

**Historical Records Review of  
Wilson Island (aka Aurous) Mine  
Akaitcho Region,  
Northwest Territories  
SM 194**

Prepared for:  
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March 31, 2011

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**APPENDIX 3            Aerial Photos**

- 1) National Air Photo A10378-61 (see digital data)

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## **1.0 - Introduction**

This report presents the results of a Historical Records Review on the ‘Wilson Island Mine’ property, a former mineral exploration site in the Great Slave Lake area, 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 Wilson Island Mine is a former gold exploration site, located on the west tip of Wilson Island on Great Slave Lake, 90 kilometers southeast of Yellowknife. Approximate coordinates are N 61° 48’ 00”, W 113° 10’ 00”, NTS Sheet 85 H-14. INAC Contamination and Remediation Directorate (CARD) identify the site as SM 194. Access to the site is via float plane, helicopter, or boat.

## **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 **A10378-61** dated 1946 and at a resolution of 1:25,000 inches was ordered.

## **3.0 - Overview of Methodology and Contacts**

Information exists to provide a detailed and accurate history of mineral development on the Wilson Island Mine. Primary sources of information were the National Archives of Canada which holds official government documentation on mineral assessment work completed on the historic claim in the 1920s. Copies of this information are in the files of the NWT Mining Heritage Society. Other sources of information and contacts are summarized in **Table 1**.

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<u>Information Source</u>	<u>Contact</u>	<u>Date Contacted</u>	<u>Information Provided</u>
<b>Federal Government Agencies</b>			
INAC – Contamination & Remediation Directorate	Sam Kennedy	Mar. 15/2011	Site specific background information, access to CARD library.
INAC Water Resources	David Jessiman	Mar. 10/2011	No information
INAC – Mining Recorder	Amy Connor	Mar. 15/2011	Historical claim maps, mineral tenure info
INAC District Office	Charlene Coe	Mar. 15/2011	No information
National Air Photo Library	www.nrcan.gc.ca	Mar. 15/2011	Aerial photo search
Spatial Information for INAC (SID Viewer)	www.ainc-inac.gc.ca	Mar. 15/2011	Mineral tenure and land use data
<b>Government of the NWT</b>			
Hazardous Material Spill Database	www.enr.gov.nt.ca	Mar. 22/2011	No spills reported. “Wilson”
NWT Geoscience Office	www.nwtgeoscience.ca	Mar. 23/2011	Assessment reports
<b>Other Agencies and Private Individuals</b>			
NWT Archives	www.pwnhc.ca	Mar. 15/2011	Historic photograph from 1922 (N-1979-073-0696)
NWT Mining Heritage Society		Mar. 18/2011	Copies of National Archives of Canada records and other historic information including newspaper articles from The Edmonton Bulletin.

Table 1. Summary of Interviews and Information Sources

#### 4.0 - Third Party Interests

The property is located on Crown land in an area that is under land withdrawal as part of the Akaitcho Land Claim Process. This withdrawal is in effect from November 2007 to March 31, 2012. (INAC SID Viewer)

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## 5.0 - Mineral Tenures, Land Use Permits, and Dispositions

There is no active mineral tenure on Wilson Island. The following table (**Table 2**) provides a summary of mineral claim tenure history surrounding the historic Wilson Island Mine and immediate area.

<u>Claim Name(s)</u>	<u>Tag Number(s)</u>	<u>Staked</u>	<u>Lapsed</u>	<u>Map</u>
BIG MOOSE	24237	September 10, 1916	Oct. 1, 1934	N/A
BIG BEAR	24238	September 10, 1916	Oct. 1, 1934	N/A
VICTORY 1-12	45156-45167	1934	c.1950s	<b>Appendix 1, Figure 1</b>
VICTORY 13-16	43929-43932	1934	c.1950s	<b>Appendix 1, Figure 1</b>
GR 1-6	112655-112660	c.1969	?	<b>Appendix 1, Figure 2</b>
DOC 1-15	A79343-A79357	1974	1979	<b>Appendix 1, Figure 3 &amp; 4</b>

**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 local geology of Wilson Island is chiefly white, grey, and pink quartzites with small amounts of arkose, sedimentary schist, and limy quartzite. The quartzite is cut by a few basic dykes. (**Lord, 1951**) The quartzite country rock forms ridges that have a direction parallel to the strike of the enclosed quartz lens and stringers. These stringers have a strike east and west, a dip of from 70 to 80 degrees and a pitch to the north. They have a variable width of from three inches to three feet on the surface. These veins are composed of white quartz, badly fractured and containing considerable amounts of hematite. This iron oxide occurs in small masses up to 4 inches thick and as very thin veinlets, penetrating along the fractured planes of the shattered quartz. Mackey Meikle in his 1930 inspection of the claim group, reported that the waste dumps of the main shaft contained little quartz, suggesting that the shaft did not intersect significant quartz veins. This rock was greenish grey coloured, fine grained quartzite. In places, the rock was coloured red by iron oxides from the hematite in the adjacent quartz veins. Some iron pyrites also occurs in the quartz, (**Meikle, 1930**)

Southwest of the shafts, close to the shore of the island, the quartz vein is exposed in a series of open cuts along the strike of the vein for a length of 250 feet. The vein varies in width from 1 to 6 inches, strikes easterly, and dips 65 degrees to the north. (**Lord, 1951**)

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## **7.0 - Regional Geography**

Wilson Island on Great Slave Lake is 23 miles long in an easterly direction and averages about two miles wide. (**Lord, 1951**) It is long, narrow, and characterized by its ice-fluted bedrock ridge striking roughly east-northeast. The topography has been strongly affected by glaciation. Relief is about 10 to 20 meters above Great Slave Lake. (**All-Can Engineering & Surveys, 1993a + b**)

The Island was historically known as Caribou (or Little Caribou) Island and the nomenclature has no doubt lead to some confusion over the years as to the location of the gold deposit, as another island to the north is now known as Caribou Island. This confusion is rooted to the time when the island was first staked. Hume reports: “Caribou Island is in reality wrongly named. The Indians apply the name to a much smaller island and the one on which the gold claims are staked is known to them as White Island or ile Blanche. However, since the name Caribou has become so widely known to those interested in the gold claims it seems inadvisable to adopt the Indian name.” (**Hume, 1921**) By the 1930s, no doubt due to the legend of Mr. Wilson, the island had been renamed Wilson Island and remains as such today.

