.00445	0.00012	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	8/27/2020	0.00001	0.0001	0.0003	0.000944	0.0005	0.0062	0.0003	0.0001	0.0001	0.000016	0.0002	0.00494
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/29/2021	0.0000066	0.0002	0.0005	0.000981	0.0002	0.00507	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	9/1/2021	0.0000053	0.0002	0.0005	0.000735	0.0002	0.00234	0.00012	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/28/2022	0.0000096	0.0002	0.0005	0.00118	0.0002	0.00366	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/24/2022	0.0000102	0.0002	0.0005	0.00188	0.0002	0.00238	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/11/2023	0.0000072	0.0002	0.0005	0.000677	0.0002	0.00175	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/8/2023	0.0000103	0.0002	0.0005	0.00229	0.0002	0.00287	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-26	Waste rock pad	WR pad seep-surface flow in tundra	6/12/2023	0.0000024	0.0002	0.0005	0.000165	0.0002	0.00241	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-04	Waste rock pad	WR pad seep-surface flow in tundra	8/1/2020	0.00001	0.0001	0.0003	0.00018	0.0005	0.0082	0.0003	0.0001	0.0001	0.000012	0.0002	0.00345
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.000002	0.0002	0.0005	0.0000556	0.0002	0.00107	0.00014					
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/29/2021	0.0000034	0.0002	0.0005	0.0000416	0.0002	0.00275	0.00017	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	9/1/2021	0.0000034	0.0002	0.0005	0.0000403	0.0002	0.00299	0.00016	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.0000048	0.0002	0.0005	0.0000487	0.0002	0.00247	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/24/2022	0.0000045	0.0002	0.0005	0.0000364	0.0002	0.00364	0.00013	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/12/2023	0.0000037	0.0002	0.0005	0.0000486	0.0002	0.00181	0.00017	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	8/27/2020	0.00001	0.0001	0.0003	0.000166	0.0005	0.0025	0.0003	0.0001	0.0001	0.000012	0.0002	0.0041
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.0000031	0.0002	0.0005	0.0000896	0.0002	0.00125	0.0001					
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.0000047	0.0002	0.0005	0.000232	0.0002	0.00194	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.0000041	0.0002	0.0005	0.000144	0.0002	0.00091	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021	0.000002	0.0002	0.0005	0.000116	0.0002	0.00107	0.00017					
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022	0.0000041	0.0002	0.0005	0.0000804	0.0002	0.00234	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	7/25/2022	0.0000053	0.0002	0.0005	0.0000901	0.0002	0.00365	0.00011	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023	0.0000042	0.0002	0.0005	0.000074	0.0002	0.00183	0.00011	#N/A	#N/A	#N/A	#N/A	#N/A
Seep-19	Camp 3	Contact water?	7/30/2021	0.000005	0.0002	0.0005	0.000433	0.0002	0.00619	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Ref-03		Camp impacted background	6/14/2022	0.000002	0.0002	0.0005	0.000133	0.0002	0.00204	0.00013	#N/A	#N/A	#N/A	#N/A	#N/A
