PRELIMINARY EVALUATION
OF THE
JULIENNE LAKE IRON DEPOSIT,
WESTERN LABRADOR,
NEWFOUNDLAND & LABRADOR,

FOR

DEPARTMENT OF NATURAL RESOURCES
GOVERNMENT OF NEWFOUNDLAND & LABRADOR

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MPH Reference: C-2306
February 5, 2010
Toronto, Ontario, Canada

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SUMMARY

Introduction

MPH Consulting Limited ("MPH") was retained by the Department of Natural Resources, Government of Newfoundland & Labrador ("DNR"), or "the Client") to complete a preliminary evaluation of the Julienne Lake iron deposit to assist with developing departmental policy concerning the possible use or sale of the deposit. Specifically the DNR required technical opinions regarding certain specific aspects of the deposit's historic database, namely:

- Reliability of Historic Resource/Reserve Estimates, and
- Marketability of Potential Sales Products.

A further key element of the assignment was to assist the DNR in assessing the current level of serious interest in iron ore properties in general.

Property and Agreements

The Julienne Lake iron deposit is located in western Labrador, near the towns of Labrador City/Wabush, Newfoundland and Labrador approximately 1,200 kilometres northwest of St. John's. Mineral rights to the Julienne Lake iron deposit are currently held by the Government of Newfoundland and Labrador as an Exempt Mineral Land ("EML") enclosing 334 hectares or 3.34 km^2, formerly a Newfoundland and Labrador Corporation Limited ("Nalco") mining lease encompassing the Julienne Peninsula.

Accessibility, Infrastructure and Local Resources

The Julienne Lake Property is situated in south-western Labrador, approximately 27 kilometres by road north of Labrador City/Wabush, NL. Labrador City is located 590 road kilometres north northeast of Baie Comeau, Quebec and 533 road kilometres west of Goose Bay, NL.

The district of Labrador West, includes the Town of Labrador City (population ~7,200) and neighbouring Wabush (population ~1,800). Labrador West is the regional centre for the iron ore mining industry in Labrador. Labrador City and Wabush can provide modern housing as well as educational, medical, recreational and shopping facilities. Historically, mining has been a dominant part of the local and regional economy. Labour, industrial supplies and services for mining and exploration activities are readily available in the region. Wabush Airport is the only airport in western Labrador, and is served by two commercial airlines. The Quebec North Shore & Labrador Railway ("QNS&L") connects Labrador West with the port of Sept-Îles, Québec on the north shore of the St. Lawrence River.

General History

Iron ore mining has a long history of continuous production, over 114 years, from 1895 to the present, in Newfoundland and Labrador. Serious interest in the iron ore deposits of Labrador West began in the mid 1940's which saw a monumental increase in the iron market as Europe and Asia rebuilt its cities and industries after World War II, and nations re-armed for the Cold War. However, the strong post-war demand revealed a world iron ore shortage which stimulated the worldwide search for new sources of ore. These exploration efforts eventually uncovered vast quantities of highly competitive ores in Labrador, Brazil and Australia. Development of these

and other deposits from the 1950's onward signalled the gradual demise of lower quality or otherwise compromised Fe ores.

The Labrador Mining and Exploration Company Limited ("LM&E") was formed in 1936 to explore and develop a large, >50,000 square kilometre mineral rights concession that covered most of western Labrador section of the Labrador Trough. By 1949, LM&E had developed sufficient reserves of high-grade direct-shipping iron ore at Knob Lake sufficient to justify development. The partners joined forces with a group of US steelmakers and the Iron Ore Company of Canada ("IOC") was formed. After a major construction project including the mine, town-site (Schefferville, QC) and railway, the first shipment of iron ore moved south to the St. Lawrence River in 1954.

In 1951, Joseph R. Smallwood, Premier of the Province of Newfoundland, created the Newfoundland and Labrador Corporation ("Nalco") to stimulate development of the province's natural resources. In 1953, Nalco became a subsidiary of Canadian Javelin Limited. The Nalco/Javelin connection would lead to the Wabush Mines operations and also to the Julienne Lake iron deposit.

Wabush Mines began mining ore from the Scully Mine in Labrador in 1965 and currently operates a mine and concentrating plant at Wabush with a concentrate production capacity of 5.5 million tonnes/year, together with a pellet plant and shipping facilities in Point Noire, Québec. Wabush Mines is currently owned by US Steel Canada Inc. (44.6%), ArcelorMittal Dofasco Inc. (28.6%) and Cliffs Natural Resources Inc. (26.8%).

By the late 1950's, IOC had a renewed interest in its Wabush Lake area concentrating-type iron deposits. Its Labrador City area mine known as the Carol Project began operation in 1962 and has produced more than one billion tonnes of crude ore with an average iron content of 39 percent. Annual capacity at the Carol Concentrator is 17 million tonnes of iron ore concentrate, of which 13 million tonnes can be pelletized and the balance processed into various grades of concentrate products. Operations at IOC's Schefferville, QC site continued until 1982, when the mine was closed. The current ownership of IOC is Rio Tinto (58.7%), Mitsubishi Corporation (26.2%), and the Labrador Iron Ore Royalty Income Fund (15.1%). IOC operates within the Rio Tinto Iron Ore group and maintains its head office in Montreal, Quebec.

Julienne Lake Iron Deposit History

A 1953 reconnaissance geological map of the Julienne Lake iron-bearing units for Nalco provides the earliest known documented work of the Julienne Lake EML. In the summer of 1956 a systematic geological and magnetometer study was completed on the Julienne Peninsula followed by a preliminary estimation of the area's general resource potential. In 1957, the Wabush Iron Company, a subsidiary of Pickands Mather & Company ("Pickands Mather") of Cleveland, Ohio signed an option agreement with Javelin with respect to the Nalco/Javelin western Labrador properties. In 1957, Pickands Mather conducted a preliminary survey for a railway connection to the Julienne Peninsula, built a fly-in campsite, and began a diamond drilling program. In addition the area was flown to obtain detailed aerial photographs for orthophoto mapping purposes, and a cut survey grid was laid out. Pickands Mather resumed the drilling in the summer of 1958, bringing the total drilling for the two programs to 9 holes totalling 3,477 feet. Field work resumed in the summer of 1959 when Javelin geologists conducted detailed geological mapping of the property and a re-examination of remaining drill core sections. In 1960 a bulk sampling program acquired 38.5 tons of “crude ore” which was shipped to LakeField Research of Lakefield, Ontario for metallurgical testwork.

In 1959-60, Javelin made a preliminary estimate of the grade and tonnage contained in the Julienne Lake iron deposit. Based on surface geological mapping, magnetometer surveying and nine diamond drill holes a “minimum tonnage” of “potential ore reserves” of were reported at 381,220,000 long tons (387,340 tonnes) averaging 34.2% Fe.

Between 1960 and 1963, Javelin evaluated the potential for building an iron and steel plant at Julienne Lake by evaluating various processes. The practicality of mining, concentrating, pelletizing and smelting material from the Julienne Lake deposit was evaluated by in 1962.

A road was built by Javelin to the property from Labrador City/Wabush in the summer of 1962 and an area extending across the hilltop exposure was later stripped for examination and sampling purposes. In 1963, Javelin obtained a 162 ton bulk (164.6 tonne) sample but there is no record of testwork having been completed on this material.

A revised grade and tonnage estimate for the Julienne Lake deposit, including projected strike extensions beneath Wabush and Julienne Lakes was completed in June 1963. The under-lake extensions are based primarily on interpretations of magnetic data. Only one historic diamond drill hole, from a lake ice setup, actually confirmed iron formation.

The land portion of the Julienne Lake deposit that has been explored by surface mapping, trenching and limited diamond drilling was re-estimated by Javelin to contain 500,034,000 long tons (508,058,000 tonnes) averaging 34.2% Fe with only traces of impurities. Geophysically projected extensions of the deposit under Wabush and Julienne Lakes (outside of the EML) were estimated at 165 million and 239 million tons (168 and 243 million tonnes), respectively.

In the spring of 1966, the remaining core from the Julienne Lake iron deposit was lost, when the Wabush commercial warehouse in which it was stored was destroyed by fire. During the latter part of the 1960’s and early 1970’s, no further exploration/development field activities were conducted.

Javelin’s efforts concentrated on finding parties that might be interested in developing the Julienne Lake deposit, either as a stand-alone project or in conjunction with the company’s Star-Okeefe iron deposit in neighbouring Quebec. In 1970, Javelin completed a prefeasibility study to determine capital and operating costs for mining and processing plants at Julienne Lake, NL, and Star-Okeefe near Mont Wright, QC, along with a pelletizing plan to serve both operations at Sept-Îles, Québec. The concentrates from both operations were to be delivered by slurry pipelines to the pelletizing plant.

Javelin’s efforts to attract potential customers or buyers for the Julienne and Star-Okeefe Projects were unsuccessful. In 1975 the rights to the deposit reverted to the crown under the Julienne Lake Deposit (Reversion Act) 1975, due to failure by Canadian Javelin to meet requirements of the Mining and Mineral Rights Tax Act. The property was made an exempt mineral land (EML) and has remained under that status to this date.

Geology and Mineral Deposits

The Julienne Peninsula Lake Superior-type iron formation (“LSTIF”) deposit occurs in the Labrador-Quebec Fold Belt or Labrador Trough, within the Sokoman Formation of the Lower Proterozoic (Aphebian) Knob Lake Group. The Sokoman Formation, one of the most extensive iron formation units in the world, extends along the eastern margin of the Archean Superior-Ungava craton for over 1,000 km.

The oldest rocks in the region are Archean migmatites and gneisses known as the Ashuanapi Metamorphic Complex. Although re-deformed and re-metamorphosed during the subsequent Grenville Orogenic episode and located within the borders of the Grenville Province of the Canadian Shield, the Complex is part of the stratigraphic assemblage that comprises the extensive Superior/Ungava Craton. These units constitute the basement of the predominantly sedimentary lithologies of the Labrador Trough.

The Lower Proterozoic (Aphebian) platformal sedimentary and related rocks of the Labrador Trough are named the Knob Lake Group. Previously known as the Gagnon Group in the Grenville Province portion of the Labrador Trough, the Knob Lake Group was redefined to include the stratigraphic sections on both sides of the Grenville Front.

Deposition of the Knob Lake Group, which records the Aphebian (2.5 to 1.75 Ga) stratigraphy of the Labrador Trough, probably began with deposition of fluvial red sands and gravels (Seward Formation) in a narrow elongate valley that was probably a continental rift valley. This was followed by shallow marine transgression, subsidence and deposition of shales (Attikamagen Formation), carbonates (Denault Formation), sands (Wishart Formation), and iron formation (Sokoman Formation) in a shallow marine environment. Following deposition of the Sokoman Formation the basin subsided resulting in the build-up of deep water turbidites of the Menehek Formation. The final stage of Labrador Trough development saw the extrusion of a great thickness of mafic pillow lavas (Doublet Group) on its eastern margin (Rivers and Wardle, 1978). In the Wabush area all stratigraphic units have been deformed and metamorphosed during the development of the Trough or Labrador-Quebec Fold Belt, then further deformed and metamorphosed during the Grenville Orogenic episode.

The basal section of the Knob Lake Group in the Wabush Lake area comprises widespread quartzofeldspathic schist and gneiss of the Attikamagen Formation which underlies most of the map area. An extensive tract of Denault Formation dolomitic and calcitic marble underlies the eastern shore of Wabush Lake and the southern shore of Julienne Lake, marking the upper limit of the Attikamagen Formation in that area. Quartzite of the Wishart Formation overlies the Attikamagen and Denault Formations along the western side of Wabush Lake, on the Julienne Peninsula, and the north side of Julienne Lake. Where present the top of the Wishart Formation defines the footwall contact of the Sokoman Formation ironstones.

The Sokoman Formation conformably overlies the Wishart Formation on the west side of Wabush Lake and Julienne Peninsula, but elsewhere it sits on the Attikamagen Formation. The dominant lithological units are silicate-carbonate iron formation and oxide iron formation. Outcrops of iron formation around Goethite Bay, Julienne Lake and to a lesser extent on the Julienne Peninsula are excessively leached.

The Menehek Formation, the youngest sequence of the Knob Lake Group in the Wabush Lake region, is composed of dark grey quartz-feldspar-biotite-graphic schist with a well developed schistosity and distinctive graphite porphyroblasts.

Finally the assemblage is intruded by Middle Proterozoic (Helikian, 1.75 to 1.0 Ga) mafic intrusions of the Shabogamo Intrusive Suite. These occur as folded and contorted sill-like bodies in the Attikamagen Formation in the south-eastern part of the region.

In terms of Property geology, the white massive Wishart Formation quartzite is exposed and intersected in drill holes on both sides of the Sokoman Formation iron formation. The quartzite contains a small amount of disseminated muscovite which becomes more abundant towards the sericitic muscovite schist that is usually present between the quartzite and iron formation.

The Sokoman Formation on the Julienne Peninsula has been mapped in detail and a succession of lithologic units or members termed Units A to G are exposed on both limbs of a refolded northeast-southwest trending synclinal structure. The Sokoman Formation stratigraphic section is divided into three parts, the lower, middle and upper iron formations.

The basal member of the Sokoman Formation, lower iron formation, is a limonitic and goethitic rock that is probably an altered silicate-carbonate member (map unit G). The siliceous goethite is non-magnetic and the magnetic contact follows the zone between this unit and the overlying oxide member (map unit F). The upper member of the lower iron formation is a quartz-specular hematite rock containing subordinate amounts of locally distributed granular hematite and orange brown coloured laminations containing the altered remains of a siliceous mineral that is usually found in association with specular hematite.

The middle iron formation arbitrarily includes all members lying above the leached specular-silicate (map units H to B) up to the appearance of several lean bands called ferruginous quartzite (map unit A). The lower band is generally richer in specular hematite than other members of the middle unit. Specular hematite, granular hematite and thin semi-continuous bands of hard very fine grained blue hematite or black manganiferous hematite make up the numerous bands which form the other members in the middle iron formation.

The upper iron formation contains several bands of lean quartzite usually associated with quartz-granular hematite bands (map unit A). Specular hematite is found in the upper member. The stratigraphic top of the iron formation is not known to be present.

The mineral deposits of the Labrador City/Wabush area belong to the broad class of iron deposits known as Lake Superior-type iron formation ("LSTIF"), although in this particular area, post consolidation tectono-metamorphic events would make the term meta-LSTIF more appropriate.

The Julienne Lake iron deposit extends across the full width of the Julienne Peninsula which also defines the EML boundary. The land portion of the deposit has an approximate strike length of some 2 kilometres and outcrop widths varying from about 550 metres to 1 kilometre. In cross section the deposit is a basin or synclinal structure, the Julienne basin. The maximum vertical thickness of the deposit is undefined but is at least 215 metres. The deposit is interpreted, on the basis of magnetometer surveying and one drill hole, to continue south-westward under Wabush Lake and north-eastward under Julienne Lake. The estimated total strike length of iron formation in the Julienne basin is approximately 4.7 kilometres.

The principal mineralization is in the middle iron formation of the Sokoman Formation.

The metamorphosed iron formation in the Julienne deposit is essentially mixture of crystalline quartz, specular hematite and magnetite, with subordinate and sometimes localized amounts of carbonate, anthophyllite, grunerite and fine-grained hematite-manganiferous veins. Post metamorphic leaching removed the carbonate and anthophyllite. Oxidation converted magnetite to martite, spread a certain amount of red hematite and limonite within the deposit and converted the grunerite schist to siliceous goethite.

The iron oxides occur in three forms: coarse grained, platy and bright specular hematite; medium grained, dull granular hematite-martite; and fine grained, earthy hematite-limonite or crystalline goethite-hematite.

Exploration

Exploration which led to the discovery of the Julienne Lake iron deposit was completed intermittently between 1953 and 1966. This work included reconnaissance and detailed geological mapping and prospecting, ground magnetometer traverses, surface trenching, test pitting and diamond drilling. .

The surface geological mapping of the property appears to be very thorough, with great attention to lithological and structural detail in the field, augmented by office mineralogical, petrographic, structural, etc. studies.

The historic magnetic traverses were conducted utilizing a Sharpe D-1-M magnetometer which was state-of-the-art in the 1950’s. Although crude by modern standards this survey adequately defines the deposit boundaries. As a quick check of the general exploration potential outside of the EML, MPH compared the deposit extensions projected by Javelin with modern GSC magnetic data. The GSC and Javelin data show essentially the same results, but due to the fact that the GSC flight lines are oriented at a low angle to the local Julienne deposit strike, the historic data is actually more definitive.

No recent exploration work has been conducted on the Julienne Lake EML.

Drilling and Test Pits

Historical diamond drilling which led to the partial outlining of the Julienne Lake iron deposit was completed in two stages between September, 1957 and August, 1958. The planned outline drilling program proposal, 11 holes totalling 5000 feet (1525m), was never completed. Only nine holes were with a cumulative length of 3,477 feet (1,060 m) were drilled. Test pits were employed to obtain bulk samples of iron formation in 1960 (38.5 long tons or 39.1 tonnes from 5 pits) and 1963 (162 tons or 164.6 tonnes from 12 pits). Processing, pelletizing and smelting tests were conducted on the 1960 samples, but there is no record of work on the latter samples.

In essence the historic drilling and test pit program is typified by significant inadequacies of design and execution. Consequently second and third order derivative information such as historical resource estimations, process/pelletizing/smelting testwork, and economic evaluations are built on a shaky foundation.

No recent drilling or test pitting has been conducted on the Julienne Lake EML.

Data Verification
Since this is strictly an office study, with no site visit, there can be no confirmation of existence of work sites or verification that technical observations reported by previous operators are properly recorded and accurate within acceptable limits. No independent verification samples were collected by MPH Consulting Limited.

It is unknown from current records if the laboratory utilized by Javelin employed adequate in-laboratory blanks, standards and duplicate analyses to ensure precision and accuracy of results.

No quality control (QC) and quality assurance (QA) protocols or data exist for the historic Javelin exploration programs, and the historic resource estimates.

There is a minimal amount of field duplicate sample analytical data available.

Adjacent Properties
Canada is currently the world's ninth largest producer of iron ore. As of 2008, approximately 60% of Canada's total iron ore production came from Labrador West mines operated by IOC and Wabush Mines. Most of the rest of Canada's iron-ore production is from nearby regions of north-eastern Quebec. Several advanced exploration or development stage properties are active in the Labrador Trough region.

Mineral Processing and Metallurgical Testwork
By the early 1960's Canadian Javelin was apparently thinking of a full-blown integrated operation including pig iron production and a steel plant for the Julienne Lake deposit, rather than an iron ore concentrating/pelletizing plant. This led to a search for an iron ore reduction process that did not require huge quantities of coking coal to be brought to western Labrador. Two innovative experimental electric smelting processes, (Strategic Udy and Elkem) were investigated in 1961-62, utilizing iron formation material collected from 5 surface test pits in December, 1960.

In January, 1963, approximately 1000 lbs (450 kg) of Julienne concentrate was shipped from Lakefield to the Dravo Laboratory in Pittsburgh, PA, for pelletizing tests. The concentrates were ground in a small ball mill to obtain a product of approximately 82% passing -325mesh. This was mixed with ½% bentonite and balled in a Dravo-Luigi disc. About 600 lbs (270 kg) of green pellets were made and standard strength tests were carried out. Two batches of pellets were fired in the pellet firing furnace, and standard strength tests were conducted. The test results were deemed to be excellent and comparable to earlier results obtain from the nearby Carol and Wabush deposits.

Historical Mineral Resource and Reserve Estimates

In 1959-60, Javelin made a preliminary estimate of the grade and tonnage contained in the Julienne Lake iron deposit. This rudimentary ‘polygon on section’ estimate employed a volume to tonnage conversion factor of 12 cubic feet per long ton (2.9 tonnes/cubic metre) to arrive at 381,220,000 long tons (387,340,000 tonnes) averaging 34.2% Fe.

A revised grade and tonnage estimate for the Julienne Lake deposit, including projected strike extensions beneath Wabush and Julienne Lakes was completed in June 1963. The under-lake extensions are based primarily on interpretations of magnetic data. Only one historic diamond drill hole, from a lake ice setup, actually confirmed iron formation. The land portion of the Julienne Lake deposit that has been explored by surface mapping, trenching and limited diamond drilling was re-estimated by Javelin to contain 500,034,000 long tons (508,058,000 t) averaging 34.2% Fe with only traces of impurities. Geophysically projected extensions of the deposit under Wabush and Julienne Lakes (outside of the EML) were estimated at 165 million and 239 million tons (168 to 243 million tonnes), respectively. Combining the tonnage estimate on the Julienne Peninsula with the projected under-lake extensions tonnages brings the total deposit blue-sky mineral potential to approximately 900 million tons (915 million tonnes).

The above historical estimates are presented by MPH for information purposes only. The estimates are believed to have been done to only rudimentary standards, nonetheless they would appear to reasonably indicate the tons and grade outlined at the date of preparation. However the estimate predates the current standards embodied in NI 43-101 and therefore do not conform to the same.

While there is little doubt that the Julienne Lake iron deposit is sizeable and of good grade based on the historic data, there is considerable uncertainty regarding the details. There are serious shortcomings in the diamond drilling database used for the estimations.

MPH used GEMCOM to construct a rudimentary polygonal block on plan method to estimate the minimum on-shore tonnage and grade for the Julienne Lake iron deposit as follows:

- 460.0 million tonnes of iron formation material at average grade of 35% Fe

The above MPH audit estimations are in reasonable agreement with the preliminary estimates made by Javelin in the early 1960’s.

MPH has reviewed and evaluated all available information concerning the historic grade/tonnage estimates and after conducting independent estimations has determined that in its opinion none of the estimates meet all of the criteria for NI 43-101 compliant Measured + Indicated Resources.

Iron Ore Markets

The Julienne Lake iron deposit could conceptually produce iron ore concentrates or iron ore pellets as its primary sales products. Smelting and refining operations to produce pig iron and steel products have been considered in the past.

In general iron ore mines may be either, affiliated/owned by iron/steel companies (e.g. ArcelorMittal, US Steel) and thus have a more or less captive market, or arms-length producers that are dependent on sales contract or spot market product sales (Vale, BHP-Billiton, Rio Tinto). Many mines have complex ownership structure and can be dependent on both types of markets. Current operators in the Labrador Trough region include both types.

The affiliated/owned mines provide a secure source of feed for the parent company's downstream operations and as such are not necessarily obliged to make an operating profit, provided the combined upstream and downstream operations do so.

For the arms-length miners, iron ore prices have historically been set by a 'benchmark' system, between miners and steelmakers. A growing short-term pricing market, a mix of quarterly negotiations, spot market pricing and index-based pricing, also exists which was traditionally much smaller than the contract market. In recent years, the benchmark system has begun to break down, with some miners pushing for market based pricing, and negotiations with the largest iron ore buyer, China, causing friction. As the spot market has grown in size and importance, financial hedging instruments such as iron ore swaps have emerged. Given that most other bulk commodities have evolved to a market based pricing system, it is considered inevitable that iron ore will also in the medium to long term.

The mid-1990's emergence of China as a major growing consumer of iron and steel has had an unprecedented major impact on the global iron ore and steel industry, which makes the post-World II boom period (1945-1970) look modest in comparison. The fundamental difference between the 'baby boom' and the 'China boom' years with respect to the iron ore industry is that the former had an initial resource deficit, while the latter initially had a production capacity imbalance. It took about 20 years of exploration and development for the markets to be saturated in first instance, but a much shorter time frame is unfolding as existing mines are being expanded in the latter.

The iron ore production shortfall that followed the beginning of the China boom took off around the year 2000, leading to rapid price increases throughout the first decade of the 21st century. What is surprising is that the iron ore pricing structure has only seen a small correction as a consequence of the global recession. However, the profits generated from the recent and continuing high prices are being rapidly converted to additional production capacity by the Big Three and others. New iron ore mining capacity taken into operation in 2008 was reported to be about 88 million tonnes globally, a lower figure than in 2007. The total project pipeline contains more than 430 million tonnes of new production capacity that may come on stream between 2009 and 2011.

Recent statements by the Big Three iron ore miners are optimistic. BHP-Billiton reports; "During the December quarter we saw a strong recovery across the commodity suite driven by demand in China and restocking in the developed world. Government stimulus measures appear to have supported a gradual return to normalised global trade, albeit from a low base, and most key indicators across the developed economies showed improvement." Vale S. A. reports that; " Demand in the global iron ore market has returned-or even surpassed-pre-crisis levels, with demand surging in key Asian markets." Rio Tinto's Canadian subsidiary reports; "Rio Tinto Alcan is encouraged so far by the strength of the global economic recovery but wants to wait a little longer to determine how stable the rebound is before ramping up its Canadian [Carol Project] spending commitments."

Chinese iron ore production capacity is rising fast although Chinese iron ore is generally low quality, at around 30% contained iron and typically high cost. The Chinese mining industry is typified by large numbers of small scale relatively low-tech operations that have difficulty competing with international suppliers.

It is inevitable that the current supply demand imbalance will tip the other way at some point in the future. When this happens, as always, the operations showing the best profit margins will continue, while the others falter.

Potential Marketability of Julienne Lake Iron Deposit Products

Although the historic resource information is sketchy and the historic concentrating, pelletizing, smelting and steel making tests are incomplete and dated, in the opinion of MPH, there is little doubt that saleable iron ore products can be obtained from the Julienne Lake deposit. The key question is; can this be done economically? To answer this properly, a great deal of more specific technical and market information is needed, than is currently available. It is therefore only practical for MPH to present a considered opinion on whether or not staged investigations should be initiated to achieve this end.

The first aspect of this exercise is to create a deposit scenario to compare with the local, regional and international competition. The potential local competition is for Julienne Lake is empirically ranked in the Table below. Due to remoteness the Schefferville area deposits are considered significantly more difficult and expensive to develop than those in the Labrador West-Fermont area. The DSO group of deposits are a smaller size class than the rest and relatively remote. The Labrador West-Fermont cluster are considered to have similar general infrastructural capacity, although Carol Project Expansion program is clearly ranked No 1, due to substantial sunk costs and the highest grade of the large tonnage group. MPH would rank the Julienne Lake deposit at No 3 overall and the best of the non-IOC group.

Rank	Deposit	Location	Company	Resources	
				Tons (x 10^6)	Grade (Fe)
1	Carol Project Expansion	Labrador City	IOC	-	39%
2	Labrador Ridge	Labrador City	IOC	551.2	37.7%
3	Julienne Lake	Wabush Lake N	Govt. NL	750	35%
4	Lamelee-Peplar, QC	Fermont region	C. Thompson[2]	935.0	29.72%
5	Lac Bloom, QC	Fermont region	C. Thompson[2]	827.0	29.30%
6	Kemag, QC	Schefferville region	NMCC[1]	2,448.0	31.27%
7	Labmag, NL	Schefferville region	NMCC[1]	3,665.0	29.6%
8	DSO Project, NL (8 deposits)	Schefferville region	NMCC[1]	56.0	58.97%

[1] New Millenium Capital Corp, [2] Consolidated Thompson Iron Mines Limited

A further positive consideration for the Julienne Lake deposit, is a possible future connection with the Wabush Mines operation. The latter has a finite operating life due to the high Mn content of the ore, with one source anticipating mine closure as early as 2013, unless the Mn problem is solved. Starting up the Julienne Lake deposit and preserving the Wabush Mines plant, equipment and jobs would be of obvious benefit to the Province of Newfoundland and Labrador.

Another avenue to be explored might include Chinese or other Asian investment in the EML as a source of iron ore concentrates and/or pellets for their steelmakers. A modest portion of Canada's iron ore production is already sold to Asia buyers. While conventional sea routes certainly favour other producing regions such as Australia, India, South Africa and even Brazil, it is not a major stretch of the imagination to see the Northwest Passage route to the Orient opening up new opportunities for eastern Canada.

Historical Prefeasibility Studies

Between 1960 and 1971, Javelin evaluated the potential for building commercial operations including various combinations of mining, concentrating, pelletizing, smelting and steel plant at Julienne Lake by evaluating various processes. In the opinion of MPH none of the prefeasibility studies had sufficient basic information for meaningful economic evaluations.