The island occupies country typical of Precambrian rocks. The shoreline is much indented with deep bays which in some cases extend almost across the island. One of these bays with deep water to the shore offers a very sheltered harbour and is situated close to the old mine. Historically, this deep bay is referred to as ‘Safety Cove’ and was the location of the 1920s campsite. Most of the islands in the area are barren of vegetation on account of strong Great Slave winds. Wilson Island, however, has a rolling topography of low hills mostly of rocky character with wide valleys that support a thick growth of small spruce and moss. (**Hume, 1921**)

## **8.0 - Exploration and Operational History**

The following paragraphs outline a detailed history of the Wilson Island Mine from the time of staking in 1916 to the present. Sources of information are referenced directly in the text.

*1916:*

Robert H. Wilson of Tacoma, Washington State (USA) arrives in the NWT in the summer of 1916 to prospect for gold on Great Slave Lake. On September 10, 1916, Mr. Wilson stakes the BIG MOOSE and BIG BEAR claims on locally known Little Caribou Island (now Wilson Island). The BIG BEAR claim is staked on behalf of Cassia P. McTavish of Fort McMurray with Mr. Wilson acting as her power of attorney. (**National Archives of Canada**)

*1918:*

A two man crew under the direction of Robert H. Wilson conducts mineral exploration on the BIG MOOSE claim in the summer of 1918. This work involves blasting of trenches, cutting wood, and improving the landing conditions of the site. (**National Archives of Canada**)

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*1919:*

The BIG MOOSE and BIG BEAR mineral claims are transferred to Aurous Gold Mining Company Limited in 1919, an American outfit organized by Robert Wilson and his business partners in Washington State. Crews undertake the following operations on the claims in the summer of 1919: trench blasting, blacksmith and sharpening, cutting timbers for buildings, clearing a tramway to the bay, and clearing a shaft site. Work is under the direction of Robert H. Wilson. (**National Archives of Canada**)

*1920:*

Work in the summer of 1920 under the direction of Ernest Ballman on behalf of Aurous Gold Mining Company on the BIG MOOSE claim includes: sinking a 7 x 7 foot shaft to a depth of 12 feet and preparing timber for a mill. Due to the hardness of the country rock, considerable time and effort is spent on sharpening drill steel. (**National Archives of Canada**)

Robert H. Wilson, the discoverer and manager of the Aurous company, drowns on the Athabasca River, northern Alberta, in August 1920 while attempting to push a scow off a sand bar. At the time Wilson was overseeing the movement of freight from Fort McMurray to Great Slave Lake. The company mourns the loss but continues development on the claims. (**The Edmonton Bulletin, August 3, 1920**)

*1921:*

Work in 1921 on the BIG MOOSE claim under the direction of Andrew Sundquist includes shaft sinking, timber cutting, and prospecting the seven claim group owned by Aurous Gold Mining on Wilson Island. (**National Archives of Canada**) The main shaft is started by handsteel in November 1921. (**The Edmonton Bulletin, July 19, 1922**) Three barges and scows worth of provisions and equipment are sent to the site in the summer of 1921, but only a barge full of winter provisions makes it to the island before freeze-up in the fall, with the other barges left stranded at the mouth of the Slave River over the winter of 1921-1922. (**The Edmonton Bulletin, January 3, 1922, and January 31, 1922**)

*1922:*

Development continues in the winter of 1921-1922 despite the stranding of most mining machinery on barge and scow on the Slave River during 1921 freezeup. Some additional freight is brought over to the property from the stranded scows by dog team. Crews spend the winter cutting timber and catching fish from the ice. Captain N.E. Warner is in charge of work in 1922. By July 1922, the main shaft is down to 43 feet and ore is assayed at \$60 per ton gold. An assay lab operation is reported on site. (**The Edmonton Bulletin, July 19, 1922**)

*1923:*

Work in the summer of 1923 on the BIG MOOSE claim under the direction of Leon Bissell include stripping and drilling of surface exposures. (**National Archives of Canada**) At the end of the year, it is reported that Aurous directors are encouraged by numerous assays received to date. Captain Warner is in charge of operations. To date, camps have been erected, a shaft sunk, and a portion of a roller stamp mill is on the property. The balance of the heavier machinery, including boilers, engines and other mining machinery is still in Fort Smith with plans to move it through to the island in the spring of 1924. (**The Edmonton Bulletin, November 16, 1923**)



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*1924:*

The Aurous Gold Mining Company of Canada Limited is incorporated on July 21, 1924 as a Canadian run corporation, and takes over the interests of the former Aurous Gold Mining Company Limited of American interests. (**National Archives of Canada**)

*1925:*

Exploration in 1925 involves prospecting and drilling on a vein near the 'old powder house' under the direction of Andrew Sundquist. (**National Archives of Canada**)

*1926:*

Recorded work on the BIG MOOSE claim in the summer of 1926 under the direction of Andrew Sundquist involves: drilling and prospecting and repairing cabins on the BIG MOOSE and BIG BEAR claims, stripping of a vein at ten different places with total trenching approximately 1500 feet, and erecting new roofs on four buildings. (**National Archives of Canada**)

*1928:*

Recorded work on the BIG MOOSE claim in the summer of 1928 under the direction of A.G. Bloomquist for Aurous Gold Mining Company of Canada consists of sinking through gravel and muck, 4 x 6 x 8 feet deep, and drifting through solid rock, 4 x 6 x 3.5 feet. (**National Archives of Canada**)

