

**Historical Records Review of Waldron
(aka Barnston) River Property
Akaitcho Region,
Northwest Territories
SM 487**

Prepared for:
**Indian and Northern Affairs
Contaminates and Remediation Directorate**
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- 1) National Air Photo A10295-83 (see digital data)

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1.0 - Introduction

This report presents the results of a Historical Records Review on the ‘Waldron River’ property, a former mineral exploration site on the Christie Arm of Great Slave Lake, Akaitcho Region, of the Northwest Territories, Canada. The purpose of the historical review was to determine the site history and previous activities that represent the potential for environmental impact to onsite soil, groundwater and sediment. The review was commissioned by Indian and Northern Affairs Canada (INAC) and will be used to make decisions concerning further investigation.

Various documents were reviewed, regulatory agencies contacted, and interviews conducted for information concerning past uses and activities at the site.

The Waldron River property is a former copper exploration site, located on Christie Bay of Great Slave Lake, near the outlet of the Waldron River, six kilometers east of Thompson Landing, 200 kilometers east of Yellowknife. Approximate coordinates are N 62° 56’ 00”, W 110° 34’ 45”, NTS Sheet 75 L-15. INAC Contamination and Remediation Directorate (CARD) identify the site as SM487. Access to the site is via helicopter, float plane, or potentially boat from Yellowknife via the East Arm of Great Slave Lake. A gravel landing strip at Thompson-Landing may be useable.

The exact location of the Waldron River property has historically caused some confusion. C.S. Lord (**Lord, 1951**) reported the location of the claims to be the outlet of the Barnston River. Many subsequent publications (including **Silke, 2009**) and reports from the Mining Inspector in the 1970s identified the location as being at the mouth of the Barnston River. Further research revealed the historic mineral claims to have been located at the mouth of the Waldron River (20 kilometers to the west of Barnston River). The likely cause of this confusion is that maps from the 1940s identified the Waldron River as the Barnston River, and at some point it was renamed and the river further down the shore inherited the name Barnston. In fact, old maps identify the Waldron as either the Barnston (1946 mineral claim map), the Burpee (**Wright, 1951**), or the Tlahn-Tehl River (1957 mineral claim map).

2.0 - Aerial Photograph Review

A search was conducted on the National Air Photo Library website (<http://airphotos.nrcan.gc.ca>) using the above coordinates as a search criteria. Photo **A10295-83** dated 1945 and at a resolution of 1:25,000 inches was ordered. No obvious ruins of mine workings or structures could be identified in this photograph.

3.0 - Overview of Methodology and Contacts

Information exists to provide a detailed and accurate history of mineral development on the Waldron River property. Primary sources of information were the NWT Geoscience Office which holds official government documentation on mineral assessment work completed over the years on the property. The INAC Mining Recorder’s office was contacted to provide information on past and present mineral tenure data. The NWT Mining Heritage Society also owns some historical records on activities at the site

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primarily through old newspaper clippings. Other sources of information and contacts are summarized in **Table 1**.

<u>Information Source</u>	<u>Contact</u>	<u>Date Contacted</u>	<u>Information Provided</u>
Federal Government Agencies			
INAC – Contamination & Remediation Directorate	Sam Kennedy	Jan. 31/2011	Site specific background information, access to CARD library.
INAC Water Resources	David Jessiman	Feb. 25/2011	No information
INAC – Mining Recorder	Amy Connor	Feb. 17/2011	Historical claim maps, mineral tenure info
INAC District Office	Charlene Coe	Feb. 9/2011	Information on Land Use Permits
National Air Photo Library	www.nrcan.gc.ca	Feb. 10/2011	Aerial photo search
Spatial Information for INAC (SID Viewer)	www.ainc-inac.gc.ca	Feb. 21/2011	Mineral tenure and land use data
Government of the NWT			
Hazardous Material Spill Database	www.enr.gov.nt.ca	Feb. 21/2011	No spills reported. “Waldron”, “Barnston”
NWT Geoscience Office	www.nwtgeoscience.ca	Feb. 15/2011	Assessment reports, maps
Other Agencies and Private Individuals			
NWT Archives		Feb. 15/2011	No information
NWT Mining Heritage Society		Feb. 15/2011	Old newspaper clippings

Table 1. Summary of Interviews and Information Sources

4.0 - Third Party Interests

There are no active mineral claims on the mouth of the Waldron River. There is an active surface lease at Thompson-Landing, the bay a short distance west of the mouth of the Waldron, occupying an old fishing lodge. The lease number is 075L150001. The property is within the land withdrawal for the East Arm National Park. (**INAC SID Viewer**)

5.0 - Mineral Tenures, Land Use Permits, and Dispositions

There are no active mineral claims surrounding the property. (**INAC SID Viewer**) The following table (**Table 2**) provides a summary of mineral claim tenure history surrounding the Waldron River property and immediate area.