The initial study completed in 1962 considered a fully integrated operation. It was quickly concluded that conventional blast furnaces employing coking coal, or direct reduction processes utilizing gas or oil as fuel would be uneconomic in Labrador. Two experimental electric smelting processes were evaluated the Strategic-Udy Process and the Elkem Process. Tests on the property concentrates indicated that Julienne Lake concentrates are amenable to smelting by both processes. The practicality of mining, concentrating, pelletizing and smelting Julienne Lake deposit material was evaluated by Kilborn Engineering Limited. Preliminary capital and operating cost estimates were made concerning a mining and concentrating plant designed to produce 3,000,000 long tons (3,048,000 tonnes) of concentrate per year from 7,500,000 long tons (7,620,000 tonnes) of iron ore, a pelletizing plant to produce 2,160,000 long tons (2,195,000 t) of pellets, and a smelter plant (Elkom Process) to produce 540,000 metric tonnes of pig iron per year (Kilborn, 1962a, b and c). These preliminary costs include estimates for providing infrastructure and services (railway, power line, road, town site, etc.).

Neither of the experimental electric smelting techniques ever went into the large scale commercial iron ore reduction business. Since the 1960s, electric arc furnaces are used on a relatively small scale producing steel from scrap metal.

The second production scenario, evaluated in 1967, updated the 1962 study as a mining and concentrating plant designed to produce concentrate from 10,000,000 long tons (10,160,000 t) of iron ore, together with a pelletizing plant to produce 4,000,000 long tons (4,064,000 t) of pellets. No additional basic technical information was included in the study.

The third feasibility assessment was conducted in the early 1970's. This scenario combined two deposits, Julienne Lake, NL and Star-Okeefe, QC as mining/concentrating operations with a slurry pipeline feeding concentrates to a pelletizing plan in Sept Isles, QC. Again no further basic studies were conducted on the Julienne deposit.

In the opinion of MPH the above historical studies are not supported by enough basic technical information to allow meaningful prefeasibility stage assessments.

Interpretation and Conclusions

MPH is of the opinion that the Julienne Property represents a good opportunity to develop a mining operation in a world class iron ore producing region. It is also apparent that the existing technical database does not fully conform to adequate standards that would permit wholesale inclusion in any future investigations. A major multifaceted exploration program is required to advance the project toward the preliminary economic evaluation or prefeasibility study stage, by current standards.

The Julienne Lake iron deposit has been traced by very limited drilling, adequate surface mapping, and geophysical surveys over a total strike length of approximately 4.7 kilometres, with the area under consideration to be investigated contained within Julienne Lake EML or the land portion of the deposit. The iron formation is well defined near surface by geological mapping but its overall thickness is essentially unproven. The deposit has been tested by very limited drilling to a maximum depth of 215 metres. A major exploration and engineering program will need to be initiated that includes the following investigations running concurrently or consecutively:

- Augment existing surface geological information with additional surface stripping/trenching lithological and structural mapping to define detailed stratigraphy.
- A multi-purpose diamond drill program for geological modeling, resource modeling, geotechnical investigations, and metallurgical testwork. In all approximately 30 HQ to NQ holes are planned with a cumulative length of 7,000 metres.
- A preliminary geotechnical program to define water flow, pit-slope stability, etc. would be included in above drilling program.
- Bench scale metallurgical testwork on iron formation subtypes and composites to document crushing, grinding, concentrating and pelletizing characteristics of the deposit.
- Initiate environmental, archaeological, and water resources baseline studies and permitting applications.
- Iron ore concentrates and/or pellets preliminary sales and marketing investigations.
- Preliminary pit modeling investigations.
- Preliminary economic evaluation.
- A contingency amount to provide for additional infill drilling, etc. if required to achieve measured + indicated resource status.

MPH concludes that the above exploration and engineering investigations are fully warranted and justified.

Recommendations

The following is a preliminary budget estimate to advance the Julienne Lake iron deposit to somewhere in the range of preliminary economic evaluation to prefeasibility stage, depending on actual results. The budget would need to be firmed up based on bids from drilling, metallurgical, and analytical lab contractors etc. The main focus is on building a good foundation with systematic diamond drill hole and surface sampling. In MPH's opinion there is no point in twinning historic holes because those holes are inadequate for ongoing purposes anyway. About 30 holes (7000 m) are required to outline the deposit on 150m x 300m centers. That along with more surface trenching, mapping, sampling and magnetics should establish a reliable 3-D geological model. Systematic information regarding Fe grade distribution, deleterious elements, RQD's, S.G./bulk density data, etc. would be acquired, along with representative samples for mineralogy, processing and pelletizing testwork, etc. Utilizing appropriate cost/revenue assumptions it will be possible to generate resource models at a range of cut-off grades and generate preliminary pit design models. This will definitely be adequate basic input data (which with other appropriate assumptions) could be used to construct a DCF model to preliminary economic evaluation standards.

A budget of approximately C$ 2.0 million is required to complete the detailed work on the Julienne Lake iron deposit. The table below provides a summary of the total work program budget over an approximately one year period. In the opinion of MPH Consulting Limited this work is non-provisional.

Phase 1 Julienne Lake Fe Deposit (Firm Requirements)	**Details**	**Summary**
Grids		
Re-establishment of old grids + support*	$ 20,000	**$ 20,000**
Geology		
Geological mapping + support*	$ 60,000	**$ 64,500**
Samples (150 samples @ $30/sample)	$ 4,500	
Geophysics		
Magnetometer survey + support*	$ 12,000	**$ 14,500**
Processing & interpretation	$ 2,500	
Geochemistry		
Rock (~150 samples @ $30/sample) + support*	$ 34,500	**$ 34,500**
Diamond Drilling		
Mob/Demob	$ 25,000	**$ 1,085,000**
Drilling (7,000 metres @ $125/m) + support*	$ 1,000,000	
Samples (2,000 samples @ $30/sample)	$ 60,000	
Mechanical Trenching 75,000		
Mob/Demob	$ 2,000	**$ 71,000**
Trenching + support*	$ 60,000	
Samples (300 samples @ $30/sample)	$ 9,000	
QA/QC		
QA/QC Manual	$ 5,000	**$ 15,000**
Standards, blanks and duplicates	$ 10,000	
Metallurgical Testwork		
Mineralogical & Bulk density Studies	$ 50,000	**$ 250,000**
Bench scale testwork	$ 200,000	
	Sub-Total	**$ 1,554,500**

GENERAL	Details	Summary
Support Costs		
Field (core logging & storage) facility rental	$ 30,000	**$ 100,000**
Permanent core storage	$ 50,000	
Permits	$ 10,000	
Community relations	$ 10,000	
Environmental Studies		
Baseline studies for EPIA + support*	$ 60,000	**$ 60,000**
Report Costs		
43-101 compliant report (includes resources, pit model, economics)	$ 75,000	**$ 75,000**
	Sub-Total	**$ 235,000**
	TOTAL	**$ 1,789,500**
	G&A + Contingency (15%)	**$ 268,425**
	GRAND TOTAL FOR BUDGET PURPOSES	**$ 2,057,925**

* Support includes all necessary personnel, vehicle & equipment rentals, food & accommodation, travel, and fuel

A second budget stage, an indeterminate but significantly larger amount that is conditional upon satisfactory results from the Phase 1 work, would be required to advance the project through the prefeasibility and feasibility study stages. Additional provisional funding would be required for this.

Additional capital expenditures may be required to continue development work on the Julienne Lake iron deposit after the feasibility study is completed. Additional debt and/or equity funding would be required for this.

1.0 INTRODUCTION

On November 20, 2009, the Department of Natural Resources, Government of Newfoundland and Labrador ("DNR") invited proposals from selected parties for the preparation of recommendations for the further assessment of the Julienne Lake iron deposit in western Labrador. MPH Consulting Limited submitted a proposal regarding same to the DNR on December 20, 2009 and was notified that its bid was successful on January 4, 2010.

At the request of Mr. John D. Davis, Director, Mineral Development Division, Mines Branch, Department of Natural Resources, Government of Newfoundland and Labrador, Natural Resources Building, 50 Elizabeth Avenue, St. John's, NL, MPH Consulting Limited ("MPH"), of 133 Richmond Street West, Toronto, has completed a preliminary evaluation of the Julienne Lake iron deposit to assist with developing departmental policy concerning the possible use or sale of the deposit. Specifically the DNR requires technical opinions regarding certain specific aspects of the deposit's historic database, namely:

- Reliability of Historic Resource/Reserve Estimates, and
- Marketability of Potential Sales Products.

A further key element of the assignment is to assist the DNR in assessing the current level of serious interest in iron ore properties in general.

1.1. Authorization and Terms of Reference

HER MAJESTY IN RIGHT OF NEWFOUNDLAND AND LABRADOR as represented by the Minister of the Department of Natural Resources retained MPH on January 18, 2010, to prepare a Preliminary Evaluation of the Julienne Lake Iron Deposit, Western Labrador, Newfoundland and Labrador. This Report on the Julienne Lake Iron Deposit dated January 30th, 2010 was commissioned and authorized by Mr. John D. Davis, P.Eng., Director, Mineral Development Division, Mines Branch, Department of Natural Resources, 3rd floor, Natural Resources Building, 50 Elizabeth Avenue, St. John's, Newfoundland and Labrador, A1A 1W5. The Report was prepared in Toronto, Canada, between January 18th and February 5th, 2010.

1.2. Qualifications of MPH and Authors

Established in 1967, MPH Consulting Limited has over 40 years of experience serving the mineral industry. More than 2,500 projects have been completed in over 70 countries, including management and design of large scale exploration programs, geophysical interpretation and modeling, resource and reserve estimation, financial analysis, preparation of technical and valuation reports, and evaluations ranging up to full scale feasibility studies. MPH emphasizes a multi disciplinary approach and can offer state-of-the-art technical expertise in economic geology and related fields, data processing, and geophysical interpretation. MPH also provides solid practical skills in logistics and project management. For more information visit our website: www.mphconsulting.com .

MPH has considerable experience pertaining to a variety mineral commodities and projects in Newfoundland and Labrador. The following projects highlight the list:

- The Rambler Joint Venture (Teck Corporation, Newfoundland Exploration, Petromet Resources) 1989-1991: MPH initiated and organized a successful bid by the Rambler Joint Venture to acquire the Rambler Properties EML, Nfld. and then managed and implemented a multidisciplinary exploration program that led to the discovery of the Ming West VMS deposit which was mined (by others) in the mid 1990's.
- The Voisey's Bay Ni Exploration Boom, Labrador, mid to late 1990's: MPH managed and implemented a wide variety of exploration programs for several clients. Projects ranged from early-stage reconnaissance programs, airborne and surface geophysical surveys, through the spectrum to a major deep (1,500 + metre hole depth) drilling program.
- The Government of Newfoundland and Labrador, (Torngat National Park Compensation Issues) 2001: MPH provided the Department of Mines and Energy with an independent opinion as to the "Fair Market Value" of the Hutton Garnet Project of Freeport Resources Inc. located in the Torngat Mountains District, Northern Labrador. In addition MPH provided the department with an Independent Technical Opinion of a "Prefeasibility Report and Marketing Study" completed by Freeport.
- Wabana Iron Mine (former producer) Technical Evaluation, 2009: This was completed by the principal author and is very similar in scope and approach to the current report.

Mr. Howard Coates, M.Sc., P.Geo., Vice President of MPH Consulting Limited, is the principal author of the study. An economic geologist with 39 years of diversified experience, Mr. Coates has extensive knowledge of mineral deposits gained through many years of post-graduate experience in diverse parts of the world. Currently Vice President of MPH Consulting Limited, Mr. Coates worked for major international mining companies, Falconbridge Limited and Billiton Canada Limited in Canada and Australia during the first fifteen years of his career. Since joining MPH in 1984, he has been involved in the conceptual development and management of base metal, gold and diamond exploration programs in Canada and abroad for a number of clients. He has prepared or assisted with many independent technical and valuation reports, property evaluations, prefeasibility and feasibility studies to Canadian National Instrument NI 43-101 standards on mining properties worldwide (including Argentina, Australia, Botswana, Canada, China, Columbia, Democratic Republic of Congo, Ecuador, Indonesia, Mexico, Mongolia, Peru, Philippines, Russia, Solomon Islands, South Africa, USA, Venezuela). He has also conducted reserve/resource estimations and audits for gold, base metals, coal, industrial mineral and tailings deposits. Additionally he has provided technical input to litigation proceedings as an expert witness in a number of exploration/mining industry cases.

Mr. Coates has extensive knowledge of mineral deposits gained through many years of post-graduate experience in many parts of the world. He has worked on a variety of advanced nickel-copper, gold, polymetallic massive sulphide, granite-related tin-tungsten-molybdenum, coal, porphyry copper-molybdenum-gold, iron ore-copper-gold (IOCG), uranium, diamond, and sediment hosted iron and base metal deposits. He possesses a wide range of technical and managerial skills related to mining exploration and development.

Other MPH personnel contributed to the work, notably Michele Cote, M.Sc., P.Geo., Senior Geologist who constructed the GEMCOM preliminary resource model, and Jeremy Brett, M.Sc., P.Geo., Senior Geophysical Consultant who reviewed and evaluated the property geophysical data.

Mr. Bill Brereton, M.Sc., P. Eng., MPH Vice President completed the peer review of this report.

1.3. Scope of Work and Sources of Information

The DNR commissioned MPH to evaluate technical information on the Julienne Lake iron deposit and to assist with developing a strategy with respect to the deposit's further exploration and potential development. The work was an office study only. No site visit was authorized or conducted in connection with the current report.

In preparing this report, MPH reviewed geological reports and maps, miscellaneous technical papers, company letters, memoranda and other public and private information as listed in the "Reference" section of this report. In addition, MPH drew on its own experience in ferrous metal projects and previous work in Canada and elsewhere.

The following documents are of particular importance in connection with the current Preliminary Evaluation Report:

- Knowles, D M, 1968. Development work proposals Julian deposit, Canadian Javelin Limited, Newfoundland and Labrador Geological Survey, Assessment File 23G/02/0114, 1968, 25 pages.
- Knowles, D M, 1967. The structural development of Labrador Trough formations in the Grenville Province, Wabush Lake area, Labrador, PhD, Columbia University, New York, New York, 1967, 234 pages.
- Knowles, D, 1963. Julian Deposit estimate of tonnage open pit mining, Canadian Javelin Limited and Julian Iron Corporation Source: Newfoundland and Labrador Geological Survey, Assessment File 23G/02/0144, 1963, 21 pages.
- Blakeman, W B and Knowles, D M, 1963. Report on the Julian deposit and its extensions, Labrador, Canadian Javelin Limited, Newfoundland and Labrador Geological Survey, Assessment File 23G/02/0117, 1963, 24 pages.
- Canadian Javelin Limited, 1962. Summary report - section 1-geology, section 2-ore reserves, and section 3-metallurgy on the Julian Lake deposit, Labrador, Canadian Javelin Limited and Julian Iron Corporation, Newfoundland and Labrador Geological Survey, Assessment File 23G/02/0110, 1962, 123 pages.
- Lakefield Research of Canada Limited, 1961. Report on grinding and concentration tests on Julian iron ore, Canadian Javelin Limited Source: Newfoundland and Labrador Geological Survey, Assessment File 23G/0150, 1961, 26 pages.
- Knowles, D M, 1960. A report of studies conducted during 1959-1960 on the Julienne Lake deposit, Labrador, Canadian Javelin Limited, Newfoundland and Labrador Geological Survey, Assessment File 23G/0124, 1960, 59 pages.

- Roxburgh, W H, 1960. Memorandum regarding the reserve estimates of the Julienne Lake Deposit, Labrador, Canadian Javelin Limited and Julian Iron Corporation, Newfoundland and Labrador Geological Survey, Assessment File 23G/02/0109, 1960, 20 pages.
- Canadian Javelin Limited, 1959. Ore reserve estimates for the Julienne Lake Deposit, Julienne Lake area, Canadian Javelin Limited and Julian Iron Corporation, Newfoundland and Labrador Geological Survey, Assessment File 23G/02/0247, 1959, 15 pages
- Mockler, H, 1958. Julian Iron Corporation diamond drilling – 1957, Canadian Javelin Limited, Julian Iron Corporation, Wabush Iron Company Limited and Pickands Mather and Company, Newfoundland and Labrador Geological Survey, Assessment File 23G/02/0115, 1958, 39 pages.
- Gastil, R G, 1956. Report on geological and magnetic surveys of the Julienne Lake deposit, Labrador, Canadian Javelin Limited, Newfoundland and Labrador Geological Survey, Assessment File 23G/0154, 1956, 29 pages.
- Pickands Mather and Company, 1959. Report on exploration of the Julian ore deposit, Labrador, Canadian Javelin Limited and Pickands Mather and Company, Newfoundland and Labrador Geological Survey, Assessment File 23G/02/0066, 1959, 49 pages.

This report is based on information known to MPH as of January 25, 2010.

All measurement units used in this report are metric, and currency is expressed in Canadian Dollars. When the historic work was completed the British Imperial system of measurement was still in use throughout much of the world including Canada. Long tons (UK) of 2,240 pounds were the historic norm in the iron ore industry and ore prices were usually stated in US$ per long ton unit. A long ton unit was 22.4 pounds or 1% of a ton. Selected Imperial to SI conversions that were utilized in this report are listed as follows:

- 1 long ton (UK) of 2,240 pounds = 1.016 tonnes or 1,016 kilograms
- 1 foot = 0.3048 metres
- 1 inch = 25.4 millimetres
- 1 statute mile = 1.609 kilometres
- 1 square mile = 2.59 square kilometres

2.0 RELIANCE ON OTHER EXPERTS

MPH assumed that all of the information and technical documents reviewed and listed in the "References" are accurate and complete in all material aspects. While MPH carefully reviewed all of this information, MPH has not concluded any extensive independent investigation to verify their accuracy and completeness.

MPH has not searched titles to the land holdings and has not independently verified the legal status of the ownership of the Property or the underlying agreements. Information provided in this report with respect to land holdings and legal status is that provided to MPH by the DNR.

The information, conclusions contained herein are based on the information available to MPH at the time of preparation of this Report, assumptions, conditions and qualifications as set forth in the Report and data listed in the "References".

The DNR has warranted that a full disclosure of all material information in its possession or control has been made to MPH. The DNR has agreed that neither it nor its associates will make any claim against MPH to recover any loss or damage suffered as a result of MPH's reliance upon the information provided by the DNR for use in the preparation of this Report. The DNR has also indemnified MPH against any claim arising out of the assignment to prepare this Report, except where the claim arises as a result of any proved wilful misconduct or negligence on the part of MPH. This indemnity is also applied to any consequential extension of work through queries, questions, public hearings or additional work required arising from MPH's performance of the engagement.

The DNR has reviewed draft copies of the Report for factual errors. Any changes made as a result of these reviews did not involve any alteration to the conclusions made. Hence, the statement and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading at the date of this Report.

MPH reserves the right to, but will not be obligated to, revise this Report and conclusions thereto if additional information becomes known to MPH subsequent to the date of this report.

3.0 PROPERTY DESCRIPTION AND LOCATION

The Julienne Lake iron deposit is located in western Labrador, near the towns of Labrador City/Wabush, Newfoundland and Labrador approximately 1,200 kilometres northwest of St. John's the provincial capital (Figure 3-1). The nearest major cities are Halifax, Nova Scotia, which lies 950 kilometres to the south and Montreal, Quebec, some 1000 kilometres to the southwest.

Figure 3-1: Regional Location Map

Mineral rights to the Julienne Lake iron deposit are currently held by the Government of Newfoundland and Labrador as an Exempt Mineral Land ("EML") enclosing 334 hectares or 3.34 km^2, formerly a Newfoundland and Labrador Corporation Limited ("Nalco") mining lease encompassing the Julienne Peninsula. In 1960, a mining lease was issued to Nalco, who sub-leased the rights to Julco Iron Corporation, a wholly owned subsidiary of Canadian Javelin Limited. In 1975 the rights to the deposit reverted to the crown under the Julienne Lake Deposit (Reversion Act) 1975, due to failure by Canadian Javelin to meet requirements of the Mining and Mineral Rights Tax Act. The area was designated EML under the Mineral Act when it came into effect on June 21, 1977. The boundary of the EML is shown in Figure 3-2.

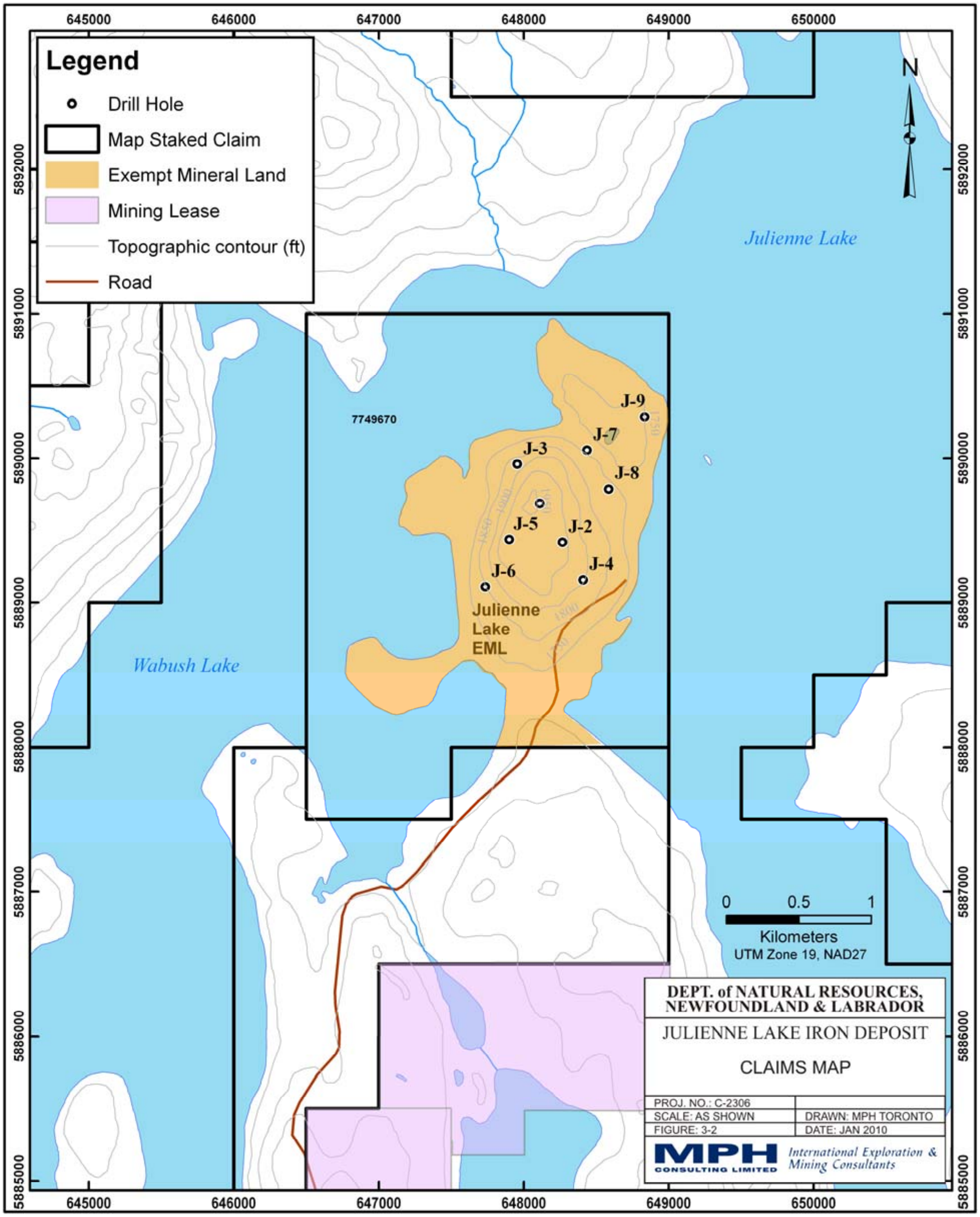


Figure 3-2: Claims map.

Exempt Mineral Land mineral rights could potentially be obtained by individuals or companies by means of a public bidding process. When serious interest is shown in an EML the Government of Newfoundland and Labrador may invite proposals to develop the Exempt Mineral Land in question. Experienced and financially competent individuals or companies may apply to the Minister of the Department of Natural Resources.

Prospective areas outside of the EML may be acquired by map staking.

While MPH has viewed historic and current documents concerning the properties and agreements it is not qualified to provide a professional opinion as to the legal status of same. The status of the mineral rights, surface rights and details of agreements have not been certified by MPH Consulting Limited.

4.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Accessibility:

The Julienne Lake Property is situated in south-western Labrador, approximately 27 kilometres by road north of Labrador City/Wabush, Newfoundland and Labrador ("NL"). Labrador City is located 590 road kilometres north northeast of Baie Comeau, Quebec via partly unpaved Quebec Secondary Route 389 and partly unpaved Trans Labrador Highway, NL Provincial Route 500, and 533 road kilometres west of Goose Bay, NL via Provincial Route 500 (Figure 4-1). Access from Wabush airport (mid-way between Labrador City and Wabush) is northerly on Grenfell Drive (Provincial Route 503) for 0.9 kilometres to Provincial Route 500. Then turn right (east) and proceed along Provincial Route 500 for 5 kilometres to the Javelin Road. Then turn left (north) onto unpaved gravel Javelin Road and proceed northward 21.5 kilometres to a small boat launching site at the south end of the Property. Roads and trails roads provide access to the old camp, trenches and prospects on the property. The recently exhausted Leila Wynne Dolomite Quarry owned by Iron Ore Company of Canada ("IOC") is about 4 kilometres south of the Julienne Lake project area.

Climate:

The climate of Labrador is sub-arctic, continental taiga climate, more Arctic than Atlantic. Because it is on the eastern side of the continent, it experiences strong seasonal contrasts in the characteristics and movement of air masses. The predominant flow is off the land. The rugged Torngat Mountains in the north, with peaks above 1,500 m, and the Mealy Mountains in the south, with peaks about 1,200 m, confine the moderating influence of the Atlantic Ocean to the rocky islands and near shore.

The Labrador sea is infested with floating pack ice and icebergs for eight months of the year. The masses of ice keep sea temperatures below 4 C. An east wind off the Labrador Current is a cool wind in summer, often with light rain or drizzle. In winter, when the Atlantic air is relatively mild, the accompanying weather includes cloud and frequent snow flurries. Whenever easterly winds bring very moist air from the Atlantic, widespread fog occurs.

Local climatic conditions are typical of western Labrador. Mean total precipitation for Wabush is 851.6 millimetres including 482.6 mm of rainfall and 445.7 cm of snowfall. Higher levels of rainfall typically occur in July (average 111.5 mm) while the highest level of snowfall accumulation (average 75.3 cm) usually occurs in the month of November. Mean July daily temperature is 13.7 C while mean January daily temperature is –22.7 C. Recorded temperatures have ranged from a low of –47.8 C on February 17,1973 to a maximum temperature of 33.3 C on June 16, 1983. (Source: Meteorological Service of Canada).

