

# **Technical Report**

on the

# **Chlore Project**

**in west-central British Columbia, Canada**

**Latitude 54° 6' 25" N Longitude 127° 52' 10" W**

UTM (NAD83 - Zone 9N) 573,700 E 5,999,550 N

**1:20,000 BC TRIM Map-sheets**

093L 001 and 093L 011

**1:50,000 NTS Map-sheet**

093L04

**For:**

## **Penn Capital Inc.**

Suite 1080, 789 West Pender Street

Vancouver, British Columbia

V6C 1H2

by:

**Sean P. Butler, P.Geo.**

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**Dated: July 26<sup>th</sup>, 2021**

**Certificate of the Qualified Person**

**I Sean P. Butler, P.Geo., do hereby certify that:**

1. I am a consulting geologist with a residence at 3252 Ganymede Dr., Burnaby, BC, Canada, V3J1A4;
2. I graduated with a Bachelor of Science degree, in Geological Sciences from the University of British Columbia in 1982;
3. I am a Professional Geoscientist registered with the Association of Professional Engineers and Geoscientists of British Columbia (Member # 19,233);
4. My examination of the Chlore property on July 13, 2021 constitutes a Current Inspection of the property as defined by Part 6.2 of NI34-101.
5. I am independent of the property vendor John Ostler, the Chlore property and Penn Capital Inc. as defined in Part 1.5 of NI 43-101;
6. I have practised the geological profession for more than 35 years since graduation from university. I have worked extensively exploring for both base and precious metals from early-stage programs up to advanced underground exploration and mining;
7. I have read the definition of "Qualified Person" as set out in Part 1.1 of National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association and previous relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101;
8. I am responsible for all of the report titled "Technical Report on the Chlore Project in west-central British Columbia, Canada" dated and effective July 26, 2021 (the "Technical Report");
9. That as of the effective date of the Technical Report, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading;
10. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form;
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

**Dated this 26th day of July, 2021**

**"Signed and Sealed"**

**Signature of Qualified Person  
Sean P. Butler, P.Geo.**

**Sean P. Butler, P.Geo.**

## EXECUTIVE SUMMARY

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Sean Butler, P.Geo., (“**the Author**”) was contracted by Penn Capital Inc. (“**Penn**” or the “**Company**”) to write a “Technical Report” on the Chlore Property (“**Chlore**”) to provide documentation to support an Initial Public Offering (“**IPO**”) by Prospectus for the listing and trading of Penn on the Canadian Securities Exchange (“**CSE**”).

On July 13, 2021 the Author visited the CHLORE claims. The Author’s opinion is this visit constitutes a Current Inspection of the property as defined by Part 6.2 of NI34-101.

There is very active work on the Coastal Gaslink natural gas pipeline access area with roads completed and excavation of the pipeline alignment beside the road. This construction work is within the Chlore claim group and about half a kilometre to the northwest of the site visited by the Author.

The CHLORE claims are located in the Clore River valley, about 55 kilometres east of Kitimat, BC and also about 62 kilometres south-east of the airport near Terrace, BC. property covers part of the valley floor and lower slopes of the upper Clore River (formerly known as Chlore Creek) valley where it transects the Bulkley Ranges of the Coast Mountains.

The Chlore property consists of four mineral claims located under the laws of British Columbia as summarized in Table 4-1. The total surface area of the property is 1,005 hectares. The work completed by Penn to date has extended the expiry date of the claims out to September 19, 2027.

The Coastal GasLink natural gas pipeline is now under construction and has good gravel roads that cross the property. The nearest existing gravel logging roads connect to the gravel Morice West Forest Service Road (“**FSR**”) and then the Morice River FSR. The Morice River FSR meets the paved Highway 16 just west of Houston, BC. The CNR rail mainline connection is found in Houston with access to the North America rail network and the Port of Prince Rupert which is also accessible by Highway 16.

Exploration can begin in late June in lower elevations and extend into October. Mining could continue year-round with operational considerations for snow and ice removal.

Elevations range from a low of about 840 metres ASL in the north-eastern end of the property where the Clore River crosses the property boundary to just over 1,400 metres on the crest of dome in the centre of CHLORE 4 claim.

The exploration before 1969 is unknown, but there is a record that the property was known as the Hope when the regional geological mapping was published in 1969. In 1974 Canadian Nickel staked the Chlore property. Canadian Nickel completed two field programs in the summer that included geological mapping, thin and polished section rock study, soil and rock geochemical sampling, line-cutting, an induced polarization survey and a ground magnetic survey. No further work was recorded and it is not known when the claims expired.

In 2015, Karmamount Mineral Exploration completed a four- person, one-day survey on the CHLORE 1 claim they had located early in 2015. The results were limited and the area visited was the small “canyon” the Author visited in 2021. These claims expired in 2019.

In 2019, John Ostler map-staked the present CHLORE 1 claim. He later map-staked the CHLORE 2 to 4 claims that were all ultimately transferred to Penn Capital. In March of 2021 an aeromagnetic and radiometric survey was completed over the present Chlore property and report completed in April.

The most recent regional geology is by Geoscience BC, 2019. It is a regional map, showing only two rock units within the CHLORE claims (Figure 7-6). The units are the western edge of the Upper Triassic to Lower Jurassic age, Telkwa Formation of the Hazelton Group volcanic and sedimentary rocks and the various stages of the Eocene age Nanika intrusive suite rocks (Figure 7-6 and Figure 7-5). The 1974 work by Canadian Nickel has shown that there are multiple rock types of both formations. The Nanika consists of a primary pluton of granodiorite and various dykes of likely the same age. The Hazelton Group on the Chlore property consists of both volcanic and sedimentary rock units. There is a hydrothermal alteration system overprinting the rocks on the Chlore property with associated copper and molybdenum mineralization. The existing CHLORE claims cover a larger area than the 1974 property as seen in Figure 5-1.

The target deposit type on the Chlore property is a calc-alkaline porphyry copper-molybdenum deposit. The results of geological mapping and airborne geophysics to date indicate the potential for mineralization in the area of the quartz-feldspar porphyries and within the surrounding andesites. The field mapping completed in 1974 and future mapping and studies recommended in this report are focused on the alteration and mineralization for a calc-alkaline porphyry copper-molybdenum deposit.

Precision GeoSurveys Inc. of Langley, B.C. flew high-resolution magnetic, gradiometric, and radiometric surveys over a grid that was centred on the Chlore property on March 10, 2021. The magnetic data shows information that suggests north-west south-east trending structures on the property. The radiometric data was inclusive due to snow on the ground.

There has been no known drilling, metallurgical work, mineral production or resource estimation on the Chlore property. There are no adjacent properties that would be of value in assisting in the future surveys at the Chlore.

The Chlore property is within a belt of rocks that are prospective for calc-alkaline porphyry copper-molybdenum deposits. The rock units noted on the regional geological maps, local Assessment Report maps, in reports and seen by the Author are consistent with this deposit type. There is a clear hydrothermal alteration system that appears to be widespread on the property. The hydrothermal alteration system and a recorded history of moderate grade copper and molybdenum sample results in previous exploration programs. Access may have improved greatly from the past with the development of a road system for the pipeline. Further exploration of this property, based on these and other factors is warranted.

The presence of the Coastal GasLink natural gas pipeline on the property may limit options for location and types of activities in the future, including the location of future structures and development. It may also limit some exploration study methods, especially geophysical methods near the metal pipeline and soil geochemistry in the disturbed area of the right of way. The possibility of improved access may heavily offset these disadvantages.

A two phased program is recommended for the Chlore group of claims. The second phase is contingent on positive results in Phase One.

A soil survey of the property should be completed using the Mobile Metal Ion method. Concurrently with the soil geochemistry, a geological mapping program at 1:5,000 scale, with a strong emphasis on alteration mineralogy and structural geology will be required. Rock sampling for 40+ elements ICP analysis is also required to confirm the areas of best rock sample grades for drillhole targeting.

The second phase, contingent on positive results in Phase One, will be to complete a line-cutting grid and Induced Polarization geophysical survey (“IP”). This will need to be focused on the areas of highest probability for success as determined in Phase One. IP may be limited in scope due to the buried metal pipeline. There should be enough information following Phase Two to determine if drilling is recommended and drill targets can be developed.

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## 2 INTRODUCTION

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The chapter numbers in this report are designated after the items of the NI 43-101-F1 report format. The Section headings (15 to 22) for advanced programs have been omitted.

### 2.1 Terms of Reference

Sean Butler, P.Geo., (“**the Author**”) was contracted by Penn Capital Inc. (“**Penn**” or “**the Company**”) to write a “Technical Report” on the Chlore Property (“**Chlore**”) to provide documentation to support an Initial Public Offering (“**IPO**”) by Prospectus for the listing and trading of Penn on the Canadian Securities Exchange (“**CSE**”).

### 2.2 Sources of Information

The information was largely sourced from government files found in internet databases including Assessment Reports of past work at Chlore and regional geological information. The most recent 2021 Assessment Report was provided directly by the author John Ostler, the Chlore property vendor. The documents sourced are noted in the Reference section of this report.

### 2.3 QP Personal Inspection of the Property



**Photo 2-1 Top of the small “canyon” on “Contact Creek” looking toward the pipeline construction**

On July 13, 2021 the Author visited the CHLORE claims. Access was by helicopter from Terrace, BC. A Bell 206 helicopter from Quantum Helicopters based at the Northwest Regional Airport was used. The weather



was good and snow had cleared from most of the property when visited. The Author’s opinion is this visit constitutes a Current Inspection of the property as defined by Part 6.2 of NI34-101.

There is very active work on the Coastal Gaslink natural gas pipeline access area with roads completed and other activities, using excavators and similar equipment, to clear and excavate the pipeline alignment beside the road. This construction work is within the Chlore claim group and about half a kilometre to the northwest of the site visited by the Author. A short section of this road work can be seen in the upper right of Photo 2 1.



**Photo 2-2 The base of the “Contact Creek” “canyon”**

The Author visited the small “canyon” on the informally named “Contact Creek” to examine the outcrops in the creek side seen in Photo 2-1. This site has multiple rock types in possible fault or intrusive contact and moderate continuity of outcrop. It is also an area of hydrothermal alteration. In 1974, Canadian Nickel had mapped the area examined by the Author as one of the areas of hydrothermal alteration and was one of the most intensely rock sampled areas.

An aerial overview of the centre of the Chlore property, over and surrounding the 1974 exploration area, was made as well as part of the visit.

## 2.4 Abbreviations and Units of Measure

All dollars are reported in Canadian Dollars unless noted otherwise. Units are metric unless noted. The following table is a list of abbreviations frequently used by the Author.

**Table 2-1 List of Frequently Used Abbreviations**

Abbreviation	Description	Abbreviation	Description
AA	atomic absorption	km <sup>2</sup>	square kilometre
Ag	silver	m	metre
aka	also known as	m <sup>2</sup>	square metre
ASL	above sea level	m <sup>3</sup>	cubic metre
Au	gold	Ma	million years ago
AuEq	gold equivalent grade	mm	millimetre
BC	British Columbia	mm <sup>2</sup>	square millimetre
BCGS	British Columbia Geological Survey	mm <sup>3</sup>	cubic millimetre
CAD\$	Canadian dollar	Mo	Molybdenum
cm	centimetre	Mt	million tonnes
cm <sup>2</sup>	square centimetre	m.y.	million years
cm <sup>3</sup>	cubic centimetre	NAD	North American Datum
cp	chalcopyrite	NI 43-101	National Instrument 43-101
CSE	Canadian Securities Exchange	opt	ounces per short ton
Cu	copper	oz	troy ounce (31.1035 grams)
°C	degree Celsius	Pb	lead
°F	degree Fahrenheit	ppb	parts per billion
DDH	diamond drill hole	ppm	parts per million
ft	feet	py	pyrite
ft <sup>2</sup>	square feet	QA	Quality Assurance
ft <sup>3</sup>	cubic feet	QC	Quality Control
FSR	Forest Service Road	qz	quartz
g	gram	RC	reverse circulation drilling
GPS	Global Positioning System	RQD	rock quality description
g/t	grams per tonne	Sb	antimony
ha	hectare	SEDAR	System for Electronic Document Analysis and Retrieval
ICP	inductively coupled plasma	SG	specific gravity
IPO	Initial Public Offering	t	tonne (1,000 kg or 2,204.6 lbs)
kg	kilogram	US\$	United States dollar
km	kilometre	Zn	zinc

## 3 RELIANCE ON OTHER EXPERTS

The Author has not relied on other experts to prepare this report.

## 4 PROPERTY DESCRIPTION AND LOCATION

### 4.1 Location

The CHLORE claims are located in the Clore River valley, about 55 kilometres east of Kitimat, BC and also about 62 kilometres south-east of the airport near Terrace, BC. property covers part of the valley floor and lower slopes of the upper Clore River (formerly known as Chlore Creek) valley where it transects the Bulkley Ranges of the Coast Mountains. See Figure 4-1 and Figure 4-2.

### 4.2 Property Description

The Chlore property consists of four mineral claims located under the laws of British Columbia as summarized in Table 4-1. The total surface area of the property is 1,005 hectares and is located in the Omineca Mining Division, in the Regional District of Kitimat-Stikine, and in Range 5 Coast Land District.

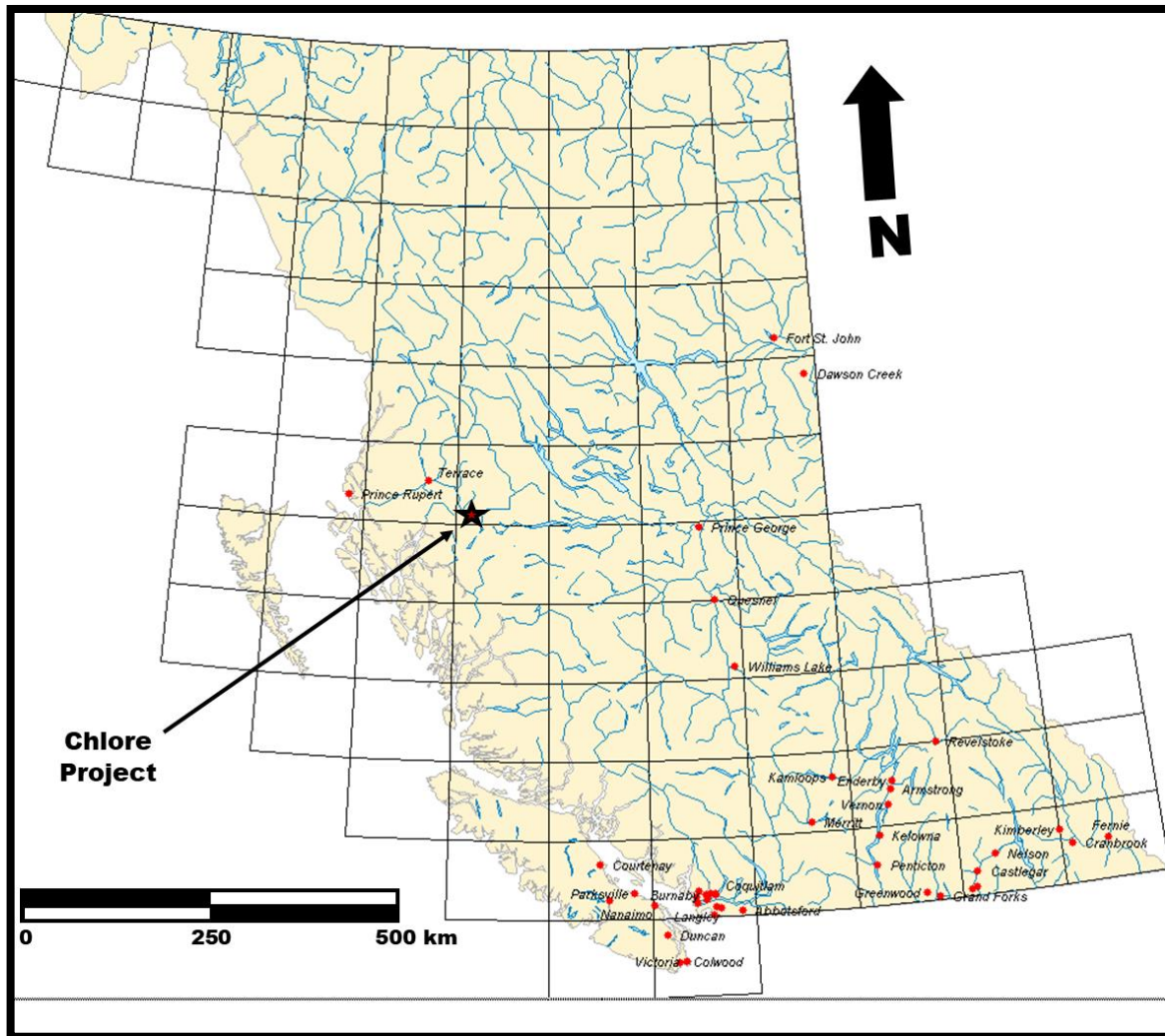


Figure 4-1 Location of Chlore Project in BC



The property is located on the N.T.S. 1:50,000 scale map-sheet 93 L/4 and on BC 1:20,000 scale TRIM map-sheets 093L 001 and 093L 011. The approximate centre of the property is at Latitude 54° 6' 25" N and Longitude 127° 52' 10" W. It is also noted to be approximated by the UTM coordinates of 573,700 E and 5,999,550 N in datum NAD83 - Zone 9N.

**Table 4-1 Claim Summary**

<b>Claim Number</b>	<b>Claim Name</b>	<b>Owner</b>	<b>Resistration Date</b>	<b>Expiry Date</b>	<b>AREA (Hectrares)</b>
1071729	CHLORE 1	Penn Capital	2019/OCT/11	2027/SEP/19	37.91
1080876	CHLORE 2	Penn Capital	2021/JAN/31	2027/SEP/19	246.46
1080877	CHLORE 3	Penn Capital	2021/JAN/31	2027/SEP/19	246.38
1080878	CHLORE 4	Penn Capital	2021/JAN/31	2027/SEP/19	474.10
<b>Total Area</b>					<b>1,004.85</b>

The mineral claims only provide title to the mineral resources in the property. There are no surface ownership rights or benefits, although access to complete mineral exploration is provided. Surface ownership or leasing can be attained to operate a mine during or after the mine permitting process.

