# TECHNICAL REPORT
# AND
# MINERAL RESOURCE ESTIMATE
# ON THE WESTERN LAKE ST. JOSEPH
# IRON ORE PROJECT, ONTARIO, CANADA
# FOR
# ROCKEX LIMITED
# AND
# ROCKEX MINING CORPORATION

prepared by


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Watts, Griffis and McOuat
Since 1962
CONSULTING GEOLOGISTS AND ENGINEERS

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# 1. SUMMARY

## General, Terms of Reference and Property

Rockex Limited ("**Rockex**") a wholly-owned subsidiary of Rockex Mining Corporation holds a 100% interest in certain mineral claims in the Trist Lake Area, Patricia Mining Division, Sioux Lookout District, Province of Ontario, Canada (the "Property"). Rockex's interest is subject to a 2% Net Smelter Return royalty ("NSR") on all mineral production other than iron and a 2% gross revenues royalty on any and all iron production from the Property. The Property is partly underlain by Algoma-type magnetite-hematite taconite iron formation. The principal deposits are known as the Eagle, Wolf and Fish Island Iron deposits and these are situated in the southwestern part of Lake St. Joseph on and adjacent to the islands. The Property is located approximately 100 km northeast of Sioux Lookout, and 80 km southwest of Pickle Lake.

Watts, Griffis and McOuat Limited ("**WGM**") was retained by Rockex to prepare an updated National Instrument 43-101 ("NI 43-101") compliant Technical Report and Mineral Resource estimate documenting historic exploration, geology, mineralization, and Rockex's recent exploration programs and results. The classification of Mineral Resources used in this report conforms to the definitions provided in National Instrument 43-101 and the guidelines adopted by the Council of the Canadian Institute of Mining Metallurgy and Petroleum ("**CIM**") Standards. WGM estimated at an 18% Soluble Iron cut-off grade, there are Indicated Mineral Resources of 590,847,000 tonnes grading 28.84% Fe and Inferred Mineral Resources of 415,757,000 tonnes grading 29.47% Fe in the Eagle Island deposit.

This report makes recommendations and provides guidelines for subsequent work.

The Property consists of 23 contiguous mining claims covering a nominal area of 5,392 ha, Patricia Mining Division, held 100% by Rockex. The major islands, Eagle, Fish and Wolf in Lake St. Joseph, located within the Property perimeter, are covered by surface rights-only, Freehold Patents. Two of these are owned by Rockex while the others are owned by tourist operators.

At this time, Rockex is aware of and has made contact with what it believes are the two principle Ojibway Aboriginal Nation/communities in the immediate area of the Property, namely the Mishkeegogmang First Nation and the Slate Falls First Nation. Aboriginal interests hold commercial fishing licences and trap lines. Rockex has recently held meetings with the Mishkeegogmang First Nation and has presented them with a draft Memorandum of Understanding ("MOU"). Representatives of the Company also recently met with the Slate

Falls First Nation. Rockex provided to the community a copy of a draft MOU and is awaiting a reply and comments on this draft or a version of MOU that Slate Falls is more comfortable with prior to reaching an agreement on a MOU.

No environmental studies or surveys were conducted by previous operators and there is no record of any environmental work conducted on the Property since that time. However, an Environmental Impact Assessment ("EIA") was completed in the 1970s for a proposed mining and processing operation for an iron deposit located at the east end of Lake St. Joseph. Baseline environmental studies should be part of Rockex's next exploration program and the historic environmental study and the comments on the 1970s EIA offered by the ministry should be helpful for designing these baseline studies.

**Previous Work, Drilling, Sampling, Metallurgical Testwork and Historic "Reserve" Estimates**

Exploration directed at iron was conducted on the Property prior to 1921. The first drilling programs on the Property were carried out in the 1920s and 1930s. The information available for these earliest programs is sparse. In 1956, Lake St. Joseph Iron Limited ("**LSJI**") acquired claims covering Eagle, Fish and Wolf Islands and carried out magnetic surveys, trenching and a diamond drilling program to test the iron deposits. Further diamond drilling was completed by LSJI during the winters of 1957-58 and 1958-59. Good quality trench assay plans and maps and drill logs for most of these drillholes and assays have been located in Ontario government assessment files.

Testwork on the beneficiating qualities of the material were initiated in the late 1950s at the Ontario Research Foundation ("**ORF**") and the M.A. Hanna Company ("**Hanna**"). Work lead to a mineral "reserve" estimate of 240 million tons of open pittable ore averaging 35% iron.

In 1967, the Algoma Steel Corp. ("**Algoma**") completed its initial work on the Property, on a block of ground south of Eagle Island known then as the Gustafson mining claims that it optioned in 1966. Algoma completed a magnetic survey on the ice and drilled six holes. In late 1968 and early 1969, Algoma optioned LSJI's property adjacent to the Gustafson option claims. Initial Algoma exploration included work to validate LSJI's results. Exploration consisted of the re-sampling of trenches and some drilling. In 1974 and 1975, Algoma carried out extensive diamond drill programs, mainly focussed on Eagle Island. Drill core logs and assay records for most of this drilling have been located in either the Ontario government assessment files or in Algoma's project files, acquired by Rockex in late 2009 from Essar Steel Algoma Inc. ("**Essar**") successor to Algoma. The descriptive logs are similar to LSJI's logs and are good quality.

Algoma initiated a series of bench scale and pilot plant testwork to develop and test a process flowsheet. Bench scale work included Davis Tube tests on 100 foot long sample composites with determination of iron in Heads, concentrates and tails. Pilot plant testwork was conducted at the ORF. It appears this program was supervised by Hanna in conjunction with Algoma, but records are incomplete and the final report by the ORF, dated January 1, 1976, has not been found. Testwork by Algoma included microscopic examination that revealed iron minerals comprised mainly of hematite and magnetite, in an overall ratio of 1:1, within a gangue of quartz, sericite, mica, carbonate with some hornblende and apatite. It was concluded that grind requirements were 85% -500 mesh. Algoma and Hanna may have carried out more testwork after 1976, but WGM does not have the records. From records available it is known Algoma in 1982 was still carrying out geological mapping at Fish Island on the Property, but records are generally scant for work completed post late 1970s.

Considering the fine grind requirements of the mineralization, two main flowsheet choices were considered:

1. An all-desliming flowsheet that was developed from laboratory testwork by Algoma and others on the magnetite-hematite taconite from the Geraldton, Ontario area.
2. A flowsheet with desliming followed by flotation, as used at the Tilden Mine, Minnesota.

Laboratory testwork resulted in the ability to produce pellet grade concentrate by two grinds and a total of five deslimes (two deslimes between primary and secondary grinds and three after secondary grinding). Tests to evaluate the application of flotation in combination with desliming were also conducted. Calcium-actuated flotation was considered promising, while the amine-flotation gave poor results.

Pilot plant tests were completed using 375 tons of a 1,100 ton bulk sample taken from Eagle Island. Both the all-desliming and desliming-amine flotation flowsheets were tested in a ½ ton/hr pilot plant during a three month period in 1975. The best results of the ORF pilot plant tests of 1975 were obtained by fine two-stage grinding, followed by an all desliming flowsheet and a two-stage grinding and desliming, followed by silica flotation at a secondary grind of 45% -10 micron.

Following completion of the pilot plant testwork, the core from Eagle Island North Zone was composited into 8-blocks and laboratory testing using the all-desliming flotation, with, and without, starch.

This historic pilot plant testwork on samples from the main part of the deposit was successful in producing commercial grade concentrates with 65-67% iron, 4.5-5.5% silica with overall iron recoveries to concentrate of 85%. Additional testwork including full chemical analysis of the concentrates was recommended.

Mineral "reserves" for Eagle and Fish islands (including a west extension) were estimated by Algoma in 1976 at just over 1 billion tons at an average grade of 30.02% SFe ("Soluble Iron").

Ultimate pit depth for the Algoma 1976 "reserves" is not stated, but may be 1,000 ft (300 m). Drilling in places extended to 1,000 ft depth.

Algoma also made an estimate for the concentrate that might be produced from the "ore". The estimate of the concentrate was based on a 67% Fe grade at 80% SFe recovery and is shown below. These parameters appear to be based on the "all-desliming" process flotation flowsheet pilot plant testwork completed in spring-1975 at the ORF.

**Historic Concentrate Estimate for Eagle and Fish Islands Area**
**(after Algoma, 1976)**

| Zone | Gross Tons of Concentrate (millions) | Cubic Yards Waste/Ton of Concentrate |
|---|---|---|
| Eagle Island-North | 209 | 0.28 |
| Eagle Island-South | 52 | 0.60 |
| **Subtotal Eagle Island** | **261** | **0.34** |
| | | |
| Fish Island | 87 | 0.50 |
| West Extension | 15 | 0.50 |
| **Total** | **363** | **0.39** |

Algoma stated that its work established the presence of an extensive deposit of iron ore, confirmed that a desirable iron ore product could be produced and that mining of the deposit was entirely feasible and practical. The historic mineral "reserve" estimates were completed prior to the implementation of NI 43-101 and should not be relied upon.

In the late 1970s, studies were initiated along with Stelco Inc. ("**Stelco**") and Dofasco Inc. ("**Dofasco**") to evaluate developing a large scale, multi-deposit operation in the Lake St. Joseph area with first development to include Algoma's Eagle Island deposit and Steep Rock Iron Mines Limited's ("**Steep Rock**") deposits at the southeast end of Lake St. Joseph adjacent to Soules Bay. By late 1978, the three participating Ontario steel companies had agreed to pursue the project with the aim of advancing development and to position the project as a possible source of iron ore for the late-1980s. Further pilot plant testing may have been completed after 1976, but records of any such work are not available.

**Geology and Mineralization**

The Property is situated in the Lake St. Joseph Archean greenstone belt of the Uchi Subprovince of the Canadian Shield. It is located adjacent to the southern boundary of the subprovince next to the English River Subprovince. The greenstone belt is underlain and surrounded by, and internally intruded by, both younger and older felsic and mafic plutons. The Lake St. Joseph greenstone belt is composed of four volcanic cycles and each contains a sequence of basal tholeiitic basalt flows progressing upwards into dacitic to rhyolitic pyroclastic rocks. In the Western Lake St. Joseph area, the Cycle 2 volcanics are unconformably overlain by a suite of clastic and chemical sedimentary rocks that form the Eagle Island assemblage or Upper Clastic Rocks. It is this assemblage that hosts the iron formation on the Property.

The base of the Eagle Island assemblage consists of eroded dacitic pyroclastic material derived from the upper part of the Cycle 2 volcanics. This sequence is succeeded upwards by arenite and wacke-sandstone beds, interbeds of mudstone, conglomerate and banded iron formation. Iron oxides consist of fine grained specular hematite and magnetite. The ratio of hematite to magnetite is reported as 3:1 (in the reports from the 1950s) to 1:1 (reports from the mid-1970s). It is likely that in different parts of the deposit, different ratios of hematite to magnetite occur, but this distribution is not completely mapped out. Gangue is described as consisting of silica, sericite, mica, carbonate, chlorite with some hornblende and apatite. The distribution of sulphide components may be partly controlled by stratigraphy (graphitic horizons), but also by structurally controlled gold related alteration systems that affect various parts of the iron formation sequence, but apparently not to any significant extent the current Mineral Resource area. Metamorphism is typically greenschist facies in the Western Lake St. Joseph area. Mafic metavolcanics contain chlorite-actinolite-albite and the clastic metasediments contain a chlorite-muscovite-biotite-quartz-albite assemblage.

The sedimentary assemblage is largely in the form of an east-west trending, steeply plunging syncline containing a pair of sub-parallel anticlinal folds. The tight and isoclinal folding has resulted in repeats in the iron formation sequence which is mainly coincident with the north, east and south shores of Eagle Island and dips steeply. Because of the folding, the bulk of the iron formation on the Property is concentrated on and adjacent to Eagle Island. A trenched and well drilled section of iron formation outlined by historic work on the north part of Eagle Island is in the order of 1.3 km long, 350 m to over 400 m wide (true thickness) and is well drilled to depths of 150 m to 200 m, and locally up to 300 m vertical depth.

The south east extension of this north Eagle Island part of the iron formation extends to form the east and south limits of the south part of Eagle Island. This section along the southeast shore of Eagle Island is well mapped on surface, in trenches and diamond drillholes. The drilled and trenched portion of this domain has a strike length in the order of 2 km. Historic drill testing on cross sections at 250 m intervals has been to about 150 m vertical. The true thickness of the iron formation for this domain varies from approximately 200 m to 80 m with thicknesses diminishing with increasing distance along strike away from the north part of Eagle Island.

Fish Island is located about 2.5 km west of Eagle Island. Fish Island also appears to contain an increased thickness of iron formation. The multiple bands exposed on Fish Island may be due to parasitic folding along the south limb of the main structure but alternatively perhaps, might represent a repeated sequence at the nose of another isoclinal fold. Fish Island was trenched and drilled by LSJI with 10 drillholes on six cross sections testing the steeply, to vertically dipping zone over a strike length of 1.3 km to vertical depths of 100 m. Representative drillhole J-17 intersected 350 ft (106.7 m) of oxide iron formation grading 36% Fe. The true width of this zone is in the order of 91 m. Algoma completed two drillholes in 1978. Verification drilling at Fish Island is required in light of comments made by an Algoma geologist following its 1982 mapping program.

**Rockex's Exploration Programs**

Rockex's first exploration program on the Property was initiated in March 2008. It consisted of a five twin hole drilling program aggregating 1,312 m focussed on and adjacent to Eagle Island to validate historic drill results.

WGM Senior Associate Geologist, Richard Risto, P.Geo., visited the Property from April 1-3, 2008 while the drilling was ongoing. Mr. Risto reviewed the project with Mr. Pierre Gagné, President of Rockex, Mr. Gilles Filion, Director, and Project Geologist, Jean-Paul Barrette, géo. Visits were made to the site where drillhole EI-101 was in progress, previous 2008 sites and drill core for DHs EI-101, 102 and 104 was reviewed.

Drillhole sites were validated for location using a handheld GPS, and iron formation was confirmed in drill core and in outcrop. Mr. Risto reviewed core handling, logging and sampling procedures. Core handling and sampling procedures were found to be sound. Sample assays were completed at SGS's laboratory, Lakefield Ontario ("**SGS-Lakefield**").

In late 2009, Rockex acquired Algoma's 1974 and 1975 archived drill core and project files from Essar. Mr. Risto observed the files and drill core in November 2009 at Essar's facilities in Sault Ste. Marie. At Essar, the drill core was in racks in good order and each tray was nailed shut and well labelled. The drill core and files were transported to Rockex's storage area and offices in Thunder Bay for inventory. In early 2010, Rockex contracted John Corkery, Geologist, to re-log and sample selected drillholes to validate Algoma's work. The samples collected consisting of the second half of the drill core originally split and assayed by Algoma in 1974-75 were sent to SGS-Lakefield for assay.

**Mineral Resource Estimate**

WGM has prepared a Mineral Resource estimate for the Western Lake St. Joseph Iron Project mineralized areas that have sufficient data to allow for continuity of geology and grades. WGM modelled the main Eagle Island mineralization, but did not include the Fish Island or Wolf Island areas at this time. More confirmation work and new drilling needs to be done before a Mineral Resource estimate can be completed on these other areas.

The classification of Mineral Resources used in this report conforms with the definitions provided in National Instrument 43-101 and the guidelines adopted by the Council of the Canadian Institute of Mining Metallurgy and Petroleum ("**CIM**") Standards. WGM generated a distance block model and reported the estimated Mineral Resources by distances which represented the category or classification. The current drilling pattern is uneven and many areas are sparsely drilled therefore many of the holes did not penetrate the entire width of the mineralized zone. Hence the "boundaries" are not particularly well defined in some areas (particularly the dips of the zone and the depth extension), however, the mineralization shows very good continuity on a gross scale.

WGM has abundant experience with similar types of mineralization to the Western Lake St. Joseph deposit and we used this knowledge to assist us with our categorization of the Mineral Resources. WGM chose to use the blocks within the 3-D wireframe that had a distance of 100 m or less to be Indicated category and +100 m to be Inferred category. The average distance for the total Indicated Mineral Resources within the 3-D wireframe (i.e., at no cutoff) was 56 m, and for the Inferred the average distance was 152 m. The majority of the deeper mineralization is categorized as Inferred due to the current lack of drilling below 250-300 m from surface. The maximum depth that the mineralization was taken to was approximately 400 m vertically from surface. WGM has not classified any of the Western Lake St. Joseph mineralization as Measured at this stage of exploration. A summary of the Mineral Resources is provided in the table below.

**Categorized Mineral Resource Estimate for**
**Western Lake St. Joseph Iron Project (Cutoff of 18% Head SFe)**

| Resource Classification | Tonnes (000s) | %SFe Head-Individual Samples | %SFe Head-Composite | %magFe Head-Composite | %HmFe Head-Composite |
|---|---|---|---|---|---|
| Indicated | 590,847 | 28.84 | 28.43 | 14.86 | 13.56 |
| Inferred | 415,757 | 29.47 | 29.07 | 14.52 | 14.55 |

A cutoff of 18% SFeHead was determined to be appropriate at this stage of the project and was chosen based on a preliminary review of the parameters that would likely determine the economic viability of a large open pit operation and compares well to similar projects and to projects that are currently at a more advanced stage of study. The following table shows the Mineral Resource estimate at various cutoffs for comparison purposes.

**Categorized Mineral Resources by %Head SFe Cutoff**
**Western Lake St. Joseph Iron Project**

| | Tonnes (000s) | %SFe Head-Individual Samples | %SFe Head-Composite | %magFe Head-Composite | %HmFe Head-Composite |
|---|---|---|---|---|---|
| **No Cutoff (all mineralization within the wireframe)** | | | | | |
| Indicated | 651,425 | 26.47 | 25.91 | 13.58 | 12.33 |
| Inferred | 425,028 | 29.03 | 28.46 | 14.22 | 14.24 |
| **15% SFe Cutoff** | | | | | |
| Indicated | 595,101 | 28.75 | 28.36 | 14.86 | 13.50 |
| Inferred | 416,367 | 29.45 | 29.05 | 14.52 | 14.53 |
| **18% SFe Cutoff** | | | | | |
| Indicated | 590,847 | 28.84 | 28.43 | 14.86 | 13.56 |
| Inferred | 415,757 | 29.47 | 29.07 | 14.52 | 14.55 |
| **20% SFe Cutoff** | | | | | |
| Indicated | 579,331 | 29.03 | 28.60 | 14.89 | 13.72 |
| Inferred | 411,000 | 29.59 | 29.17 | 14.54 | 14.63 |
| **22% SFe Cutoff** | | | | | |
| Indicated | 553,142 | 29.40 | 28.96 | 14.88 | 14.07 |
| Inferred | 399,793 | 29.83 | 29.38 | 14.53 | 14.85 |
| **25% SFe Cutoff** | | | | | |
| Indicated | 483,503 | 30.23 | 29.75 | 14.77 | 14.97 |
| Inferred | 371,695 | 30.30 | 29.81 | 14.49 | 15.32 |

Data used to generate the Mineral Resource estimate was supplied Rockex technical personnel in a format compatible with Gemcom™. The drillhole database consisted of 167 records, of which 131 were drillholes; including 35 old LSJI holes and five new Rockex holes. The remainder of the records were Algoma holes or trenches. None of the LSJI or Rockex holes or the trenches were used for the grade interpolation for the Mineral Resource estimate, however, they were used for guidance and for additional geological control. A total of 63 Algoma holes were used for the current Mineral Resource estimate and were dispersed along approximately 2.4 km of N-S and 2.9 km E-W length/width on Eagle Island covering the iron mineralization over the island and slightly into Lake St. Joseph.

In general, WGM found the database to be in good order and accurate, however, further field work will likely result in improved location and azimuth information for the Algoma drillhole collars and this may have an effect on classification for future Mineral Resource estimates. In addition, future metallurgical and assay testwork will determine the percentage of recoverable iron comprising the Mineral Resources.

The holes were drilled on variable spacing between section lines of from 100 m to about 250 m in the main area of mineralization. The cross sections were oriented radially due to the geometry of the iron mineralization and the drillholes on cross sections were variably spaced at from 50 m to almost 200 m. Each cross section contained from one to four or five holes (and trenches) and the closest spaced drilling was near the surface. The deeper mineralization, i.e., below 250 m vertical depth, has been tested by only three holes and is open at depth.

WGM created a 3-D wireframe that represented mineralized boundaries by digitizing outlines from drillhole to drillhole that showed continuity of strike, dip and grade, generally from 100 m to 200 m in extent, and up to a maximum of about 350 m on the ends of the zones and at depth where there was no/little drillhole information, but only if the interpretation was supported by drillhole information on adjacent cross sections. This extension was taken into consideration when classifying the Mineral Resources and these areas were given a lower confidence category; in general, this represented the deeper mineralization. The continuity of the mineralization as a whole was very good, however, the deposit displays structural complexity (large-scale folding, drag folding and sedimentary slump features) which results in changes in attitude of the mineralization, and internally the bedding/stratigraphy can be quite distorted where the folding/metamorphism is the most intense. WGM modelled out two of the larger internal waste (sediment) units/beds that appeared to have fairly good correlation between holes and cross sections.

In order to carry out the Mineral Resource grade interpolation, a set of equal length composites of 10 m was generated from the raw drillhole intervals, as the original assay intervals were different lengths and required normalization to a consistent length. Composites of 10 m length were also generated for the available sample composites prepared by Lakefield for Davis Tubes tests. The %SFe Head grade was used for the Mineral Resource estimate, however, %SFe, %magFe and %HmFe (calculated) from the composites prepared for Davis Tube test work was also interpolated into the block model for comparison purposes.

The iron oxides in the deposit consist of fine grained specular hematite and magnetite, and various reports list the ratio of hematite to magnetite as anywhere from 3:1 to 1:1 (this later ratio is the one that WGM tends to agree with). It is likely that in different parts of the Property, different ratios of hematite to magnetite occur, but this distribution is not completely mapped out and should be studied in detail for any future work. WGM calculated the Fe in hematite as a simple calculation of (%SFe - %magFe) and this manipulation was done in the block model. Where significant silicate Fe is present, this method would result in overestimating Fe in hematite. Fe in sulphide is also not taken into account, but WGM believes this is minor.

The Western Lake St. Joseph Mineral Resource estimate was completed using a block modelling method and for the purpose of this study, the grades have been interpolated using an Inverse Distance estimation technique. The grades were well constrained within the wireframes, and the results of the interpolation approximated the average grade of the all the composites used for the estimate.

WGM created a variable density model to estimate tonnage and we are of the opinion that there is insignificant difference on a global basis between Total Fe and historic Soluble Fe in this deposit. The following formula was used to obtain the density of each block in the model: %SFe x 0.025 + 2.6. This formula also reflects WGM's experience with other iron ore deposits and the specific gravity shows excellent correlation with %TFe, as is typical with these types of deposits.

The search ellipse size and orientation for the grade interpolation were based on the current geological knowledge, and due to the folding causing orientation/strike complexity and change, three simple domains were defined; Main Zone North (MZN), Main Zone South (MZS) and Southeast Zone (SEZ). The details of the geology and geometry of the mineralized body is quite complex and more drilling is required to get a better understanding of the depth potential, dip and internal detail of the leaner and waste sedimentary units. After more drilling has been completed, more domains may be added.

**Conclusions and Recommendations**

Based on WGM's review of the available information for the Property, we offer the following conclusions:

- A substantial deposit of fine grained magnetic-hematite taconite, Algoma-type iron formation is located on the Property. Algoma in 1976 estimated over a billion ton of "reserves" grading near 30% SFe and open at depth. This "reserve" estimate was completed prior to NI 43-101 and should not be relied upon. Furthermore Algoma completed subsequent exploration work on Fish Island subsequent to the "reserve" estimate and this work raised doubts with regard to widths of mineralization on Fish Island expressed in historic records. This caveat does not apply to Eagle Island mineralization where Algoma's "reserve" estimate relied only on Algoma exploration results;

- WGM has prepared a Mineral Resource estimate for the Western Lake St. Joseph Iron Project mineralized areas that have sufficient data to allow for continuity of geology and grades. WGM modelled the main Eagle Island mineralization, but did not include the Fish Island or Wolf Island areas at this time. More confirmation work and new drilling needs to be done before a Mineral Resource estimate can be completed on these other areas. The average grade of the deposit per the Mineral Resource estimate was estimated at a cutoff of 18% and utilized both SFe Head grades of individual Algoma drillhole samples and Head grades for Algoma's composite samples on which Davis Tube tests were completed. Indicated Mineral Resources aggregated 590,847,000 tonnes at an average grade of 28.43% SFe DT Composite Heads (28.84% SFe Crude Heads), 14.86% magFe and 13.56% HmFe. Inferred Mineral Resources aggregated 415,757,000 tonnes at an average grade of 29.07 %SFe DT Composite Heads (29.47% SFe Crude Heads), 14.52% magFe and 14.55% HmFe;

- Algoma was the last major company to control the Property. Algoma completed substantial work from 1973 through 1978, spending $2 million on diamond drilling (47,920 ft (14,606 m) in 74 drillholes), assaying, resource estimates, bulk sampling, laboratory pilot plant studies and soil tests and development studies. In the late-1970s, Stelco and Dofasco agreed to join with Algoma to study the development of a large scale operation involving mining several properties adjacent to Lake St. Joseph. The concept included concentrating the ore at Lake St. Joseph and funnelling the concentrate into a pipeline transportation system for movement to pelletizing and shipping facilities on Lake Superior. Records for work conducted in the 1980s and 1990s have not been acquired and may not be in the public domain;

- Although Algoma and LSJI have completed substantial metallurgical testwork on the mineralization in the past, there is little of any value to support predevelopment studies of the deposit to the standards currently necessary. Developments in technology and concentration equipment since completion of the previous metallurgical work and the current approach to flowsheet development will probably benefit this deposit in defining the optimum flowsheet for concentration. From the results to date it can only be concluded that very fine grinding will be necessary and it is possible to make saleable concentrate grade. There is only early stage mineralogy work and no work indices on the ore have been established. Neither the potential for coarse cobbing and stage grinding nor the potential of all possible concentration methods have been investigated thoroughly. Possible variations in mineralogy and metallurgical characteristics throughout the deposit have not been investigated. All this work is necessary to support predevelopment studies.

- Algoma's testwork showed:
    - that pellet grade concentrates could be produced using two stages of grinding and a total of 5 deslimes; and
    - all de-sliming pilot plant test produced a concentrate grading 66% SFe and 5.4% $SiO_2$ with an 80% SFe recovery. The de-sliming-flotation pilot plant test produced a concentrate grading 66.3% SFe with 4.82% $SiO_2$ with a SFe recovery of 75%;
- Direct reduction metalizing that was tested by Hanna demonstrated some possibilities but it is not a standard approach for concentrating iron deposits of this type. This possibility would require a further comprehensive study of markets for a product of this nature from this geographic location before it could be considered an option;
- Additional work may have been completed after 1976 and reports for this work has not been recovered;
- To develop one, or several open pits to mine these deposits, significant sections of Lake St. Joseph will require dams and/or dikes. A tourist operator owns the surface rights of a substantial part (but not all) of Eagle Island and another landowner owns the surface rights of parts of Fish island and Wolf island and these rights will need to be acquired; and,
- In WGM's opinion, significant hurdles for developing open pit mines on Lake St. Joseph will be negotiations with the various stake holders, and dealing with environmental concerns regarding the open pit mines, concentrators and tailings repositories.

Rockex has developed a program and budget to advance the project. WGM agrees the program and budget is reasonable. The estimated cost breakdown for the program is presented in the following Proposed Estimated Budget Table.

The first phase of drilling includes six holes 500 m to 650 m long for an aggregate of 3,500 m to test the east dip of the iron formation on the north south limb of Eagle Island. This program should be done this winter, when the lake is frozen. The other eight proposed drill holes for a total of 2,600 m will test the dip and some possible extensions of the iron formation on Eagle Island. WGM believes considerable more drilling is warranted and it mainly can be done from the ice.

**Proposed Estimated Budget**

| Task | Costs (C$) |
|---|---|
| **Phase I Program** | |
| Drilling 3,500 m @$200/m excluding assays and testwork | C$700,000 |
| Assays for drill program including QA/QC 900 @ $110/sample | 99,000 |
| Airborne Geophysics 930 line km @ $122/km | 104,000 |
| Geological Mapping, Trench cleanout/mapping | 150,000 |
| Metallurgical testwork and Consulting | 152,000 |
| Environmental Baseline Studies | 100,000 |
| Preliminary Economic Assessment | 60,000 |
| Subtotal | 1,365,000 |
| Contingency 15% | 205,000 |
| Subtotal | 1,570,000 |
| | |
| Office, general and administrative expenses | 920,000 |
| **Total Phase I** | **C$2,490,000** |
| | |
| **Phase II Program** | |
| Drilling 2,600 m @ $200/m excluding assays | 520,000 |
| Assays for Phase II drill program including QA/QC 700 @ $110/sample | 77,000 |
| Subtotal | 597,000 |
| Contingency 15% | 90,000 |
| **Total Phase II** | **C$687,000** |

The proposed airborne geophysics is a high resolution Heli-mag survey. Acquisition will include high resolution aero magnetic and VLF-EM data. Traverse line will be oriented mostly north-south with a spacing of 100 m. The survey will also include six east-west oriented control lines. Over the north part of Eagle Island, where the iron formation trends north south, a second set of survey lines spaced at 100 m intervals will be run in an east-west direction.

The trenching on Eagle Island will include two trenches of 300 m length across the larger part of the iron ore formation.

# 2. INTRODUCTION AND TERMS OF REFERENCE

## 2.1 GENERAL

Rockex Limited ("**Rockex**") holds a 100% interest, subject to certain royalties in a group of mineral claims in the Trist Lake Area, Patricia Mining Division, Sioux Lookout District, Province of Ontario, Canada (the "Property"). The Property is partly underlain by Algoma-type magnetite-hematite-taconite iron formation. The principal deposits are known as the Eagle, Wolf and Fish Island Iron deposits and are situated in the southwestern part of Lake St. Joseph. The Property is located approximately 100 km northeast of Sioux Lookout, and 80 km southwest of Pickle Lake. Highway 599, which connects Pickle Lake to the Trans Canada Highway at Ignace, crosses the east end of Lake St. Joseph approximately 40 km east of the Property.

First exploration on the Property was conducted prior to 1921. The Consolidated Mining and Smelting Co. of Canada Ltd. ("**Cominco**") explored the deposits in 1932. In 1956, Lake St. Joseph Iron Limited ("**LSJI**") carried out magnetic surveys and a diamond drilling program aggregating some 14,700 feet (4,471 m) was completed during the winters of 1957-58 and 1958-59. Testwork on the beneficiating qualities of the material were initiated at the Ontario Research Foundation ("**ORF**") and the M.A. Hanna Company ("**Hanna**"). Work lead to a "reserve" estimate of 240 million tons of open pit "ore" to a depth of 400 ft averaging 35% iron.

In 1967-68, the Algoma Steel Corp. ("**Algoma**") started work on the property re-sampling trenches, and in late 1968-69, it optioned LSJI's claims and carried out an exploration and testwork program to confirm the previous "reserve" estimates. In 1974 and 1975, Algoma carried out a diamond drilling and pilot plant testwork to develop and test a process flowsheet. "Reserves" for Eagle, Fish and a west extension were estimated by Algoma at just over 1 billion tons at an average grade of 30.02% acid soluble iron ("SFe"). The forgoing historic reserve estimates were completed prior to the implementation of Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101") and should not be relied upon. Watts, Griffis and McOuat Limited ("**WGM**") has not audited or confirmed any of these estimates. Algoma stated that its work established the presence of an extensive deposit of iron ore, confirmed that a desirable iron ore product could be produced and that mining of the deposit was entirely feasible and practical. On November 1, 1978, Algoma exercised its option and leased the property.

In 1976, Pickands Mather & Company ("**Pickands Mather**") was retained by Algoma, the Steel Company of Canada Ltd. ("**Stelco**"), Dominion Foundaries and Steel Ltd. ("**Dofasco**") to conduct a study to evaluate potential iron ore properties in Northwestern Ontario and determine whether or not the concept of a major iron ore pelletizing complex on Lake Superior, fed by slurry pipeline was worthy of detailed investigation. It concluded that first development should include Steep Rock Iron Mines Limited's ("**Steep Rock**") deposits at the southeast end of Lake St. Joseph adjacent to Soules Bay, followed by development of Algoma's (now Rockex's) Eagle Island iron deposit. By late 1978, the three participating Ontario steel companies had agreed to pursue the project with the aim of advancing development and to position the project as a possible source of iron ore for the late-1980s. Further pilot plant testing may have been completed after 1976, but no records of any such work are available.

The claims were dropped by Algoma in 2006, and in 2007 and 2008, new claims encompassing Eagle, Fish and Wolf islands were staked on behalf of Pierre Gagné. In 2008, Rockex conducted a five-hole drill program to twin holes drilled by Algoma and LSJI on Eagle Island. This winter program was followed up later in 2008 by a short program to locate historic drillhole collars and trenches on Eagle Island. In 2009, it acquired Algoma's files for the Property and Algoma's archived drill core from Algoma's successor, Essar Steel Algoma Inc. ("**Essar**"). In 2010, Rockex initiated a program to inventory data and re-log and re-sample selected Algoma drillholes to validate historic data. Rockex's work is ongoing.

## 2.2 TERMS OF REFERENCE

WGM was retained by Rockex to prepare a NI 43-101 compliant Technical Report documenting historic exploration, geology, mineralization and recent Rockex exploration programs and results and including a Mineral Resource estimate compliant with the definitions provided in National Instrument 43-101 and the guidelines adopted by the Council of the Canadian Institute of Mining Metallurgy and Petroleum ("**CIM**") Standards.

The preparation of this report and associated assignment was authorized by Tom Atkins, CEO Rockex on April 30, 2010.

This Technical Report is copyright protected, the copyright is vested in WGM, and this report or any part thereof may not be reproduced in any form or by any means whatsoever without the written permission of WGM. Furthermore, WGM permits the report to be used as a basis for project financings and for filing on SEDAR. Part or all of the report may be reproduced by Rockex in any subsequent reports, with the prior consent of WGM.

## 2.3 SOURCES OF INFORMATION

This report is an updated and revised version of a report completed for Rockex by WGM dated September 24, 2010 titled: "Updated *Technical Report On The Western Lake St. Joseph Iron Ore Project, Ontario, Canada For Rockex Limited*" by Richard Risto, P.Geo. and G. Ross MacFarlane., P.Eng. Much of the material used to prepare this report has been provided by Rockex. This data was collected mainly from Ontario Ministry of Northern Development and Mines ("**MNDM**") files and Algoma's project files acquired by Rockex from Essar. These files amounted to thousands of documents and contain historic reports and maps concerning the Property. WGM reviewed the documents available, and corroborated a number of details concerning the Property and deposit geology.

WGM Senior Associate Geologist, Mr. R.W. Risto, M.Sc., P.Geo., and Qualified Person ("QP"), visited the Property during Rockex's drilling program in late-March/early-April 2008, and discussed the program with Mr. Pierre Gagné, President of Rockex, Gilles Filion, Director of Rockex, and Project Geologist Mr. Jean-Paul Barrette. Mr. Risto also accompanied Rockex personnel to view Algoma's project files and drill core at Essar in November 2009 during the assessment and acquisition process. Furthermore, Mr. Risto made a visit to Sault Ste. Marie in April 2010 to view and review Rockex's program on re-logging and re-sampling of Algoma's historic drill core being performed by geologist Mr. John Corkery.

Mr. G. Ross MacFarlane, P.Eng., Senior WGM Associate Metallurgical Engineer, was the QP for the mineral processing and metallurgical aspects of this report.

The opinions and conclusions presented in this report are based on information received primarily from Rockex. WGM received the full co-operation and assistance of Rockex's personnel during the site visit and in the preparation of this report. Rockex has reviewed a previous draft of this report. Nevertheless, this report is the responsibility of WGM which alone has been in charge of its overall presentation and production.

A list of the material documents reviewed is found in the "References" section of this report.

## 2.4 UNITS AND CURRENCY

The bulk of the available technical data concerning the Property dates from the 1950s and 1970s when the mining industry used Imperial units. WGM has referred to information from that time in Imperial units, as originally recorded. Occasionally, metric units are used. WGM has converted some of the necessary data for inclusion in this report, although often

Imperial units are provided for clearer reference to historic data. All dollar amounts are quoted in Canadian currency ("C$").