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<u>Claim Name(s)</u>	<u>Tag Number(s)</u>	<u>Staked</u>	<u>Lapsed</u>	<u>Maps</u>
RYAN 1-9	42651-42659	August 1939	1946	Appendix 1, Figure 1
VAGA 1-6	65042-65047	1947		Appendix 1, Figure 2
CU 1-2	119900-119901	c.1957		Appendix 1, Figure 4
CP 1-2	116520-116521	c.1960	c.1964	N/A
TAG 1-2	119733-119734	c.1960	c.1964	N/A
GIB 1-18	N38138-N38155	May 1967	c.1972	Appendix 1, Figures 5 & 6
GIB 1-14	A95711-A95724	c.1975		Appendix 1, Figures 5 & 6

Table 2. Claim Tenure History

<u>Claim Name(s)</u>	<u>Tag Number(s)</u>	<u>Registered Owner</u>	<u>Date Recorded</u>	<u>Expiry Date</u>
-	-	-	-	-

Table 3. Existing Mineral Tenure

6.0 - Geology Summary

The property is in an area of metamorphosed sediments striking a north-south direction while the copper mineralization is in an east-west direction paralleling the lake shore. The dip of the deposit is towards the lake and there is evidence of off-shore structures on small islands. (Christie, 1967) It is reported that a series of seven parallel copper-bearing veins from 2 inches to 3 feet in width are traced for a length of 120 feet by drilling. The veins are contained within a 33 foot wide zone and the two largest veins are estimated to grade 10% copper. (The Western Miner, October 1967)

7.0 - Regional Geography

Within the McLeod Bay area, the general level of bordering lands and of numerous islands and peninsulas in Great Slave Lake's East Arm rise gradually from 450 feet to 800 feet above the lake level. Granite uplands present a monotonous succession of low, rocky hills and ridges with local relief rarely exceeding 200 feet. Rivers entering the lake basin follow poorly defined valleys or deep gorges. The landscape is sparsely timbered with spruce, birch, pine, tamarack and polar vegetation, spruce trees being the most abundant. (Wright, 1951)

8.0 - Exploration and Operational History

The following paragraphs outline a detailed history of the Waldron River property from the time of staking in 1939 to the present. Sources of information are referenced directly in the text.

1939:

The RYAN claims are staked in August 1939 by J. Russell and T.O. Evans of the Ryan Exploration and Development Company Limited of Edmonton. (Lord, 1951) (see Appendix 1, Figure 1)

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1941:

No work is done in 1940. In 1941, five men are employed for a period of six weeks under the direction of T.O. Evans. (**Lord, 1951**) Two shafts/pits are sunk, one to about 20 feet and the other to 16 feet. The Ryan company reportedly ship 20 tons of copper ore averaging 15% copper from the 16-foot shaft. (**Christie, 1967**) The pits are reported to expose considerable chalcopyrite across widths of several feet near the surface, but none below a depth of 12 feet. (**Lord, 1951**)

1947:

The VAGA claims are staked in 1947. (see **Appendix 1, Figure 2**)

1948:

Dr. Dan Bateman makes geological observations of the copper showing on the VAGA claims, known as 'Peterson's showing', in October 1948 on behalf of the Anaconda Copper Corporation. He notes several pits and showings and writes that while the occurrences have no commercial significance, a carload of high-grade chalcopyrite could be obtained from what he calls 'Locality 4'. (**Bateman, 1948**)

1967:

In March 1967, the GIB claims (18 claims) are acquired by Polaris Mines Limited. An air-photo study is made and it was decided that additional claims should be staked. In September 1967, 36 claims are added to the GIB group. Grab samples from the pits on the property assay as high as 26.4% copper. An electro-mag survey is conducted on contract with Precambrian Mining Services Limited. Four conductor zones are identified, including a significant conductor on the EM-04 zone. 145 feet of diamond drilling is conducted on this ore zone but with disappointing results with only trace copper mineralization found. On the EM-01 zone near the old shaft site (GIB #3 mineral claim) where copper ore was mined in the 1940s, a hole is put down and intersected four feet of chalcopyrite running 2.90% copper, 0.01 ounces gold and 0.05 ounces silver. Another hole is put down 50 feet west of the shaft for 107 feet depth and intersected the zone at a vertical depth of 25 feet. On the EM-02 zone (GIB #8 claim), four holes are drilled. Drilling ceased on October 17, 1967. K.J. Christie, consulting geologist, recommends further drilling and sampling on the GIB property for the following season. (**Christie, 1967**) (see **Appendix 1, Figures 6, 7, 8, & 9**)

It is reported that a series of seven parallel copper-bearing veins from 2 inches to 3 feet in width are traced for a length of 120 feet by drilling. The veins are contained within a 33 foot wide zone and the two largest veins are estimated to grade 10% copper. (**The Western Miner, October 1967**)

A larger drill contract totaling 1,000 feet was arranged for the 1968 season, but there is no information on record as to further work on the GIB claims.

9.0 - Regulatory History

9.1 - Canadian Mining Regulations

Mineral rights in the Northwest Territories have been governed by the Canadian Government through the Canadian Mining Regulations (CMR), historically known as the Quartz Mining Regulations (under the

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Dominion Lands Act). The CMR grants a prospector or mining outfit the right to explore for minerals through the issuing of necessary permits and licenses, and the granting of leases which authorizes the production of minerals for a prescribed length of time. Under the CMR, the issuing of such a lease, together with the required payments and royalties paid to the Crown, was the full extent of government involvement in mining operations in the NWT. However, several other regulatory acts also led to some management and control of mining operations in the NWT under the Canadian Government, including: The Income Tax Act (1946), Emergency Gold Mining Assistance Act (1948), and The Explosives Acts (1946) and numerous mine safety acts (1940s-1950s).