*1930:*

Government mining inspector Mackay Meikle visits the claims in September 1930 and reports on the conditions of the abandoned operation and economic geology. The shaft dump contains mostly waste rock with a very small amount of quartz from which it appears that no large vein was cut by the shaft. (**Meikle, 1930**)

*1934:*

The original BIG BEAR and BIG MOOSE claims lapse in October 1934. (**National Archives of Canada**) The B&M Syndicate, represented by Christopher Riley, stakes claims on Wilson Island in the summer of 1934, presumably as part of the VICTORY group of claims. (**The Northern Miner, February 28, 1935; Lord, 1951**) (see **Appendix 1, Figure 1**)

*1974-1975:*

Robert Lee stakes the DOC claims in 1974 and performs basic assessment work through trenching in August 1975. Four trenches totaling 12.7 yards are excavated near the old shaft on DOC #4 claim. (see **Appendix 1, Figure 4**) Several samples are sent for assay and return negligible gold assays, the highest being 0.1 ounces per ton gold. (**NWT Geoscience Assessment Report, #015062**)

*1992:*

The site is visited by environmental engineers with All-Can Engineering Limited in 1992 as part of a region wide risk assessment of abandoned mine workings. The site is classified as a low-risk site. All-Can develops a remediation criteria and estimate which involves mainly filled and capping the shallow shafts,

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but there is no information on record as to work performed to remediate the mine site. (**All-Can Engineering & Surveys, 1993a + b**) (see **Appendix 1, Figure 5**)

*1994-1995:*

The mine site may have been partially cleaned up or remediated in 1994 or 1995 during a regional clean-sweep of contaminated sites on Great Slave Lake. (**Sam Kennedy, Contaminants and Remediation Directorate, INAC, p.comm.**)

## **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 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.<sup>1</sup>

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.

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<sup>1</sup> The National Archives of Canada, Northern Affairs Collection, maintains documents pertaining to the BIG BEAR and BIG MOOSE claims within *RG 85 Series B-1-a, Volume 1577, Files 4166 to 4167*. Copies of these records are on file with the NWT Mining Heritage Society in Yellowknife and were reviewed.

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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 Wilson Island pre-date modern regulatory standards and there is no information on record.

## **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 Wilson Island pre-date modern regulatory standards and there is no information on record.

## **10.0 - Operational Data**

Activities at the Wilson Island Mine were typical of an advanced mineral exploration program of the 1920s. Historic photographic evidence from 1922 (see **Appendix 2**) shows a small timber headframe and hand-windlass hoist (operated by hand-crank), suggesting that activities at the mine were labour-intensive without the use of significant machinery. Mackay Meikle, who visited the abandoned site in September 1930, noted an "open headframe...made of suitable timber and contains an overhead pulley that was operated by a hand turned windlass. Steel buckets were made by cutting a 45 gallon drum in two parts." (**Meikle, 1930**)

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Reports of the day suggest the pieces for a boiler, hoist engine, compressor, and air drill had been shipped to the site in 1922 but it does not appear that they were ever assembled or operated, and presumably were salvaged in later years. A small rotary mill was also shipped north on behalf of the operators in 1921 and 1922 however evidence suggests the crews had considerable difficulty transporting equipment and supplies to the site, and most of the mill machinery was left in Fort Smith. **(Burwash, 1923)**

The extent of mine development varies according to source. Most report the presence of two or more shafts, the deepest of which is 43 feet, and a few open cut trenches, within 100 feet from the shore of the lake. **(Burwash, 1923; Lord, 1951; National Mineral Inventory Sheet NTS 85 H/14, Au 1)** Mine workings are summarized according to sources below in **Table 4**.

Two structures at the shaft site aside from the headframe are noted in literature. Mackey Meikle provides the best description of these facilities in his 1930 report:

...There is another log building 12 feet by 10 feet, which was used as a blacksmith shop. This contains a good assortment of tools, repair parts and a small forge, all in good condition. In a shelter made of brush and poles, there is stored some larger equipment which appears to be the parts of a boiler plant, as the steel stack for this boiler was found laying along side.

Burwash reported a “good set of camp buildings”. **(Burwash, 1923)** Mackey Meikle provides the best description of the camp in his 1930 report:

The last record of work having been done on the property is shown by a calendar for 1926 that remains in the scow. This scow was used for living quarters while the camp was being constructed and contains a great quantity of mineral samples taken from the quartz veins. The large log building that is uncompleted, appears to have been started at this same time, and abandoned before it was finished. It is about 35 feet long by 20 feet wide and is made of well chosen large spruce logs.

The camp was located about a mile east of the shaft site, at a cove known locally as ‘Safety Cove’. **(Hume, 1921; Lord, 1951)**

## **11.0 - Environmental Studies**

The site was visited in September 1992 by environmental engineers with All-Can Engineering Limited to determine the possibilities of contamination and public safety risk of the abandoned minesite. All-Can’s report notes that there was not much physical remains of the mine aside from two shallow shafts and trenches. One shaft (#1) was located on bare bedrock surface about 50 meters from the shore, while the second shaft (#2) was hidden amongst trees and bushes, about 30 meters from the shore.

Waste rock around the #1 shaft was generally clean, mostly quartz, and no evidence of oxidation. All of the exploration trenches were shallow (~50 cm) and dry. The campsite (location not recorded in the report) was totally reclaimed by vegetation and only a few artifacts, such as three large wagon wheels and a wood stove, remained at the ‘presumed’ location of the mining camp. No landfill was found at the site.