Many of the historic samples of iron mineralization were assayed for iron using Lakefield Research's ("**Lakefield**") hydrochloric acid Soluble Iron ("SFe") method; and the assays are expressed as percent soluble iron ("%SFe"). Lakefield was the predecessor of SGS-Lakefield. Soluble iron represents the iron content of a sample that is soluble in hot hydrochloric acid. It generally does not represent the total iron in the sample. The iron in iron oxides and hydroxides, such as magnetite, hematite and limonite, is mainly expressed by the soluble iron assays, but the iron held in silicates is not extracted and therefore not reported. The amount of iron that is extracted during digestion depends on digestion time and temperature, degree of agitation, acid concentration and grain size of the sample. Consequently, different soluble iron methods at different labs can result in different iron concentrations being reported. Total Iron ("TFe") refers to total iron in a sample and is also reported in some of the historic testwork. TFe and SFe assays are often completed on both Head and Crude samples of rock and on the magnetic concentrates produced from the Crude samples. %TFe_H refers to Total Fe in Head samples. Most of the historic assays from the 1950s are reported simply as %Fe and no description of assay methodology is available. WGM is not completely certain if these are SFe or TFe. More discussion on this topic follows in later sections of this report.

The historic assay work for the property also included the preparation of Davis Tube concentrates ("DTC") from drillhole samples. Davis Tube refers to instrumentation and a procedure that produces a mineral concentrate high in magnetic iron by separating that portion of the sample that is magnetic from the portion that is non-magnetic, following sample comminution.

Percent Davis Tube Weight Recovery ("%DTWR") refers to the weight percent of the sample concentrated in the magnetic fraction using the Davis Tube procedure. This can be closely equivalent to the percent magnetite in the Crude sample, but results are highly dependent on the fineness of grind (sample comminution), liberation, magnetite-silica grain size and mineral fabric. Davis Tube concentrates are also assayed for iron and other oxides expressed in weight percent. The % magnetic iron ("%magFe") in the Crude sample can be obtained by multiplying the %DTWR figure by the %Fe in the Davis Tube concentrate, but again, the accuracy of the result is sensitive to grind (liberation) and grind size must be specified. %Hematite iron or %Hematitic iron ("%HmFe") is the iron in a sample that is attributed to hematite. Total Iron Recovery ("TFe Recovery") is the %TFe units recovered in an iron concentrate compared to the %TFe in the Crude sample.

Saturation Magnetic Analyser ("Satmagan") provides an alternative method to Davis Tube for estimating the magnetic iron content of a sample. It is an electromagnetic method and results are often expressed as %$Fe_3O_4$ or as % magnetite. Unlike DT, however, the method does not produce a concentrate that can be chemically or mineralogical analysed, but the measurements are not sensitive to liberation issues.

Table 1 documents several of the commonly used abbreviations and acronyms in the text.

**TABLE 1.**
**SUMMARY OF TERMS AND ABBREVIATIONS FOR UNITS**

| Abbreviation | Term |
|---|---|
| % or Wt % | Weight Percent |
| Head or Crude or H | Non-concentrated material |
| TFe or Fe | Total Iron in the Head or Crude Sample |
| SFe or Sol Fe | Soluble Iron in Head or Crude Sample |
| DT, DTC or C | Davis Tube, Davis Tube Concentrate, Concentrate |
| %DTWR | % Davis Tube Weight Recovery |
| %Wt Recovery | General term for magnetic weight recovery |
| TFe Recovery | % TFe units recovered in the Davis Tube |

## 3. RELIANCE ON OTHER EXPERTS

WGM prepared this study using the resource materials, reports and documents as noted in the text and "References" at the end of this report.

WGM has not independently verified the legal title to the Property. We are relying on public documents and information provided by Rockex for our descriptions of title and status of the Property agreements.

Drill core and surface rock samples collected by Rockex were submitted to SGS-Lakefield which is an accredited laboratory. Although WGM has reviewed the assay results generated by SGS-Lakefield and believes they are accurate, WGM is relying on SGS-Lakefield as "other experts".

WGM has also not carried out any independent geological surveys of the Property, but did complete a site visit in late-March/early-April 2008 to view first-hand the Project site, view 2008 drill core, collect a limited number of samples from the drill core and to review historic exploration and development work. These samples were collected and assayed independently of Rockex, to independently validate Rockex's results. We have relied for our geological descriptions and program results solely on the basis of historic reports, notes and communications with Rockex.

# 4. PROPERTY DESCRIPTION AND LOCATION

## 4.1 PROPERTY LOCATION

The Property is located in the Trist Lake Area, Patricia Mining Division, Sioux Lookout District, and covers the southwestern part of Lake St. Joseph, Province of Ontario, Canada (Figure 1). The Property encompasses Eagle, Wolf and Fish islands and much of the iron formation between and adjacent to the islands.

The Property is located approximately 100 km northeast of Sioux Lookout and 80 km southwest of Pickle Lake, centred at approximately 91°05'E Longitude and 50°58'N Latitude on the boundary between National Topographic System ("NTS") map sheets 52O and 52J.

## 4.2 PROPERTY DESCRIPTION AND OWNERSHIP

The Property consists of 23 contiguous mining claims covering a nominal area of 5,392 ha, Patricia Mining Division, held 100% by Rockex, subject to certain royalties. The major islands in Lake St. Joseph (Eagle, Fish and Wolf) contained within the Property's perimeter are covered by surface rights only, Freehold Patents. Two of these (PA17201 and PA17202) covering Island 184 are owned by Rockex while the others are not. A tourist operator owns the surface rights of a substantial part (but not all) of Eagle Island and another landowner owns the surface rights of part of Fish Island and Wolf Island. The coverage and extent of some of these surface patents is not completely clear on MNDM claim maps. Excluded from the Property is one claim (PA17195), surrounded by Rockex's holdings and is classified as a Freehold Patent located on west edge of the Property - it includes both surface and mineral rights. In addition Ontario Hydro controls a small area designated "Alienation - Area withdrawn from staking 294" (both surface and mining rights withdrawn) in the south part of Rockex claim 4252906. WGM understands that this tenure is for flooding control but does not know the details (Figure 2).

A claim is a mineral right that gives its holder the exclusive right to explore a designated territory for any mineral substance that is part of the public domain, except for loose surficial deposits of gravel, sand and clay. A claim does not bestow any surface rights and Rockex owns no surface rights except for the two aforementioned surface patents. Considerably more surface rights will be required for mine development and plant location and ancillary services.

The Property has not been legally surveyed. Claim data are summarized in Table 2.

RKX EXP / RKX_01a_Loc_Map.cdr
Last revision date: Thursday 22 July 2010

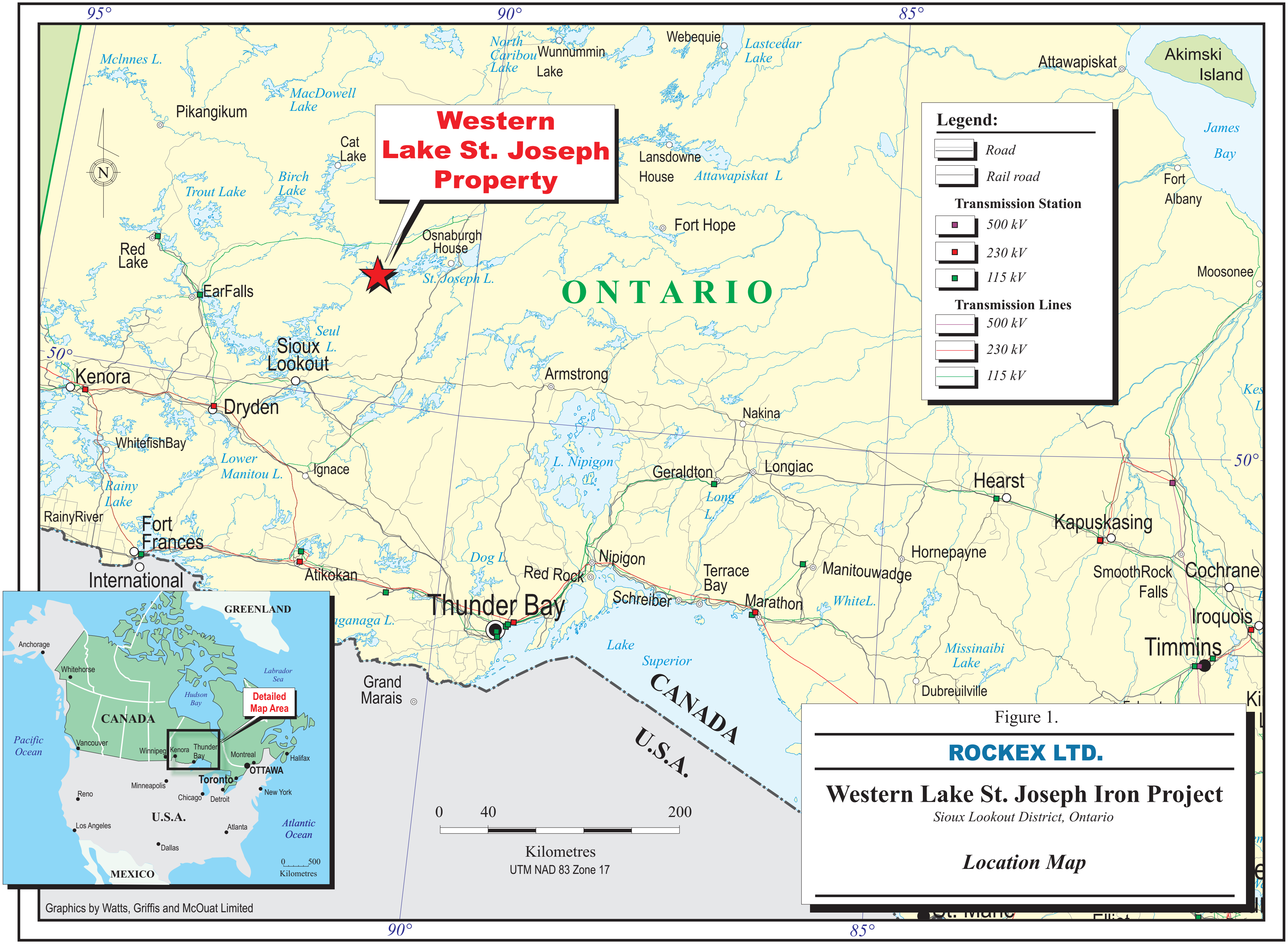



Figure 1.

**ROCKEX LTD.**

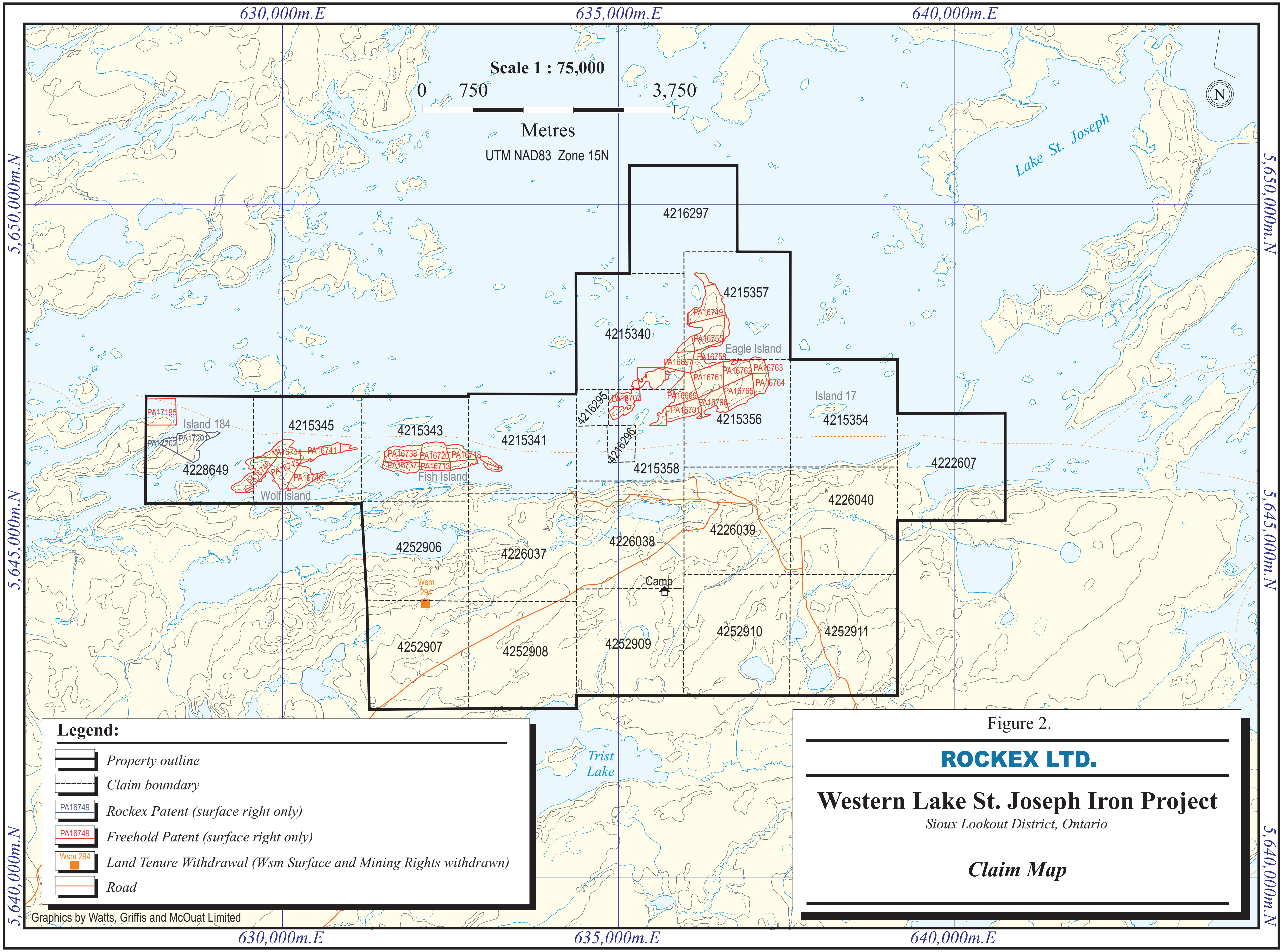
**Western Lake St. Joseph Iron Project**

*Sioux Lookout District, Ontario*

***Location Map***

Watts, Griffis and McOuat

RKX EXP / RKX_02_Claim_Map.cdr
Last revision date: Monday 13 September 2010




Watts, Griffis and McOuat

To maintain a claim in good standing, approved exploration work of required dollar value must be completed and filed with the MNDM. As prescribed by the Ontario Mining Act and regulations, work to a value of $400 per year is required per claim unit, except for the first year, when no assessment work is required. Assessment work must be performed and applied to each of the mining claims until the holder applies for a Mining Lease. A number of the claims have been renewed once by applying credits from the 2008 drilling program. Two of the claims listed in Table 2 are shown with a Due Date of 2010-August 15. The MNDN website indicates that a work report for these claims was filed in August 2010 and approval is pending.

**TABLE 2.**
**LIST OF CLAIMS - WESTERN LAKE ST. JOSEPH IRON ORE PROPERTY**

| Claim Number | Recording Date | First Assessment Work Due Date | Claim Units | Area (Ha) |
|---|---|---|---|---|
| 4215340 | 2007-Apr-13 | 2012-Apr-13 | 16 | 256 |
| 4215341 | 2007-Apr-13 | 2012-Apr-13 | 16 | 256 |
| 4215343 | 2007-Apr-13 | 2012-Apr-13 | 16 | 256 |
| 4215345 | 2007-Apr-13 | 2012-Apr-13 | 16 | 256 |
| 4215354 | 2007-Apr-13 | 2012-Apr-13 | 16 | 256 |
| 4215356 | 2007-Apr-13 | 2012-Apr-13 | 16 | 256 |
| 4215357 | 2007-Apr-13 | 2012-Apr-13 | 16 | 256 |
| 4215358 | 2007-Apr-13 | 2012-Apr-13 | 16 | 208 |
| 4216295 | 2008-Aug-15 | 2010-Aug-15 | 1 | 16 |
| 4216296 | 2008-Aug-15 | 2010-Aug-15 | 1 | 16 |
| 4216297 | 2010-Jul-02 | 2012-Jul-02 | 15 | 240 |
| 4228649 | 2008-Jan-28 | 2013-Jan-28 | 16 | 256 |
| 4222607 | 2008-Mar-05 | 2013-Mar-05 | 16 | 256 |
| 4226037 | 2008-Mar-05 | 2011-Mar-05 | 16 | 256 |
| 4226038 | 2008-Mar-05 | 2011-Mar-05 | 16 | 256 |
| 4226039 | 2008-Mar-05 | 2011-Mar-05 | 16 | 256 |
| 4226040 | 2008-Mar-05 | 2011-Mar-05 | 16 | 256 |
| 4252906 | 2010-Apr-12 | 2012-Apr-12 | 16 | 256 |
| 4252907 | 2010-Apr-12 | 2012-Apr-12 | 16 | 256 |
| 4252908 | 2010-Apr-12 | 2012-Apr-12 | 16 | 256 |
| 4252909 | 2010-Apr-12 | 2012-Apr-12 | 16 | 256 |
| 4252910 | 2010-Apr-12 | 2012-Apr-12 | 16 | 256 |
| 4252911 | 2010-Apr-12 | 2012-Apr-12 | 16 | 256 |
| **Totals** | **23** | | **337** | **5,392** |

Section 78 of the Mining Act states that:

> "*The holder of a mining claim must give notice to the owner of any surface rights when the claim holder first proposes to perform ground assessment work on any part of the land covered by the surface rights. A Certificate of Notice of Intention to*

*Perform Assessment Work, or a written consent from the owner of the surface rights must be filed prior to or accompany the filing of the assessment work.*

"*The Minister shall not record ground assessment work performed on a claim where the surface rights have been worked unless the Minister establishes that the claim holder has provided notice to the surface rights holder*.

"*That notice must be:*

- *a Certificate in the prescribed form "Notice of Intention to Perform Assessment Work" (form # 0242) and all further evidence that the Minister may require as evidence that the holder gave the required notice;*
- *the Minister determines that it is not feasible in the circumstances to give notice to the owner of the surface rights; or*
- *the owner of the surface rights gives written consent to the performance of the work after it has been performed*."

WGM strongly recommends that Rockex complete agreements with surface rights holders concerning property acquisition, prior to completing advanced exploration on the Property.

## 4.3 PROPERTY AGREEMENTS AND ROYALTIES

By virtue of an agreement dated May 27, 2008, the Property was sold by Pierre Gagné to Rockex for a purchase price $10,090,000, net of the royalties (described below) reserved to the vendor. Payment for the Property consisted of a cash portion of $90,000 and 20 million Common Shares of Rockex at a deemed subscription price of $0.50/share.

The purchase agreement included two underlying agreements that grant Pierre Gagné, the vendor:

- a two percent (2%) net smelter return ("NSR") royalty on minerals (other than iron) produced from the Property, and
- a two percent (2%) gross revenues royalty (the "Iron Royalty") on any and all iron ore, concentrate, pellets, briquettes, pig iron or other iron products produced from the Property for their iron content.

Advance royalty payments commencing in 2012 and in each calendar year thereafter, are due in the event that there was no commercial production of minerals for their iron content during any part of the preceding twelve calendar months. In the first year, the advance royalty payment totals $250,000. In subsequent applicable years, the advance royalty payment is increased by a compounding factor of 10% for each year in which an advance royalty payment was payable.

## 4.4 PERMITTING

No permits are required for Rockex's current exploration programs, but it must adhere to guidelines established by the Ministry of the Environment ("**MOE**") for working near water and on water.

Access to the Property is via public and logging roads. The logging roads are primarily permitted to Mackenzie (Buchanan) Forest Products Inc. ("**MacKenzie**"). These logging roads contain several culverts and these culverts are necessary for water crossings with equipment.

Most of Mackenzie's concessions in the area have been cut over. When Mackenzie completes its harvesting, the MOE may require it to remove the culverts from its access roads. New permits to be granted to Rockex will then be required for Rockex to re-insert the culverts and maintain access to the Property. The permit application process can require several months, so Rockex should keep abreast of the situation.

WGM understands that Rockex's exploration camp is located on a concession granted to Bowater Canadian Forest Products Inc. ("**Bowater**"). Although there is apparently no merchantable timber on the site, WGM recommends that Rockex contact Bowater and make them aware of its activities.

For its current program, Rockex accesses Lake St. Joseph via a trail from camp to lakeshore. To upgrade this trail to a road, consultation and agreement with stakeholders, including Lake St. Joseph tourist operators, the MOE and Aboriginal communities, and permits will be required. WGM understands that access to any road will have to be restricted to keep the public from accessing the lake because Lake St. Joseph is a freshwater fishery with a wilderness designation. Non-residents of Canada wishing to fish this lake must also obtain a special permit from the Ministry of Natural Resources ("**MNR**") sold by tourist operators on the lake. This permit is in addition to required fishing licenses.

## 4.5 ABORIGINAL ISSUES

There are two principle Ojibway Aboriginal communities in the immediate area of the Property, namely the Mishkeegogmang First Nation and the Slate Falls First Nation. The Mishkeegogmang First Nation communities are located along Highway 599 at the east end of Lake St. Joseph and include at least 10 settlements with a total population of 1,516, including two reserves. The Osnaburgh 63A Reserve, which includes the village of Mishkeegogamang, is located at the northeast end of the lake. The Osnaburgh 63B Reserve is located south of the lake (see Figure 1). Connie Gray-McKay is the Chief of Mishkeegogmang.

The Aboriginal community of Slate Falls is located approximately 40 km northwest of the Property. Slate Falls has a population of about 260 and is a member of the Windigo First Nations Council and its chief is Glen Whiskeyjack.

Both the Mishkeegogamang First Nation/Communities, and the Slate Falls Nation/Community are members of the Nishnawbe-Aski Nation ("**NAN**") political organization of northwestern Ontario.

The Mishkeegogamang/Slate Falls First Nations' traditional lands include the Lake St. Joseph area. These lands were ceded to the Crown by Treaty No. 9, The James Bay Treaty 1905 and 1906, in exchange for an annuity, a reserve for each band, and the promise of continued hunting and fishing rights over unoccupied Crown lands subject to such regulations as may from time to time be made by the government of the country…excepting such tracts as may be required or taken up from time to time for settlement, mining, lumbering, trading or other purposes.

The Supreme Court of Canada ruled in November 2004, in the case of the Haida and Taku River Tlingit First Nations vs. British Columbia, that the Federal and Provincial Crown has the duty to consult Aboriginal peoples and accommodate their concerns. In line with this, the Ontario government strongly recommends that mining companies maintain dialog with local Aboriginal communities so activities can be coordinated to avoid any conflict between exploration and harvesting activities. The Ontario government has not yet issued a set of guidelines concerning these consultations, but guidelines are in preparation and an Act to revise the Mining Act has passed third reading in the Legislative Assembly. The revisions to the Ontario Mining Act will in part deal with Aboriginal consultation. WGM understands that Rockex has already made initial contacts with the two main First Nation communities concerned and has notified them of its exploration activities. WGM strongly recommends that these notifications continue and regular meetings should be held to foster a good relationship.

Management of Rockex have met with representatives of the Mishkeegogamang community and have worked with this community to draft a Memorandum of Understanding ("MOU") identifying a cooperative relationship that would permit Rockex to conduct exploration activities on its claims and wherein such activities would hopefully lead to employment opportunities among members of the Mishkeegogamang community, subject to the nature and qualifications of such employment and an understanding and commitment to the safe and environmentally sound execution of such activities. There is only one individual whom has a trap line on the Property. Rockex management met with this individual and he stated that his trapping activities were ephemeral in nature and not significant in their economic impact.

Rockex management has also held an introductory meeting with the representatives of the Slate Falls community during the week of July 7 to 9, 2010, and delivered a presentation. Along with council members, they also met with one elder who has a commercial fishing license in the area surrounding Eagle Island. There was no opposition to the view that the Mineral Resources on Eagle and Fish Island could be developed in the future, however, the band council did wish that a MOU be drafted and signed by both parties which identified mutually agreed upon parameters that would facilitate any future exploration work that may take place on the land. An exchange of a draft from the band council is expected to be received in the days ahead.

At this time, Rockex is not aware of any other native communities in which traditional native lands would be impacted by Rockex activities on the WLSJ concessions.

## 4.6 ENVIRONMENTAL ISSUES

Apparently, no environmental investigations were conducted by LSJI or Algoma and there is no record of any environmental work conducted on the Property since that time. However, the MNR in the early-1970s, requested Steep Rock submit a comprehensive Environmental Impact Assessment ("EIA") for its proposed mine site operations and related facilities at the southeast end of Lake St. Joseph adjacent to Soules Bay. Accordingly, Steep Rock's prime consultant, Canadian Bechtel Limited ("**Bechtel**") issued a subcontract to T.W. Beak Consultants Ltd. ("**Beak**") to complete an environmental assessment of Lake St. Joseph. Steep Rock's proposal was to open pit mine its North and South iron deposits at a rate of 14.9 million long tons of ore per year, to yield 4 million tons of concentrate which would be converted into 4.15 million tons of iron oxide pellets. Waste dumps were to be located adjacent to its North and South deposits. The tailings area was to be located immediately to the southwest of the mine and waste dumps centred on Doran Lake. The concentrator with capacity to produce 8 million tons of concentrate per year would be located on site. Concentrate would be sent to Ignace by slurry pipeline.

A draft report titled: *Environmental Assessment of the Lake St. Joseph Project, Steep Rock Iron Mines Limited, Atikokan, Ontario* was published by Bechtel in 1975. WGM does not know if a final report was ever completed, but the draft report AMICUS No. 158005955 is in the library collections of the University of Waterloo and at Lakehead University. The Bechtel report is not in the files of the MNDM, Thunder Bay, but Thunder Bay does have on file several commentaries concerning Steep Rock's plans by MNDM personnel and also a report titled: *Preliminary Response to the Environmental Assessment of the Lake St. Joseph Project Interim (Bechtel Report) report December 1974*, prepared by the Policy Research Branch March 24, 1975.

The Archives of Ontario also hold several items in their collection concerning the water quality of Lake St. Joseph and files relating to Steep Rock's project. Archives of Ontario records RG1-345, RG 12-45 and RG 1-291 may be pertinent.

WGM has not reviewed the Bechtel/Beak report or the files in the Archives of Ontario, but notes that the Ministry's comments in its 1974 report state the Bechtel report is comprehensive but lacks sufficient detail to assess the nature and magnitude of the environmental impacts of Steep Rock's proposed development. The Ministry notes shortcomings in regards to the chemical identity (trace elements in the ore), the physical nature (presence or absence of asbestos-form minerals) and quantity of effluents from the mine and surface plants. It notes that the section on wildlife is not sufficient, and alternate disposal sites for tailings should have been considered. The Ministry's review tabulates 52 items that needed to be addressed.

No environmental studies on the Property are required at this stage, however, baseline surveys should be initiated at an early date. In addition to studies on flora, fauna and water quality, archaeological work will also likely be required. Rockex needs to mandate an environmental consulting firm to review all relevant data and design a program.

The MOE provides guidelines for drilling programs conducted on lakes and near water. These guidelines include conditions for operating drilling equipment on lakes, crossing lakes and other water bodies, including streams. Rockex should ensure that these operating conditions are met.

Lake St. Joseph is controlled to restrict public access to the lake. It is the only lake in Ontario that has a tag system for fishing. There is also an agreement known as the "The Lake St. Joseph Accord" between the tourist operators on the lake and the MNR. The terms of this agreement should be reviewed. WGM is aware that Rockex has requested the MNR to locate and provide documentation related to this accord.

# 5. ACCESS, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

## 5.1 ACCESS

Highway 599, which connects Pickle Lake to the Trans-Canada Highway at Ignace, crosses the east end of Lake St. Joseph, approximately 40 km east of the Property. The Property and Eagle, Wolf and Fish islands are accessible by boat from this point at the east end of the lake.

The Property is currently accessed via a logging road that exits Highway 516 about 30 km northeast of Sioux Lookout (see Figures 1 and 2). This Vermilion River Road continues northwards. Seventy-five km from its junction with Highway 516, the Vermilion River Road branches to the northwest and to the northeast. The northeast branch follows an esker to the south shore of Lake St Joseph. Rockex's 2008 camp is located approximately 3 km south of the shoreline of Lake St. Joseph opposite Eagle Island. The drive from camp to Sioux Lookout takes about 2.5 hrs.

From its junction with Highway 516 to km 75 is understood by Rockex to be a public road. From km 75 to the camp, the road is a logging road maintained under permits granted to Buchanan Forest Products ("**Buchanan**") and parent company McKenzie. The road crosses several culverts over creeks. These culverts should not be considered as permanent. As aforementioned, the Ministry may require the forestry company to remove these culverts when its operations in the area are complete.

WGM understands that Rockex has a verbal understanding with Buchanan to use the road.

## 5.2 CLIMATE

The Kenora area has a moist temperate climate with cold winters. Mean daily summer temperatures at Pickle Lake range from 14 to 18°C, with the daily maximum in July ranging to 24°C. The days are warm and the nights are cool. In January and February, mean daily temperatures are approximately -21 to -17°C.

Mean annual precipitation is 717 mm, including about 260 cm of snowfall.

## 5.3 LOCAL RESOURCES AND INFRASTRUCTURE

Pickle Lake, now part of the Township of Pickle Lake, is the closest town to the Property and it is located on Highway 599, approximately 40 km north of where the highway crosses Lake St. Joseph. The township has a nominal population of 479 persons that fluctuates widely on a seasonal basis. Pickle Lake was developed in the 1930s as the town site for the two new gold mines at Pickle Crow and Central Patricia, located within 10 km of Pickle Lake. Both these former mine sites are now part of the Township of Pickle Lake. In 1944, an airstrip was constructed at Central Patricia by the mining companies.

Road access to the Property is currently provided via a gravel road that has partial year round access, extending north from Provincial Highway 516. The gravel road is used primarily for timber cutting and haulage north of Sioux Lookout, Ontario, and is capable of handling standard road tractor-trailer combinations.

Existing rail access is approximately 80 km away (Canadian National Railway) to 160 km (Canadian Pacific Railway) from the site. In either case, a new spur line would need to be constructed to access the site to allow for regular, year-round access.

Natural gas is currently routed via the TransCanada Pipeline, which roughly follows Highway 17 in this area through Ignace, Dryden and Kenora. The closest point of contact would be approximately 160 km away, necessitating the construction of a pipeline from Dinorwic, Ontario, through Sioux Lookout, Ontario, and up to the site.

The nearest hydro-electric power to the Property is located at Slate Falls fed by a 115 kV transmission line. There are plans to upgrade this to a 230 kV line in the midterm (10 years). Currently this line is probably insufficient to support a substantial iron mine. For its planned operations at the east end of Lake St. Joseph, Steep Rock applied for a permit to survey a route for a power line from Raleigh (just north of Ignace on Highway 17) to its property.

Airport access is currently available via Sioux Lookout, Ontario, which can handle aircraft up to 35 persons in standard configuration. STOL aircraft may have additional capacity.

The Central Patricia gold mine was closed in 1951. During its life, the mine produced 670,000 ounces of gold and supported a population of 400. Production at Pickle Crow ceased 1966, bringing to an end the boom which had stared in 1935. Producing 1.5 million ounces of gold over its 31 year life span, it was a rich mine. Pickle Lake boomed once again in 1974, with the construction of Union Miniere Explorations and Mining Corporation UMEX - Thierry copper-nickel mine located 10 km northwest of Pickle Lake. This operation was shut down when changes in the base metals market and excessive ore dilution made it unprofitable. The population, which reached a peak of 1,200 in 1981, dropped once again to around 400. In 1987, after years of exploration activities, the community once again became a boomtown. Both Placer Dome Inc. ("**Placer Dome**") and St. Joe Canada (Bond Gold) opened mines in the Pickle Lake area. Placer Dome constructed a mine at Dona Lake, 35 km northeast of Pickle Lake. It closed its doors in 1994. The Bond Gold mine was 48 km northwest of Pickle Lake and closed in 1995.

In 1996, Placer Dome opened the Musselwhite mine approximately 160 km north of Pickle Lake. Production at Musselwhite in 2004 was 240,274 oz of gold, with Proven and Probable Reserves of 10.76 Mt at an average grade 5.79 g Au/t.

The Municipality of Sioux Lookout, which includes the town of Hudson, is located approximately 110 km southwest of the Property and 80 km by road, north of the Trans-Canada Highway. Located on the Canadian National Railway, it has a population of approximately 5,500 persons. McKenzie has a saw mill in Hudson that employs about 350 people. Sioux Lookout is "The Hub of the North" and has the fourth busiest airport in Ontario.

## 5.4 PHYSIOGRAPHY

Lake St. Joseph is 374 m above sea level. Maximum elevation on Eagle Island is approximately 400 m above sea level. Fish and Wolf islands have slightly less topographic relief. Topographic relief for the area south of Lake St. Joseph is similarly low, ranging to about 410 m above sea level. Physiography is controlled mainly by thick accumulations of glacial-fluvial deposits.

The natural drainage for Lake St. Joseph was east by the Albany River into James Bay, but dams at the east end of the lake and openings bulldozed at the west end of the lake, have resulted in the diversion of water into the English River watershed to feed reservoirs supplying hydro-electric generating stations. Water flows out at the southwest end of Lake St. Joseph into the Roots River and enters the northeast end of Lac Seul. Lac Seul, which is drained by the English River, provides water for hydro-electric stations at Ear Falls (townsite for the former Griffith iron mine), where the English River leaves the lake, and Manitou Falls, 30 km downstream, to generate 90,600 kW of electricity.

The Property is mainly covered by spruce boreal forest.

# 6. HISTORY

## 6.1 GENERAL

| | |
|---|---|
| c. 1900 | – While investigating the area, Ontario Exploration Party No.9 geologist John E. Davidson noted "great magnetic variation" but saw "no traces of magnetite". Also about this time, Jabez Williams staked claims and completed a drilling program on Fish Island. |
| 1921 | – E.L. Bruce of the Ontario Department of Mines examined the deposit and reported on his findings in Iron Formation of Lake St. Joseph, ODM Annual Report, (1922) Vol 31, pt. 8, pp. 1-32. |
| 1932 | – The Consolidated Mining and Smelting Company of Canada Limited explored the deposit and carried out trenching and drilling of outcrops. |
| 1956 | – Antiquois Mining Corporation, subsidiary of St. Lawrence Columbium and Metals Corporation (controlled by a five-man syndicate including J.J. Gourd and Pierre Mauffette of Montréal) was formed. Geological and geophysical surveys (dip needle-magnetometer) and trenching started. Plans for these trenches with assays are held in the MNDM assessment files. The dip needle survey results are also available. |
| 1957 | – Lake St. Joseph Iron Limited formed (also controlled by St. Lawrence Columbium and Metals Corporation) and exploration work continued. Also somehow involved was Holannah Mines Limited ("**Holannah**"), but the role Holannah played is not clear. Holannah authorizes Hanna to become involved in the project.<br>– A.E. Boerner of Hanna prepares (July) summary report on deposit.<br>– Four bulk samples from Eagle Island shipped to the Hibbing Minnesota laboratory of M.A. Hanna Company for metallurgical testwork. |
| 1957-1959 | – Twenty-nine diamond drillholes completed aggregating 12,000 ft. "Reserve" estimate completed. |
| 1966-67 | – Algoma options the Gustafson property consisting of a block of claims southeast of Eagle Island. Algoma performs a ground magnetic survey on the ice and drills six AXT-sized holes aggregating 3,367 ft to test the iron formation. This property was subsequently purchased outright by Algoma. |
| 1968-1969 | – Algoma options LSJI's property covering Eagle, Fish and Wolf islands and initiates exploration work to confirm results previously reported by LSJI. Geological mapping, magnetic and gravity surveys conducted. Two "Winkie" drillholes and trench sampling completed to confirm LSJI's results. A survey of water depth outward from Eagle Island was conducted by depth sounding. Basic mineralogical studies and testwork started. |

1973 – Algoma signs an agreement to lease 73 mining claims from LSJI. Algoma agrees to expend not less than $500,000 by end of the 5-year option extending from November 01, 1973 to October 31, 1978.
– A bulk sample consisting of 1,100 tons iron formation taken from three separate locations on Eagle Island is barged to Cedar Rapids at the east end of Lake St. Joseph. A portion (375 tons) of this material is trucked, via Highway 599, to Savant Station (CNR) and railed to pilot plant facility of the ORF in Toronto.