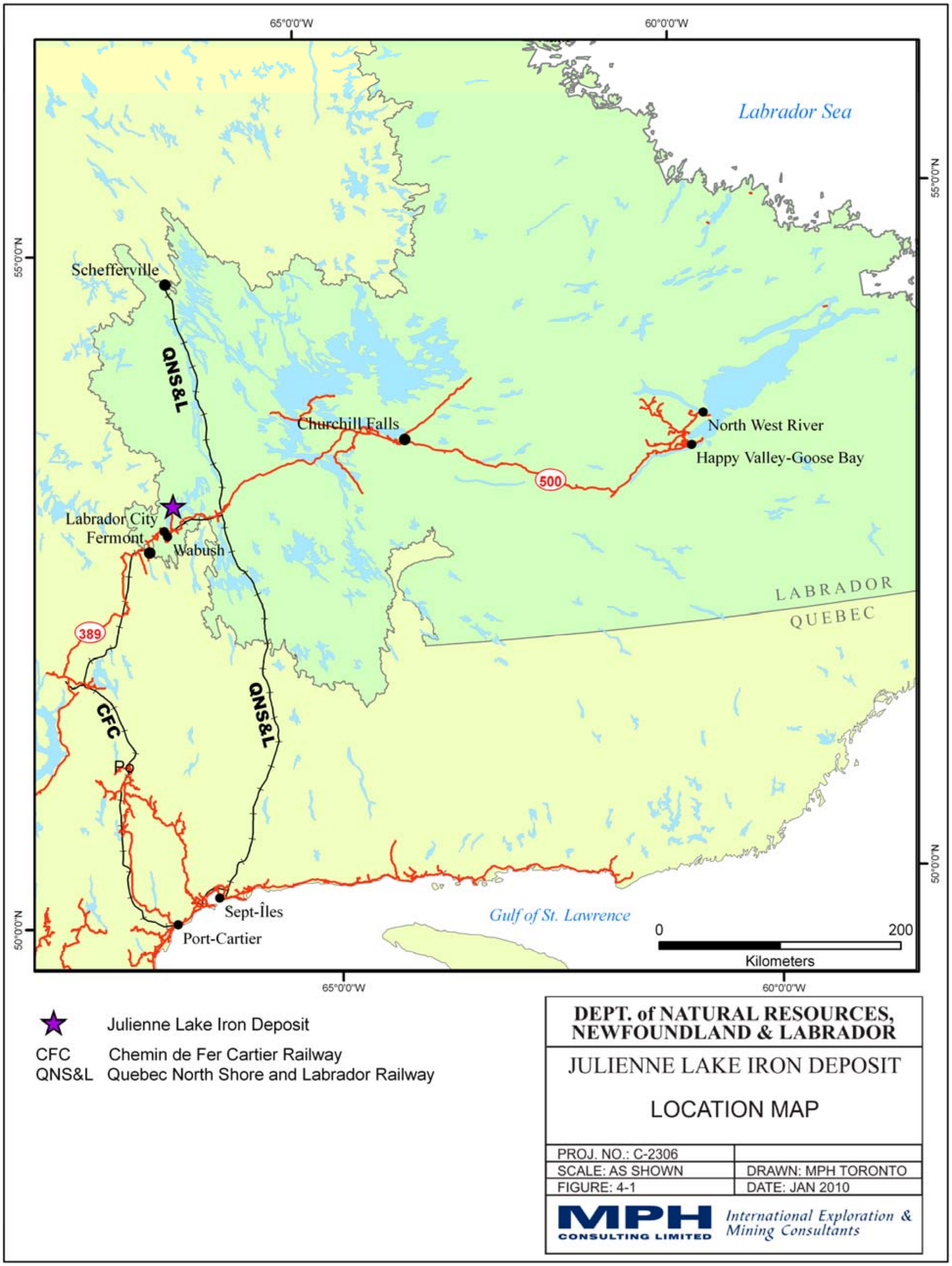


Figure 4-1: Location Map and Regional Access routes

Local Resources, Infrastructure:

The district of Labrador West, located in western Labrador near the Quebec border, includes the Town of Labrador City (population ~7,200) and neighbouring Wabush (population ~1,800). The district was first settled in the mid-1950's to early 1960's to accommodate employees of Wabush Mines and the Iron Ore Company of Canada. Labrador West is the regional centre for the iron ore mining industry in Labrador. Labrador City and Wabush can provide modern housing as well as educational, medical, recreational and shopping facilities. Historically, mining has been a dominant part of the local and regional economy. Labour, industrial supplies and services for mining and exploration activities are readily available in the region.

Wabush Airport is the only airport in western Labrador, and is served by two commercial airlines: Air Canada Jazz, and Provincial Airlines.

Photo 1: QNS&L Railway locomotives at Sept-Îles, Québec.

Built in the early 1950's by IOC, the Quebec North Shore & Labrador Railway ("QNS&L"), originally connected the port of Sept-Îles, Québec on the north shore of the St. Lawrence River with a northern terminus at IOC's mining community of Schefferville, Quebec, a distance of 573 kilometres. In the late 1950's major iron ore deposits were opened up near Labrador City by IOC and Wabush Mines, and the QNS&L built a 58 kilometre line to serve these mines, running west from the main line at Emeril Junction to Carol Lake, (near Wabush). Service on this branch began in 1960. IOC's Schefferville, Quebec operations closed in the 1980's. However, the company's QNS&L railway maintained subsidized passenger and freight service for communities along the northern portion of its system until 2005, when it transferred ownership of the Emeril Junction to Schefferville section to First Nations interests, Tshiuetin Rail Transportation Inc ("TRT"). IOC maintains proprietorship over the southern section of its QNS&L rail line which runs 414 kilometres between Sept-Îles and Labrador City, hauling up to 21 million tonnes of iron ore yearly for its own operations and those of Wabush Mines. Passenger service on the QNS&L is now operated by TRT as two return trips per week between

Sept-Iles and Emeril Junction; situated on the Trans Labrador Highway, 63 km from Labrador West. Also available twice a week is an eight hour trip from Emeril Junction to Schefferville, Quebec.

Physiography:

At its highest point the Julienne Lake Property is 600 m above sea level (“ASL”). The property covers the Julienne Peninsula which borders on Wabush Lake to the west and Julienne Lake to the east. Wabush, Julienne and Shabogamo Lakes are essentially one body of water at 527 m ASL, with an arbitrary boundary between the first two marked by the northern tip of the Julienne Peninsula. Drainage is generally northward then eastward into the Churchill River system to the Labrador Sea.

The center of the Julienne Peninsula is an elliptical hill that rises steeply to 75 metres above lake level. A low swampy isthmus joins the peninsula to the mainland to the south. The hill was a island in a proglacial lake, informally termed glacial lake Wabush, the paleo-shoreline of which is marked by a prominent bench or wave cut platform at about the 550 metre elevation (Knowles, 1967c). Above the bench, overburden is very thin and bedrock outcrops are widespread, while below the bench outcrops are very sparse and the terrain is characteristically covered significant thicknesses of glacial and glacio-lacustrine deposts.

The Julienne Peninsula is predominantly covered by spruce/lichen forest, with minor muskeg bogs and marshes in low-lying areas. The area is characterized by an open to dense tree canopy underlain by an undergrowth of lichens and shrubs. The prominent tree species is black spruce (*Picea mariana*). Shrub species include lambkill (*Kalmia, angustifolia*), Labrador tea (*Ledum groenlandicum*), blueberry (*Vaccinium angustifolium*) and alder (*Alnus spp*.). The dominant lichen species are Reindeer Lichens (*Cladonia alpestis, C. arbuscula, C. mitis*).

5.0 HISTORY

5.1. General Background

Iron ore mining has a long history of continuous production, over 114 years, from 1895 to the present, in what is now the Canadian Province of Newfoundland and Labrador. The presence of iron ore on Bell Island, near St. John's, was first recorded in the late 16th century, but it was not until the 1890's that the Bell Island or Wabana deposits attracted the attention of entrepreneurs and mining interests. Development of the Wabana iron ores began in 1893 and the first cargo of ore was shipped to Nova Scotia in 1895. When the steel industry was established in Sydney, Nova Scotia, in 1900 Wabana became the principal source of iron ore for this enterprise. Underground mining of the Wabana submarine iron deposits spanned a period of 73 years, until closure on June 30, 1966. During its lifetime, Wabana shipped over 80 million tonnes of raw and upgraded iron ore to Canada, Germany, the United States, Belgium and Holland. The development of giant high-grade open-pit iron ore mines in Labrador and elsewhere in the 1950's led to the demise of the Wabana operations.

Serious interest in the iron ore deposits of Labrador West stemmed all the way back to late 1940's which saw a monumental increase in the iron market as Europe and Asia rebuilt its cities and industries after World War II, and nations re-armed for the Cold War. However, the strong post-war demand revealed a world iron ore shortage which stimulated the worldwide search for new sources of ore. These exploration efforts eventually uncovered vast quantities of highly competitive ores in Labrador, Brazil and Australia. Development of these and other deposits from the 1950's onward signalled the gradual demise of lower quality or otherwise compromised Fe ores.

The earliest recorded mention of iron bearing rocks in the north-eastern Quebec/Labrador region are attributed to Albert Peter (A. P.) Low of the Geological Survey of Canada ("GSC"), who organized and surveyed long canoe traverses through the region in the early 1890's. In 1914, famous (for narrowly missing the Hollinger gold discovery in Timmins, ON) Canadian prospector, Reuben "Sourdough" D'Aigle of Chipman, New Brunswick, prospected the Wabush Lake area and obtained samples of the iron bearing rocks. D'Aigle and others promoted a gold rush to the Wabush Lake area in 1932. No gold was discovered. However, extensive areas of iron formation were located, while Sourdough D'Aigle's bad luck or poor timing continued.

The Labrador Mining and Exploration Company Limited ("LM&E") was formed in 1936 to explore and develop a large, >50,000 square kilometre mineral rights concession that covered most of western Labrador section of the Labrador Trough. During World War II, LM&E was acquired by Canadian gold miner, Hollinger Mines Ltd., and later joined by the Hanna Mining Company, a US coal, iron ore, blast furnace and lake shipping conglomerate. By 1949, LM&E had developed sufficient reserves of high-grade direct-shipping iron ore at Knob Lake sufficient to justify development. The partners joined forces with a group of US steelmakers and the Iron Ore Company of Canada ("IOC") was formed. After a major construction project including the mine, town-site (Schefferville, QC) and railway, the first shipment of iron ore moved south to the St. Lawrence River in 1954.

Cleveland Cliffs Iron Company undertook an exploration program in the Mont Wright area, QC, west of Wabush Lake in the late 1940's, but no direct shipping ore was found and the project was terminated. By the late 1950's concentrating-type iron ore deposits were in demand and the Québec Cartier Mining Company ("Quebec Cartier") a subsidiary of United States Steel Corporation ("US Steel") was founded to develop low-grade deposits in an area extending from Lac Jeannine to Mont Wright, Saguenay County, Quebec. Mining operations commenced at Lac Jeannine near Gagnon, QC in 1961, and in 1973 the company started operating at Mont Wright near Fermont, QC. Québec Cartier (now called ArcelorMittal Mining Canada) is one of the leading producers of iron ore products in North America. At their Mont Wright plant, the company operates an open pit mine and a crusher/concentrator facility capable of producing eighteen million metric tonnes of iron ore concentrates annually. The company also operates a pellet plant with an annual production capacity of some nine million metric tonnes of iron ore pellets at Port Cartier, QC. In 2006, ArcelorMittal (the world's largest steel maker) purchased Quebec Cartier Mines.

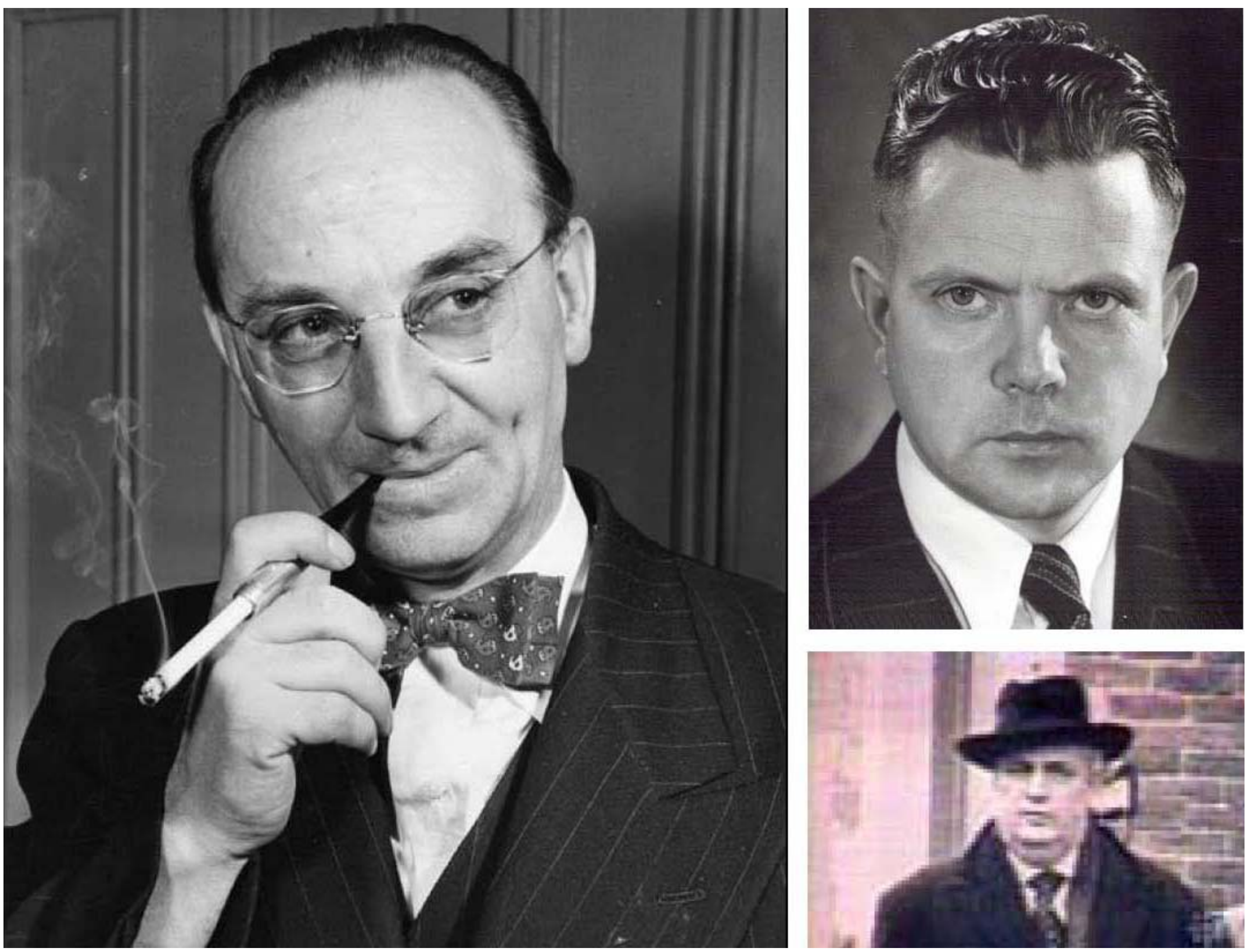


Photo 2: Nalco players, (clockwise left to right) Joey Smallwood, Alfred Valdmanis & John C. Doyle.

In 1951, Joseph R. (Joey) Smallwood, Premier of the newly minted Province of Newfoundland, created the Newfoundland and Labrador Corporation ("Nalco") to stimulate development of the province's natural resources. Responsibility for overseeing the Nalco crown corporation and its western Labrador mining concessions (areas that had been dropped by LM&E/IOC), was given to Alfred Valdmanis, the province's Director General of Economic Development. Also in 1951, Chicago-born John C. Doyle reorganized a Joliette, QC, stove-making company as Canadian Javelin Limited ("Javelin"), a holding company for his subsequent ventures. Doyle had apparently learned of iron deposits on Nalco's property in 1952. By the end of 1953, Doyle had become seriously interested in Nalco's iron ore properties, and had acquired Nalco as a subsidiary of Javelin. The Nalco/Javelin connection would lead to the Wabush Mines operations and also to the Julienne Lake iron deposit.

In the summer of 1953, Nalco began a geological exploration program to determine the economic potential of its Wabush Lake area concession (Boyko, 1953). Two iron occurrences were examined, namely:

- Burden #1: Located at the south end of Wabush Lake, this would become the Wabush Mines deposit, and
- Boyko #1: Located at the north end of the Julienne Peninsula, this would become the Julienne Lake iron deposit.

A Javelin engineer visited the exploration site in July, 1953, and by September Javelin had a camp and three drills on the Burden #1 prospect. By February 1954, 32 drill holes had demonstrated the presence of a very large iron deposit. Wabush Mines began mining ore from the Scully Mine in Labrador in 1965 and currently operates a mine and concentrating plant at Wabush with a concentrate production capacity of 5.5 million tonnes/year, together with a pellet plant and shipping facilities in Point Noire, Québec. Wabush Mines is currently owned by US Steel Canada Inc. (44.6%), ArcelorMittal Dofasco Inc. (28.6%) and Cliffs Natural Resources Inc. (26.8%).

By the late 1950's, IOC had a renewed interest in its Wabush Lake area concentrating-type iron deposits. Its Labrador City area mine known as the Carol Project began operation in 1962 and has produced more than one billion tonnes of crude ore with an average iron content of 39 percent. Annual capacity at the Carol Concentrator is 17 million tonnes of iron ore concentrate, of which 13 million tonnes can be pelletized and the balance processed into various grades of concentrate products. Operations at IOC's Schefferville, QC site continued until 1982, when the mine was closed. The current ownership of IOC is Rio Tinto (58.7%), Mitsubishi Corporation (26.2%), and the Labrador Iron Ore Royalty Income Fund (15.1%). IOC operates within the Rio Tinto Iron Ore group and maintains its head office in Montreal, Quebec.

In 1960 the Government of the Commonwealth of Australia lifted a long-standing embargo on the export of iron ore and this gave stimulus to exploration which located billions of tons of ore reserves in Western Australia. By 1967 contracts had been approved for the export of 320 million tons (325 million tonnes) of ore and shipments were under way.

Beginning in the mid 1990's, tremendous increases in iron ore consumption by developing nations, particularly China, resulted in a modest resurgence of interest in iron ore by some mining and exploration companies. Dramatic iron ore price increases from 2006 to the latter part of 2008 effectively created much more widespread interest in iron properties, while at the same time the major iron ore producers were reinvesting profits into expansion projects and new mine development. The worldwide mining boom appeared to come to an abrupt halt in the latter part of 2008 as capital markets tightened due to global recession. In 2009 it was expected that increases in capacity might outstrip expected Fe consumption, as growth dominated by China slowed. In reality, as of early 2010, many analysts see a strengthening market as China's growth continues and the developed world economies recover from the recession.

5.2. The Julienne Lake Area

W. P. Boyko's 1953 reconnaissance geological map of the Julienne Lake iron-bearing units for Nalco provides the earliest known documented work of the Julienne Lake EML. However, Gastil (1956) notes that "several old sample trenches, a location post and a blazed trail testify to prospecting predating that of Canadian Javelin", perhaps Sourdough D'Aigle again?

Preoccupied with the Wabush deposit, three years elapsed before Javelin's attention returned to the company's other iron ore occurrence. In the summer of 1956 a systematic geological and magnetometer study was completed on the Julienne Peninsula followed by a preliminary estimation of the area's general resource potential (Gastil, 1956). An early example of systematic multidisciplinary exploration, this geological and geophysical work produced a reasonably accurate map of the iron formation sub crop, while a surface sampling program (38 samples) gave a first indication of deposit grade. See Table 5-1 for the compiled results of the initial sampling program and a comparison with early Wabush data. This early comparison indicates that the Julienne material is significantly better than that of Wabush in terms of the deleterious element Mn. A general resource potential was estimated at 75 million tons of 'ore' above lake level for the outcrop area and 200 million tons above lake level for the onshore extensions.

Table 5-1: Julienne Lake and Wabush, 1956 Surface Sampling Results

Deposit	Fe (soluble)	Mn	P	S
Julienne Lake	~37%	0.177%	0.012%	0.004%
Wabush	~37%	~2.00%	-	-

On June 28, 1957, the Wabush Iron Company, a subsidiary of Pickands Mather & Company ("Pickands Mather") of Cleveland, Ohio signed an option agreement with Javelin with respect to the Nalco/Javelin western Labrador properties. On July 1, 1957, Pickands Mather took over management of the properties, as agents for Javelin. During the rest of 1957, Pickands Mather conducted a preliminary survey for a railway connection to the Julienne Peninsula, built a fly-in campsite, and commenced a diamond drilling program. In addition the area was overflown to obtain detailed aerial photographs for orthophoto mapping purposes, and a cut-line survey grid was laid out. The 1957 drilling program appeared to be poorly planned, starting with the remote location and Javelin's management decision to authorise a proposed 11-hole, 5000 ft (1,525 metre) program on the late-season date of August 15, 1957. Drilling commenced with the first of two drills, on September 11, 1957, and working with inadequate equipment in very difficult ground conditions, through freeze-up, only 1884 feet (574 m) of advance (3 completed drill holes, and 1 in progress) was achieved when the program was shut down on November 27, 1957.

Technically the key shortcomings of the 1957 drilling program are as follows:

- **Very poor core recovery**: Overall recoveries ranged from 37.6% to 54.2% for the drill holes J-1 to J-4.
- **Failure to reach planned hole depth**: Only one of the four holes reached its planned depth of 700 feet (213 m).
- **Failure to penetrate iron formation units**: Only two of the four holes penetrated the iron formation.

Pickands Mather resumed the drilling in the summer of 1958, beginning on July 6 with the deepening of drill hole J-4. Four more holes (J-5 to J-9) were completed by August 22, 1958 bringing the total drilling for the two programs to 3,477 feet (1,060 m). The basic information on the 1957 and 1958 drilling is shown in Table 5-2. Although the available logs do not state the core recoveries in the same amount of detail as the earlier logs, it is evident from notations in the logs that core recovery problems continued. Only one of holes J-5 to J-9 penetrated the full thickness of iron formation.

In the opinion of MPH Consulting information from this two stage drilling program is mostly inadequate to quantify local or general data concerning the basic parameters of grade, size or shape of the Julienne Lake deposit.

Table 5-2: Julienne Lake Diamond Drill Hole Summary

Hole No	Easting (grid)	Northing (grid)	Elevation (ft)	Length (ft)	Azimuth (degrees)	Dip (degrees)	Core Recovery	Bottom Lithology
J-1	10000	10500	1945	596	0.00	-90	51.60%	IF
J-2	10000	9500	1920	705	0.00	-90	54.20%	IF
J-3	10000	11500	1830	318	0.00	-90	37.60%	FW Qtzite
J-4	10000	8500	1850	328.5	0.00	-90	49.00%	FW Qtzite
J-5	9000	10160	1937	203	332	-50	poor	FW Qtzite
J-6	8000	9500	1813	330.5	0.00	-90	poor	IF
J-7	11500	11000	1757	379	0.00	-90	poor	IF
J-8	11500	10000	1760	356	0.00	-90	poor	IF
J-9	13000	11000	1745	261	0.00	-90	poor	IF
Total				**3477**				

Field work resumed in the summer of 1959 when Javelin geologists conducted detailed geological mapping of the property and a re-examination of remaining drill core sections (Knowles, 1960). Subsequently, between November 17 and December 10, 1960 a bulk sampling program was initiated by Javelin from five pits into surface exposures. A total of 38.5 tons (39.1 t) of “crude ore” was shipped to LakeField Research of Lakefield, Ontario for metallurgical testwork. The geological map, 1957-58 drill hole and 1960 test pits locations are shown in Figure 5-1.

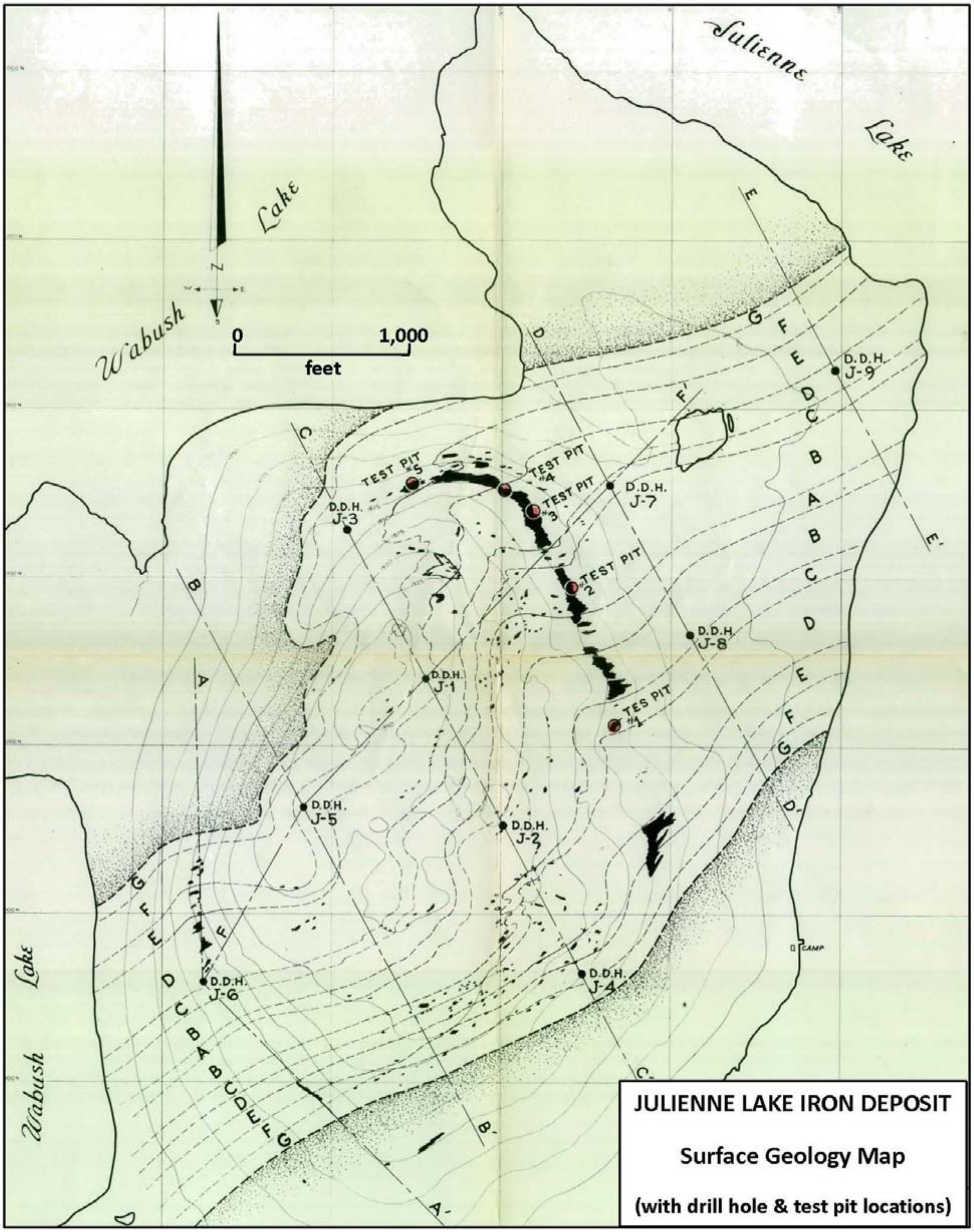


Figure 5-1: Julienne Surface Geology Map (reproduced from original, Knowles, 1960)

In 1959-60, Javelin made a preliminary estimate of the grade and tonnage contained in the Julienne Lake iron deposit. Based on surface geological mapping, magnetometer surveying and nine diamond drill holes a “minimum tonnage” of “potential ore reserves” of were reported (Roxborough, 1960). This rudimentary ‘polygon on section’ estimate employed a volume to tonnage conversion factor of 12 cubic feet per long ton (2.9 tonnes/cubic metre) to arrive at 381,220,000 tons (387,240,000 t) averaging 34.2% Fe. The above historical estimate is presented by MPH for information purposes only. The estimate is believed to have been done to only rudimentary standards, nonetheless it would appear to reasonably indicate the tons and grade outlined at the date of preparation. However the estimate predates the current standards embodied in NI 43-101 and therefore do not conform to the same. The historical Javelin estimate will be discussed further in Section 16.0 below.

In January, 1961, 34 tons of Julienne Lake material were processed at Lakefield Research by grinding in a Hardinge ‘Cascade’ mill and then concentrated by means of Humphreys spirals. Recovery was 76.6% in one pair of tests with a concentrate that assayed 64.5% Fe. In a second set of tests recovery improved to 79.6% but the concentrate was only 63.5% Fe. It was surmised that these results could be improved to some extent in practice. Additional concentration tests were made at the Humphreys Engineering facility in Denver, Colorado with similar marginal results. Humphreys attributed the failure to obtain >65% Fe concentrates to incomplete liberation at the grind which was essentially 100% through 20 mesh (Tyler).

Between 1960 and 1963, Javelin evaluated the potential for building an iron and steel plant at Julienne Lake by evaluating various processes. It was quickly concluded that conventional blast furnaces employing coking coal, or direct reduction processes utilizing gas or oil as fuel would be uneconomic in Labrador. Investigations quickly led to electric smelting with pre-reduction options due to the future local availability of power from the giant Churchill Falls, NL, hydroelectric project that was then under development. Two experimental processes were evaluated the Strategic-Udy Process being developed by Strategic-Udy Processes Inc. of Niagara Falls, New York and the Elkem Process being developed by Electrokemisk A/S of Kristiansand, Norway. Tests on the 1960 concentrate from Lakefield indicated that Julienne Lake concentrates are amenable to smelting by both processes.