Ref-03		Camp impacted background	6/13/2023	0.000002	0.0002	0.0005	0.0000899	0.0002	0.00186	0.00027	#N/A	#N/A	#N/A	#N/A	#N/A
Ref-03		Camp impacted background	7/3/2023	0.000003	0.0002	0.0005	0.00011	0.0002	0.00286	0.00025	#N/A	#N/A	#N/A	#N/A	#N/A
Ref-06		Background	7/3/2022	0.0000029	0.0002	0.0005	0.000117	0.0002	0.00168	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Ref-06		Background	6/13/2023	0.000002	0.0002	0.0005	0.000117	0.0002	0.00196	0.0001	#N/A	#N/A	#N/A	#N/A	#N/A
Ref-06		Background	7/3/2023	0.0000025	0.0002	0.0005	0.000119	0.0002	0.00268	0.00012	#N/A	#N/A	#N/A	#N/A	#N/A

- Notes
- Renamed ID's
- Italics <DL
- Calculated from other value

CMR																						
Sample ID Convention	Area	Represents	Sampling Date	Interpretation	Ca	Mg	Na	K	Total	Ca	Mg	Na	K	Ca+Mg	Alkalinity Cl	SO4	Total	Alkalinity Cl	SO4			
Units					g/mol	40.08	24.31	22.99	39.09						100	35.45	96.07	Ca+Mg/SO				
DL					meq/L	meq/L	meq/L	meq/L	meq/L	Cation proportions				meq/L	meq/L	meq/L	meq/L	Anion proportions			4 mol/mol	
ULU-8	Ore pad E	Contact water?	7/31/2020		4.34	1.04	2.92	0.21	8.52	51%	12%	34%	2%	63%	0.79	2.59	6.02	9.39	8%	28%	64%	0.90
ULU-8	Ore pad E	Contact water?	8/7/2020		4.16	0.98	2.11	0.18	7.44	56%	13%	28%	2%	69%	0.70	1.90	5.43	8.03	9%	24%	68%	0.95
ULU-8	Ore pad E	Contact water?	8/26/2020		6.54	1.92	5.87	0.27	14.59	45%	13%	40%	2%	58%	0.70	6.18	7.89	14.77	5%	42%	53%	1.07
ULU-8	Ore pad E	Contact water	6/6/2022		1.76	0.48	0.50	0.10	2.84	62%	17%	18%	3%	79%	0.40	0.27	2.50	3.16	13%	8%	79%	0.90
ULU-8	Ore pad E	Contact water?	6/12/2023		5.14	0.98	0.51	0.14	6.76	76%	14%	8%	2%	90%	0.46	0.37	6.04	6.86	7%	5%	88%	1.01
ULU-8	Ore pad E	Contact water	7/3/2023		6.99	1.16	0.40	0.16	8.71	80%	13%	5%	2%	94%	0.66	0.22	8.12	9.00	7%	2%	90%	1.00
ULU-8A	Ore pad E	Contact water	7/1/2023		7.98	1.59	0.32	0.24	10.13	79%	16%	3%	2%	95%	0.64	0.08	10.20	10.92	6%	1%	93%	0.94
ULU-8A	Ore pad E	Contact water	7/7/2023		10.38	1.41	0.43	0.21	12.42	84%	11%	3%	2%	95%	0.70	0.17	9.99	10.86	6%	2%	92%	1.18
ULU-8A	Ore pad E	Contact water	7/16/2023		6.64	1.21	0.59	0.19	8.62	77%	14%	7%	2%	91%	0.74	0.37	8.54	9.64	8%	4%	89%	0.92
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	9/5/2019		5.59	1.70	0.39	0.19	7.87	71%	22%	5%	2%	93%	0.42	0.06	6.85	7.32	6%	1%	94%	1.06
Seep-01	Ore pad S	Surface flow?	7/31/2020		3.74	1.04	0.25	0.15	5.17	72%	20%	5%	3%	92%	0.27	0.03	4.98	5.27	5%	0%	94%	0.96
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/7/2020		4.76	1.20	0.38	0.17	6.51	73%	18%	6%	3%	92%	0.26	0.04	5.95	6.26	4%	1%	95%	1.00
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	8/26/2020		4.75	1.46	0.62	0.15	6.98	68%	21%	9%	2%	89%	0.59	0.19	6.60	7.38	8%	3%	89%	0.94
Seep-01	Ore pad S	Stagnant water/Ore pad sub-surface drainage?	6/10/2023		1.34	0.38	0.10	0.04	1.86	72%	20%	5%	2%	92%	0.28	0.03	1.64	1.95	14%	1%	84%	1.04
Seep-22	Ore pad W	Ore pad sub-surface drainage in tundra?	6/10/2023		1.82	0.40	0.04	0.05	2.31	79%	17%	2%	2%	96%	0.80	0.03	1.71	2.54	32%	1%	67%	1.30