1974 – A program aggregating 45,800 ft of diamond drilling was completed on Eagle Island at 800 ft intervals to test iron formation to 1,000 ft vertical depth. The western part of the area was drilled at wider intervals. Head drill core samples averaging 10 ft long were analysed for SFe. Composites up to 100 ft long were prepared from drill core Head samples. Davis Tube tests were completed on the composites. The magnetic fractions were analysed for SFe. The Tails were also analysed for SFe. Logs and assay reports for most of this work are available.
– A fluxgate ground magnetic survey conducted on claims peripheral to principle area north of Eagle Island.
– Algoma requests from the MNR a surface rights reservation for a 35,500 acre parcel on the mainland south of Eagle Island. The area was to be set aside for a possible plant and tailings disposal sites.
– Geocon Limited ("**Geocon**") contracted to carry out reconnaissance survey of soil conditions and borrow sites for acquisition of material for dike construction.

1975 – The metallurgical flowsheet developed is tested at the ORF in a ½ ton/hr pilot plant at the facility over three month period.
– Geocon drills 38 holes totalling 4,200 feet from the ice on Lake St. Joseph and on Eagle Island along the alignment of possible temporary dikes. In summer of 1975, an additional 57 holes were drilled on the mainland to outline the quantities of sand and gravel required for dike construction.
– Preliminary studies were made to identify sites for tailing dumps but these reports were not public.
– Coordinate system set-up by assigning the coordinate 50,000 N and 50,000 E to a fixed point on Eagle Island. All Algoma drillholes were tied into this grid and coordinates are reported on Algoma drill logs.
– Additional geophysical surveys conducted. Old trenches cleaned and re-examined. Preliminary studies on tailings disposal completed.

1976 – Agreement between Algoma, Stelco and Dofasco to study the concept for development of a large scale operation drawing on iron deposits from several properties. Pickands Mather was retained to identify the most desirable properties in northwestern Ontario for early development. The study was completed and the Eagle Island property was selected as one of the two properties that should be considered for first development. Pickands Mather estimated order of magnitude capital and operating costs. Algoma, Dofasco and Stelco agreed to continue the study. The ore would be concentrated and funnelled into a pipeline transportation system for movement to pelletizing and shipping facilities on Lake Superior.
– Algoma requested from the Ministry a further extension of the surface reservation for the mainland south of Eagle Island.

| | | |
|---|---|---|
| 1978 | – | Algoma drilled two holes on Fish Island. |
| 1979 | – | Algoma acquired 70% of common shares of LSJI. Studies of the development potential of the Property continued into 1980. Geological mapping of Fish Island extended into 1982. A memo available from Algoma states that Fish Island mineralization may not be as extensive as assumed for the Algoma mineral "resource" estimates of the 1970s and new drilling was required. |
| 1988 | – | Algoma was acquired by Dofasco and LSJI was wound up. |
| 2006 | – | Claims became open in 2006. |
| 2007 | – | Staking of Property on behalf of Pierre Gagné was completed in April 2007. |
| 2008 | – | Additional claims staked on behalf of Pierre Gagné in January to April and August 2008. Some claims peripheral to the deposits were dropped. Rockex completes 5-hole drill program and summer program to locate historic drill collars and other features. |
| 2009 | – | Rockex acquires historic Algoma data files from Essar and initiates check logging, sampling and assaying of historic Algoma drill core acquired from Essar. |

## 6.2 HISTORIC RESOURCE/RESERVE ESTIMATES

### 6.2.1 GENERAL

There have been no NI 43-101 compliant Mineral Resource estimates completed for the Property. There are several historic estimates available.

These estimates were completed prior to the implementation of NI 43-101 and should not be relied upon. The estimates are provided here because both WGM and Rockex believe they are of historic significance. WGM has not audited or confirmed any of these estimates.

The earliest estimate that WGM is aware of was completed by Pierre Mauffette, consulting geologist to the project for LSJI and part owner. Very few details are available. Mr. Mauffette's estimate is mentioned in a Hanna "Summary Report" for the property, dated July 1957 by A.E. Boerner. No original statement for this estimate is available and we do not know how much drilling was completed at the time the estimate was made. Certainly LSJI completed 13 more holes in 1958-59 that are not incorporated into the estimate.

Table 3 is Boerner's summary of Mauffette's estimate.

Boerner quotes Muffette as saying that this total of 220 million tons can be mined without draining the lake.

**TABLE 3.**
**HISTORIC RESOURCE ESTIMATE FOR EAGLE AND FISH ISLANDS**
**(after Mauffette, c. 1956-1957)**

| Area | Tons (millions) | Grade (%Fe) |
|---|---|---|
| Eagle Island | 148 | 35 |
| Fish Island | 72 | 37 |
| **Minimum Total** | **220** | **36** |

## 6.2.2 JUTEAU 1961 HISTORIC RESOURCE ESTIMATE

Laurier Juteau completed a resource estimate for the deposit by using the drilling completed by LSJI. The results available, presented in a report by Mr. Juteau, February 1961, are very general. No cross sections showing any geological interpretation for the deposit or blocked out resources are available. He states he used a tonnage factor of 10 cubic feet per ton. Mr. Juteau's results are summarized in Table 4.

**TABLE 4.**
**HISTORIC RESOURCE ESTIMATE FOR EAGLE, FISH AND WOLF ISLANDS**
**(after Juteau, 1961)**

| Zone | Tons (millions) | Grade (% Fe) |
|---|---|---|
| Eagle Island | 125 to 225 | 35 |
| Fish Island | 75 to 100 | 37 |
| Wolf Island | 15 | 35 |

Mr. Juteau explains that the range in tonnage is dependent on the slopes for the proposed pit and ultimate depth of the pit. He also comments that no attempt was made to estimate the tonnage on the smaller islands or under shallow water that are certainly workable by open pit mining. The iron grade is certainly in the same units used by LSJI, but WGM is uncertain whether iron grade is SFe or TFe. Correspondence available from Algoma, c. late 1960s, (Thorsteinson, 1969 and Venn, 1968, Khan, 1973) that are concerned with validating LSJI's results and "reserve" estimates assumes LSJI's assays are %SFe.

### 6.2.3 HANNA-ALGOMA 1976 HISTORIC RESOURCE ESTIMATE

Algoma published an "open pit potential reserve" estimate in a progress report dated November 26, 1975. The estimate covered:

- North and South zones on Eagle Island - the estimate for this part of the deposit is based on drill cross sections, mostly spaced at 800 ft intervals, with three holes on three cross sections spaced at 1,600 ft intervals. LSJI's drillholes were not used;
- Fish Island area based on geophysical work, surface outcrops (including cleaned out trenches) and results for 14 LSJI 1957 to 1959 drillholes aggregating about 7,000 ft; and
- West Extension Area, North Limb - drilling at 1,600 ft intervals. This zone is entirely underwater of Lake St. Joseph.

Parameters:

- A lineal edge ratio of 1:1;
- A minimum pit floor width of 150 ft;
- An average wall slope of 52.5 degrees;
- A road grade of 10%;
- Internal waste:
    - Less than 40 ft wide included as ore at zero grade; and
    - Greater than 40 ft calculated as waste.
- Conversion Factors:
    - Waste: 12.6 cu ft/ton; and
    - Ore: various, based on grade (10.25 to 11.80 cu ft/ton).

Algoma's estimate of "open pit potential reserves" is shown in Table 5.

**TABLE 5.**
**HISTORIC RESERVE ESTIMATE FOR EAGLE AND FISH ISLANDS AREA**
**(after Algoma, 1976)**

| Zone | Gross Tons (millions) | SFe (%) | Waste/Ore Ratio* | Category |
|---|---|---|---|---|
| Eagle Island-North | 609 | 28.8 | 0.20 | Proven |
| Eagle Island-South | 150 | 29.7 | 0.45 | Proven |
| **Subtotal Eagle Island** | **759** | **28.97** | **0.25** | |
| | | | | |
| Fish Island | 203 | 35.8 | 0.45 | Probable |
| West Extension | 55 | 23.4 | 0.35 | Probable |
| **Total** | **1,017** | **30.02** | **0.30** | |

* Gross tons waste to gross tons ore.

Presumably the mass units are short tons rather than long tons, but the source document is not clear. Ultimate pit depth is not stated, but may be 1,000 ft or 300 m. In places, drilling tested the iron formation to 1,000 ft depth.

Algoma's memorandum also included an estimate of the concentrate that might be produced from the ore. The estimate of the concentrate was based on a 67% Fe grade at 80% SFe recovery and is shown in Table 6. These parameters appear to be based on the "All-Desliming" process flotation flowsheet pilot plant testwork completed in the spring of 1975 at the ORF (see Section 16).

**TABLE 6.**
**HISTORIC CONCENTRATE ESTIMATE FOR EAGLE AND FISH ISLANDS AREA**
**(after Algoma, 1976)**

| Zone | Gross Tons of Concentrate (millions) | Cubic Yards Waste/Ton of Concentrate |
|---|---|---|
| Eagle Island-North | 209 | 0.28 |
| Eagle Island-South | 52 | 0.60 |
| **Subtotal Eagle Island** | **261** | **0.34** |
| | | |
| Fish Island | 87 | 0.50 |
| West Extension | 15 | 0.50 |
| **Total** | **363** | **0.39** |

This source Algoma memorandum states that more drilling remains to be completed around the North Zone of Eagle Island to provide more detail for some structurally complex sections and also to re-drill the Fish Island Zone, so that the older drilling by LSJI need not be relied upon. It also states that much more metallurgical work is required; including additional trials of different processing flowsheet–flotation options and trace element analysis followed by further pilot plant tests.

### 6.2.4 WGM COMMENT

The main reason for the tonnage differential between Juteau and Algoma is probably the projected depth of the pit, with Algoma's projected pit being much deeper than in Juteau's model.

WGM understands that the iron assays used for the estimate for Eagle Island were from drilling done by Algoma and historic documentation identifies these assays as SFe; probably done at Lakefield Research, predecessor of SGS-Lakefield. The estimate for the Fish Island Zone was based on drilling by LSJI in the 1950s and there is no documentation in regards to assay method and whether the assays are in terms of SFe or TFe. Algoma, however, in all documentation available assumes LSJI's assays are SFe and validation work conducted by Algoma on LSJI trenches and two 1957 and 1958 drillholes, J-07-57 and J-12-58 returned very similar assay results to those reported by LSJI, See Section 13.

In general, the parameters used to make the estimates appear to be reasonable. WGM agrees that as stated by Algoma, the tonnage factor for computing tons from volume of mineralization for "ore" should vary based on iron grade. The range provided by Algoma for "ore", 10.25 to 11.8 converts to a specific gravity ("SG") range of 3.1 to 2.7. The tonnage factor of 10 cubic feet per ton used by Juteau is also not unreasonable. It converts to a SG of 3.2. At the high range, these figures are probably conservative, considering the average estimated grade of the mineralization is 29% to 30% SFe.

The tonnage factor figure used by Algoma for waste may be too low. Waste will consist mostly of shale and greywacke, but some of it will likely include sparse bands of hematite/magnetite raising the waste SG.

On, and adjacent to, Eagle Island, based on drilling and magnetic surveys, the iron formation appears to have a strike length in the order of 7 km. The iron formation appears to vary in width from about 75 m to perhaps 200 m true thickness for a single thickness. For the northwest part of Eagle Island, the iron formation thickness doubles up due to isoclinal folding. The iron formation all appears to dip steeply. The iron grades reported by Algoma appear reasonable based on our observation of drill core from Rockex's initial drillholes. Assuming the iron formation projects to a depth of 300 m, is 100 m wide and 7 km long and has an average grade of near 30% TFe, then total tonnage for, and immediately adjacent to, Eagle Island is in the order of 650 million tonnes. Algoma's 1976 estimate for gross tons of material available therefore appears to be reasonable.

A memorandum by J.V. Huddart of Algoma, April 19, 1982 comments on Algoma's 1981 mapping results for Fish Island with respect to the validity of Algoma's mid-1970s "reserve" estimates. On the basis of 1981 mapping results, Huddart suggests that the drilling and trenching information of LSJI on which the Algoma "reserve" estimates were based presented an overly optimistic view of the extent of the iron formation. He states the potential of the Wolf Island-Fish Island area is in the order of 100 million tons rather than the 250 million tons indicated in Table 5.

# 7. GEOLOGICAL SETTING

## 7.1 REGIONAL GEOLOGY

The Property is situated in the Archean Lake St. Joseph Greenstone Belt of the Uchi Subprovince of the Canadian Shield (Figure 3). The Lake St. Joseph belt is one of three principal interconnecting greenstone belts in the Uchi Subprovince (Stott, 1996), with the other two being the Meen-Dempster and the Pickle Lake belts. The greenstone belts are underlain and surrounded by, or internally intruded by, both younger and older felsic and mafic plutons. The Property is located adjacent to the southern boundary of the Uchi Subprovince next to the English River Subprovince. The Sydney Lake - Lake St. Joseph Fault is the boundary between the two subprovinces and the Property is located north of this fault.

The Lake St. Joseph Greenstone Belt is composed of four volcanic cycles, three of which were originally mapped and described by Clifford, 1969. Each of the volcanic cycles is composed of basal tholeiitic basalt flows progressing upwards into dacitic to rhyolitic pyroclastic rocks. Cycles 1 and 3 are now interpreted to be equivalent; only juxtaposed by tectonic stacking. Cycle 2 is a basalt-rhyolite cycle. Cycle 4 is dominated by a thick sequence of pyroclastic rocks of intermediate composition.

In the Western Lake St. Joseph area, the Cycle 2 volcanics are unconformably overlain by a suite of clastic and chemical sedimentary rocks that form the Eagle Island assemblage, or Upper Clastic Rocks, according to Clifford's terminology. It is this assemblage that hosts the iron formation on the Property. Geological Survey of Canada airborne magnetic surveys suggest that the band of iron formation that contains the iron formation on the Property is extensive. The Doran Lake deposit at the southeast end of Lake St. Joseph appears to be part of the same band. The Steep Rock iron deposits north of Doran Lake (at the southeast end of Lake St Joseph) appear to be on another east-west band that parallels the Doran Lake - Eagle Island/Fish/Wolf island sequence. WGM thinks it likely that these two bands of iron formation are structurally or stratigraphically related.

The volcanic and sedimentary assemblages define an eastward-facing steeply plunging anticline. Younging directions for the iron formation on the Property are however more complex depending on local scale tight and isoclinal folding. Folding and metamorphism is ascribed to the 2710-2700 Ma Kenoran Orogeny. Thick gabbroic sills are intrusive into the volcanics and perhaps some of the iron formation sequence.

RKX EXP / RKX_05_Rgnl_Geol.dwg (Layout: 400k)
Last revision date: Friday 28 September 2011

Watts, Griffis and McOuat

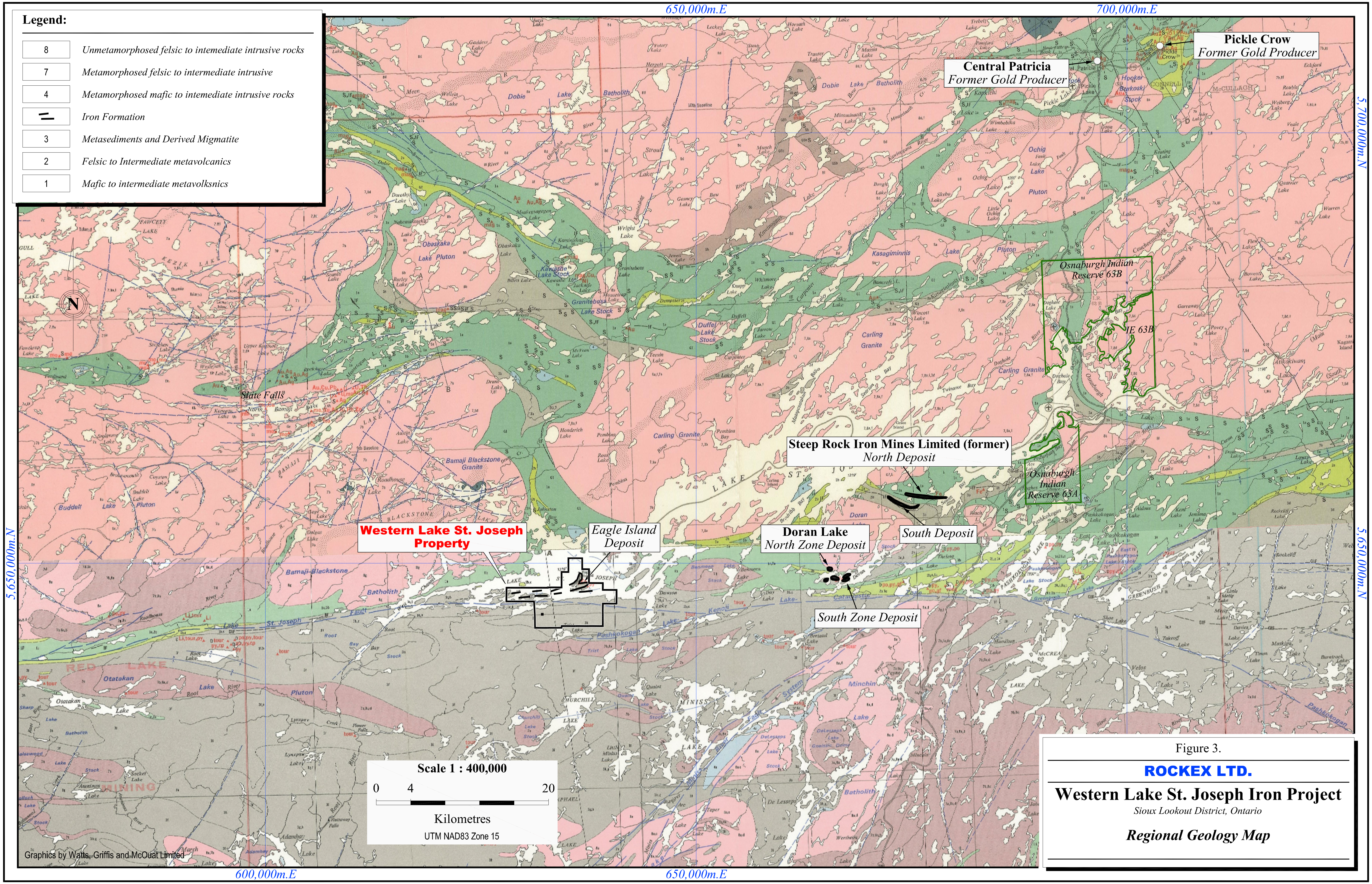



Figure 3.

**ROCKEX LTD.**

**Western Lake St. Joseph Iron Project**

Sioux Lookout District, Ontario

***Regional Geology Map***

The base of the Eagle Island assemblage consists of eroded dacitic pyroclastic material derived from the upper part of the Cycle 2 volcanics. This is succeeded upwards (Berger, 1981) by arenite and wacke-sandstone beds, interbeds of mudstone, conglomerate and banded iron formation. Meyn and Palonen (1980) interpreted this turbiditic assemblage to be the product of a submarine fan environment. Stott (1996) describes the iron formation as tightly folded with the earliest folds, which possess no associated cleavage, possibly the products of large scale subsidence encouraged by substantial thickness and density of iron formation beds in an unstable clastic host. The result is an abundance of dewatering features. Stott suggests subsequent Kenoran regional folding tightened these folds, resulting in a complexity of lineation orientations and refolded folds.

Metamorphism is typically greenschist facies in the Western Lake St. Joseph area. Mafic metavolcanics contain chlorite-actinolite-albite and the clastic metasediments contain a chlorite-muscovite-biotite-quartz-albite assemblage (Stott, Kay and Sanborn, 1987).

## 7.2 PROPERTY GEOLOGY

### 7.2.1 GENERAL

The Property is situated in the Uchi Subprovince and underlain by greenschist facies mafic to felsic volcanics of Cycles 1 and 2, possibly 3, or the Eagle Island sedimentary assemblage, including its iron formation component. The regional stratigraphic column after Stott, (1996) is shown in Table 7.

The Eagle Island assemblage consists mainly of greywacke, shale, conglomerate and iron formation and is described by Clifford (Figure 4). It was deposited unconformably in a basin along the southern margin of the volcanic belt and subsequently re-folded with the volcanic sequence.

The sedimentary assemblage is largely in the form of an east-west trending, steeply plunging syncline containing a pair of sub-parallel anticlinal folds. The anticlines are most clearly evident on Eagle Island. The south limb of the syncline, traceable because of its contained iron formation (magnetic), extends from Eagle through Fish and Wolf islands and further west. The north limb of the syncline is not as clearly defined as the fold's south limb, because it is mostly under water, but has been traced by magnetic surveys and a few drillhole intersections as extending west from Eagle Island and north of Fish Island. Meyn and Palonen (1980), interpret the north limb to young southward. West from Fish Island, mapping and magnetic surveys indicate that the north limb is further south and approaches the south limb.

**TABLE 7.**
**REGIONAL STRATIGRAPHIC COLUMN**
**(after Stott, 1996)**

**PHANEROZOIC**
**CENOZOIC**
**QUATERNARY**
**RECENT**

Lake, stream and wetland deposits

**PLEISTOCENE**

Till, glaciofluvial sand and gravel, glaciolacustrine sand and clay

*Unconformity*

**PRECAMBRIAN**

**PROTEROZOIC**
**PALEOPROTEROZOIC**
**Mafic Dikes**

Diabase dikes

**ARCHEAN**
**MESOARCHEAN to NEOARCHEAN**
**Felsic Intrusive Rocks**
**Unmetamorphosed late to post tectonic granitic rocks**

Granodiorite, monzogranite, syenogranite, syenite, tonalite, trondhjemite, quartz diorite, granite pegmatite

*intrusive contact*

**Metamorphosed pre- to syntectonic granitic rocks**

Granodiorite, tonalite, trondhjemite, monzogranite, syenogranite, quartz diorite, granite pegmatite

*intrusive contact*

**Metamorphosed felsic porphyry intrusive rocks**

Quartz porphyry, feldspar porphyry, quartz-feldspar porphyry, felsite

*intrusive contact*

**Mafic to Ultramafic Intrusive Rocks**
**Metamorphosed mafic intrusive rocks**

Gabbro, diorite, anorthosite, melanocratic gabbro, leucocratic gabbro, plagioclase feldspar -phyric mafic intrusive rock, quartz-bearing mafic intrusive rock, pegmatite

*intrusive contact*

**Metavolcanics and Metasediments**
**Clastic metasediments**

Lithic wacke, quartzose wacke, feldspathic wacke, mudstone

**Chemical metasediments**

Oxide facies (magnetite-bearing), sulphide facies (pyrite-bearing), silicate facies (amphibole-rich), and carbonate facies (siderite/ankerite) iron formation

**Felsic metavolcanics**

Massive flows, tuff, lapilli tuff, lapillistone, quartz-feldspar porphyry

**Intermediate metavolcanics**

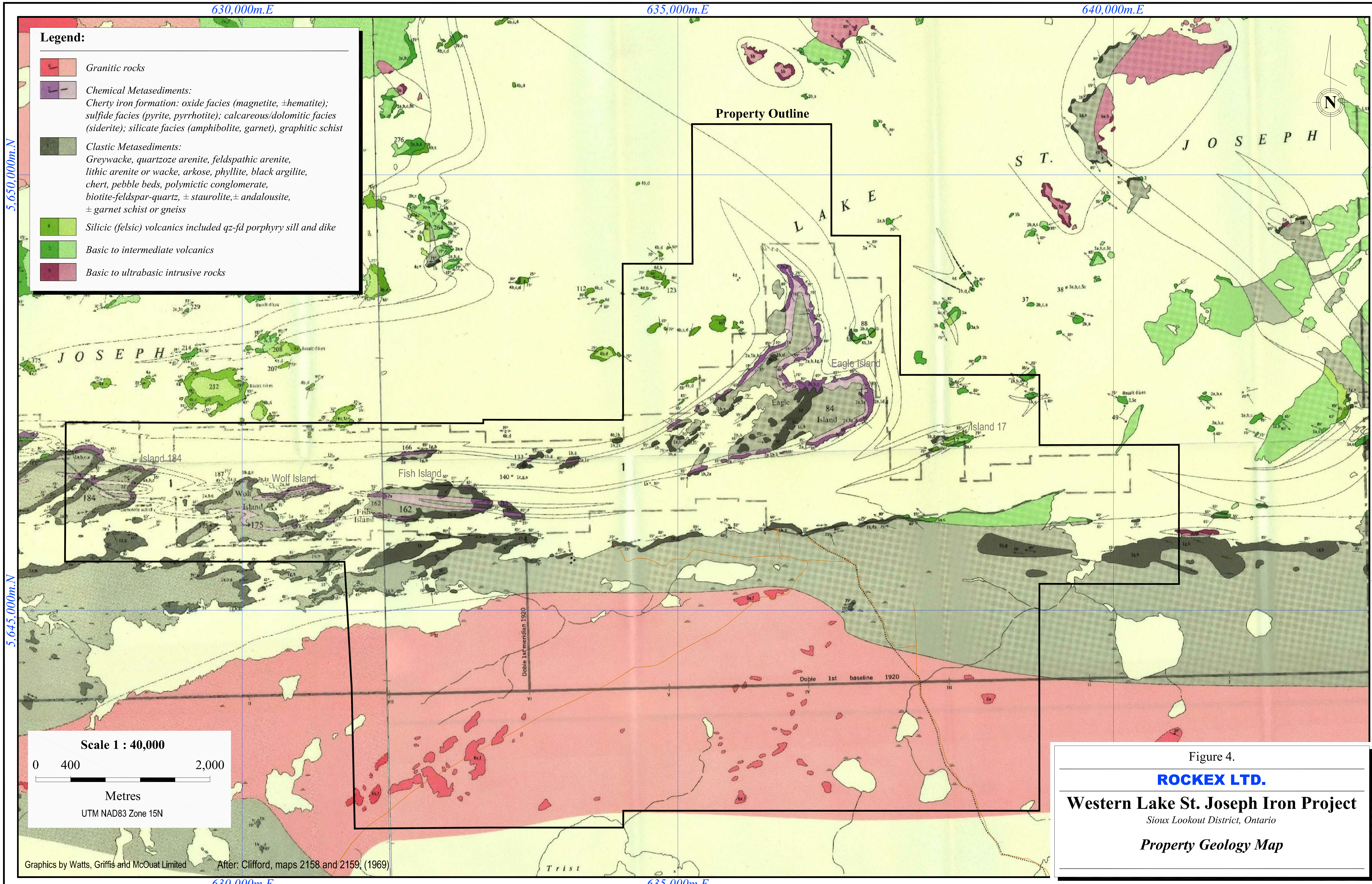
Massive flows, pillowed flows, tuff, crystal tuff, lithic tuff, lapilli tuff, lapillistone, tuff breccia, pyroclastic breccia, quartz-feldspar porphyry

**Mafic metavolcanics**

Massive flows, pillowed flows, pillowed breccia, amygdaloidal flows, variolitic flows, autoclastic flow breccia, tuff, crystal tuff, lapilli tuff, lapillistone, tuff breccia, pyroclastic breccia, ultramafic tuff, amphibolite, epidote-rich layered flows or pyroclastic rock

RKX EXP / RKX_04_Prop_Geol.dwg (Layout: 40k)
Last revision date: Friday 28 September 2011

Watts, Griffis and McOuat



Shearing parallel to bedding is extensive adjacent to the Sydney Lake-Lake St. Joseph Fault and a series of isoclinal folds are interpreted in the south limb iron formation. Meyn and Palonen show that the sedimentary sequence thins to the west. They suggest that although half the thinning may be due to tectonism, the other half is due to increasing distance from the discharge area for the sediment.

Metamorphism is low to middle greenschist grade. Clifford reports that metamorphic grade increases to the west. No major intrusives into the iron formation sequence have been encountered but there are minor intrusive dykes. Porphyry, pegmatite, amphibolite, chlorite gneiss and chlorite-biotite schist are rock-type names often used in the historic logs. Some of these may be dikes or mafic volcanics. Khan (1975) describes a set of "silicic" highly altered dykes occurring on Eagle Island that vary in thickness from a few inches to 10 ft that generally strike northwest-southeast. Thorstienson (1969) describes dykes of similar widths and orientation of intermediate to basic composition that also have a highly altered appearance. Corkery and Risto observed narrow biotite-rich dykes in iron formation in Algoma drillholes in 2010. Risto speculated that they may be lamprophyres.

# 8. DEPOSIT TYPES

The Lake St. Joseph Deposit is considered to be iron formation of the Algoma-type, but it does have some characteristics that are not typical of Algoma-type iron formation. Algoma-type iron formation consists of banded sedimentary rocks composed principally of bands of iron oxides, magnetite and hematite within quartz (chert)-rich rock with variable amounts of silicate, carbonate and sulphide lithofacies. Such iron formations are the second most important source of iron after Lake Superior-type iron formations (Gross, 1996). Table 8, after Eckstrand, editor (1984), presents the salient characteristics of the Algoma-type iron deposit model. No Algoma-type iron formation is currently mined in Ontario for iron. The Sherman, Adams and Griffiths mines that previously operated in Ontario mined similar iron deposits.

Gross (1996) states:

> "*In 1986 production from oxide facies at the Adams, Griffith and Sherman mines in Ontario amounted to more than 8.1 Mt of crude ore grading 19 to 27% iron for the recovery of 2.1 Mt of ore-concentrate and pellets. In 1986, Algoma Ore Division at Wawa, Ontario, produced more than 1.7 Mt of siderite crude ore grading 34.15% iron that provided 1.2 Mt of sinter and agglomerate*.
>
> "*The ore-concentrate, pellets, sinter and agglomerate produced from these mines provided about 10% of the total iron ore produced in Canada in 1986…*"

For iron formation to be mined economically, iron content must normally be in the range of 25-35%, and the iron oxides must be amenable to concentration (beneficiation) and the concentrates produced must be low in manganese and deleterious elements such as silica, titanium, aluminium, phosphorus, sulphur and alkalis. For bulk mining, the silicate and carbonate lithofacies and other rock types interbedded within the iron formation must be largely segregated from the iron oxide facies iron formation, if wide enough for selective mining.

Meyn and Palonen (1980) interpreted the Lake St. Joseph iron formation assemblage to be the product of a submarine fan environment. Unlike typical Algoma-type iron formation, the assemblage is turbiditic containing greywacke, shale, siltstone and conglomerate.

**TABLE 8.**
**DEPOSIT MODEL FOR ALGOMA TYPE IRON FORMATION**
**(after Eckstrand, 1984)**

| Commodities | Fe (Mn) |
|---|---|
| Examples:<br>Canadian - *Foreign* | Helen Mine at Wawa, Sherman Mine at Temagami, Griffith Mine at Ear Falls, and Lake St. Joseph, Ont.; Woodstock, N.B. – *Krivoy Rog, U.S.S.R.*. |
| Importance | Canada: second most important (after Lake Superior type) as a source of iron. Potential source of manganese (Woodstock). |
| Typical Grade, Tonnage | Up to billions of tonnes, with grades ranging from 15 to 45% Fe, averaging 25% Fe. Manganese content is generally low in Precambrian deposits (generally less than 2%) but is more significant in some Paleozoic deposits (Mn=10 to 40%). Fe:Mn may range from 40:1 to 1:50. |
| Geological Setting | Iron formation members occur with volcanic rocks, greywacke and shale near or distal from extrusive centres, along volcanic belts, deep fault systems, and rift zones; may be present at any stage in a volcanic succession. Most abundant in Archean greenstone belts. Some oxide, carbonate and sulphide facies have polymetallic sulphide facies associated with them. |
| Host Rocks or Mineralized Rocks | Oxide, silicate, carbonate, and sulphide facies of banded iron-formation are commonly composed of thin, alternating layers or beds of silica (chert and quartz) and iron-rich minerals; and are interbedded with clastic sedimentary and volcanic strata. |
| Associated Rocks | Felsic, mafic and ultramafic volcanic rocks, greywacke, black shale, argillite, chert, interlayered pyroclastics and other volcaniclastic beds; metamorphic equivalents. |
| Form of Deposit, Distribution of Ore Minerals | Ores are sedimentary sequences commonly up to 100 m thick, and several kilometres in strike length. In most cases, isoclinal folding or thrust faulting have produced thickened sequences of iron formation, thus greatly enhancing economic mining feasibility. Ore mineral distribution closely reflects primary sedimentary facies. |
| Minerals: Principal Ore Minerals | Magnetite, hematite; siderite, manganoan siderite, pyrite and pyrrhotite are mined in a few deposits. |
| - *Associated* Minerals | Chert, quartz, Fe-silicates and –carbonates, chlorite, amphiboles, biotite, feldspar, garnet, chalcopyrite. |
| Age, Host Rocks | Precambrian to Recent, but predominantly Archean. |
| Age, Ore | Syngenetic, same age as host rocks. |
| Genetic Model | Chemical and colloidal precipitation of iron silica in euxinic and oxidizing environments; iron and silica derived from volcanic effusive and hydrothermal sources along volcanic belts and deep faults or rift systems. Formation and distribution evidently controlled by tectonic rather than by biogenic or atmosphere factors. |
| Ore Controls, Guides to Exploration | 1. Distribution of iron formation is reasonably well known from aeromagnetic surveys.<br>2. Oxide facies is the most favourable, economically, of the iron formation facies.<br>3. Thick primary beds (30 to 100 m) of iron formation are desirable.<br>4. Repetition of favourable beds by folding or faulting is economically favourable. .<br>5. Metamorphism increases grain size, improves metallurgical recovery.<br>6. Metamorphic mineral assemblages reflect the mineralogy of primary sedimentary facies.<br>7. Basin analysis and tectonic and sedimentation modelling indicate controls for facies development, and help define location and distribution of different iron formation facies. |
| Author | G.A. Gross, Eckstrand editor. |

# 9. MINERALIZATION

The Western Lake St. Joseph iron formation consists of units of fine grained iron oxide and silica interlayered with beds of clastic material; variously greywacke, shale, mudstone, phyllite and conglomerate (pebble beds). Some layers also contain minor pyrite or pyrrhotite, but sulphide content of the oxide iron formation is generally sparse. Graphitic metasedimentary layers have been identified (Island No. 17), southeast of Eagle and such graphitic layers contain increased amounts of pyrite. Intrusive dikes, possibly of intermediate composition, often feldspar-phyric have been logged in the sequence but their significance is not wholly known. Mineralization consists of specular hematite and magnetite. The ratio of hematite to magnetite in the iron formation on the Property is reported as 3:1 (in the reports from the 1950s) to 1:1 (reports from the mid-1970s). From WGM's observation of the Algoma historic drill core and of Rockex's 2008 core and assay results from five drillholes, WGM surmises that overall hematite and magnetite occur in almost equal abundance with magnetite slightly exceeding hematite. However, caution is warranted because all drill core examined was from Eagle Island; on other parts of the Property variations in mineralization may occur. Most of the mineralization observed by WGM consists, on a macro scale, of a near massive and intimate mixture of hematite and magnetite which is atypical of iron formation. However, some parts of the sequence are comprised mainly of well banded magnetite containing very little hematite component. The opposite pattern of dominantly hematitic mineralization with insignificant or minimal magnetite has not been observed or indicated by the 2008 assay results. It is likely that in different parts of the deposit, different ratios of hematite to magnetite occur, but this distribution is not completely mapped out.

In historic reports, gangue is described as consisting of silica, sericite, mica, carbonate, chlorite, with some hornblende and apatite. The distribution of sulphide components may be partly controlled by stratigraphy (graphitic horizons) but also by gold-related alteration systems that affect various parts of the iron formation sequence. Metallurgical and mineralogical work conducted in the mid-1970s suggests that the grind requirement for liberation is 85% -500 mesh.

In September 2008, SGS-Lakefield completed on behalf of Rockex an *"In Investigation by High-Definition Mineralogy into the Mineralogical Characteristics and Iron Deportment of Four Iron Ore Samples from the Western Lake St. Joseph Project"*. Polished sections and polished thin sections were prepared. Optical microscopy, X-ray Diffraction, QEMSCAN and electron micro-probe analysis was completed. Mineral modal abundances for the four drill core samples from the QEMSCAN analysis after SGS-Lakefield Project Report 11909-001 are presented in Table 9.