The practicality of mining, concentrating, pelletizing and smelting material from the Julienne Lake deposit was evaluated by Kilborn Engineering Limited (“Kilborn”) of Toronto, ON in 1962. Preliminary capital and operating cost estimates were made concerning a mining and concentrating plant designed to produce 3,000,000 long tons (3,048,000 tonnes) of concentrate per year from 7,500,000 long tons (7,620,000 tonnes) of iron ore, a pelletizing plant to produce 2,160,000 long tons (2,195,000 t) of pellets, and a smelter plant (Elkom Process) to produce 540,000 metric tonnes of pig iron per year (Kilborn, 1962a, b and c). The 1962 ‘money of day’ (“MOD”) preliminary capital and operating cost estimates are summarized in Table 5-3. These preliminary costs include estimates for providing infrastructure and services (railway, power line, road, town site, etc.).

In January, 1963, a 1000 lb (450 kg) sample of concentrate from Lakefield was submitted to the Dravo Laboratory in Pittsburgh, Pennsylvania for pelletizing tests. These tests were successful and reported as "virtually identical" to previous results from the Wabush and Carol projects (Knowles, 1963).

Table 5-3: Preliminary Capital & Operating Cost Estimates, 1962 MOD

Description	Capacity	Units	Capex	Opex	Units
Mining	7,500,000	t/year ore		$ 1.02	per t ore
Mining & Concentrating	3,000,000	t/year conc.	$ 30,225,400	$ 2.55	per t conc.
Pellet Plant	2,160,000	t/year pellets	$ 20,700,000	$ 1.88	per t pellets
Mining, Conc. & Pelletizing	2,160,000	t/year pellets	$ 50,925,400	$ 4.43	per t pellets
Pelletizing & Smelter Plant	540,000	t/year pig iron	$ 23,800,000	$ 35.05	per t pig iron

Photo 3: Javelin Road construction summer 1962.

A road was built by Javelin to the property from Labrador City/Wabush in the summer of 1962 and an area extending across the hilltop exposure (Trench 62-1) was later stripped for examination and sampling purposes.

In the fall of 1963, Javelin obtained a 162 ton (164.6 t) bulk sample primarily from a series of pits (Pits 63-1 to 12) into the hilltop exposure. The bulk sample was shipped by road and QNS&L railway to Sept-Îles, QC, and thence to Lakefield Research, ON (Knowles, 1967b). There is no record of testwork having been completed on this material.

Photo 4: Julienne exploration camp, November 1962.

A revised grade and tonnage estimate for the Julienne Lake deposit, including projected strike extensions beneath Wabush and Julienne Lakes was completed in June 1963 (Knowles, 1963c). The under-lake extensions are based primarily on interpretations of magnetic data (Figure 5-2). Only one historic diamond drill hole, from a lake ice setup, actually confirmed iron formation. This hole, DDH 58L-11, drilled by Labrador Mining & Exploration is shown on 1960's plan maps (Knowles, 1967c; Blakeman, 1968) and lies about 150 metres offshore in Contact Bay on the west side of the Julienne Peninsula. The hole penetrated 14 feet of water, then 41 feet of overburden and 45 feet of iron formation before ending at a depth of 100 feet. The nature and grade of the iron formation is unknown. Two additional holes, 58L-12 and 58L-13, drilled just offshore on the east side of the peninsula did not penetrate overburden.

The land portion of the Julienne Lake deposit that has been explored by surface mapping, trenching and limited diamond drilling was re-estimated by Javelin to contain 500,034,000 long tons (508,058,000 t) averaging 34.2% Fe with only traces of impurities (Knowles, 1963c). Geophysically projected extensions of the deposit under Wabush and Julienne Lakes (outside of the EML) were estimated at 165 million and 239 million tons (168 and 243 million t), respectively. The above historical estimates are presented by MPH for information purposes only. The estimates are believed to have been done to only rudimentary standards, nonetheless they would appear to reasonably indicate the tons and grade outlined at the date of preparation. However the estimate predates the current standards embodied in NI 43-101 and therefore do not conform to the same. The historical Javelin estimates will be discussed further in Section 16.0 below.

In the spring of 1966, the remaining core from the Julienne Lake iron deposit was lost, when the Wabush commercial warehouse in which it was stored was destroyed by fire (Knowles and Blakeman, 1970).

A general surface sampling program was undertaken in August-September, 1966 to mitigate an earlier sample contamination program or what was known by Javelin personnel as the 'Titania Affair'. Limited early analyses of Julienne deposit material had shown low titania content in the range of 0.01 to 0.08% TiO_2 (Knowles, 1967a). However, there was some consternation when material from the 1960 bulk sampling program returned TiO_2 values an order of magnitude higher, in the 0.15 to 0.30% range. This discrepancy was eventually traced to the use of second-hand sample bags that had been used previously to ship rutile (TiO_2) concentrate, although to be certain a verification sampling program was conducted which confirmed the lower values.

During the latter part of the 1960's and early 1970's, no further exploration/development field activities were conducted. Javelin's efforts concentrated on finding parties that might be interested in developing the Julienne Lake deposit, either as a stand-alone project or in conjunction with the company's Star-Okeefe iron deposit in neighbouring Quebec.

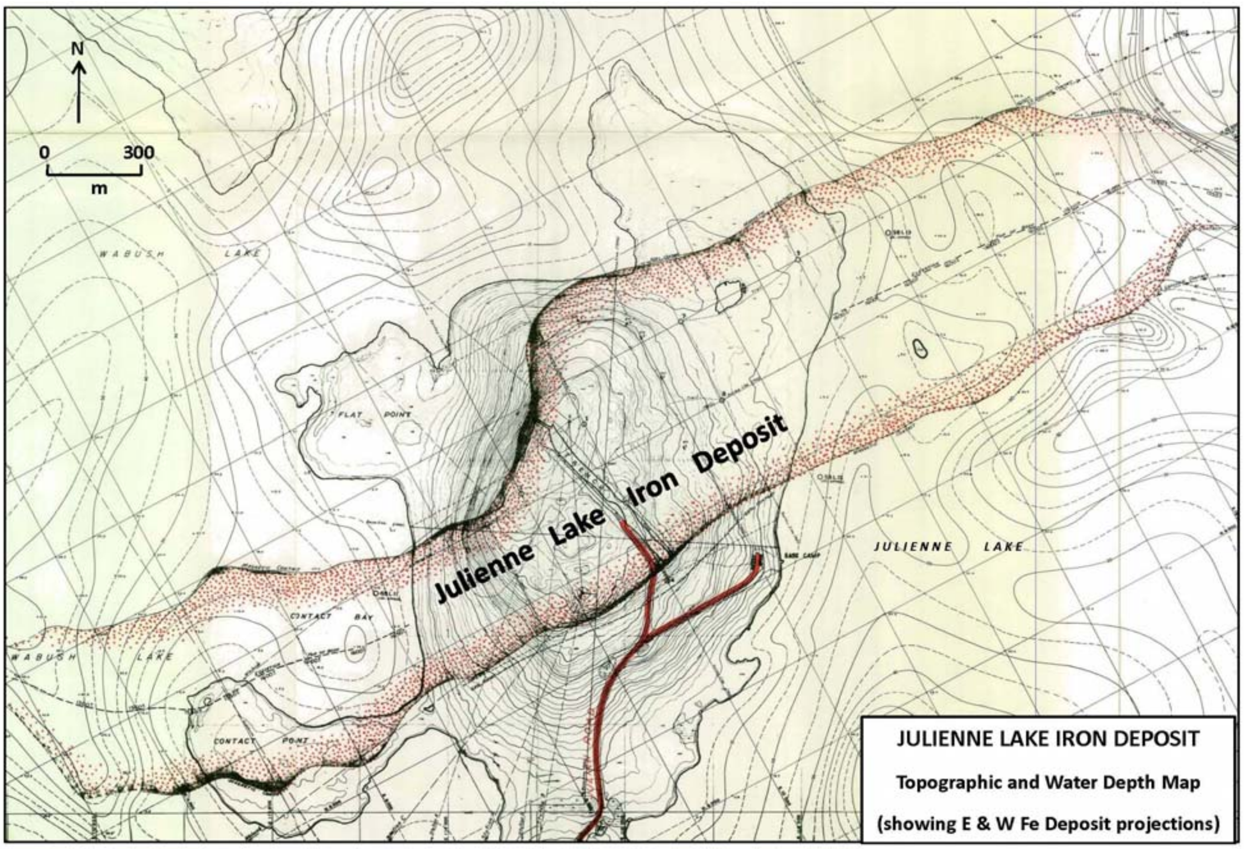


Figure 5-2: Julienne Lake Iron Deposit showing along strike projections.

In 1970, Javelin retained Kilborn to complete a prefeasibility study to determine capital and operating costs for mining and processing plants at Julienne Lake, NL, and Star-Okeefe near Mont Wright, QC, along with a pelletizing plan to serve both operations at Sept-Îles, Québec. The concentrates from both operations were to be delivered by slurry pipelines to the pelletizing plant. Estimated MOD capital and operating costs are summarized in Table 5-4:

Table 5-4: 1970 MOD Capex and Opex Estimates, Julienne/Star-Okeefe Iron Project

Site	Capital Cost	Operating Cost	
	$ (1970 MOD)	$/long ton ore	$/long ton conc.
Julienne Lake Mine	$140,487,000	$1.13	$2.82
Star-Okeefe Mine	$89,479,000	$1.93	$4.83
Sept-Îles Pellet Plant	$104,293,000	$0.78	$1.96
Total	**$334,259,000**	**$2.11**	**$5.28**

Javelin's efforts to attract potential customers or buyers for the Julienne and Star-Okeefe Projects were unsuccessful. In 1975 the rights to the deposit reverted to the crown under the Julienne Lake Deposit (Reversion Act) 1975, due to failure by Canadian Javelin to meet requirements of the Mining and Mineral Rights Tax Act. The property was made an exempt mineral land (EML – meaning a property for which mineral rights are reserved to the Crown) and has remained under that status to this date.

In 1975-76 the Government of Newfoundland and Labrador, Department of Mines and Energy, prepared a summary report outlining the Nalco/Javelin exploration/development work on the Julienne Lake EML and actively sought a competent mining/exploration group to acquire the property. In spite of the depressed state of the iron and steel industry at the time, several companies reportedly expressed interest in the project. However, no company stepped up with a firm proposal to explore and develop the property.

In 1980, the Government of Newfoundland and Labrador, Department of Mines and Energy retained consulting engineers Hatch and Associates of Toronto, ON to conduct a study into the potential for further development of iron ore deposits in Newfoundland and Labrador (Hatch Engineering, 1980). The study evaluated eight Labrador prospects and the Wabana iron mine (former producer) in Newfoundland, and then identified three areas in western Labrador (Howell's River, Julienne Lake and Labrador Ridge) for initial consideration. The key prospect resources are shown in Table 5-5). It was noted that market penetration and financial restrictions would influence development potential.

Table 5-5: Western Labrador Undeveloped Iron Ore Prospects 1980

Name	Location	Type	Tons	Grade Fe	Reference
Labrador Ridge	Wabush Lake	Specular hematite	551,185,000	37.7%	Hatch Engineering, 1980
Julienne Lake	Wabush Lake North	Specular hematite	500,034,000	34.2%	Hatch Engineering, 1980
Howell's River Taconite	Schefferville South	Magnetite	1,151,000,000	29.3%	Kociumba *et. al.*, 2007

6.0 GEOLOGICAL SETTING

6.1. Paleotectonic Setting and Temporal Range

The Julienne Peninsula Lake Superior-type iron formation ("LSTIF") deposit occurs in the Labrador-Quebec Fold Belt or Labrador Trough, within the Sokoman Formation of the Lower Proterozoic (Aphebian) Knob Lake Group. The Sokoman Formation, one of the most extensive iron formation units in the world, extends along the eastern margin of the Archean Superior-Ungava craton for over 1,000 km (Figure 6-1) (Gross, 2009).

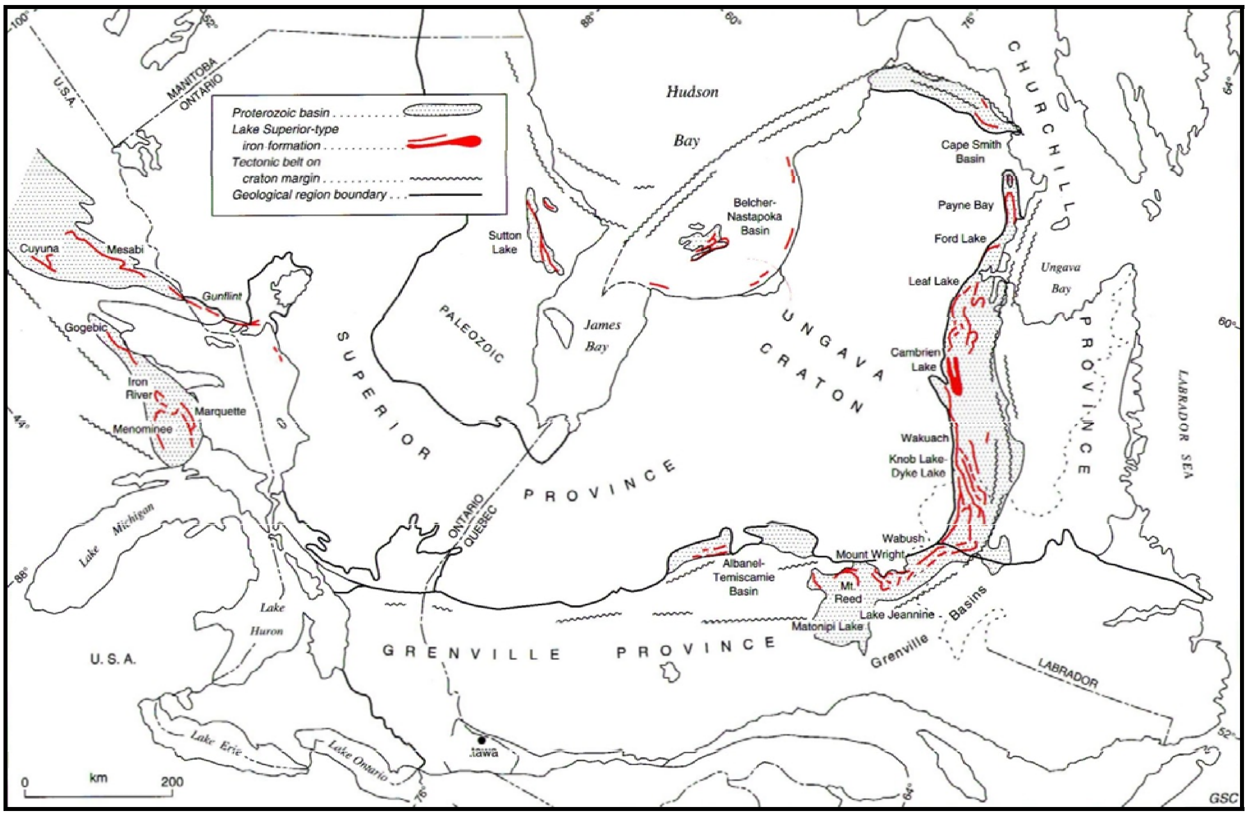


Figure 6-1: LSTIF Distribution Eastern North America (Gross, 1996)

The following paragraphs are quoted or summarized from Geological Survey of Canada ("GSC") Open File 5987, "Iron Formation in Canada, Geology and Geochemistry", by G.A. Gross, 2009.

"The Sokoman [Formation] iron formation along the western boundary of the Northern fold belt extends south from the isolated basin structures north of latitude 60^0N and west of Ungava Bay, through a series of interconnected paleobasins extending from the area west of Ungava Bay, to Lac Cambrien, Knob Lake - Schefferville and southwest across the boundary of the Grenville orogenic belt. The iron formation and associated metamorphosed sedimentary rocks extend southwest into the Grenville orogenic belt where they are exposed in a series of isolated complex highly metamorphosed and deformed fold structures in the Wabush Lake, Mont Wright, Fire

Lake, (Gagnon), Mount Reed, and Lac Jeannine areas, and beyond the Mouchalagane River through the Matonipi Lake area."

"Principal stratigraphic features of the fold belt are well developed and have been mapped in detail in the Knob Lake basin centred around Schefferville in the north central part of the fold belt. These Lower Proterozoic rocks overlying the granitoid gneisses of the platform or craton include a thick succession of thin-banded grey-green to maroon coloured fine grained clastic sediments, argillite and slate [Attikamagen Formation] which is transitional upward to dolomite and chert breccia in local basins [Denault Formation] that are intercalated in places with argillite and the overlying quartz arenite beds. The Wishart [Formation] quartz-arenaceous sediments are the most consistent stratigraphic units throughout the fold belt and in many areas along its western margin lie unconformably on the basal gneissic rocks. In parts of the Knob Lake basin the quartz arenaceous sediments are overlain by thin irregular sinuous beds of white chert intercalated with black carbonaceous and ferruginous shale that mark the beginning of major deposition of iron and silica in the overlying Sokoman [Formation] iron formation."

"The iron formation throughout the belt is predominantly magnetite-hematite-chert-quartz oxide lithofacies with well-defined and discrete thin-bedded cherty Fe-carbonate and Fe-silicate lithofacies units at its base and locally in upper parts of stratigraphic sections. The iron formation lithofacies are interbedded with the overlying black carbon-, carbonate-, and sulphide- bearing slate and shale units [Menehek Formation] which extend intermittently throughout the fold belt. The quartz-arenite, iron formation, and upper black slate are the most persistent stratigraphic units throughout the marginal basins and fold belt."

"This succession of metasedimentary rocks is most extensively developed in the western parts of the marginal basins and fold belts. Eastward in the fold belt the metasedimentary rocks are associated with an increasing amount of intercalated tuff, lava flows, various extrusive volcanic rocks, and mafic and ultramafic dykes and sills."

"Transitions from predominant shelf and platform environments for Lake Superior type iron formation to volcanic-arc tectonic environments hosting iron formation lithofacies of Algoma type are recognized in the northeastern and central parts of the fold belt."

"Folded structural segments of Early Proterozoic iron formation and platform sediments extend southwest into the Grenville Province tectonic belt from Wabush Lake to the Matonipi Lake area. The sequence of rocks bearing iron formation in the Grenville Province north of Wabush Lake is offset to the northeast for a distance of about 15 kilometres along a fault zone that marks the northeast margin of the Grenville Province tectonic belt and the Superior - Ungava Craton (Figure 6-2). Stratigraphic continuity of the Early Proterozoic Sokoman Iron formation and associated sediments has been traced southward across this marginal belt and through the Wabush Lake area. The rank of metamorphism in this succession of rocks increases to the southwest to amphibolite facies and to granulite facies in some areas close to the marginal belt. A second order of folding and deformation apparently related to the Grenville orogeny (1 - 0.8 Ga) has been imposed over the isoclinal fold and imbricate structures of the successions of Early Proterozoic iron formtion and associated rocks that are traced southward into the Grenville tectonic belt."

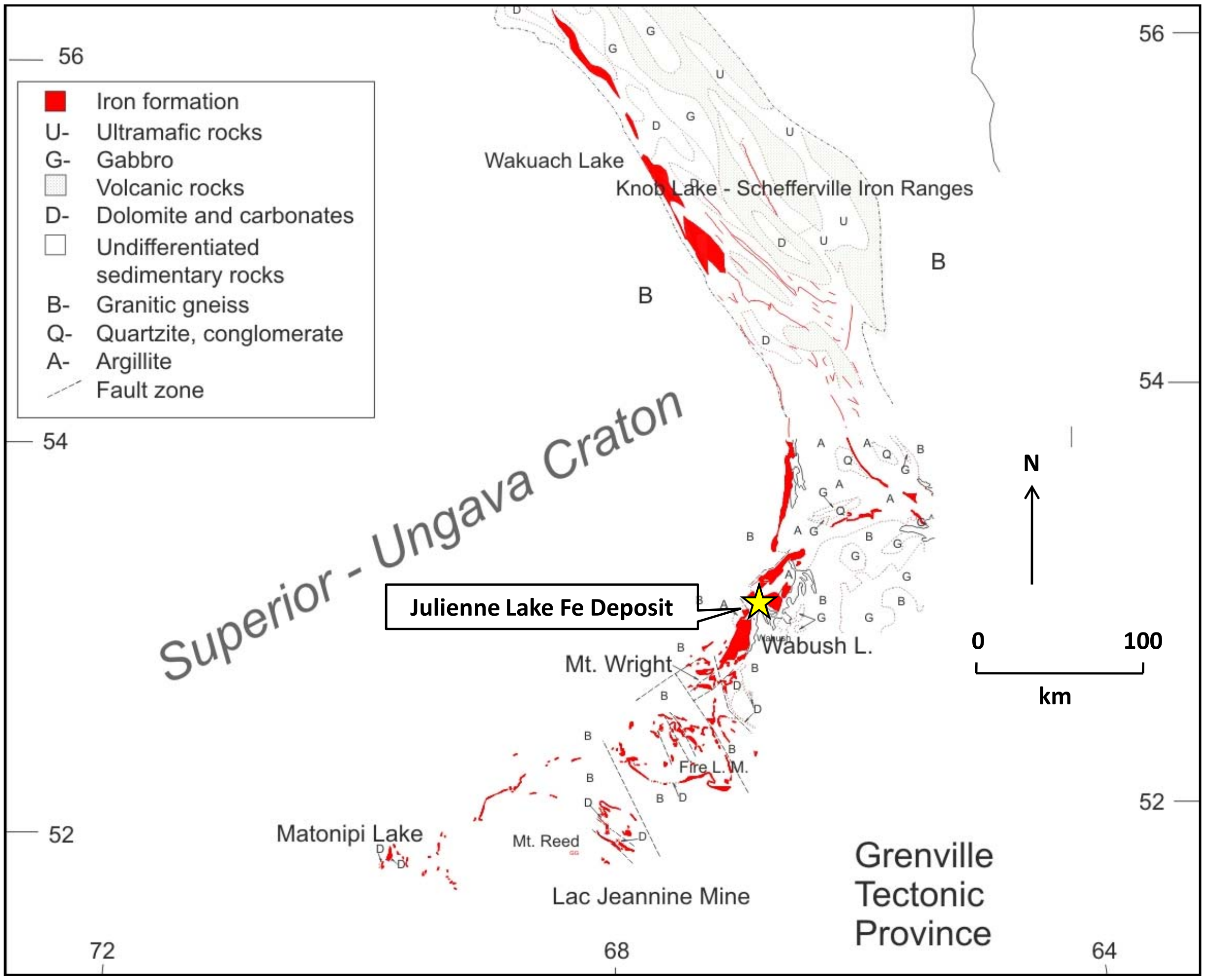


Figure 6-2: Southern Labrador-Quebec Fold Belt (modified after Gross, 1968)

"The isolated structural segments of iron formation and metasediments mapped in the Grenville Province mark the southwestern continuity of iron formation deposition in the major shelf or platform basins along the southern margin of the early Superior-Ungava Craton or landmass. These structural segments occur in major tectonic domains delineated by prominent fault zones that were probably related to subduction along the Grenville boundary."

6.2. Regional Geology Wabush Lake Region

Several geological investigations have been conducted in the Wabush Lake region during the latter half of the 20th century. In the early 1950's predecessor companies to the current mine operators IOC and Wabush Mines completed widespread reconnaissance geological mapping in the region (Neale, 1951, Boyko, 1953). In addition the GSC completed 1 inch = 4 miles scale regional mapping in the mid-1960's (Farhig, 1967). In the 1980's, the Newfoundland and Labrador, Department of Mines and Energy, Geological Survey Branch ("GSNL") published a preliminary 1:50,000 scale geological map of the area (Rivers, 1980) followed by a coloured

1:100,000 scale map jointly produced by the Government of Newfoundland, Department of Mines and Energy and the Government of Canada in 1985 (Map85-28) (Figure 6-3).

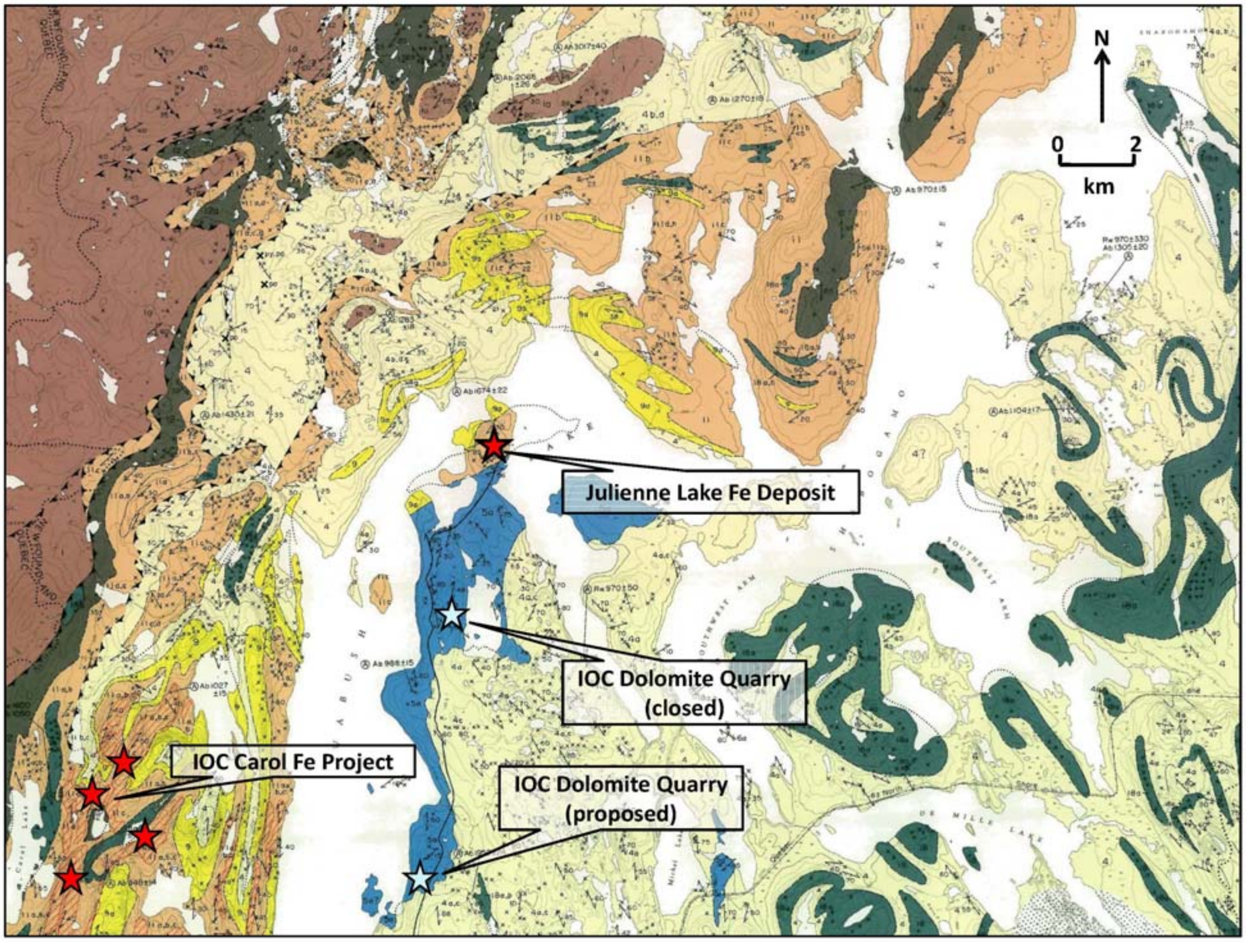


Figure 6-3: Wabush Lake Area Regional Geology (NL/Canada Map 85-28)

The oldest rocks in the region are Archean migmatites and gneisses known as the Ashuanapi Metamorphic Complex (Unit 1). Although re-deformed and re-metamorphosed during the subsequent Grenville Orogenic episode and located within the borders of the Grenville Province of the Canadian Shield, the Complex is part of the stratigraphic assemblage that comprises the extensive Superior/Ungava Craton. These units constitute the basement of the predominantly sedimentary lithologies of the Labrador Trough. Unit 1 outcrops in the northwest corner of the map area and is exposed as a series of elongate domes in the Knob Lake Group.