Seep-23	Ore pad E	Ore pad sub-surface drainage in boulders	6/10/2023		1.75	0.40	0.20	0.05	2.40	73%	17%	8%	2%	89%	0.66	0.12	1.71	2.49	27%	5%	69%	1.26
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	7/31/2020		2.55	0.56	0.15	0.09	3.36	76%	17%	5%	3%	93%	0.04	0.04	3.71	3.79	1%	1%	98%	0.84
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/7/2020		2.17	0.47	0.26	0.08	2.97	73%	16%	9%	3%	89%	0.04	0.10	2.96	3.10	1%	3%	95%	0.89
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	8/26/2020		2.50	0.90	0.97	0.08	4.45	56%	20%	22%	2%	76%	0.12	0.94	3.25	4.31	3%	22%	75%	1.05
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/16/2021		0.77	0.18	0.07	0.03	1.05	74%	17%	7%	3%	91%	0.09	0.06	0.85	1.00	9%	6%	85%	1.12
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/30/2022		1.10	0.28	0.18	0.04	1.59	69%	17%	11%	2%	86%	0.07	0.14	1.52	1.74	4%	8%	88%	0.90
Seep-05	Ore pad W	Ore pad sub-surface drainage in tundra?	6/9/2023		0.79	0.18	0.08	0.03	1.07	73%	17%	7%	3%	90%	0.08	0.03	0.98	1.09	7%	3%	90%	0.99
Seep-05 SW	Ore pad W	Ore pad sub-surface drainage in tundra?	7/22/2023		8.78	1.96	0.40	0.17	11.31	78%	17%	4%	1%	95%	0.02	0.17	13.95	14.14	0%	1%	99%	0.77
Seep-05 SW +15	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023		2.38	0.70	0.34	0.05	3.47	69%	20%	10%	1%	89%	0.18	0.19	3.75	4.13	4%	5%	91%	0.82
Seep-05 SW-50	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023		2.85	1.00	0.58	0.09	4.52	63%	22%	13%	2%	85%	0.02	0.39	5.41	5.83	0%	7%	93%	0.71
Seep-05 SW-125	Ore pad N swamp	Ore pad sub-surface drainage in tundra?	7/22/2023		0.96	0.42	0.12	0.03	1.54	63%	28%	8%	2%	90%	0.70	0.08	1.06	1.84	38%	4%	58%	1.31
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/2/2020		0.98	0.41	0.21	0.03	1.62	60%	25%	13%	2%	86%	0.12	0.07	1.44	1.63	7%	4%	88%	0.96
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	8/27/2020		1.10	0.52	0.27	0.03	1.92	57%	27%	14%	2%	84%	0.15	0.13	1.71	1.99	7%	7%	86%	0.95
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/16/2021		0.41	0.16	0.13	0.02	0.73	57%	22%	18%	3%	79%	0.08	0.11	0.58	0.77	10%	14%	76%	0.98
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	9/1/2021		0.92	0.35	0.26	0.03	1.56	59%	22%	17%	2%	81%	0.11	0.19	1.46	1.75	6%	11%	83%	0.87
Seep-06	Ore pad-East Lake	Ore pad-downstream flow into lake	6/12/2023		0.74	0.29	0.22	0.03	1.27	58%	22%	17%	2%	81%	0.09	0.10	1.14	1.33	7%	7%	86%	0.90
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/16/2021		0.33	0.09	0.07	0.02	0.51	65%	19%	13%	4%	83%	0.11	0.11	0.27	0.49	23%	22%	55%	1.56
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/9/2023		0.28	0.09	0.07	0.01	0.45	62%	19%	16%	3%	81%	0.11	0.03	0.27	0.41	27%	7%	67%	1.34
Seep-12	Ore pad-G43 Lake	Ore pad-downstream flow into lake	6/19/2023		0.37	0.13	0.11	0.02	0.63	59%	21%	17%	3%	80%	0.11	0.07	0.35	0.53	20%	13%	67%	1.42
Seep-03	Camp pad N	Contact water?	7/31/2020		4.08	0.62	0.14	0.16	5.00	82%	12%	3%	3%	94%	1.37	0.05	3.85	5.28	26%	1%	73%	1.22
Seep-21	Camp pad N	Contact water?	6/14/2022		4.98	0.46	0.12	0.13	5.69	87%	8%	2%	2%	96%	1.48	0.24	4.37	6.09	24%	4%	72%	1.24