**TABLE 9.**
**DATA OF MINERAL ABUNDANCES IN FOUR HEAD SAMPLES**
**(after SGS-Lakefield Report 11909-001)**

| Mineral (Weight%) | Sample ID | | | |
|---|---|---|---|---|
| | SJWGM-01 | SJWGM-02 | SJWGM-05 | SJWGM-06 |
| Fe-Oxides | 48.0 | 56.8 | 33.4 | 25.2 |
| Quartz | 27.4 | 23.8 | 27.6 | 32.0 |
| K-Feldspar | 5.1 | 1.2 | 3.4 | 6.5 |
| Plagioclase | 4.3 | 4.5 | 11.2 | 1.4 |
| Muscovite/Clays | 9.1 | 9.0 | 18.1 | 29.5 |
| Biotite | 1.9 | 1.4 | 0.4 | 0.7 |
| Chlorite | 1.9 | 1.4 | 3.2 | 3.3 |
| Amphiboles | 0.7 | 0.5 | 0.3 | 0.3 |
| Other Silicates | 0.2 | 0.1 | 0.3 | 0.1 |
| Carbonates | 0.1 | 0.4 | 1.4 | 0.4 |
| Apatite | 0.9 | 0.6 | 0.3 | 0.4 |
| Zircon | 0.1 | 0.2 | 0.0 | 0.0 |
| Sulphides | 0.1 | 0.0 | 0.1 | 0.1 |
| Other | 0.1 | 0.0 | 0.2 | 0.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

Notes: For sample location cross reference see Table 24

Table 10 presents averages of WR assay values for Rockex's 2008 drill core samples by basic rock type code. Iron formation is Unit 2, but other rock codes, especially the metasediments, may contain iron formation. The %magFe and %Magnetite are derived from Satmagan measurements on each sample. Magnetic Fe is the percent of Fe that is likely in magnetite but could include some hematite or minor other mineral phases depending on liberation factors. For samples coded as iron formation, this figure is 16.0%. Evidently, some samples of Unit 1 (metasediments) as indicated by %Magnetite and/or %magFe, contain appreciable magnetite and some of these samples should have been logged as iron formation rather than metasediments. The %Hematitic Fe ("%HmFe") and %Hematite ("%Hm") have been estimated from TFe by subtracting, the iron in magnetite (determined from Satmagan) and the iron from the FeO analysis in excess of what can be attributed to the iron in the magnetite from %TFe, and then restating this excess iron as hematite, or as restated differently:

$$\%\text{ of TFe in Hm} = \%\text{ TFe} - (Fe^{+++}{}_{\text{(computed from Satmagan)}} + Fe^{++}{}_{\text{(computed from FeO)}})$$

The %Hematitic Fe, similar to %magFe is the Fe that is estimated to be in hematite. For iron formation, this Hematitic Fe from the Table totals 12.6%. Together %Hematitic Fe plus %Magnetic Fe totals 28.6%, which is close to %TFe (29.2%). The difference between the 28.6%Fe and the 29.2%Fe is attributed to iron-bearing silicates, carbonates or sulphides. It is considered to be the percentage of TFe that is in silicates or carbonates or sulphides. The precision and accuracy of FeO and Satmagan determinations can be a factor for the accuracy of these estimates (see Section 14) and for some of Rockex's samples, Magnetic Fe and/or $Fe^{++}$ are not in precisely in-balance with %TFe due to less than perfect assay accuracy.

**TABLE 10.**
**SUMMARY OF ASSAY DATA BY ROCK TYPE FOR FIVE ROCKEX DRILLHOLES**

| Lithology | Metasediments Unit Code 1 | Iron Formation Unit Code 2 | Mafic Volcanics Unit Code 3 | Mafic Intrusives Unit Code 5 |
|---|---|---|---|---|
| Count of samples | 33 | 349 | 2 | 9 |
| Avg of %TFe | 13.52 | 29.38 | 5.70 | 5.40 |
| Avg of %FeO | 7.13 | 7.69 | 5.15 | 4.60 |
| Avg of %MagFe | 11.62 | 16.04 | 0.45 | 0.53 |
| Avg of %HematiticFe | 0.43 | 12.68 | 1.40 | 1.46 |
| Avg of %Magnetite | 16.0 | 22.0 | 0.6 | 0.8 |
| Avg of % Hematite | 0.6 | 18.0 | 2.0 | 2.1 |
| Avg of %$SiO_2$ | 57.95 | 44.90 | 48.65 | 47.17 |
| Avg of %$AL_2O_3$ | 10.63 | 5.44 | 12.25 | 12.63 |
| Avg of %MGO | 1.58 | 1.55 | 7.07 | 8.16 |
| Avg of %CAO | 1.91 | 1.31 | 6.61 | 6.80 |
| Avg of %$NA_2O$ | 2.18 | 1.17 | 1.19 | 1.87 |
| Avg of %$K_20$ | 2.18 | 1.74 | 4.59 | 4.38 |
| Avg of %MNO | 0.06 | 0.04 | 0.13 | 0.12 |
| Avg of %$TIO_2$ | 0.39 | 0.17 | 0.67 | 0.48 |
| Avg of %$P_20_5$ | 0.24 | 0.44 | 0.28 | 0.17 |
| Avg of %$CR_2O_3$ | 0.01 | 0.01 | 0.06 | 0.04 |
| Avg of %$V_20_5$ | 0.01 | 0.01 | 0.03 | 0.02 |
| Avg of %LOI | 2.95 | 0.97 | 9.85 | 9.95 |
| Avg of %S | 0.05 | 0.03 | 0.01 | 0.01 |
| | | | | |
| Count of SG Samples | 5 | 60 | 0 | 0 |
| Avg of SG | 2.98 | 3.37 | | |

The assay results indicate that only a small amount of iron in the samples of iron formation is silicates, sulphides or carbonates and most of the TFe is in hematite or magnetite. Much more of the TFe in the metasediments is often attributable to mineral species other than magnetite and/or hematite. Iron that is in mineral species other than iron oxides is not of economic importance.

The sample assay averages indicate that aluminum, potassium, sodium and phosphorus levels for Eagle island iron formation are a little higher than what might be more normal for Lake Superior - Proterozoic or Algoma - Archean oxide iron formation. This may be due to the higher content of clay components in the Western Lake St. Joseph iron formation compared to typical Algoma or Lake Superior-type iron formation. However, the deleterious element concentrations in iron concentrates produced from ore are much more important than the levels of these elements in the ore, and levels for these elements in concentrates is not necessarily proportional to concentrations in ore. One failing of the historic metallurgical testwork for the property's deposit is that the deleterious element levels in concentrates have never been determined.

The assay statistics indicate that the material coded unit 5, mafic intrusives is less felsic than unit 1 metasediments. It averages less $SiO_2$ and contains more MGO than rock coded as metasediment. In the historic drill logs similar material may be logged as chlorite-biotite schist or chlorite gneiss. This rock may be important in regards to silicate Fe content and SFe versus TFe assays.

Figures 5, 6 and 7 respectively are histograms showing the distribution of %TFe, %magFe assays and %Hematitic Fe (calculated) for 349 samples logged as iron formation from Rockex's 2008 drill program on Eagle Island. Figure 5 also shows for comparison purposes %SFe for historic Davis Tube composites from all Algoma drillholes and for all samples on which DT tests were completed by Algoma. The Algoma samples collectively are a little lower in Head grade, but Magnetic Fe is very similar for Rockex and Algoma samples. Figure 8 is a plot of specific gravity versus %TFe for determinations completed on both Unit 2 (metasediments) and Unit 3 (iron formation) rocks at SGS using the helium comparison pycnometer method on sample pulps.

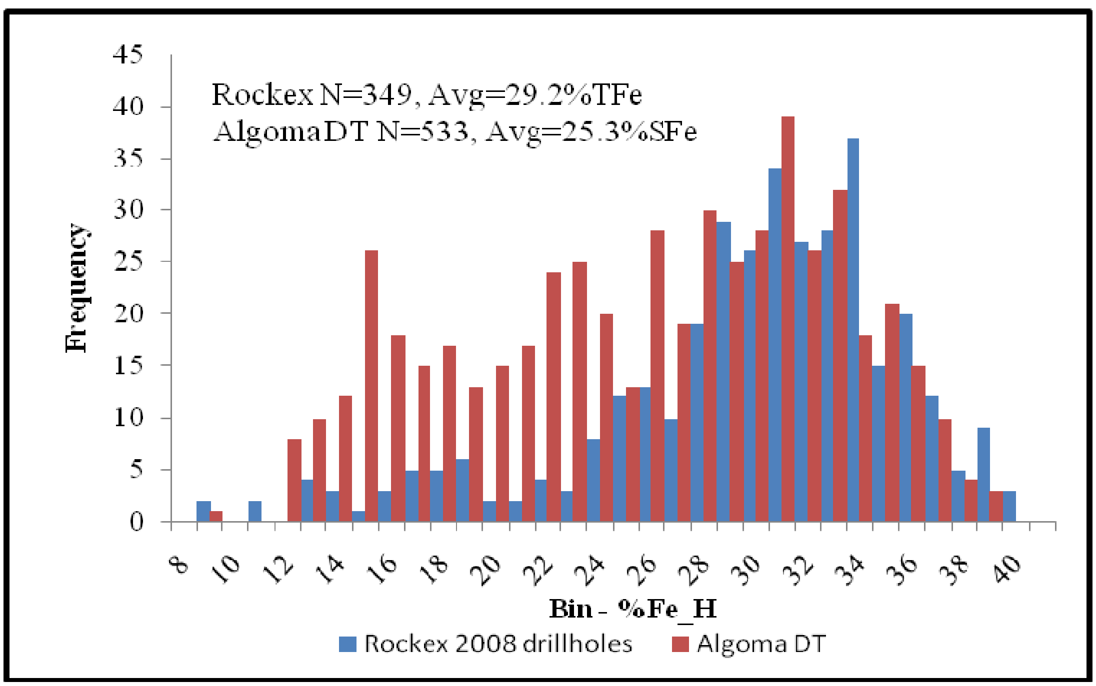



Figure 5. Histogram for %TFe in Rockex 2008 program drillhole samples and %SFe for historic Algoma drillhole sample composites

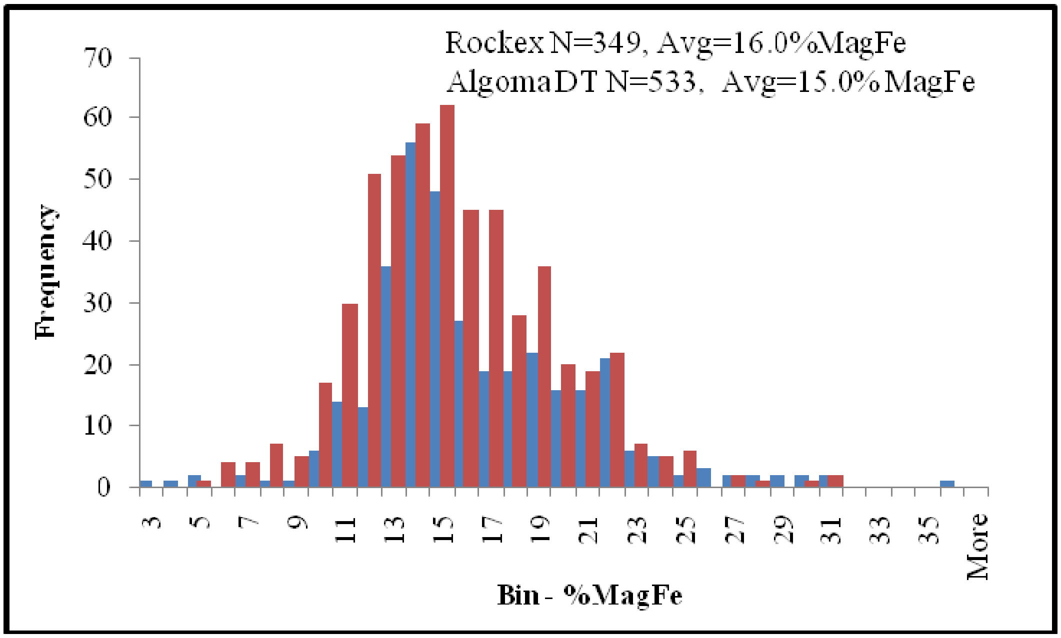



Figure 6. Histogram for %magFe in Rockex 2008 program drillhole samples and Algoma historic drillhole composites

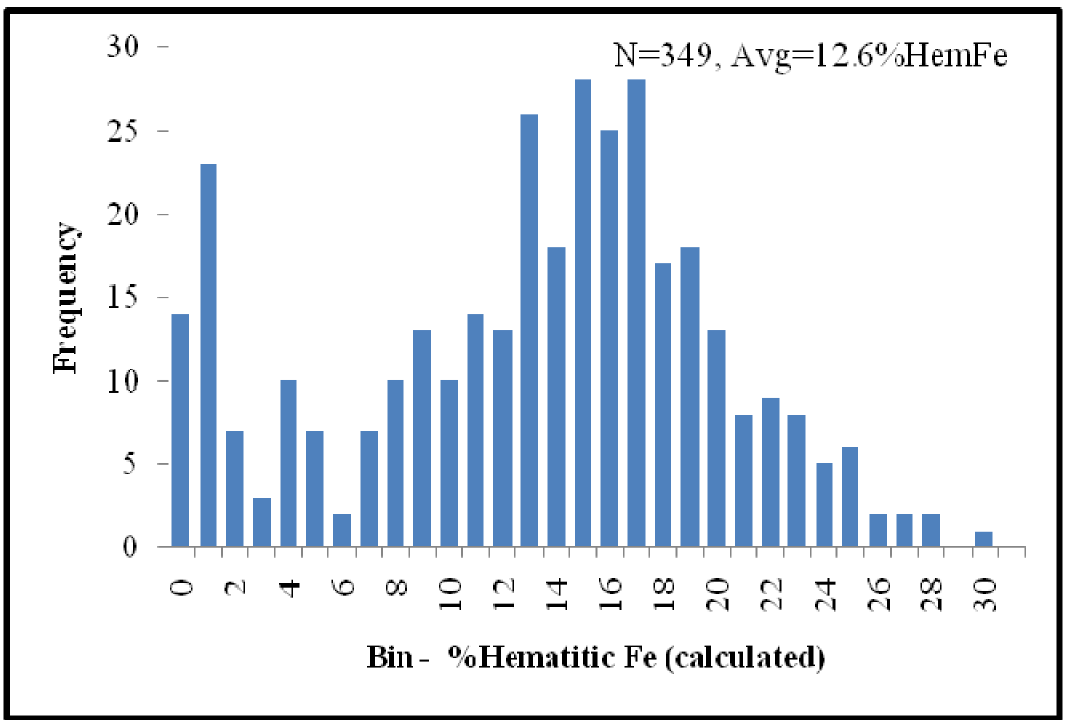



Figure 7. Histogram for %HematiticFe (calculated) in Rockex 2008 program drillhole samples

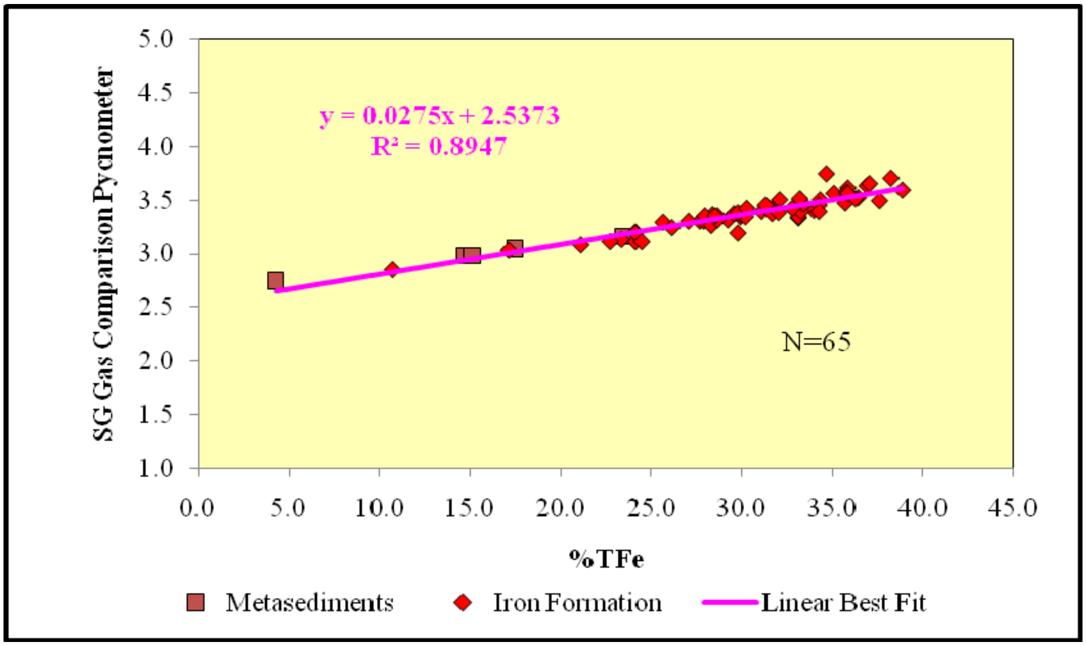



Figure 8. SG vs. %TFe for samples coded as iron formation and metasediments

The bimodal nature of the hematite distribution is illustrated in Figure 8. As aforementioned, most of the iron formation consists of a mix of magnetite and hematite but there are sections that contain very little hematite and are mostly magnetite. Specific gravity, per the norm, shows excellent correlation with %TFe.

The deposit is essentially in the form of an east to northeast-trending, steeply plunging syncline with superimposed, less extensively developed, coaxial anticlines. The iron formation is repeated by folding and is mainly coincident with the north, east and south shores of Eagle Island and dips steeply (Figure 9). West from Eagle Island, the steeply dipping north and south limbs of the iron formation sequence have been traced for over 10 km. The south limb is better defined than the north limb. The south limb extends through Fish and Wolf islands and still further west. The north limb is interpreted to lie mostly under the waters of Lake St. Joseph, north of Fish Island paralleling the south limb exposed on Fish and Wolf islands. Isoclinal parasitic folds are common along the limbs of the main fold resulting in repeats in the iron formation sequence.

In detail, the iron formation is not one band of oxide iron formation, but consists of several oxide iron units alternating with thin to thick units of clastic sediments. Some, but not all of the multiple banding is due to repeats in stratigraphy caused by tight folding. Historic exploration data is often insufficiently detailed to resolve and fully interpret the iron formation and sort out the fold geometry. This is not an unusual situation for iron formation. Various documents show different interpretations for the trace of the iron formation. The

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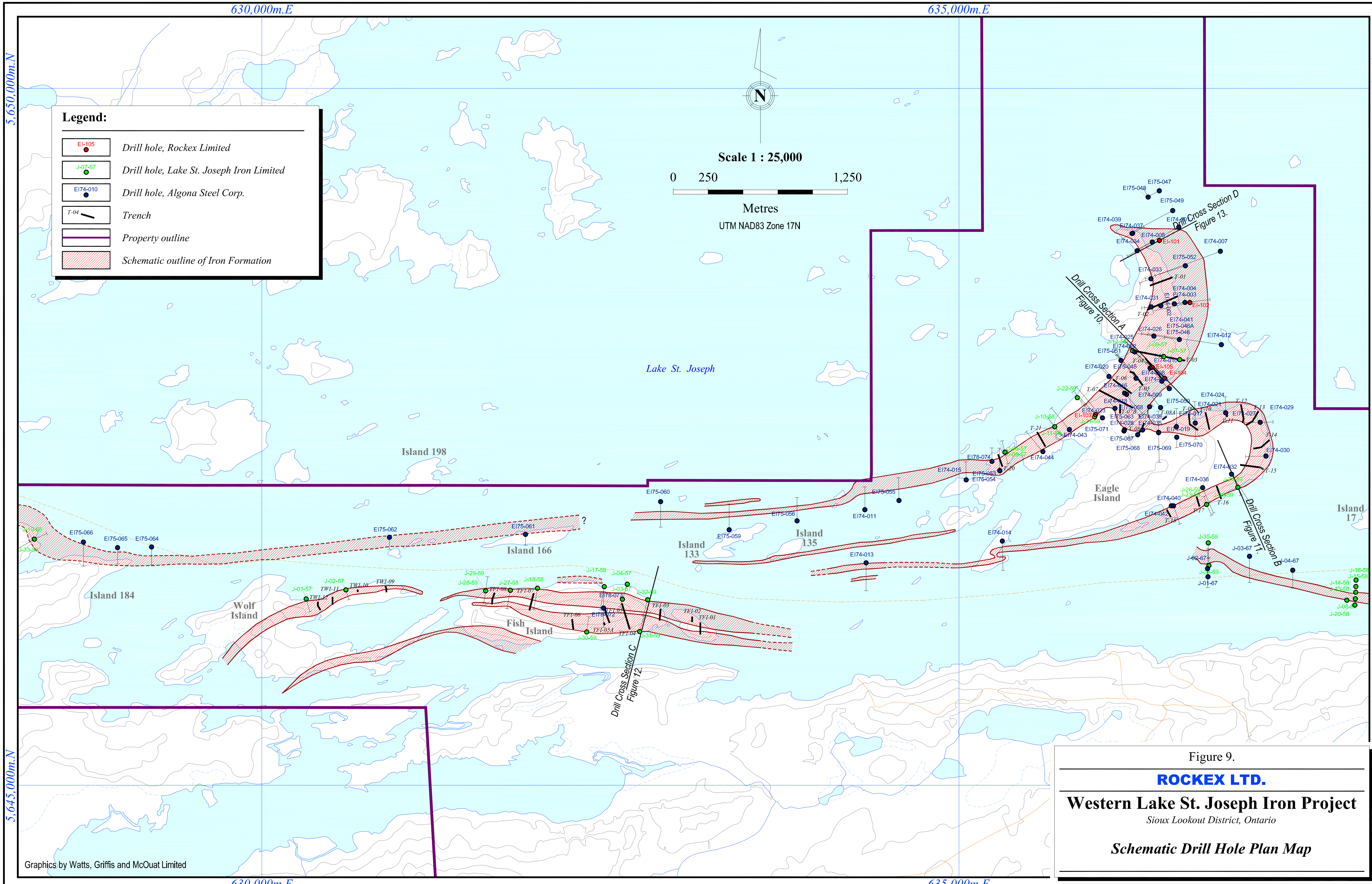



Figure 9.

**ROCKEX LTD.**

**Western Lake St. Joseph Iron Project**

*Sioux Lookout District, Ontario*

***Schematic Drill Hole Plan Map***

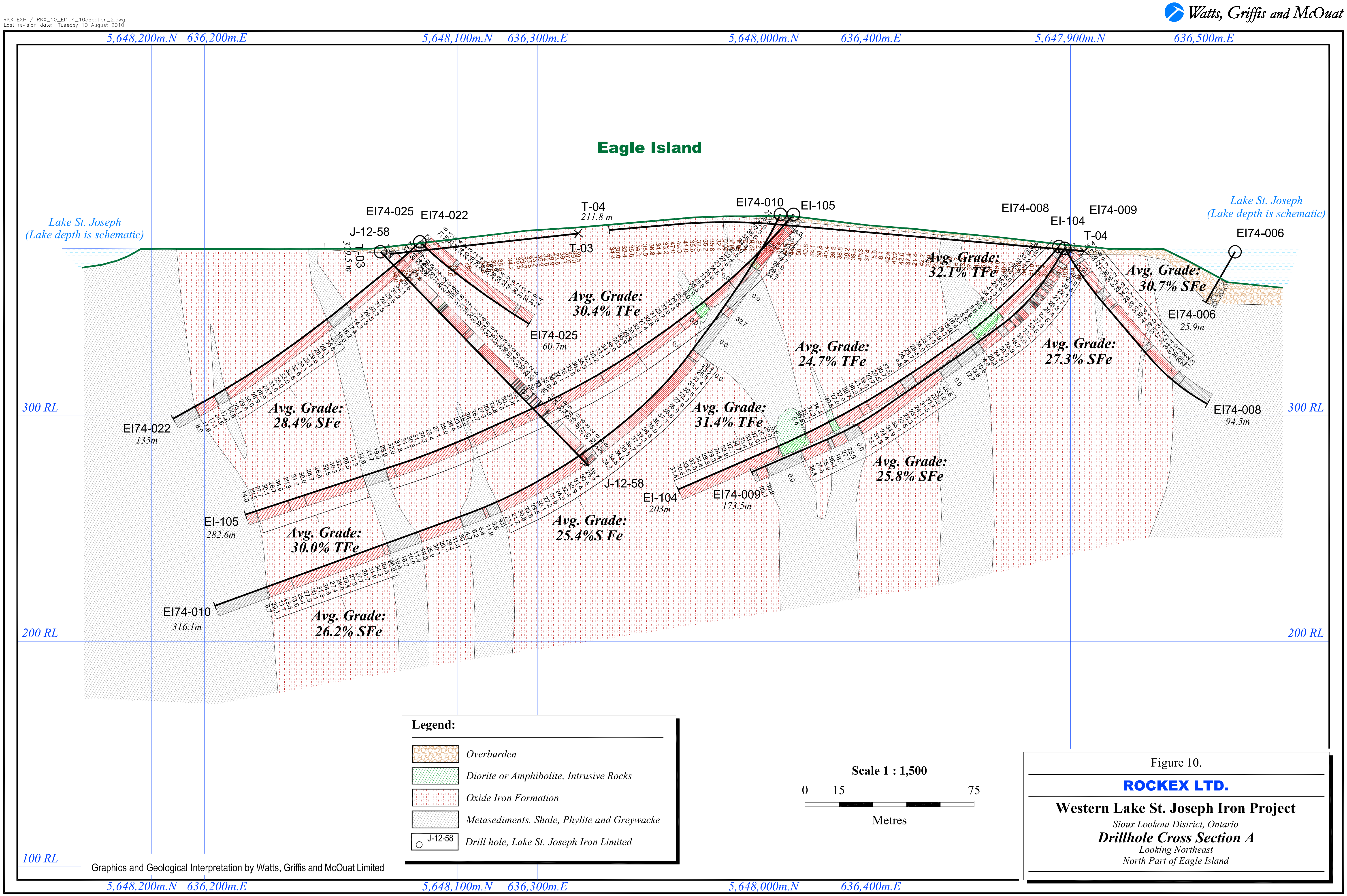
historic geological mapping data needs to be compiled and WGM is of the opinion that new magnetic surveys would assist with interpretation.

The bulk of the iron formation on the Property is on and adjacent to Eagle Island and the bulk of this is on the north part of Eagle Island where isoclinal folding has produced a repeat in the stratigraphic sequence. A trenched and well drilled section of iron formation outlined by historic work is in the order of 1.3 km long, 350 m to over 400 m wide (true thickness) and is well drilled to a depth of 150 m to 200 m, and locally to vertical depths of 300 m. Not only is the sequence repeated by folding, but the iron formation is thicker in this area than further out on the fold limbs. This increase in thickness may be due to the fact that the north portion of Eagle Island is closer to the iron and clastic sediment source as Meyn and Palonen have suggested, or perhaps due to structural thickening and remobilization during folding, or a combination of both.

Figure 10 is a cross section containing drillholes EI74-008, 009, 010 and EI74-022 that tested the central part of this north Eagle Island domain. The true thickness of the iron formation sequence, including several intervening bands of clastic sediments, is approximately 370 m to 380 m. The grade of the iron formation, excluding the wider clastic sediment bands, averages approximately 26% SFe.

An adjacent cross section, oblique to the aforementioned cross section, includes drillholes J-07, and J-12. These two LSJI drillholes intersected iron formation for most of their extent. The sequence dips 75$^{o}$ northeast to sub-vertically. The true width of the sequence with infrequent intervening clastic sedimentary bands is approximately 420 m. Assays for the iron formation in drillhole J-07 average 33.4% Fe over 581 ft (177 m) of intersection length and for J-12 average grade is approximately 33% Fe over 700 ft (213 m) of intersection length. It is indeterminate whether a central spline of metasediments occurs down the axis of this part of Eagle Island. This spline, if it exists, certainly is a lot thinner than shown by Clifford (see Figures 4 and 9).

The southeast extension of this north Eagle Island part of the iron formation extends to form the east and south limits of the south part of Eagle Island. This section along the southeast shore of Eagle Island is well mapped on surface, in trenches and diamond drillholes. The drilled and trenched portion of this domain has a strike length in the order of 2 km. Drill testing on sections at 250 m intervals has been to about 150 m vertical. The true thickness of the iron formation for this domain varies from approximately 200 m to 80 m with thicknesses diminishing with increasing distance along strike away from the north part of Eagle Island.



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Last revision date: Tuesday 10 August 2010
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5,648,200m.N
636,200m.E
5,648,100m.N
636,300m.E
5,648,000m.N
636,400m.E
5,647,900m.N
636,500m.E
Eagle Island
Lake St. Joseph
(Lake depth is schematic)
Lake St. Joseph
(Lake depth is schematic)
EI74-025
EI74-022
J-12-58
T-03
379.5 m
T-04
211.8 m
T-03
EI74-010
EI-105
EI74-008
EI-104
EI74-009
T-04
EI74-006
EI74-025
60.7m
EI74-006
25.9m
EI74-008
94.5m
EI74-022
135m
EI-105
282.6m
EI74-010
316.1m
J-12-58
EI-104
203m
EI74-009
173.5m
Avg. Grade: 30.4% TFe
Avg. Grade: 32.1% TFe
Avg. Grade: 30.7% SFe
Avg. Grade: 24.7% TFe
Avg. Grade: 27.3% SFe
Avg. Grade: 28.4% SFe
Avg. Grade: 31.4% TFe
Avg. Grade: 25.8% SFe
Avg. Grade: 30.0% TFe
Avg. Grade: 25.4%S Fe
Avg. Grade: 26.2% SFe
300 RL
300 RL
200 RL
200 RL
100 RL
Legend:
Overburden
Diorite or Amphibolite, Intrusive Rocks
Oxide Iron Formation
Metasediments, Shale, Phylite and Greywacke
J-12-58
Drill hole, Lake St. Joseph Iron Limited
Scale 1 : 1,500
0
15
75
Metres
Graphics and Geological Interpretation by Watts, Griffis and McOuat Limited
Figure 10.
ROCKEX LTD.
Western Lake St. Joseph Iron Project
Sioux Lookout District, Ontario
Drillhole Cross Section A
Looking Northeast
North Part of Eagle Island

A representative cross section containing LSJI drillholes' J-24 and J-25 and Algoma drillhole EI74-032 is shown as Figure 11. On this section, the iron formation dips about 85º southeast and has a true width of approximately 90 m. The intersection length of the iron formation in J-25 is approximately 118 m and has an average grade of 37.3% Fe. In drillhole EI74-032 the iron formation averages approximately 32% SFe over an intersection length of 118.9 m. These two adjacent drillholes tested the same band of iron formation. These differing average grades suggest that LSJI's J-hole assays may perhaps be reporting total iron.

Fish Island is located about 2.5 km west of Eagle Island. Fish Island also appears to contain an increased thickness of iron formation. The iron formation on Fish Island has been conventionally (Clifford, 1965) interpreted to be the extension of the sequence that outcrops on the south shore of Eagle Island, i.e., a part of the south limb. The multiple bands exposed on Fish Island may be due to parasitic folding along the south limb of the main structure, but alternatively might represent a repeated sequence at the nose of another isoclinal fold.

Fish Island was trenched and drilled by LSJI with 10 drillholes on six cross sections testing the steeply, to vertically dipping zone over a strike length of 1.3 km to depths of 100 m to 150 m. Two additional drillholes were completed by Algoma in 1978, (EI78-072 and EI78-073). Representative drillhole J-17 intersected 350 ft (106.7 m) of oxide iron formation grading 36% Fe. The true width of this zone is in the order of 300 ft (91 m). Drillholes J-31 and J-32 shown on Figure 12, on a cross section about 70 m east of J-17, intersected iron formation grading approximately 36 to 38% Fe over a true width of approximately 500 ft (152 m). This intersection may represent two thicknesses of stratigraphy separated by a central spline of clastic metasediments. Huddart (1982) of Algoma has cautioned that LSJI's drilling results for Fish Island do not appear to agree with Algoma's mapping so some caution in regards to interpretation of mineralization thickness and tonnage for the Fish Island area is required. However, Algoma's two 1978 drillholes drilled on a cross section just west of Figure 12 agree reasonably well with LSJI's drillhole results. Algoma's Davis Tube tests on these two Fish Island drillholes indicate mineralization grades approximately 30%SFe and 12 to 15% magnetic Fe.

A section of the north limb of the iron formation sequence over 2.5 km in strike length, west of Eagle Island, was mapped by Meyn and Palonen (1980). They describe a metasedimentary sequence over 500 m thick consisting of greywacke turbidite, shale, siltstone, sandstone conglomerate and three units of oxide iron. The main iron oxide unit they designate "IF 1" is up to 100 m thick. The two much narrower units of iron formation ("IF 2 & 3") are located respectively approximately 80 m and 100 m south of IF 1. This main unit (IF 1) was tested by Algoma drillholes EI75-056, EI75-059, E75I-060 and EI74-011 over a strike length of 1.5 km. In DH EI75-056, for example, lean iron formation was intersected starting at 155 ft.

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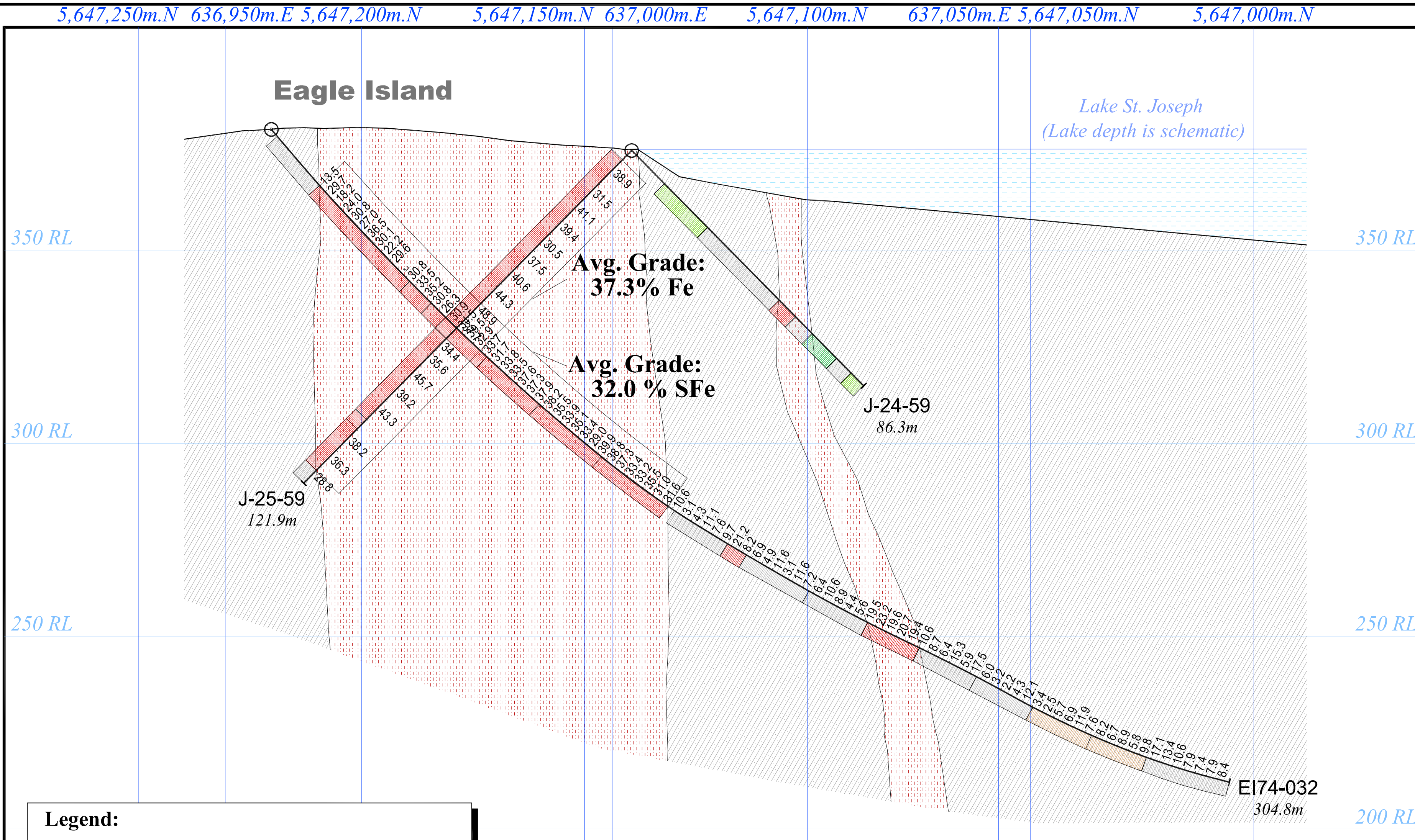


**Legend:**

- Diorite or Amphibolite, Intrusive Rocks
- Oxide Iron Formation
- Metasediments, Shale, Phylite and Greywacke
- J-25-59 Drill hole, Lake St. Joseph Iron Limited

**Scale 1 : 1,500**

0 15 75

Metres

Graphics and Geological Interpretation by Watts, Griffis and McOuat Limited

5,647,250m.N 636,950m.E 5,647,200m.N 5,647,150m.N 637,000m.E 5,647,100m.N

Figure 11.