The Lower Proterozoic (Aphebian) platformal sedimentary and related rocks of the Labrador Trough are named the Knob Lake Group. Previously known as the Gagnon Group in the Grenville Province portion of the Labrador Trough, the Knob Lake Group was redefined to include the stratigraphic sections on both sides of the Grenville Front. Figure 6-4 provides a key to Figure 6-3 above as well as correlation between the previous and current terminology.

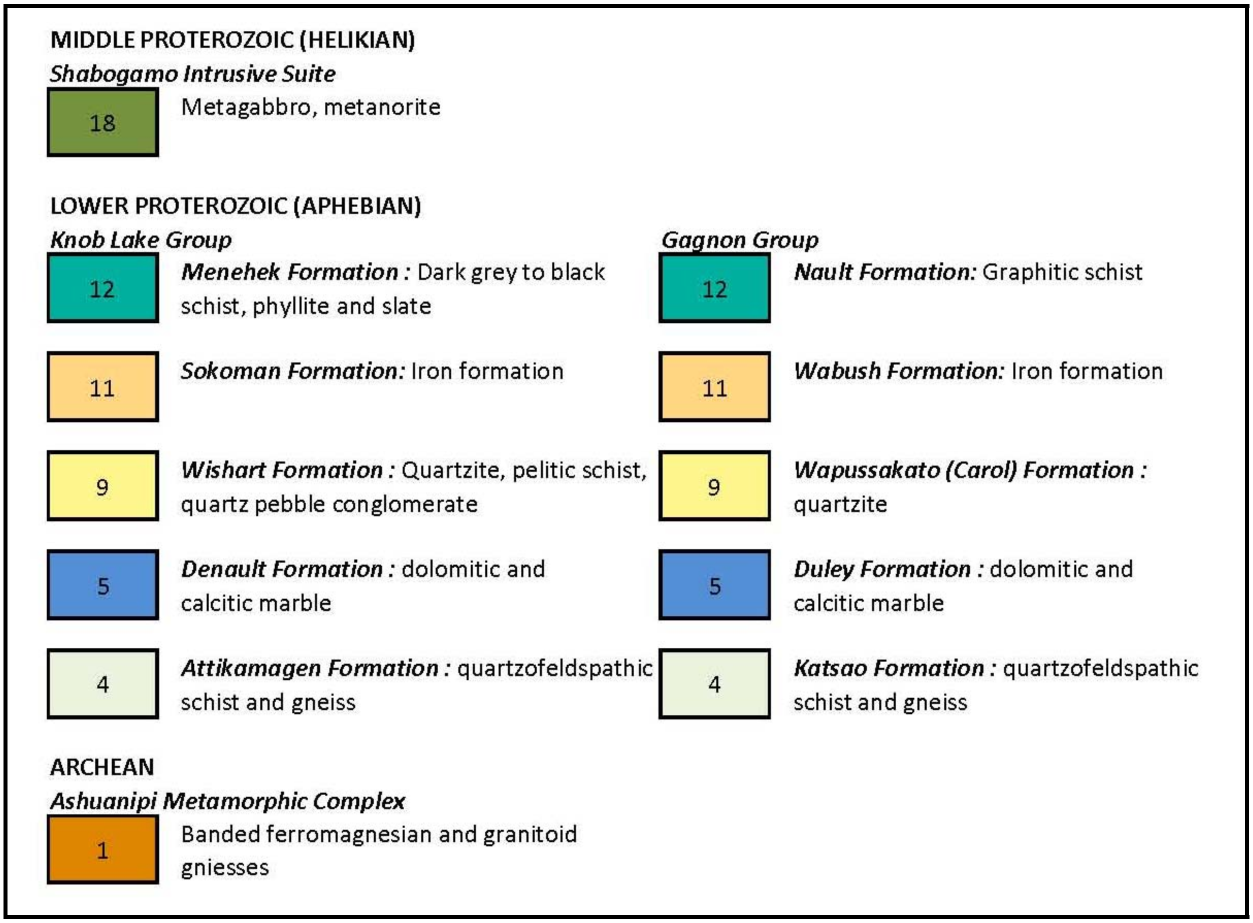


Figure 6-4: Key to Figure 6-3 and Knob Lake Group -Gagnon Group correlations.

Deposition of the Knob Lake Group, which records the Aphebian (2.5 to 1.75 Ga) stratigraphy of the Labrador Trough, probably began with deposition of fluvial red sands and gravels (Seward Formation) in a narrow elongate valley that was probably a continental rift valley. This was followed by shallow marine transgression, subsidence and deposition of shales (Attikamagen Formation), carbonates (Denault Formation), sands (Wishart Formation), and iron formation (Sokoman Formation) in a shallow marine environment. Following deposition of the Sokoman Formation the basin subsided resulting in the build-up of deep water turbidites of the Menehek Formation. The final stage of Labrador Trough development saw the extrusion of a great thickness of mafic pillow lavas (Doublet Group) on its eastern margin (Rivers and Wardle, 1978). In the Wabush area all stratigraphic units have been deformed and metamorphosed during the development of the Trough or Labrador-Quebec Fold Belt, then further deformed and metamorphosed during the Grenville Orogenic episode.

The basal section of the Knob Lake Group in the Wabush Lake area comprises widespread quartzofeldspathic schist and gneiss of the Attikamagen Formation which underlies most of the map area. An extensive tract of Denault Formation dolomitic and calcitic marble underlies the eastern shore of Wabush Lake and the southern shore of Julienne Lake, marking the upper limit of the Attikamagen Formation in that area. Quartzite of the Wishart Formation overlies the

Attikamagen and Denault Formations along the western side of Wabush Lake, on the Julienne Peninsula, and the north side of Julienne Lake. Where present the top of the Wishart Formation defines the footwall contact of the Sokoman Formation ironstones.

The Sokoman Formation conformably overlies the Wishart Formation on the west side of Wabush Lake and Julienne Peninsula, but elsewhere it sits on the Attikamagen Formation. The dominant lithological units are silicate-carbonate iron formation and oxide iron formation. Outcrops of iron formation around Goethite Bay, Julienne Lake and to a lesser extent on the Julienne Peninsula are excessively leached (Rivers, 1981).

The Menehek Formation, the youngest sequence of the Knob Lake Group in the Wabush Lake region, is composed of dark grey quartz-feldspar-biotite-graphitic schist with a well developed schistosity and distinctive graphite porphyroblasts.

Finally the assemblage is intruded by Middle Proterozoic (Helikian, 1.75 to 1.0 Ga) mafic intrusions of the Shabogamo Intrusive Suite. These occur as folded and contorted sill-like bodies in the Attikamagen Formation in the south-eastern part of the region.

6.3. Property Geology, Julienne Lake EML

Detailed geological mapping of the Julienne Peninsula was initiated in 1956 (Gastil, 1956) and continued intermittently between 1959 and 1962 (Knowles, 1960 & 1963a). The geological investigations of the Julienne Peninsula subsequently became the basis of a Ph.D. study by David Knowles (Knowles, 1967c). The following descriptions (with updated stratigraphic terminology) are quoted or summarized from that study.

The white massive Wishart Formation quartzite is exposed and intersected in drill holes on both sides of the Sokoman Formation iron formation. The quartzite contains a small amount of disseminated muscovite which becomes more abundant towards the sericitic muscovite schist that is usually present between the quartzite and iron formation.

The Sokoman Formation has been mapped in detail and a succession of lithologic units or members termed Units A to G are exposed on both limbs of a refolded northeast-southwest trending synclinal structure (Figures 6-5 and 6-6). The Sokoman Formation stratigraphic section is divided into three parts, the lower, middle and upper iron formations.

The basal member of the Sokoman Formation, lower iron formation, is a limonitic and goethitic rock that is probably an altered silicate-carbonate member (map unit G). The siliceous goethite is non-magnetic and the magnetic contact follows the zone between this unit and the overlying oxide member (map unit F). The upper member of the lower iron formation is a quartz-specular hematite rock containing subordinate amounts of locally distributed granular hematite and orange brown coloured laminations containing the altered remains of a siliceous mineral that is usually found in association with specular hematite.

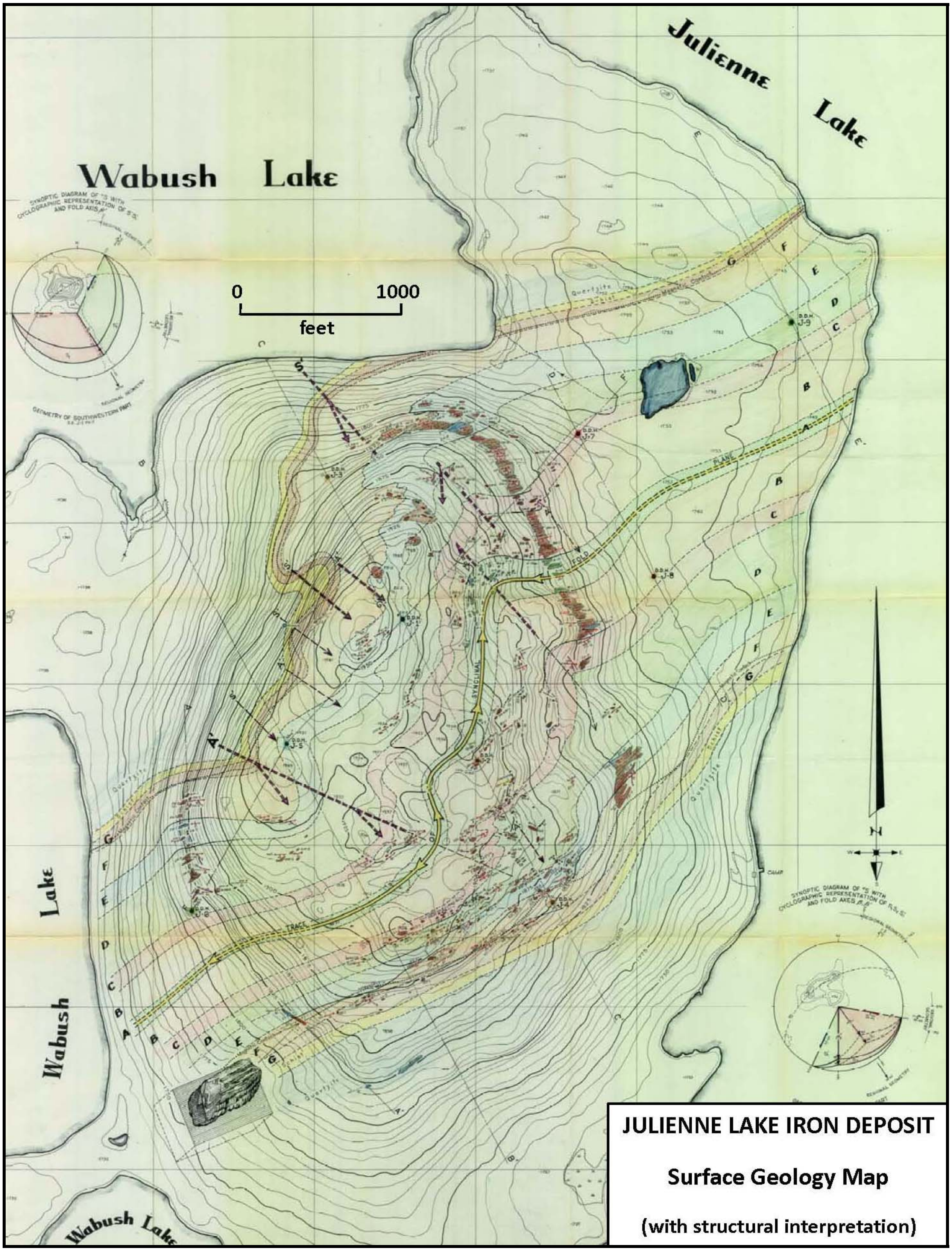


Figure 6-5: Julienne Surface Geology Map (modified original, Knowles, 1960)

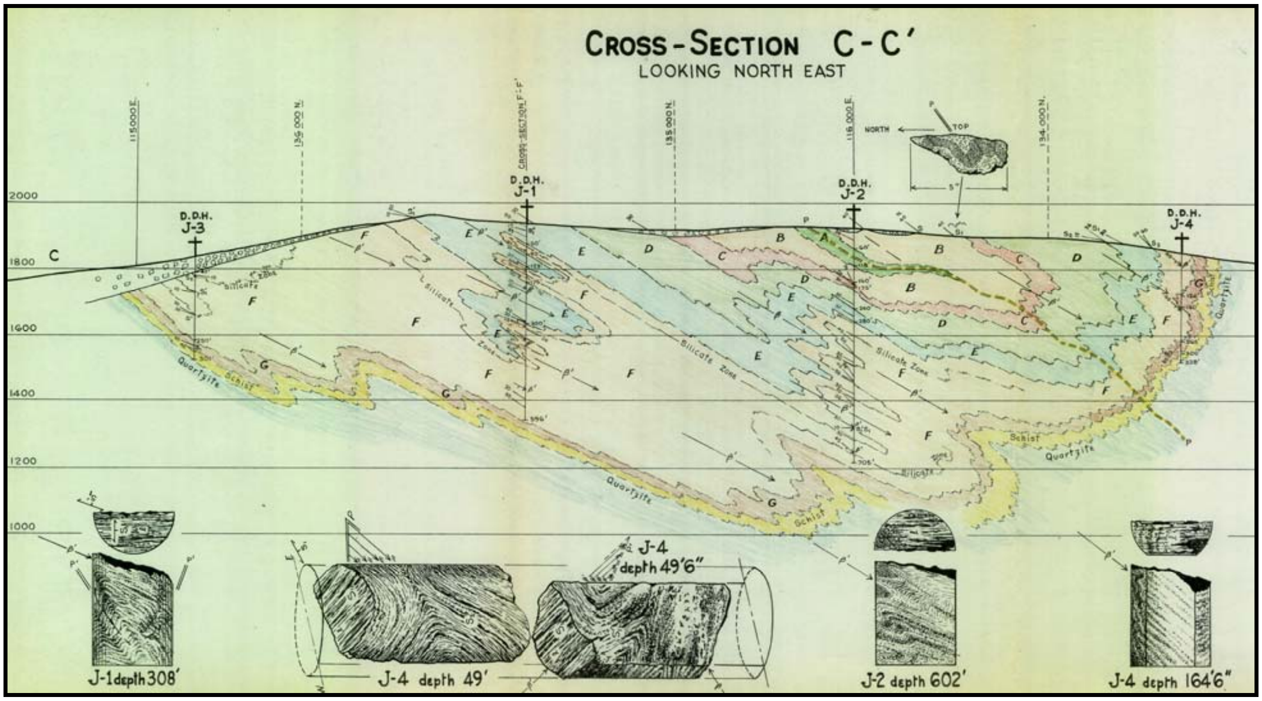


Figure 6-6: Typical Cross Section C-C', (modified original, Knowles, 1960).

The middle iron formation arbitrarily includes all members lying above the leached specular-silicate (map units H to B) up to the appearance of several lean bands called ferruginous quartzite (map unit A). The lower band is generally richer in specular hematite than other members of the middle unit. Specular hematite, granular hematite and thin semi-continuous bands of hard very fine grained blue hematite or black manganiferous hematite make up the numerous bands which form the other members in the middle iron formation.

The upper iron formation contains several bands of lean quartzite usually associated with quartz-granular hematite bands (map unit A). Specular hematite is found in the upper member. The stratigraphic top of the iron formation is not known to be present.

Photo 5: Julienne Lake iron deposit, sub-members A to D (Source Knowles, 1960)

7.0 DEPOSIT TYPES

The mineral deposits of the Labrador City/Wabush area belong to the broad class of iron deposits known as Lake Superior-type iron formation ("LSTIF"), although in this particular area, post consolidation tectono-metamorphic events would make the term meta-LSTIF more appropriate.

Extensive LSTIF ranges occur on all continents, in parts of relatively stable sedimentary-tectonic systems developed along the margins of cratons or epicontinental platforms between 2.4 Ga and 1.9 Ga. Most thicker iron formations were deposited in shallow basins on continental shelves and platforms in neritic environments, interbedded with mature dolostone, quartz arenite, black shale and argillite. Iron formations of the same ages are also associated with volcanic rocks, dykes and sills, in deeper parts of these basins closer to the active rifts and volcanic centres. Transitions from shallow to deeper water sedimentary environments are also preserved in most of the LSTIF ranges. Transitions are marked by the change from predominantly granular and oolitic textures of the near shore and shallow platform to the prevalence of micro- to thin-bedded lithofacies in deeper water environments further offshore (Gross, 2009).

The principal type area for LSTIF is the Animikie basin or the iron ranges around Lake Superior and Lake Michigan. The linear basins around the edge of the Superior-Ungava craton represent one of the earth's greatest known accumulations of iron and manganese bearing sediments. Other major examples include the Krivoy Rog and Kursk iron ranges in Ukraine and Russia, and the Orissa and Bihar ranges in India. In the southern hemisphere major iron ranges are known in Australia, southern Africa, Brazil and Antarctica.

7.1. Lake Superior-type Iron Formation Descriptive Model

The following model description is quoted or summarized from USGS Bulletin 1693, entitled "Mineral Deposit Models" (Cox and Singer., Editors, 1992), "Model 34a, Descriptive Model of Superior Fe" by William F. Cannon.

DESCRIPTION

Banded iron-rich sedimentary rock, generally of great lateral extent, typically layered on centimetre scale with siliceous (chert) beds interlayered with iron-rich beds.

GEOLOGICAL ENVIRONMENT

Rock Types: Commonly interlayered with quartzite, shale, dolomite.

Textures: Iron-formations and host rocks commonly contain sedimentary textures typical of shallow water deposition in tectonically stable regions.

Temporal Range: Mostly Early Proterozoic (2.0±0.2 Ga.). Less commonly Middle and Late Proterozoic.

Depositional Environment: Stable, shallow-water marine environment, commonly on stable continental shelf or intracratonic basin.

Tectonic Setting(s): Now commonly preserved in forelands of Proterozoic erogenic belts.

Associated Deposit Types: Sedimentary manganese deposits may occur stratigraphically near or be interbedded with iron-formations..

DEPOSIT DESCRIPTION

Mineralogy: Hematite, magnetite, siderite, fine-grained quartz.

Texture/Structure: Nearly always banded at centimetre scale; very fine grained where not metamorphosed

Alteration: None related to ore deposition. Commonly metamorphosed to varying degrees or weathered and enriched by supergene processes.

Ore Controls: No primary controls of local importance. Supergene ores may be localized by irregularities in present or paleo erosion surface.

Weathering: Alteration of original iron mineral to Fe-hydroxides and hematite. Silica partly to totally leached. End product of weathering is high-grade supergene ore.

Geophysical Signature: Magnetic anomalies.

8.0 MINERALIZATION

The Julienne Lake iron deposit extends across the full width of the Julienne Peninsula which also defines the EML boundary. The land portion of the deposit has an approximate strike length of some 2 kilometres and outcrop widths varying from about 550 metres to 1 kilometre. In cross section the deposit is a basin or synclinal structure, the Julienne basin. The maximum vertical thickness of the deposit is undefined but is at least 200 metres. The deposit is interpreted, on the basis of magnetometer surveying and one drill hole, to continue south-westward under Wabush Lake and north-eastward under Julienne Lake. The estimated total strike length of iron formation in the Julienne basin is approximately 4.7 kilometres.

The principal mineralization is in the middle iron formation of the Sokoman Formation.

Knowles (1966) describes the mineralization as follows. The metamorphosed iron formation in the Julienne deposit is essentially "a mixture of crystalline quartz, specular hematite and magnetite, with subordinate and sometimes localized amounts of carbonate, anthophyllite, grunerite and fine-grained hematite-manganiferous veins. Post metamorphic leaching removed the carbonate and anthophyllite. Oxidation converted magnetite to martite, spread a certain amount of red hematite and limonite within the deposit and converted the grunerite schist to siliceous goethite."

"The iron oxides occur in three forms:

- Coarse grained, platy and bright specular hematite,
- Medium grained, dull granular hematite-martite, and
- Fine grained, earthy hematite-limonite or crystalline goethite-hematite."

The average content of iron and potentially deleterious elements and oxides is tabulated from various sources in Table 8-1. In MPH's opinion this cannot be considered as definitive.

Table 8-1: Iron and Deleterious Element Empirical Averages

	*1	*2	*3	*4	*5	*6	*7
Fe	37.97%	36.75%	35.71%	33.39%	34.20%	35.14%	36.33%
Mn	0.177%	0.09%	0.32%	0.12%	0.32%		0.34%
SiO_2		46.16%		49.76%	54.40%		
P	0.012%	0.009%	0.007%	0.020%	<0.05%		0.014%
S	0.004%		0.0035%	0.005%	<0.05%		0.005%
TiO_2		tr			<0.05%		0.046%
Al_2O_3				0.19%			0.198%
CaO				0.005%			0.026%
MgO				0.015%			0.028%

Sources: *1-Gastil, 1956, *2-1960 Bulk Sample, *3- 1962 Trench, *4-1963 Bulk Sample, *5-1960 Resource Estimate, *6-1957-8 Drilling, *7-Knowles,1967, all sample average.

9.0 EXPLORATION

Exploration which led to the discovery of the Julienne Lake iron deposit was completed intermittently between 1953 and 1966. This work included reconnaissance and detailed geological mapping and prospecting, ground magnetometer traverses, surface trenching, test pitting and diamond drilling. The various historic exploration work programs have been outlined in Section 5-2 above.

The surface geological mapping of the property appears to be very thorough, with great attention to lithological and structural detail in the field, augmented by office mineralogical, petrographic, structural, etc. studies. The work of Nalco/Javelin geologists (W. Boyko, G. Gastil, D. Knowles, J. Soles, W. McPherson and W. Blakeman) and government geologists (A. Low, G. Gross & L. Farhig, GSC, and T. Rivers & R. Wardle, GSNL), undoubtedly assisted in developing the current understanding of both local and regional geology that is summarized in Sections 6 to 8 above.

The historic magnetic traverses were conducted utilizing a Sharpe D-1-M magnetometer which was state-of-the-art in the 1950's. Although crude by modern standards this survey adequately defines the deposit boundaries. As a quick check of the general exploration potential outside of the EML, MPH compared the deposit extensions projected by Javelin (see Figure 5-2 above) with modern GSC magnetic data (Figures 9-1 and 9-2). The GSC and Javelin data show essentially the same results, but due to the fact that the GSC flight lines are oriented at a low angle to the local Julienne deposit strike, the historic data is actually more definitive.

Magnetic data for the Julienne Iron Deposit area was extracted by MPH from the Geological Survey of Canada (NRCan) country-wide aeromagnetic database. These data consist of 800m (1/2 mile) spaced WSW-ENE oriented lines, with ~100m to ~665m data point spacings along the flight-lines, gridded using 200m cells in Geosoft. The Total Magnetic Intensity and First Vertical Derivative of the Earth's magnetic field was presented as shaded colour images and overlain with topographic contours.

The Julienne Lake Iron Deposit is coincident with an elongated oval NE-SW trending ~600nT magnetic high. This is roughly parallel with the strike of the Grenville Front. Two peaks are observed within the oval, which are coincident with the two hills indicated in the topographic contours. This is interpreted as a topographic effect, with the outcropping rock being closer to the aircraft magnetic sensor. The lower amplitude ENE and WSW arms of the anomaly are more removed from the magnetic sensor, as they lie under the lake and possible lake-bottom sediments. The strike length of the entire oval is ~4.7km, indicating the potential for the deposit to extend to the ENE and WSW, off the property and away from the known deposit, under the lake.

Although the line orientation, line spacing and along-line data-point spacing is inadequate to resolve the local geology in detail, these data are presented as an initial discussion of the geophysics of the deposit. It is recommended that a search be done for more detailed historical geophysical data, or that a modern small (~100 line-km) magnetic survey be flown with a more appropriate line direction and spacing to resolve the iron formation, particularly in the submerged sections.

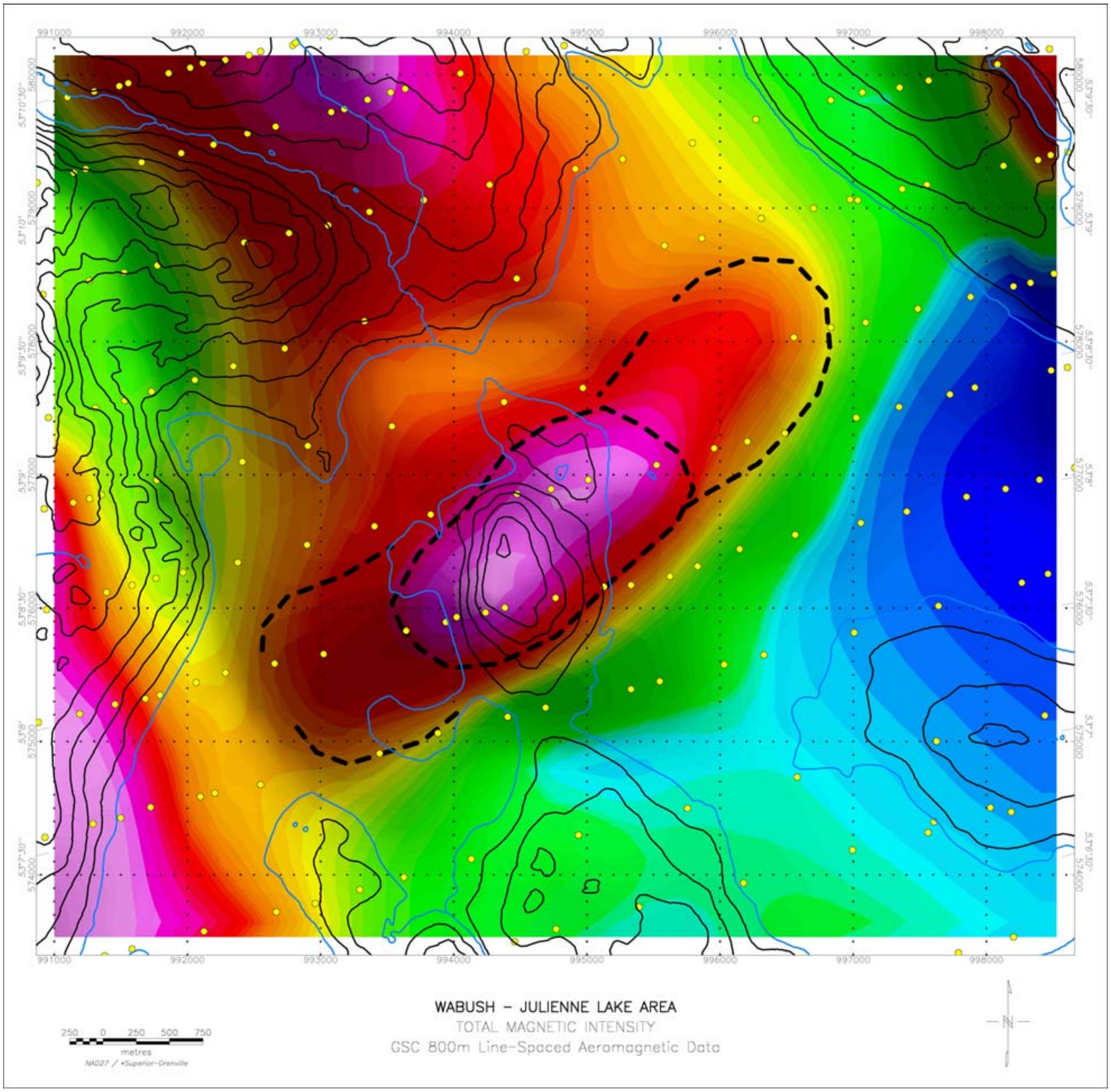


Figure 9-1: GSC Magnetics (Total Magnetic Intensity)

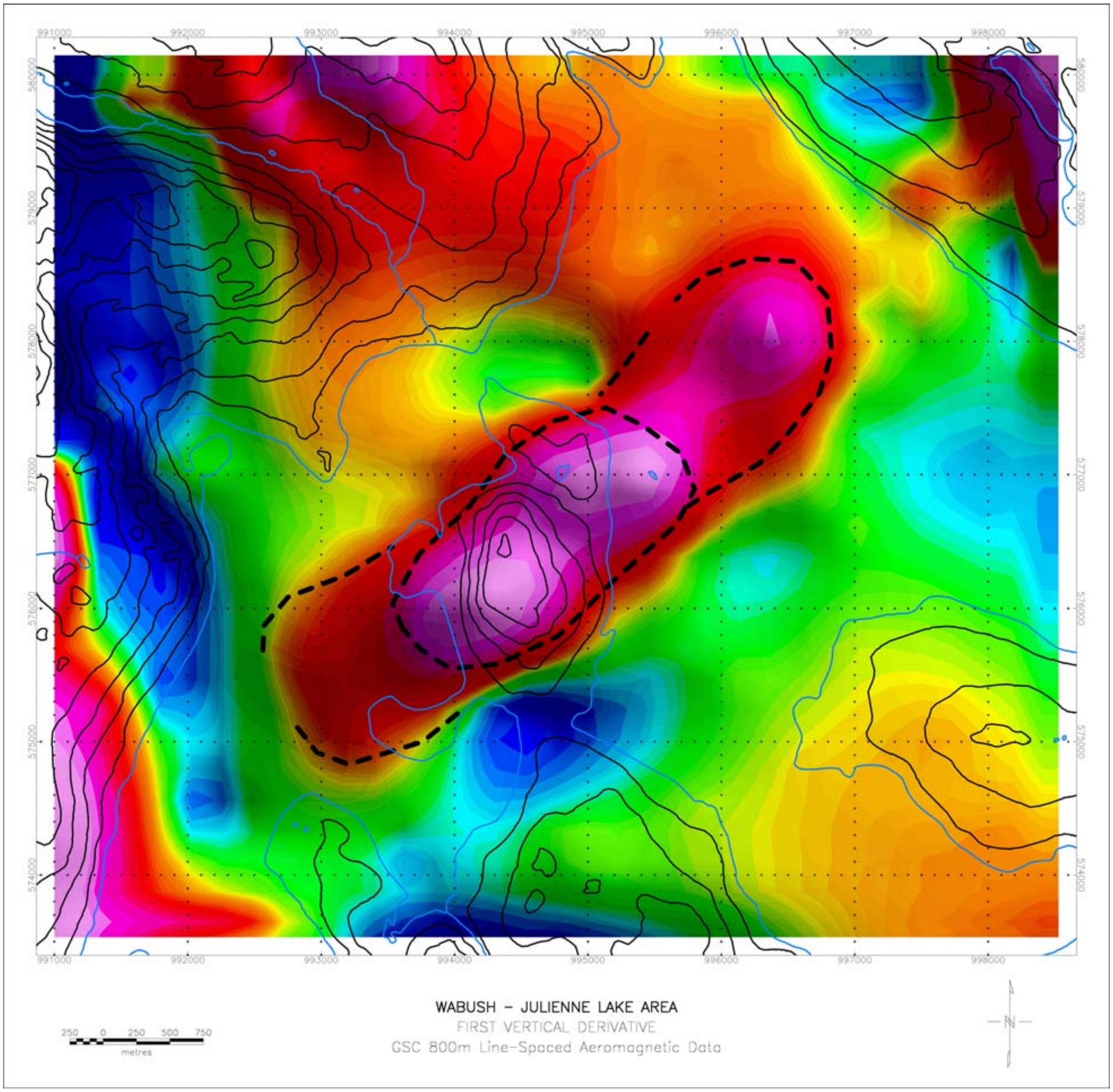


Figure 9-2: GSC Magnetics (First Vertical Derivative)

No recent exploration work has been conducted on the Julienne Lake EML.