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Due to the limited nature of mineral development and the absence of significant structural ruins, All-Can Engineering classified the Wilson Island mine site as ‘low-risk’ based on national contaminated site standards (NCSCS). It did not represent a high-priority for remediation implementations at that time. The main concerns were associated with the hazard created by open shafts. (**All-Can Engineering & Surveys, 1993a + b**)

## **12.0 - Existing Site Conditions**

In 1992, when the site was inspected by All-Can Engineering & Surveys Limited, there were very little ruins left at the Wilson Island Mine. The shafts were both opened and filled with water. The main shaft (#1) was filled with water to within 2 meters of the surface. The #2 shaft was filled with water to about 1 meter below the surface and appeared obstructed with debris below 0.7 meters. There was a collapsed timber headframe above the #1 shaft. There were no other structural ruins identified at that time. Miscellaneous scrap metal in the form of wheels and a camp stove were identified. The report identified the location of these ruins as the possible campsite; however, no location is cited on the maps or text, so these artifacts may not have been from the camp identified in literature as being on ‘Safety Cove’. (**All-Can Engineering & Surveys, 1993a + b**) (for map, see **Appendix 1, Figure 6**)

The mine site may have been partially cleaned up or remediated in 1994 or 1995 during a regional clean-sweep of contaminated sites on Great Slave Lake. (**Sam Kennedy, Contaminants and Remediation Directorate, INAC, p.comm.**)

## **13.0 - Areas of Potential Environmental Concern**

### **13.1 Mineralized Zones and Shaft Sites**

The ore deposit has been described in both geological reports and newspaper articles from the 1920s. The newspaper articles tend to glorify the high-grade nature of the discovery and the validity of the information is questionable. One source describes it as a gold seam five feet in width and traced for 75 feet until it disappeared in the overburden and dipped into Great Slave Lake. (**The Edmonton Bulletin, July 14, 1921; July 18, 1921**) Southwest of the shafts, close to the shore of the island, the quartz vein is exposed in a series of open cuts along the strike of the vein for a length of 250 feet. The vein varies in width from 1 to 6 inches, strikes easterly, and dips 65 degrees to the north. The vein is of milky quartz with a small amount of specularite and a very small amount of iron pyrites and red feldspar and hematite staining. Many quartz stringers and lenses occur in a zone about 30 feet wide and 200 feet long close to the south shore of the island and near the east boundary of the historic BIG MOOSE claim and probably extending into the BIG BEAR claim. (**Lord, 1951**)

There are two shafts identified in historic literature. The best description of the shaft workings and local geology is provided in a 1930 inspection report by government mining inspector Mackey Meikle. (**Meilke, 1930**) The table below (**Table 4**) describes the mine workings at Wilson Island according to historical sources.

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Source:	Shaft #1 (Main)	Shaft #2
<b>The Edmonton Bulletin, July 19, 1923</b>	Shaft is down 43 feet with ore assaying \$60 per ton gold. Drilling by hand.	N/A
<b>Meikle, 1930</b>	300 feet from the shore on a glaciated ridge. Vertical, one compartment, 5 feet by 7 feet dimensions, 45 feet deep, filled with water within 10 feet of the collar. Timbered with spruce logs. Sunk in the hanging wall of the vein and is 50 feet north of the outcrop of a quartz vein, which has a dip of 70 to 80 degrees to the north.	Test pit dimensions 5 x 5 feet and 10 feet deep. Located 200 feet east and 50 feet south of the main shaft.
<b>Lord, 1951</b>	Two shafts located on the old BIG MOOSE claim, about 100 feet from the south shore, and a few open cuts.	
<b>All-Can Engineering Limited, 1993a + b</b>	50 meters from shore on bare outcrop surface. 8 meters above lake level. 2 m x 2m dimensions. Waste rock of mainly quartz, clean, no oxidation.	30 meters from shore hidden in thick overgrowth. 3 meters above lake level. 2m x 2m dimensions. Waste rock almost entirely covered with vegetation.

Table 4. Mine Workings by Source

On site evidence (**All-Can Engineer & Surveys, 1993a + b**) confirms the presence of two shafts in the approximate locations described by Mackey Meikle in 1930 and further reveal the location of minor trenching and surface open cutting around the Shaft #1 site. (see **Appendix 1, Figure 5**)

### 13.2 Camp Site and Other Buildings

The campsite built by Aurous Gold Mining in the 1921-1922 period was located as a deep bay known historically as ‘Safety Cove’ and located about two miles from the west end of Wilson Island. (**Lord, 1951**) The camp consisted of a “neatly constructed” cabin built of locally cut logs. (**Hume, 1921**) Government mining inspector Mackay Meikle visited the abandoned claims in September 1930 and noted the following conditions of the camp: (**Meikle, 1930**)

The last record of work having been done on the property is shown by a calendar for 1926 that remains in the scow. This scow was used for living quarters while the camp was being constructed and contains a great quantity of mineral samples taken from the quartz veins. The large log building that is uncompleted, appears to have been started at this same time, and abandoned before it was finished. It is about 35 feet long by 20 feet wide and is made of well chosen large spruce logs.

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A second log cabin was erected on the BIG MOOSE claim near the mine site as use for a blacksmith shop. (Lord, 1951) Mackay Meikle described this building as thus: (Meikle, 1930)

In addition to this partly constructed log building, there is another log building 12 feet by 10 feet, which was used as a blacksmith shop. This contains a good assortment of tools, repair parts and a small forge, all in good condition. In a shelter made of brush and poles, there is stored some larger equipment which appears to be the parts of a boiler plant, as the steel stack for this boiler was found laying along side.