**ROCKEX LTD.**

**Western Lake St. Joseph Iron Project**

*Sioux Lookout District, Ontario*

***Drillhole Cross Section B***

*Looking Northeast*

*South Part of Eagle Island*

*Watts, Griffis and McOuat*

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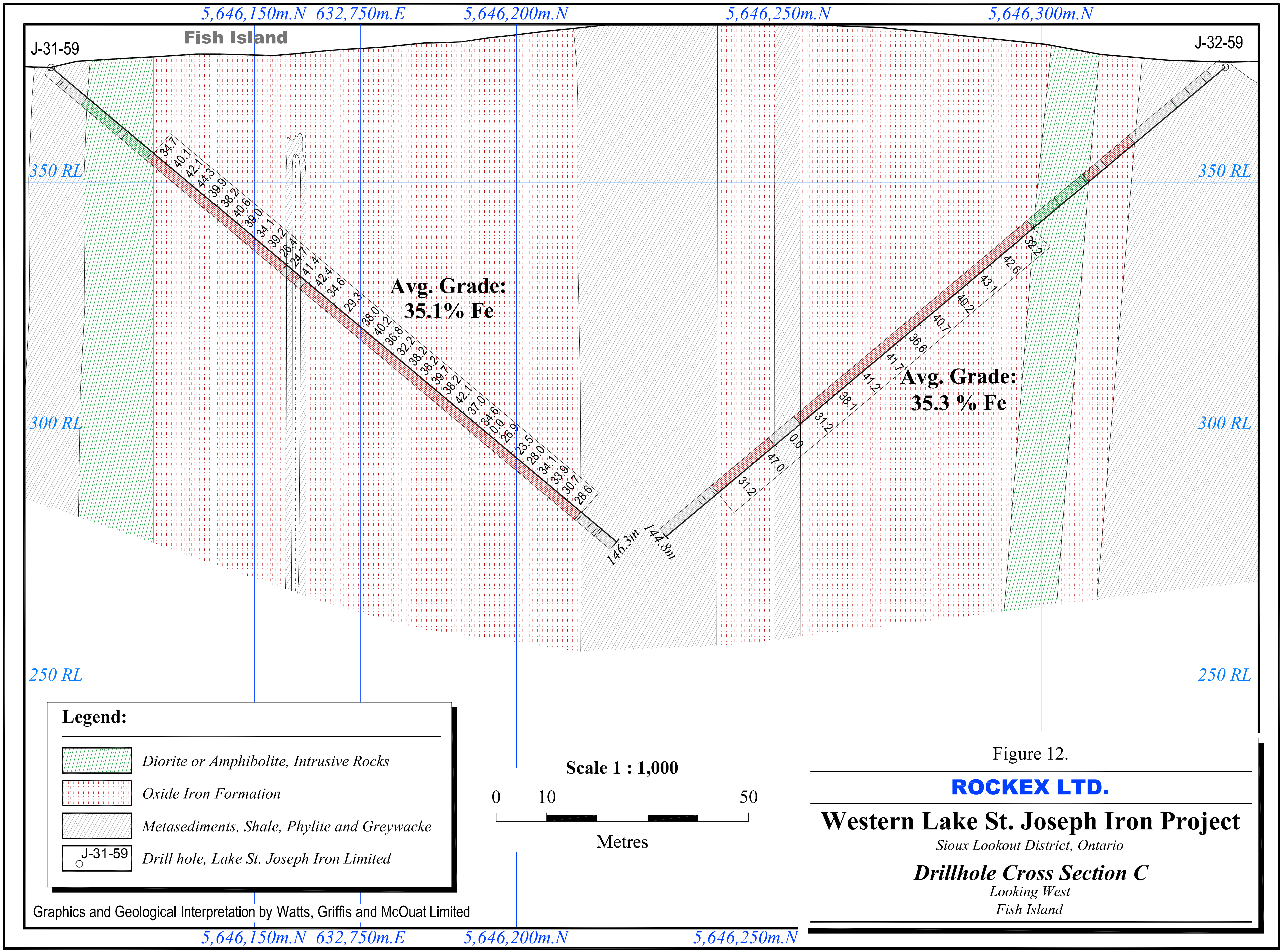
Last revision date: Tuesday 10 August 2010




Watts, Griffis and McOuat

Iron formation alternating with metasediments (one unit of metasediments is 100 ft thick) extend to depths of 627 ft, for a total intersection length of approximately 472 ft (approximately 144 m). With a dip of 80º S, the true width for this sequence would be in the order of 240 ft (73 m).

Another isoclinal fold resulting in a repeat in the iron formation sequence and potentially increased thickness of iron formation may occur southeast of Eagle Island largely under the lake. The hinge for this structure is adjacent to Island #17, immediately southeast of Eagle Island, on which Noranda Incorporated, in 1977, reported a grab sample that assayed 0.32 oz Au/t and 0.28 oz Ag/t. The grab sample is described as containing pyrite, pyrrhotite and arsenopyrite. The outcrop on the island exposes graphitic shale, sideritic chert breccia, and massive chert horizons. The zone of iron formation under Lake St. Joseph south of Eagle Island is called the Southeast Extension zone. The ground magnetic survey completed by Algoma in 1969, covering this extension, shows a section of inferred iron formation that may have reduced magnetic susceptibility. Decrease in magnetism in iron formation can be due to sulphidization related to gold deposition-hydrothermal alteration. In light of the mineralization located on Island #17 southeast of Eagle Island and the magnetic low, this area may be of interest. It is a gold exploration target, but could also represent contamination for the iron formation.

# 10. EXPLORATION

## 10.1 LAKE ST. JOSEPH IRON LTD. 1957-1959

LSJI's initial exploration programs on the Property began in 1957 and continued through 1961. The programs consisted of extensive drilling and trenching covering Eagle, Fish and Wolf islands. Ground Dip Needle magnetic surveys were also conducted covering a large percentage of the Property, including the islands and the lake. LSJI's technical program was designed and managed by Pierre Mauffette, a partner in the syndicate that owned the property in the 1950s. He also was a Professor at Ecole Polytechnique Université in Montréal. Extensive records are available for this work; some in the MNDM assessment files, other documents in MNDM files held in the Thunder Bay office.

The Dip Needle maps at a scale of 1" to 200 ft show the exploration cut grid, collars and traces of drillholes, traces of trenches, outcrop mapping and some geological interpretation. The grid lines were cut at 100 ft intervals covering Eagle Island and at intervals of 500 ft to 600 ft intervals elsewhere. On the lake, grid lines can be further apart. The Dip Needle survey stations were at 100 ft intervals along baselines and at 10 ft to 50 ft intervals on cross lines with the denser surveying covering Eagle Island. The trench sample plans report trench sample assays taken on regular 10 ft to 20 ft long samples, also see Section 12.3.1. Trench sampling results are shown in Table 11.

Only a few reports and notes are available describing exploration work for this period and all sourced from MNDM files. The few available were by Hanna, Anonymous, A.E. Boerner of Hanna, July 15, 1957, and Laurier Juteau, dated February 21, 1961.

## 10.2 ALGOMA 1966-1982

Algoma's first exploration work in 1966 was completed on the optioned Gustafson group of claims southeast of Eagle Island. Algoma completed a ground magnetic survey on the ice and drilled six diamond holes aggregating 3,367 ft to test iron formation anomalies (Estabrooks, 1967). The drillholes were numbered J-01-67 to J-06-67 and are not the same holes as drillholes J-01-57 to J-06-57 drilled by LSJI. WGM does not know whether the 1967 ground magnetic survey map has been located. Estabrooks recommended the Gustafson Option be terminated because of the limited extent and quality of the iron formation intersected in the drillholes, but the claims were nevertheless purchased.

**TABLE 11.**
**SUMMARY OF TRENCH SAMPLING RESULTS**
**(after Lake St. Joseph Iron Limited C. 1957)**

| Trench ID | Length (ft) | Fe % | $SiO_2$ % | P % | S % | Ti % |
|---|---|---|---|---|---|---|
| **Eagle Island** | | | | | | |
| T-01 | 570 | 32.9 | 42.1 | 0.15 | 0.17 | 0.18 |
| T-02 | 800 | 32.3 | 42.5 | 0.30 | 0.16 | 0.15 |
| T-03 | 1245 | 35.9 | 39.7 | 0.21 | 0.13 | 0.19 |
| T-04 | 695 | 35.7 | 38.2 | 0.20 | 0.13 | 0.32 |
| T-05 | 460 | 37.6 | 38.2 | 0.18 | 0.11 | 0.22 |
| T-06 | 480 | 37.3 | 38.7 | 0.21 | 0.13 | 0.21 |
| T-07 | 910 | 33.4 | 40.9 | 0.18 | 0.14 | 0.20 |
| T-07b | 210 | 37.2 | 38.8 | 0.13 | 0.09 | 0.01 |
| T-08 | 340 | 38.2 | 37.4 | 0.21 | 0.08 | 0.28 |
| T-09 | 490 | 32.9 | 40.7 | 0.21 | 0.11 | 0.25 |
| T-10 | 410 | 34.6 | 39.1 | 0.15 | 0.15 | 0.28 |
| T-11 | 129 | 36.6 | 38.4 | 0.22 | 0.16 | 0.23 |
| T-12 | 430 | 36.0 | 40.0 | 0.19 | 0.16 | 0.17 |
| T-13 | 260 | 36.6 | 38.9 | 0.16 | 0.15 | 0.14 |
| T-14 | 450 | 38.0 | 37.8 | 0.17 | 0.18 | 0.22 |
| T-15 | 570 | 36.8 | 39.3 | 0.22 | 0.13 | 0.20 |
| T-16 | 330 | 36.2 | 39.7 | 0.18 | 0.14 | 0.16 |
| T-17 | 250 | 36.6 | 40.0 | 0.19 | 0.15 | 0.23 |
| T-18 | 200 | 33.4 | 41.6 | 0.22 | 0.09 | 0.20 |
| T-20 | 310 | 37.9 | 36.8 | 0.14 | 0.28 | 0.21 |
| T-21 | 400 | 31.2 | 40.9 | 0.13 | 0.15 | 0.16 |
| **Sum/Average** | **9,939** | **35.3** | **39.8** | **0.19** | **0.14** | **0.20** |
| **Fish Island** | | | | | | |
| TF-01 | 285 | 36.6 | 38.1 | 0.34 | 0.15 | 0.19 |
| TF-02 | 130 | 38.7 | 35.5 | 0.45 | 0.15 | 0.32 |
| TF-03 | 240 | 35.1 | 40.0 | 0.15 | 0.10 | 0.23 |
| TF-04 | 650 | 38.2 | 37.7 | 0.23 | 0.09 | 0.22 |
| TF-05 | 160 | 38.9 | 37.5 | 0.19 | 0.11 | 0.23 |
| TF-06 | 160 | 39.6 | 36.3 | 0.20 | 0.18 | 0.12 |
| TF-07 | 415 | 38.4 | 37.0 | 0.20 | 0.12 | 0.12 |
| TF-08 | 284 | 38.6 | 37.2 | 0.25 | 0.14 | 0.05 |
| **Sum/Average** | **2,324** | **37.9** | **37.5** | **0.24** | **0.12** | **0.18** |
| **Wolf Island** | | | | | | |
| TWI-10 | 60 | 37.8 | 37.4 | 0.16 | 0.18 | 0.32 |
| TWI-11 | 170 | 38.6 | 35.8 | 0.35 | 0.13 | 0.25 |
| TWI-12 | 220 | 36.8 | 38.0 | 0.25 | 0.14 | 0.17 |
| **Sum/Average** | **450** | **37.6** | **37.1** | **0.28** | **0.14** | **0.22** |

Note: WGM is uncertain whether Fe assays are TFe or SFe – See section 12.

In 1968, Algoma started work on LSJI property with re-sampling of selected LSJI trenches, and completing two Winkie drillholes to validate results reported by LSJI. A report by G.B. Thorsteinson of Algoma, dated August 1969, summarizes some of this work. In 1969, an extensive Fluxgate (Khan, 1973) ground magnetometer survey of the property was started. Grid lines oriented north-south at 100 ft to 400 ft intervals were established to follow the iron formation and covered both islands and lake ice. Readings were taken at 25 ft intervals. Contoured maps of the survey at a scale of 1" to 400 ft are in MNDM's files. WGM is not aware of a report that covers this work. These maps were used by WGM, along with drillhole results, to complete Figure 9 in this report. Some gravity surveying was also completed by Algoma (P.A. Palonen, 1974; Khan, 1975) but no maps or reports for these surveys have been seen by WGM. Algoma conducted geological mapping over the Property in 1973, continuing in 1974 and 1975. Additional geological mapping was completed on Fish Island in 1981 (Huddart, 1982). Kahn's, 1975 Geology Report is the most extensive report that has been located that describes the Property geology. G.B. Thorsteinson's August 1969 report titled: *Eagle Island Iron Formation Preliminary Report* is also insightful.

Full-scale hand-coloured geological maps for the Property completed by Algoma were obtained from Essar in 2009. These maps show outcrops, trenches drillholes and various interpretations and have been used to check on drillhole locations for purposes of computing UTM collar coordinates. Algoma and LSJI drilling programs are described under Section 11.

Exploration by Algoma and LSJI was effective in mapping out the iron formation on the Property.

## 10.3 ROCKEX EXPLORATION

Rockex's first exploration program on the Property was initiated in March 2008. It consisted largely of a limited-scope diamond core drilling program on the ice of Lake St. Joseph to twin and validate historic Eagle Island drill results. The field program was managed by Jean-Paul Barrette, Geologist. The twin drillholes are described in Section 11.

Later in 2008, Rockex undertook a program to locate historic drillhole collars and trenches on Eagle Island. This program was carried out between July 3 and August 12 by Jean-Paul Barrette, Géo, assisted by two technicians (Marc Pronovost and Nathalie Dion) and supervised by Gilles Filion, a Rockex Director and is documented in an internal report for Rockex titled "*Report on the 2008 Summer Field Program Western Lake St. Joseph Iron Ore Project*". During the field program 13 drill sites marked by drill casing were located. In some cases casings were found labelled with drillhole identity. Nineteen drill sites were identified from historical drill site set-up (driller's refuge or timbers). Most of the historical trenches were also identified.

The junction of the historic Algoma base line 5000N - 5000E was identified on Eagle Island. On Fish Island the Gustafson Base Line 476+22.3 with an azimuth of 269 degrees was also located. The locations of all drill holes, trenches and the base line observed in the field were determined using a precision GPS Trimble GEOXH GPS receiver. The GPS provided UTM co-ordinates (NAD 83, Zone 15) within a 0.5 m precision. The Algoma historical information was combined with the field information to calculate the best location for drill holes and trenches. For drill holes where field evidence was found the UTM GPS locations were used as collar coordinates in the database. For drill holes where no field evidence was found a location was calculated using historical surveys and triangulation from two or three known points (surveyed casings). The data was used by Rockex to validate historic drillhole collar locations and check and compute UTM drillhole collar and trench coordinates for the Project database.

In late 2009, Rockex arranged to meet with Essar at their offices in Sault Ste. Marie. The subject for discussion was what, if any, files or other materials Essar held in its archives concerning Algoma's historic exploration programs on the Property and Rockex's desire to acquire any existing materials. Essar did have in its possession a number of boxes of paper files, including large scale maps for the exploration programs largely carried out in the mid to late 1970s. It also possessed archived drill core in original core boxes from Algoma's 1974 and 1975 campaigns. Inspection of the files by Rockex personnel indicated that the files contained much of the information available from MNDM files, but also contained additional information including drillhole logs and assays, reports and maps not available in the public domain. Essar agreed to transfer all of the available materials to Rockex. The data and drill core was subsequently transported to Rockex's offices in Thunder Bay for inventory and digital scanning. This new data was used to fill-in gaps in the historic record including drillhole locations, logs and assays not previously available.

In early 2010, Rockex undertook a small-scale program of re-sampling and assaying of selected Eagle Island drillholes acquired from Essar. Three holes were selected (Table 12); two of these drillholes were drilled in 1974 and one in 1975. The purpose of the work was to further validate the historic logging and assay results as reported in the drill logs available. The logging and sampling was conducted by Mr. John Corkery, Geologist. WGM made recommendations for the work and Mr. Risto visited Mr. John Corkery during the time the logging and sampling was being performed and reviewed the drill core available. The core was found to be in good condition and for the most part, logging by Corkery confirmed Algoma's logging. No footage blocks were, however, in place in the trays. To provide position control, reference to tray labels that indicated "tos" and "froms" for each tray was required. Mr. Risto was able to confirm that rock types and sample intervals in the core largely matched those outlined in Algoma's historic logs. During the inventory of the drill core, it was found that there were some duplicates with respect to the tos and froms recorded on the tray labels and some intervals appeared to be missing, but these problems did not severely impact the drillholes selected for Rockex's re-logging and sampling program. A few intervals also looked like they had been sampled for gold but these samples were not recorded in the logs. There are assay certificates and notes regarding gold sampling in the Algoma archives that may correspond. The core was logged, photographed and sampled by Mr. Corkery. The sampling consumed all of the remaining split core that had previously been sampled by Algoma. Sample intervals were designed to be equivalent to those used by Algoma.

**TABLE 12.**
**DRILLHOLE AND SAMPLE SUMMARY FOR ROCKEX's 2010 CHECK LOGGING SAMPLING AND ASSAY PROGRAM ON ALGOMA DRILL CORE**

| HoleID | Az | Dip | Length (ft) | Number of Rockex Routine Samples |
|---|---|---|---|---|
| EI74-004 | 264 | -60 | 979 | 91 |
| EI74-007 | 250 | -60 | 2,000 | 117 |
| EI75-050 | 315 | -65 | 1,897 | 126 |

Note: Hole naming nomenclature is not consistent on various documents. Routine samples are samples that are not Quality Control materials.

In total, 327 routine samples plus 11 Blanks were collected from the three drillholes logged and sampled. The samples largely consisted of previously split AQ diamond drill core (27 mm diameter), but in addition, Mr. Cokery also collected seven samples from intervals not previously split and sampled by Algoma. Algoma had not split all of the iron formation leaving some peripheral iron formation unsampled. The samples were forwarded to SGS-Lakefield for sample preparation and assay. The prep and assay protocol selected was largely the same as the one used for Rockex's 2008 drilling and is described in Sections 12 and 13.

# 11. DRILLING

## 11.1 HISTORIC DRILLING

### 11.1.1 GENERAL

Four campaigns of drilling are reported to have been conducted to test the iron formation. Significant records are available only for the programs conducted by LSJI in the 1950s and by Algoma in the 1970s. The drilling by Jabez Williams prior to 1920 and by Cominco in the early-1930s is described herein only because of its historic interest. Relics of these two early programs may be found when surface programs get underway. Indeed, a casing located on Eagle Island, April 2008, 318$^{o}$ azimuth, -30$^{o}$ dip may be Cominco's DH-4. There is a map available that shows the location of the Cominco drillholes.

### 11.1.2 1900-1920

Bruce (1922) reports that some of the men connected with the Hudson's Bay Company posts in the area were aware of the iron formation and Jabez Williams, formerly in charge of one of the posts, staked claims on the iron formation and arranged for a diamond drill. Bruce says that considerable drilling was completed at Fish Island and he notes that in 1922 a hundred feet or more of core still remained in a cabin on the island and speculated that the better portions were taken for assaying. WGM is not aware of any map that shows the location of these holes or description of results.

### 11.1.3 1932

Cominco in 1931 and 1932 completed considerable trenching on Fish, Wolf and Eagle islands and drilled five holes on Eagle Island. Collars and traces for these holes are shown on maps by LSJI in MNDM assessment documents. No record for results for these drillholes is known.

### 11.1.4 LAKE ST. JOSEPH IRON LTD. 1957-1959

LSJI drilling in 1957 to 1959 aggregates to 14,668 ft (4,471 m) in 35 drillholes (see Figure 9). Ten of these were drilled on Fish Island, two to test Wolf Island, two on Island 184, northwest of Wolf Island, with the remainder drilled to test the Eagle Island part of the deposit and adjacent extensions. The LSJI drillholes are prefixed "J" and end with the year drilled in two digit format – 1957, 1958 or 1959. J drillholes suffixed -67 were drilled by Algoma. Table 13 provides a summary list of these LSJI drillholes.

Drill logs for most of these drillholes have been located in MNDM's assessment files. Descriptions are concise. Drill core diameter is not reported, but probably was EX size (21.5 mm diameter). Likely some of this drill core will be located as exploration progresses and size will be confirmed, however, Algoma states that it was unable to find any of the collars for LSJI's drillholes on Fish Island during its 1982 geological mapping program. Collar locations are referenced to grid lines, distance from shoreline and for drillholes on the same section, line distance from collar to holes on the shoreline. The drillhole collars are shown on the dip survey maps which also show the grid lines. Drillhole azimuths for some drillholes (J-33-59, J-34-59, J-26-59, J-23-59, J-35-59) are uncertain and contradictory in different datasets. On the Dip Needle survey plans the azimuths shown for these drillholes differ from the azimuths reported in logs and on cross sections. Collar locations may not have been surveyed. A LSJI plan map showing locations for trenches and diamond drillholes shows stadia survey stations. The cross section lines are tied to baselines and drillhole azimuth was probably determined by offset angles of the grid sideline from the baseline. WGM understands the collar coordinates in Table 13 were obtained by Rockex by best fitting topography from LSJI maps to the Ontario Base Map and the accuracy may be ±50 m horizontal. WGM is not sure how the azimuths for the baselines were determined. It is possible celestial observations were used, but there is no description of methodology.

There is no record on the logs of down-hole attitude surveys for these drillholes so it is likely that no surveys, even acid tests, were completed. WGM does not know if drillhole casings were generally left in, or pulled; these details are not mentioned on the core logs, but should be searched in the field.

The logs do not list assays, but assays are shown on drill cross sections that are also on file in MNDM assessment files. Several holes lack assay information. Some of these are known to have been abandoned holes. Other drillholes lacking assays likely contained minimal iron formation (J-14-57, J-15-57). Samples are generally 20 ft long. Entire holes were not sampled, only the iron-rich sections and assays are shown as %Fe. WGM does not know if these assays are %SFe or %TFe, nor do we know what assay method was used or where the assaying was performed. For more discussion on this issue see Section 13. WGM does not know if the samples were split or whole core was sent for assay, as a general practice, but Algoma successfully re-sampled two LSJI drillholes in 1973, so half core was evidently available for previously sampled intervals, see Section 13.2.

**TABLE 13.**
**SUMMARY LIST OF LAKE ST. JOSEPH IRON LIMITED 1957 TO 1959 DRILLHOLES**

| Hole_ID | UTM Easting | UTM Northing | Elevation (m) | Azimuth | Dip | Length(ft) | Length(m) |
|---|---|---|---|---|---|---|---|
| **Eagle Island** | | | | | | | |
| J-05-57 | 635330.00 | 5647390.00 | 372.90 | 346 | -40 | 358.00 | 109.12 |
| J-06-57 | 635330.00 | 5647390.00 | 372.90 | 166 | -40 | 362.00 | 110.34 |
| J-07-57 | 636583.00 | 5648054.00 | 372.80 | 282 | -38 | 597.00 | 181.97 |
| J-09-57 | 636469.00 | 5648076.00 | 372.80 | 282 | -40 | 123.00 | 37.49 |
| J-10-58 | 635687.00 | 5647572.00 | 372.80 | 143 | -45 | 365.00 | 111.25 |
| J-11-58 | 635687.00 | 5647572.00 | 372.80 | 323 | -45 | 355.00 | 108.21 |
| J-12-58 | 636245.00 | 5648118.00 | 372.80 | 102 | -40 | 720.00 | 219.46 |
| J-21-59 | 635974.00 | 5647644.00 | 372.80 | 317 | -45 | 523.00 | 159.41 |
| J-22-59 | 635849.00 | 5647781.00 | 383.00 | 135 | -60 | 524.00 | 159.72 |
| J-23-59 | 636776.00 | 5647015.00 | 372.80 | 344 | -45 | 285.00 | 86.87 |
| J-24-59 | 637000.00 | 5647138.00 | 372.80 | 160 | -45 | 283.00 | 86.26 |
| J-25-59 | 637000.00 | 5647138.00 | 372.80 | 340 | -45 | 400.00 | 121.92 |
| J-26-59 | 636776.00 | 5647015.00 | 372.80 | 156 | -48 | 420.00 | 128.02 |
| **Subtotal** | **13 Drillholes** | | | | | **5,315.0** | **1,620.0** |
| **East Extension of Eagle Island** | | | | | | | |
| J-08-57 | 637782.00 | 5646328.00 | 372.90 | 0 | -48 | 15.00 | 4.57 |
| J-13-58 | 637843.00 | 5646338.00 | 372.90 | 0 | -90 | 262.00 | 79.86 |
| J-14-58 | 637846.00 | 5646385.00 | 372.90 | 0 | -90 | 260.00 | 79.25 |
| J-15-58 | 637847.00 | 5646426.00 | 372.90 | 0 | -90 | 260.00 | 79.25 |
| J-16-58 | 637848.00 | 5646472.00 | 372.90 | 0 | -90 | 267.00 | 81.38 |
| J-20-58 | 637840.00 | 5646293.00 | 372.90 | 0 | -90 | 190.00 | 57.91 |
| J-34-59 | 636793.00 | 5646577.00 | 372.90 | 360 | -60 | 381.00 | 116.13 |
| J-35-59 | 636788.00 | 5646739.00 | 372.90 | 180 | -60 | 733.00 | 223.42 |
| **Subtotal** | **8 Drillholes** | | | | | **2,368.0** | **721.8** |
| **Fish Island** | | | | | | | |
| J-03-57 | 632586.00 | 5646335.00 | 372.90 | 197 | -40 | 253.00 | 77.12 |
| J-04-57 | 632621.00 | 5646443.00 | 372.90 | 197 | -40 | 467.00 | 142.34 |
| J-17-58 | 632456.00 | 5646425.00 | 372.80 | 190 | -40 | 727.00 | 221.59 |
| J-18-58 | 631977.00 | 5646414.00 | 372.80 | 190 | -40 | 720.00 | 219.46 |
| J-27-58 | 631782.00 | 5646399.00 | 372.80 | 190 | -45 | 621.00 | 189.28 |
| J-28-59 | 631605.00 | 5646395.00 | 372.80 | 8 | -45 | 475.00 | 144.78 |
| J-29-59 | 631605.00 | 5646395.00 | 372.80 | 188 | -40 | 352.00 | 107.29 |
| J-30-59 | 632330.00 | 5646100.00 | 372.80 | 8 | -30 | 415.00 | 126.49 |
| J-31-59 | 632710.00 | 5646103.00 | 372.80 | 15 | -40 | 480.00 | 146.31 |
| J-32-59 | 632767.00 | 5646331.00 | 372.80 | 195 | -40 | 475.00 | 144.78 |
| **Subtotal** | **10 Drillholes** | | | | | **4,985.0** | **1,519.4** |
| **Wolf Island** | | | | | | | |
| J-01-57 | 630318.00 | 5646337.00 | 372.90 | 164 | -40 | 407.00 | 124.06 |
| J-02-57 | 630603.00 | 5646402.00 | 372.90 | 164 | -40 | 313.00 | 95.40 |
| **Subtotal** | **2 Drillholes** | | | | | **720.0** | **219.5** |
| **Island 184** | | | | | | | |
| J-19-58 | 628368.00 | 5646766.00 | 372.80 | 240 | -45 | 640.00 | 195.07 |
| J-33-59 | 628368.00 | 5646766.00 | 372.80 | 66 | -60 | 640.00 | 195.07 |
| **Subtotal** | **2 Drillholes** | | | | | **1280.0** | **390.2** |
| **Total** | **35 Drillholes** | | | | | **14,668** | **4,471** |

Note: 1. Collar Coordinates are best fit NAD 83, Zone 17 and subject to modification.

The cross sections show composite assay averages for sections of iron formation, observed geology and interpreted geology. The cross sections, plan maps and drill logs are good quality and in WGM's opinion, despite the few contradictions between data sets regarding drillhole azimuths, were produced by competent technical personnel. The issue of drillhole azimuth for some of the drillholes on land may be resolved by checking collar locations in the field.

### 11.1.5 ALGOMA STEEL CORP.

Algoma conducted its first program on the Property during 1966-68, following an agreement with Hanna to option of the Gustafson claims south of Eagle Island. Six holes numbered J-01-67 to J-06-67 aggregating approximately 4,314 ft were drilled through the ice of Lake St. Joseph to test magnetic anomalies. Estabrooks (1967) sums the total of the six drillholes to 3,367 ft (1,026 m), but presumably this is in error; the individual drillhole lengths listed in his report are similar to those listed in Table 14.

**TABLE 14.**
**SUMMARY LIST ALGOMA 1974-1975 DRILLHOLES**

| Hole-Id | Easting UTM | Northing UTM | Elevation (m) | Azimuth | Dip | Length (ft) | Length (m) | Core_Size |
|---|---|---|---|---|---|---|---|---|
| J-01-67 | 636786.00 | 5646496.00 | 372.90 | 0 | -45 | 815.0 | 248.42 | AXT |
| J-02-67 | 636783.00 | 5646555.00 | 372.90 | 180 | -49 | 631.0 | 192.33 | AXT |
| J-03-67 | 637084.00 | 5646643.00 | 372.90 | 180 | -47 | 809.0 | 246.59 | AXT |
| J-04-67 | 637394.00 | 5646543.00 | 372.90 | 180 | -57 | 603.0 | 183.80 | AXT |
| J-05-67 | 639286.00 | 5646524.00 | 372.90 | 180 | -50 | 505.0 | 153.93 | AXT |
| J-06-67 | 638066.00 | 5646511.00 | 372.90 | 180 | -49 | 950.0 | 289.56 | AXT |
| **Subtotal Algoma 1967** | | | | | | **4,313** | **1,314.6** | |
| | | | | | | | | |
| EI74-001 | 636577.00 | 5649005.00 | 372.80 | 241.5 | -55 | 1286.0 | 391.98 | |
| EI74-002 | 636545.00 | 5648454.00 | 374.00 | 83.5 | -45 | 376.0 | 114.61 | |
| EI74-003 | 636621.00 | 5648464.00 | 372.80 | 83.5 | -55 | 707.0 | 215.50 | |
| EI74-004 | 636621.00 | 5648464.00 | 372.80 | 263.5 | -60 | 976.0 | 297.49 | |
| EI74-005 | 636387.00 | 5648897.00 | 372.80 | 241.5 | -60 | 624.0 | 190.20 | AQ |
| EI74-006 | 636509.00 | 5647846.00 | 372.80 | 318 | -60 | 85.0 | 25.91 | |
| EI74-007 | 636875.00 | 5648831.00 | 372.80 | 249.5 | -60 | 2000.0 | 609.61 | |
| EI74-008 | 636455.00 | 5647899.00 | 374.32 | 138 | -60 | 310.0 | 94.49 | AQ |
| EI74-009 | 636455.00 | 5647899.00 | 374.32 | 318 | -60 | 569.3 | 173.52 | AQ |
| EI74-010 | 636371.00 | 5647993.00 | 389.43 | 318 | -65 | 1037.0 | 316.08 | AQ |
| EI74-011 | 634325.00 | 5646977.00 | 372.80 | 360 | -50 | 637.0 | 194.16 | AQ |
| EI74-012 | 636882.00 | 5648161.00 | 372.61 | 278.5 | -61 | 2117.0 | 645.27 | |
| EI74-013 | 634334.00 | 5646596.00 | 372.61 | 180 | -55 | 868.0 | 264.57 | AQ |
| EI74-014 | 635311.00 | 5646752.00 | 374.50 | 178.7 | -50 | 815.0 | 248.42 | |
| EI74-015 | 635052.00 | 5647191.00 | 373.40 | 358.7 | -50 | 547.0 | 166.73 | AQ |
| EI74-016 | 636188.00 | 5647813.00 | 378.80 | 139 | -50 | 735.0 | 224.03 | |
| EI74-017 | 636695.00 | 5647599.00 | 375.10 | 178.7 | -55 | 496.0 | 151.18 | |
| EI74-018 | 636203.00 | 5647804.00 | 378.80 | 319 | -60 | 1053.5 | 321.11 | |
| EI74-019 | 636695.00 | 5647599.00 | 375.10 | 358.7 | -50 | 647.5 | 197.36 | |
| EI74-020 | 636076.00 | 5647933.00 | 385.80 | 319 | -45 | 434.5 | 132.44 | |
| EI74-021 | 636913.00 | 5647672.00 | 377.90 | 358.72 | -50 | 464.0 | 141.43 | |
| EI74-022 | 636261.00 | 5648109.00 | 377.20 | 318 | -45 | 443.0 | 135.03 | EXT |
| EI74-023 | 636029.00 | 5647636.00 | 375.23 | 320 | -55 | 1096.0 | 334.06 | AQ |
| EI74-024 | 636913.00 | 5647672.00 | 377.90 | 178.7 | -50 | 355.1 | 108.24 | AQ |

**TABLE 14.**
**SUMMARY LIST ALGOMA 1974-1975 DRILLHOLES (continued)**

| Hole-Id | Easting UTM | Northing UTM | Elevation (m) | Azimuth | Dip | Length (ft) | Length (m) | Core_Size |
|---|---|---|---|---|---|---|---|---|
| EI74-025 | 636261.00 | 5648109.00 | 377.20 | 138 | -45 | 199.0 | 60.66 | EXT |
| EI74-026 | 636398.00 | 5648223.00 | 378.90 | 278.5 | -45 | 526.0 | 160.33 | EXT |
| EI74-027 | 637161.00 | 5647604.00 | 376.30 | 88.72 | -45 | 378.0 | 115.22 | AQ |
| EI74-028 | 636184.00 | 5647542.00 | 378.70 | 49 | -55 | 1152.0 | 351.13 | AQ |
| EI74-029 | 637161.00 | 5647604.00 | 376.30 | 268.72 | -50 | 500.0 | 152.40 | AQ |
| EI74-030 | 637202.00 | 5647362.00 | 378.20 | 268.7 | -55 | 688.0 | 209.70 | AQ |
| EI74-031 | 636378.00 | 5648432.00 | 383.90 | 263.5 | -45 | 300.0 | 91.44 | EXT |
| EI74-032 | 636955.00 | 5647232.00 | 381.30 | 147 | -50 | 1000.0 | 304.80 | AQ |
| EI74-033 | 636377.00 | 5648633.50 | 384.20 | 250 | -45 | 379.0 | 115.52 | EXT |
| EI74-034 | 636278.00 | 5648835.00 | 374.70 | 241.5 | -45 | 332.0 | 101.19 | EXT |
| EI74-035 | 636432.00 | 5647530.00 | 384.80 | 358.72 | -55 | 665.0 | 202.69 | AQ |
| EI74-036 | 636748.00 | 5647135.00 | 375.90 | 157 | -55 | 828.0 | 252.38 | AQ |
| EI74-037 | 636246.00 | 5648960.00 | 376.40 | 242 | -45 | 351.0 | 106.99 | EXT |
| EI74-038 | 636432.00 | 5647532.00 | 384.80 | 178.72 | -55 | 862.0 | 262.74 | AQ |
| EI74-039 | 636242.00 | 5648959.00 | 376.40 | 62 | -45 | 399.0 | 121.62 | EXT |
| EI74-040 | 636539.00 | 5647005.00 | 377.00 | 161 | -55 | 628.0 | 191.42 | AQ |
| EI74-041 | 636448.00 | 5648440.00 | 378.10 | 263.5 | -45 | 477.0 | 145.39 | |
| EI74-042 | 636523.00 | 5647005.00 | 377.00 | 341 | -45 | 200.0 | 60.96 | AQ |
| EI74-043 | 635792.00 | 5647552.00 | 374.30 | 320 | -55 | 821.0 | 250.24 | |
| EI74-044 | 635602.00 | 5647394.00 | 375.00 | 320 | -55 | 763.0 | 232.57 | AQ |
| EI75-045 | 636270.00 | 5647920.00 | 384.76 | 321.2 | -55 | 872.0 | 265.79 | |
| EI75-046 | 636581.00 | 5648198.00 | 376.40 | 279 | -55 | 500.0 | 152.40 | |
| EI75-046A | 636581.00 | 5648198.00 | 376.40 | 279 | -55 | 1109.0 | 338.03 | |
| EI75-047 | 636437.00 | 5649265.00 | 372.80 | 242 | -55 | 477.5 | 145.54 | |
| EI75-048 | 636357.00 | 5649220.00 | 372.80 | 332 | -50 | 300.0 | 91.44 | |
| EI75-049 | 636533.00 | 5649123.00 | 372.90 | 242 | -60 | 1368.0 | 416.97 | |
| EI75-050 | 636446.00 | 5647710.00 | 372.90 | 321.2 | -65 | 1897.0 | 578.21 | |
| EI75-051 | 636162.00 | 5648048.00 | 374.90 | 321.2 | -45 | 318.0 | 96.93 | EXT |
| EI75-052 | 636624.00 | 5648727.00 | 372.90 | 252 | -55 | 1193.0 | 363.63 | AQ |
| EI75-053 | 635293.00 | 5647257.00 | 372.90 | 358.7 | -50 | 102.0 | 31.09 | |
| EI75-054 | 635293.00 | 5647257.00 | 372.90 | 358.7 | -60 | 647.0 | 197.21 | AQ |
| EI75-055 | 634570.00 | 5647043.00 | 372.90 | 358.7 | -50 | 625.0 | 190.50 | AQ |
| EI75-056 | 633839.00 | 5646897.00 | 372.90 | 0 | -50 | 656.0 | 199.95 | AQ |
| EI75-058 | 636367.00 | 5647716.00 | 372.90 | 229 | -45 | 408.5 | 124.51 | |
| EI75-059 | 633352.00 | 5646833.00 | 372.90 | 0 | -50 | 750.0 | 228.60 | AQ |
| EI75-060 | 632860.00 | 5647035.00 | 372.90 | 180 | -50 | 732.0 | 223.12 | AQ |
| EI75-061 | 631891.00 | 5646800.00 | 372.90 | 180 | -50 | 377.0 | 114.91 | |
| EI75-062 | 630915.00 | 5646779.00 | 372.90 | 180 | -50 | 374.5 | 114.15 | AQ |
| EI75-063 | 636187.00 | 5647551.00 | 372.90 | 229 | -45 | 84.0 | 25.60 | |
| EI75-064 | 629209.00 | 5646710.00 | 372.80 | 180 | -50 | 541.0 | 164.90 | |
| EI75-065 | 628965.00 | 5646705.00 | 372.90 | 180 | -50 | 517.0 | 157.58 | |
| EI75-066 | 628720.00 | 5646745.00 | 372.38 | 180 | -50 | 740.0 | 225.55 | |
| EI75-067 | 636317.00 | 5647549.00 | 384.10 | 45 | -35 | 393.0 | 119.79 | |
| EI75-068 | 636282.00 | 5647515.00 | 384.05 | 245 | -45 | 295.0 | 89.92 | |
| EI75-069 | 636560.00 | 5647573.00 | 378.71 | 0 | -45 | 512.6 | 156.24 | |
| EI75-070 | 636562.00 | 5647497.00 | 384.63 | 180 | -45 | 300.0 | 91.44 | |
| EI75-071 | 636119.00 | 5647704.00 | 377.07 | 320 | -45 | 300.0 | 91.44 | |
| EI78-072 | 632451.00 | 5646271.00 | 393.20 | 0 | -45 | 490.3 | 149.45 | |
| EI78-073 | 632451.00 | 5646271.00 | 393.20 | 180 | -45 | 557.0 | 169.78 | |
| EI78-074 | 635236.70 | 5647324.00 | 376.43 | 0 | -45 | 357.5 | 108.97 | EXT |
| **Subtotal Algoma 1974-78** | | | | | | **47,920.8** | **14,606.4** | |

Notes:
1. Coordinates are best fit NAD 83, Zone 17 and subject to modification.
2. Drillhole EI75-57 was a soil testing hole and did not core any bedrock.