10.0 DRILLING AND TEST PITS

10.1. Nature and Extent of Work

Historical diamond drilling which led to the partial outlining of the Julienne Lake iron deposit was completed in two stages between September, 1957 and August, 1958. The planned outline drilling program proposal, 11 holes totalling 5000 feet, was never completed. Only nine holes were with a cumulative length of 3,477 feet were drilled. Test pits were employed to obtain bulk samples of iron formation in 1960 (38.5 tons from 5 pits) and 1963 (162 tons from 12 pits). Processing, pelletizing and smelting tests were conducted on the 1960 samples, but there is no record of work on the latter samples. The various historic drilling and test pitting programs have been outlined in Section 5-2 above.

No recent drilling or test pitting has been conducted on the Julienne Lake EML.

10.2. Topographic Surveys

In 1957 the Julienne Peninsula and adjacent area was flown to obtain detailed aerial photographs for orthophoto mapping purposes, and a cut survey grid was laid out. The aerial photographs were utilized to construct a detailed uncontrolled orthophoto manuscript topographic map that remains a very high quality base map that could be retrofitted into a GIS format. The cut survey lines and other important features (e.g. Trench 62-1) are still clearly visible on Google Earth satellite images (Figure 10-1).

Figure 10-1: Google Earth image showing Javelin survey grids.

10.3. Historical Javelin Drilling and Test Pits.

The locations of the historical drill hole collars, trenches and test pits are shown in Figure 10-2.

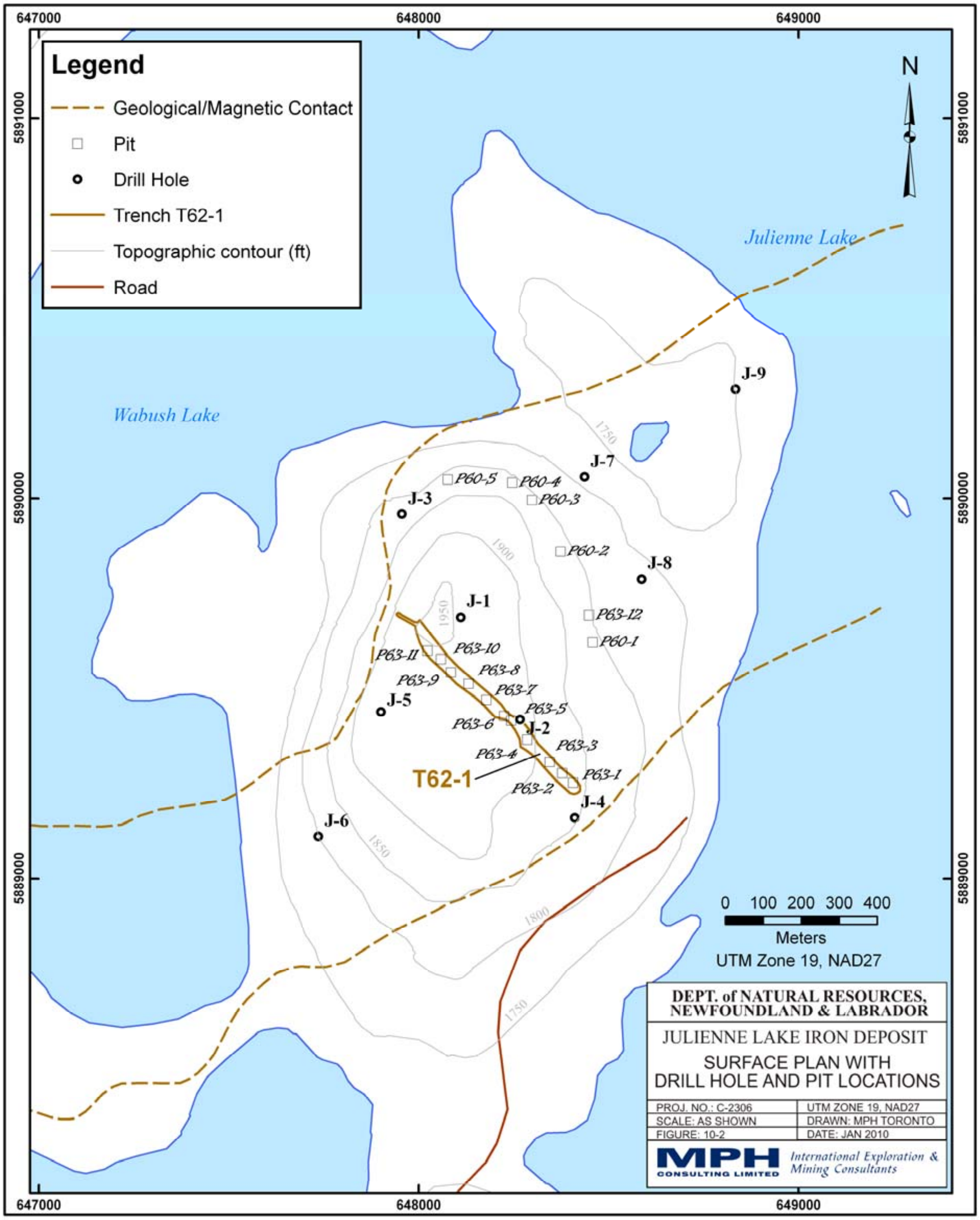


Figure 10-2: Surface Plan with Drill Hole and Pit Locations.

As noted in Section 5-2 the 1957-58 drilling was only marginally effective with key shortcomings as follows:

- Very poor core recovery,
- Failure to reach planned hole depth,
- Failure to penetrate iron formation units.

The 1957-58 drilling was done with 'standard' as opposed to modern 'wireline' drilling equipment which meant that the whole drill rod string had to be removed from the hole after each 5 to 10 ft (1.5 to 3 m) 'run' to recover the core. In difficult 'blocky' ground conditions such as are apparent at Julienne Lake this is a recipe for frustrations and problems. The initial drilling contract called for the use of BX (42.0 mm), AX (30.1 mm) and EX (21.5 mm) core sizes, with NX (54.7 mm) being added by the second hole. The holes were essentially started with the largest diameter tools, and then systematically reduced until conditions became too difficult to continue. In most instances this meant that the hole was terminated before its planned depth. The drilling tool details of holes J-1 to J-4 are shown in Table 10-1.

Table 10-1: 1957 Drilling Program Core Sizes

Core Type	Hole J-1	Hole J-2	Hole J-3	Hole J-4
NX (54.7 mm)		0-20 ft	0-42 ft	0-3 ft
BX (42.0 mm)	0-150 ft	0-185 ft	0-101 ft	0-138 ft
AX (30.1 mm)	0-368 ft	0-489 ft	0-228 ft	0-265 ft
EX (21.5 mm)	0-498 ft	0-566 ft	0-310 ft	

MPH believes that the use of wireline drilling equipment (universally employed today) and larger core sizes (HQ-63.5 mm, NQ-47.6 mm, BQ-36.5 mm) along with specialized drilling muds/fluids would result in adequate hole penetration and core recoveries.

No down-hole inclination or directional surveys were conducted for the historic drilling. Due to blocky ground conditions and small diameter drilling tools substantial hole deviations would be expected. No specific gravity or dry bulk density tests are known to have been conducted on drill core specimens. As noted previously all remaining drill core was destroyed in a warehouse fire in 1966.

In essence the historic drilling program is typified by significant inadequacies of design and execution. Consequently second and third order derivative information such as historical resource estimations, process/pelletizing/smelting testwork, and economic evaluations are built on a shaky foundation.

The 1960 series of Javelin historical test pits (P60-1 to 5) were chosen so as to give a bulk sample from a representative cross section of the deposit along the 'east bench' or wave cut platform on Glacial Lake Wabush. The work was done between November 17 and December 10, 1960. The test pits were oriented so that length was across strike. The samples were taken by drilling with a Copco Cobra light-weight gasoline-powered drill and blasting. Due to wintry conditions, the sample material was immediately bagged into used 100 lb (45 kg) bags (see 'titania affair' Section 5.2) which were tagged in duplicate. The samples were flown from the site to Wabush airport using a sling-equipped Sikorski S-55 helicopter, then loaded onto a boxcar at Wabush siding for rail transport to Sept Isles, QC, and finally on to Lakefield, ON by truck. The makeup of the bulk sample is given in Table 10-2. Pit locations were previously shown in Figure 5-1 above.

Table 10-2: 1960 Javelin Test Pits, Bulk Sample Makeup

Pit	Length (ft)	Width (ft)	Depth (ft)	Long Tons	Litho Unit	Fe	Mn	SiO_2
P60-1	15	3	2	7.5	C	34.56%	0.02%	50.07%
P60-2	23	4	2	8.02	B	27.54%	0.08%	58.97%
P60-3	12	4	3	8.5	D	45.02%	0.16%	35.09%
P60-4	23	3	3	8.3	D	42.86%	0.14%	36.47%
P60-5	12	3	2.5	6.09	F	31.61%	0.02%	53.33%
Total				**38.41**	**Average**	**36.73%**	**0.09%**	**46.19%**

No specific gravity or dry bulk density tests are known to have been conducted on test specimens or the pit excavations.

Photo 6: Trench T62-1 exposure, November, 1962.

In the fall of 1962 an area extending across the hilltop exposure (Trench 62-1) was stripped for examination and sampling purposes. A 162 ton (165 tonne) package of bulk samples were taken from the Julienne Lake deposit in the fall of 1963. The sample pits were designed to provide 'a good first look at metallurgical behaviour and beneficiation problems'. A variety of mineralogical sub-types were acquired from 12 carefully chosen pit locations (P63-1 to 12 inclusive) mostly along Trench 62-1. Samples ranging from 6 to 20.5 tons (6.1 to 20.8 t) were taken from different styles of good grade mineralization, along with a 7.5 ton (7.6 t) sample of Fe-bearing quartzite, a 4.5 ton (4.6 t) sample of manganiferous material and a 12 ton (12.2 t) composite sample. The purpose was to investigate the recovery characteristics of each sub-type.

The 1963 samples were acquired by drilling with a Cobra drill and blasting with 40% Forcite. Control samples of 25 to 35 lbs (11 to 16 kg) were collected after blasting and sent to Lerch Brothers, Sept Isle, QC for assay. The bulk samples were sized and collected only after control sample assay results were received. The sample material was placed in new burlap bags, weighed, tied and tagged with coloured cloth for identification. The bagged samples were trucked to Wabush and loaded onto 3 railway cars, then shipped by rail to Sept Isle, QC, and onward by truck to Lakefield, ON. The makeup of the bulk samples based on field records and control sample results is given in Table 10-3.

No specific gravity or dry bulk density tests are known to have been conducted on test specimens or the pit excavations. There is no record of any metallurgical studies ever being done on these samples.

Table 10-3: 1963 Javelin Test Pits, Bulk Sample Makeup

Pit	Length (ft)	Width (ft)	Depth (ft)	Long Tons	Litho Unit	Fe	Mn	SiO_2
P63-1	12	9	4	14.0	E	31.68%	0.07%	51.93%
P63-2	12	9	4	20.5	E	31.60%	0.09%	51.98%
P63-3	12	9	4	14.0	D	30.95%	0.11%	53.25%
P63-4	12	9	4	12.0	C	30.47%	0.05%	54.23%
P63-5	12	9	4	13.5	A	42.59%	0.14%	36.74%
P63-7	12	9	4	16.0	B	40.09%	0.11%	40.28%
P63-9	12	9	4	15.0	C	34.11%	0.07%	49.40%
P63-10	12	9	4	13.0	C	36.77%	0.35%	44.54%
P63-11	12	9	4	14.0	D	32.00%	0.09%	52.28%
P63-12	12	9	4	6.0	B	29.50%	0.16%	54.18%
Sub Total				**138.0**	**Average**	**34.21%**	**0.12%**	**48.60%**
P63-6	12	9	4	7.5	A	18.35%	0.09%	71.19%
P63-8	12	9	4	4.5	Mn rich	29.66%	15.74%	27.94%
Composite				12.0		32.31%		
Total				**162.0**				

10.4. Drilling Database Used For Historic Resource Estimates

The data base for the historic Javelin resource estimates consisted of all of the available drill records and logs from the 1957-58 program. Drill holes included in this data base are listed in Table 10-4 and collar locations were shown previously in Figures 5-1 and 10-2 above.

Table 10-4: Julienne Lake Drilling Database Summary

Hole No	Easting (grid)	Northing (grid)	Elevation (ft)	Length (ft)	Azimuth (degrees)	Dip (degrees)
J-1	10000	10500	1935	596	0.00	-90
J-2	10000	9500	1920	705	0.00	-90
J-3	10000	11500	1830	318	0.00	-90
J-4	10000	8500	1830	328.5	0.00	-90
J-5	9000	10160	1937	203	332	-50
J-6	8000	9500	1813	330.5	0.00	-90
J-7	11500	11000	1757	379	0.00	-90
J-8	11500	10000	1760	356	0.00	-90
J-9	13000	11000	1745	261	0.00	-90
Total				**3477**		

11.0 SAMPLING METHOD AND APPROACH

All samples in the current database are historical samples taken between 1957 and 1966. The reports available to MPH do not provide details of the sampling methodology and procedures.

No site visit was made in connection with the current report and no samples were collected.

12.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

There is no available detailed information on the historic Javelin sample preparation and analytical protocols.

The only known company to conduct analyses of exploration samples such as drill core, rock and control samples is Lerch Brothers Inc. of Hibbing, Minnesota. Founded in 1892, Lerch Brothers served as analysts for the taconite mines in the Mesabi Range. In the mid-20th century a branch laboratory servicing the Labrador Trough area was operated by Lerch Brothers in Sept Isles, QC. The company is still in business as an independent laboratory serving as a primary or referee laboratory for iron ore projects.

13.0 DATA VERIFICATION

The data verification aspects of a property evaluation exercise normally include the confirmation of existence of work sites such as survey grids, property boundaries, drill holes and underground workings as well as procedures to test the reliability of the historic database, in particular the analytical results. With respect to analytical data, the in-laboratory and intra-laboratory QA/QC procedures, or lack thereof, of the previous property operators are reviewed along with the results of duplicate sampling if available. Finally, a check sampling program conducted by the author(s) of an evaluation or technical report is normally an integral part of the overall exercise.

Since this is strictly an office study, with no site visit, there can be no confirmation of existence of work sites or verification that technical observations reported by previous operators are properly recorded and accurate within acceptable limits. No independent verification samples were collected by MPH Consulting Limited.

It is unknown from current records if the laboratory utilized by Javelin employed adequate in-laboratory blanks, standards and duplicate analyses to ensure precision and accuracy of results.

No quality control (QC) and quality assurance (QA) protocols or data exist for the historic Javelin exploration programs, and the historic resource estimates.

There is a minimal amount of field duplicate sample analytical data available that is discussed below.

13.1. Field Duplicate Sample Data Analysis

A search of the historical records has identified a few actual samples sites or groups of samples that have been sampled on more than one occasion and can therefore be utilized as *de facto* field duplicates. The inadvertent use of rutile-contaminated second-hand bags for the 1960 test pit samples (Titania Affair) resulted in a later (1966) sampling program to confirm that the deposit did not contain elevated TiO_2 levels. Perhaps fortuitously, the 1966 samples included a total of 9 sites that can be used as an empirical check of two earlier sample sets, namely the 1960 test pits' control samples and the T62-1 trench composite chip samples.

Even though the same laboratory was presumably used for all the samples MPH considered this to be important information that might provide a degree of corroborative verification of analytical data between historic exploration programs. The analytical results for original samples submitted to the Lerch Brothers Sept Isles laboratory and the *de facto* field duplicate samples sent later to the same laboratory, as compiled by MPH, are shown in Table 13-1 and 13-2. Scatter plots were prepared by MPH as a check of the data and are presented in Figure 13-1.

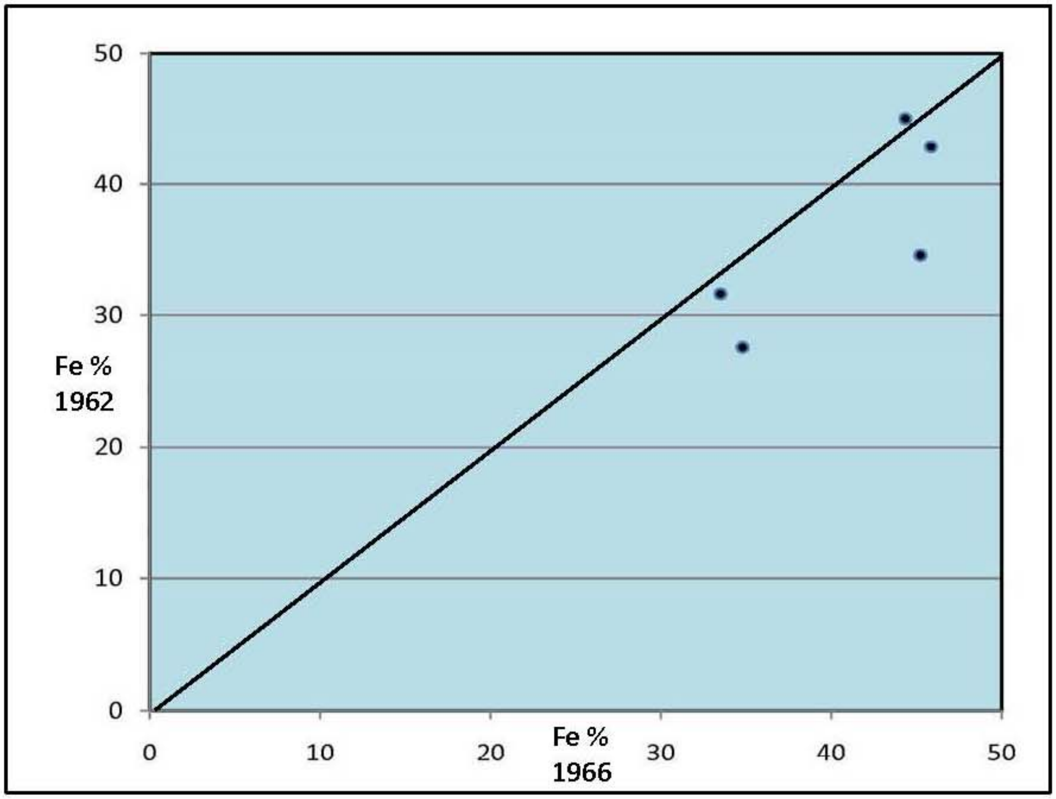
At the outset it is noted that the few available duplicate sites are insufficient to allow definitive conclusions. However, the patterns that did emerge were surprising and do indicate a definite need for proper QA/QC protocols for all aspects of ongoing work. In essence the 1966 duplicate sample values are consistently higher than the 1960 values and consistently lower than the 1962 values. This clearly indicates a problem, the solution(s) of which might lie anywhere from program design, to sample collection, to sample tagging, bagging and handling, to transportation, to sample preparation, to analysis and finally to data management.

Table 13-1: Historic Calculated Field Duplicates, Trench T62-1

Trench	1962 surface composite grab				1966 surface composite Grab				Calculated Duplicates			
	From (ft)	To (ft)	ID	Fe%	From (ft)	To (ft)	ID	Fe%	From (ft)	To 9ft)	1962	1966
T60-1	200	300	2231	34.34	200	380	none	33.37	200	1000	35.41	33.71
T60-1	300	400	2232	36.71	380	625	none	33.18	1000	1800	37.20	35.35
T60-1	400	500	2233	35.51	625	775	none	32.86	1800	2425	33.82	37.03
T60-1	500	600	2234	30.54	775	1000	none	35.43				
T60-1	600	700	2235	39.51	1000	1290	none	37.51				
T60-1	700	800	2236	33.18	1290	1475	none	35.27				
T60-1	800	900	2237	33.68	1475	1625	none	33.18				
T60-1	900	1000	2238	39.84	1625	1800	none	35.43				
T60-1	1000	1100	2239	44.56	1800	1970	none	32.70				
T60-1	1100	1200	2240	35.11	1970	2150	none	34.14				
T60-1	1200	1300	2241	38.31	2150	2285	none	43.76				
T60-1	1300	1400	2242	37.35	2285	2425	none	37.51				
T60-1	1400	1500	2243	33.18								
T60-1	1500	1600	2245	43.20								
T60-1	1600	1700	2246	29.82								
T60-1	1700	1800	2247	36.07								
T60-1	1800	1900	2248	33.50								
T60-1	1900	2000	2249	30.30								
T60-1	2000	2100	2250	31.26								
T60-1	2100	2200	2251	35.51								
T60-1	2200	2450	2252	38.55								

Table 13-2: Historic Field Duplicates, Test Pits P60-1 to 5

Pit #	1960 composites				1966 resample composites			
	From	To	Sample No	Fe%	From	To	Sample No	Fe%
P60-1	0.0	5.00	107621	34.56	0.0	5.00	3554	45.23
P60-2	0.0	5.00	107622	27.54	0.0	5.00	3567	34.80
P60-3	0.0	5.00	107623	45.02	0.0	5.00	3562	44.35
P60-4	0.0	5.00	107624	42.86	0.0	5.00	3561	45.85
P60-5	0.0	5.00	107625	31.61	0.0	5.00	3557	33.50



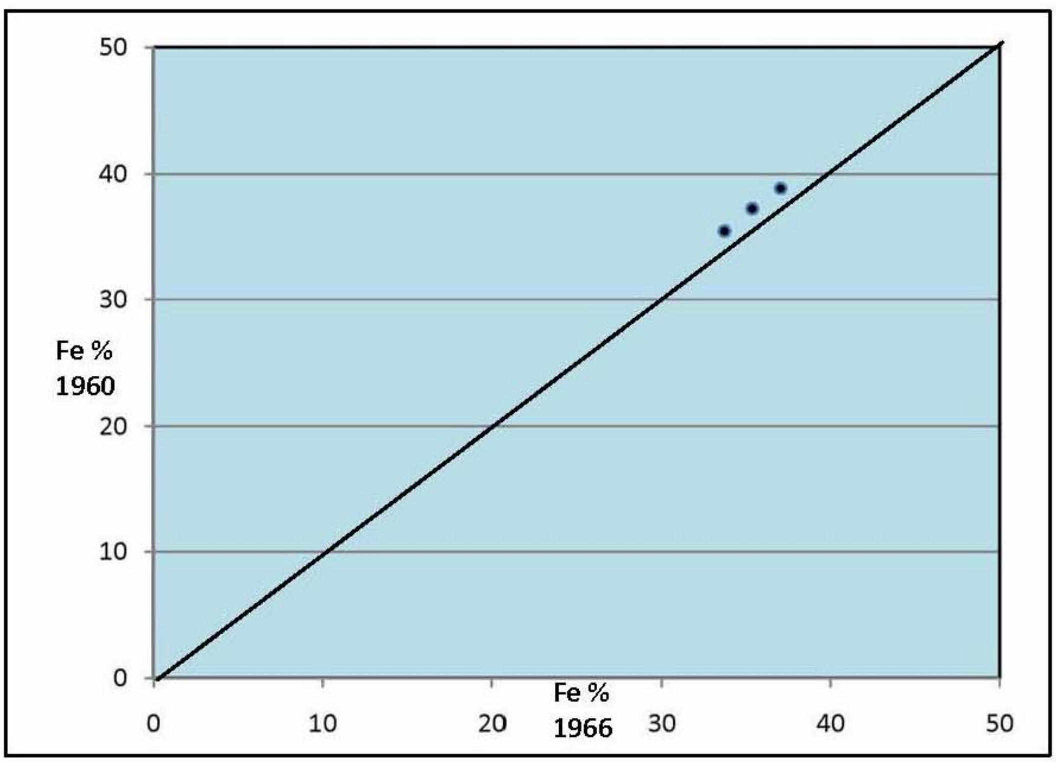


Figure 13-1: Historic Field Duplicate Scatter Plots.

14.0 ADJACENT PROPERTIES

Canada is currently the world's ninth largest producer of iron ore. As of 2008, approximately 60% of Canada's total iron ore production came from Labrador West mines operated by IOC and Wabush Mines. Most of the rest of Canada's iron-ore production is from nearby regions of north-eastern Quebec. A small amount of iron is produced as a by-product of base-metal smelters in British Columbia. Several advanced exploration or development stage properties are active in the Labrador Trough region.

14.1. Iron Ore Company of Canada, Carol Project

The Iron Ore Company of Canada ("IOC") is Canada's largest iron ore producer and a leading global supplier of iron ore pellets and concentrates. Owned by Rio Tinto (58.7%), Mitsubishi Corporation (26.2%), and the Labrador Iron Ore Royalty Income Fund (15.1%), IOC operates within the Rio Tinto Iron Ore group and maintains its head office in Montreal, Quebec. IOC's current mine and process facility, located near Labrador City, is known as the Carol Project. The facility began operation in 1962 and has produced more than one billion tonnes of crude ore with an average iron content of 39 percent. The Carol Project still has a significant resource base available. At the end of 2006, IOC had a reported 962 million tonnes of iron ore reserves, 3,155 million tonnes of iron ore resources, and significant exploration potential. Annual capacity at the Carol Concentrator is 17 million tonnes of iron ore concentrate, of which 13 million tonnes can be pelletized and the balance processed into various grades of concentrate products.