The CHLORE 1 claim was located by John Ostler in October, 2019 and transferred to Ivor Exploration Inc. (“Ivor”) for a cash payment of \$1,000 from Ivor in February, 2021. The CHLORE 2 to 4 claims were located by Ivor in January 2021. Penn Capital paid for the airborne geophysical survey, flown in March 2021, under agreement with Ivor and the CHLORE 1 to 4 claims were subsequently transferred in June 2021 from Ivor and John Ostler to Penn Capital.

The Author has been unable to verify the full legal claim ownership beyond the recorded information on BC MTOOnline and the information provided there. The Author has been unable to determine if Coastal GasLink has any land title ownership of the pipeline right-of-way that leads through the claim area and what possible restrictions the pipeline places on exploration and development in the valley.

There are no royalties or back-in-rights on the CHLORE claims as noted in personal communication with Brent Hahn, director, of Penn Capital.

There are no Indian Reserves near the Chlore property. The Burnie River Protected Area is located to the north-east about five kilometres and the Atna River Provincial Park is located in the next valley to the south-east. There is no plant or equipment, inventory, mine or mill structure on the property.

The Coastal GasLink natural gas pipeline, under construction in 2021, (Figure 4-2 and Figure 5-1) crosses the property and may present some access and work restrictions related to where and when exploration and/or mining can be completed.

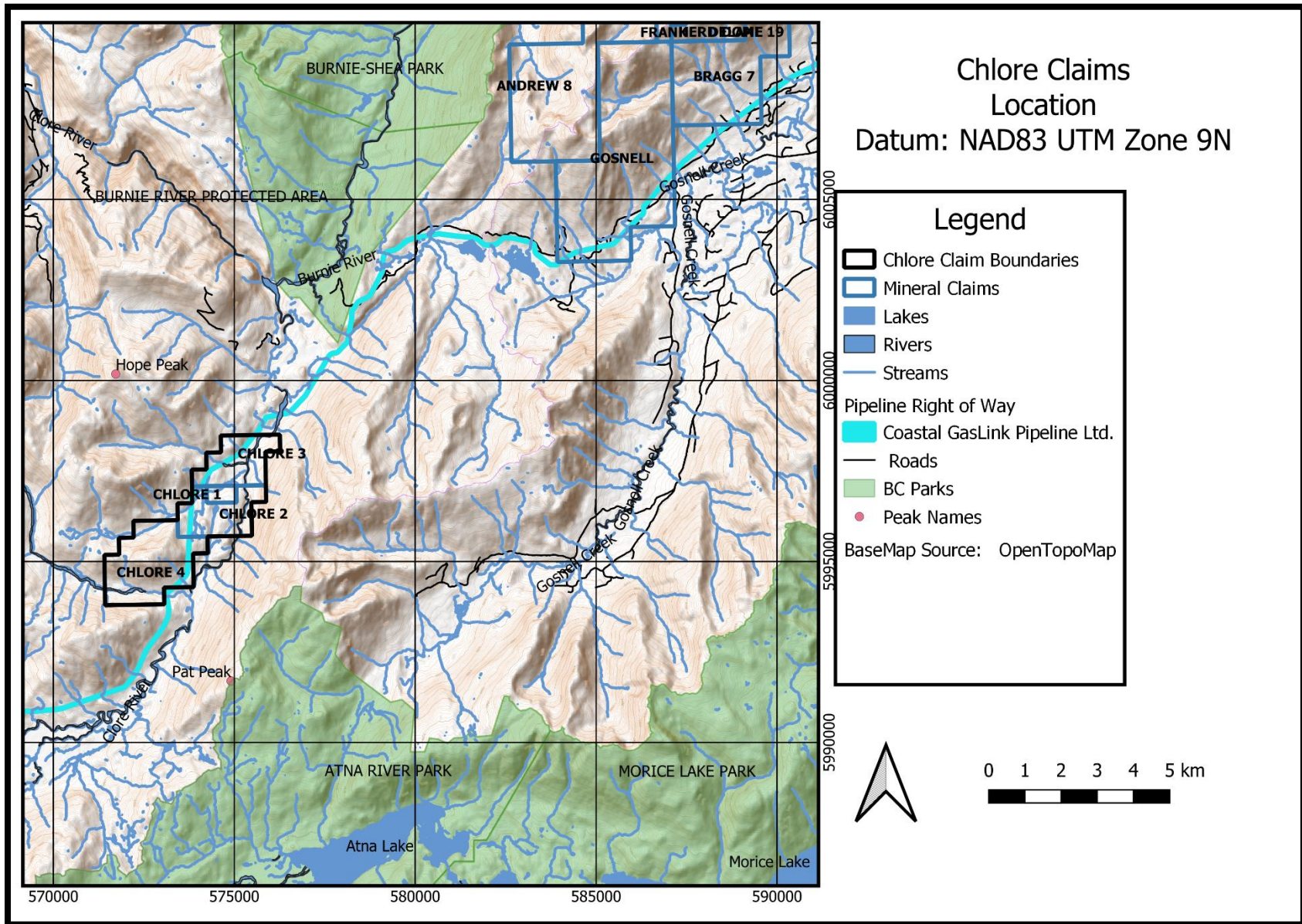


Figure 4-2 Location of the Chlore property

### 4.3 Agreements

Personal communication with John Ostler confirmed that a payment of \$1,000 from Ivor Explorations Inc. (“Ivor”) was made to him for the CHLORE I claim transfer. He subsequently map staked the other Chore claims and prepared the Assessment Report to record the exploration credit on the airborne geophysical survey in April 2021.

The Author is not aware of the agreement between Ivor and Penn Capital for the transfer of the CHLORE I to 4 claims, but the Author has a copy of the BC MTOOnline mineral title transfer confirmation and the subsequent record of Penn Capital ownership on the BC MTOOnline website. Note, both Ivor and Penn have directors in common.

### 4.4 Mineral Title Maintenance Requirements

In British Columbia mineral claim title is maintained by the dollar value of completed valid mineral exploration on the claims as reported in an Assessment Report. Exploration work reported in such reports become part of the public record for future use by all. Historic Assessment Reports were accessed by the Author in the writing of this report. The current Assessment Work (annual exploration work cost) requirements to maintain mineral title holdings in British Columbia are reflected below:

- \$5.00 per hectare for anniversary years 1 and 2;
- \$10.00 per hectare for anniversary years 3 and 4;
- \$15.00 per hectare for anniversary years 5 and 6; and
- \$20.00 per hectare for subsequent anniversary years
- Work can only be filed up to a maximum of ten years title maintenance into the future

Claims can be amended to add or drop claim cells to change the total property area and thus changing the annual assessment work costs. The Payment Instead of Exploration and Development work (“**PIED**”) rate has been set at double the value of the corresponding Assessment Work requirement as an alternative title maintenance option. PIED is a cash payment to the Government of British Columbia.

To do any exploration that involves disturbance to the surface or cutting of merchantable timber, a permit is required. A Notice of Work (“**NOW**”) application must be submitted to the British Columbia Ministry of Energy, Mines and Low Carbon Innovation, department responsible for Core Review to have the permits issued. All NOW Applications are available exclusively through FrontCounter BC’s e-Application System. Any planned surface disturbance will also involve a Consultation with the local First Nations group(s) who claim an interest in the claim area before the permits are released. This Consultation will likely include the Carrier Sekani Tribal Council and the Wet’suwet’en Nation or other First Nations as determined by the Province of British Columbia. The Province of British Columbia will be leading the Consultation in this region with the First Nations.

The work completed by Penn to date has extended the expiry date of the claims out to September 19, 2027. The cost to maintain the claims beyond that date will be about \$20,100 per year.



## 4.5 Environmental Liabilities

There are no known liabilities on the property attributable to Penn Capital known to the Author. The Coastal GasLink natural gas pipeline crosses the property and may present some access and work restrictions related to where and when exploration or mining can be completed.

# 5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

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## 5.1 Accessibility

Helicopter access was the only access option available until recently. The region has had gravel logging road access to about eight kilometres north-east of the property that could helicopter stage crews, supplies and equipment. The Coastal GasLink natural gas pipeline is now under construction and has good gravel roads that cross the property. The nearest existing gravel logging roads connect to the gravel Morice West Forest Service Road (“FSR”) and then the Morice River FSR. The Morice River FSR meets the paved Highway 16 just west of Houston, BC. The Morice River FSR leads beyond the Morice West FSR turnoff to the Huckleberry copper porphyry Mine near the Nechako Lake reservoir. The CNR rail mainline connection is found in Houston with access to the North America rail network and the Port of Prince Rupert which is also accessible by Highway 16. The Port of Kitimat is accessible by Highway 37 from Terrace.

The pipeline roads will also connect out to the Kitimat River and the local gravel FSR road network leading down the valley to Highway 37 between Terrace and Kitimat, BC. The roads are noted to be temporary in other areas so many of the bridges will likely be removed at the end of construction.

## 5.2 Climate

The Chlore property is at a higher elevation than Terrace airport, the nearest weather station, and therefore the climate is cooler and the winters are longer than at Terrace. The area has a slightly lower precipitation than Terrace due to the mountain shadow effect. The Terrace-Kitimat area has cold wet winters and cool, moderately dry summers. Winter snow falls in the property area by October and stays on the ground until May or early June in open areas, and until July on shady northerly facing slopes at the higher elevations. The year-round weather at Terrace is summarized in Table 5-1.

Exploration can begin in late June in lower elevations and extend into October. Mining could continue year-round with operational considerations for snow and ice removal.

**Table 5-1 Climate averages for Terrace, BC airport 85 kilometres from the Chlore property**

Terrace, BC												
1981 to 2010 Canadian Climate Normals station data												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Daily Average (°C)	-3.0	-0.9	2.4	6.3	10.6	14.2	16.5	16.3	12.1	6.4	0.7	-2.6
Standard Deviation	3.1	2.3	1.7	1.3	1.7	1.5	1.4	1.2	1.3	1.1	2.3	2.8
Daily Maximum (°C)	-1.1	1.7	5.8	10.8	15.7	19.1	21.4	21.1	16.0	9.0	2.6	-0.8
Daily Minimum (°C)	-5.0	-3.4	-1.1	1.7	5.5	9.2	11.6	11.5	8.2	3.7	-1.1	-4.5
Extreme Maximum (°C)	9.4	12.7	16.9	26.0	34.6	36.5	37.3	36.2	32.2	21.4	13.4	11.3
Extreme Minimum (°C)	-25.0	-25.0	-19.4	-8.3	-2.2	0.6	3.3	2.8	-1.4	-13.5	-25.3	-26.7
Rainfall (mm)	91.7	61.8	58.8	64.7	55.7	50.8	52.8	61.2	111.5	185.2	132.2	99.0
Snowfall (cm)	88.4	51.9	34.3	8.5	0.4	0.0	0.0	0.0	0.0	4.8	56.0	87.1
Precipitation (mm)	173.5	110.6	92.3	73.7	56.4	50.8	52.8	61.2	111.5	190.3	187.1	180.9
Average Snow Depth (cm)	17.0	14.0	5.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	14.0
Median Snow Depth (cm)	15.0	13.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	12.0
Snow Depth at Month-end (cm)	16.0	9.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	17.0
Extreme Daily Rainfall (mm)	115.0	79.0	42.7	43.4	39.6	35.4	39.4	71.8	106.6	114.8	93.0	111.4

### 5.3 Local Resources

There are generally no local resources, although the closest gravel road networks connect to the town of Houston. This is community of about 3,000 residents. Houston supports the Huckleberry open pit mine and a local resource community. Approximately 65 kilometres along Highway is Smithers, with the resources to fully support mineral exploration and mining. There is an airport with regular scheduled air service to Vancouver and other destinations from Smithers and Terrace. Driving will be over two hours to access the property.

An alternative community for support is out of Terrace, also with all the resources needed to support exploration and mining and a regional airport with scheduled connections to Vancouver and other destinations. Road access in this direction will be dependent on the quality of roads constructed and maintained for the pipeline. Terrace airport is closer than Smithers for helicopter access. Both Smithers and Terrace are on the CNR rail mainline and paved Highway 16.

### 5.4 Infrastructure

There is no local infrastructure. The property is remote from power transmission lines. During mining, power will have to be generated on-site.

The Coastal GasLink natural gas pipeline will cross the property and is under construction in 2021.

Adequate fresh water for a mining operation could be drawn from that and other local water courses. There is enough area for a potential mining operation and tailings, but the location of the pipeline will be a factor in the final engineering designs if the Chlore project made it that far. Although there is sufficient timber suitable for a small underground mining operation on the property, the present exploration target is a porphyry copper and molybdenum deposit that would be mined from an open pit.

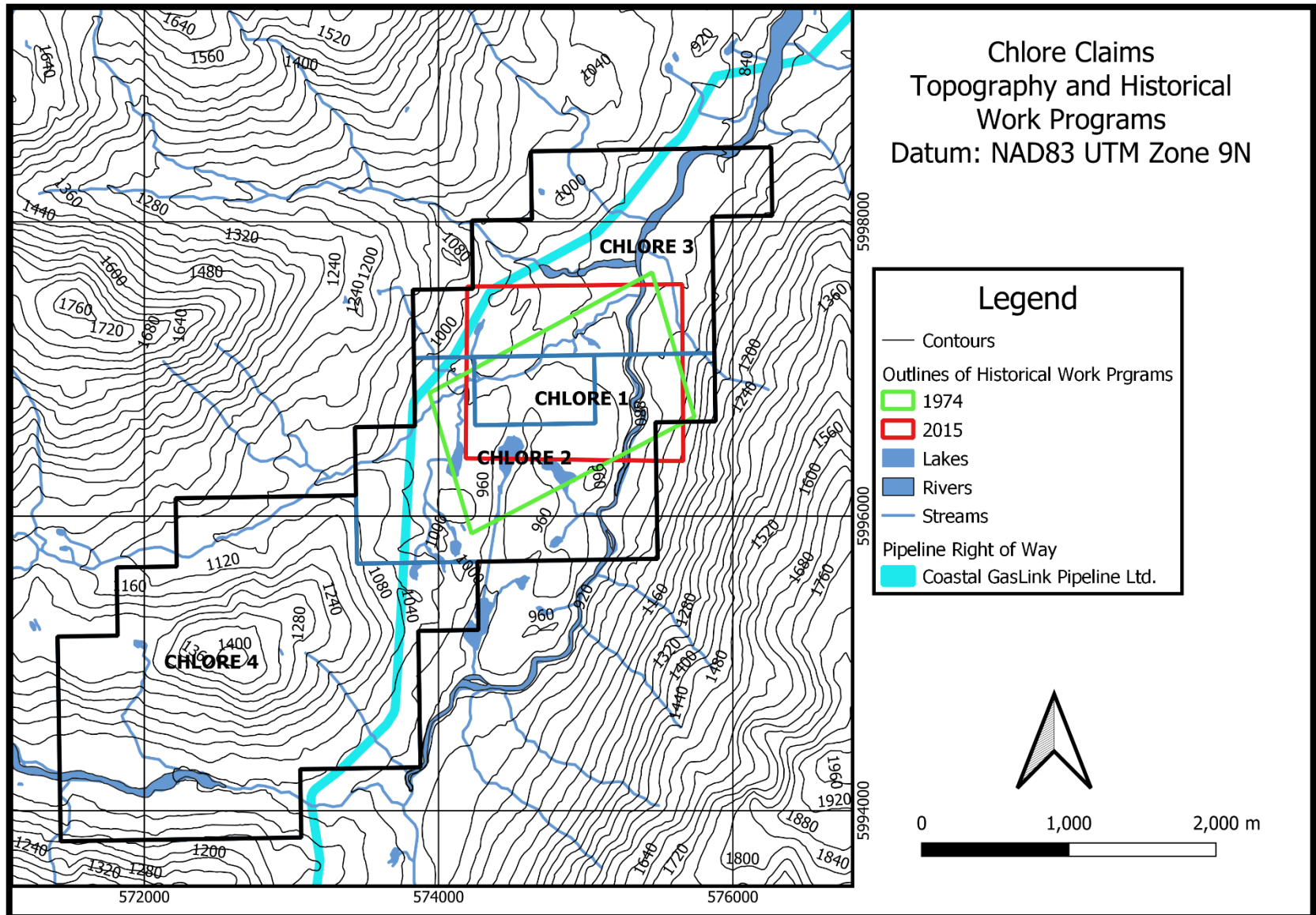


Figure 5-1 Topography, claim boundaries, historical work areas and gas pipeline right-of-way

## 5.1 Physiography

Elevations range from a low of about 840 metres ASL in the north-eastern end of the property where the Clore River crosses the property boundary to just over 1,400 metres ASL on the crest of dome in the centre of CHLORE 4 claim. The area of primary historical work is about 900 meters elevation. The eastern end is generally less steep, although local cliffs of about 15 to 20 meters height occur, and is at a lower elevation than the western side. The western side includes a large dome leading down to the Clore River.

The Chlore property is mostly covered with a dense forest of small to medium cedar, fir, and hemlock. Much of the north-eastern part of the property is covered by fens (grassy bogs) near ponds. Higher areas are alpine or bare rock. There was a forest fire in the past and this can be seen in aerial photography. There is deadfall from this fire that locally makes travel slow.

## 6 HISTORY

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This section of the report is based on Ostler, 2021.

### 6.1 Pre 1969

Before 1969 a showing of copper and molybdenum mineralization associated with the northern margin of an Eocene-age granitic stock was known to exist on a tributary of Clore River.

The pre-1969 exploration related to the present Chlore showing is not known. The Chlore showing was recorded as the Hope showing (Showing No. 54) on BCGS Map 69-1, later re-named BCGS Preliminary Map I. In 1973 while conducting a regional exploration program in the Clore River valley, the Canadian Nickel Company Limited confirmed the location of the Hope showing and re-named it the Chlore.

### 6.2 1974 Program

On June 10, 1974, Canadian Nickel staked the Chlore 1 to 8 (130533 to 130540) group of 2-post claims that covered 1,672.25 ha (4,130.47 acres) around the stock that hosted the mineralization.

In June, 1974, R.A. Jamieson and an assistant constructed a grid over the property and conducted geological mapping, lithogeochemical sampling, total metal ion soil sampling, and an induced polarization survey over the grid area (Figure 6-1 to Figure 6-5). Work continued in August of that year. Access was by helicopter from Smithers, BC. The centre line of the claims was oriented at 061°-241° and this was used as the 1974 soil grid baseline orientation. Survey lines were turned at right angles off the base line at 152 metre (500-ft) intervals north-west and south-east from the base line. Most survey lines were 305 metres (1,000 ft) long. The soil grid covered most of the 1974-era Chlore property.