In 1973, Algoma optioned LSJI's property and during 1974-78 completed an extensive drilling program mostly on and adjacent to Eagle Island (see Figure 9). Algoma also drilled a series of five holes to test the north limb of the main structure northeast of Fish Island and another two drillholes northwest of Wolf Island. Two drillholes were completed on Fish Island in 1978. For most part, the drilling on Eagle Island comprised one or two drillholes per cross section at 850 ft (200-250 m) intervals. The entire extent of the iron formation on the island was tested. Algoma's drillholes on and adjacent to, Eagle Island were often on the same cross sections as LSJI's drillholes. The drilling tested the iron formation to vertical depths of 300 m, but mostly to depths of 100 m. From Table 14, based on Algoma's drill logs, aggregate footage, for the 1970s programs sums to 47,921 ft, (14,606 m) in 74 drillholes.

Logs and assays for most of these drillholes have been located. The logs report surveyed collar coordinates and the surveyor's notes have also been located. The drillholes were originally spotted based on grid coordinates, but later the collars were resurveyed by Algoma. Collar locations for Algoma's drillholes are therefore potentially known to high degree of accuracy and relative error between Algoma drillholes should be small. The Algoma survey was tied to a monument on Eagle Island that has not yet been located, although the main baseline was located in 2008. The NAD 83, UTM coordinates listed in Table 14 have been derived by best fitting the Algoma collar coordinates to UTM based on Algoma's baseline and several of the drillhole casings located during 2008 fieldwork. Further searching for more casings will likely enhance confidence in estimated locations for historic drillhole collars.

Core size is reported on the logs. Most of the drilling was AQ (21.1 mm diameter) except for a few holes which were EXT (21.5 mm).

The basis for collar azimuths is not known with certainty. A few are shown with a decimal place suggesting azimuths were also surveyed. No description of survey method is available but the high precision azimuths are listed with the surveyor's notes and presumably were done using traditional transit methods. For one hole, EI75-60, logs report it was drilled south but a historic cross section shows it was drilled north, which makes more sense. Acid tests were used to survey down-hole inclination. The acid tests were done at 100 ft intervals and are reported on the logs. The logs do not indicate if casings were left in place, but WGM understands that Rockex located some identifiable casings in summer 2008.

Sample/assay tables are attached to the drill logs. They indicate that the drill core was sampled in 10 ft intervals and each of these samples was assayed for SFe. Sample composites for lengths up to 100 ft long were then made and re-assayed and subject to testwork. Assays and testwork are described in Sections 12 and 13. The descriptive logs are similar to those of LSJI and are good quality.

## 11.2 2008 DRILL PROGRAM

### 11.2.1 GENERAL

Rockex's initial drill program got underway in March 2008. The program consisted of five holes aggregating 1,312 m listed in Table 15. Three of the holes were drilled from the ice of Lake St. Joseph while the other two were drilled on Eagle Island close to the shore line. The purpose of the program was to validate historic results. Four of the drillholes selected for twinning were drilled by Algoma in 1974; the fifth drillhole was originally drilled by LSJI in 1959. Rockex drillhole EI-104 was stopped early at 203.3 m depth due to lost water circulation so it was abandoned.

**TABLE 15.**
**SUMMARY OF ROCKEX 2008 DRILLING PROGRAM**

| Hole ID | Historic Drillhole Twinned | Easting (m) (NAD 83) | Northing (m) (NAD 83) | Elevation (m) | Azi-Collar | Dip Collar | Dip End | Depth (m) | Depth (ft) | Core Recovery (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| EI-101 | EI74-005 | 636437.5 | 5648908.3 | 372.8 (on ice) | 242 | -48 | -34 | 215.49 | 707 | 99.9 |
| EI-102 | EI74-004 | 636656.2 | 5648463.5 | 373.0 (on ice) | 257 | -48 | -28 | 334.09 | 1096.1 | 99.9 |
| EI-103 | J-21-59/EI74-23 | 635979.7 | 5647659.9 | 372.3 | 317 | -50 | -28 | 276.45 | 907 | 99.9 |
| EI-104 | EI74-009 | 636474.5 | 5647920.4 | 375.1 | 318 | -50 | -28* | 203.30 | 667 | 99.9 |
| EI-105 | EI74-010 | 636386.2 | 5647999.1 | 389.4 | 311 | -50 | -23 | 282.55 | 927 | 99.9 |
| **Total** | | | | | | | | **1311.9** | **3469.1** | **99.9** |

Notes: 1.* Estimated, no acid test record; 2. Collar elevations may not be accurate

The drill contractor for the 2008 program was Discovery Diamond Drilling Ltd. of Morinville, Alberta. The program was operated out of a tent and trailer camp on the mainland south of Eagle Island. Jean-Paul Barrette was the Senior Geologist in charge of the program. He was assisted by three helpers. In addition to the geotechnical crew, four staff including the camp cook, contributed to maintain logistics and the quality of work in the field.

### 11.2.2 DRILLHOLE COLLARS AND SURVEYING

All drillhole locations were spotted and re-checked on the casings after drilling using a precision GPS Trimble GEOXH to obtain a UTM co-ordinate (NAD 83, Zone 17) with half metre precision. Azimuths were set by sighting foresights using GPS. Collar dips were set using an inclinometer.

Acid tests were used to measure down-hole dip.

Sampling and assaying is described in Sections 12 and 13.

### 11.2.3 WGM COMMENTS ON ROCKEX DRILLING PROGRAM

Rockex drillhole EI-101 was drilled under Algoma drillhole EI74-005 and above Algoma drillhole EI74-001 (Table 16). Algoma drillhole EI74-034 also occurs on the same cross section near surface; above EI74-005. The upper parts of all of these holes intersected iron formation of rather uniform %TFe grade; the lower parts intersected increased amounts of metasediments. Drillhole EI-101 did not, however, intersect the metasediments. Perhaps this is because the Rockex hole was a little too short.

**TABLE 16.**
**COMPARISON OF TWIN DRILLHOLE ASSAYS FOR EI-101 AND EI74-005**

| Hole ID | From (m) | To (m) | %SFe | %TFe | %MagFe | Length (m) |
|---|---|---|---|---|---|---|
| EI-101 | 20.82 | 215.5 | - | 32.0 | 19.5 | 194.7 |
| EI74-005 | 11.58 | 179.83 | 31.4 | - | 17.5 | 168.3 |

The distribution of magnetic Fe is also quite uniform throughout all three of the historic drillholes, however the last Algoma composite in all three of the historic drillholes shows slightly increased %magFe. Similarly %magFe is slightly elevated in the Rockex drillhole near its terminus. Figure 13 is a drillhole cross section through the four drillholes.

Rockex drillhole EI-102 was the twin of Algoma drillhole EI74-004 (Table 17). Several other Algoma holes, including EI74-031 and EI74-041 occur on this same cross section which was drilled to test iron formation occurring on the north eastern part of Eagle Island approximately 464 m southeast of cross section EI-101. Drillhole EI74-004 was also one of the holes Rockex re-sampled and assayed in 2010. The upper sections of drillholes EI-102 and EI74-004 both intersected near massive iron formation of reasonably uniform %Fe grade. The western, lower ends of these drillholes, similar to EI-101/EI74-005 and EI74-034 intersected increasing amounts of metasediment. Similar to the previous cross section discussed, %magFe is fairly uniform throughout drillholes EI74-003 and EI-102, but shows a slight increase in association with the metasediments towards the western ends of these drillholes, before dropping to low levels at the very ends of the drillholes. Rockex drillhole EI-102 is therefore quite similar to its historic twin, EI74-004 with respect to both rock type %Fe and %magFe grades and distribution.

RKX EXP / RKX_11_EI-101_Section_2.dwg
Last revision date: Tuesday 10 August 2010

Watts, Griffis and McOuat

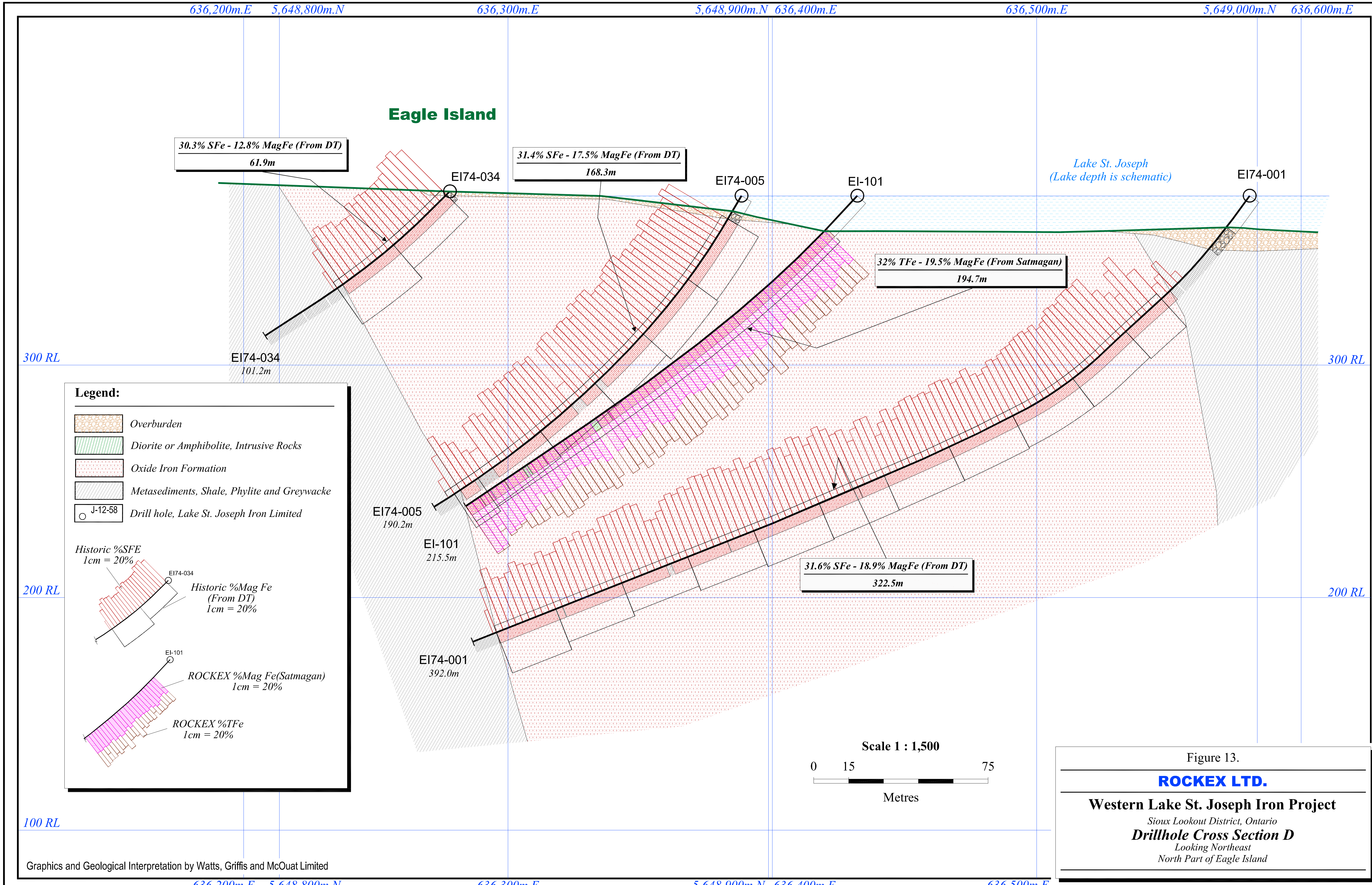



Figure 13.

**ROCKEX LTD.**

**Western Lake St. Joseph Iron Project**

*Sioux Lookout District, Ontario*

***Drillhole Cross Section D***

*Looking Northeast*

*North Part of Eagle Island*

**TABLE 17.**
**COMPARISON OF TWIN DRILLHOLE ASSAYS FOR EI-102 AND EI74-004**

| Hole ID | From (m) | To (m) | %SFe | %TFe | %MagFe | Length (m) |
|---|---|---|---|---|---|---|
| EI-102 | 21.0 | 334.1 | - | 27.2 | 14.5 | 313.1 |
| EI74-004 | 9.81 | 292.6 | 26.5 | 26.7 | 13.9 | 282.8 |
| EI74-004 | 9.81 | 287.7 | - | - | 14.4 | 277.9 |

Rockex drillhole EI-103 was drilled towards the centre of Eagle Island to test the northwest limb of iron formation. Its upper half overlaps with LSJI drillhole J-21-59 and its lower half with Algoma drillhole EI74-023. All three drillholes first intersect a sequence of metasediments. EI-103 and EI74-023 both end in metasediments. Both EI-103 and EI74-023 intersected an interval of alternating IF and metasediments approximately 2/3 distance down each drillhole that contains minimal iron mineralization. This gap in mineralization is supported by results from LSJI drillhole J-22-59. Both EI74-023 and EI-103 appear to have slightly increased levels of %magFe associated with these metasediments mid-hole. Sampling for both %SFe in Heads and Davis Tube composites is not continuous in drillhole EI74-023 so some subjective interpretation of correlative sequences is required. The entire sequences were not sampled by Algoma; the average grades posted in Table 18 are consequently slightly depressed because intervals with no sampling are assigned zero grade for both %SFe and %magFe from Davis Tube. The Rockex drillhole seems to be reasonably comparable to adjacent drillholes validating both lithology and iron assay values.

**TABLE 18.**
**COMPARISON OF TWIN DRILLHOLE ASSAYS FOR EI-103 AND EI74-023**

| Hole ID | From (m) | To (m) | %SFe | %TFe | %MagFe | Length (m) |
|---|---|---|---|---|---|---|
| EI-103 | 15.8 | 276.5 | | 21.12 | 8.2 | 260.6 |
| EI74-023 | 77.7 | 327.7 | 20.98 | | | 249.9 |
| EI74-023 | 80.2 | 327.7 | | | 10.8 | 247.5 |

Rockex drillholes EI-104 and 105 were designed to be twins of with Algoma drillholes EI74-009 and EI74-010 (see Figure 10). Both of the Rockex drillholes, EI-105 in particular, intersected significant thicknesses of iron formation. Lithological sequence and sample assays results arguably correlate reasonably well between Rockex and the historic drillholes. Some allowance in rock-type coding is required vis-à-vis chlorite schists, metasediments, and unit 5 mafic intrusives.

All five of Rockex's drillholes generally intersected iron formation similar to what is described in drill core logs for the historic drillholes but in detail correlation can be problematic as indicated by drillholes EI-104 and 105. Iron formation characteristically can be quite monotonously uniform and indistinguishable but it also can be highly variable over short distances due to structural deformation leading to ductile flow. Certainly, the Eagle Island iron formation sequence has been tightly folded and subject to high strain which can result in complex lithological patterns. Consequently it can be difficult to be certain of correlation between twin and original drillholes, but WGM agrees that, for the most part, Rockex's 2008 drilling results validate historic results.

WGM recommends that Rockex re-visit the acid test results for its 2008 drillholes from the glass tubes that are still on-hand and understands this is in progress. WGM suspects that the holes have steeper inclinations than reported in the project database and used to complete the analysis of twin drilling.

# 12. SAMPLING METHOD AND APPROACH

## 12.1 HISTORIC SAMPLING

### 12.1.1 LAKE ST. JOSEPH IRON LTD., 1956-62

The sampling by LSJI consisted of trenching and diamond drilling. Good plans for the trenches showing sample locations are available from MNDM assessment files. The trench locations were likely surveyed using the stadia method. The trenches were sampled in 20 ft intervals along their length and results for %Fe for each sample are shown. Samples for 200 ft sections of the trenches were also composited. Results for %Fe, %$SiO_2$, %P, %S and %Ti for the sample composites are also posted on the plans (see Table 11).

LSJI's drill logs do not show assays, but assay results are posted on good quality cross sections sourced from MNDM assessment files. Core samples were 10 ft long and assays are reported as %Fe.

No reports providing descriptions of the sampling methods for either the trenches or drillholes are available. The trench samples were probably continuous chip samples. The drill core was probably small diameter, likely less than 1 inch. As aforementioned, this core was probably split for sampling, based on the fact that Algoma was able to resample previously sampled intervals in 1973. Some of these questions may be answered by finding and examining old core that may be found on, or adjacent to, the Property if a search is mounted. Gray (1973) commented that for the 1973 re-sampling the core for J-07-57 and J-12-58 was moved from Eagle Island to Soules Bay for splitting.

### 12.1.2 THE ALGOMA STEEL CORP., 1974-78

The drillhole sampling done by Algoma was also in 10 ft spit core sample lengths similar to the sampling done by LSJI. Well organized tabulations for sampling and assay results are available for almost every Algoma drillhole from files sourced from MNDM and/or Essar.

No descriptions are available for the drill core sampling procedure, but from examination of Algoma's archived drill core, it is known that drill core was split in half; one half was retained in the core trays and one half was sent for assaying. On the basis of the core boxes that have been opened and examined, no sample tags are contained in the trays and markings on the core or trays are generally lacking.

## 12.2 2008 ROCKEX DRILL PROGRAM

The Geologist's duties included core logging, defining and marking out sample intervals, completing magnetic susceptibility measurements on half core and managing the drill program. The geological assistants measured drill core, labeled core boxes, split the core, bagged and labeled and weighted the core samples. Drill core logging consisted of completing detailed descriptions of the geology, geological structures, magnetic and hematite contents and alteration of the drill core. Drill core logs were input directly into a formatted MSExcel spreadsheet.

Drill core samples generally were 10 ft (3.05 m) in length and consisted of split core. This length was chosen so Rockex's samples would be the same length as historic samples. Core recovery throughout was near 100%. Samples were split in half lengthwise using a hydraulic core splitter. One half of the sample was bagged with a sample tag and the other half of the core was returned to the original core tray for archive. Sampling consisted of collecting both routine samples representing mineralization, and samples of presumed waste rock on the shoulders of mineralized intervals, i.e., "bracket or shoulder samples". Three-part sample tags were used to label samples. One tag was placed into the core trays at the beginning of the sample interval, one tag was inserted into the plastic sample bag and one tag remained in the sample book. On the tag in the book, Drillhole ID and sample footage for the sample was recorded.

In-Field QA/QC sampling included the insertion of Blanks and second half core Duplicates into the sample stream. The material used for Blanks was split core from waste units. QA/QC results are described in Section 13.

A total of 420 samples including QA/QC materials were bagged and tagged, and sent to the SGS-Lakefield lab, Lakefield, Ontario, for sample preparation and assaying.

After the 2008 drilling program was concluded, all drill core was sent to Rockex's offices in Thunder Bay where it is stored in strapped bundles in a secured, fenced-in area.

## 12.3 2010 ROCKEX CHECK RESAMPLING AND ASSAY PROGRAM ON ALGOMA DRILL CORE

As aforementioned, Rockex personnel met with Essar, successor to Algoma in late 2009 and acquired Algoma's 1974-75 archived drill core and paper files for exploration on the Property. In early 2010, Rockex contracted Geologist Mr. John Corkery to log and sample three selected drillholes, see Table 12. The purpose of this work was to validate Algoma's logging, sampling and assaying results.

Corkery describes his work in a memorandum to Tom Atkins, CEO Rockex Limited, dated 23 April 2010. Corkery reports: "The historic unopened drill core was organized by drillhole and footage at the Rockex office, palleted, and shipped to a secure core logging facility by Rockex personnel. Upon receipt, the core boxes were laid out and opened, most apparently for the first time since Algoma nailed them shut. Immediately after opening the core boxes, pictures were taken in the original state received. The core was then washed with a hand-pump water spray bottle, core pieces adjusted, and re-photographed. The core was then logged and sampled. The sampling procedure included correlating the historic sample footage with a unique sample number consisting of a code. This unique code included reference to the company (Rockex), the historic drillhole number, year, and unique sample number. An example of this code is: RX-E4-10-330.

Sample tags, bags, and rice bags were hand written for each unique set of samples. Sample tags and the corresponding core sample were placed in a labelled plastic sample bag and taped shut. Five unique samples were then put into labelled rice bags and taped shut. High quality industry standard blanks, [Standards], were randomly inserted into the sample sequence. The total number of blanks represents 3% of the total number of samples. The rice bags were stored in a locked container overnight. Rockex personnel picked up the rice bags and shipped them to the assay laboratory."

Sampling consisted of taking the entire remaining split drill core previously sampled and left by Algoma. After John Corkery had completed his work, the remaining drill core was returned to Rockex's core storage area.

## 12.4 WGM COMMENT

Not much information other than good documentation for the results for LSJI's sampling programs is available. The whereabouts of any of this drill core is unknown, although Algoma successfully re-sampled two LSJI drillholes in 1973, see Section 13.2 and obtained very similar assay results.

The Algoma drill core that has been examined is generally in good condition and well split and tidy, but lacks footage blocks and sample location identifiers.

Rockex's 2008 program was largely aimed at validating LSJI and Algoma's drill program results through twinning several of the historic drillholes. Core recovery was excellent and Rockex's sampling was adequate to provide reliable and representative samples for assay. WGM believes lithological coding could be simplified and improved with emphasis on more clearly coding variations in the iron formation.

WGM concludes that Rockex's sampling procedures for its 2008 and 2010 programs were generally sound and generated reliable data. Some samples cross lithological boundaries and for future work this should be avoided, if possible. Lithological coding should be simplified so it is more useful and improved in order for magnetite-rich/hematite-poor iron formation can be better distinguished from magnetite–hematite iron formation. Less detail is required for sedimentary sequences, but intrusive components are important and should be distinguished.

# 13. SAMPLE PREPARATION, ASSAYING AND SECURITY

## 13.1 LAKE ST. JOSEPH IRON LTD., 1956-62

Mr. Mauffette managed the program and was a consulting geologist and a professor at the Ecole Polytechnique Université in Montréal. The assays may have been done in the university's lab. WGM is not absolutely certain whether the assays were acid soluble iron (SFe) or total iron (TFe). A report signed by A.J. Last of the ORF, "*Report of Investigation 56147 Concentration of Iron Ore from Lake Joseph*", dated August 20, 1956 done at about the same time as much of the drilling, states that Head assays for their samples are TFe, but this is not definite proof that LSJI's drillhole assays are TFe. Algoma who optioned the Property from LSJI assumes in their literature that LSJI's assays were SFe. Algoma as part of their initial work completed a re-assaying program of two of LSJI's drillholes; J-07-57 and J-12-58. This work is described in the following section of the report and indicates that in general there is a close correspondence between LSJI's and Algoma's assay results.

## 13.2 THE ALGOMA STEEL CORP., 1974-78 EXPLORATION PROGRAMS

Correspondence available, particularly letters from J.E. Gray, Geological Technician, for Algoma to Burt Wyslouzil of Lakefield, dated January 20, 1975 and a letter from J.V. Huddart to Mr. Wyslouzil, dated July 3, 1974 which includes a sample preparation flowsheet for drill core samples indicates that the drill core samples from Algoma's 1974 and 1975 programs were prepared and analysed at Lakefield. Initial testwork was completed on a composite sample from drillholes EI74-001, 2, 3 and 4 to establish a grinding time to be applied to preparation of routine samples. Lakefield's sample preparation protocol is shown as Figure 14. The sample/assay reports for individual drillholes indicate that samples were pulverized for 25 minutes. Screen test data is available for a 20 minute grinding time. Davis Tube tails were also analysed for SFe.

Details of the SFe assay for individual sample Head and Davis Tube composite Head are not known with certainty, but likely included digestion of samples for one hour in concentrated 80-85$^{o}$ hydrochloric acid. The iron that dissolves was then reduced using stannous chloride and titrated with potassium dichromate. WGM believes this was Lakefield's analytical method at the time for soluble Fe. The Rockex database contains 3,676 SFe assays completed on nominal 10 ft samples and 533 Davis Tube tests results from Algoma's 1974 and 1975 drillholes performed at Lakefield (see Figures 5 and 6).

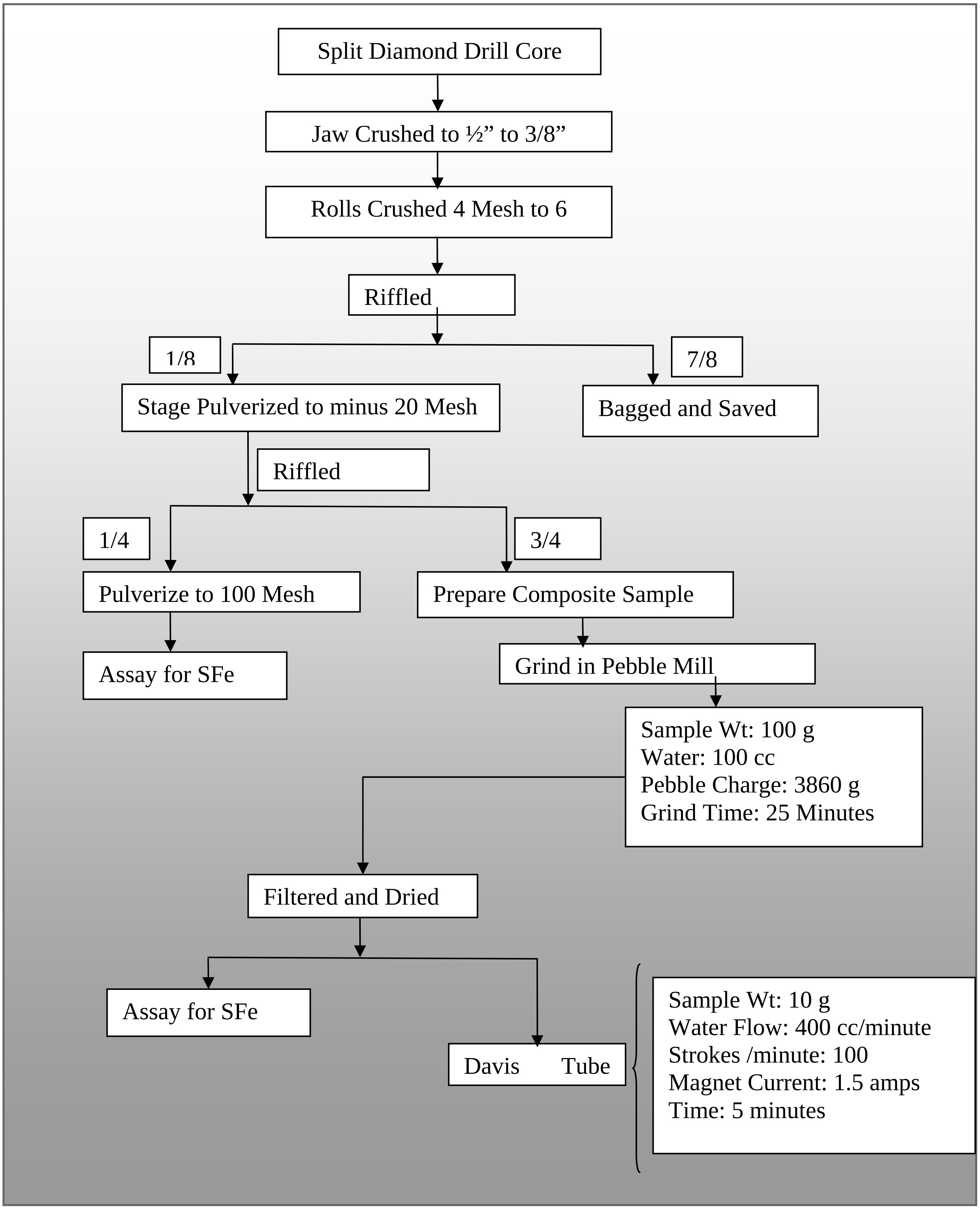



Figure 14. Sample Preparation Protocol for half split drill Algoma core at Lakefield Research, 1974

The initial work on the property completed by Algoma in the late 1960s consisted of re-sampling selected Eagle Island trenches originally sampled by LSJI to validate LSJI's results. A memorandum by V.R. Venn, Senior Geologist, Exploration Department, Algoma Ore Division, dated December 11, 1968, describes sampling and assay results for 51 grab samples taken from 6 trenches and 100 ft of Winkie diamond drill core. Venn completed a statistical analysis of the results for the trench samples comparing Algoma's %SFe assay results with assays for corresponding LSJI trench samples. Results were as follows:

| | | |
|---|---|---|
| LSJI | 51 samples | 37.8% SFe* |
| Algoma | 51 samples | 36.3% SFe |
| Difference | | 1.5% |

In 1973, Algoma for the purposes of validating LSJI's results, re-sampled and assayed two drillholes (J-07-57 and J-12-58) drilled and sampled originally by LSJI respectively in 1957 and 1958. J-07-57 was drilled towards the northwest and tested the south limb of iron formation on Eagle Island. Drillhole J-12-58 was drilled towards the southeast to test the north limb of iron formation. However, it is not know with certainty where the samples were assayed or details of the assay method. J.E. Gray, in a memorandum dated March 27, 1973, says the samples were shipped to Sault Ste. Marie laboratories for analysis. No other details are known.

LSJI's assays are reported on drill cross sections, but not on the logs. The tos and froms for the sample intervals consequently have to be measured off the cross sections and minor errors amounting to 1 to 2 ft in down-hole location are possible. Sample and assay results for Algoma's work are available on assay sheets that accompany the drill core logs. Rockex has completed a comparison of LSJI and Algoma's assay results. For drillhole J-07-57, the iron formation interval extends from 16 or 17 ft to a depth of 530 ft with one narrow (5 ft) sampling gap. For drillhole J-12-58, the iron formation sampled by LSJI and Algoma extends from a depth of 17 to 18 ft to a depth of 270 ft. Both companies sampled in 10 ft intervals and most sample intervals appear to correspond very closely, but a few do not closely correspond.

The histograms in Figures 15 and 16 show the distribution of assays grades in drillholes J-07-57 and J-12-58, respectively. Figure 17 is a scatter plot showing assay results by Algoma versus assay results by LSJI for both drillholes. Note for a small percentage of samples, sampling intervals by the two companies are not exactly the same, but this is not critical. Table 19 presents a brief statistical summary for the assays by drillhole and company.