The exact location of camp structures is unknown. The camp building is described as being located two miles from the west end of Wilson Island at ‘Safety Cove’ (about a mile east of the shaft sites). No significant camp structural ruins were identified by All-Can Engineering & Surveys Limited during its 1992 site assessment. They assumed the ruins of a wood stove and a few wagon wheels may have been the campsite, and reported that the ‘presumed’ camp had been reclaimed by vegetation (without citing a location of these finds on the maps or text provided in the report). It does not appear that All-Can crews spent any time exploring the area of ‘Safety Cove’ which is a good mile away from the shaft. (All-Can Engineer & Surveys, 1993a + b)

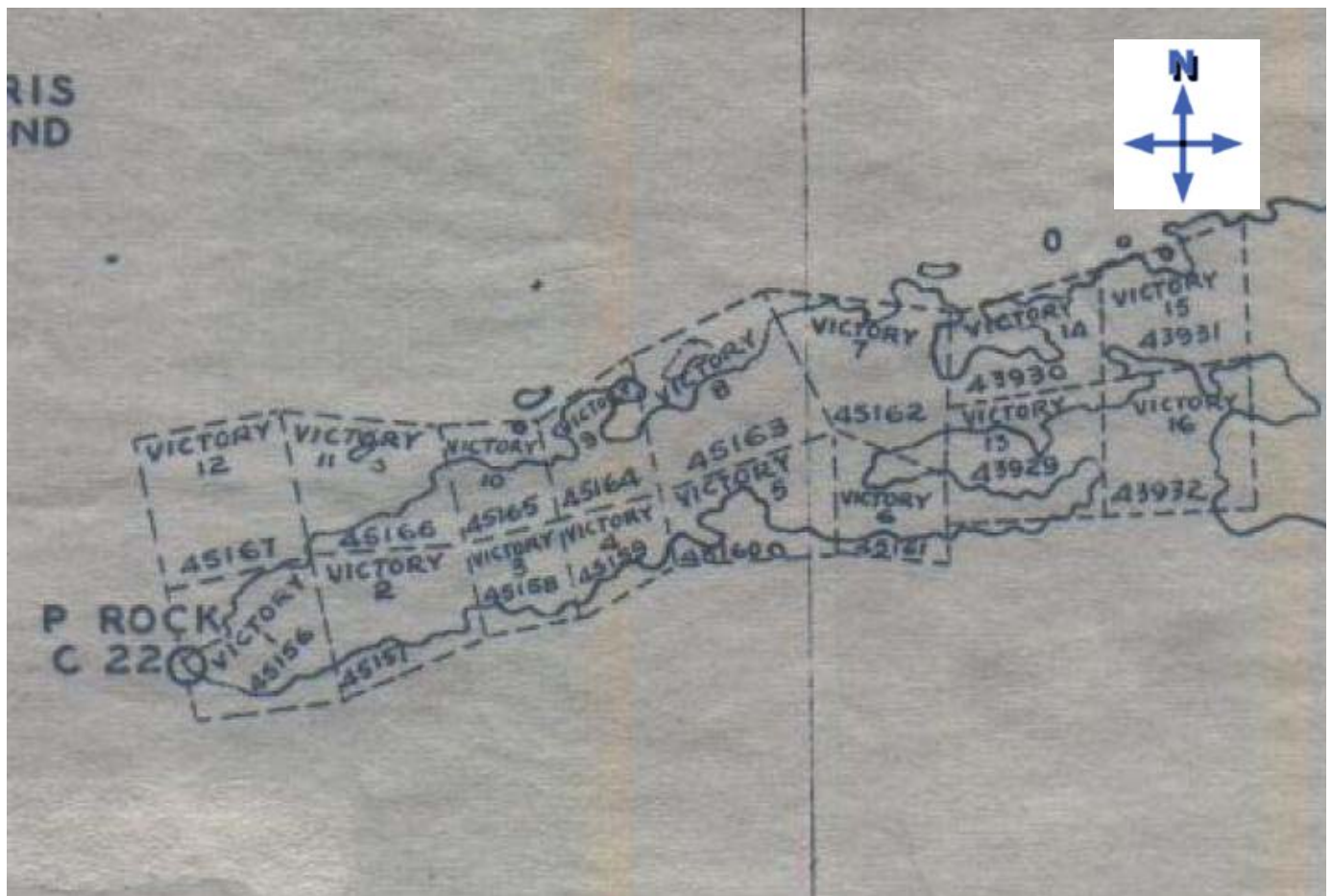
#### **14.0 - List of References**

- All-Can Engineering and Surveys Limited (1993a) Contaminated Site Assessments of Five Abandoned Gold Mines in the Northwest Territories. Report submitted to Public Works Canada. January 1993.
- All-Can Engineering and Surveys Limited (1993b) Evaluation of Remediation Options for Five Abandoned Gold Mines in the Northwest Territories. Report submitted to Public Works Canada. March 1993.
- Burwash, L.T. (1923) Mining Development in the Mackenzie District, 1922. The Department of the Interior, Northwest Territories and Yukon Branch, Ottawa: F.A. Acland, King’s Printer, 1923.
- Hume, G.S. (1921) North Nahanni and Root Rivers Area, and Caribou Islands, Mackenzie River District. Canada Department of Mines, Geological Survey of Canada, Summary Report 1921, Part B.
- Lord, C.S. (1951) Mineral Industry of the District of Mackenzie, NWT. Geological Survey of Canada, Memoir 261, 1951.
- Meikle, M. (1930) Report on Prospecting and Mining Operations – Great Slave Lake Area, Northwest Territories. Mining Inspector’s Report, Supervisory Mining Engineer’s Office, Fort Smith, November 7, 1930
- National Archives of Canada. RG 85, Series B-1-a, Volume 1577, Files 4166 to 4167
- National Mineral Inventory Sheet NTS 85 H/14 Au 1, Mineral Policy Sector, Department of Energy, Mines, and Resources.
- NWT Geoscience Office Assessment Report #015062

*March 31, 2011*

- Silke, Ryan (2009) The Operational History of Mines in the Northwest Territories, Canada. Self Published, November 2009.