A total of about 1,045 ha (2,581 acres) of geological mapping was conducted at a scale of 1:2,400 over the grid area. Rock samples were etched with hydrofluoric acid and stained with sodium cobaltinitrite to assist in the identification of potassium feldspar. The results of that mapping are included in section 7.2 of this report and Figure 7-5.

A total of 16 thin sections and five polished sections were produced from samples to confirm field designation of rock types and mineralization.

A lithogeochemical rock sampling program was conducted in conjunction with geological mapping during both the June and the August-September, 1974 programs. Composite rock chip samples were taken from outcrops and frost heaves across the 1974 grid area and along the Clore River. 118 composite chip samples were assayed for copper, (Figure 6-1) molybdenum and zinc.

A total metal ion soil survey was conducted over the gridded part of the Chlore stock. A total of 219 soil samples were analysed for copper, molybdenum (Figure 6-2 and Figure 6-3), and zinc.

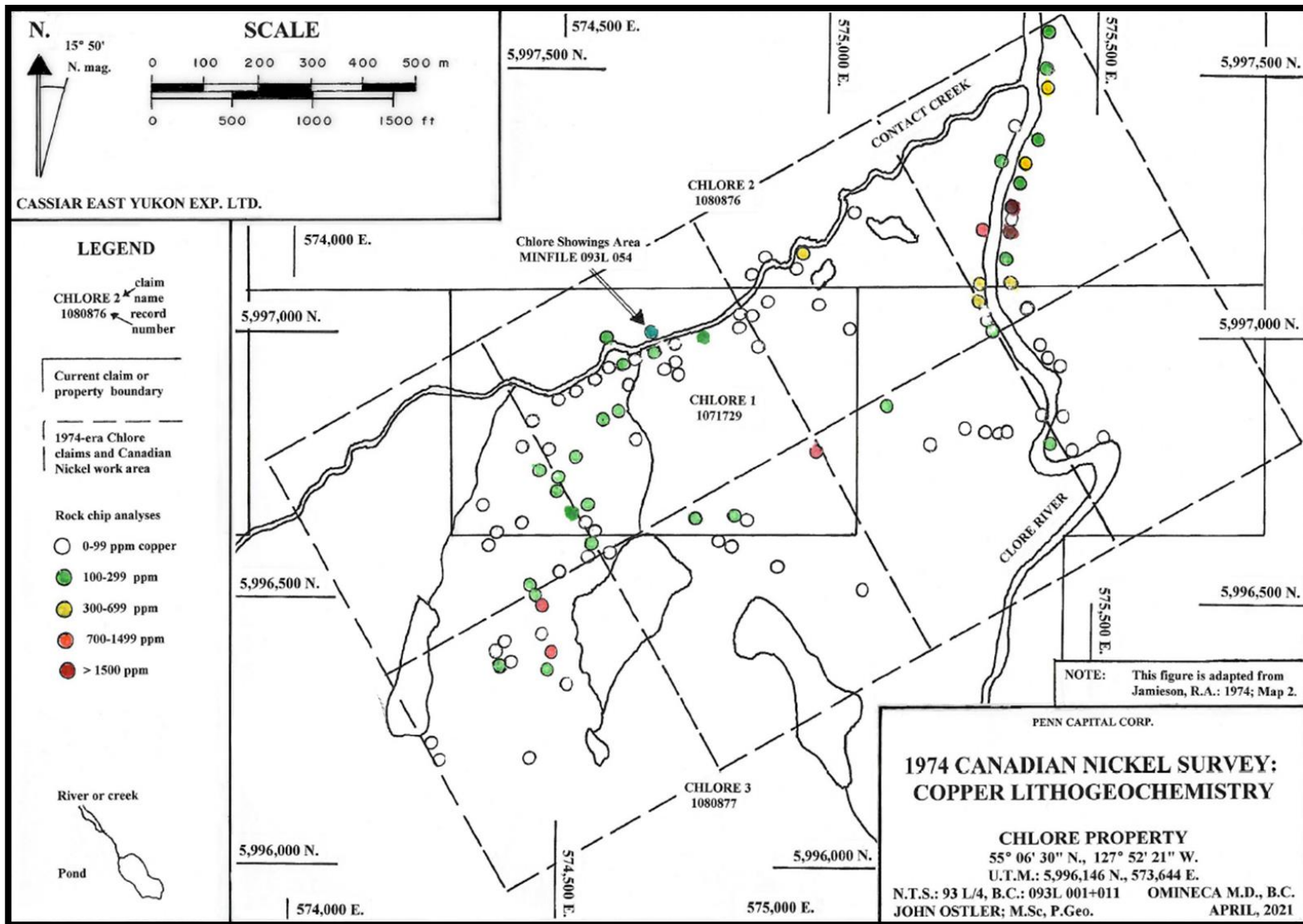
Canadian Nickel conducted an induced polarization survey over the 1974 grid across the Chlore stock (Figure 6-4 and Figure 6-5). R.A. Jamieson (1974) described the survey and its results as follows:

*“The purpose of the survey was to check for and map polarizable material within the intrusive rocks.*

*A total of 14,400-line-feet (4,389-line-metres) of I.P. survey was done by a Canico (Canadian Nickel) crew. A rental, time-domain I.P. unit from Scintrex Limited, was used. The equipment consisted of a 2.5 kw transmitter and an IPR-8 receiver. The transmitter worked with on-off times of 2 seconds. The receiver was operated in the three-slice mode and results from the centre slice were plotted; these correspond to 0.7 times the results from the “standard” Newmont receiver. The pole-dipole array with potential electrode spacings of 200 ft. and 400 ft. (61 and 122 m) was used initially. A potential electrode spacing of 200 ft. (61 m), with current-potential spacings of 200 ft. (61 m) and 400 ft. (122 m) was finally selected.*

*Interpretation of the I.P. data is predicated on finding resistivity and chargeability contrasts. Zones of low chargeability, such as at (00; 3000E) and 200N; 00) (Figure 6-4) help to define areas of little or no polarizable material. An apparent chargeability of 30-35 MV/V follows and delimits the contact of the intrusive. High chargeabilities (exceeding 100 MV/V) and low resistivities are found with the sediments and the edges of the intrusive (Figure 6-4 and Figure 6-5). The intrusive appears to be mineralized near the contact. There are chargeability highs within the intrusive: found at 400N on lines 4000E, 3000E and 2000E and also at 500S on Line 2000E (Figure 6-4).”*

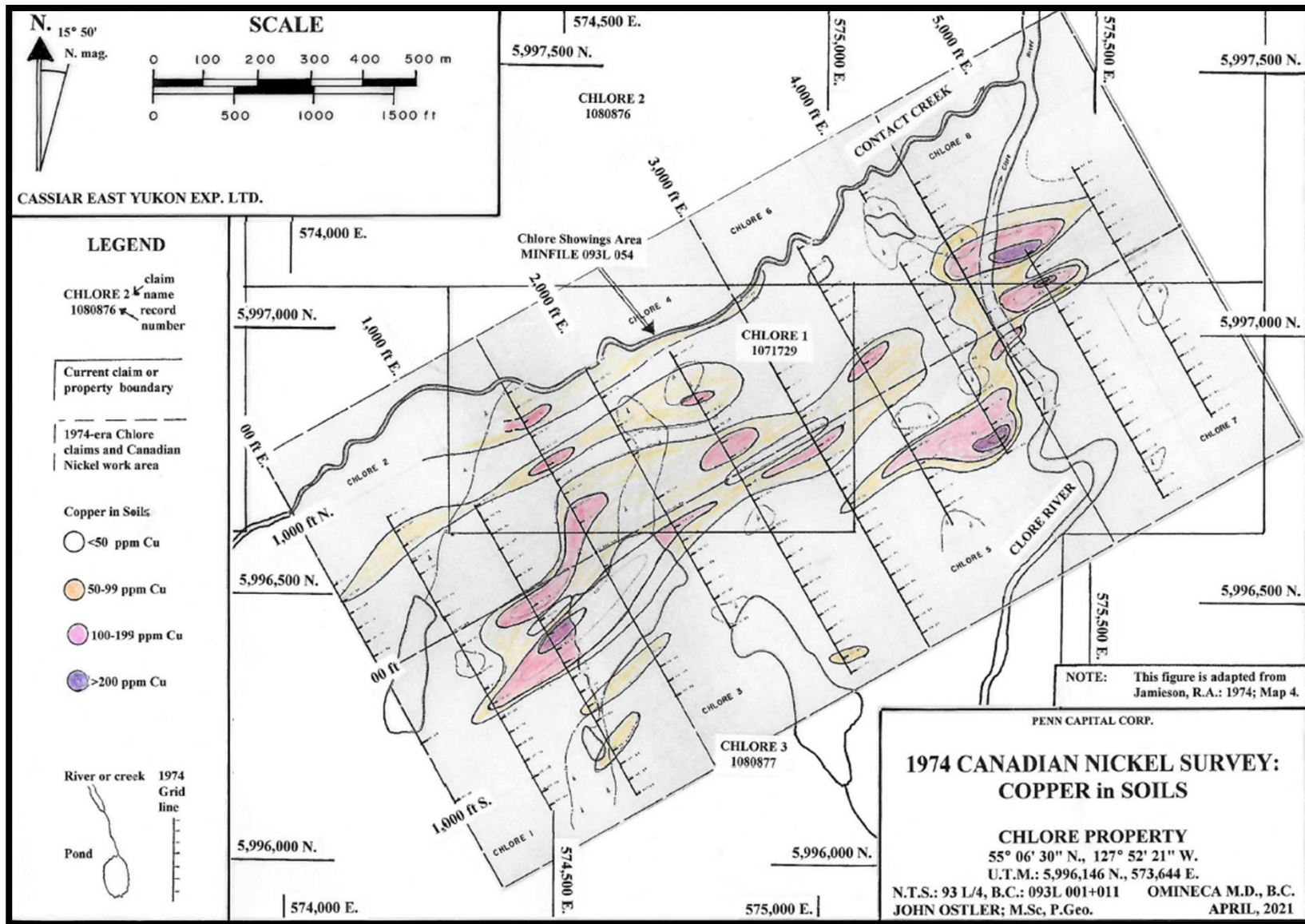
A ground magnetic survey was conducted in conjunction with the induced polarization survey. The results of the magnetic survey were inconclusive.



Source: Ostler, 2021

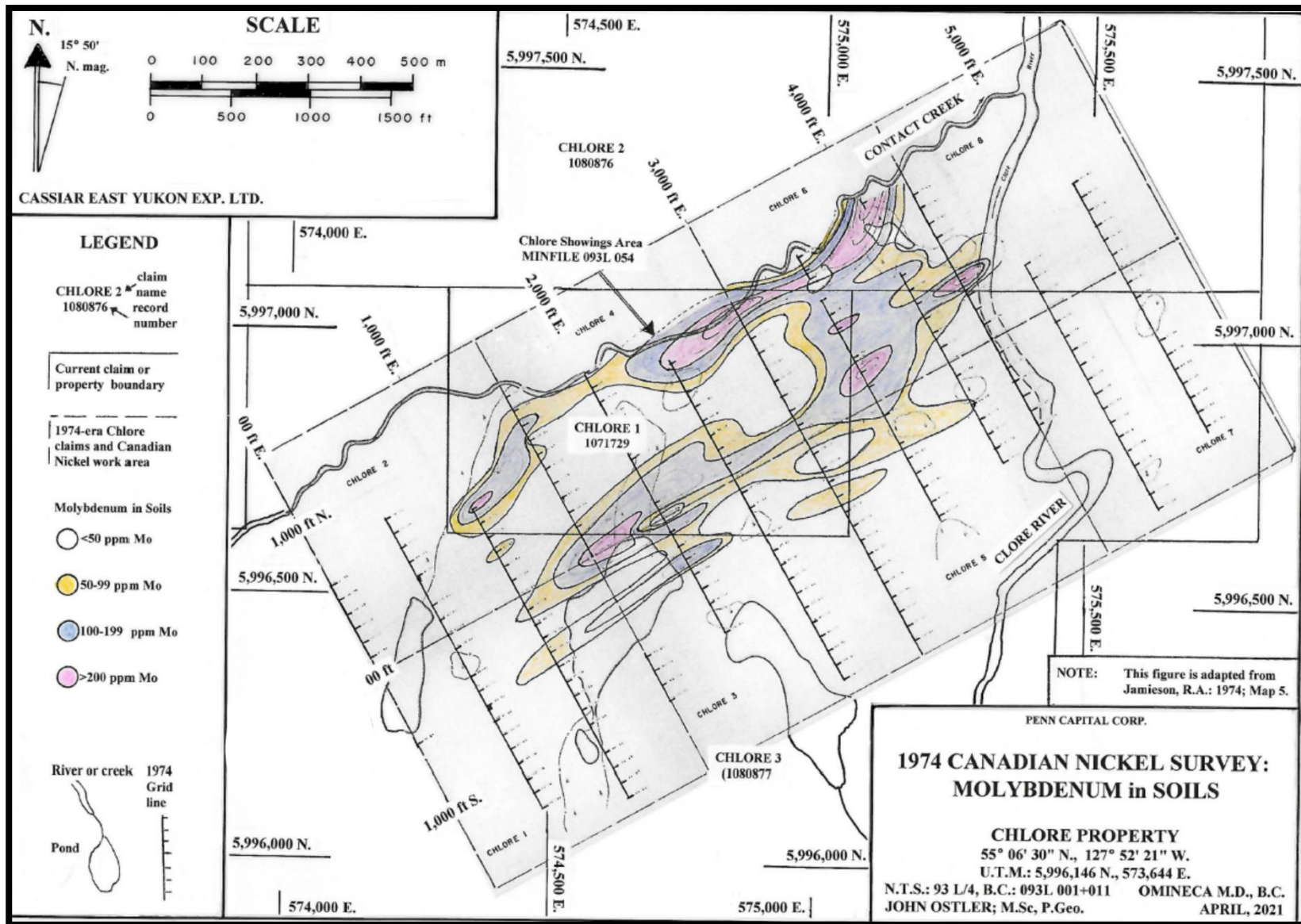
Figure 6-1 Copper in rock samples (ppm) from the 1974 survey





Source: Ostler, 2021

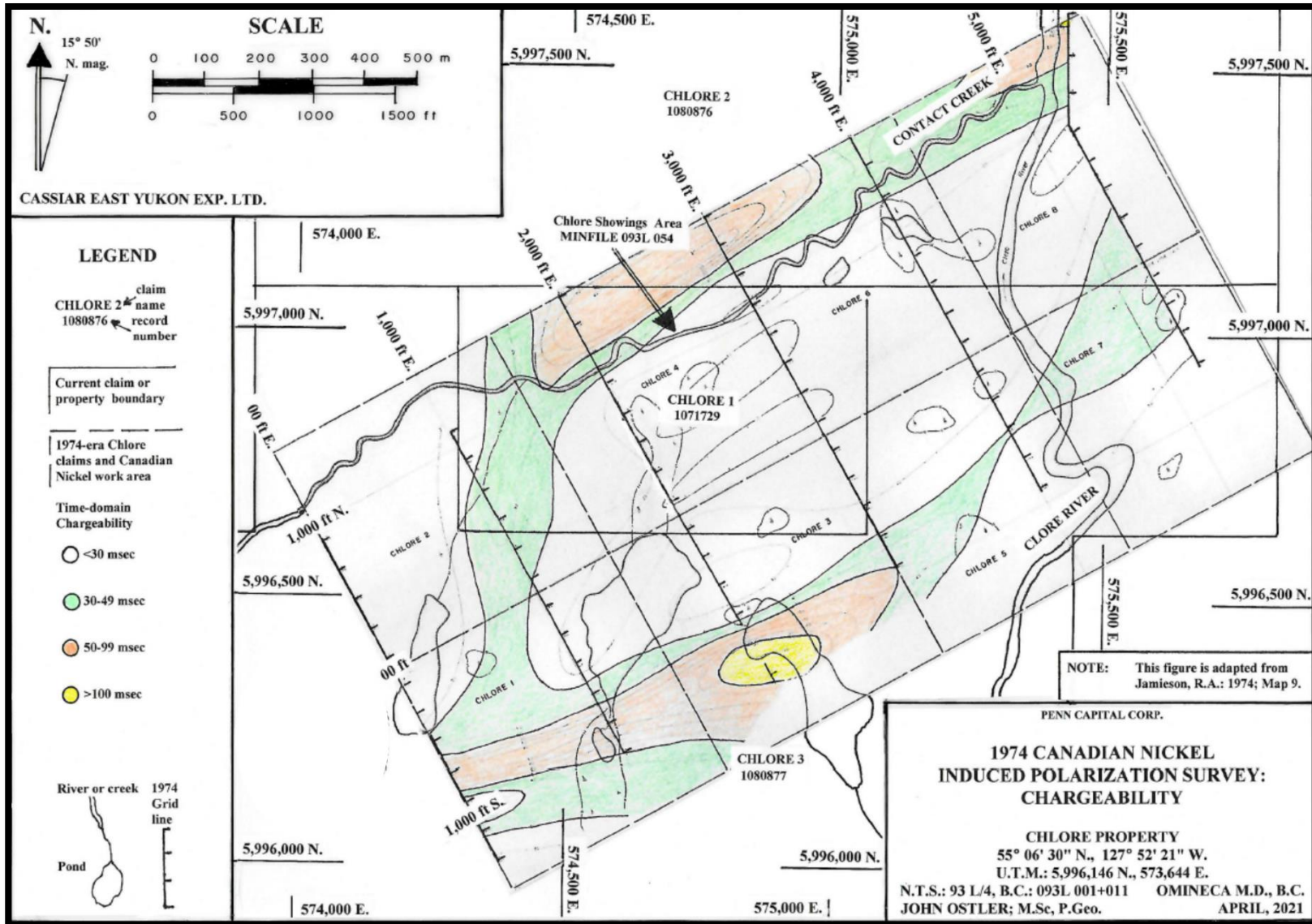
Figure 6-2 Copper in soil samples (ppm) from the 1974 survey