CMR																					
Sample ID Convention	Area	Represents	Sampling Date	Interpretation	Ca	Mg	Na	K	Total	Ca	Mg	Na	K	Ca+Mg	Alkalinity	Cl	SO4	Total	Alkalinity	Cl	SO4
Units				g/mol																Ca+Mg/SO	
DL				meq/L	meq/L	meq/L	meq/L	meq/L	Cation proportions				meq/L	meq/L	meq/L	meq/L	Anion proportions				4 mol/mol
Seep-07	Camp pad N	Contact water	6/14/2021	1.00	0.20	0.03	0.05	1.28	78%	16%	2%	4%	94%	0.66	0.05	0.69	1.40	47%	4%	49%	1.76
Seep-08	Camp pad N	Contact water	6/14/2021	1.04	0.21	0.03	0.05	1.33	78%	16%	2%	4%	94%	0.60	0.04	0.77	1.41	43%	3%	55%	1.62
Seep-08	Camp pad N	Contact water	6/13/2022	2.14	0.43	0.05	0.08	2.69	79%	16%	2%	3%	95%	0.78	0.08	1.94	2.79	28%	3%	69%	1.32
Seep-08	Camp pad N	Contact water	6/9/2023	2.03	0.33	0.06	0.08	2.50	81%	13%	2%	3%	94%	1.14	0.06	1.48	2.68	43%	2%	55%	1.60
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2021	1.30	0.28	0.11	0.06	1.75	74%	16%	6%	3%	91%	0.52	0.08	1.29	1.89	28%	4%	68%	1.23
Seep-17	Drill core/Camp pad	Tundra seep	7/29/2021	2.24	0.53	0.22	0.09	3.08	73%	17%	7%	3%	90%	1.10	0.16	2.29	3.55	31%	5%	64%	1.21
Seep-17	Drill core/Camp pad	Tundra seep	8/26/2021	3.14	0.63	0.29	0.10	4.15	76%	15%	7%	2%	91%	1.20	0.65	3.12	4.97	24%	13%	63%	1.21
Seep-17	Drill core/Camp pad	Tundra seep	9/1/2021	2.14	0.52	0.22	0.08	2.96	72%	18%	7%	3%	90%	1.10	0.19	2.29	3.58	31%	5%	64%	1.16
Seep-17	Drill core/Camp pad	Tundra seep	6/27/2022	2.15	0.40	0.14	0.07	2.76	78%	15%	5%	3%	92%	0.70	0.12	2.29	3.11	22%	4%	74%	1.12
Seep-17	Drill core/Camp pad	Tundra seep	7/24/2022	3.93	0.72	0.22	0.13	5.00	79%	14%	4%	3%	93%	1.06	0.16	3.54	4.76	22%	3%	74%	1.31
Seep-17	Drill core/Camp pad	Tundra seep	6/12/2023	1.66	0.31	0.12	0.06	2.15	77%	15%	6%	3%	92%	0.64	0.14	1.44	2.22	29%	6%	65%	1.37
Seep-17	Drill core/Camp pad	Tundra seep	6/19/2023	2.06	0.49	0.19	0.09	2.82	73%	17%	7%	3%	90%	0.76	0.22	1.62	2.60	29%	8%	62%	1.57
Seep-17	Drill core/Camp pad	Tundra seep	7/27/2023	3.51	0.64	0.23	0.13	4.51	78%	14%	5%	3%	92%	1.18	0.26	3.33	4.77	25%	5%	70%	1.25
Seep-18	Drill core/Camp pad	Downstream flow in tundra	7/29/2021	2.14	0.52	0.22	0.08	2.96	72%	18%	7%	3%	90%	1.10	0.19	2.29	3.58	31%	5%	64%	1.16
Seep-18	Drill core/Camp pad	Downstream flow in tundra	8/26/2021	2.94	0.61	0.28	0.09	3.92	75%	16%	7%	2%	90%	1.10	0.65	2.91	4.66	24%	14%	62%	1.22
Seep-18	Drill core/Camp pad	Downstream flow in tundra	9/1/2021	2.88	0.54	0.25	0.10	3.77	77%	14%	7%	3%	91%	1.04	0.45	2.91	4.41	24%	10%	66%	1.18
Seep-18	Drill core/Camp pad	Downstream flow in tundra	6/27/2022	2.17	0.42	0.15	0.07	2.81	77%	15%	5%	3%	92%	0.64	0.15	2.29	3.08	21%	5%	74%	1.13
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/24/2022	3.37	0.70	0.25	0.10	4.41	76%	16%	6%	2%	92%	0.92	0.17	3.33	4.43	21%	4%	75%	1.22
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/12/2023	1.60	0.30	0.15	0.06	2.11	76%	14%	7%	3%	90%	0.62	0.18	1.42	2.22	28%	8%	64%	1.34
Seep-20	Drill core/Camp pad	Downstream flow in tundra	6/19/2023	1.99	0.47	0.21	0.08	2.75	72%	17%	8%	3%	89%	0.74	0.26	1.64	2.64	28%	10%	62%	1.50