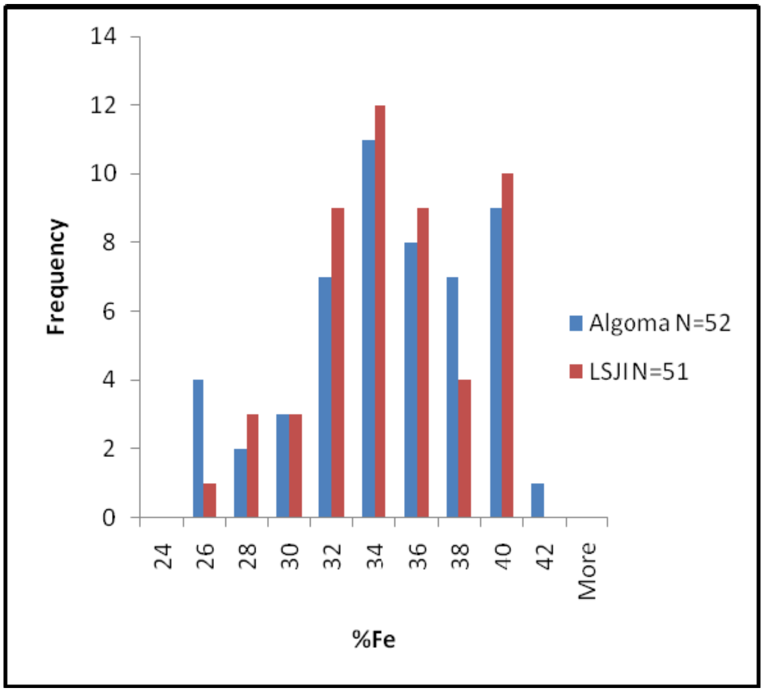



Figure 15. Histogram showing distribution of Fe assays in drillhole J-07-57

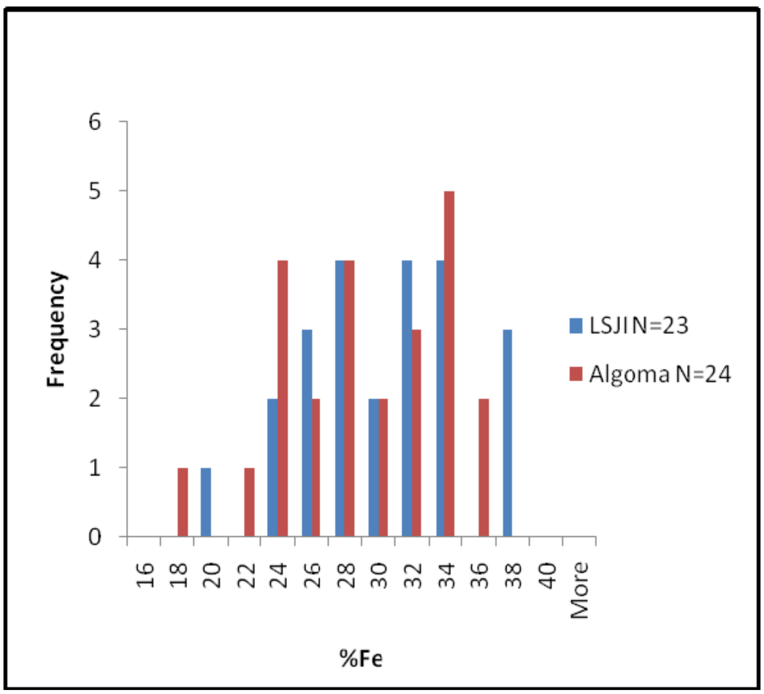



Figure 16. Histogram showing distribution of Fe assays in drillhole J-12-58

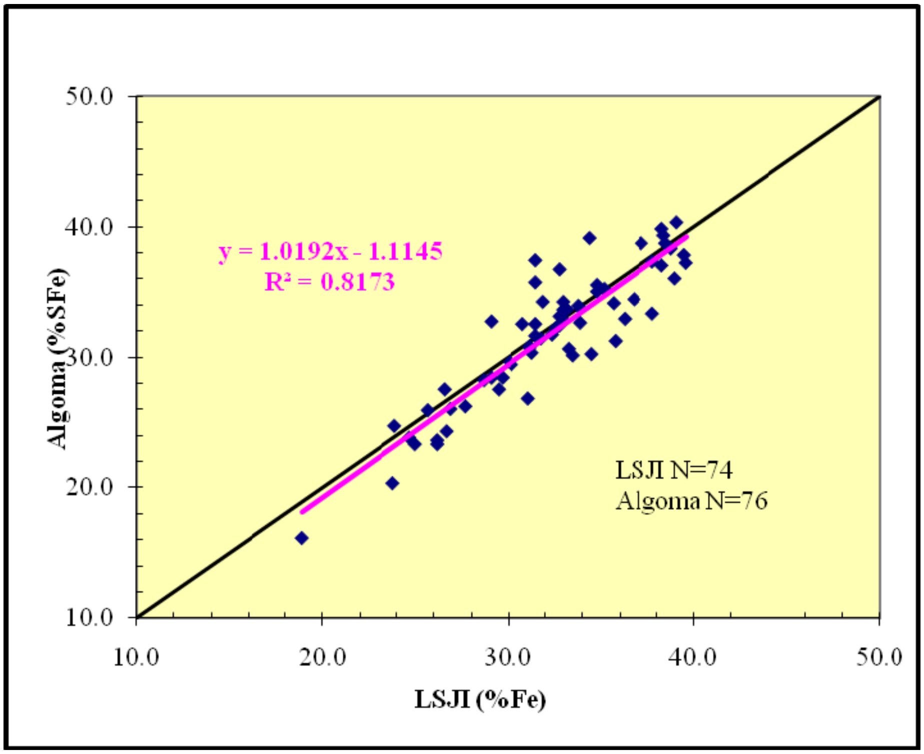



Figure 17. Algoma %SFe versus LSJI %Fe Assays for drillholes J-07-57 and J-12-58

**TABLE 19.**
**STATISTICAL SUMMARY FOR DISTRIBUTION OF %FE SAMPLE ASSAYS IN LSJI DRILLHOLES J-07-57 AND J-12-58**

| Drillhole ID | N | Average (%Fe) | Median (%Fe) |
|---|---|---|---|
| **J-07-57** | | | |
| LSJI | 51 | 33.8 | 33.2 |
| Algoma | 52 | 33.7 | 33.6 |
| | | | |
| **J-12-58** | | | |
| LSJI | 23 | 29.4 | 29.5 |
| Algoma | 24 | 28.1 | 27.9 |

## 13.3 WGM COMMENT ON HISTORIC ASSAYING

Algoma's sample assay results validate the work reported by LSJI. LSJI assays may be SFe and Venn of Algoma denotes these LSJI assays for the trenches as %SFe. The closeness of Algoma's and LSJI's results suggests that LJSI's assays in fact may be %SFe, but WGM has not come across any documentation that describes LSJI's assay method or states clearly that they are HCL soluble Fe assays. Difference between TFe and SFe assays would not be expected to be significant unless appreciable iron silicate bearing rock was sampled. Such rock in historic logs might be described as chlorite schist, amphibolite schist or greenstone. In terms of 2008 coding these rocks would most likely be unit 3 or unit 5, respectively mafic volcanics or intrusives. For rock consisting of mainly oxide iron formation and quartz, SFe and TFe assays would be expected to be closely equivalent. These Algoma sampling and assay results therefore do not definitively mitigate the issue, but do indicate that no significant assay bias between LSJI and Algoma assays is present and that LSJI assays are reasonably accurate and reliable.

The issue of whether LSJI's assay data is TFe or SFe may not be important. Resolution of this issue may not be possible until Rockex completes more twinning of LSJI's drillholes. The main part of the deposit that is of current interest is Eagle Island, is where Algoma's work largely supersedes the older work. Assays by LSJI are not likely needed for this part of the Property, and need not be used directly in any new Mineral Resource estimate for Eagle Island. Algoma's assays are better documented and can be the basis for a new Mineral Resource estimate for Eagle Island. Subsequent Mineral Resource estimates will likely incorporate increasing numbers of new Rockex drillholes and assays, diminishing the importance of older historic data.

West from Eagle Island, through Fish Island, all historic results, except for two 1978 Algoma drillholes on Fish island are from LSJI. Average reported iron grades are higher for Fish Island than Eagle Island. If the Fish Island part of the deposit is to be advanced, then all of LSJI's drilling will have to be replaced. When this stage is reached, iron recovery and the distribution of magnetite and hematite facies and concentrate grades will be more important than Head iron grade.

## 13.4 ROCKEX'S 2008 AND 2010 EXPLORATION PROGRAMS

Rockex's 2008 drilling program samples and its 2010 historic core re-sampling program samples were sent to SGS-Lakefield for assaying. Sample preparation in the lab consisted of jaw crushing to nominal ¼". A 1 kg sample was then riffled out and the remainder stored. The 1 kg sub-sample was roll crushed to -10 mesh and pulverized to -200 mesh. All samples were analyzed for whole rock analysis ("WR"), major element oxides including total $Fe_2O_3$ by lithium metaborate fusion XRF. FeO was determined by $H_2SO_4$/HF acid digest-potassium dichromate titration, and $Fe_3O_4$ was determined by Satmagan. Sulphur was determined by LECO and specific gravity was completed by gas comparison (helium) pycnometer on selected samples.

The 2008 drill program generated a total of 420 samples for assaying, including in-field QA/QC materials. A few samples selected by the logging geologist on the basis of alteration patterns were assayed for gold by fire Assay with an ICP finish. Sample and analysis statistics for the 2008 drilling program samples are summarized in Table 20.

**TABLE 20.**
**SAMPLING AND ANALYSIS SUMMARY, ROCKEX 2008 DRILL PROGRAM**

| Sample Classification | Analysis | Number |
|---|---|---|
| Routine | XRF-WR, Satmagan, FeO & S | 391 |
| SG on selected Routine | SG | |
| In-Field Blank | XRF-WR, Satmagan, FeO & S | 8 |
| In-Field 1/2 Core Duplicate | XRF-WR, Satmagan, FeO & S | 21 |
| SGS-Lakefield Preparation Duplicate | XRF-WR, Satmagan, FeO & S | 20 |
| SGS-Lakefield Analytical Duplicates | XRF-WR, Satmagan, FeO & S | 37 |
| SGS-Lakefield Certified Standards and Blanks | Various | |

The historic core re-sampling program completed in early 2010 generated 326 field samples, including nine (9) Standards that Corkery calls Blanks in his report memo. Sample and analysis statistics for the May 2010 historic drillhole logging and sampling program are summarized in Table 21. The number and results for the in-lab QA/QC materials is unknown because this information is not on the certificates provided by SGS-Lakefield.

**TABLE 21.**
**SAMPLING AND ANALYSIS SUMMARY**
**ROCKEX 2010 RE-SAMPLING PROGRAM ON ALGOMA DRILL CORE**

| Sample Classification | Analysis | Number |
|---|---|---|
| Routine | XRF WR, and Satmagan | 316 |
| In-Field Standard | XRF-WR and Satmagan, FeO | 10 |
| In-Field 1/2 Core Duplicate | XRF-WR, Satmagan and FeO | 0 |
| SGS-Lakefield Preparation Duplicate (Replicates) | XRF-WR, Satmagan and FeO | 17 |
| SGS-Lakefield Analytical Duplicates | XRF-WR, Satmagan and FeO | 16 |
| SGS-Lakefield Certified Standards and Blanks | Various | |

Note: eight of the Rockex samples were not originally sampled and assayed by Algoma.

The results of the 2008 drill program are discussed in Section 11.2.3.

Rockex has prepared an analysis of the 2010 re-sampling and assaying program on Algoma drill core. Two principle comparisons have been completed. The first is a comparison of Rockex TFe assays versus Algoma SFe assays for individual equivalent 10 ft routine samples. The second comparison concerns Algoma's sample composites. These composites, described in Section 12.3, consisted of composites comprised of a nominal 10 routine, 10 ft samples. Algoma had Lakefield complete Davis Tube tests on these composites.

**Comparison of Rockex TFe assays vs. Algoma SFe Assays on Individual 10 ft Split Drill Core Samples**

Figure 18 is a plot %TFe and %SFe assay results for the three historic Algoma drillholes which were sampled by Rockex in early 2010. All samples assayed by Rockex (totalling 308 samples) for which there are Algoma equivalents are shown on the figure.

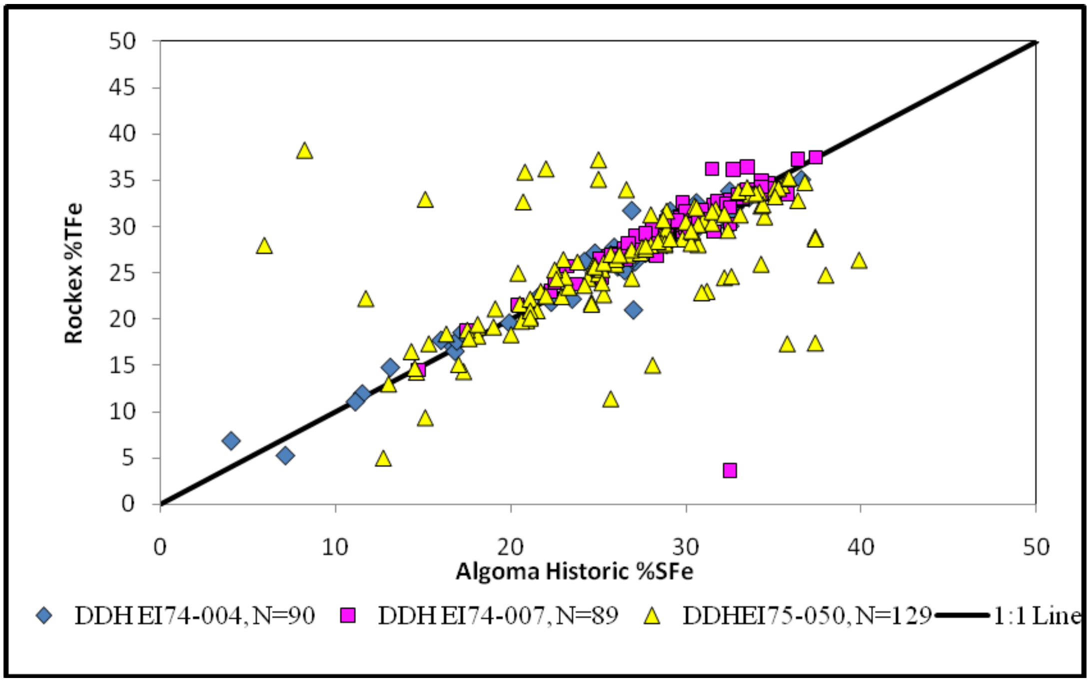



Figure 18. Rockex %TFe assays vs. Historic Algoma %SFe assays for equivalent samples

The results indicate that for most samples, %SFe historic Algoma assays correlate strongly and are unbiased with respect to Rockex's 2010 program %TFe assays. However, for a number of samples, at least 26 out of 308, all but one of which occur in drillhole EI75-050, correlation between samples that were initially believed to be equivalent is poor. Rockex believes that the 26, all consecutive samples occurring in drillhole EI75-050, were probably not properly identified during the 2010 sampling program. WGM agrees this interpretation is likely correct. The absence of footage blocks and/or markings in the core boxes makes some identification errors inevitable. Correct identification of core intervals was mainly based on the box tag and measuring the core in the boxes. Incorrect box tags or box tags attached to the wrong ends of the boxes could result in misidentification of samples.

**Comparison of Rockex vs. Algoma Magnetic Fe for Algoma Sample Composites**

In order to do this comparison, Rockex calculated core length weighted averages for its Satmagan magFe results performed on individual samples grouped into intervals equivalent to

Algoma's historic sample composites. It then graphed this magnetic Fe average for each composite interval versus Algoma's magFe results calculated from Davis Tube testwork. The results of the analysis are shown on Figure 19.

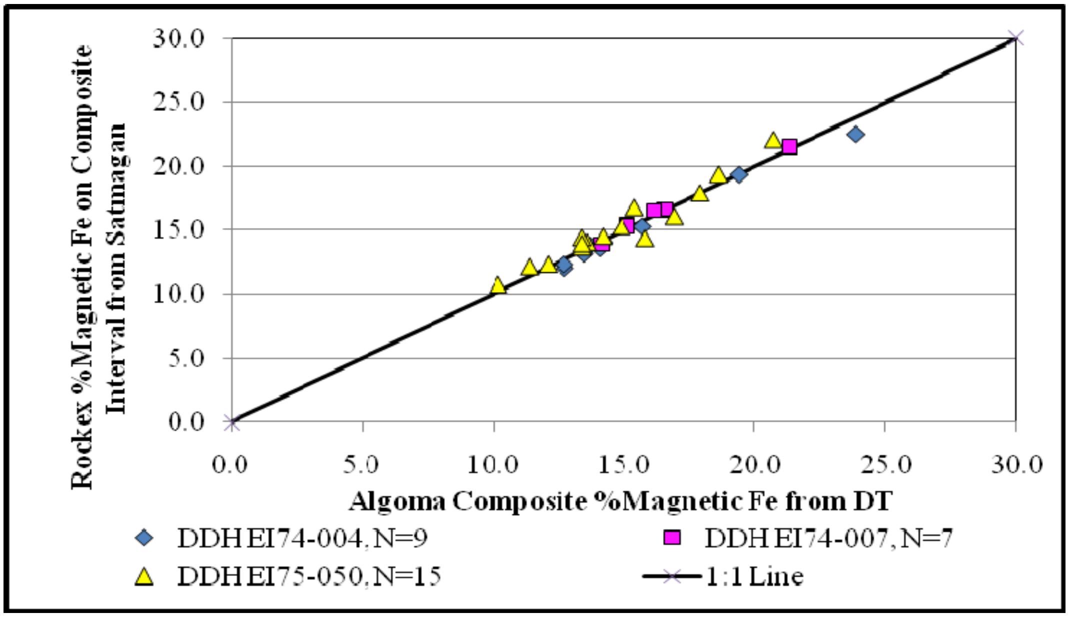



Figure 19. %magFe for Rockex samples vs. Algoma Composites

Thirty-one composites (comprised of 243 10 ft samples) were available for comparison. Several composites in drillhole EI74-007 could not be used because complete composite intervals were not sampled by Rockex since these intervals of core were missing. Also excluded are composites for the intervals in drillhole EI75-050 that appeared to be mixed-up based on the comparison of TFe and SFe assays for 10 ft routine assay samples.

If it is accepted that certain intervals of drill core in drillhole EI75-050 were in fact mixed up, then results indicate that Rockex's Satmagan results correlate to a high degree and are unbiased with respect to Algoma's magnetic Fe determined from Davis Tube tests.

**Comparison of Rockex Fe Aqua Regia assays versus historic Algoma SFe Assays**

In early 2010 a set of sample pulps from the 2008 Twin hole drilling program were retrieved from sample storage and re-submitted to SGS-Lakefield. These samples had previously been analysed by XRF that reported Total Fe. The TFe assays were found to compare well with the original historic SFe assays from the twinned holes (see section 11.2.3). For this new assaying the samples were assayed for Fe following an aqua regia ($HCL/HNO_3$) digestion.

The purpose of this work was to try to closely replicate Lakefield's original SFe assay results for Algoma's samples. Although in general the new aqua regia results correlated reasonably well with Rockex's XRF assays they appear to under-report Fe for hematite-rich mineralization. Furthermore this pattern of under-reporting of Fe for hematite-rich samples does not appear to be indicated by the historic SFe results. These patterns were not understood. A complication inherent to this program was that the different assay methods were not applied to exactly the same samples. The Rockex samples, with the new aqua regia results were from the Rockex 2008 drillholes while the historic results were from approximately corresponding samples from the Algoma drillholes that were twinned by Rockex.

It was decided to repeat the test using exactly the same samples to investigate aqua regia assay results versus historic soluble Fe assays versus XRF Fe assays. For this purpose 20 samples previously sampled by Corkery from Algoma historic drillholes and previously assayed by XRF were re-assayed for Fe following using an aqua regia digestion. Figure 20 shows the relationship between Rockex XRF %TFe assays versus original SFe assays by Lakefield on Algoma historic samples for opposite halves of the half split core. The results shown on Figure 20 are a subset of the results from Figure 18 and illustrate that XRF Fe assays by Rockex correlate tightly with historic SFe assays and are unbiased.

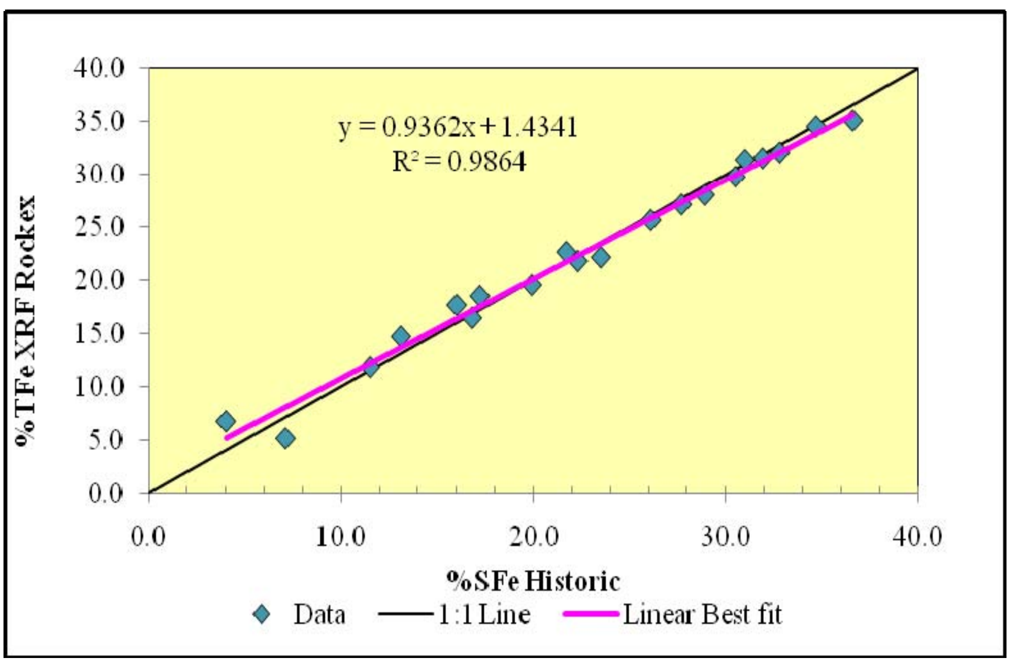



Figure 20. %TFe (Rockex) vs. %SFe (historic assays) for 20 selected samples

Figure 21 shows Rockex's results for Fe by aqua regia versus Fe by XRF for the same set of samples. Many of the sample assay results are unbiased and correlate well between the two methods of analysis, particularly the samples that report less than 22%TFe. However, some of the samples that report above 24%TFe by XRF return less Fe by aqua regia. Figure 22 is a bubble plot for the same samples with bubble size proportional to that proportion of total Fe is the sample that is calculated to be in hematite (see Section 10 for calculation method). These results appear to indicate that the samples that have more of their Fe in the form of hematite, or more ferric Fe ($Fe^{+++}$), aqua regia digestion is reporting less Fe than XRF. For samples where most Fe is in magnetite, an unbiased strong positive correlation between XRF and aqua regia Fe is still maintained.

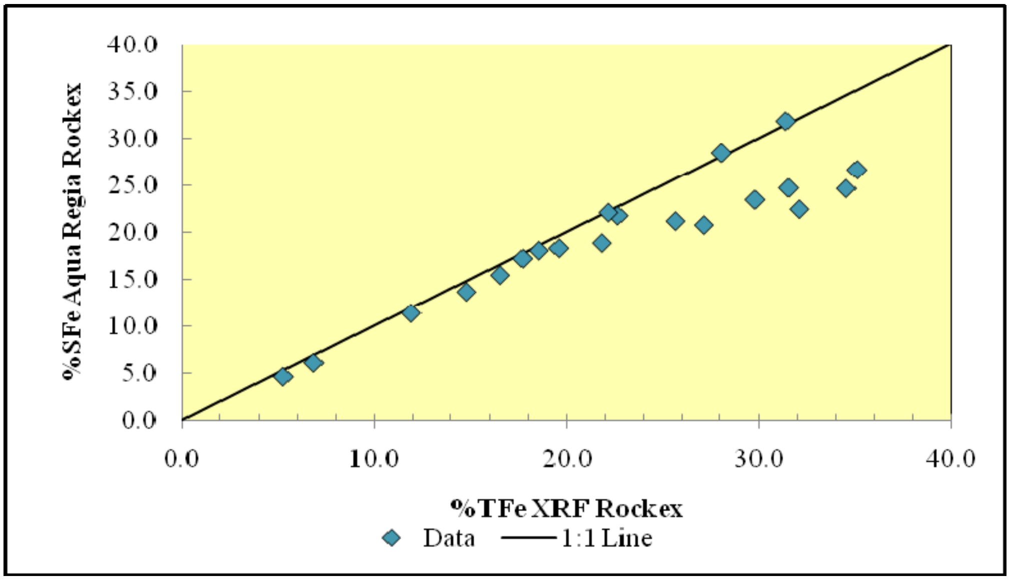



Figure 21. %SFe aqua regia (Rockex) vs. %TFe XRF (Rockex) for 20 selected samples

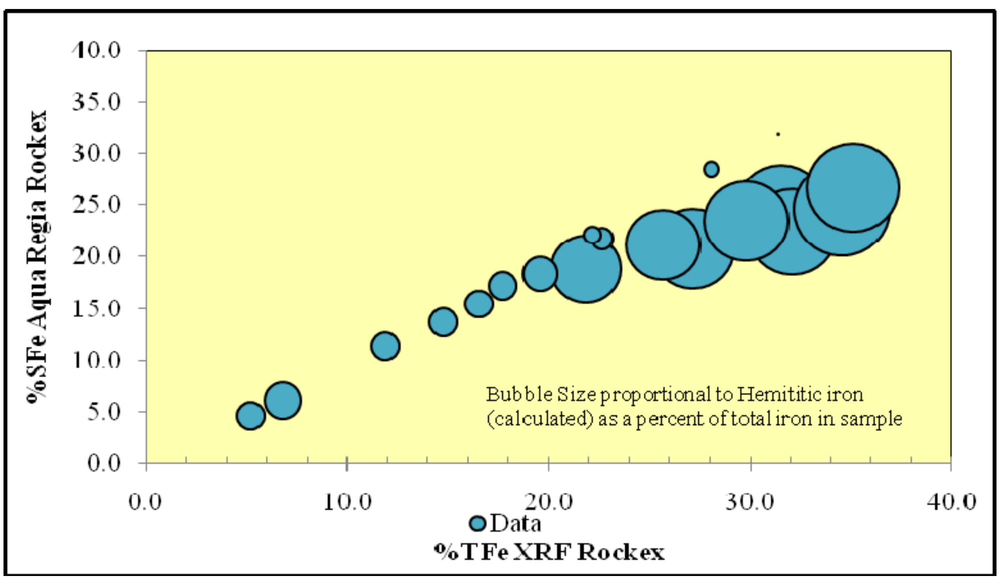



Figure 22. Hematitic Fe proportion (calculated) vs. %SFe aqua regia (Rockex) vs. %TFe XRF (Rockex) for 20 selected samples

The results of this program are similar to those obtained by the initial phase of this aqua regia analysis using twin hole samples. WGM does not understand why samples apparently higher in hemititic Fe content should report less Fe when analysed using an aqua regia digestion while at the same time historic SFe results show an unbiased strongly positve correlation with XRF determined Fe.

These results may be pertinent for the recovery of Fe from ore. A metallurgical testwork program is one of the next stages of recommended work – see Section 16. WGM recommneds that during this testwork program mineralogical work aimed at investigating these assay results be undertaken. This work may involve X-Ray Diffraction and/or microprobe of aqua regia residues and/or QEMSCAN to determine the mineralogy of the samples where aqua regia digestion under-reports Fe.

## 13.5 QUALITY ASSURANCE AND QUALITY CONTROL

### 13.5.1 ROCKEX 2008 DRILLING PROGRAM

For its 2008 drilling program, Rockex conducted an in-field QA/QC program during initial core sampling. SGS-Lakefield also conducted its own in-lab internal QA/QC program. Samples and analysis for both these programs are summarized previously in Table 20.

**In-Field QA/QC**

The in-field QA/QC program for the 2008 drilling consisted of the insertion of Blanks and Duplicates. The material used for Blanks comprised split unmineralized drill core. The Duplicate sampling consisted of collecting the second half core remaining after routine sampling and inserting this into the sample stream under a unique sample ID. The Blanks and second half core Duplicates samples were blind to the lab. The frequency for insertion of these materials was not regular.

A total of eight Field Blanks were inserted into the sample stream. This total does not include shoulder or bracket samples that were also collected to bracket mineralized intervals. The eight Field Blanks returned %TFe values ranging from 2-6% and thus likely report correctly. A total of 21 instances of Field Duplicates (second half core Duplicates) were sent for assaying. Results are shown in Figures 23 to 26 for %TFe, %$Fe_3O_4$, %FeO and %$SiO_2$ where assay results for the Duplicate are plotted against the results for the Original core halves.

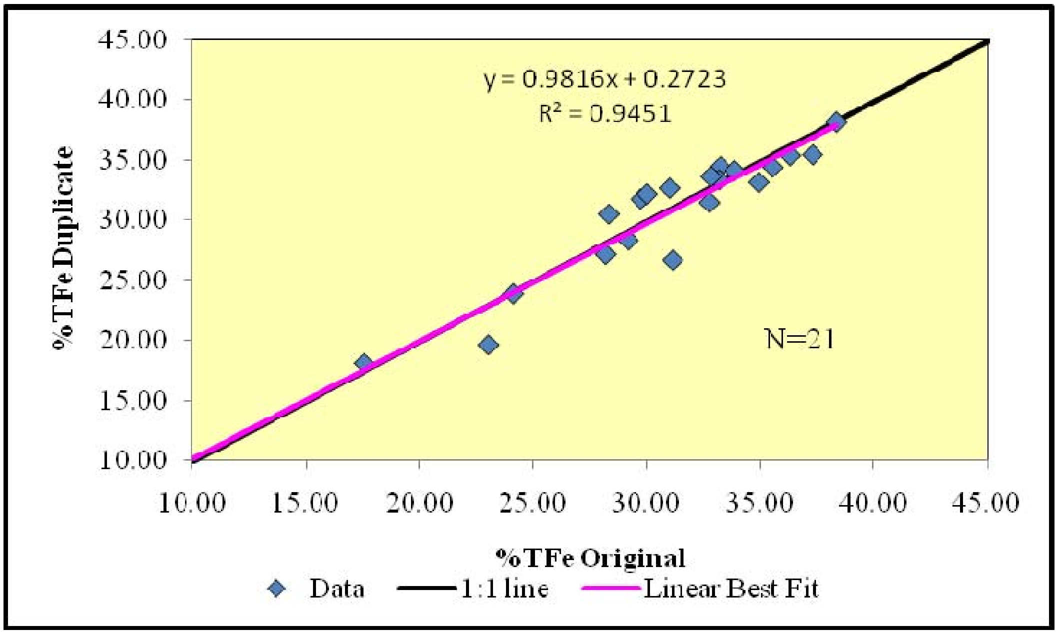



Figure 23. %TFe for Second Half Core Duplicate vs. Original

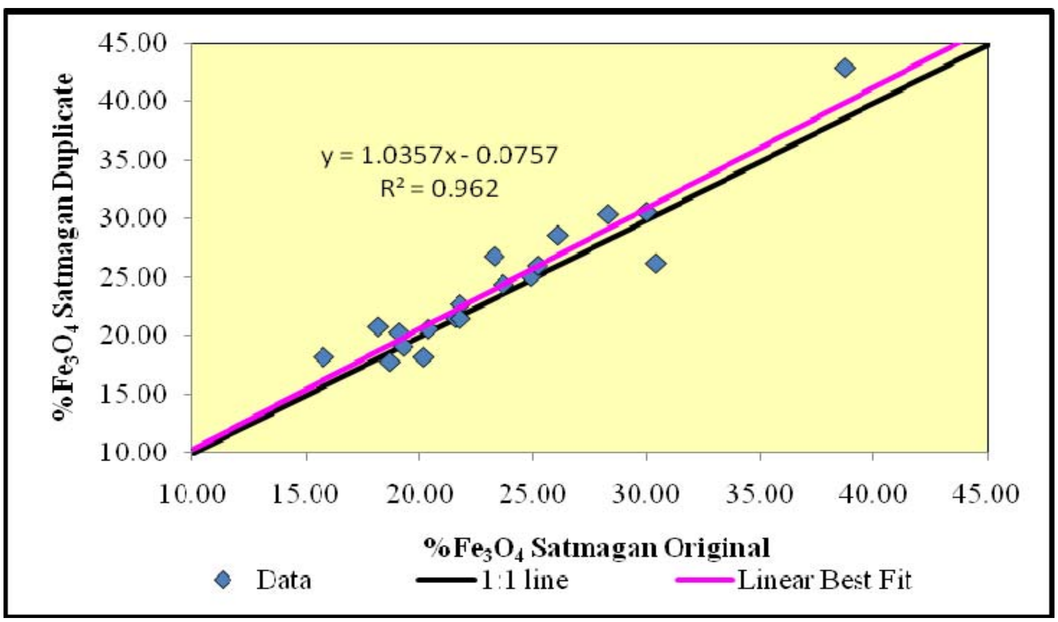



Figure 24. %$Fe_3O_4$ for Second Half Core Duplicate vs. Original

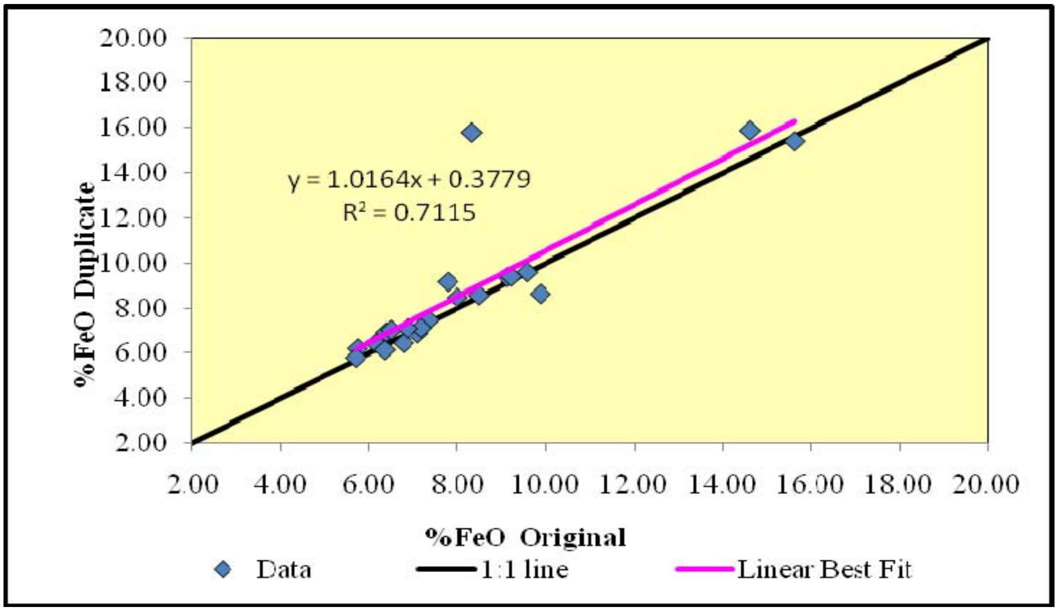



Figure 25. %FeO for Second Half Core Duplicate vs. Original

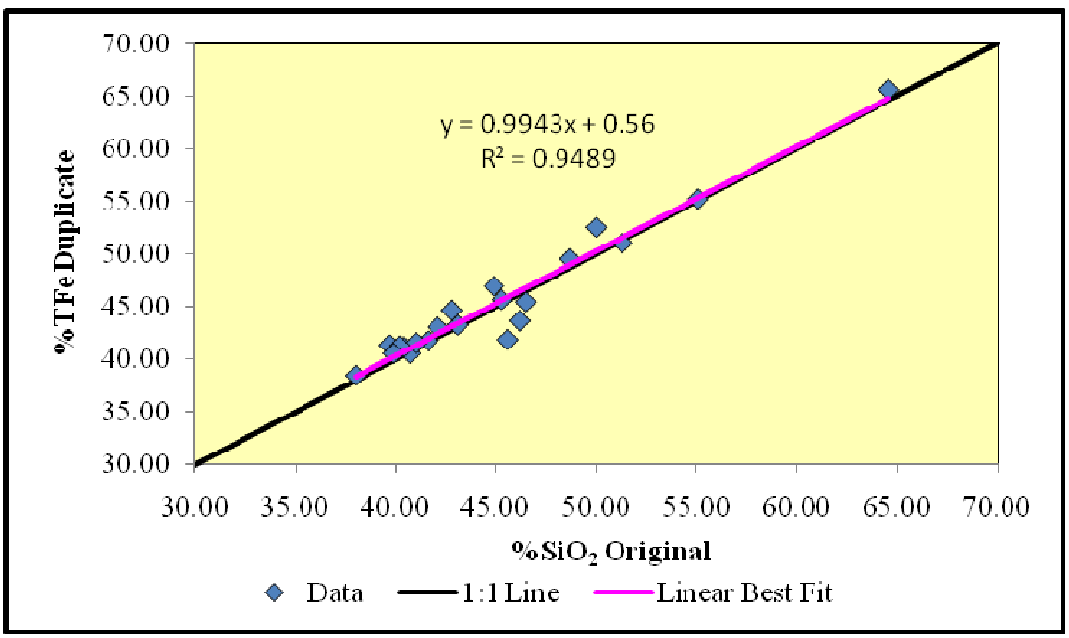



Figure 26. $\%SiO_2$ for Second Half Core Duplicate vs. Original

For the most part, a high degree of positive correlation between Original and Duplicate sample assays is apparent and these patterns indicate reasonable analytical precision and proper sampling and likely no sample sequencing errors are indicated. For one sample, FeO results for Original and Duplicate are dissimilar; this likely indicates a lab error.

**In-Lab QA/QC**

The in-Lab QA/QC program used Preparation Duplicates, Analytical Duplicates, Certified Reference Standards and Blanks. Preparation Duplicates are a second set of subsamples riffled out from the -10 mesh material and then pulverized and treated as a different sample. These samples are suffixed "B" on the Certificates of Analysis and were completed at a frequency of one every 20 to 30 routine samples. Analytical Duplicates represent a second analysis of the same pulp. These were completed at a rate of 1 per 10 run-of-lab samples.