Source: Ostler, 2021

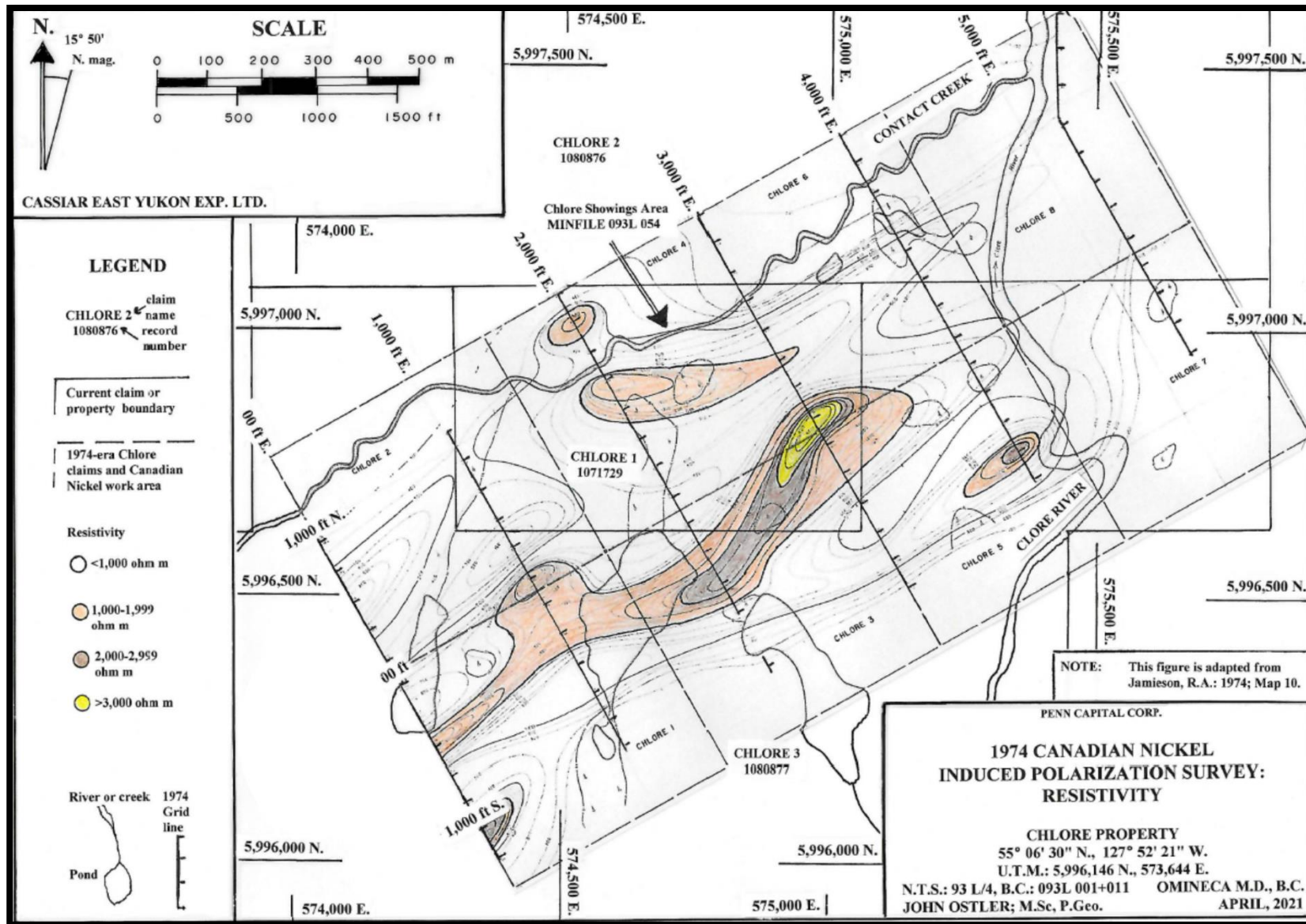
Figure 6-3 Molybdenum in soil samples (ppm) from the 1974 survey





Source: Ostler, 2021

Figure 6-4 Induced Polarization chargeability from the 1974 survey



Source: Ostler, 2021

Figure 6-5 Induced Polarization resistivity from the 1974 survey

### **6.3 2015 Program**

Karmamount Mineral Exploration Inc. map-staked the CLORE I (1035419) mineral claim on April 10, 2015. It covered a total of 397 hectares (981 acres). The claim covered the northern part of the Chlore stock and Hazelton Group rocks to the north of it. The officially plotted location as well as the actual location of MINFILE occurrence 093L 054 were included in the claim area.

A one-day program of prospecting and rock sampling was conducted by a four-person crew on August 16, 2015. A total of eight rock samples were collected. A common assessment report format was used to record this field work on three separate properties upon which Karmamount Mineral Exploration was working. A significant amount of detail related to the other two properties is included in the text of Assessment Report No. 35867 including the current Chlore property area with the potential for confusion. This claim expired in October of 2019.

### **6.4 2019 and onwards**

On October 11, 2019, John Ostler map-staked the CHLORE I (1071729) mineral claim which covered two cells or 38 hectares around the on-ground location of the Chlore showings area as described in the report of the 1974 Canadian Nickel Company exploration program.

On March 27, 2020 the government of British Columbia issued CGC Order 13180-20-411 regarding the Covid19 virus pandemic. The expiry dates for filing assessment work on all claims subsisting on March 26, 2020 that occurred before December 31, 2021, including that of the CHLORE I (1071729) mineral claim, were extended to December 31, 2021. The assessment work recorded in April 2021 regarding the airborne geophysical survey extended the claim expiry dates until 2027. The work undertaken for this geophysical program is summarized in Section 9 of this report.

There have been no Mineral Resource Estimates, Mineral Reserves or mineral production on the Chlore property.

## **7 GEOLOGICAL SETTING AND MINERALISATION**

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### **7.1 Regional Geology**

The Chlore property is located near the corners of several geological maps produced by the British Columbia Geological Survey and the Geological Survey of Canada. It is recorded in sparse detail on BCGS Map 69-1, Carter and Kirkham, 1969 (later released as BCGS Preliminary Map 1). The 1:250,000 regional mapping around the current Chlore property area by Richards and Tipper, 1976 of the Geological Survey of Canada (G.S.C. Open File 351) is reproduced in part in Figure 7-1. The 1:1,000,000 map by Tipper, et. al., 1979 indicates the detailed mapping local to the Chlore claim used then was an unpublished map-sheet by H.W. Tipper.

The Richards and Tipper, 1976 summary of the geology of the Smithers map-area was as follows:

*“The Smithers map-area is underlain mainly by the Lower and Middle Jurassic essentially volcanic Hazelton Group, by the Middle and Upper Jurassic mainly sedimentary Bowser Lake Group, by the volcanic and sedimentary Lower Cretaceous Skeena Group, and by the Tertiary volcanic Endako and Ootsa Lake Groups. The Early Jurassic Topley Intrusions cut the lower part of the Hazelton Group and a variety of intermediate to acidic plutons of Late Cretaceous to Eocene age intrude most older units throughout the area.*

*Structurally the area is dominated by a multitude of steep normal faults. Few contacts between map-units are unfaulted and these are mainly intrusive or contacts between younger map-units. Folding is common only in the few sedimentary units and is spatially and genetically related to the Eocene thrust faults.”*

Regional mapping indicates that the Chlore River valley, including the Chlore property, corresponds with the south-western end of a north-easterly south-westerly structural trend (Figure 7-1). The trend fans out north-eastward from the Chlore property area for at least 15 kilometres across the area covered by G.S.C. Open File 351. This map depicts the Chlore stock as having been originally emplaced inside transcurrent faults in a compressional environment (Figure 7-1). Later, the Chlore stock was disrupted by block faulting as stresses evolved from compressive to tensional.

Richards and Tipper, 1976 tentatively dated the emplacement of the Chlore stock as Early Tertiary Period (Cretaceous to Eocene-age) (Figure 7-1).

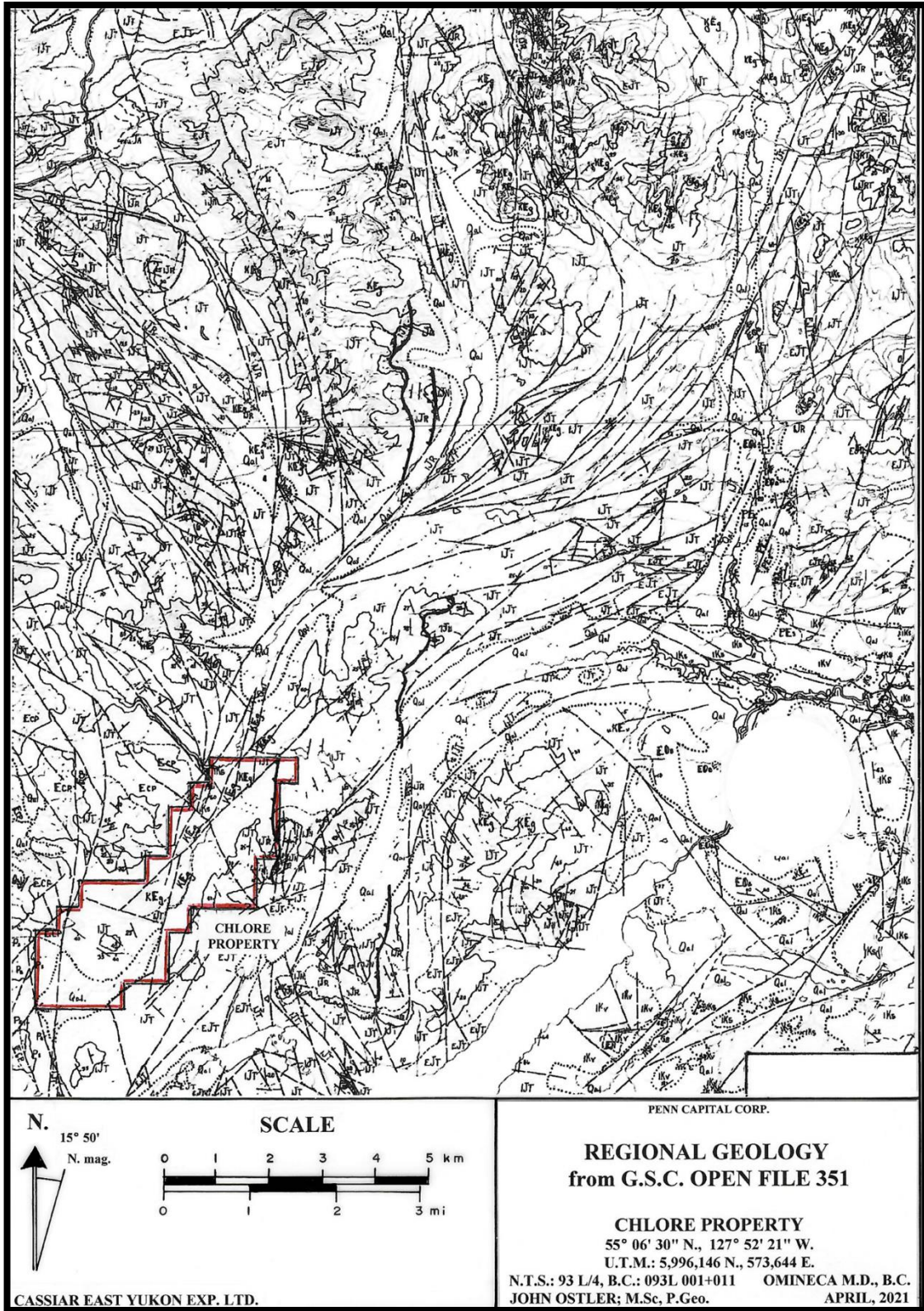
The local geology in the map in Figure 7-6 is based largely on the Carter and Kirkham, 1969 map and the shape and location of the intrusive is heavily supported by the detailed property work in 1974 by Canadian Nickel (Figure 7-5), although Tipper’s map of 1976 notes more regional detail and faulting.

Geoscience BC completed the multi-year Quest West program from 2008 to 2011. It included regional airborne gravity, airborne magnetics, airborne electromagnetics, inversion study of the airborne electromagnetics and re-analysis of the regional stream geochemistry. Some of this data overlapped on the CHLORE claim area. There were also the Geoscience BC Search Phase I surveys over the CHLORE claim area, which includes an airborne magnetic survey completed around 2015. These surveys were at a wide regional line-spacing and there is little detail recorded. In 2019 there was the release of a report on the compilation of all this Search Phase I data and a virtual “remapping” of the underlying geology based on the overlain 2015 geophysics and several local geological field mapping programs in select areas of the larger map. None of the field mapping was local to the CHLORE claims. The resulting local mapping is reproduced in Figure 7-6. The core mapping in this image was based on Carter and Kirkham, 1969 with some of the regional faulting considered from Richards and Tipper, 1976. The regional faulting appears to be the only feature reinterpreted near the Chlore property in the 2019 work.

A summary of the regional geological history was prepared by Ostler, 2021 and is found as Table 7-1 in this report.

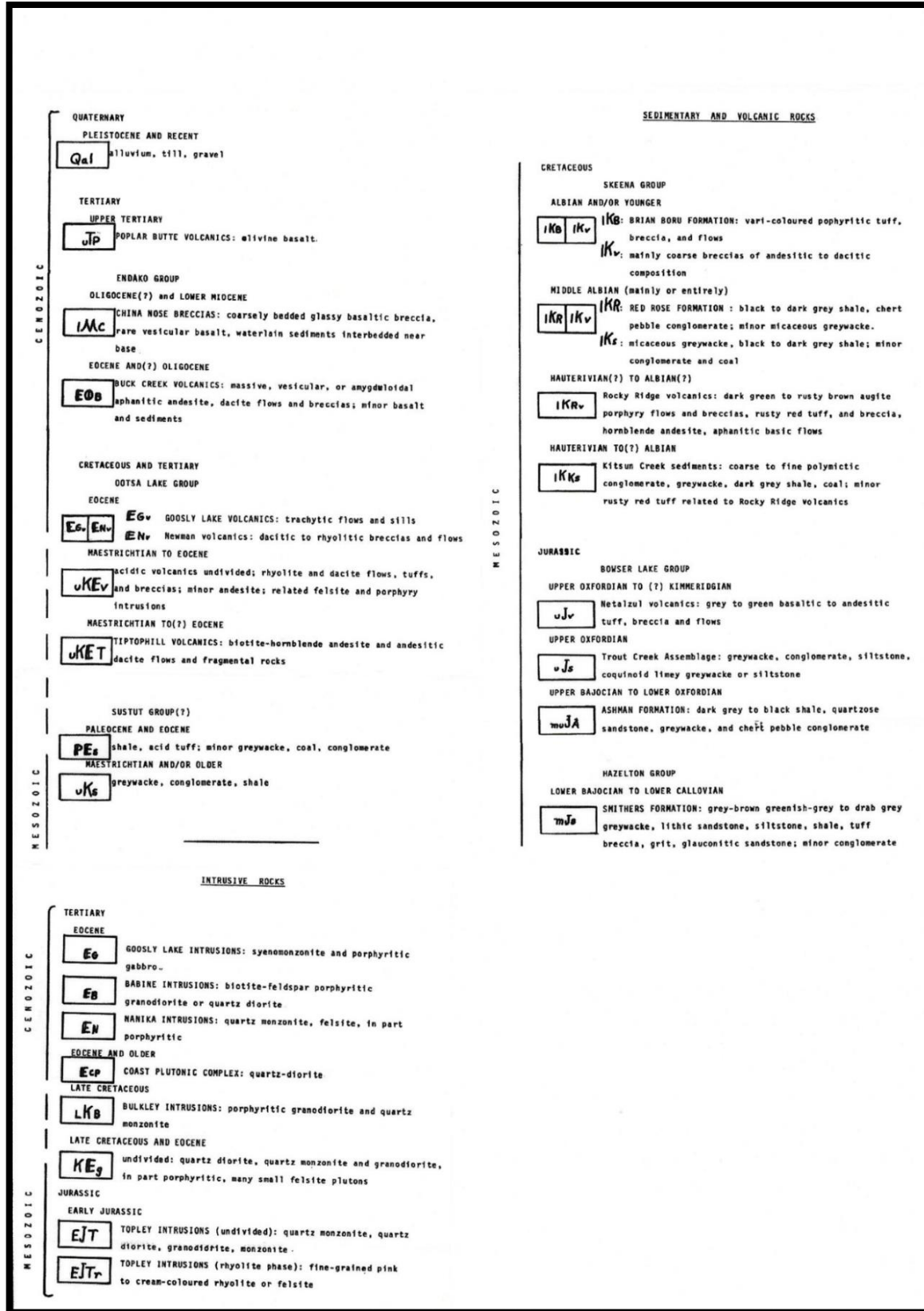
The major rock units as recorded in Carter and Kirkham, 1969 in the area of the CHLORE claims are summarized in Table 7-2.