Under the CMR, significant paperwork managing minerals rights would have been accumulated over the years; however, due to numerous policy and department shifts over the years within the Department of Indian and Northern Affairs (INAC), these records are lost or incomplete. The Mining Recorder's Office in Yellowknife will have some records on file, while other documents may be stored in archives in Edmonton or Ottawa. It is also known that some mineral claim documents were destroyed over the years. Documents produced under the CMR can include: claim staking applications, certificates of work, lease applications, claim maps, and claim transfer documents. These records will often describe in some detail development at the early stages of claim exploration, however once a mineral claim goes into a lease, record of activity through the CMR ceases as reporting exploration results for assessment purposes is no longer a requirement under a mineral lease.

Mine safety became prominent in the late 1940s at the NWT mines and as a result numerous safety acts began to be enforced (Mine Safety Ordinance, 1956). A resident mining inspector, reporting to the mine engineering division in Ottawa, made regular inspections of mines. Until 1981, the Mine Inspection Services were governed by INAC; after 1981, mine safety became the responsibility of the Government of the NWT, and since 1996 has been managed by the Workmen's Compensation Board of the NWT. Records from these regulations are also grossly incomplete, again due to shifts in governance over the years.

9.2 - Water Management

In the late 1960s growing sentiment in the Canadian public towards mining's affect on the environment led to the passing of several new acts in the NWT. These were the Northern Inland Waters Act (June 1970), the Arctic Waters Pollution Prevention Act (1970), and the Territorial Land Use Regulations (November 1971). The Northern Inland Waters Act was passed to protect the Mackenzie River water system, its ecology, and native use of the waters.

The Northern Inland Waters Act led to the creation of the Northwest Territories Water Board in 1972, a government-appointed regulatory board set up to review and approve the permitting of water licenses for industrial purposes. The Water Resources branch of INAC was responsible for upholding the Northern Inland Waters Act until 1998 when the Mackenzie Valley Land and Water Board and other jurisdictional offshoots were created as a result of the aboriginal claim claims processes.

Activities at the Waldron River site pre-date modern regulatory regimes and there is no information on record.

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9.3 - Land Use Management

Land Use Permits were instituted in the early 1970s under the Territorial Land Use Regulations (November 1971) to keep track of industrial and recreational activities in the NWT. They were issued and monitored by INAC. Small-scale exploration projects such as trenching or diamond drilling (unless either required significant amounts of water) could be permitted with only a land use permit and not a water license. Other activities, including road or airport construction, winter road construction, or occupation of a recreational cottage, also requires land use permits.

Land Use Permit documents are typically destroyed seven years after the date of expiration (**Charlene Coe, Land Use Administrator, p.comm.**). Therefore, most of the land use permits from the 1970s-1980s are no longer available for review, however INAC keeps a ledger of permits and maps at the Yellowknife District Office which were reviewed to outline a history of land use permitting. Activities at the Waldron River site pre-date modern regulatory regimes and there is no information on record.

10.0 - Operational Data

Activities at the Waldron River site were typical of a small-scale mineral exploration program of the 1940s. There is no detailed information available. The 1967 exploration program was conducted from a small tent camp. (**Christie, 1967**)

Sources differ on the amount of development work. Lord (**1951**) reports three pits, each six feet square, sunk to depths ranging from 14 to 21 feet. Each is about 1000 feet apart. Christie (**1967**) reports two shafts/pits are sunk, one to about 20 feet and the other to 16 feet.

Bateman (**1948**) during his 1948 observations at the claims, noted inscriptions on posts at two pits, with the following information:

- Pit (Shaft) No. 1, RYAN claim 42651, 23.5 cubic yards removed August 1941. The pit was 11 feet deep. One ton of chalcopryite ore was stockpiled near the pit.
- Pit No. 2, RYAN claim 42652, 7.5 cubic yards removed August 1941. Located on a point at the shoreline about 800 feet west of Pit No. 1. No depth noted.

Bateman also notes a campsite and cabin on the beach shoreline about 2,000 feet east of Pit No. 2.

11.0 - Environmental Studies

No information.

12.0 - Existing Site Conditions

No information.

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13.0 - Areas of Potential Environmental Concern

13.1 Mineralized Zones and Shaft Sites

The mineralized zones occur parallel to the shore of Great Slave Lake/Christie Bay of the East Arm, west of the mouth of the Waldron River. Two (possibly three) shafts were sunk in about 1941, one to 20 feet and the other to 16 feet. It was from the 16-foot shaft that a reported 20 tons of ore was mined and shipped off site. The location of these ore deposits are vaguely described in Christie (1967) and on maps in **Appendix 1, Figures 8 & 9**. The shafts are on the historic RYAN #1 & 2 or #GIB #3 mineral claim. Workings are about 1,000 feet apart. (Lord, 1951) Bateman (1948) notes two shafts/pits and gives the following descriptions:

- Pit (Shaft) No. 1, RYAN claim 42650, 23.5 cubic yards removed August 1941. The pit was 11 feet deep. One ton of chalcopryite ore was stockpiled near the pit.