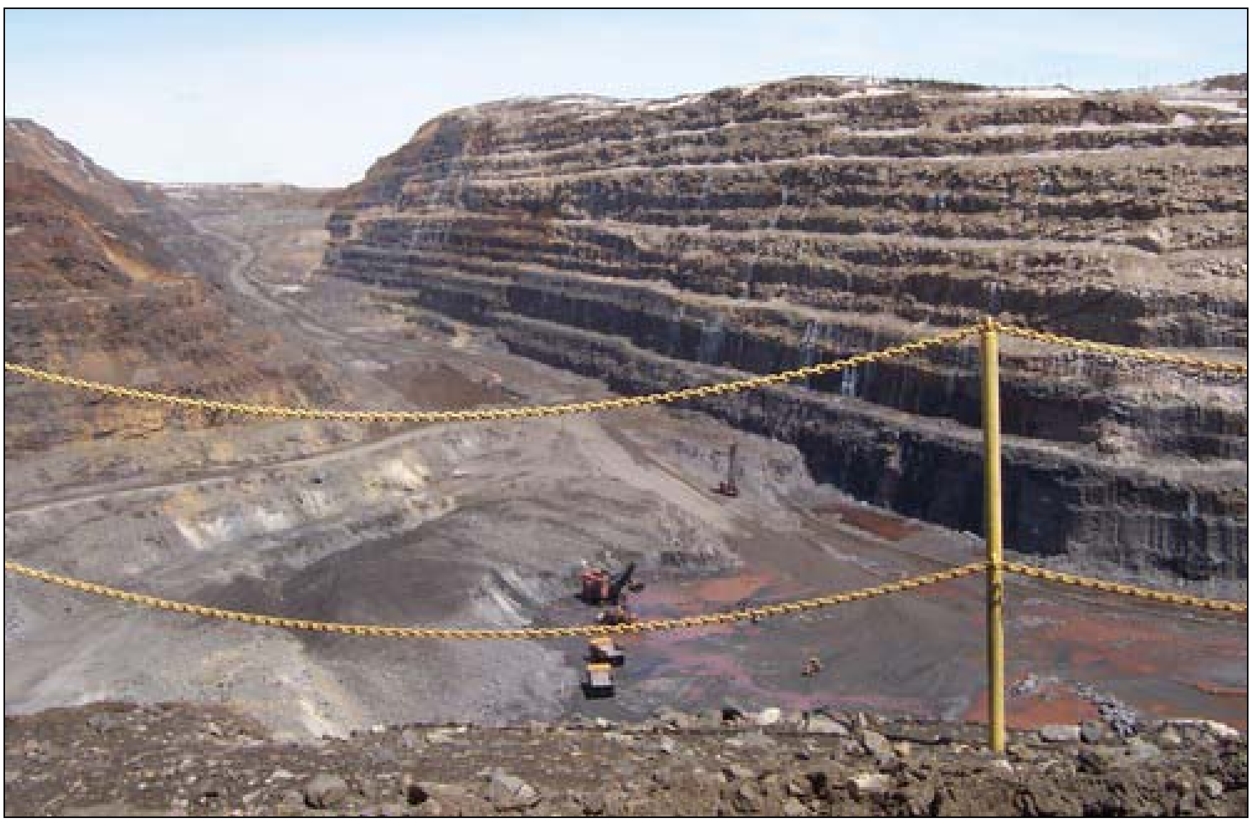


Photo 7: IOC Carol Project open pit mine.

In March 2008, Rio Tinto and IOC announced a $500 million plan to expand iron ore mining and processing facilities in Labrador West, including a funding allocation to buy rail rolling stock for the QNS&L railway. The expansion plan, designed to increase annual concentrate production to 22 million tonnes, has been temporarily suspended due to the current global recession.

14.2. Wabush Mines, Scully Mine

Wabush Mines has conducted iron ore mining operations at Wabush, Labrador since 1965 with the mining and concentrating at Wabush and the subsequent stage of pelletizing being done at a plant at Pointe Noire on the St Lawrence River near Sept-Isles, Québec. Since 1967 annual capacity of the Wabush operation has been approximately six million long tons of pellets. Wabush Mines is an unincorporated joint venture comprising US Steel Canada [formerly Stelco Inc.] (44.6%), ArcelorMittal Dofasco Inc. (28.6%), and Cleveland-Cliffs Inc. (26.8%). Wabush Mines is managed on behalf of the joint venture by Cliffs Mining Co., a subsidiary of Cleveland-Cliffs Inc.

Photo 8: Wabush Mines, Scully Mine.

The Scully Mine iron ore deposits have mineralogical challenges that present obstacles to the production of quality pellets. A major problem is the high manganese content of the ore in certain sections. Specifications by the steel industry on the maximum permissible manganese content in pellets have restricted mining to ore units that have less than 2% manganese, which after concentrating results in similar manganese content in the pellet product. In recent years much of the high-manganese product has been sold to China as the traditional North American markets are no longer as receptive to this quality of product. The ongoing viability of the Scully Mine is largely dependent on, either a solution to the manganese problem, or continuing access to Chinese markets for the sub-standard product.

On October 9, 2009, Consolidated Thompson Iron Mines Ltd. made an offer to purchase a 100%

interest in the Wabush Mines joint venture for an aggregate purchase price of US$120 million. Cleveland-Cliffs Inc. has recently announced that it will exercise its right of first refusal pertaining to its partners' interests and will acquire the US Steel Canada and ArcelorMittal Dofasco Inc. interests for US$88 million cash.

14.3. ArcelorMittal Mines Canada, Mont Wright and Fire Lake Mines, Quebec

ArcelorMittal Mines Canada (formerly Quebec Cartier Mines) operates the Mont Wright open pit mine and concentrator located at Fermont, QC. Nominal capacity of this complex is 18 million tons of iron ore concentrates per year. The Fire Lake open pit mine located 55 km southwest of Fermont is operated on a seasonal basis, as required, with ore shipped by rail to Mont Wright for processing. Concentrates are shipped by rail to Port Cartier, QC, where the company operates a 9 million ton per year pelletizing plant and port facilities.

14.4. Other Labrador Trough Advanced Iron Ore Projects

As noted earlier in this report, tremendous increases in iron ore consumption by developing nations in the 1990's resulted in a modest resurgence of interest in iron ore by some mining and exploration companies. Dramatic iron ore price increases from 2006 to the latter part of 2008 effectively created much more widespread interest in iron properties. Many previously explored iron ore deposits and occurrences throughout the Labrador Trough were revaluated from the mid-1990's onward. A group of projects, listed in Table 14-1, and not owned by the current mining companies, were advanced to at least Prefeasibility Study status.

Table 14-1: Advanced or Development Stage Labrador Trough Iron Ore Projects

Deposit	Location	Company	Measured + Indicated Resources	
			Tons (millions)	Grade (Fe %)
Labmag, NL	Schefferville region	NMCC[1]	3,665.0	29.6%
DSO Project, NL (8 small deposits)	Schefferville region	NMCC[1]	56.0	58.97%
Kemag, QC	Schefferville region	NMCC[1]	2,448.0	31.27%
Lac Bloom, QC	Fermont region	Cons. Thompson[2]	827.0	29.30%
Lamelee-Peplar, QC	Fermont region	Cons. Thompson[2]	935.0	29.72%

[1] New Millenium Capital Corp, [2] Consolidated Thompson Iron Mines Limited

15.0 MINERAL PROCESSING AND METALLURGICAL TESTING

By the early 1960's Canadian Javelin was apparently thinking of a full-blown integrated operation including pig iron production and a steel plant for the Julienne Lake deposit, rather than an iron ore concentrating/pelletizing plant. This led to a search for an iron ore reduction process that did not require huge quantities of coking coal to be brought to western Labrador. Two innovative experimental electric smelting processes, (Strategic Udy and Elkem) were investigated in 1961-62, utilizing iron formation material collected from 5 surface test pits in December, 1960.

The following summarises the operating conditions and subsequent results obtained during various stages of test work performed in the early 1960's by contractors for Canadian Javelin with the aim of developing a suitable economically viable development strategy. Grinding and concentrating tests followed by smelting and pelletizing tests were undertaken over an approximately 2 year period.

15.1. Grinding and Concentration Testwork, Lakefield Research, 1961.

Grinding and concentration tests were conducted at the Lakefield Research of Canada Limited ("Lakefield") facility in Lakefield, ON in January, 1961. A total of 34 long tons (34.5 t) of iron formation material was taken from 5 surface test pits (P60-1 to 5) in December, 1960. See section 10.3 above for details. The testing program involved grinding in a Hardinge 'Cascade' mill and concentration by means of Humphreys spirals. The objectives of the Lakefield test were as follows:

- To produce about 11 tons (11.2 t) of high-grade concentrate utilizing Humphrey's spirals,
- To produce about 4 tons (4.1 t) of ground 'ore' for possible testing,
- To produce 1 or 2 tons (1 or 2 t) of spiral tailings for possible testing, and
- To obtain data for preliminary concentrator plant layout and cost estimates.

Lakefield reported that 5 pilot plant runs (1 preliminary & four production runs) were made according to the flow-sheet shown in Figure 15-1. A final run was made in the Cascade mill to produce the ground 'ore' increment.

Lakefield (Britton, 1961) stated that "the 'ore' grinds readily in the Cascade mill yielding a product which is 80% plus 200 mesh. Calculated net power requirement is 2.2 kilowatt hours ("kW.h") per long ton of ore. Capacity of each rougher spiral is about 1.4 long tons (1.4 t) of new feed per hour and that one cleaner spiral is required for every two rougher spirals."

"In one pair of tests 76.6% of the iron was recovered in a concentrate which assayed 64.5% Fe (acid soluble). Recovery was 79.6% in the other pair of tests but the concentrate assayed only 63.5% Fe. These results could undoubtedly be improved in practice, but no marked increase in recovery can be expected."

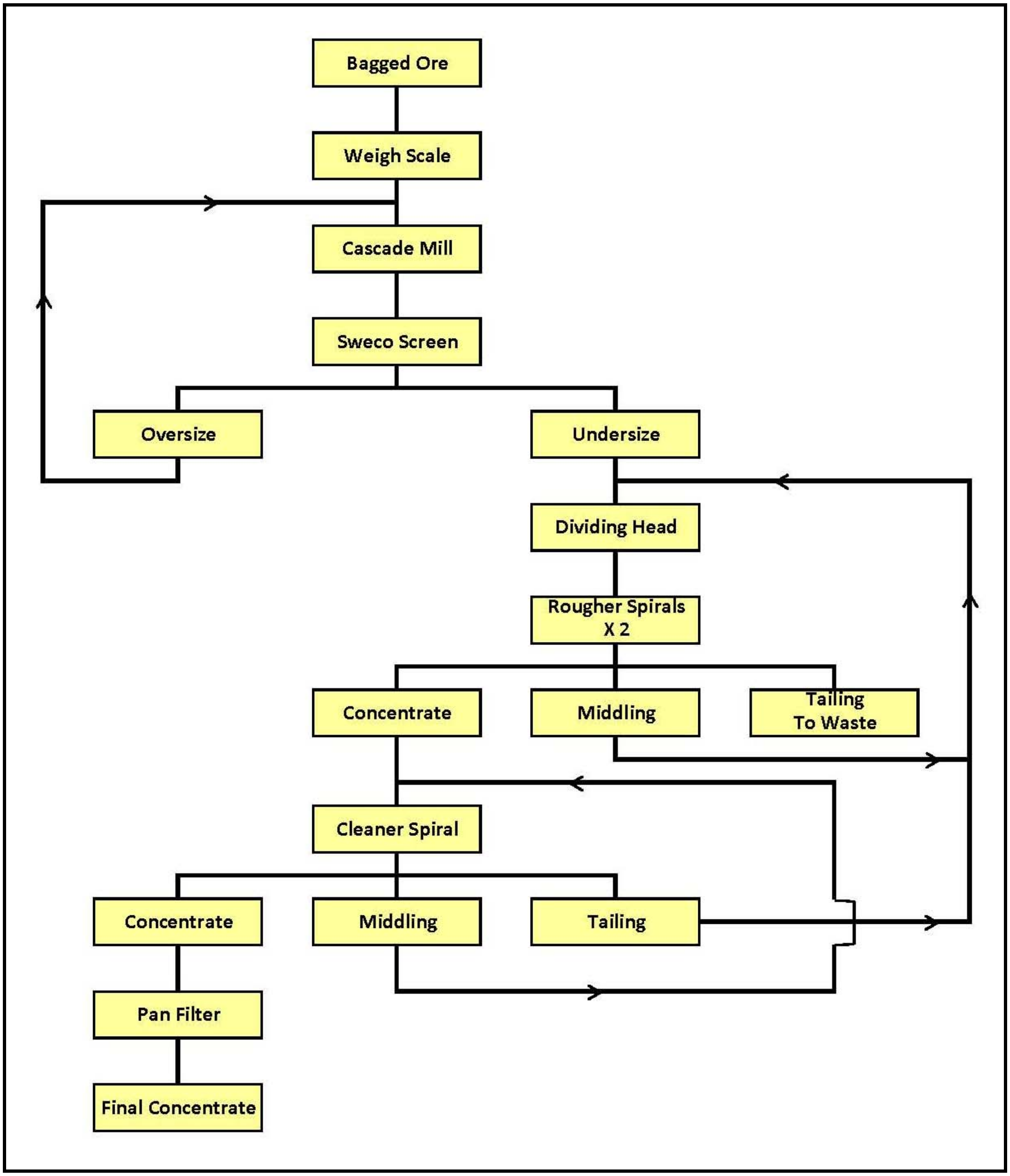


Figure 15-1: 1961 Lakefield Grinding and Concentrating Pilot Plant Flowsheet

15.2. 1961 Electric Smelting Testwork, Strategic-Udy Process

The Strategic-Udy tests were completed in late January, 1961, on 5 tons (5.1 t) of concentrate shipped to the Strategic-Udy Processes Inc. facility in Niagara Falls, New York. The Strategic-Udy process takes iron ore or concentrate, reductant (soft coal) and fluxes (lime, silica and fluorspar) and pre-treats this material in a fired rotary kiln. The pre-treatment removes moisture and gasifies the volatile fraction of the coal. It also results in calcination of carbonates and the partial reduction of the iron ore by converting Fe_2O_3 to FeO. The pre-treated material is collected and charged hot into an electric melting furnace. Slag and metal is tapped and handled in liquid form.

The 5 tons (5.1 t) of concentrate were smelted to produce the following materials:

- Low-carbon low-silicon iron with three different carbon levels; 2%, 0.8% and 0.4%,
- Basic open-hearth pig iron complying with the accepted specification for this product, and
- Foundry pig iron complying with the accepted specification for this product.

The metals produced were refined to SAE specification 1010 and 1040 grade steels and rolled into flats in a merchant mill. The results of refining, rolling and mechanical testing indicate that pig iron and low carbon iron can be easily refined into normal carbon steel.

15.3. 1961 Electric Smelting Testwork, Elekom Process

The Elektrokemisk ("Elkom") Process of Elektrokemisk A/S of Kristiansand, Norway was tested at bench scale in November, 1961. The sample material submitted by Javelin for evaluation as raw materials for electric pig iron smelting, consisted of 22 kilograms of Julienne deposit concentrate (from Lakefield), 20 kg of Wabush concentrate and 40 kg of Nova Scotia coal.

The Elkom method involves agglomeration of the concentrate by pelletizing a mixture of ore , coal and a binder. The 'green' pellets are hardened by storage or drying. The hardened pellets, with some coke and fluxes added, are preheated in shafts followed by electric smelting. By preheating and partially pre-reducing the charge, a considerable decrease in electric power consumption is obtained.

The actual test procedures were as follows:

- The iron content of the concentrates was determined by chemical analysis. The particle size distribution was determined by sieve analysis. To get a suitable size for pelletizing the concentrates were ground in a laboratory ball mill.
- The composition of the coal was determined by proximate analysis to the ASTM standard methods and subjected to a variety of additional tests. To make it suitable for pelletizing the coal was ground in a laboratory ball mill.
- Pellets were produced batch-wise in a laboratory drum pelletizer. Charge compositions are given in Table 15-1.

Table 15-1: 1961 Elkom Pellitizer Charge Compositions

Charge	Julienne #1	Julienne #2	Julienne #3
Fe concentrate	2,470 g	2,435 g	2,385 g
N. S. Coal	485 g	475 g	465 g
Norway Portland cement		90 g	150 g
Evaporated sulphite liquor	45g		

- Cement bonded pellets were stored for 3 or 5 days and subsequently heat treated. Pellets with sulphite lye as binder were dried in an air stream at 70 C for about one hour.
- The pellets were heat treated at temperatures from 700 to 1000 C.

It was concluded that the pellets were of good quality and that they may be smelted without difficulty. It was also noted that the Wabush and Julienne pellets were virtually identical.

15.4. 1963 Pelletizing Test, Dravo Laboratory

In January, 1963, approximately 1000 lbs (450 kg) of Julienne concentrate was shipped from Lakefield to the Dravo Laboratory in Pittsburgh, PA, for pelletizing tests. The concentrates were ground in a small ball mill to obtain a product of approximately 82% passing -325mesh. This was mixed with ½% bentonite and balled in a Dravo-Luigi disc. About 600 lbs (270 kg) of green pellets were made and standard strength tests were carried out.

Two batches of pellets were fired in the pellet firing furnace, and standard strength tests were conducted.

The test results were deemed to be excellent and comparable to earlier results obtain from the nearby Carol and Wabush deposits.

16.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

16.1. Historic Javelin Resource Estimates

In 1959-60, Javelin made a preliminary estimate of the grade and tonnage contained in the Julienne Lake iron deposit. This rudimentary ‘polygon on section’ estimate employed a volume to tonnage conversion factor of 12 cubic feet per long ton (2.9 tonnes/cubic metre) to arrive at 381,220,000 tons (387,340,000 t) averaging 34.2% Fe.

A revised grade and tonnage estimate for the Julienne Lake deposit, including projected strike extensions beneath Wabush and Julienne Lakes was completed in June 1963 (Knowles, 1963). The under-lake extensions are based primarily on interpretations of magnetic data (Figure 5-2). Only one historic diamond drill hole, from a lake ice setup, actually confirmed iron formation.
The land portion of the Julienne Lake deposit that has been explored by surface mapping, trenching and limited diamond drilling was re-estimated by Javelin to contain 500,034,000 long tons (508,058,000 t) averaging 34.2% Fe with only traces of impurities (Knowles, 1963). Geophysically projected extensions of the deposit under Wabush and Julienne Lakes (outside of the EML) were estimated at 165 million and 239 million tons (168 and 243 million t), respectively. Combining the tonnage estimate on the Julienne Peninsula with the projected under-lake extensions tonnages brings the total deposit blue-sky mineral potential to approximately 900 million tons (915 million tonnes).

The above historical estimates are presented by MPH for information purposes only. The estimates are believed to have been done to only rudimentary standards, nonetheless they would appear to reasonably indicate the tons and grade outlined at the date of preparation. However the estimate predates the current standards embodied in NI 43-101 and therefore do not conform to the same.

While there is little doubt that the Julienne Lake iron deposit is sizeable and of good grade based on the historic data, there is considerable uncertainty regarding the details. As noted in earlier sections of this report there are serious shortcomings in the diamond drilling database used for the estimations, namely:

- Inadequate hole spacings,
- Very poor core recoveries,
- Failure to reach planned depth and penetrate full thickness of iron formation,
- No QA/QC protocols,
- No down-hole directional/inclination surveys,
- No S. G./bulk density determinations, and
- No core remaining

The only known document pertaining to the actual grade/tonnage estimates is a 1960 report entitled “Julian Iron Corporation, Preliminary Ore Estimate” (Roxburgh, 1960). The author leaves little doubt that this study is considered inadequate with comments such as; “Working under the policy laid down by Management exploration has been carried out only to the point where the presence of a major orebody has been clearly indicated.” and “As it was necessary to obtain the most information from a strictly limited expenditure, drill holes were spaced to give the most necessary information while still using locations which fitted into the overall pattern of drilling laid out for the full development drill program."

The tonnage estimate was produced using a conventional 'polygon on cross section' approach. Some of the original cross sections are shown in Figure 16-1.

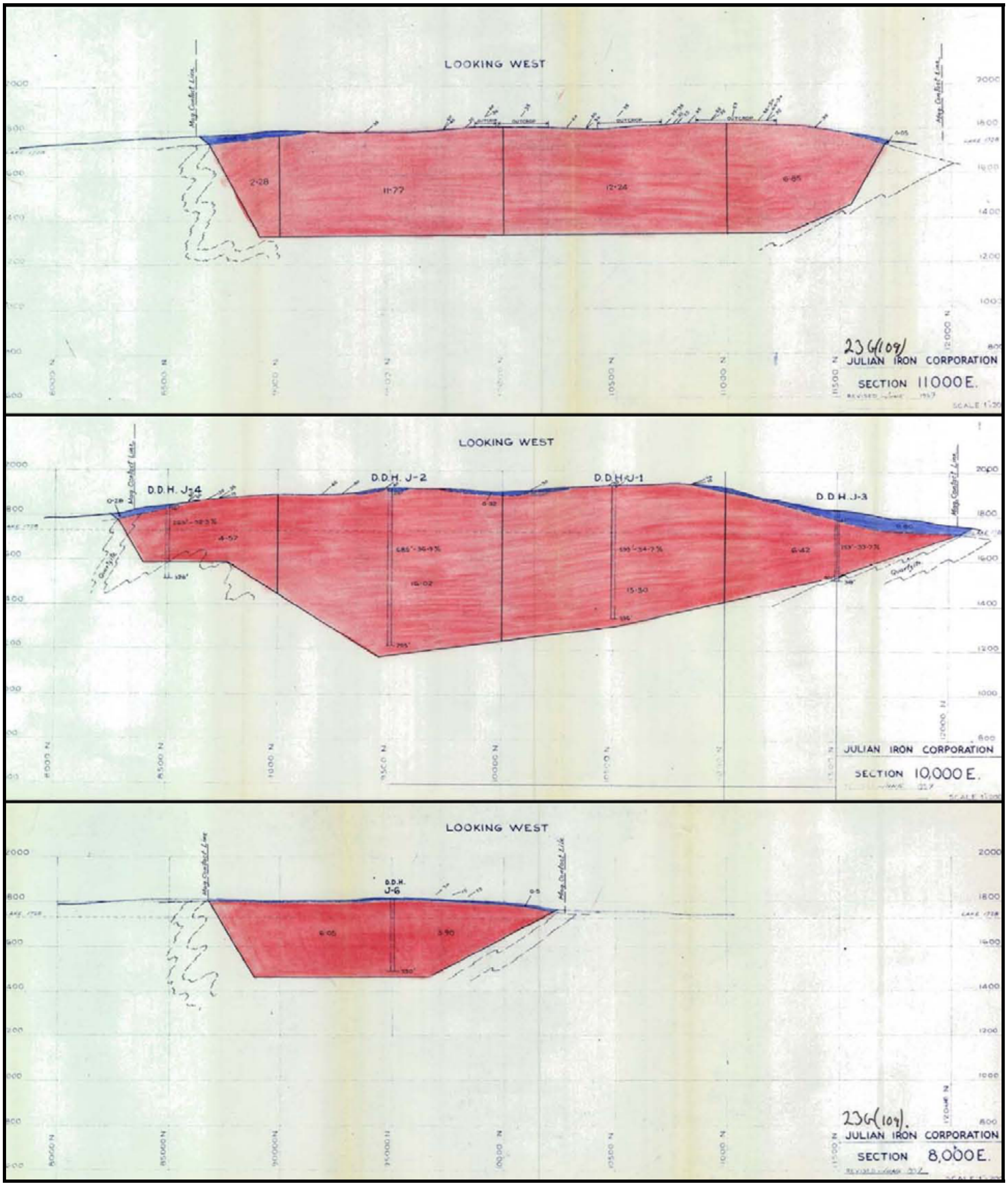


Figure 16-1: 1960 Javelin Historical Resource Estimation Typical Sections

The above cross sections illustrate the level of detailed understanding of the deposit, with the best section having 4 drill holes (2 into the footwall) and the worst having none. Simply put, an experienced economic geologist or mining engineer, with a pencil, sheet of paper and a ruler, could probably do a tonnage estimation to a similar level of confidence in well under an hour.

Although there is no record of a new resource estimation having been done in 1963, the minimum tonnage for the deposit somehow increased from 381,220,000 tons (387,340,000 t) averaging 34.2% Fe to 500,034,000 long tons (508,058,000 t) averaging 34.2% Fe. MPH has determined that the volume to tonnage conversion factor of 12 cubic feet per long ton (~2.9 tonnes/m^3) used by Javelin for the 1960 estimate is inordinately low for the style of deposit in question. Theoretically a consolidated rock containing 35% Fe, composed principally of quartz (SG 2.6) and hematite (SG 4.9-5.3) would have a SG in the range of 3.75 to 3.95. Allowing for 10 to 15% open space as pores, fractures, etc., this would translate into a tonnage factor or dry bulk density somewhere between 3.2 and 3.35 tonnes/m^3. Logic similar to this might explain the sudden increase in tons without additional drilling.

16.2. MPH Consulting Julienne Lake Iron Deposit Resource Audit.

MPH Consulting undertook the following to augment the resource / reserve portion of its systematic due diligence.

- An office review of technical information, supporting back-up data and drawings.
- No field visit to the Julienne Lake Property was made to examine the outcrop area and collect samples for analysis.
- Examination of technical information including original drill logs, analytical data, and geological and resource estimate techniques, etc.
- A critical review and analysis of all resource / reserve information, parameters, and calculation methodology used in the historical Javelin estimations.
- The historical drilling, trenching and test pit information was recaptured from original drawings, documents, etc., and placed into a standard GIS digital database.
- An independent calculation of grade and tonnage was made for the deposit for direct comparison with historic Javelin calculations. .

Utilizing the recaptured database MPH produced a 1:1000 scale plan showing drill hole collar locations, pit and trench locations and surface contours. Historic detailed geological, geophysical and topographic maps were used to define the outer limits of the iron formation. A simple polygon on plan approach was taken by MPH as a general check of the Javelin resource estimates.

The following parameters were used by MPH in its Julienne Lake iron deposit estimations of grade and tonnage:

- For the purpose of determining iron formation vertical thickness MPH used measured length of the 8 vertical diamond drill holes and the vertical projection distance for the remaining angle hole.

- Analytical data for Fe is presented as a weighted average of analyses for each drill hole. No cutting procedures or cut-off grades were utilized.
- External boundaries of the iron formation were defined by mapped boundaries of the iron formation contact and by the EML boundary, while internal borehole based polygonal estimation blocks were constructed and measured for area utilizing GemCom software.
- Resource block volume was determined by multiplying vertical thickness (borehole intercept) by horizontal surface area for individual blocks.
- Dry bulk density for the area is assumed to 3.2 tonnes/m^3.
- Resource tonnage for individual blocks was determined by multiplying resource block volume by its equivalent relative density calculation.
- Overall tonnage by resource category was computed by combining the individual resource blocks in the respective areas.

The MPH grade/tonnage estimations based on the recaptured GIS database are summarized in Table 16-1. It is noted that the table shows tonnage estimate figures to the nearest tonne and iron grades to two decimal places. This is simply a function of the arithmetic calculation and is definitely not meant to imply a high level of confidence in the estimates.

Table 16-1: MPH Resource Audit, Julienne Lake Fe Deposit, No cut-off.

HOLE ID	FROM (m)	TO (m)	LENGTH (m)	VERT. T (m)	FE %	AREA (m^2)	VOLUME (m^3)	TF t/m^3	TONNES t
J-1	0.9	181.7	180.8	180.8	34.18	121453	21958748	3.2	70,267,992
J-2	6.1	214.9	208.8	208.8	36.48	147123	30719352	3.2	98,301,926
J-3	14.3	96.9	82.6	82.6	31.91	86616	7154496	3.2	22,894,386
J-4	4.9	92.2	87.3	87.3	31.65	117101	10222938	3.2	32,713,401
J-5	3.7	46.9	43.2	33.09	39.33	94075	3112955	3.2	9,961,457
J-6	3.0	98.5	89.2	89.2	40.22	247068	22038505	3.2	70,523,215
J-7	3.7	115.5	111.2	111.2	35.58	171049	19020685	3.2	60,866,192
J-8	7.9	108.5	97.3	97.3	30.65	235877	22950830	3.2	73,442,655
J-9	42.1	79.6	37.5	37.5	36.67	157385	5901951	3.2	18,886,244
Average					**35.14**	**Total**			**457,857,468**

MPH used GEMCOM to construct a rudimentary polygonal block on plan method to estimate the minimum on-shore tonnage and grade for the Julienne Lake iron deposit as follows:

- ~460.0 million tonnes of iron formation material at average grade of ~35% Fe

The above MPH audit estimations are in reasonable agreement with the preliminary estimates made by Javelin in the early 1960's. Due to the use of an inappropriate tonnage factor, the 1960 Javelin estimations are believed to significantly understate the resource tonnage.