Seep-20	Drill core/Camp pad	Downstream flow in tundra	7/27/2023	3.17	0.61	0.23	0.10	4.12	77%	15%	6%	3%	92%	1.36	0.28	2.91	4.55	30%	6%	64%	1.30
ULU-15	Landfill	Pre-land fill run off from Camp pad S	6/23/2021	1.77	0.43	0.10	0.07	2.37	75%	18%	4%	3%	93%	1.02	0.25	1.54	2.81	36%	9%	55%	1.43
ULU-15	Landfill	Run off from Camp pad S/landfill	6/11/2023	6.44	1.18	0.64	0.24	8.50	76%	14%	8%	3%	90%	2.60	0.79	5.83	9.22	28%	9%	63%	1.31
Seep-16	Portal	Contact water/snow melt	6/19/2021	0.27	0.04	0.02	0.03	0.35	77%	11%	5%	7%	88%	0.18	0.03	0.16	0.38	48%	9%	43%	1.89
Seep-24	Portal	Contact water	6/10/2023	1.40	0.35	0.40	0.05	2.20	64%	16%	18%	2%	79%	0.15	1.50	0.67	2.32	7%	65%	29%	2.62
ULU-4a	Portal	Portal Pond	7/29/2020	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.38	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
ULU-4a	Portal	Portal Pond	8/26/2020	0.94	0.30	0.50	0.06	1.79	52%	17%	28%	3%	69%	0.45	0.46	0.86	1.78	26%	26%	49%	1.43
ULU-4a	Portal	Portal Pond	9/5/2020	1.30	0.41	0.59	0.07	2.37	55%	17%	25%	3%	72%	0.63	0.52	1.15	2.31	27%	23%	50%	1.49
ULU-4a	Portal	Portal Pond	7/29/2021	0.83	0.27	0.41	0.05	1.56	53%	17%	27%	3%	70%	0.46	0.56	0.90	1.92	24%	29%	47%	1.22
Seep-09	Waste rock pad	Contact water	6/15/2021	1.32	0.26	0.10	0.07	1.75	75%	15%	6%	4%	90%	0.42	0.09	1.29	1.80	23%	5%	72%	1.23
Seep-10	Waste rock pad	Contact water	6/15/2021	1.85	0.29	0.13	0.07	2.34	79%	12%	5%	3%	92%	0.66	0.08	1.62	2.37	28%	3%	69%	1.32
Seep-10	Waste rock pad	Contact water	6/6/2022	2.24	0.26	0.11	0.10	2.71	83%	10%	4%	4%	92%	0.70	0.04	2.08	2.82	25%	1%	74%	1.20
Seep-25	Waste rock pad	Contact water	6/11/2023	3.90	0.41	0.21	0.11	4.63	84%	9%	4%	2%	93%	1.48	0.28	2.91	4.68	32%	6%	62%	1.48
ULU-7	Waste rock pad	Contact water	7/31/2020	2.11	0.49	0.28	0.08	2.95	71%	16%	10%	3%	88%	1.18	0.13	1.79	3.10	38%	4%	58%	1.45

CMR																						
Sample ID Convention	Area	Represents	Sampling Date	Interpretation	Ca	Mg	Na	K	Total	Ca	Mg	Na	K	Ca+ Mg	Alkalinity Cl	SO4	Total	Alkalinity Cl	SO4			
Units					g/mol	40.08	24.31	22.99	39.09						100	35.45	96.07 <th colspan="4">Ca+Mg/SO</th>	Ca+Mg/SO				
DL					meq/L	meq/L	meq/L	meq/L	meq/L	Cation proportions				meq/L	meq/L	meq/L	meq/L	Anion proportions			4 mol/mol	
Seep-11	Waste rock pad	Contact water	6/15/2021		0.70	0.16	0.06	0.03	0.95	74%	16%	6%	3%	91%	0.50	0.08	0.48	1.06	47%	7%	45%	1.80
Seep-11	Waste rock pad	Contact water	6/6/2022		0.75	0.14	0.04	0.04	0.97	77%	14%	5%	4%	92%	0.44	0.03	0.54	1.01	44%	3%	54%	1.64
Seep-11	Waste rock pad	Contact water	6/11/2023		1.46	0.28	0.09	0.04	1.87	78%	15%	5%	2%	93%	0.74	0.08	1.10	1.92	39%	4%	57%	1.58
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	8/27/2020		3.15	1.02	1.38	0.11	5.67	56%	18%	24%	2%	74%	0.91	1.55	3.21	5.67	16%	27%	57%	1.30
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/29/2021		2.64	0.68	0.41	0.09	3.82	69%	18%	11%	2%	87%	1.18	0.39	2.91	4.49	26%	9%	65%	1.14
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	9/1/2021		3.10	0.74	0.60	0.09	4.52	69%	16%	13%	2%	85%	0.90	0.82	3.54	5.26	17%	16%	67%	1.08
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/28/2022		3.77	0.70	0.35	0.10	4.92	77%	14%	7%	2%	91%	1.00	1.21	3.33	5.54	18%	22%	60%	1.34