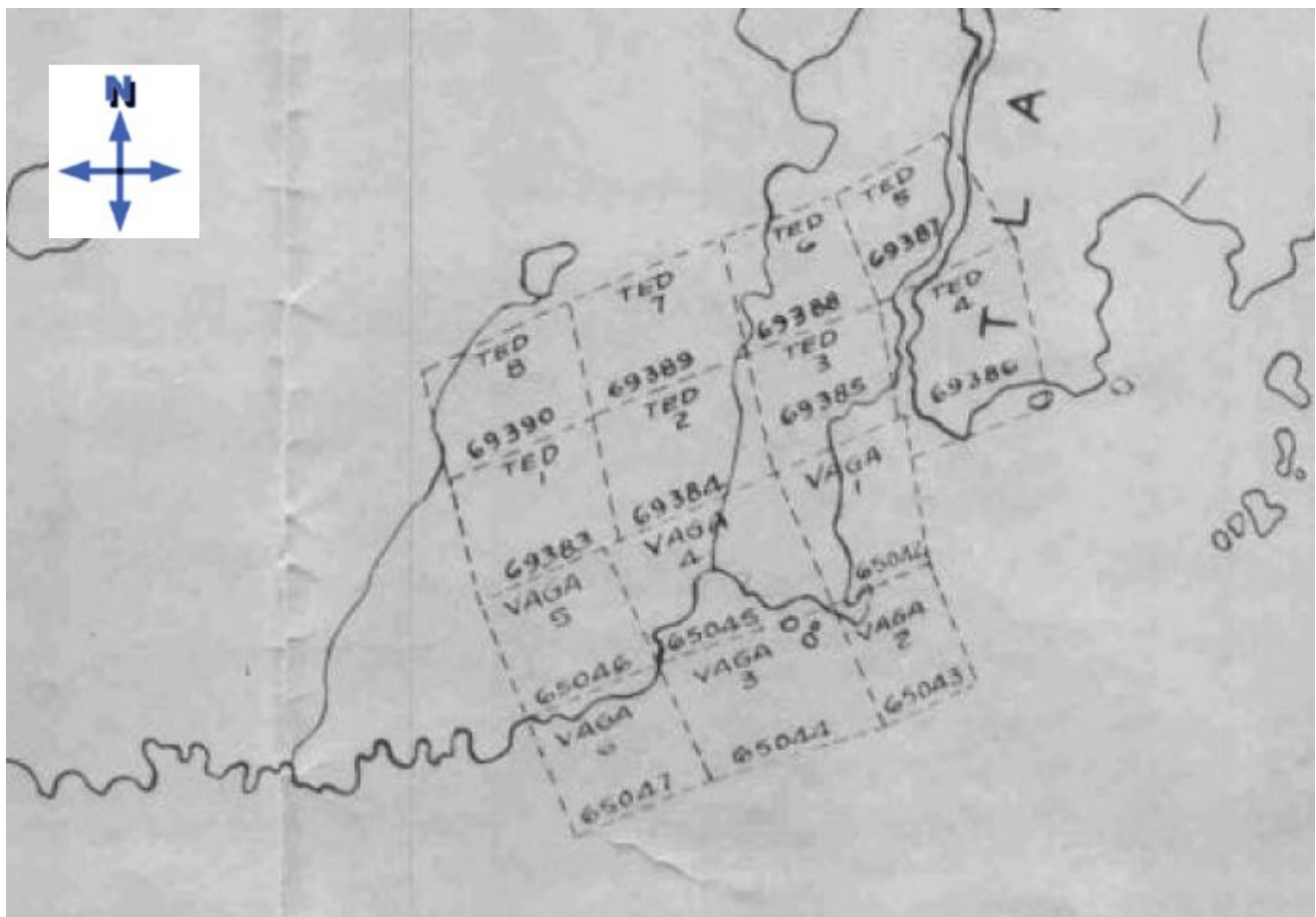
- Pit No. 2, RYAN claim 42652, 7.5 cubic yards removed August 1941. Located on a point at the shoreline about 800 feet west of Pit No. 1. No depth noted.

13.2 Campsites

Bateman (1948) noted a campsite and cabin on the beach shoreline about 2,000 feet east of Pit No. 2. The 1967 exploration program was conducted from a small tent camp as noted by Christie (1967). No information as to the extent or existing ruins of these camp sites.