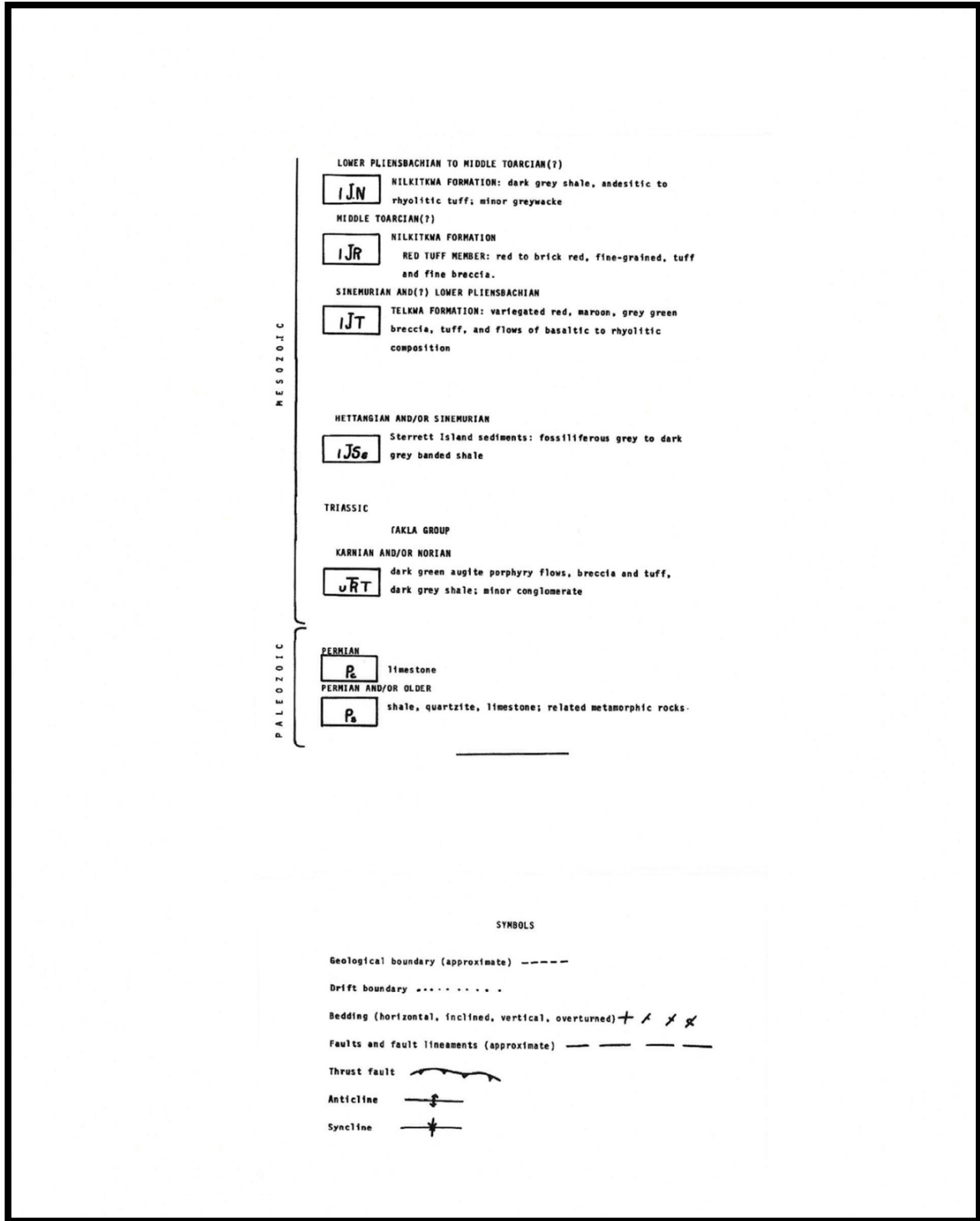
Source: Ostler, 2021 based on Richards and Tipper, 1976

Figure 7-1 Regional Geology based on GSC Open File 351



Source: Ostler, 2021 based on Richards and Tipper, 1976

Figure 7-2 Legend for Regional Geology (a)



Source: Ostler, 2021 based on Richards and Tipper, 1976

Figure 7-3 Legend for Regional Geology (b)



Table 7-1 Summary of the Regional Geological History sourced from Ostler, 2021

Time		Formation or Event
Recent	0.01-0 m.y.	<b>Valley rejuvenation:</b> down cutting of stream gullies through till, development of soil profiles
Pleistocene	1.6-0.01 my.	<b>Glacial erosion and deposition:</b> removal of Tertiary-age regolith, deposition of till and related sediments at lower elevations, smoothing of the Tertiary-age land surface
Eocene to Pliocene	56.5-1.6 m.y.	<b>Erosion,</b> unroofing rocks and incision of the land surface
Eocene to Oligocene	56.5-23.8 my.	<b>Tensional faulting:</b> northwest-southeasterly trending shearing Deposition of the Endako Group flood basalt on the erosional surface regional erosion. Emplacement of post-mineralization dioritic to quartz monzonitic dykes in the map area
Eocene	56.5-33.7 m.y	<b>Normal and transcurrent and block faulting in the Chlore property area.</b>
Late Cretaceous to Eocene	75-33.7 m.y.	<b>Laramide Orogeny:</b> mild folding faulting and erosion. Emplacement of many small felsite plutons of quartz diorite, quartz monzonite, and granodiorite that are in part porphyritic, including the Chlore stock
		<b>MINERALIZATION:</b> Enrichment of the Chlore stock in copper and molybdenum (MINFILE No. 093L 054)
Late Jurassic to Middle Cretaceous	144-88 m.y.	<b>Columbian Orogeny:</b> Emplacement of the Coast Intrusions, thrusting and transcurrent faulting, deformation of Cache Creek rocks in a northeastward dipping subduction zone, accretion of Nicola Group rocks to North America
Late Jurassic to Early Cretaceous	163-131 m.y.	<b>Deposition of the Bowser Group sediments</b> in shallow marine and continental environments.
Middle Jurassic	167-163 m.y.	<b>Nassian Orogeny:</b> Re-emergence of the Stikine Arch, deepening of flanking basins regional deformation and metamorphism, overriding of Cache Creek Terrane rocks onto Quesnel Terrane Rocks to the east and Stikine Terrane (Telkwa Formation -Hazelton Group) rocks to the west along thrust faults Development of northwesterly trending ductile structures in the Hazelton group (Telkwa Formation) volcanic rocks in the Chlore River area. Later, an erosional surface on Telkwa Formation (Hazelton Group) rocks
Early to Middle Jurassic	200-167 m.y.	<b>Hazelton Group deposition:</b> basal conglomerate followed by andesitic volcanic and open-basin sedimentary deposition
Early to Middle Jurassic	208-167 m.y.	<b>Deposition of the Telkwa Formation (Hazelton Group) volcanic and associated sedimentary rocks.</b> Triassic-age sedimentation was conformably succeeded by the Telkwa Formation (Hazelton Group) volcanics and sediments in some areas
Early Jurassic	200-188 m.y.	<b>Inklinian Orogeny:</b> Deformation producing the Stikine Arch, intrusion of granitic bodies, rapid unroofing and deposition of basal conglomerates on an erosional surface along the flanks of the arch
Triassic	245-208 m.y.	Deposition of limestone, greywacke and banded volcanic sandstone above a basal limestone boulder conglomerate
Late Permian to Early Triassic	256-241 m.y.	<b>Mild orogenic event in southern British Columbia:</b> Deformation, low-grade metamorphism, plutonism, uplift and erosion. Development of an erosional surface on Palaeozoic strata
Early Permian	300-272 m.y.	<b>Deposition of the Zyometz Group:</b> Mount Attree volcanics (285 m.y.) and marine sediments overlain by limestone. Small hypabissial intrusions are associated with the Mount Attree volcanics near Terrace
		<b>MINERALIZATION:</b> Massive sulphide occurrences in the Mount Attree volcanics north of Kitimat and east of Terrace

m.y. = million years



## 7.2 Local Geology

The most recent local geology is by Geoscience BC, 2019. It is a regional map showing only two rock units within the CHLORE claims (Figure 7-6). The units are the western edge of the Upper Triassic to Lower Jurassic age, Telkwa Formation of the Hazleton Group volcanic and sedimentary rocks and the various stages of the Eocene age Nanika intrusive suite rocks (Figure 7-6 and Figure 7-5).

The regional mapping has shown a progression of detail and geological understanding as seen in the maps, from oldest to most recent, shown in Figure 7-4 to Figure 7-6.

In 1974 the Canadian Nickel Company Limited completed the only property-scale study of the geology in the Chlore property area. That mapping covered a small area around the present CHLORE I claim (location in Figure 5-1) in the north-eastern part of the current property (mapping shown in Figure 7-5). When the 1974 mapping is superimposed on the most detailed regional mapping of the area by Richards and Tipper, 1976, the two don't agree well. Ostler, 2021 suggested that there were two major reasons for the data mismatch:

- the topography on which G.S.C. Open File 351 was plotted had variable accuracy which does not match the topography on current topographic maps very well.
- the scale of the 1976 mapping was so coarse that the intrusive rock related to the Chlore stock was probably found in fewer than three traverses and its shape was assumed from the distribution of the linear features on air photographs. When expanding that regional mapping to the property-scale would increase the inaccuracies of the boundaries significantly.

The fact that the regional and previous property-scale geological mapping do not match does not detract from either mapping effort. It can be seen in Richards and Tipper, 1976 that the Chlore stock is indicated as a fault bounded segment of a larger Tertiary-age intrusion that was probably emplaced along a regional north-easterly trending fault plane and was subsequently disrupted by local block faulting along the regional trend. This interpretation is confirmed by the current, 2021 airborne magnetic survey (Figure 9-3 to Figure 9-1).

Ostler, 2021 further discusses, the alteration and mineralization as shown in the 1974 soil geochemistry and induced polarization results are concentrated along the margins of the Chlore stock (Figure 6-2 to Figure 6-5). This suggests that hydrothermal activity was concentrated along structures that were later block-faulted. Results of the current, 2021 aeromagnetic and gradiometric surveys indicated that block faulting was the first of two late Tertiary-age episodes of brittle deformation in the Chlore property area (Figure 9-3 to Figure 9-1 and section 9 of this report). The second brittle deformation was a Late Tertiary Period, north-west south-easterly trending shearing.

The results of detailed mapping commissioned by Canadian Nickel Company Limited in the north-eastern part of the current Chlore property area were recorded by Jamieson, 1974 (See Figure 7-5 for detailed mapping of units) as follows:

*“The oldest rocks on the property, the Hazelton Group, occur as a north-south trending, steeply dipping volcanic-sedimentary sequence. Overburden coverage in this area is extensive and rocks of this group as well as the intrusive are obscured by glacial-fluvial overburden.*”

The volcanics and sediments are intruded by an east-west trending oval shaped porphyritic granodiorite body which in turn has been cut by a series of younger biotite feldspar porphyry dikes. The porphyry dikes occur along the northern contact area of the granodiorite and generally strike in a northeasterly direction.

Outcrop exposure in the area of the intrusive is limited. About 90% of the intrusive and surrounding rock are covered by glacial overburden” This is in the north-eastern part of the current 2021 CHLORE claims.”

### 7.2.1 Late Cretaceous to Tertiary Intrusive rocks

Jamieson, 1974 continued:

#### “CRETACEOUS AND TERTIARY INTRUSIVES

##### Granodiorite

The porphyritic granodiorite is generally medium grained, with closely packed phenocrysts (75%) in a granular matrix (25%). The phenocrysts are very variable in size and are generally composed of quartz, plagioclase and biotite with very minor amounts of amphibole. The matrix is generally a fine grained intergrowth of quartz, K-feldspar, minor plagioclase, chlorite, sericite and carbonate. The granodiorite is generally leucocratic, light grey in colour but near contacts may take on a slightly pinkish-red tinge. Typical composition: plagioclase 50%, biotite 15%, K-feldspar 20%, quartz 15%.

Along the northern margin of the intrusive, is a fairly intense stockwork of unidirectional quartz veinlets, carrying moderate amounts of molybdenite. Pyrite, chalcopyrite and trace pyrrhotite are generally found as disseminations in the granodiorite, although locally chalcopyrite and pyrite may occur as concentrations along fractures and quartz veinlets.

Alteration in the granodiorite is moderate to locally intense. Plagioclase generally alters to sericite with minor kaolinite, K-feldspar, carbonate and epidote, while biotite is commonly altered to chlorite, with minor sphene, clinozoisite and carbonate.

From available field evidence the intrusive contacts appear to have an almost vertical attitude.

##### Altered Porphyritic Quartz Diorite (Quartz Feldspar Porphyry)

This facies was found at only one locality within the intrusive. It is exposed along the Clore River near the central portion of the intrusive. The quartz diorite is light to medium grey-green in colour. It is medium grained and weakly porphyritic with close packed phenocrysts (75%) in a granular matrix (25%). The phenocrysts consist of 80% altered plagioclase and 20% altered biotite. The matrix is a granular intergrowth of quartz (60%), plagioclase (20%), sericite (10%) and carbonate.

Alteration consists of plagioclase altered to sericite and carbonate. Mafic material was probably originally biotite but is now completely altered of a shreddy mass of green biotite, chlorite and clinozoisite diagnostic of hydrothermal alteration.

High values (concentrations), copper 1.7%, and molybdenum 0.84%, were recorded in this facies. The mineralization is associated with a vein and appears extremely narrow in width.

Quartz Diorite (Equigranular) - Highly Altered

*This facies may represent a sheared variety of the granodiorite, and is found along the Clore River, in the northeastern corner of the intrusive. It is medium grained and equigranular and generally medium grey to light green in colour. Quartz occurs as interstitial material, locally in large patches like phenocrysts. Typical composition: plagioclase 65%, quartz 20%, altered mafics 15%.*

*Alteration consists of plagioclase highly altered to sericite, kaolinite and carbonate. Mafics which were originally amphibole may have been altered first to biotite and finally to clinozoisite and an opaque material, possibly magnetite.*

*Minor disseminated chalcopyrite and pyrite occur in this altered quartz diorite.*

Biotite-Feldspar Porphyry Dikes

*A series of biotite feldspar porphyry dikes trending 045° - 050° and varying in width, occur along the western and northern contacts of the intrusive. The dikes are of quartz monzonite composition and generally contain about 80% matrix and 20% phenocrysts. The phenocrysts are mainly plagioclase, with fewer biotite phenocrysts. The matrix is a fine grained intergrowth of quartz and K-feldspar with minor plagioclase and biotite.*

*Alteration is less intense here than in the granodiorite. In the dikes there is alteration of the plagioclase to sericite and kaolinite with minor carbonate, while biotite is altered to chlorite.*

Diabase

*A diabase dike is present, 200 to 300 ft. (61-91.4 m) south of the claim boundary in the central portion of the property. It appears to strike north-east, south-west. It is unmineralized and is of no economic interest.”*

**7.2.2 Lower Jurassic to Middle Jurassic Sedimentary and volcanic rocks**

Jamieson, 1974 describes the Hazelton rocks as:

“LOWER JURASSIC TO MIDDLE JURASSIC HAZELTON SEDIMENTS AND VOLCANICSSediments

*Where the intrusive-host rock contact was observed, the intrusive was in direct contact with sediments. The sediments appear to form a pocket-like band surrounding the intrusive and are themselves surrounded by volcanics.*

*The sediments vary from fine to medium grained, light, siliceous rocks, which appear to be quartzitic (sandstone) in origin; to very fine grained pyritic silty, graphitic, slaty sediments.*

*Considerable iron staining is present in these fine grained sediments, especially in the sections along the river, where fracturing is very intense.*

*Contacts between the intrusive and sediments are generally sharp and clear, although in northern sections, along the east-west trending creek (Contact Creek), contacts are difficult to delineate.*

Volcanics

Volcanics ring the intrusive and sediments, forming a complete envelope surrounding the two.

To the north and east of the intrusive, the volcanic unit is strongly agglomeritic, becoming less fragmental to the south and west.

The volcanics are of andesitic or dacitic composition and locally take on a strong siliceous appearance. The unit is generally medium to dark green in colour.

In areas south-west of the intrusive, the volcanics appear to be pillowed. Correct top determinations could not be made from these pillows, due to deformation and poor pillow development.”

**Table 7-2 Summary of Geological Units shown in Figure 7-6**

Unit Abbreviation	Age	Unit Name	Comment	Map Colour
ENi	Eocene	Nanika Intrusive Suite	Undivided Nanika intrusive suite; granite, granodiorite and quartz monzonite; fine- to medium-grained, equigranular to hornblende-, biotite-, plagioclase- and/or quartz-porphyritic	medium light pink
KEi	Cretaceous to Eocene	Nanika intrusive suite	Undivided Cretaceous to Eocene intrusions; granodiorite, granite, quartz diorite, quartz monzonite, tonalite; fine- to medium-grained, equigranular to porphyritic	light pink
uTrlJHT <sub>vs</sub>	Upper Triassic to Lower Jurassic	Undivided Telkwa Formation	Undivided Telkwa Formation volcanic and sedimentary rocks	medium green

Table 7-2 summarizes the major units seen in the local area of the CHLORE claims.

**7.2.3 Structure and Metamorphism**

R.A. Jamieson, 1974 walked and recorded the location of the contacts on the maps of the Canadian Nickel programs. During this work in 1974 very little structural information was recorded. He noted that the contacts of the Chlore stock when found were seen to be sub-vertical. The recent, 2021 airborne geophysical surveys confirmed that observation (Section 9.3 of this report).

During the Mesozoic Era, ductile folding culminated in the emplacement of the Chlore stock in a north-easterly trending shear structure during the Early Tertiary Period. A hydrothermal system localized along compressed shears that transected the Chlore stock deposited copper and molybdenum mineralization and altered rocks preferentially near the shears. No structural geological information was recorded from the 2015 Karmamount exploration program (Eden and Li, 2016). No detailed study of metamorphism was conducted in the Chlore property area. Comments in the petrographic study included in the Jamieson, 1974 report indicate that regional metamorphism was of upper greenschist to lower amphibolite grade.