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/24/2022		4.22	0.96	0.70	0.11	6.00	70%	16%	12%	2%	86%	1.12	1.16	3.75	6.02	19%	19%	62%	1.38
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	6/11/2023		2.84	0.52	0.33	0.08	3.77	75%	14%	9%	2%	89%	0.76	0.51	2.50	3.77	20%	13%	66%	1.34
Seep-02	Waste rock pad	WR pad seep-surface flow in tundra	7/8/2023		3.90	0.94	0.51	0.11	5.46	71%	17%	9%	2%	89%	1.46	0.73	3.75	5.94	25%	12%	63%	1.29
Seep-26	Waste rock pad	WR pad seep-surface flow in tundra	6/12/2023		2.51	0.46	0.33	0.07	3.38	75%	14%	10%	2%	88%	0.60	0.56	2.29	3.45	17%	16%	66%	1.30
Seep-04	Waste rock pad	WR pad seep-surface flow in tundra	8/1/2020		1.98	0.52	0.43	0.08	3.01	66%	17%	14%	3%	83%	0.61	0.23	2.41	3.25	19%	7%	74%	1.03
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021		0.61	0.13	0.07	0.02	0.84	73%	16%	9%	3%	88%	0.24	0.06	0.56	0.86	28%	7%	65%	1.32
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/29/2021		1.27	0.40	0.41	0.05	2.13	60%	19%	19%	2%	79%	0.36	0.17	2.00	2.53	14%	7%	79%	0.84
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	9/1/2021		1.41	0.37	0.42	0.05	2.24	63%	17%	19%	2%	79%	0.30	0.17	2.04	2.51	12%	7%	81%	0.87
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022		1.56	0.37	0.20	0.03	2.16	72%	17%	9%	2%	89%	0.24	0.12	2.06	2.42	10%	5%	85%	0.93
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	7/24/2022		2.47	0.66	0.45	0.06	3.65	68%	18%	12%	2%	86%	0.28	0.16	3.12	3.57	8%	5%	88%	1.00
Seep-13	Waste rock pad-East L	WR pad-downstream flow into lake	6/12/2023		1.33	0.27	0.14	0.04	1.78	75%	15%	8%	2%	90%	0.09	0.09	1.33	1.51	6%	6%	88%	1.20
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	8/27/2020		1.52	0.42	0.78	0.09	2.81	54%	15%	28%	3%	69%	0.60	0.74	1.46	2.80	22%	26%	52%	1.33
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021		1.17	0.25	0.12	0.05	1.59	74%	16%	7%	3%	90%	0.52	0.10	1.10	1.73	30%	6%	64%	1.29
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022		2.75	0.61	0.39	0.07	3.83	72%	16%	10%	2%	88%	0.68	1.07	2.71	4.46	15%	24%	61%	1.24
Seep-14	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023		2.06	0.41	0.33	0.07	2.87	72%	14%	11%	2%	86%	0.66	0.42	1.79	2.87	23%	15%	62%	1.38
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/17/2021		0.43	0.14	0.06	0.02	0.65	66%	21%	10%	3%	87%	0.18	0.05	0.42	0.65	27%	8%	64%	1.37
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/30/2022		1.18	0.39	0.15	0.03	1.75	68%	22%	8%	2%	90%	0.24	0.21	1.50	1.94	12%	11%	77%	1.05
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	7/25/2022		1.90	0.67	0.25	0.05	2.87	66%	23%	9%	2%	90%	0.32	0.37	2.08	2.77	12%	13%	75%	1.23
Seep-15	Waste rock pad-East L	WR pad-downstream flow into lake	6/11/2023		0.95	0.29	0.13	0.03	1.40	68%	21%	10%	2%	89%	0.22	0.08	1.17	1.47	15%	6%	79%	1.06
Seep-19	Camp 3	Contact water?	7/30/2021		1.28	0.34	0.03	0.07	1.73	74%	20%	2%	4%		1.20	0.04	0.79	2.03	59%	2%	39%	2.05
Ref-03		Camp impacted background	6/14/2022		0.24	0.12	0.04	0.01	0.41	59%	29%	10%	3%	88%	0.13	0.18	0.02	0.33	40%	54%	6%	17.21