14.0 - List of References

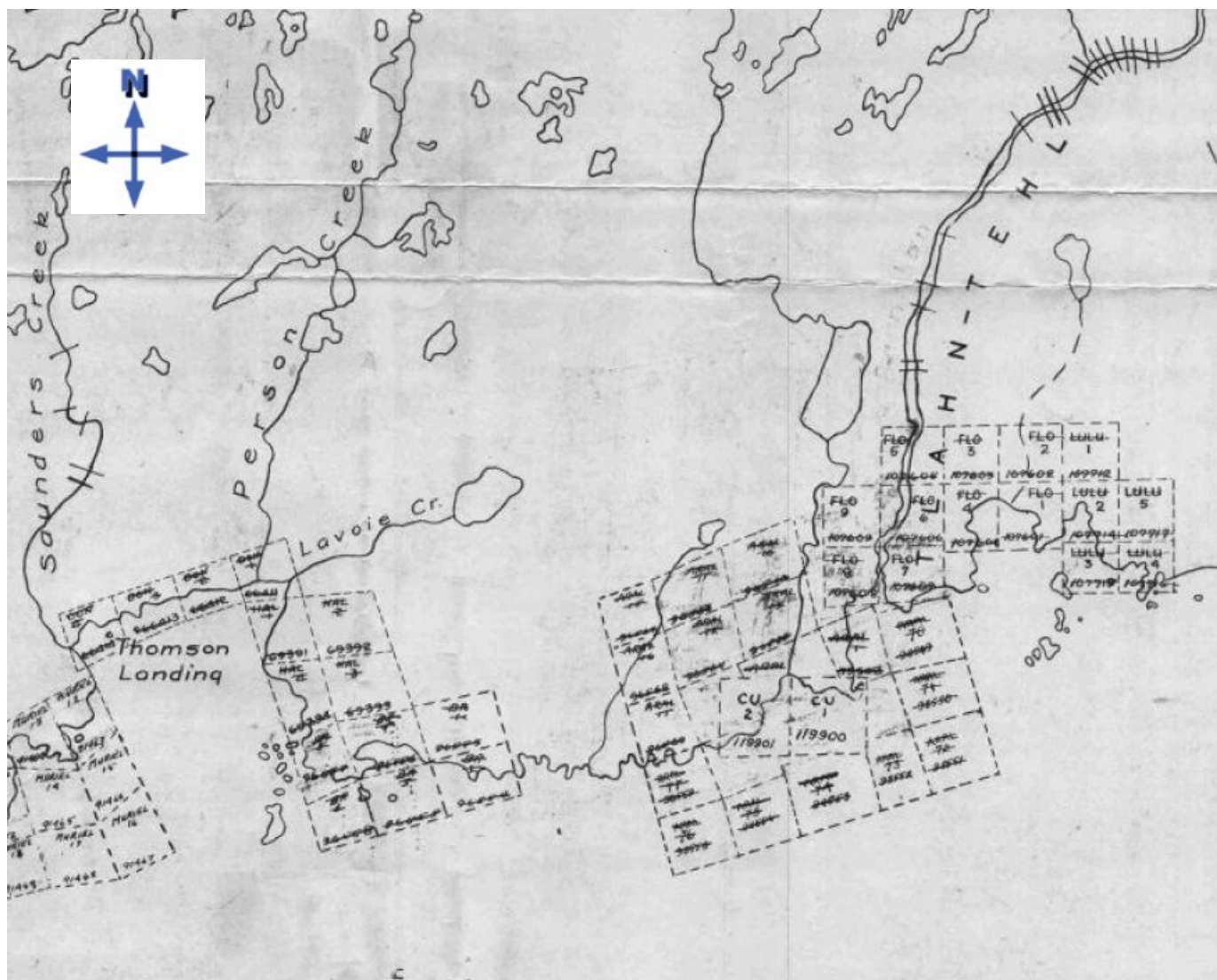
- Bateman, J.D. (1948) Barnston River Copper Occurrence. October 6, 1948. (NWT Geoscience Office Assessment Report #015095)
- Christie, K.J. (1967) Exploration and Development Program in Northwest Territories for Season of 1967 for Polaris Mines Limited. November 4, 1967. (NWT Geoscience Office Assessment Report #017970)
- Lord, C.S. (1951) Mineral Industry of the District of Mackenzie, NWT. Geological Survey of Canada, Memoir 261, 1951.
- Silke, Ryan (2009) The Operational History of Mines in the Northwest Territories, Canada. Self Published, November 2009.
- Wright, G.M. (1951) Christie Bay, District of Mackenzie, Northwest Territories. Geological Survey of Canada, Paper 51-25.