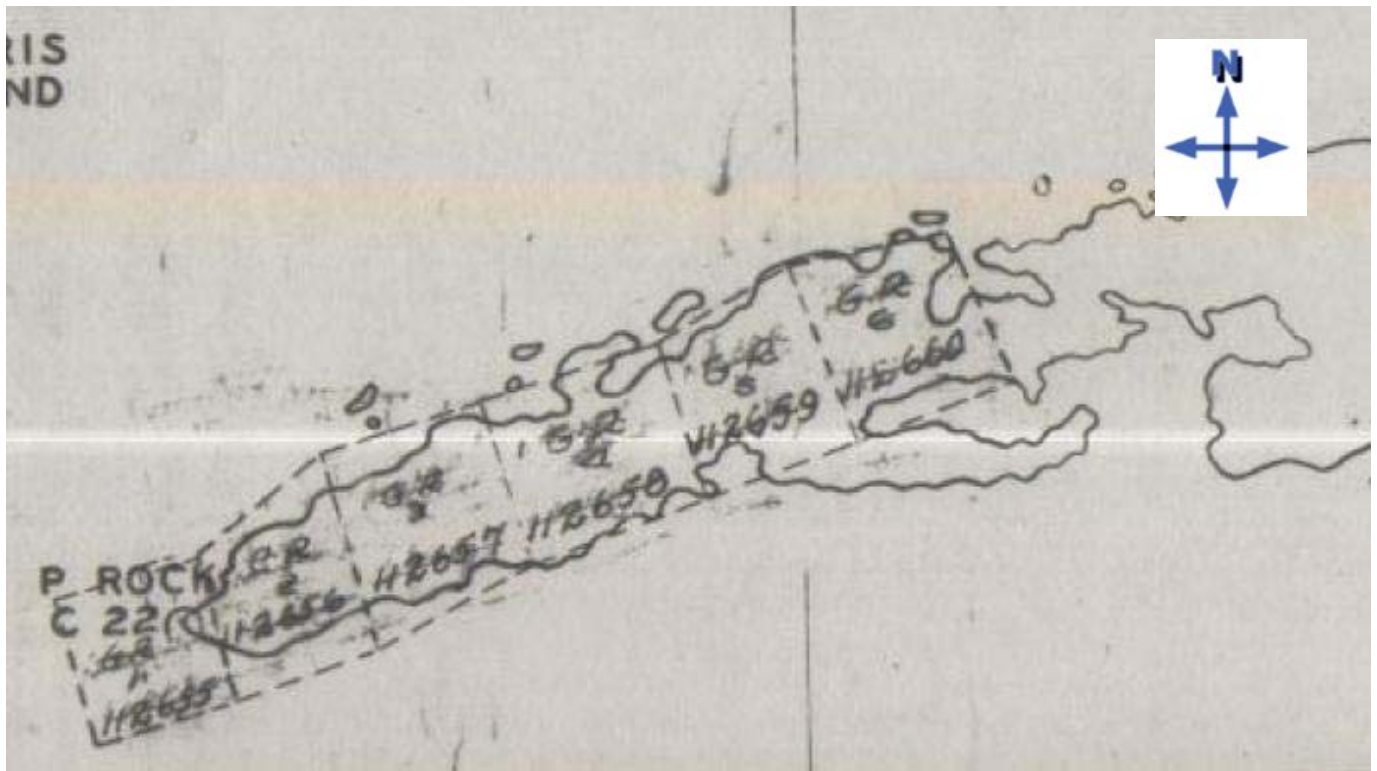




NTS 85 H/14, 1946

**Figure 1. Claim Map, 1946**

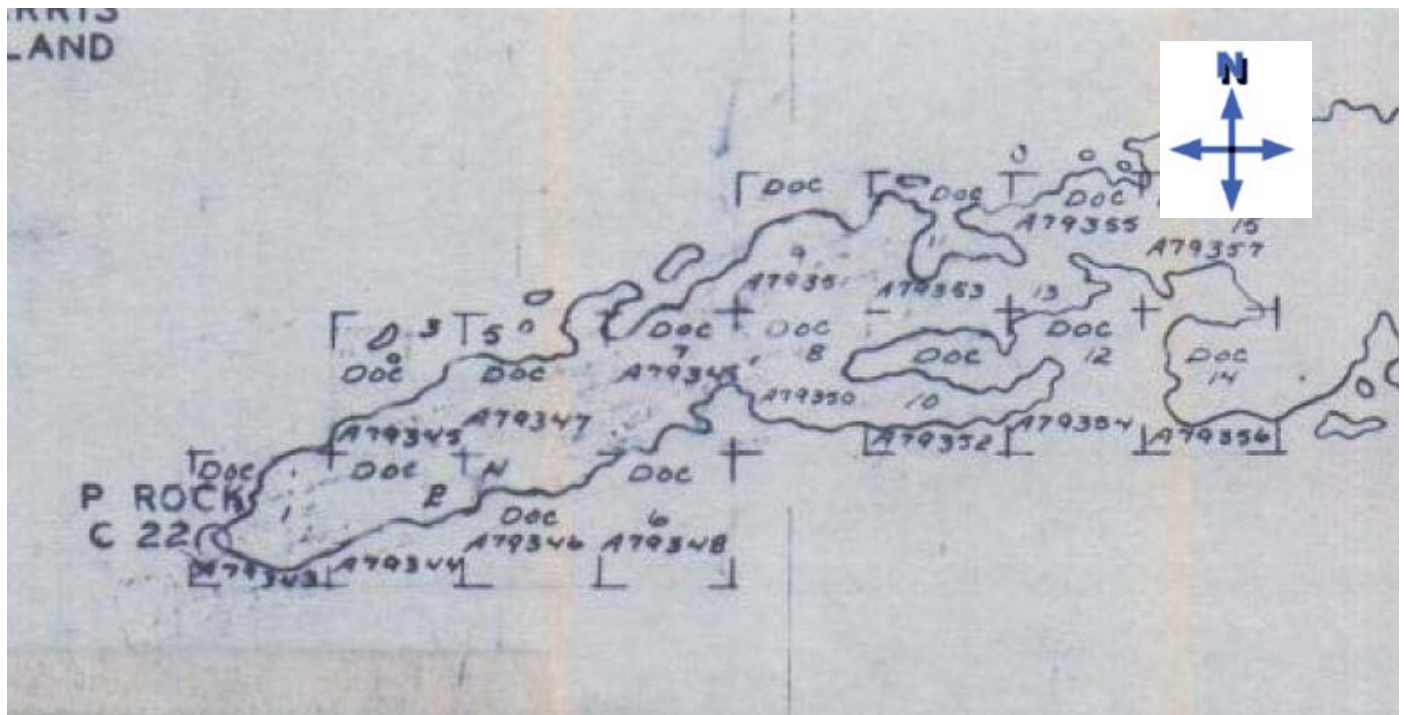
Historical Records Review, Wilson Island Mine,  
Akaitcho Region, NWT