Ref-03		Camp impacted background	6/13/2023		0.37	0.17	0.06	0.01	0.60	61%	28%	9%	2%	89%	0.16	0.26	0.08	0.50	31%	52%	17%	6.43
Ref-03		Camp impacted background	7/3/2023		0.53	0.26	0.07	0.01	0.87	61%	29%	8%	1%	90%	0.20	0.54	0.10	0.83	24%	64%	12%	7.70
Ref-06		Background	7/3/2022		0.10	0.05	0.03	0.00	0.19	55%	26%	18%	2%	80%	0.09	0.03	0.07	0.19	46%	15%	39%	2.04
Ref-06		Background	6/13/2023		0.10	0.04	0.02	0.00	0.16	62%	25%	11%	2%	87%	0.07	0.03	0.07	0.17	40%	17%	43%	1.95
Ref-06		Background	7/3/2023		0.18	0.06	0.02	0.00	0.26	67%	24%	8%	2%	91%	0.11	0.03	0.11	0.25	43%	11%	46%	2.08
Notes																						
Renamed ID's																						
Italics <DL																						
Calculated from other value																						

Additional Field Data From Ore Pad Seeps

Sample ID Convention	Sampling Date	Time (24hr)	Sampled by	pH	EC	Flow	DO	ORP	ORP (Eh)
				pH units	uS/cm	L/s	mg/L	mV	mV
Seep-01	7/25/2020	15:15	AS	7.0	570	<0.017	#N/A	#N/A	#N/A
Seep-01	8/2/2020	14:35	AS	6.1	730	<0.017	#N/A	#N/A	#N/A
Seep-01	8/3/2022		LW+KK	5.9	1213	0	7	254	454
Seep-01	8/9/2022	14:00	LW+ML	6.1	1091	0	7.9	185	385
Seep-01	8/16/2022	17:12	ML	6.3	989	0	7.9	146	346
Seep-01	8/23/2022	14:01	ML	6.2	1001	0	8.9	153	353
Seep-01	1-Jul-2023	11:33	ML, Avalak	6.3	551	0		96	296
Seep-01	8-Jul-2023	9:07	OR, JB	6.5	1149	0	1.07	92	292
Seep-01	27-Jul-2023	9:08	RE, ML	6.4	1075	0	4.2	45	245
Seep-01a	7/25/2020		AS	6.8	730			#N/A	#N/A
Seep-05	7/25/2020	10:35	AS	6.4	380	0.08	#N/A	#N/A	#N/A
Seep-05	8/2/2020	14:20	AS	5.5	460	?	#N/A	#N/A	#N/A
Seep-05	8/3/2022		LW+KK	4.6	1016	0	10.3	488	688
Seep-05	8/9/2022	14:00	LW+ML	5.0	981	0	9.2	380	580
Seep-05	8/12/2022	16:00	Lw+ML	5.1	1092	0	8.5	395	595
Seep-05	8/16/2022	17:00	ML	5.1	885	0	6.1	306	506
Seep-05	8/23/2022	13:43	ML	5.5	880	0	9	204	404
Seep-05	6/19/2023	13:52	OR ML JK	5.7	154	0	#N/A	148	348
Seep-05	1-Jul-2023	10:53	ML, Avalak	6.2	216	0	#N/A	165	365
Seep-05	8-Jul-2023	9:36	OR, JB	6.1	417	0	1.56	114	314
Seep-05	7/16/2023	11:23	or	5.4	810	0	1.42	172	372
Seep-05	7/27/2023	9:26	RE, ML	4.8	1101	0	6.4	168	368
ULU-8a	7/25/2020		AS	7.7	620	0.5		#N/A	#N/A
ULU-8b	7/25/2020		AS	7.7	550	0.2		#N/A	#N/A
ULU-8c	7/25/2020		AS	7.2	860	0.3		#N/A	#N/A
ULU-8d	7/25/2020		AS	7.1	820	0.5		#N/A	#N/A
ULU-8A	7/29/2023	10:17	RE, ML	7.0	945	0	7.6	116	316
ULU-8	8/3/2022		LW+KK	6.0	1212	0	7.7	323	523
ULU-8	8/9/2022	14:00	LW+ML	6.3	1315	0	5.1	312	512
ULU-8	8/16/2022	17:26	ML	6.5	1490	0	4.7	157	357
ULU-8	8/23/2022	14:16	ML	6.7	1660	0	5.5	150	350
ULU-8	7/27/2023	8:40	RE, ML	6.3	938	0	4.8	134	334
ULU-8	7/29/2023	10:09	RE, ML	6.8	949	0	4	127	327
Seep-23	7/1/2023	11:47	ML, Avalak	6.7	664	0	#N/A	90	290
Seep-23	7/7/2023	15:10		7.2	674	0	1.29	157	357
Seep-23	7/16/2023	10:44	or	7.0	731	0	#N/A	144	344
Seep-23	7/27/2023	8:55	RE, ML	7.0	776	0	8.5	124	324
Seep-22	6/10/2023	9:10	ML, OR, KK	6.4	264	0	#N/A	51	251
Seep-22	19-Jun-2023	13:40	OR, ML, JK	5.9	479	0	#N/A	#N/A	#N/A
Seep-22	1-Jul-2023	11:12	ML, Avalak	6.1	581	0	#N/A	111	311
SEEP 05 SW+1	7/27/2023	9:41	RE, ML	6.0	480	0	7.7	171	371