NTS 75 L-12, 1949

Figure 2. Claim Map, 1949

Historical Records Review, Waldron River Property,
Akaitcho Region, NWT



NTS 75 L-12, 1957

Figure 4. Claim Map, 1957

Historical Records Review, Waldron River Property,
Akaitcho Region, NWT



NTS 75 L-12, 1969

Figure 5. Claim Map, 1969

Historical Records Review, Waldron River Property,
Akaitcho Region, NWT



NTS 75 L-12, 1975

Figure 6. Claim Map, 1975

Historical Records Review, Waldron River Property,
Akaitcho Region, NWT

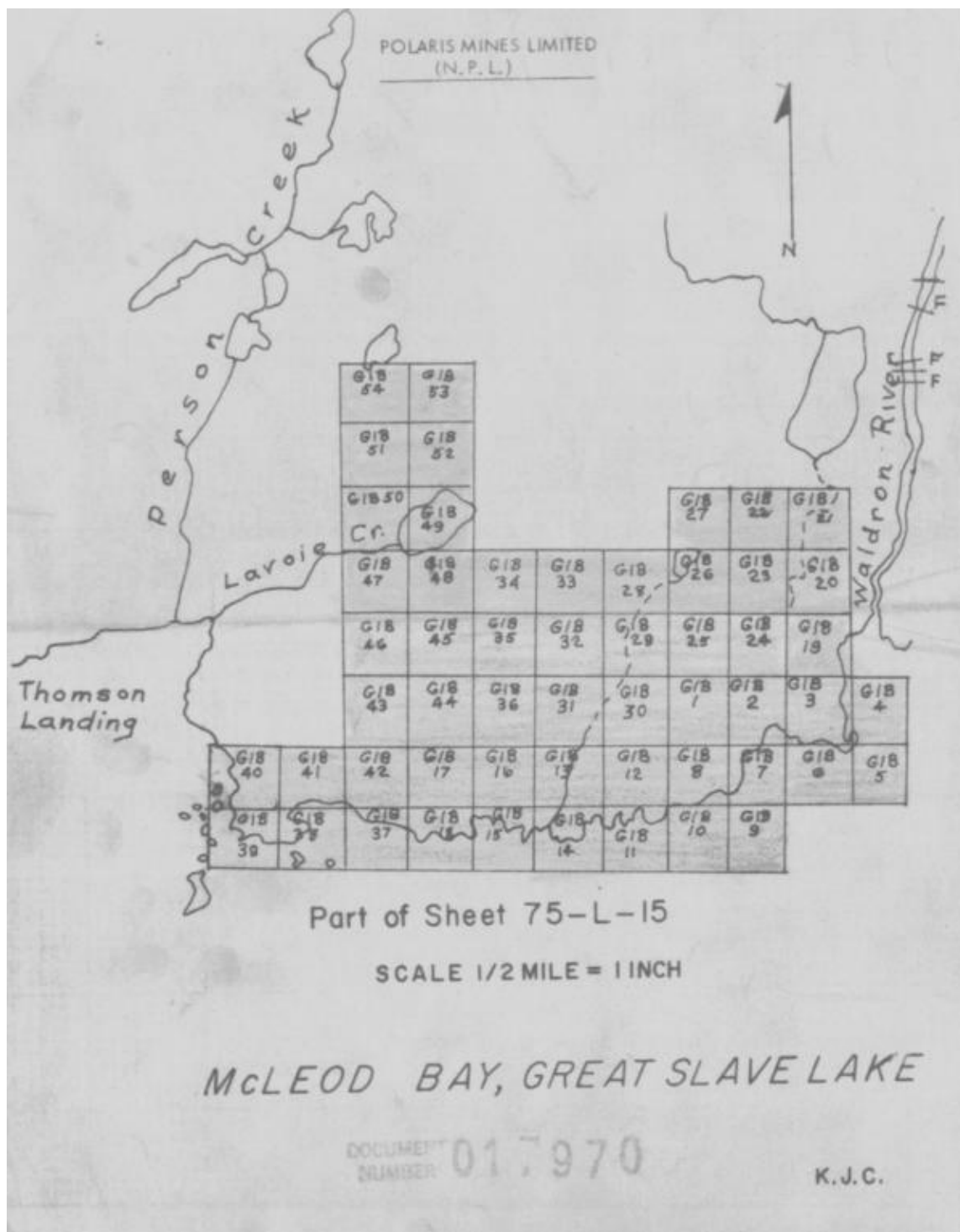
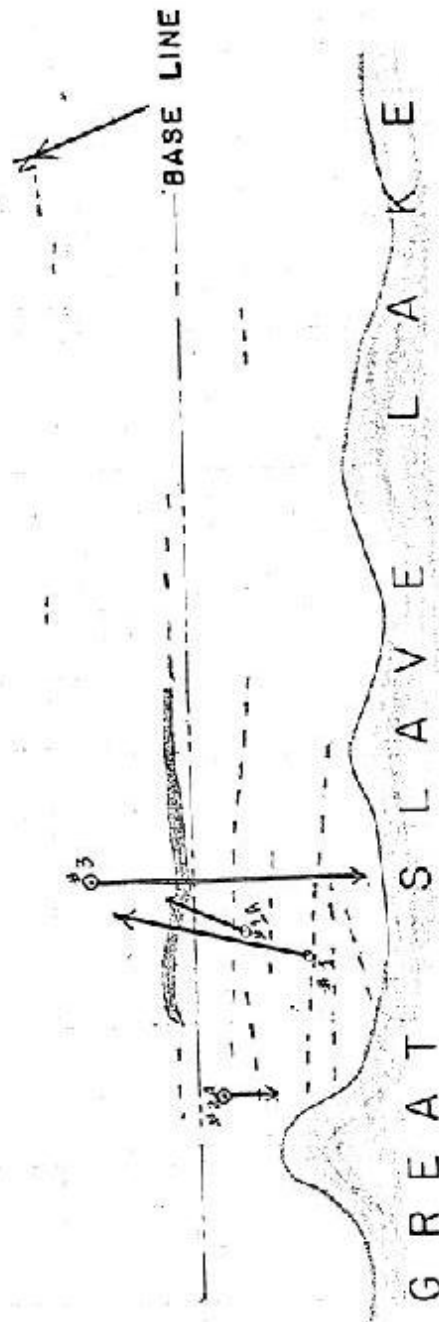


Figure 7. Property Map, 1968 (Assessment Report, #017970)

Historical Records Review, Waldron River Property,
Akaitcho Region, NWT

E.M. 02 ZONE. G.I.B. MINERAL CLAIMS, POLARIS MINES LTD.