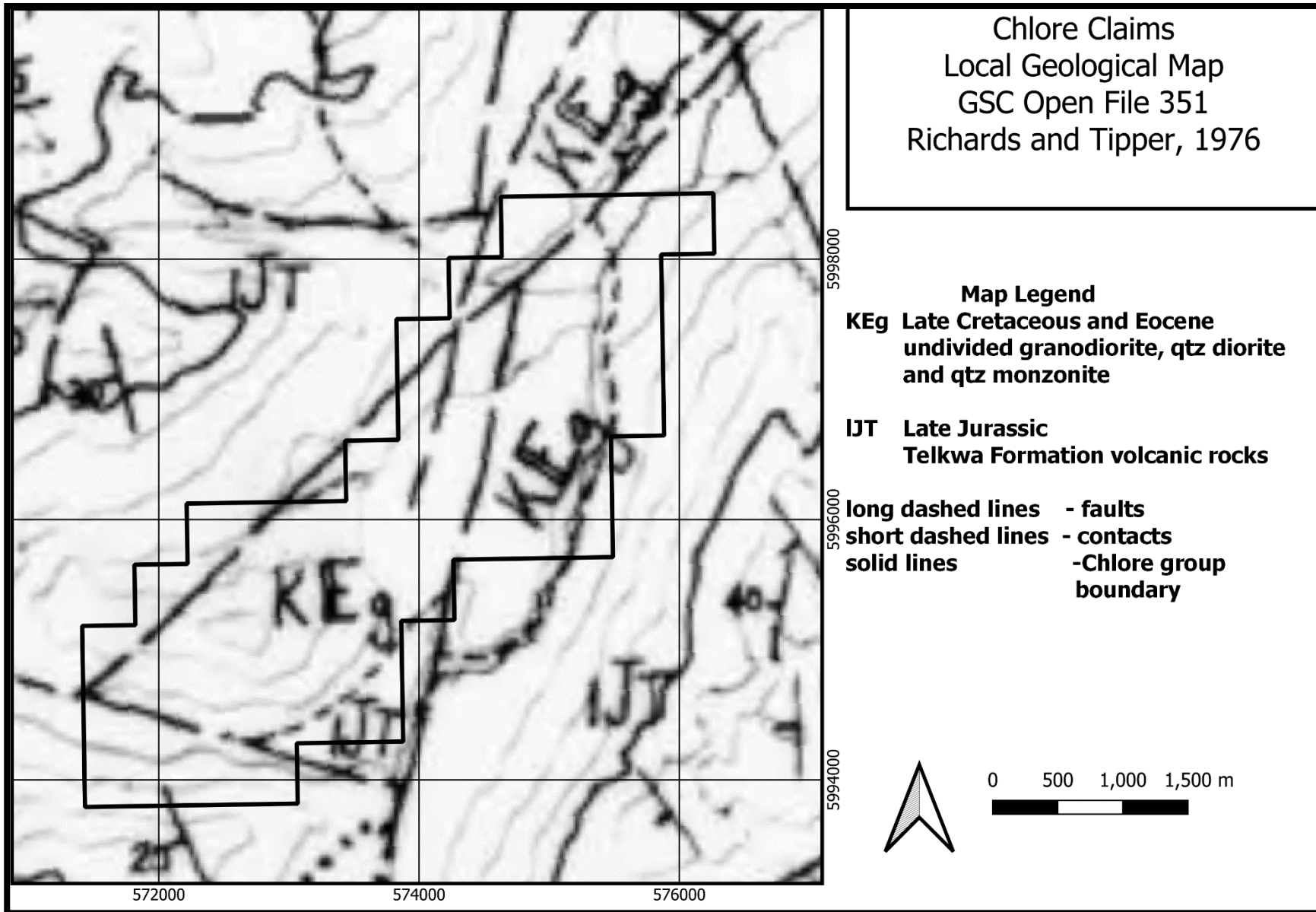


Figure 7-4 Local detail on geological map of Richards and Tipper, 1976

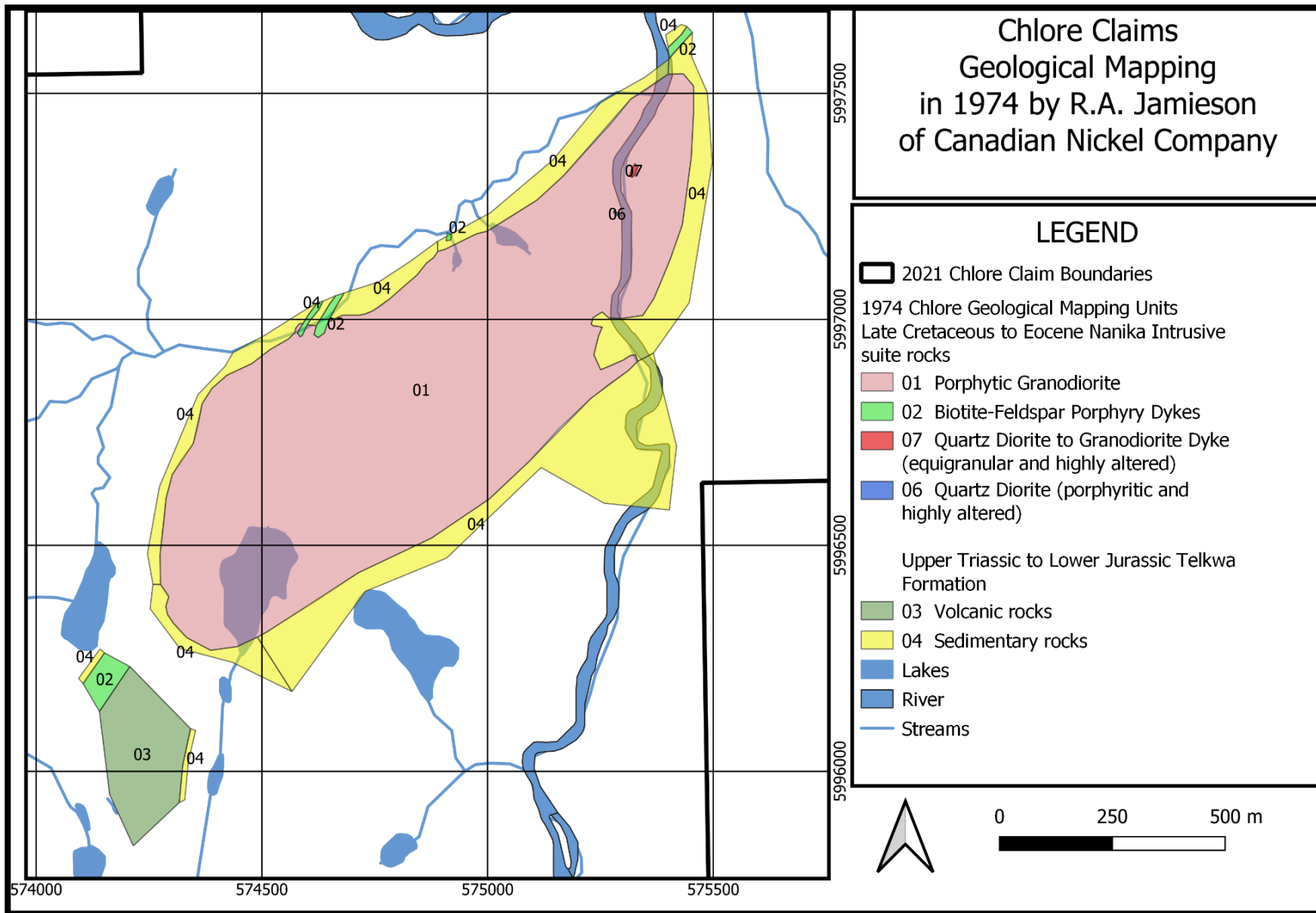


Figure 7-5 Geological map by the Canadian Nickel Company, 1974 (Figure 5-1 shows the 1974 claim)

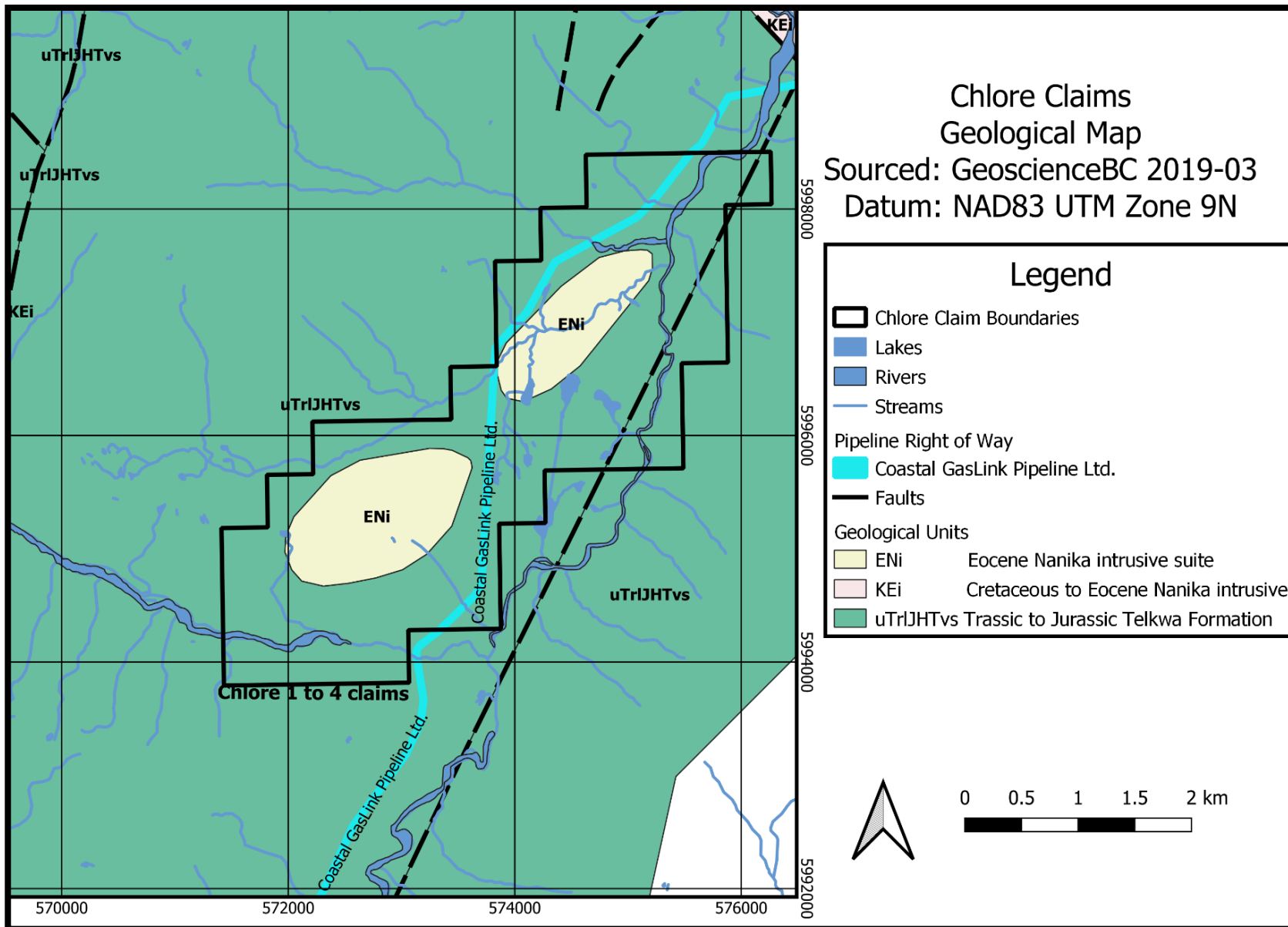


Figure 7-6 Local geology based on BCGS Preliminary Map I (updated by Geoscience BC, 2019)

### 7.2.4 Alteration

In Jamieson, 1974, a discussion of alteration was included in his description of each major rock type that he recorded. Those statements are summarized as follows:

- “1. **Granodiorite:** *Alteration in the granodiorite is moderate to locally intense. Plagioclase generally alters to sericite with minor kaolinite, K-feldspar, carbonate and epidote, while biotite is commonly altered to chlorite, with minor sphene, clinozoisite and carbonate.*
2. **Altered Porphyritic Quartz Diorite (Quartz Feldspar Porphyry):** *Alteration consists of plagioclase altered to sericite and carbonate. Mafic material was probably originally biotite but is now completely altered of a shreddy mass of green biotite, chlorite and clinozoisite diagnostic of hydrothermal alteration.*
3. **Quartz Diorite (Equigranular) - Highly Altered:** *Alteration consists of plagioclase highly altered to sericite, kaolinite and carbonate. Mafics which were originally amphibole may have been altered first to biotite and finally to clinozoisite and an opaque material, possibly magnetite.*
4. **Biotite-Feldspar Porphyry Dikes:** *Alteration is less intense here than in the granodiorite. In the dikes there is alteration of the plagioclase to sericite and kaolinite with minor carbonate, while biotite is altered to chlorite.*
5. **Hazelton Group Meta-sedimentary Rocks:** *Considerable iron staining is present in these fine grained sediments, especially in the sections along the river, where fracturing is very intense.*
6. **Hazelton Group Meta-volcanic Rocks:** *The volcanics are of andesitic or dacitic composition and locally take on a strong siliceous appearance. The unit is generally medium to dark green in colour.”*

### 7.3 Local Mineralization

MINFILE occurrence No. 093L 054 is the only British Columbia MINFILE mineral occurrence in the Chlore property area. It describes pyrite, chalcopyrite, molybdenite, and pyrrhotite disseminations and in quartz veins exposed at the margin of an Eocene-age granodiorite stock at Contact Creek. The published location of this MINFILE occurrence is about 860 m (2,821 ft) at a bearing of 325° from its actual location. Mineralization in the current Chlore property area was described in Jamieson, 1974 as follows:

*“Sulphide Mineralization in the granodiorite consists of pyrite, chalcopyrite, molybdenite and minor pyrrhotite. Chalcopyrite, pyrite and pyrrhotite generally occur as disseminations in the intrusive, although locally they are found along fractures and quartz veinlets. Molybdenite, on the other hand, generally occurs in quartz veinlets and only rarely as disseminations. On polished sections, most of the chalcopyrite grains show a thin rim of colliform sphalerite. Disseminated magnetite, as high as 10 percent, was found in a section of the intrusive.*

*Pyrite and chalcopyrite are generally prevalent throughout the intrusive, while molybdenite and pyrrhotite are restricted to the northern and eastern sections.*



*A malachite stained, east-west trending vein, approximately 2 to 3 inches (5.1-7.6 cm) wide, found in the altered quartz diorite (quartz-feldspar porphyry) along the Clore River, contains about 5 percent of chalcopyrite and molybdenite (1.71% Cu and 0.84% Mo).*

*Locally within the intrusive, especially in the northern sections, quartz veinlets often reach stockwork intensity, however they are too often unidirectional. The quartz veining extends out onto the sediments where it is generally barren.*

*Molybdenite is found in the biotite-feldspar dikes in the northern area of the claim group. Here the mineralization occurs as fracture fillings.*

*In general the surrounding sediments appear barren of economic sulphide mineralization. Pyrite content in these sediments may reach 10%.”*

The Canadian Nickel lithochemical survey in 1974 showed that the Chlore stock is mineralized with copper and molybdenum throughout, and the mineralization is not confined to the area around the Chlore MINFILE occurrence located on the northern margin of that intrusion. The results of the 1974 Canadian Nickel soil and induced polarization surveys (Figure 6-2 Figure 6-3 Molybdenum in soil samples (ppm) from the 1974 survey to Figure 6-5) indicate that alteration and mineralization are concentrated near the margins of the Chlore stock along structures that subsequently were block faulted.

## 8 DEPOSIT TYPES

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### 8.1 Calc-Alkalic Porphyry Copper-molybdenum Deposit

The target deposit type on the Chlore property is a calc-alkaline porphyry copper-molybdenum deposit. The results of geological mapping and airborne geophysics to date indicate the potential for mineralization in the area of the quartz-feldspar porphyry and within the surrounding andesites. The alteration patterns described below are commonly used as a vector toward the highest mineralized zones. The field mapping completed in 1974 and future mapping and studies recommended in this report are focused on the alteration and mineralization for a calc-alkaline porphyry copper-molybdenum deposit. Figure 8-1 from Kirkham and Sinclair, 1996, indicates an idealized cross section of the major zones of a porphyry copper deposit. The following text is sourced from Panteleyev, 1995.

*“Copper, molybdenum and gold are generally present but quantities range from insufficient for economic recovery to major ore constituents. Minor silver is found in most deposits and rhenium was recovered from the Island Copper mine on Vancouver Island.”*

*“CAPSULE DESCRIPTION:*

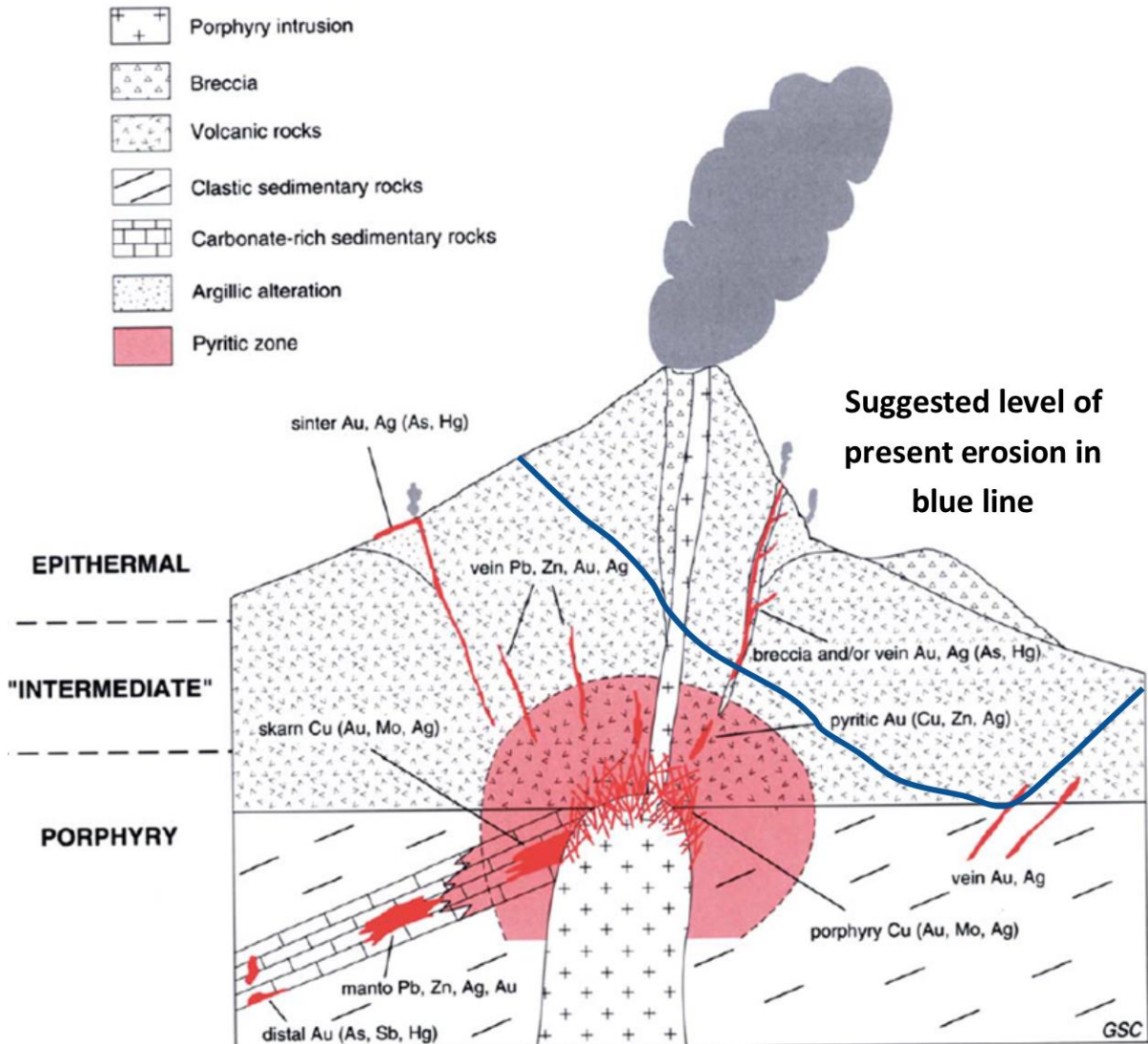
*Stockworks of quartz veinlets, quartz veins, closely spaced fractures and breccias containing pyrite and chalcopyrite with lesser molybdenite, bornite and magnetite occur in large zones of economically bulk-mineable mineralization in or adjoining porphyritic intrusions and related breccia bodies. Disseminated sulphide minerals are present, generally in subordinate amounts. The mineralization is spatially, temporally and genetically associated with hydrothermal alteration of the hostrock intrusions and wallrocks.”*

“AGE OF MINERALIZATION:

Two main periods in the Canadian Cordillera: the Triassic/Jurassic (210-180 Ma) and Cretaceous/Tertiary (85-45 Ma). Elsewhere deposits are mainly Tertiary, but range from Archean to Quaternary.”