NTS 85 H/14, 1969

**Figure 2. Claim Map, 1969**

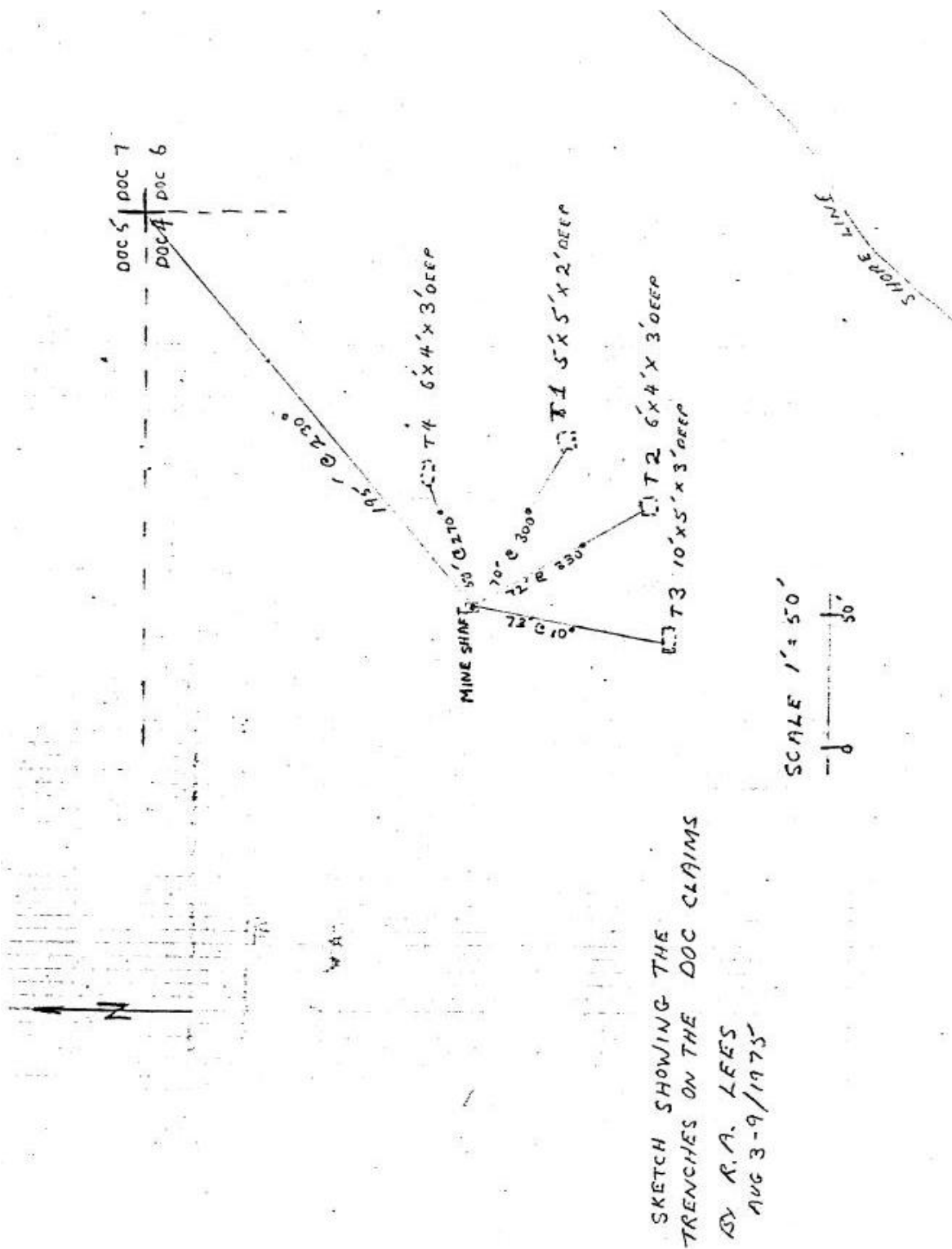
Historical Records Review, Wilson Island Mine,  
Akaitcho Region, NWT