PLAN VIEW



Sulphide Showings
Diamond Drill Holes
Scale 1" = 50'

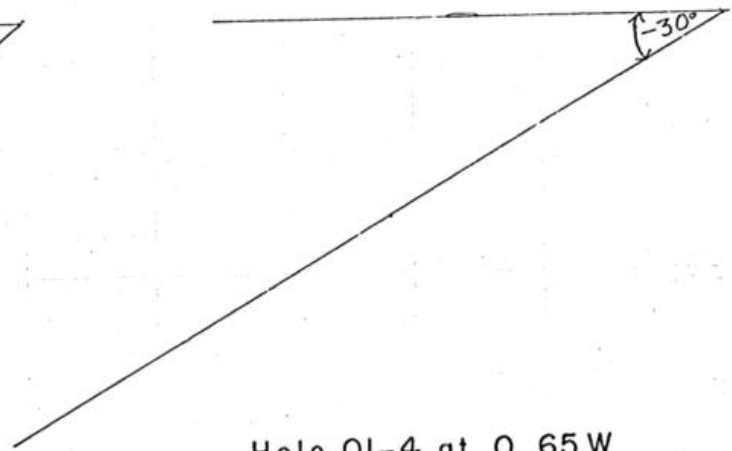
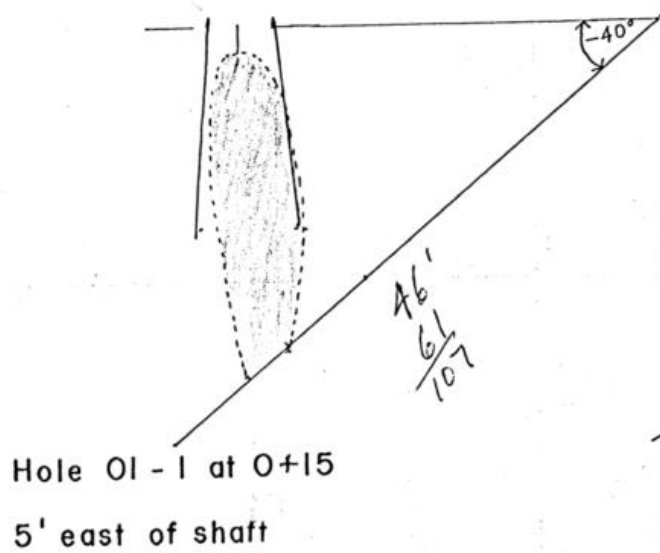
K.J.C.

217' - 02 zone?
107' - 01 zone?
324' - Total?
145'
469' Total? MB

04 zone

Figure 8. 02 Zone Map, 1968 (Assessment Report, #017970)

DIAMOND DRILL SECTIONS E.M. OI ZONE.



POLARIS MINES LTD.
G.I.B. Mineral Claim # 3

SCALE 1" = 10'

Figure 9. GIB Mineral Claim #3 Map showing shaft section, 1968 (Assessment Report, #017970)