“IMPORTANCE:

Porphyry deposits contain the largest reserves of Cu, significant Mo resources and close to 50% of the Au reserves in British Columbia.”



Source: modified from Kirkham and Sinclair, 1996

Figure 8-1 Idealized Porphyry Copper Cross Section Model

## 9 EXPLORATION

Penn Capital funded the airborne geophysical survey completed on March 10, 2021. The following is a summary of the procedures and parameters of the current (2021) exploration program:

Precision GeoSurveys Inc. of Langley, B.C. flew high-resolution magnetic, gradiometric, and radiometric surveys over a grid that was centred on the Chlore property on March 10, 2021. The geodetic datum used for the survey was WGS 84 in U.T.M. Zone 9N. The survey grid covered an area of 13.6 square kilometres or 1,360 hectares, including all of the Chlore property (Figure 9-3 to Figure 9-1). An additional 3 kilometres of line was flown to retain flight continuity of marginal line segments outside the eastern part of the survey block. The current (2021) exploration was based out of Terrace Regional Airport at Terrace, British Columbia. Survey flight line specifications were as follows in Table 9-1:

**Table 9-1 Summary of the survey specifications of the 2021 Airborne Geophysical Survey**

Survey Block	Area (km <sup>2</sup> )	Line Type	No. of Lines	Line Spacing	Line Orientation	Total Planned Line-km	Total Actual Line-km Flown
Chlore	13.6	Survey	97	50	000° / 180°	269	272
		Tie	9	500	090° / 180°	25	25
		Total	106			294	297

**Table 9-2 Major Equipment Used in the 2021 Airborne Survey**

Purpose	Instrument
Magnetic Base Station	GEM GSM-19T Proton Precession Magnetometer (3 sites used)
Survey Location Determination	Hemisphere R330 GPS Receiver
Vertical Ground Distance	Opti-Logic RS800 Laser Altimeter
Magnetic Gradiometer Array	Geometrics G-822A
	Scintrex CS-3 Survey Magnetometer
	Geometrics G-822A
Elevation (relevant to sea level)	Setra Model 276 Barometric Pressure
Magnetometer (data collection)	Scintrex CS-3 Survey Magnetometer
Magnetometer (helicopter attitude)	Billingsley TFM100G2triaxial fluxgate magnetometer
Radiometric Data Acquisition	Nuvia Dynamics AGRS-5 Gamma Spectrometer
AGIS Location and Data Collection	Nuvia Dynamics IMPAC data recorder system
Helicopter	Airbus AS350 helicopter registration C-GSVY

### 9.1 Magnetic Data Collection

Magnetic surveying is the most common airborne geophysical technology used for both mineral and hydrocarbon exploration. Aeromagnetic surveys measure and record the total intensity of the magnetic field at the magnetometer sensor, which is a combination of the desired geomagnetic field as well as the influences from the constantly varying solar wind and the aircraft's magnetic field. By subtracting temporal and aircraft magnetic effects, the resulting aeromagnetic maps show the spatial distribution and relative abundance of magnetic minerals - most commonly the iron oxide mineral magnetite - in the upper levels of the Earth's crust, which in turn are related to lithology, structure, and alteration of bedrock. Survey

specifications, instrumentation, and interpretation procedures depend on the objectives of the survey. Magnetic surveys are typically performed for:

- Geological Mapping - to aid in mapping lithology, structure, and alteration.
- Depth to Basement Mapping - for exploration in sedimentary basins or mineralization associated with the basement surface.

Gradient Magnetic Data In addition to high resolution total magnetic field data, horizontal magnetic gradient data were collected by using a triple magnetic gradient boom with a 3-axis compensation system. Direct measurement of the magnetic gradient is particularly useful for:

- Enhanced definition of near-surface anomalies.
- Emphasis on short wavelength spatial components of magnetic anomalies from horizontal variations of the gradients.
- Attenuation of long-wavelength spatial components associated with regional trends and large-scale anomalies.
- Reduction of high-frequency temporal variations in the Earth’s magnetic field due to micro-pulsations.
- Immunity to diurnal fluctuations.
- Reduction of aircraft/sensor movement errors

**Table 9-3 General Parameters of the 2021 Geophysical Survey contract**

Parameter	Specification	Tolerance
Position	Line Spacing	Flight line deviation within 8 m from ideal flight path. No exceedance for more than 1 km.
	Height	Normal flight height of 40 m above ground level (AGL) with tolerance of +/- 10m. No exceedance for more than 1km (0.61 mi), provided deviation is not due to tall trees, topography, mitigation of wildlife/livestock harassment, cultural features, or other obstacles beyond the pilot’s control.
	GPS	GPS signals from four or more satellites must be received at all times, except where signal loss is due to topography. No exceedance for more than 1 km (0.61 mi).
Magnetics	Temporal/Diurnal Variations	Non-linear temporal magnetic variations within 10 nT of a linear chord of length 5 minutes.
	Normalized 4th Difference	Magnetic data within 0.02nT peak to peak. No exceedance for distances greater than 1 km or more, provided noise is not due to geological or cultural features.
Radiometrics	Moisture Conditions	No delays shall be incurred due to unfavourable radiometric survey conditions.

## 9.2 Radiometric Data Collection

Radiometric surveys are used to determine either the absolute or relative concentrations of the naturally occurring radioelements uranium (U), thorium (Th), and potassium (K) in surface rocks and soils using radioactive emanations. Gamma radiation is utilized due to its greater penetration depth compared with alpha and beta radiation. Radiometric data are useful for mapping lithology, alteration, and structure as well as providing insights into weathering. For example, individual radioelements follow very different pathways of evolution during alteration of rocks, natural radioactivity of igneous rocks generally increases with SiO<sub>2</sub> content, and clay minerals tend to fix the natural radioelements. Gamma rays are electromagnetic waves with frequencies between 10<sup>19</sup> and 10<sup>21</sup> Hz emitted spontaneously from an atomic nucleus during radioactive decay, in packets referred to as photons. The energy E transported by a photon is related to the wavelength  $\lambda$  or frequency  $\nu$  by the formula:

$$E = h \nu = hc / \lambda$$

where c is the velocity of light and  
h is Planck's constant (6.626 x 10<sup>-34</sup> joules)

All detectable gamma radiation from Earth materials comes from the natural decay of products of three primary radioelements: U, Th, and K. Each individual nuclear species (element) emits gamma rays at one or more specific energies ... Of these elements, only potassium (40K) emits gamma energy directly, at 1.46 MeV. Uranium (<sup>238</sup>U) and thorium (<sup>232</sup>Th) emit gamma rays through their respective decay series; <sup>214</sup>Bi at 1.76 MeV for uranium and <sup>208</sup>Tl at 2.61 MeV for thorium. Accordingly, <sup>214</sup>Bi and <sup>208</sup>Tl measurements are considered to be equivalents for uranium (eU) and thorium (eTh), as the daughter products will be in equilibrium under most natural conditions.

Surficial debris, vegetation, standing water (lakes, marches, swamps), and snow can effectively attenuate gamma rays originating from underlying rocks. Therefore, variations in gamma counts must be evaluated with respect to surficial conditions before they are attributed to changes in underlying geology. An increase in soil moisture can also significantly affect gamma radiation concentrations. For example, a 10% increase in soil moisture can decrease the measured gamma radiation by about the same amount. Radon isotopes are long-lived members of both U and Th decay series and Ra mobility can influence radiometric surveys. In addition to being directly radioactive <sup>226</sup>Ra and <sup>222</sup>Rn can attach to dust particles in the atmosphere. Precipitation of these radioactive dust particles by rain can lead to apparent increases of more than 2,000% in uranium ground concentrations.

## 9.3 Data Interpretation

The 2021 airborne magnetic and gradiometric surveys were conducted using a triple-point boom slung beneath a helicopter with a magnetometer located at each point of the boom. This configuration appears to show data variation that is likely related of the many minor faults and other geologic structures evident in and around the Chlore property (Figure 9-1 to Figure 9-4).

Ostler, 2021 records the following in his interpretation of the results:

*“Total Magnetic Intensity*

*1. Relation of total magnetic intensity to outcrop density and stratigraphy*

*The results of the total magnetic intensity (Figure 9-1) reveal that there are two magnetic domains in the property area.*

*A domain of high magnetic intensity is located along the northwestern property boundary in the northern part of the property, and near the crest of the topographic dome near the centre of the CHLORE 4 (1080878) claim in the southern part of the property area (Figure 9-1 and Figure 9-4). That domain corresponds with a highland area of numerous outcrops of Early Jurassic Period Telkwa Formation (Upper Hazelton Group) intermediate to mafic meta-volcanic rocks.*

*A domain of low magnetic intensity occurs in the north-central part of the Chlore property area and includes the 1974 Canadian Nickel work area (Figure 9-1 and Figure 9-4). Also, it extends onto the southern boundary area of the property. That domain hosts Early Jurassic Period Nilkitka Formation (Lower Hazelton Group) meta-sedimentary strata and fault-blocks of the Cretaceous to Eocene-age Chlore stock. Much of that domain is covered by the flats of Clore River that are extensively covered with unconsolidated clastic sediments.*

*2. Relation of total magnetic intensity to faulting and deformation*

*Structural orientations mapped by Richardson (sic) and Tipper (,1976) in the Telkwa Formation (Hazelton Group) meta-volcanic rocks indicate that the axial planes of those structures trend mostly northwest-southeast with significant deviation from that norm (Figure 7-1). The curvatures of those structures hint that they were produced by ductile deformation. Those structures may have been developed during the Middle Jurassic-age Nassian Orogeny (Table 7-1 Table 7-1 Summary of the Regional Geological History sourced from Ostler, 2021). Probably, the magnetic differences that define those features are due to differences in the magnetic intensities of various stratigraphic units within the Telkwa volcanics.*

*It is interpreted that those Jurassic-age structures are responsible for a minor component of the northwest-southeasterly magnetic trends visible throughout the Telkwa Formation meta-volcanic rocks (Figure 9-1 Figure 4-1 to Figure 9-2). The major component of that magnetic trend is interpreted to have been the result of northwest-southeasterly shearing during the Late Tertiary Period. The whole current (2021) survey area has been cut into a series of dislocated blocks by sub-vertical normal and transcurrent faults (Figure 9-1 Figure 4-1 to Figure 9-4). According to regional mapping and the 1974 Canadian Nickel exploration, that brittle tensional faulting occurred after emplacement of the Chlore stock, and during and after the operation of the hydrothermal system responsible for copper and molybdenum mineralization of the stock (Figure 6-1 to Figure 7-5). Block faults with northerly to northeasterly orientations generally predate associated east-west trending faults. The author estimates that this block faulting occurred during the Eocene epoch (Table 7-1).*

*Horizontal Magnetic Gradient*1. Northwest-southeasterly trending structures in the horizontal magnetic gradient

Throughout the current (2021) survey area, mostly northwest-southeasterly trends in the horizontal magnetic gradient are present (Figure 9-2). They are most evident in the comparatively magnetic Telkwa Formation meta-volcanic rocks where they form the major component of northwest-southeasterly magnetic trends. In the domain of low total magnetic field, Eocene-age block faults that transect the general northwest-southeasterly trend of the horizontal magnetic gradient can be seen to have been cut through by the northwest-southeasterly trend lines of the horizontal gradient. That indicates that the northwest-southeasterly trends of the horizontal magnetic gradient post-date Eocene-age block faulting. The major component of the northwest-southeasterly trend of features related to the horizontal magnetic gradient are interpreted to be due to Eocene to Pliocene-age transcurrent faulting.

2. Circular structures in the horizontal magnetic gradient

Three significant circular structures defined by intense horizontal magnetic gradient occur in the northern part of the Chlore property area. All are spatially related to Eocene-age block faults either on or near the mineralized margins of the Chlore stock. They may be related to pipe-like structures or to the Chlore hydrothermal system.

*Vertical Magnetic Gradient*

All of the magnetic and gradiometric features revealed by the total magnetic intensity and horizontal magnetic gradient are evident in the results of the vertical magnetic gradient (Figure 9-3, and Figure 9-4). However, they are more subtle in the distribution of the vertical magnetic gradient than they are in the horizontal magnetic gradient or the total magnetic intensity.

*Radiometric Survey*

The results of the current (2021) radiometric survey were inconclusive due to a 2-m (6.6-ft) cover of old snow over the whole survey area. Two areas of comparatively high radiometric count in the northeastern and southwestern parts of the property area are separated by an area of relatively low radiometric count (Figure 16). This pattern may be related to the presence of blocks of granitic rock like the Chlore stock, meta-sedimentary strata, to various glacial till deposits, or to fixation by organic matter in unconsolidated sediments or soil.

Areas with high potassium/thorium ratios, normally considered to be indications of potassic alteration zones, are randomly distributed throughout the survey area indicating the absence of a well-established potassic alteration zone (Figure 17). This can be expected because most Tertiary-age calc-alkalic porphyry copper-molybdenum systems like that sought on the Chlore property have weak, early potassic alteration zones that subsequently, have been overprinted by extensive phyllic alteration systems that host most of the mineralization. Phyllic alteration is not expressed by high potassium / thorium ratios.”

The Author notes the strong north-west south-east trending structures in the centre of the Chlore property, seen in the magnetic survey is also reflected in the local creek orientations in blue in Figure 9-1 and other nearby structures. This may be due to dykes of Tertiary or Eocene age.