Seep-06	6/20/2023	10:59	OR, EH	6.2	193	0.02	#N/A	118	318
Seep-12	7/1/2023	10:33	ML, Avalak	6.2	59	#N/A	#N/A	135	335

DO mg/L calculated from % reading

Additional Field Data From Camp Pad and Waste Rock Pad Seeps

Sample ID	Area	Sampling Date	Time (24hr)	Sampled by pH		EC (uS/cm)	Flow (L/s)	DO (mg/L)	ORP (mV)	Eh (mv)
Seep-03	Camp pad	6/20/2023	8:30	OR, EH	6.85	462	0		124	324
Seep-03	Camp pad	7/8/2023	10:27	OR, JB	6.89	414	0	14	116	316
Seep-03	Camp pad	7/16/2023	8:57	or	7.28	489	0	19.6	145	345
Seep-21	Camp pad	6/20/2023	8:56	OR, EH	7.11	545	0		150	350
Seep-21	Camp pad	7/27/2023	13:16	RE, ML	7.04	304	0	3.4	122	322
Seep-07	Camp pad	6/10/2023	14:40	OR, KK	7.18	95	0		71	271
Seep-07	Camp pad	6/19/2023	15:42	OR	6.14	170			155	355
Seep-07	Camp pad	7/1/2023	15:11	ML, Avalak	6.89	187	0		125	325
Seep-08	Camp pad	7/1/2023	14:11	ML, Avalak	7.64	380	0		122	322
Seep-08	Camp pad	7/29/2023	10:46	RE, ML	7.46	599	0	6.2	78	278
Seep-17	Camp pad	7/1/2023	13:44	ML, Avalak	7.81	347	0		131	331
Seep-20	Camp pad	7/1/2023	13:55	ML, Avalak	7.39	320	na		127	327
Seep-02	Waste Rock Pad	7/27/2023	10:59	RE, ML	6.64	642	0	10.2	160	360
Seep-11	Waste Rock Pad	6/20/2023	10:35	OR, EH	7.45	239			131	331
Seep-11	Waste Rock Pad	7/1/2023	12:46	ML, Avalak	7.48	352	0		143	343
Seep-11	Waste Rock Pad	7/7/2023	13:54	OR, TM	7.26	653	0	14.3	221	421
Seep-11	Waste Rock Pad	7/27/2023	11:19	RE, ML	7.06	525	0	5.3	151	351

Appendix D Seepage and Test Pit Co-ordinates

WGS84 UTM Zone 12N			Notes
Seep	Easting	Northing	
Seep-01	501162	7420747	
Seep-02	501551	7420979	
Seep-03	501480	7421283	Updated.
Seep-04	501512	7420885	
Seep-05	501071	7420847	
Seep-06	501540	7420721	
Seep-07	501338	7421254	
Seep-08	501399	7421259	
Seep-09	501494	7421015	
Seep-10	501488	7420971	
Seep-11	501405	7420924	
Seep-12	500934	7420797	
Seep-13	501557	7420863	
Seep-14	501572	7420885	
Seep-15	501620	7420926	
Seep-16	501387	7421054	
Seep-17	501514	7421310	
Seep-18	501547	7421313	Removed from monitoring as too close to Seep-17
Seep-19	499918	7415390	Camp 3, monitoring not required
Seep-20	501611	7421348	
Seep-21	501508	7421258	
Seep-22	501097	7420786	
Seep-23	501227	7420775	
Seep-24	501339	7421024	
Seep-25	501478	7420948	
Seep-26	501560	7420935	
ULU-7	501429	7420938	
ULU-8	501252	7420805	
ULU-15	501524	7421075	
Loc-01	501467	7421309	Intermediate flow point from Seep-08 to Seep-18

Test Pit	Easting	Northing
TP23-01	501091	7420840
TP23-02	501128	7420856
TP23-03	501147	7420865
TP23-04	501193	7420887
TP23-05	501109	7420798
TP23-06	501144	7420824
TP23-07	501201	7420838
TP23-08	501238	7420870
TP23-09	501168	7420775
TP23-10	501216	7420810
TP23-11	501254	7420829
TP23-12	501412	7421067
TP23-13	501447	7421010
TP23-14	501469	7421034
TP23-15	501373	7420995
TP23-16	501363	7420929
TP23-17	501406	7420973
TP23-18	501424	7421051
TP23-19	501419	7421031
TP23-20	501338	7421023
TP23-21	501335	7421004
TP23-22	501462	7420970
TP23-23	501345	7421237
TP23-24	501413	7421270
TP23-25	501458	7421284
TP23-26	501493	7421258
TP23-27	501525	7421224
TP23-28	501567	7421193
TP23-29	501593	7421152
TP23-30	501117.5	7420858