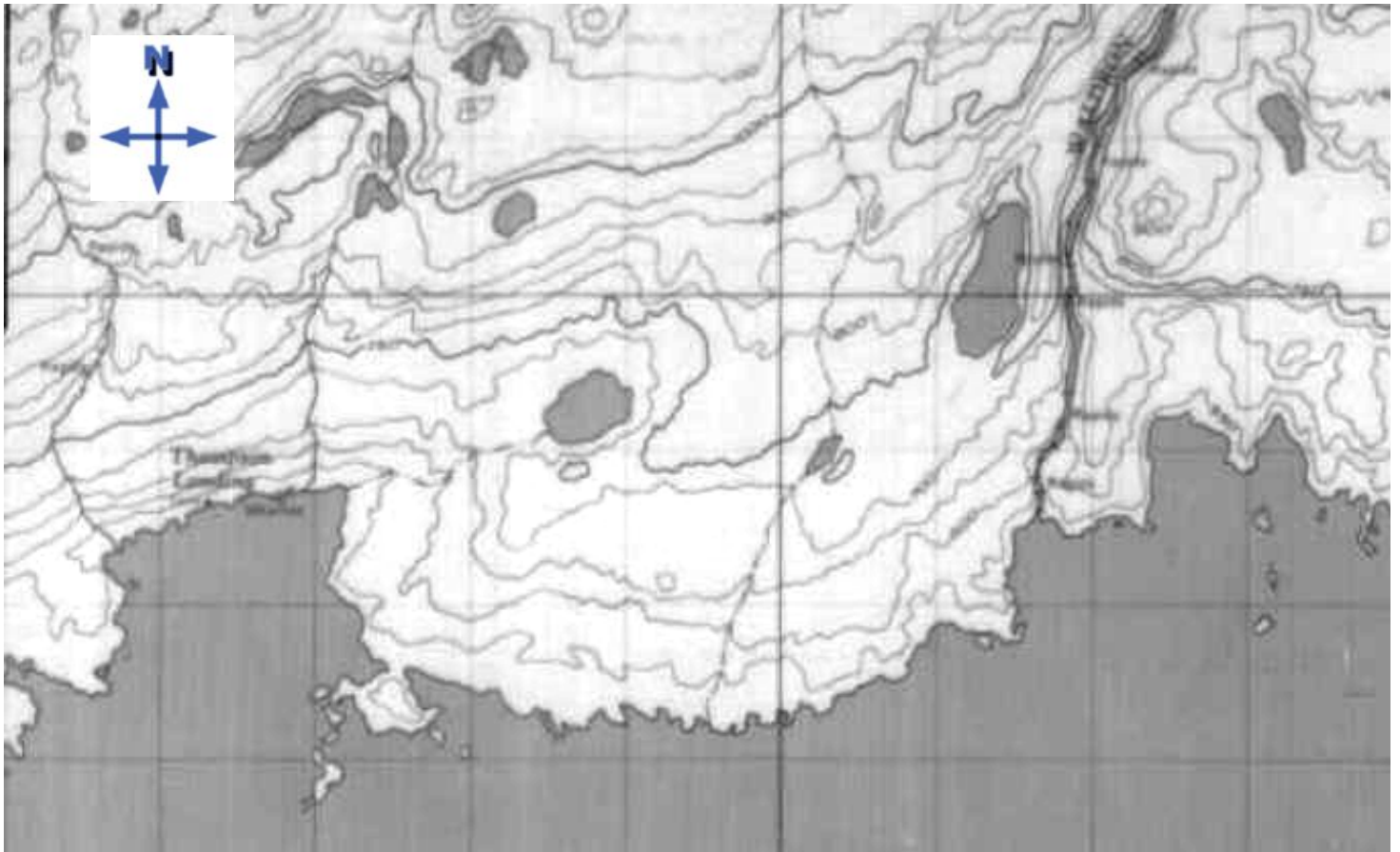


Figure 10. NTS Map 75 L-12

Historical Records Review, Waldron River Property,
Akaitcho Region, NWT

LOCATION

North shore of McLeod Bay near the
mouth of Barnston River.

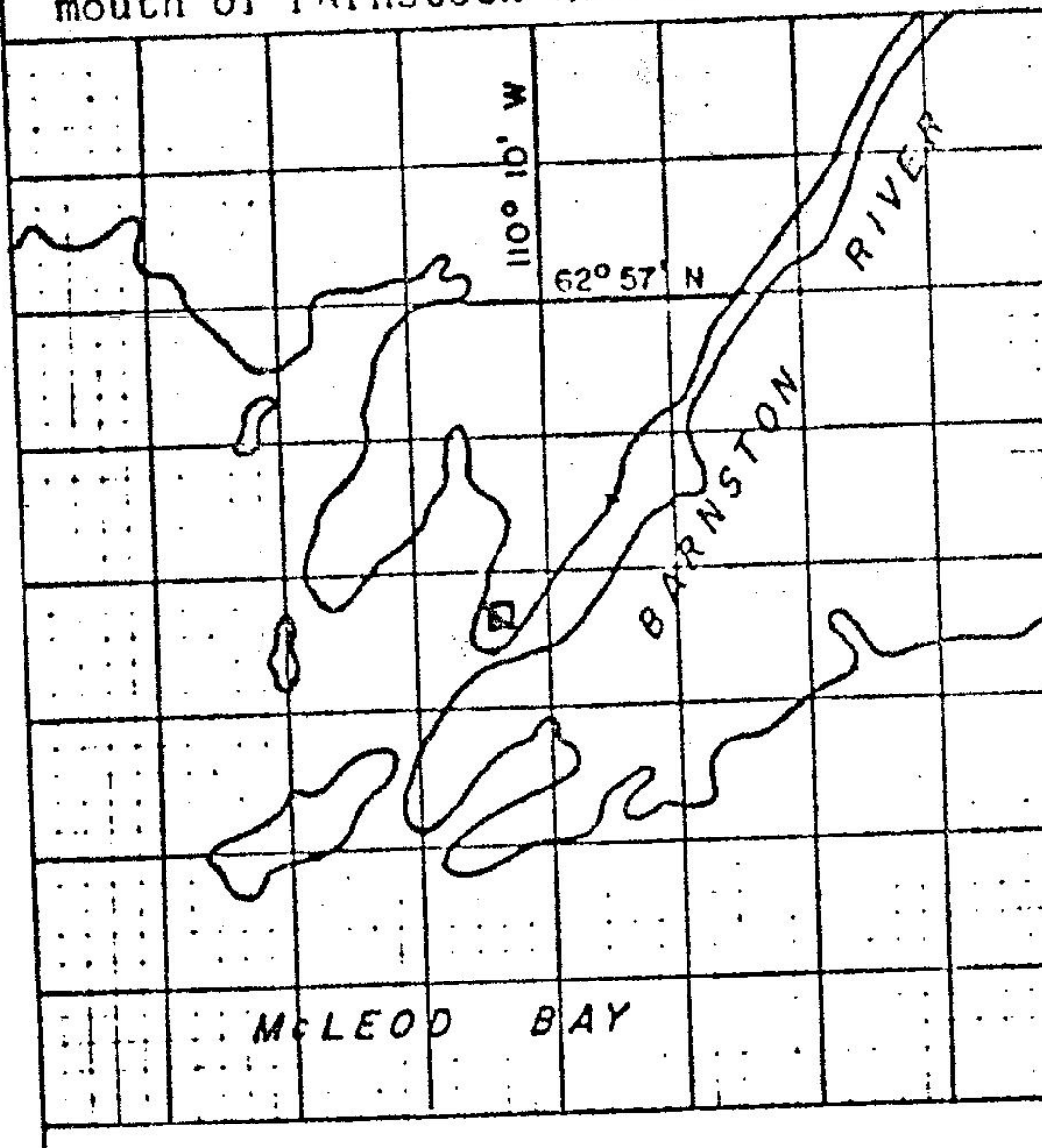


Figure 11. Incorrect location of Property at Barnston River (NWT Mine Inspection Services)