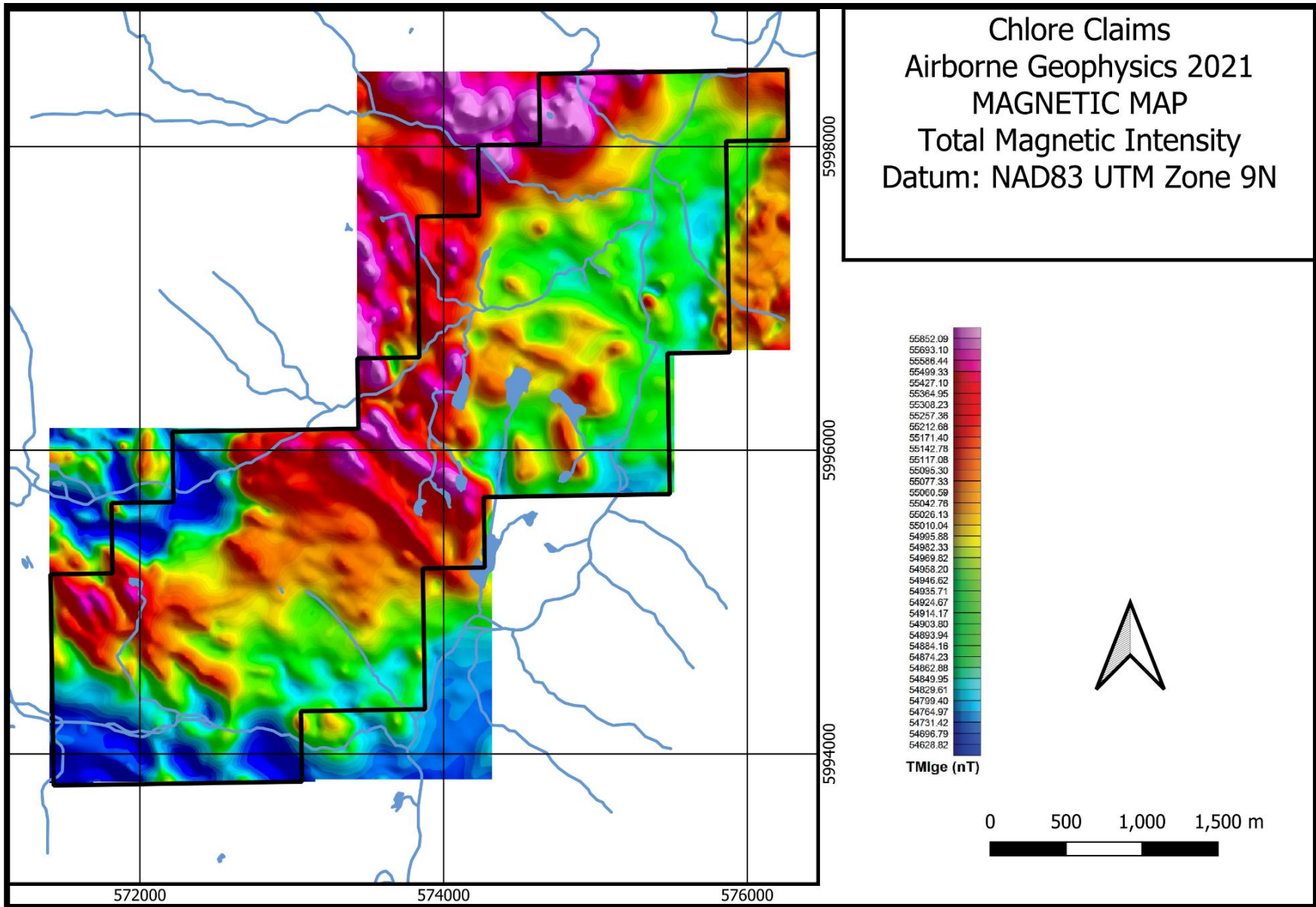


Figure 9-1 2021 Airborne Magnetics – Total Magnetic Intensity



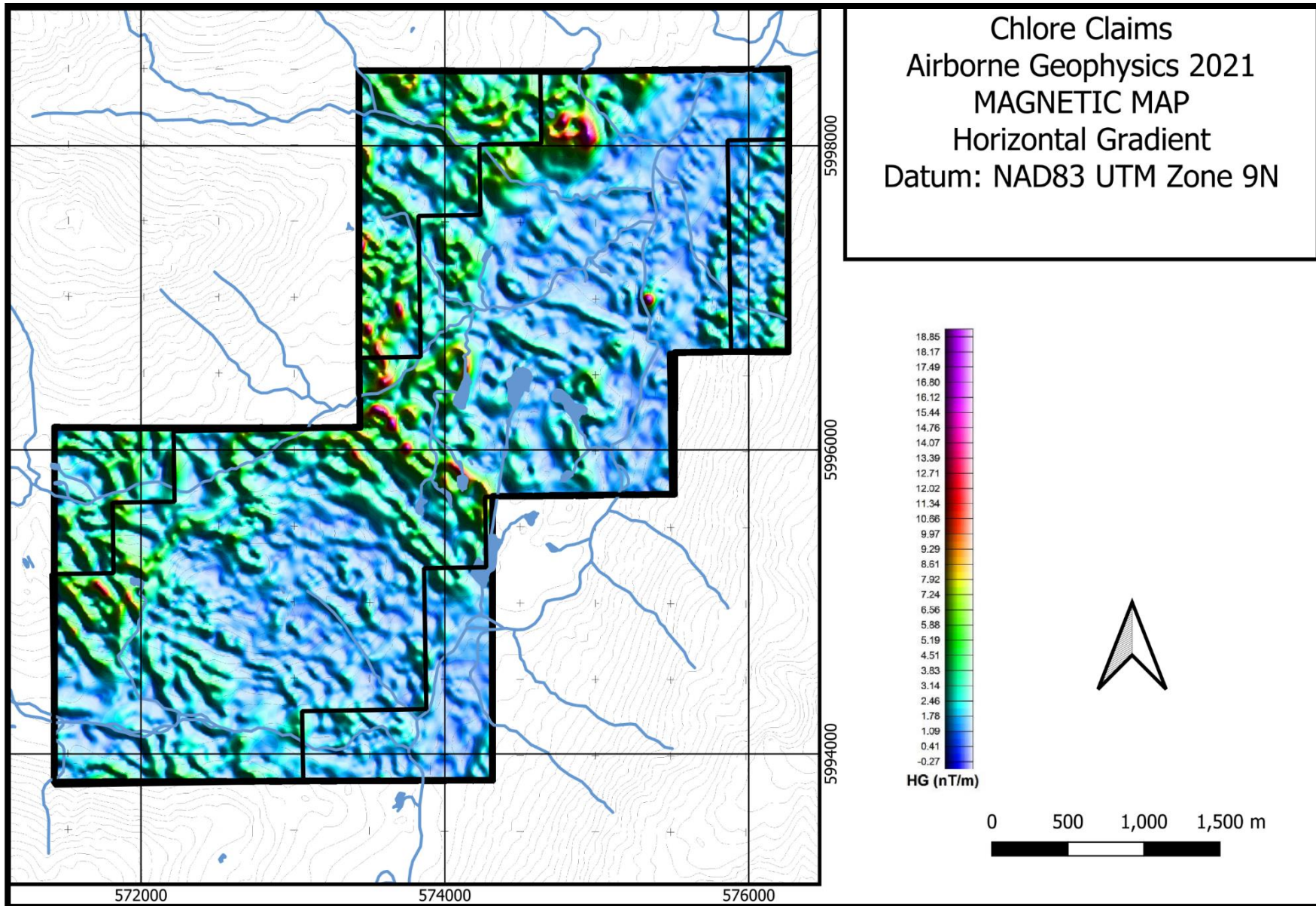


Figure 9-2 2021 Airborne Magnetics – Horizontal Gradient

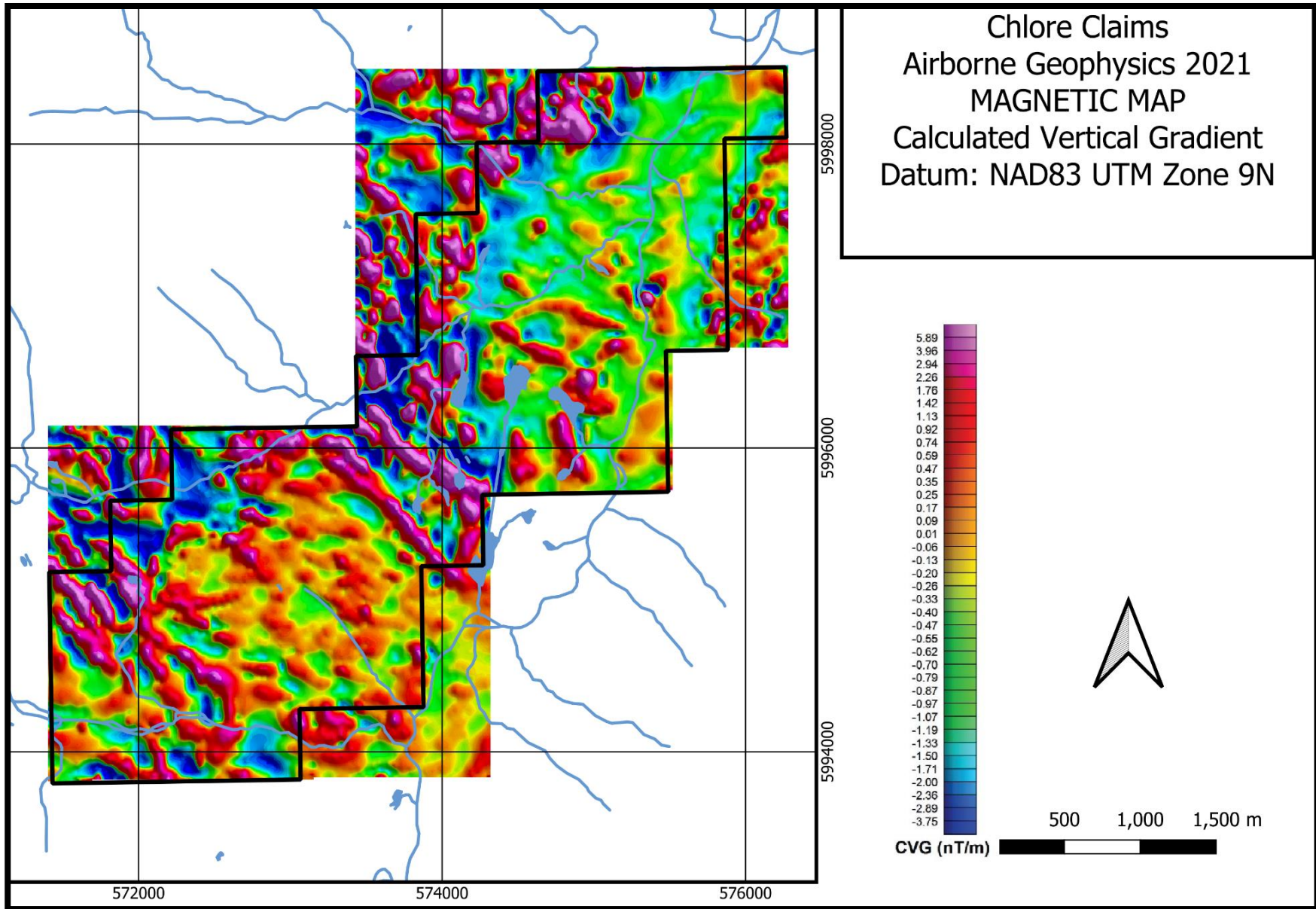
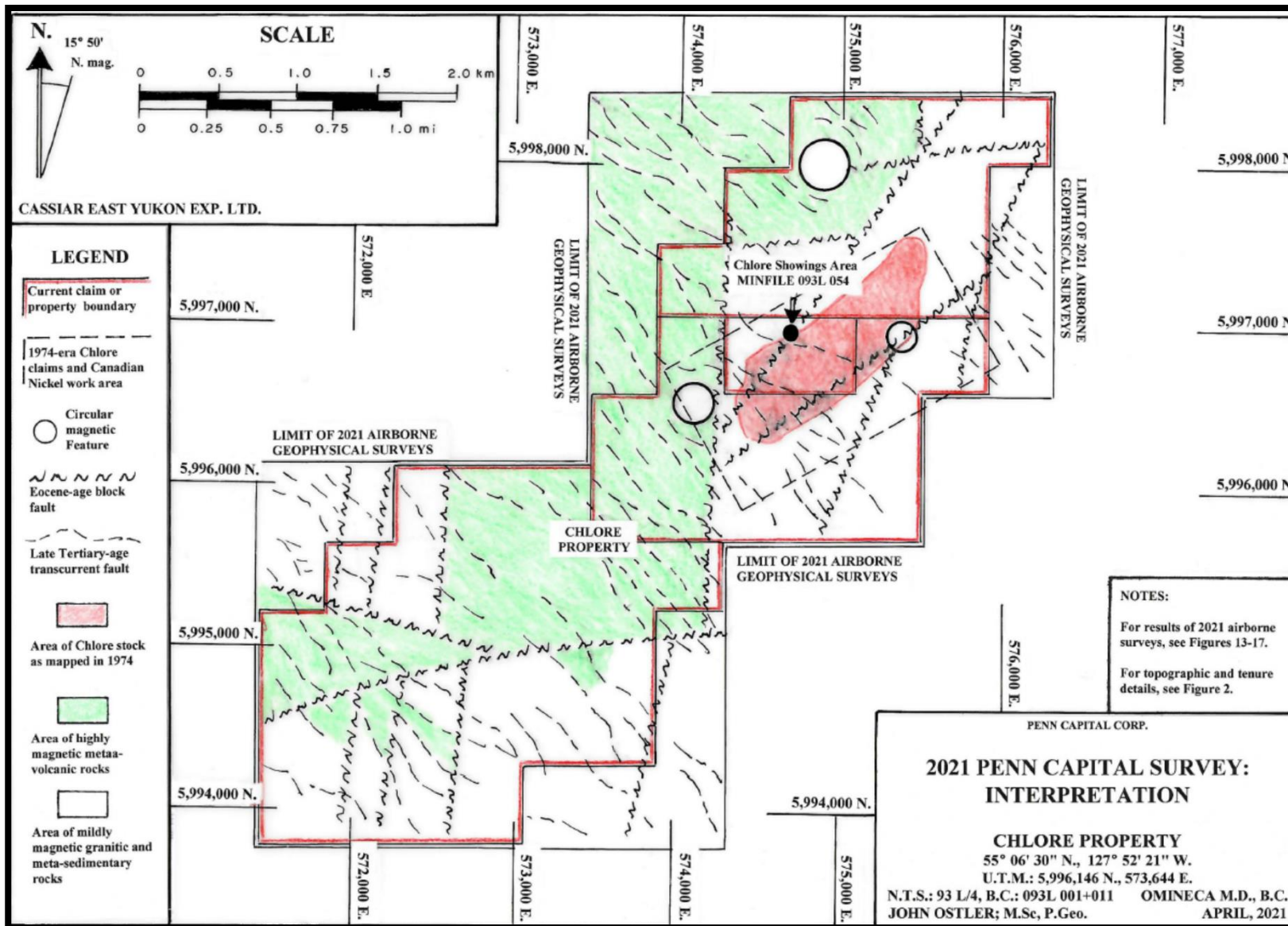


Figure 9-3 2021 Airborne Magnetics – Calculated Vertical Gradient





Source: Ostler, 2021

Figure 9-4 Interpretation of the 2021 Airborne Geophysical Survey

## 10 DRILLING

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There has been no drilling at the Chlore property.

## 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

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Penn Capital has not done any ground-based studies and therefore no rocks have been sampled.

Future sampling programs will require the insertion of certified standard and blank samples at a regular interval.

## 12 DATA VERIFICATION

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On July 13, 2021 the Author visited the Chlore property. Two different rock units were observed. A granodiorite intrusive rocks and andesitic volcanic rocks with very finely disseminated sulphide minerals were noted. There is a hydrothermal alteration system that was noted in the area visited including carbonate veining with magnetite in the intrusive rocks. Since there is very limited recent rock analysis with which to compare, the Author did not collect any rock samples for analysis.

The Author has reviewed the historical literature regarding the property including the Assessment Reports and the regional geological mapping completed by government geologists noted in the References Section of this report. The Author has also compiled a limited GIS database of the Chlore property to assist in his interpretation and understanding of the geology as well as produce some of the figures in this report.

The Author's opinion is that this verification of the project is adequate for a property at an early stage of development.

## 13 MINERAL PROCESSING AND METALLURGICAL TESTING

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There has been no mineral process or metallurgical testing at the Chlore project.

## 14 MINERAL RESOURCE ESTIMATES

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There has been no Mineral Resource Estimate at the Chlore property area.

***The report headings for Items 15 to 22, for properties in Advanced Development Programs of the NI 43-101 FI format, have been omitted.***

## 23 ADJACENT PROPERTIES

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There are no adjacent properties that affect the potential development of the Chlore property.

## 24 OTHER RELEVANT DATA AND INFORMATION

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The Author is not aware of any additional information or explanation necessary to make the technical report more understandable or not misleading.

## 25 INTERPRETATION AND CONCLUSIONS

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The Chlore property is within a belt of rocks that are prospective for calc-alkaline Porphyry copper-molybdenum deposits. The rock units noted on the regional geological maps, local Assessment Report maps, in reports and seen by the Author are consistent with this deposit type. There is a clear hydrothermal alteration system that appears to be widespread on the property.

The body of historical data is limited to mainly a part of one summer of field work. The government based regional geological data is also generally limited to one survey of a limited scope in the 1970s and some work in the late 1930s and early 1940s. Geoscience BC (“**GSBC**”) completed the regional Search program from 2015 to 2019 that did not substantially change the regional interpretation on the Chlore property. The recent widely spaced lines on the regional aeromagnetic survey (GSBC Search), along with the higher resolution 2021 property scale aeromagnetic survey, provides the trends of geological structures on the property. This has left a lot of detail to be collected and determined, but also opportunities for reinterpretation and greater understanding.

There is a hydrothermal alteration system and a recorded history of moderate grade copper and molybdenum sample results in previous exploration programs. The historical work is of a limited scope and methods have evolved over time. Access may have improved greatly from the past with the development of a road system for the pipeline. Further exploration of this property, based on these and other factors is warranted.

Penn’s exploration work in 2021 was airborne magnetic and radiometric surveys and their interpretation. This study may or may not be relevant to future exploration of the Chloe property.

The presence of the Coastal GasLink natural gas pipeline on the property may limit options for location and types of activities in the future, including the location of future structures and development. It may also limit some exploration study methods, especially geophysical methods and soil geochemistry in the area of the right of way. The possibility of improved access may heavily offset these disadvantages.

There are no assurances of positive results from the work program proposed in the next section of this report.



## 26 RECOMMENDATIONS

A two phased program is recommended for the Chlore group of claims. The second phase is contingent on positive results in Phase One.

### 26.1.1 Phase One

A soil survey of the property should be completed using the Mobile Metal Ion method (“**MMI**”). MMI is an analytical method employing a low intensity extraction solution for selective dissolution of elements weakly attached to soil particles that are used for tracking buried mineralization. This method is well suited for the area with standing water and marshy ground covered in transported sediment and till. It returns about 40 elements of data to allow for a wide range of options for study.

Concurrently with the soil geochemistry, a geological mapping program at 1:5,000 scale, with a strong emphasis on alteration mineralogy and structural geology will be required. Rock sampling for 40+ elements ICP analysis is also required to confirm the areas of best rock sample grades for drillhole targeting.

Cost of this may phase be lowered or redistributed to other activities or more days on site, if the pipeline roads are accessible and allow truck access to the property.

**Table 26-1 Proposed Exploration Budget**

Phase One				
Activity	Items in Unit	Unit Cost		Cost
Planning	10 man-days	\$ 600	per day	\$ 6,000
Sample collection	24 man-days	\$ 500	per day	\$ 12,000
MMI Analysis	400 samples	\$ 60	per sample	\$ 24,000
Rochk Analysis	40 samples	\$ 50	per sample	\$ 2,000
Geological Mapping	12 man-days	\$ 600	per day	\$ 7,200
Helicopter	10 hours	\$ 2,200	per hour	\$ 22,000
Camp and Supplies				\$ 20,000
Transport				\$ 5,000
Reporting				\$ 12,000
Contingency				\$ 9,800
<b>Total Phase One</b>				<b>\$ 120,000</b>
Phase Two				
Activity	Items in Unit	Unit Cost		Cost
Linecutting	40 km	\$ 2,500	per km	\$ 100,000
IP Survey	40 km	\$ 3,500	per km	\$ 140,000
<b>Total Phase Two</b>				<b>\$ 240,000</b>

### 26.1.2 Phase Two

The second phase, contingent on positive results in Phase One, will be to complete a line-cutting grid and Induced Polarization geophysical survey (“**IP**”). This will need to be focused on the areas of highest probability for success as determined in Phase One. IP may be limited in scope due to the buried metal pipeline. At the time prior to implementation, this option should be reviewed for location and effectiveness

by a geophysicist and alternative methods considered if required. There should be enough information following Phase Two to determine if drilling is recommended and drill targets can be developed.

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- **BC MapPlace** <http://www.empr.gov.bc.ca/Mining/Geoscience/MapPlace/Pages/default.aspx>
- **BC Mineral Titles Online** (MTO) <https://www.mtonline.gov.bc.ca/mtov/home.do>
- **BC Minfile** <https://minfile.gov.bc.ca/Summary.aspx?minfilno=093L++054> Clore/Hope

- **BC Mineral Deposit descriptions**

- <http://www.empr.gov.bc.ca/Mining/Geoscience/MineralDepositProfiles/ListbyDepositGroup/Pages/LPorphyry.aspx#105>

**Government of Canada**

**Weather:**

[http://climate.weather.gc.ca/climate\\_normals/results\\_1981\\_2010\\_e.html?searchType=stnProv&lstProvince=BC&txtCentralLatMin=0&txtCentralLatSec=0&txtCentralLongMin=0&txtCentralLongSec=0&stnID=441&dispBack=0](http://climate.weather.gc.ca/climate_normals/results_1981_2010_e.html?searchType=stnProv&lstProvince=BC&txtCentralLatMin=0&txtCentralLatSec=0&txtCentralLongMin=0&txtCentralLongSec=0&stnID=441&dispBack=0)