The polygon outlines utilized in the MPH audit are shown in Figure 16-3.

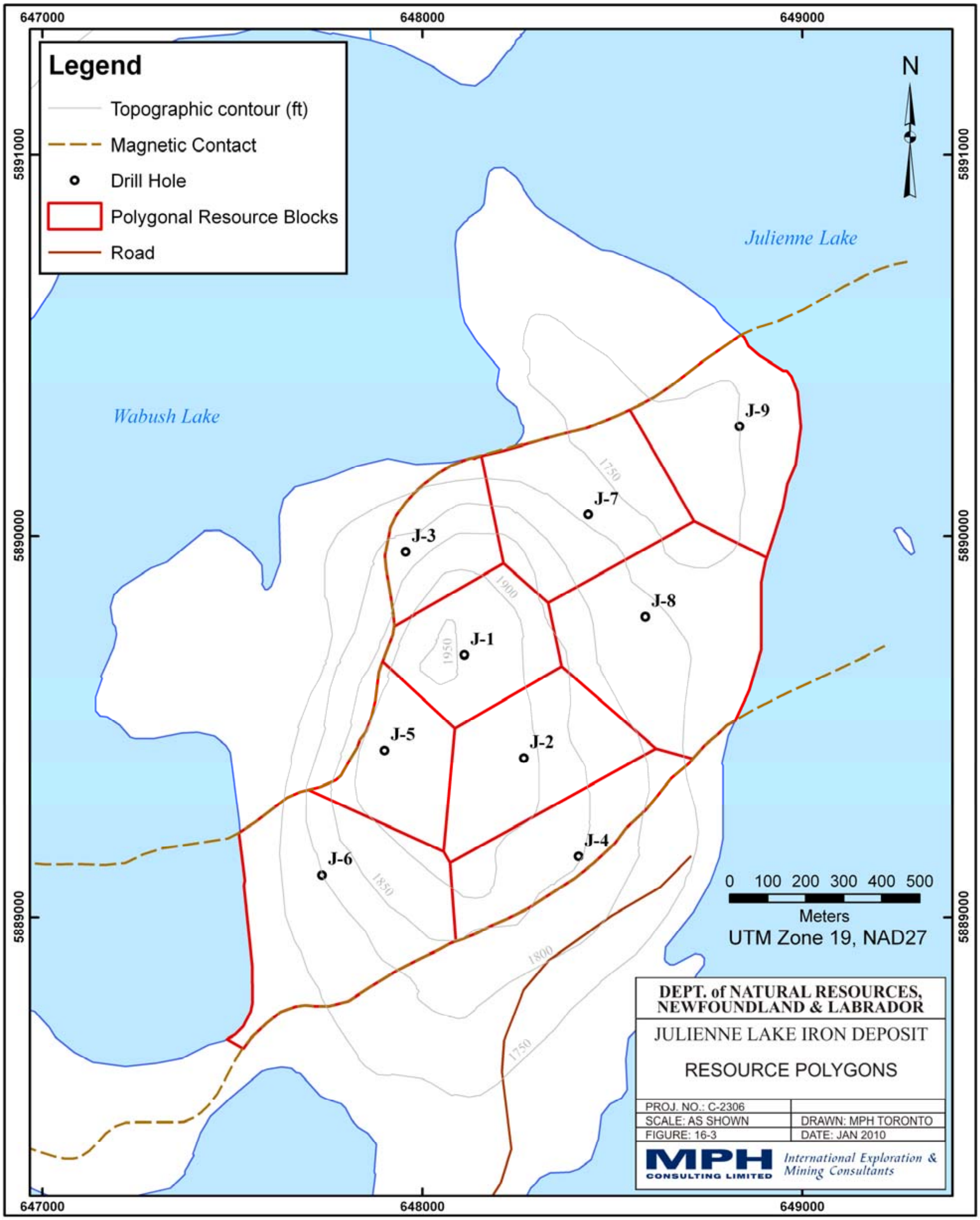


Figure 16-3: MPH Tailings Resource Audit, Estimation Polygons.

16.3. NI 43-101 Compliant Resource Statement

MPH has reviewed and evaluated all available information concerning the historic grade/tonnage estimates and after conducting independent estimations has determined that in its opinion none of the estimates meet all of the criteria for NI 43-101 compliant Measured + Indicated Resources.

17.0 MARKETS

The Julienne Lake iron deposit could conceptually produce iron ore concentrates or iron ore pellets as its primary sales products. Smelting and refining operations to produce pig iron and steel products have been considered in the past.

The following sub-sections will describe the following:

- The general nature of competition and markets in the iron ore and steel business in general, and
- An opinion as to the potential marketability of iron ore products from the Julienne Lake iron deposit and an opinion as to whether there might be market interest in the part of the deposit that is presently Crown (exempt mineral land) property if it were put up for sale and whether the value could be increased through further exploration work.

17.1. The Iron Ore market

In general iron ore mines may be either, affiliated/owned by iron/steel companies (e.g. ArcelorMittal, US Steel) and thus have a more or less captive market, or arms-length producers that are dependent on sales contract or spot market product sales (Vale, BHP-Billiton, Rio Tinto). Many mines have complex ownership structure and can be dependent on both types of markets. Current operators in the Labrador Trough region include both types.

The affiliated/owned mines provide a secure source of feed for the parent company's downstream operations and as such are not necessarily obliged to make an operating profit, provided the combined upstream and downstream operations do so.

For the arms-length miners, iron ore prices have historically been set by a 'benchmark' system, between miners and steelmakers. Usually one of the 'Big Three' miners (Vale, BHP-Billiton, Rio Tinto) reach a deal with one of the major steelmakers and this sets a the benchmark to be followed by the rest of the industry. Thus, a single price would be negotiated once per year and that has been the norm for the past 40-50 years. A growing short-term pricing market, a mix of quarterly negotiations, spot market pricing and index-based pricing, also exists which was traditionally much smaller than the contract market. In 2009 up to 30 per cent of iron ore shipments had been sold on shorter term pricing. In recent years, the benchmark system has begun to break down, with some miners pushing for market based pricing, and negotiations with the largest iron ore buyer, China, causing friction. As the spot market has grown in size and importance, financial hedging instruments such as iron ore swaps have emerged. Given that most other bulk commodities have evolved to a market based pricing system, it is considered inevitable that iron ore will also in the medium to long term.

The mid-1990's emergence of China as a major growing consumer of iron and steel has had an unprecedented major impact on the global iron ore and steel industry, which makes the post-World II boom period (1945-1970) look modest in comparison (Figure 17-1). The fundamental difference between the 'baby boom' and the 'China boom' years with respect to the iron ore industry is that the former had an initial resource deficit, while the latter initially had a production capacity imbalance. It took about 20 years of exploration and development for the markets to be saturated in first instance, but a much shorter time frame is unfolding as existing mines are being expanded in the latter.

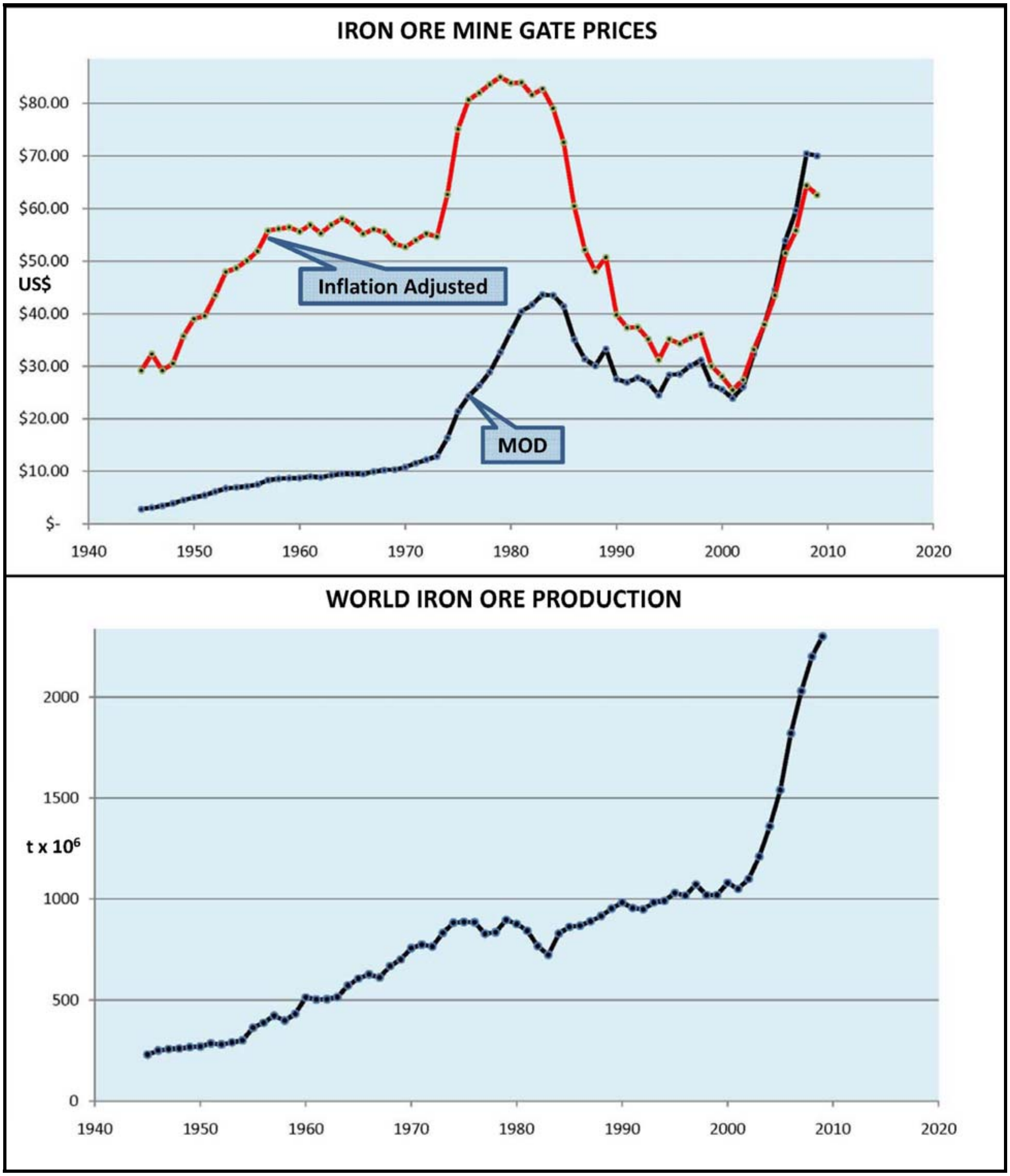


Figure 17-1: Historic Iron Ore Production and Pricing Charts.

Photo 9: New highway and bridge in remote Guizhou Province, typifies China boom.

The iron ore production shortfall that followed the beginning of the China boom took off around the year 2000, leading to rapid price increases throughout the first decade of the 21st century. What is surprising is that the iron ore pricing structure has only seen a small correction as a consequence of the global recession. However, the profits generated from the recent and continuing high prices are being rapidly converted to additional production capacity by the Big Three and others. New iron ore mining capacity taken into operation in 2008 was reported to be about 88 million tonnes globally, a lower figure than in 2007. The total project pipeline contains more than 430 million tonnes of new production capacity that may come on stream between 2009 and 2011.

Recent statements by the Big Three iron ore miners are optimistic. BHP-Billiton reports; "During the December quarter we saw a strong recovery across the commodity suite driven by demand in China and restocking in the developed world. Government stimulus measures appear to have supported a gradual return to normalised global trade, albeit from a low base, and most key indicators across the developed economies showed improvement." Vale S. A. reports that; " Demand in the global iron ore market has returned-or even surpassed-pre-crisis levels, with demand surging in key Asian markets." Rio Tinto's Canadian subsidiary reports; "Rio Tinto Alcan is encouraged so far by the strength of the global economic recovery but wants to wait a little longer to determine how stable the rebound is before ramping up its Canadian [Carol Project] spending commitments."

Photo 9: Logistically challenging small scale (~150 TPD) iron ore mine, Yunnan Province, China.

Chinese iron ore production capacity is rising fast although Chinese iron ore is generally low quality, at around 30% contained iron and typically high cost. The Chinese mining industry is typified by large numbers of small scale relatively low-tech operations that have difficulty competing with international suppliers.

It is inevitable that the current supply demand imbalance will tip the other way at some point in the future. When this happens, as always, the operations showing the best profit margins will continue, while the others falter.

17.2. Potential Marketability of Julienne Lake Iron Deposit Products

Although the historic resource information is sketchy and the historic concentrating, pelletizing, smelting and steel making tests are incomplete and dated, in the opinion of MPH, there is little doubt that saleable iron ore products can be obtained from the Julienne Lake deposit. The key question is; can this be done economically? To answer this properly, a great deal of more specific technical and market information is needed, than is currently available. It is therefore only practical for MPH to present a considered opinion on whether or not staged investigations should be initiated to achieve this end.

The first aspect of this exercise is to create a deposit scenario to compare with the local, regional and international competition. The basic features of this scenario are as follows:

- Hypothetical grade/tonnage scenario for EML: Since the historical and MPH grade/tonnage estimations do not represent the full depth of the deposit size is probably somewhat larger than those estimations indicate. A reasonable tonnage may be in the range of 500 to 750 million tons of iron formation with an average grade in the range of 33 to 37% Fe. Potential iron ore and concentrates are expected to contain low levels of Mn, P, S and TiO_2.
- Hypothetical mining operation: Open pit operation with minimal overburden cover and a very low waste to ore ratio.
- Excellent mining related infrastructure: Road access. Less than 30 km from Labrador City/Wabush, railway, cheap hydroelectric power, airport, etc.
- Potential Environmental Problems: Adjacent to major lake system, however Wabush Lake is already used to store IOC tailings.

The potential local competition is for Julienne Lake is empirically ranked in Table 17-1. Due to remoteness the Schefferville area deposits are considered significantly more difficult and expensive to develop than those in the Labrador West-Fermont area. The DSO group of deposits are a smaller size class than the rest and relatively remote. The Labrador West-Fermont cluster are considered to have similar general infrastructural capacity, although Carol Project Expansion program is clearly ranked No 1, due to substantial sunk costs and the highest grade of the large tonnage group. MPH would rank the Julienne Lake deposit at No 3 overall and the best of the non-IOC group.

Table 17-1: Potential Labrador Trough Iron Ore Projects

Rank	Deposit	Location	Company	Resources	
				Tons (x 10^6)	Grade (Fe)
1	Carol Project Expansion	Labrador City	IOC	-	39%
2	Labrador Ridge	Labrador City	IOC	551.2	37.7%
3	Julienne Lake	Wabush Lake N	Govt. NL	750	35%
4	Lamelee-Peplar, QC	Fermont region	C. Thompson[2]	935.0	29.72%
5	Lac Bloom, QC	Fermont region	C. Thompson[2]	827.0	29.30%
6	Kemag, QC	Schefferville region	NMCC[1]	2,448.0	31.27%
7	Labmag, NL	Schefferville region	NMCC[1]	3,665.0	29.6%
8	DSO Project, NL (8 deposits)	Schefferville region	NMCC[1]	56.0	58.97%

[1] New Millenium Capital Corp, [2] Consolidated Thompson Iron Mines Limited

A further positive consideration for the Julienne Lake deposit, is a possible future connection with the Wabush Mines operation. The latter has a finite operating life due to the high Mn content of the ore, with one source (Farquharson and Thalenhorst, 2006) anticipating mine closure as early as 2013, unless the Mn problem is solved. Starting up the Julienne Lake deposit and preserving the Wabush Mines plant, equipment and jobs would be of obvious benefit to the Province of Newfoundland and Labrador.

Another avenue to be explored might include Chinese or other Asian investment in the EML as a source of iron ore concentrates and/or pellets for their steelmakers. A modest portion of Canada's iron ore production is already sold to Asia buyers. While conventional sea routes certainly favour other producing regions such as Australia, India, South Africa and even Brazil, it is not a major stretch of the imagination to see the Northwest Passage route to the Orient opening up new opportunities for eastern Canada.

18.0 HISTORICAL PREFEASIBILITY STUDIES

Between 1960 and 1971, Javelin evaluated the potential for building commercial operations including various combinations of mining, concentrating, pelletizing, smelting and steel plant at Julienne Lake by evaluating various processes. In the opinion of MPH none of the prefeasibility studies had sufficient basic information for meaningful economic evaluations.

The initial study completed in 1962 considered a fully integrated operation. It was quickly concluded that conventional blast furnaces employing coking coal, or direct reduction processes utilizing gas or oil as fuel would be uneconomic in Labrador. Two experimental electric smelting processes were evaluated the Strategic-Udy Process and the Elkem Process. Tests on the property concentrates indicated that Julienne Lake concentrates are amenable to smelting by both processes. The practicality of mining, concentrating, pelletizing and smelting Julienne Lake deposit material was evaluated by Kilborn Engineering Limited. Preliminary capital and operating cost estimates were made concerning a mining and concentrating plant designed to produce 3,000,000 long tons (3,048,000 t) of concentrate per year from 7,500,000 long tons (7,620,000 t) of iron ore, a pelletizing plant to produce 2,160,000 long tons (2,195,000 t) of pellets, and a smelter plant (Elkom Process) to produce 540,000 metric tonnes of pig iron per year (Kilborn, 1962a, b and c). These preliminary costs include estimates for providing infrastructure and services (railway, power line, road, town site, etc.).

Neither of the experimental electric smelting techniques ever went into the large scale commercial iron ore reduction business. Since the 1960s, electric arc furnaces are used on a relatively small scale producing steel from scrap metal.

The second production scenario, evaluated in 1967, updated the 1962 study as a mining and concentrating plant designed to produce concentrate from 10,000,000 long tons (10,160,000 t) of iron ore, together with a pelletizing plant to produce 4,000,000 long tons (4,064,000 t) of pellets. No additional basic technical information was included in the study.

The third feasibility assessment was conducted in the early 1970’s. This scenario combined two deposits, Julienne Lake, NL and Star-Okeefe, QC as mining/concentrating operations with a slurry pipeline feeding concentrates to a pelletizing plan in Sept Isles, QC. Again no further basic studies were conducted on the Julienne deposit.

In the opinion of MPH the above historical studies are not supported by enough basic technical information to allow meaningful prefeasibility stage assessments.

19.0 INTERPRETATION AND CONCLUSIONS

MPH is of the opinion that the Julienne Property represents a good opportunity to develop a mining operation in a world class iron ore producing region. It is also apparent that the existing technical database does not fully conform to adequate standards that would permit wholesale inclusion in any future investigations. A major multifaceted exploration program is required to advance the project toward the preliminary economic evaluation or prefeasibility study stage, by current standards.

One of the questions put forward in the RFP was; “What is the optimal level of resource estimation necessary to increase the value of the deposit?” In the opinion of MPH, the optimal level of resources is a combination of measured and indicated, because that allows a formal NI 43-101 prefeasibility study to be done. Inferred resources cannot be added to the higher categories, nor can they be used for formal economic models. The recommended investigation outlined below are designed to underpin measured + indicated resources.

In practice it is dangerous to put too much faith in poorly defined resource estimates, yet this is a periodically recurring theme in the mining industry at large. Canadian Javelin’s Julienne project is classic case in point. We have documented the major shortcomings of the historic resource estimates in this report, yet incredibly these historic estimates were used to build ‘house of cards’ scenarios for iron ore and even steelmaking operations.

The Julienne Lake iron deposit has been traced by very limited drilling, adequate surface mapping, and geophysical surveys over a total strike length of approximately 4.7 kilometres, with the area under consideration to be investigated contained within Julienne Lake EML or the land portion of the deposit. The iron formation is well defined near surface by geological mapping but its overall thickness is essentially unproven. The deposit has been tested by very limited drilling to a maximum depth of 215 metres. A major exploration and engineering program will need to be initiated that includes the following investigations running concurrently or consecutively:

- Augment existing surface geological information with additional surface stripping/trenching lithological and structural mapping to define detailed stratigraphy.
- A multi-purpose diamond drill program for geological modeling, resource modeling, geotechnical investigations, and metallurgical testwork. In all approximately 30 HQ to NQ holes are planned with a cumulative length of 7,000 metres.
- A preliminary geotechnical program to define water flow, pit-slope stability, etc. would be included in above drilling program.
- Bench scale metallurgical testwork on iron formation subtypes and composites to document crushing, grinding, concentrating and pelletizing characteristics of the deposit.
- Initiate environmental, archaeological, and water resources baseline studies and permitting applications.
- Iron ore concentrates and/or pellets preliminary sales and marketing investigations.
- Preliminary pit modeling investigations.
- Preliminary economic evaluation.

- A contingency amount to provide for additional infill drilling, etc. if required to achieve measured + indicated resource status.

A further question has been asked regarding the desirability of incurring significant additional expenditures for infill drilling to increase the portion of measured versus indicated resources. The short answer here is that such work is best left to the potential mine planning/scheduling stage of the potential operation to optimise operating cash flow. However, it is recognized that some infill drilling might be required to achieve measured + indicated resource status and this is covered in the budget contingency. In the opinion of MPH, additional resource definition drilling would probably not make any appreciable difference to the resource or pit models because it wouldn't add any significant tonnage or appreciably alter the average grade.

The historical field investigations for the most part are characterized by poor timing and/or planning. It is hardly ever a good idea to conduct field operations during the fall 'freeze-up' or 'spring break-up' periods, yet Javelin personnel often found themselves in these conditions. The proposed program should be designed so as to commence field operations in early summer with completion by mid-autumn.

MPH concludes that the above exploration and engineering investigations are fully warranted and justified.

20.0 RECOMMENDATIONS

The following is a preliminary budget estimate to advance the Julienne Lake iron deposit to somewhere in the range of preliminary economic evaluation to prefeasibility stage, depending on actual results. The budget is preliminary and would need to be firmed up based on bids from drilling, metallurgical, and analytical lab contractors etc. The main focus is on building a good foundation with systematic diamond drill hole and surface sampling. In MPH's opinion there is no point in twinning historic holes because those holes are inadequate for ongoing purposes anyway. About 30 holes (7000 m) are required to outline the deposit on 150m x 300m centers. That along with more surface trenching, mapping, sampling and magnetics should establish a reliable 3-D geological model. Systematic information regarding Fe grade distribution, deleterious elements, RQD's, S.G./bulk density data, etc. would be acquired, along with representative samples for mineralogy, processing and pelletizing testwork, etc. Utilizing appropriate cost/revenue assumptions it will be possible to generate resource models at a range of cut-off grades and generate preliminary pit design models. This will definitely be adequate basic input data (which with other appropriate assumptions) could be used to construct a DCF model to preliminary economic evaluation standards.

A budget of approximately C$ 2.0 million is required to complete the detailed work on the Julienne Lake iron deposit. The table below provides a summary of the total work program budget over an approximately one year period. In the opinion of MPH Consulting Limited this work is non-provisional.

Table 20-1: Julienne Lake Iron Deposit, Phase 1 Budget

Phase 1 Julienne Lake Fe Deposit (Firm Requirements)	Details	Summary
Grids		
Re-establishment of old grids + support*	$ 20,000	**$ 20,000**
Geology		
Geological mapping + support*	$ 60,000	**$ 64,500**
Samples (150 samples @ $30/sample)	$ 4,500	
Geophysics		
Magnetometer survey + support*	$ 12,000	**$ 14,500**
Processing & interpretation	$ 2,500	
Geochemistry		
Rock (~150 samples @ $30/sample) + support*	$ 34,500	**$ 34,500**
Diamond Drilling		
Mob/Demob	$ 25,000	**$ 1,085,000**
Drilling (7,000 metres @ $125/m) + support*	$ 1,000,000	
Samples (2,000 samples @ $30/sample)	$ 60,000	
Mechanical Trenching 75,000		
Mob/Demob	$ 2,000	**$ 71,000**
Trenching + support*	$ 60,000	
Samples (300 samples @ $30/sample)	$ 9,000	

	Details	Summary
QA/QC		
QA/QC Manual	$ 5,000	**$ 15,000**
Standards, blanks and duplicates	$ 10,000	
Metallurgical Testwork		
Mineralogical & Bulk density Studies	$ 50,000	**$ 250,000**
Bench scale testwork	$ 200,000	
	Sub-Total	**$ 1,554,500**

GENERAL	**Details**	**Summary**
Support Costs		
Field (core logging & storage) facility rental	$ 30,000	**$ 100,000**
Permanent core storage	$ 50,000	
Permits	$ 10,000	
Community relations	$ 10,000	
Environmental Studies		
Baseline studies for EPIA + support*	$ 60,000	**$ 60,000**
Report Costs		
43-101 compliant report (includes resources, pit model, economics)	$ 75,000	**$ 75,000**
	Sub-Total	**$ 235,000**

	TOTAL	**$ 1,789,500**
	G&A + Contingency (15%)	**$ 268,425**
	GRAND TOTAL FOR BUDGET PURPOSES	**$ 2,057,925**

* Support includes all necessary personnel, vehicle & equipment rentals, food & accommodation, travel, and fuel

A second budget stage, an indeterminate but significantly larger amount that is conditional upon satisfactory results from the Phase 1 work, would be required to advance the project through the prefeasibility and feasibility study stages. Additional provisional funding would be required for this.

Additional capital expenditures may be required to continue development work on the Julienne Lake iron deposit after the feasibility study is completed. Additional debt and/or equity funding would be required for this.

Respectfully Submitted,

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APPENDIX 1

UTM Coordinates Recaptured Javelin Data

Julienne Lake Iron Deposit
UTM Coordinates of Pits
All coordinates are UTM Zone 19, NAD27

Pit No	Northing	Easting	Elev (ft)	Elev (m)	Source Map
P60-1	5889620	648459	1815	553.2	LAB_0146
P60-2	5889860	648374	1820	554.7	LAB_0146
P60-3	5890000	648299	1820	554.7	LAB_0146
P60-4	5890040	648247	1815	553.2	LAB_0146
P60-5	5890050	648077	1820	554.7	LAB_0146
P63-1	5889250	648407	1890	576.1	023G_0117 Plate 1
P63-2	5889280	648378	1875	571.5	023G_0117 Plate 1
P63-3	5889310	648345	1900	579.1	023G_0117 Plate 1
P63-4	5889370	648286	1915	583.7	023G_0117 Plate 1
P63-5	5889420	648244	1920	585.2	023G_0117 Plate 1
P63-6	5889430	648226	1925	586.7	023G_0117 Plate 1
P63-7	5889470	648178	1925	586.7	023G_0117 Plate 1
P63-8	5889510	648132	1925	586.7	023G_0117 Plate 1
P63-9	5889540	648085	1940	591.3	023G_0117 Plate 1
P63-10	5889580	648059	1945	592.8	023G_0117 Plate 1
P63-11	5889600	648023	1950	594.4	023G_0117 Plate 1
P63-12	5889690	648449	1825	556.3	023G_0117 Plate 1

Julienne Lake Iron Deposit
UTM Coordinates of Drill Holes
All coordinates are UTM Zone 19, NAD27

DholeNo	Northing	Easting	Elev (m)	Elev (ft)		Source Map
J-1	5889690	648111	592.836	1945	592.8	LAB_0146
J-2	5889420	648267	585.216	1920	585.2	LAB_0146
J-3	5889960	647956	589.788	1935	589.8	LAB_0146
J-4	5889160	648411	563.88	1850	563.9	LAB_0146
J-5	5889440	647901	589.788	1935	589.8	LAB_0146
J-6	5889110	647736	551.688	1810	551.7	LAB_0146
J-7	5890060	648437	536.448	1760	536.4	LAB_0146
J-8	5889790	648587	536.448	1760	536.4	LAB_0146
J-9	5890290	648835	531.876	1745	531.9	LAB_0146