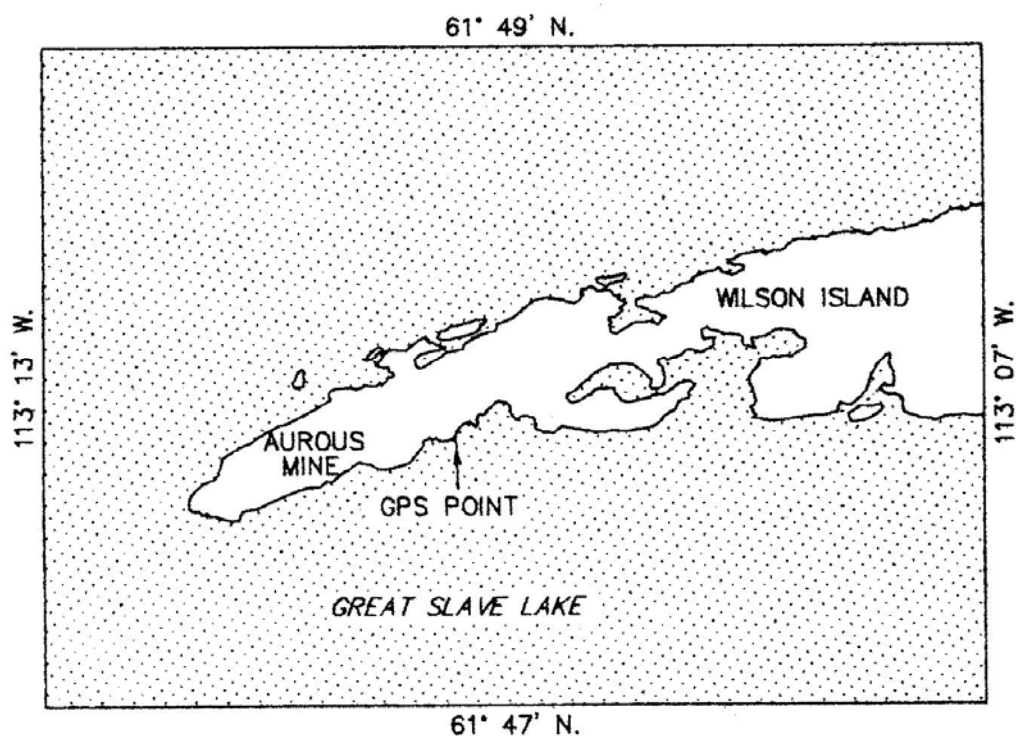
NTS 85 H/14, 1975

**Figure 3. Claim Map, 1975**

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Akaitcho Region, NWT



**Figure 4. Property Sketch, 1975 (Assessment Report, #015062)**

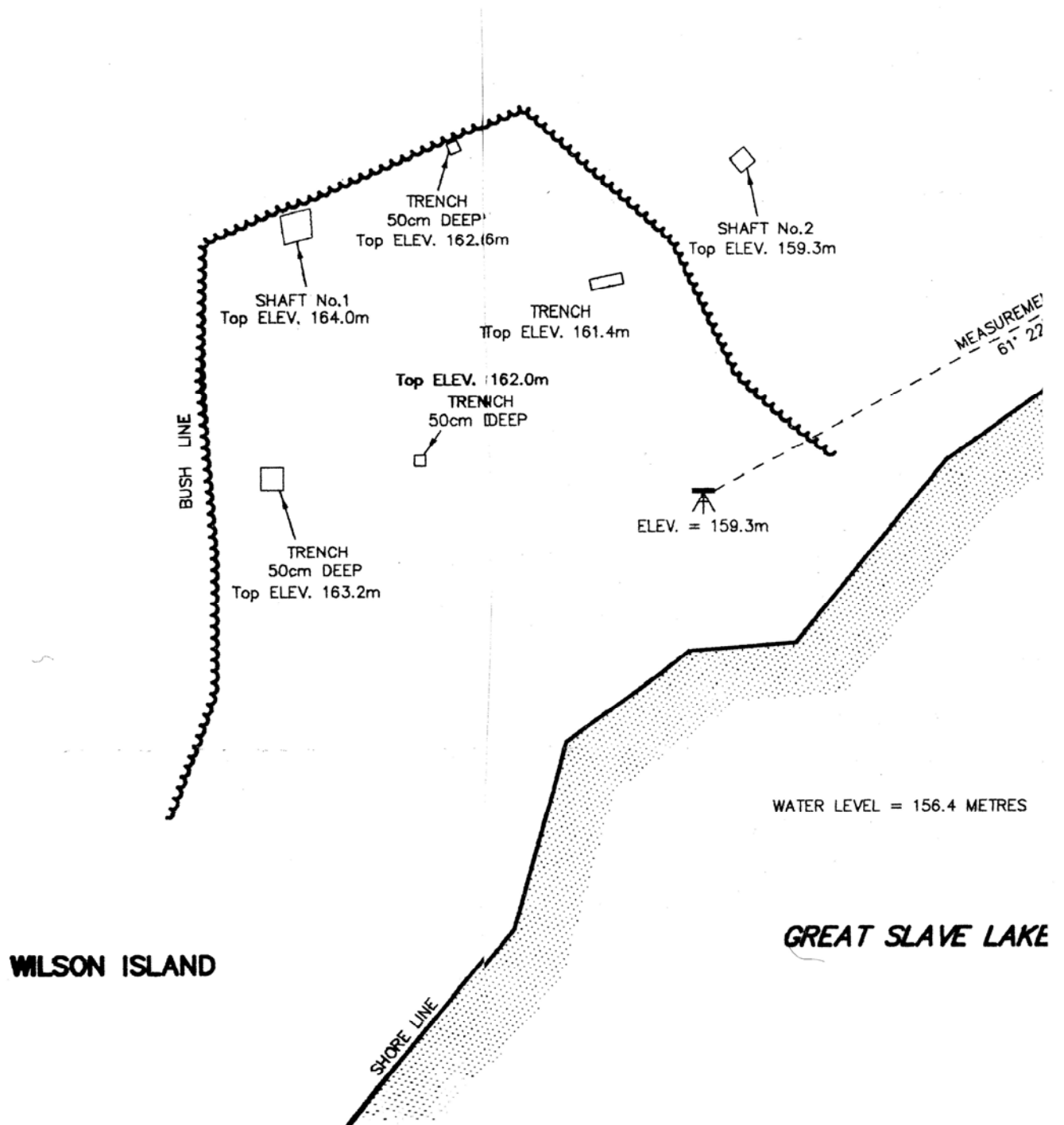


KEY PLAN  
SCALE 1:50,000

DIGITIZED FROM N.T.S. MAP SHEET 85 H/14

**Figure 5. Site Location, 1992**

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Akaitcho Region, NWT



**Figure 6. Site Plan, 1992**

Historical Records Review, Wilson Island Mine,  
Akaitcho Region, NWT



**Wilson Island Mine – 1992 Photos**

**All-Can Engineering Ltd.**



**View of shaft site from the air**



**Collapsed headframe at shaft**

**Wilson Island Mine – 1992 Photos**

**All-Can Engineering Ltd.**



**Shaft hidden in trees**