Figure 27 shows %TFe results for 20 preparation Duplicates.

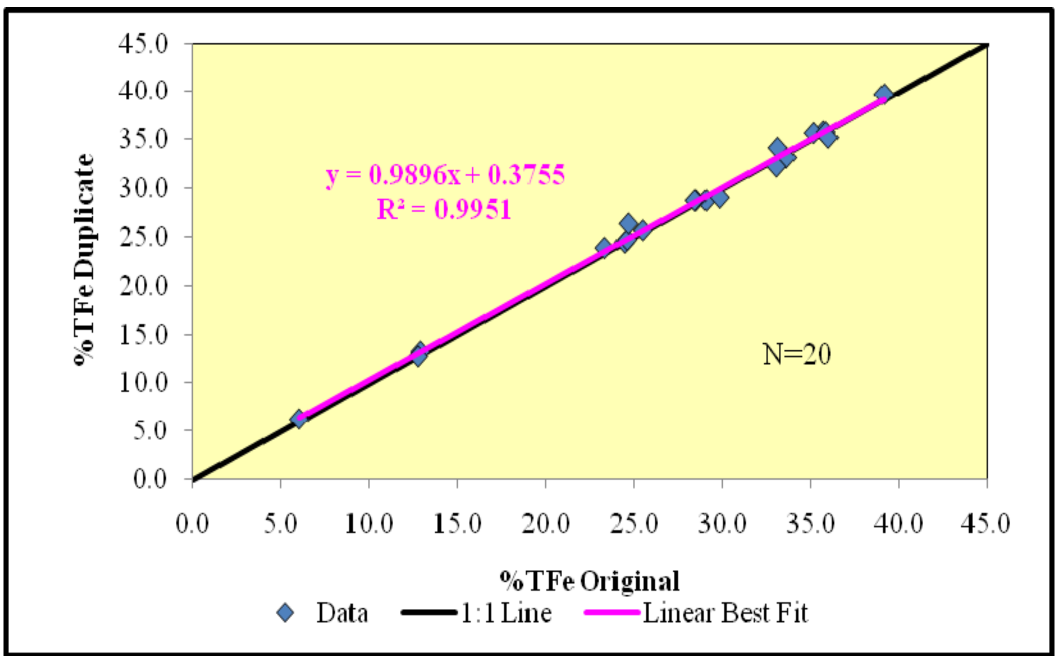



Figure 27. %TFe for preparation Duplicate vs. Original

Figures 28 and 29 show %TFe and $\%Fe_3O_4$ results for 37 Analytical Duplicates.

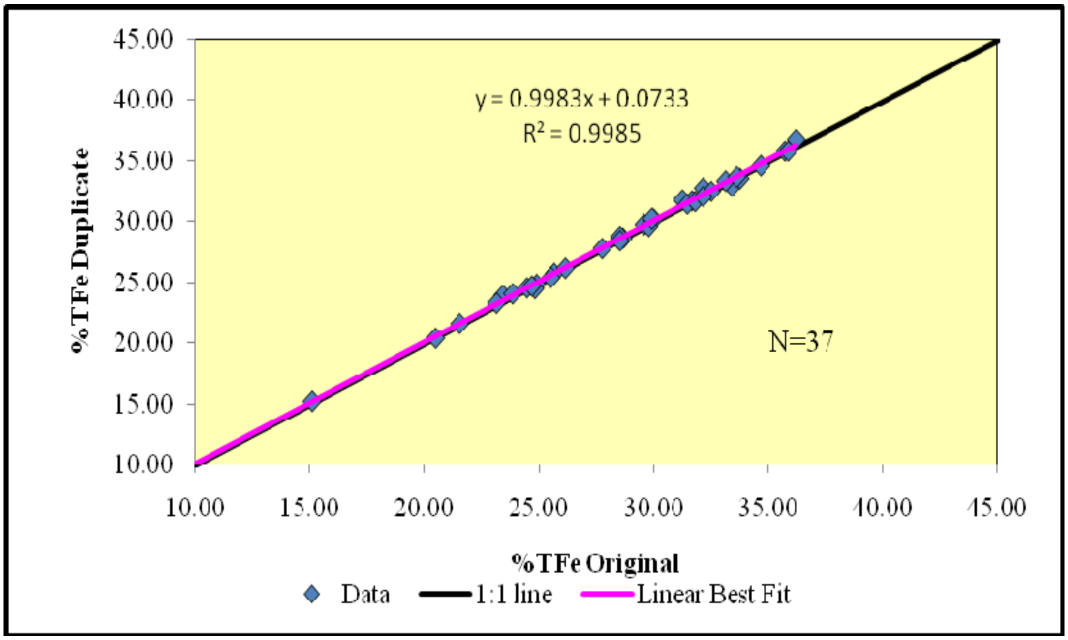



Figure 28. %TFe for Analytical Duplicate vs. Original

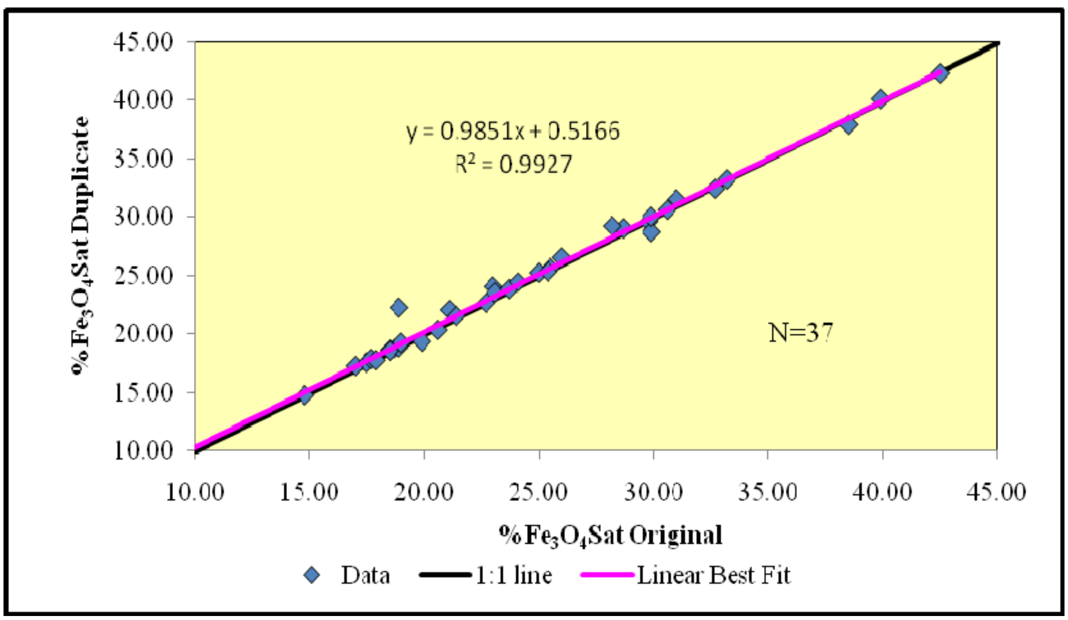



Figure 29. $\%Fe_3O_4$ for Analytical Duplicate vs. Original

Both Preparation Duplicates and Analytical Duplicates show high degrees of correlation with respect to Original assays. As expected, Analytical Duplicates show a slightly higher degree of correlation than Preparation Duplicates.

SGS-Lakefield used several Certified Reference Standards to monitor accuracy of analytical results through the extent of the program. The European Coal & Steel Community ("**ECSC**") Standard 681-1 was used to monitor the WR XRF analysis and occasionally for monitoring FeO determinations. Eight instances of 681-1 were assayed for WR control as shown in Table 22. Four instances of ECSC Standard 676-1 and three instances of Canmet SCH-1 were also used. Standards nbm-1 and CZN-3 were used to only monitor the sulphur results.

**TABLE 22.**
**RESULTS FOR CERTIFIED REFERENCE STANDARDS FOR WR XRF ANALYSIS**

| Standard ID | Provider | Material | Certified Reference Value %Fe | Count | Avg of %TFe observed | Max %TFe observed | Min %TFe observed |
|---|---|---|---|---|---|---|---|
| 676-1 | ECSC | Iron Ore sinter | 39.76 | 4 | 39.79 | 39.94 | 39.59 |
| 681-1 | ECSC | Iron Ore | 33.21 | 8 | 33.11 | 33.36 | 32.80 |
| SCH-1 | Canmet | Iron Ore | 60.73 | 3 | 60.85 | 61.34 | 60.50 |

ECSC: European Coal & Steel Community

SGS-Lakefield's results for its in-laboratory QA/QC program indicate that its assay results are generally of excellent quality.

## 13.5.2 ROCKEX 2010 HISTORIC ALGOMA CORE RE-SAMPLING AND ASSAY PROGRAM

The in-Field QA/QC program for Rockex's 2010 check core sampling program on Algoma drill core conducted by John Corkery included insertion of a Certified Reference Standard into the routine sample stream in the field. SGS-Lakefield's in-lab QA/QC program consisted of 17 Preparation Duplicates and 16 Analytical Duplicates. SGS-Lakefield also used a series of Certified Reference Standards and Blanks, but these results are not reported on the Certificates of Analysis and are not available to WGM for review.

**In-Field QA/QC**

For the 2010 re-sampling program, 10 instances of a Certified Reference Standard, CDN-BL-6, from CDN Resource Laboratories Ltd. was inserted into the sample stream at random intervals. The Standard came pre-packaged. The packets were inserted into standard plastic sample bags and given routine sample numbers. Standard CDN-BL-6 is designed as a control for gold assaying and is not certified for iron. Its certificate does, however, report an

"Approximate Chemical Composition" that includes iron and this value is 5.1 % $Fe_2O_3$. The $SiO_2$ and $Fe_2O_3$ assay results for the samples used for the 2010 program are listed in Table 23.

**TABLE 23.**
**RESULTS FOR CERTIFIED REFERENCE STANDARD CDN-BL-6 USED DURING ROCKEX'S 2010 HISTORIC DRILL CORE RESAMPLING PROGRAM**

| Sample Id | Type | $SiO_2$% | $Fe_2O_3$% |
|---|---|---|---|
| RX-E4_10_001 | Standard | 73.3 | 5.08 |
| RX-E4_10_020 | Standard | 73.3 | 5.12 |
| RX-E4_10_060 | Standard | 73.8 | 5.10 |
| RX-E4_10_090 | Standard | 74.1 | 5.11 |
| RX-E07-10-302 | Standard | 73.7 | 5.26 |
| RX-E07-10-377 | Standard | 42.9 | 46.60 |
| RX-E50-10-237 | Standard | 73.9 | 5.20 |
| RX-E50-10-201 | Standard | 73.6 | 5.15 |
| RX-E50-10-287 | Standard | 74.2 | 5.20 |
| RX-E50-10-317 | Standard | 73.6 | 5.15 |

Clearly one Standard reports incorrectly. SGS-Lakefield Certificate of Analysis CA02157-May 10 reports that samples RX-E07-10-375 and RX-E07-10-376 were in error combined during sample preparation, and with agreement of Rockex were reported as a composite result. These samples are adjacent to the Certified Reference Standard identified as RX-E07-10-377. WGM thinks it is likely that the error for this Standard is also related to this same incident during sample preparation. Otherwise the other nine instances of the Standard all report correctly in the range 5.08 to 5.2 %$Fe_2O_3$ indicating SGS-Lakefield assays are accurate.

**In-Lab QA/QC**

The SGS-Lakefield in-Lab QA/QC program comprised Preparation Duplicates and Analytical Duplicates. The Preparation Duplicates or Replicates were completed at a frequency of one every 20 samples from the field. Analytical Duplicates were assayed every 20 regular samples offset in sequence from the Preparation Duplicates. Figure 30 shows %TFe results for the 17 Preparation Duplicates. The results for sample pairs are strongly correlated indicating excellent precision.

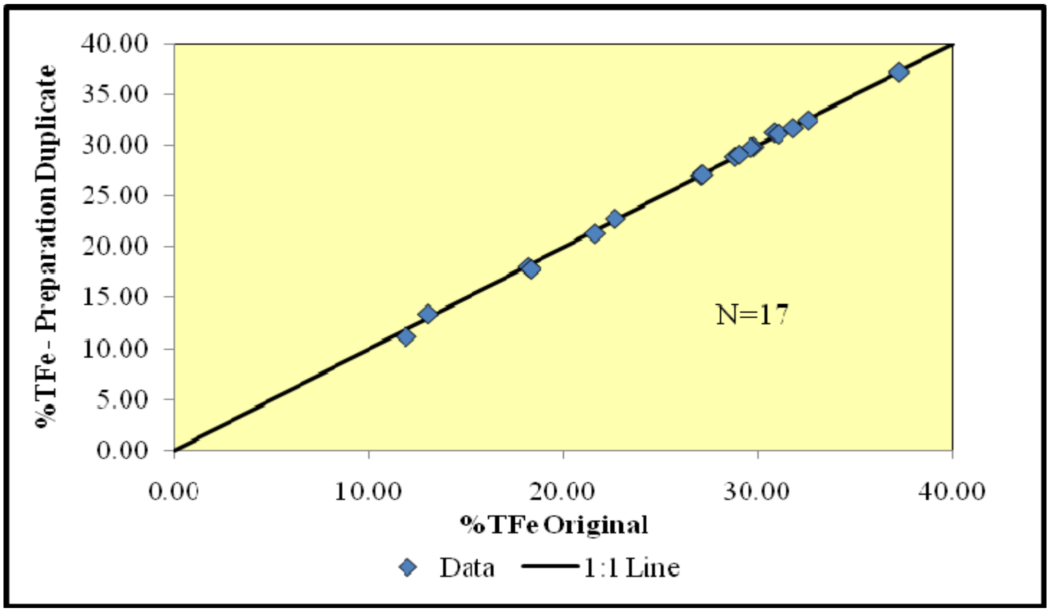



Figure 30. Analytical Results for Preparation Duplicates 2010 historic drill core re-sampling program

SGS-Lakefield's Analytical Duplicates also indicate high assay precision.

## 13.6 WGM COMMENTS ON IN-LAB SAMPLE PREPARATION AND ASSAYING FOR ROCKEX PROGRAMS

WGM is satisfied that SGS-Lakefield sample preparation and assay procedures for Rockex's 2008 and 2010 programs are sound and have resulted in reasonably precise and accurate assay data.

The 2010 re-sampling and assaying program on historic Algoma drill core was for the most part successful in validating Algoma's sampling and assay results. Rockex's 2010 TFe assays on 10 ft samples show excellent correlation and minimal bias for most samples compared with Algoma's SFe assays. Similarly, for most sample composites, magFe calculated from Algoma Davis Tube concentrates showed excellent and unbiased correlation with Rockex Satmagan calculated magFe sample averages. However, to achieve the strong correlation patterns between new and historic results, a number of assay results/samples were rejected. It is believed that the problems relate to some mix-up in the core boxes, and/or labelling resulting in misidentification of historic samples. The lack of core footage blocks or markings in the historic core boxes made some level of uncertainty almost inevitable. It is likely this explanation regarding core box mix-up is correct, although it is not an absolute certainty. Alternatively, but less likely, it is possible that Algoma's historic records for these samples are confused.

Certainly, SGS-Lakefield's assay results are generally good quality, but reference should also be made to Section 14 in this report for WGM's independent sampling results. No Secondary laboratory/Check assaying program has been conducted. WGM believes that a percentage of samples should always be Check assayed at a second lab. All QA/QC data should also routinely be entered into database tables so it can be readily reviewed and analysed on a timely basis. WGM also believes Rockex's sample database tables could be improved.

# 14. DATA CORROBORATION

WGM's Senior Geological Associate, Richard Risto, P.Geo., visited the Property from April 1 to April 3, 2008. For the early part of the visit, he was accompanied by Mr. Pierre Gagné, President of Rockex and Mr. Gilles Filion, Director. Mr. Risto reviewed the project with Project Geologist Jean-Paul Barrette, géo, visited the site while drillhole EI-101 was in progress, and reviewed drill core for DDHs EI-101, 102 and 104.

Drillhole sites were validated for location using a handheld GPS and iron formation was confirmed in drill core and in outcrop. Drillhole collar, and front and back sites were located with DGPS by Rockex personnel.

Mr. Risto reviewed core handling, logging and sampling procedures. In WGM's opinion, core handling and sampling procedures were to industry standards and technically sound. The drill core was found in good order in the core trays and the trays were being properly labelled with aluminum tape; an inventory of footage by tray was being kept. Core recovery was being estimated, the core was being photographed and magnetic susceptibility measurements were being taken down the drill core at a reading interval of 3 ft or less.

Core was being split in half using a hydraulic splitter. The sampler was observed doing a careful job of re-inserting the half core save portions back into the core trays and the other half into properly labelled plastic sample bags. Samples were then weighed, and this information was recorded. Three part sample tickets were being used for sampling; the first portion was left in the sample book for reference, the second portion was placed under the first piece of archived core in the sample interval, and the third portion was placed into the sample bags with the sample.

Descriptive logging and unit coding was in development. There were some questions regarding logging and coding of gangue units, but units of oxide iron formation were being logged accurately.

Mr. Risto independently collected six samples of second half drill core for assaying to independently validate Rockex's work (Table 24).

**TABLE 24.**
**WGM INDEPENDENT SAMPLE LOCATIONS**

| Hole ID | From (ft) | To (ft) | Original Sample ID | WGM Sample ID |
|---|---|---|---|---|
| EI-102 | 199.0 | 209.0 | 18068 | SJWGM-01 |
| EI-104 | 60.9 | 70.9 | 18006 | SJWGM-02 |
| EI-104 | 637.0 | 647.0 | 18052 | SJWGM-03 |
| EI-102 | 459.0 | 469.0 | 18094 | SJWGM-04 |
| EI-102 | 963.4 | 973.5 | 18150 | SJWGM-05 |
| EI-102 | 907.0 | 918.4 | 18145 | SJWGM-06 |

Four of these samples were also forwarded to SGS-Lakefield for a first stage mineralogical and metallurgical characterization that is documented in SGS (2008) Report, Project 11909-001. The assay results for WGM samples and their Rockex equivalents are summarized in Table 25.

**TABLE 25.**
**WGM INDEPENDENT SAMPLING AND ASSAY RESULTS**

| SampleID | 18068 SJWGM-01 | 18006 SJWGM-02 | 18052 SJWGM-03 | 18094 SJWGM-04 | 18150 SJWGM-05 | 18145 SJWGM-06 |
|---|---|---|---|---|---|---|
| %TFeRockex | 32.38 | 35.53 | 33.64 | 31.27 | 21.40 | 18.26 |
| %TFeWGM | 30.78 | 36.30 | 32.38 | 32.52 | 21.12 | 18.33 |
| %Fe3O4SatRockex | 19.30 | 17.30 | 20.60 | 18.90 | 28.60 | 23.90 |
| %Fe3O4SatWGM | 19.50 | 20.50 | 21.00 | 20.40 | 29.40 | 24.30 |
| %FeORockex | 6.87 | 6.57 | 7.10 | 6.43 | 9.67 | 7.96 |
| %FeOWGM | 7.45 | 7.48 | 7.91 | 7.39 | 10.21 | 8.77 |
| %SiO2Rockex | 43.10 | 39.10 | 40.70 | 44.00 | 51.70 | 54.80 |
| %SiO2WGM | 44.70 | 38.00 | 41.10 | 43.60 | 52.40 | 55.30 |
| %Al2O3Rockex | 4.17 | 3.68 | 4.97 | 4.40 | 8.53 | 10.20 |
| Al2O3WGM | 4.44 | 3.65 | 5.09 | 4.19 | 8.60 | 10.20 |
| %MgORockex | 1.32 | 1.22 | 1.37 | 1.34 | 1.26 | 1.63 |
| %MgOWGM | 1.45 | 1.31 | 1.49 | 1.35 | 1.40 | 1.65 |
| %CaORockex | 0.98 | 1.15 | 0.97 | 1.01 | 1.47 | 0.76 |
| %CaOWGM | 0.97 | 1.18 | 1.15 | 0.94 | 1.49 | 0.79 |
| %Na2ORockex | 0.98 | 0.85 | 0.95 | 0.93 | 2.00 | 0.30 |
| %Na2OWGM | 1.03 | 1.06 | 1.29 | 0.78 | 2.11 | 0.22 |
| %K2ORockex | 1.76 | 1.18 | 1.46 | 1.95 | 1.87 | 3.62 |
| %K2OWGM | 1.83 | 0.99 | 1.43 | 1.82 | 1.76 | 3.48 |
| %P2O%Rockex | 0.710 | 0.580 | 0.690 | 0.650 | 0.230 | 0.310 |
| %P2O%WGM | 0.720 | 0.660 | 0.880 | 0.590 | 0.250 | 0.320 |
| %SRockex | 0.020 | 0.005 | 0.020 | 0.020 | 0.080 | 0.005 |
| %SWGM | 0.020 | 0.005 | 0.030 | 0.020 | 0.050 | 0.010 |

Figures 31 to 34 present analytical results for WGM's independent samples versus original Rockex assays.

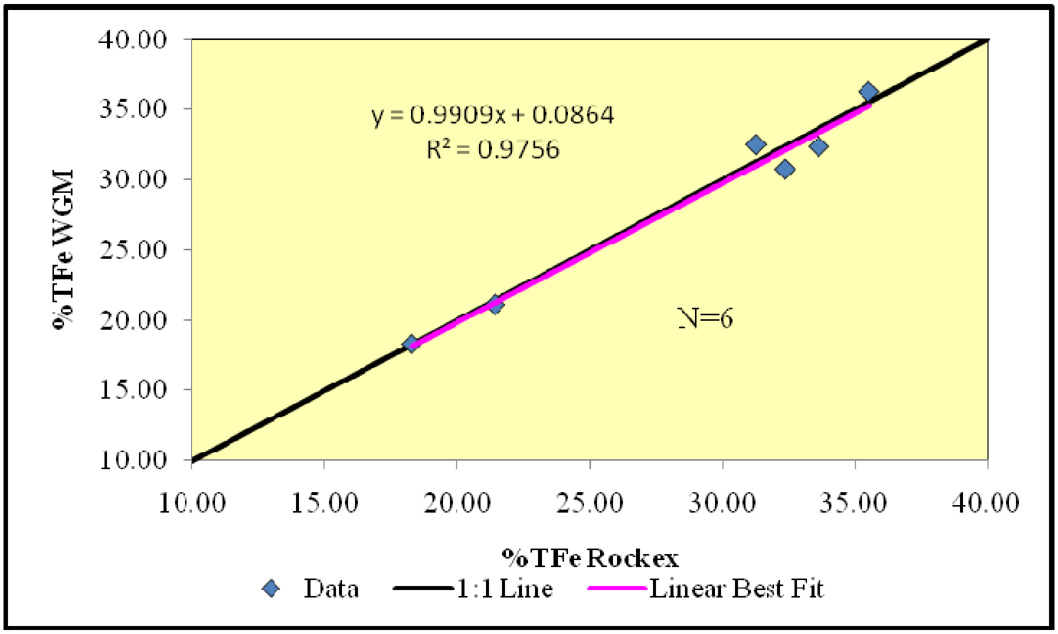



Figure 31. %TFe for WGM Independent Samples vs. Rockex Original

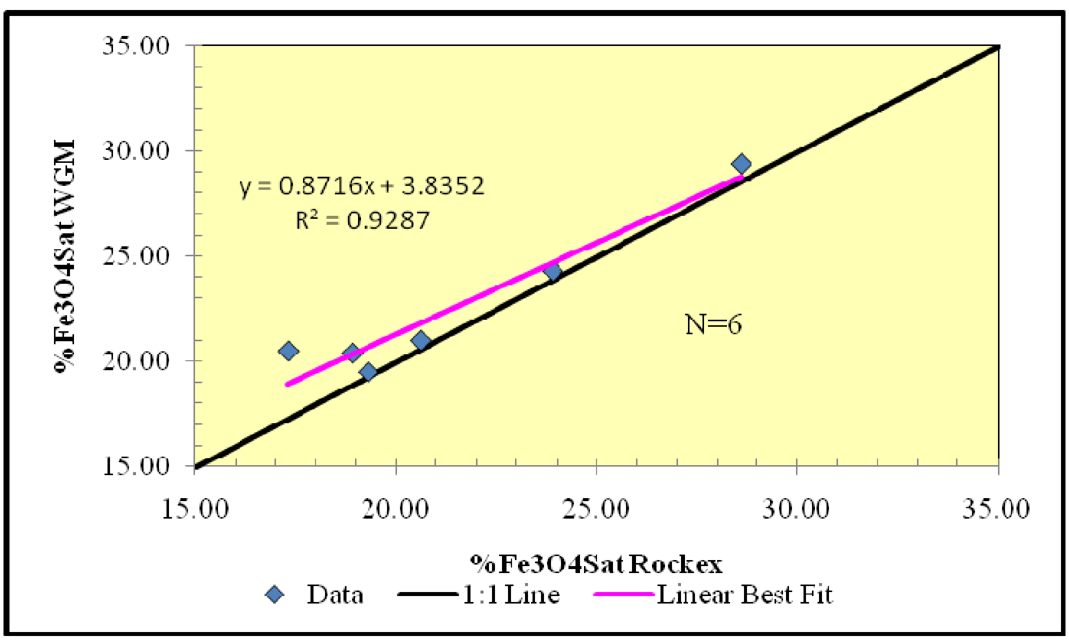



Figure 32. $\%Fe_3O_4$ Satmagan for WGM Independent Samples vs. Rockex Original

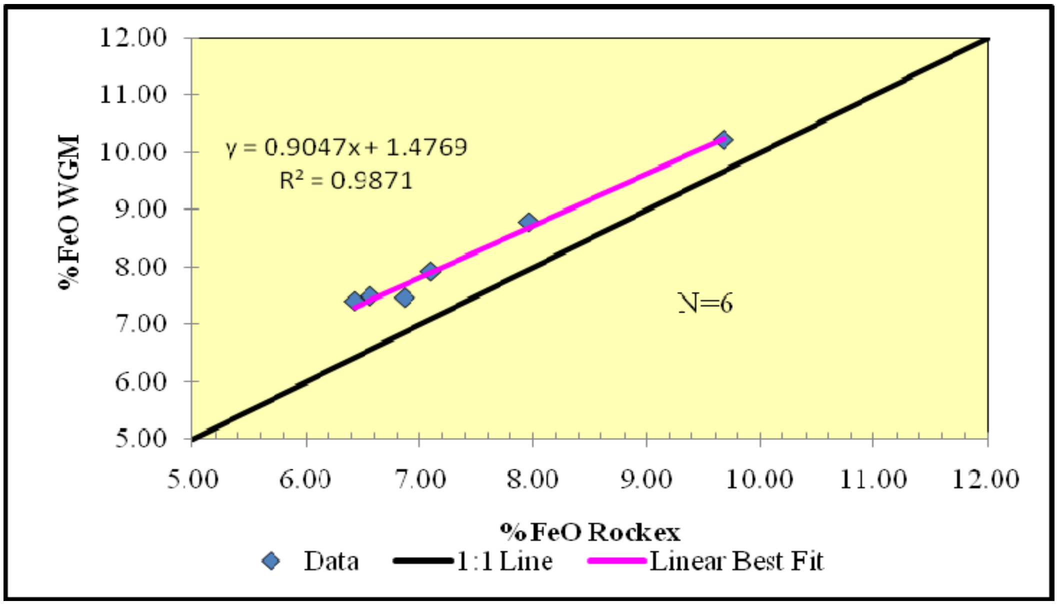



Figure 33. %FeO for WGM Independent Samples vs. Rockex Original

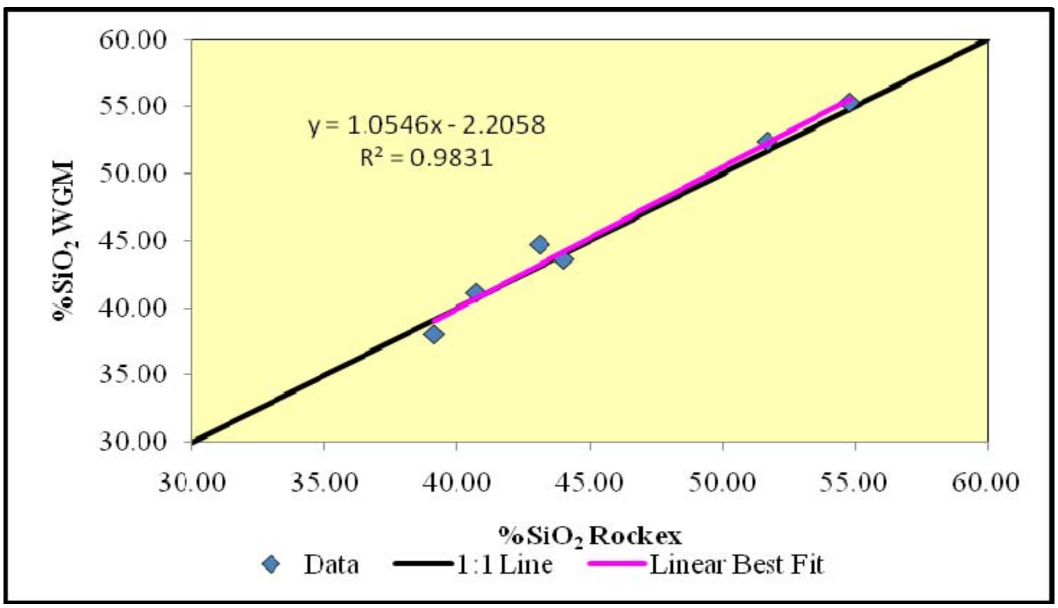



Figure 34. $\%SiO_2$ for WGM Independent Samples vs. Rockex Original

The WR assays for WGM's second half core samples are strongly positively correlated with original results for the other half of the core sampled by Rockex. These patterns indicate that no sampling irregularities are indicated, however, Figure 32 for Satmagan shows that WGM's results are biased very slightly higher than those received by Rockex. Figure 33 for FeO shows that although a strong positive correlation is present for the two sets of sample assay results, WGM's independent samples reported higher FeO values than original sample portions reported for Rockex's samples. WGM believes this assay bias is likely due to a calibration difference at SGS-Lakefield and its assay results are only accurate to approximately ±0.4 to 0.5% FeO, rather than the ±0.1 to 0.2 % FeO that would be expected from results based on its internal Reference Standards.

Generally, Rockex's results are validated by WGM observations and independent sampling results. The precision and accuracy of both Satmagan and FeO analytical results is a factor to be considered when assessing the accuracy and reliability of the amounts of magnetite, magFe, hematite, hematitic Fe and Fe in other mineral phases. Where any of these values are reasonably large, the accuracy and precision levels of FeO and Satmagan determinations are probably not significant. However, for low values of any component, say less than 5%, precision and accuracy of FeO and Satmagan determinations may be a significant factor with respect to the accuracy of the values calculated.

## 15. ADJACENT PROPERTIES

WGM understands that there is no other current exploration activity for iron deposits in the immediate vicinity. The iron deposits located at the east end of Lake St. Joseph once owned by Steep Rock are idle.

Lion Energy Corp. (previously Raytec Metals Corp.) conducted an 11 drillhole program aggregating 2,301 m on an iron formation deposit known as the El Sol or Tex Sol Deposit in 2008 located 100 km west of Rockex's Western Lake St. Joseph Property. This property is now in the control of Northern Iron Corp.

# 16. MINERAL PROCESSING AND METALLURGICAL TESTING

## 16.1 GENERAL

Since the discovery, there have been three campaigns of metallurgical work on the Western Lake St Joseph deposits of magnetite and hematite and specifically on the Eagle Island deposit. This work was started by Cominco in the early discovery period in 1932 with two subsequent campaigns carried out by LSJI in the 1950s and a third campaign by Algoma in the 1970s. While there is some record of the three campaigns of metallurgical work, some reports that are referenced were not available to WGM in completion of this review with some indication that further work may have taken place at the Hanna Hibbing Research facility and the ORF facility. The metallurgical indications of the historical work on concentrating the deposit to saleable iron products were in general agreement.

The historic work focused on testing flowsheets on bulk samples and did not have the benefit of studies of the mineralogy, natural grain size or liberation point to guide the process flowsheet development. The pilot work indicated that the ultimate flowsheet would require very fine grinding where the possibility of low cost gravity concentration of the hematite portion may not be possible. Gravity concentration with tables, de-slimming and silica flotation were identified and tested as possible alternatives to reach marketable grade.

In 2008 SGS-Lakefield carried out a study of the mineralogical characteristics and iron deportment on four samples from the Western Lake St. Joseph Project for WGM on behalf of Rockex Ltd in preparation for a fourth campaign to develop the optimum process flowsheet for the deposit. Subsequent to this work, SGS carried out a review of five reports on the metallurgical work on the Lake St Joseph deposits completed in the 1970s. This review included one report that covered a magnetite deposit at the eastern end Lake St Joseph while the remaining four reports were specific to Eagle Island and the subject matter of this report.

In July 2010 SGS-Lakefield made a comprehensive proposal to Nordmin Engineering Limited on behalf of Rockex to carry out process development work on a composite sample of the Eagle Island deposit. The scope of this work would include measuring work indices for the ore, mineralogical examination including a QEMSCAN, and bench scale testing of previously proposed flowsheets as well as consideration of other options for production of saleable concentrates. This work is currently under consideration by Rockex.

## 16.2 CONSOLIDATED MINING AND SMELTING COMPANY OF CANADA METALLURGICAL WORK ON EAGLE ISLAND IN 1932

In 1932 metallurgical work was carried out in-house using the Trail Mill to do the preparation on a bulk sample contained in 19 bags of ore from Eagle Island. Due to possible contamination with Sullivan ore, the sample was initially treated with magnetic separation to separate it from possible Sullivan ore. A series of gravity and flotation tests were carried out on various grind sizes with the conclusion that shaking tables to de-slime the ore followed by cleaning of the table concentrate would be the best alternative. Although the head analysis was close to the accepted grade of Eagle Island, WGM has disregarded the results of the testwork due to possible contamination, limited testwork details available, and the probable impracticable potential of a flowsheet using the low unit capacity of vibrating tables for de-sliming. This work was subsequently replaced by more practical approaches to concentration.

## 16.3 LAKE ST. JOSEPH IRON LIMITED, 1956-1957

Testwork during this period was completed by the ORF and documented in two reports by A.J. Last dated August 1956 and November 1956 and also by Hanna documented in a report dated September 7, 1957. ORF carried out magnetic roasting, magnetic precipitation and thermal shattering tests. Hanna carried out further testwork on samples with magnetic roasting, magnetic separation, flotation tests on magnetic concentrates and metallizing (direct reduction) tests.

### 16.3.1 ORF MAGNETIC ROASTING

The first ORF report investigated the possibilities of concentrating the mineralization to a grade of at least 65% total iron by reduction roasting followed by magnetic concentration. Following reduction roasting the samples were ground to -60 mesh and -325 mesh prior to the Davis tube concentration and show concentrates with iron grades of 49.8 and 55.2% Fe. Results for this work are summarized in Table 26.

**TABLE 26.**
**RESULTS OF THE DAVIS TUBE TEST ON ROASTED FEED**
**(modified after Last, 1956)**

| | Wt% | Fe% | Fe Units | %Fe Recovery |
|---|---|---|---|---|
| Heads | | 37.5 | | |
| DTC (-60 mesh) | 73.2 | 48.8 | 35.7 | 95.3 |
| DTT | | 4.3 | 1.2 | |
| | | | | |
| Heads | | 35.18 | | |
| DTC (-325 mesh) | 60.0 | 55.2 | 33.1 | 94.0 |
| DTT | 40.0 | 5.27 | 2.1 | 6.0 |

## 16.3.2 ORF MAGNETIC PRECIPITAT0R TEST

Concentration of the sample was then tested with a magnetic precipitator test. The magnetic fraction from the roughing operation at -60 mesh was screened at -150 mesh with the fine fraction then roasted in a kiln with a reducing atmosphere to transform any hematite to magnetite. The sample was then ground to -325 mesh and blown in an airstream through the magnetic precipitator to further concentrate the magnetite with the results shown in Table 27.

**TABLE 27.**
**RESULTS OF THE DRY MAGNETIC PRECIPITATION TEST**
**(modified after Last, 1956)**

| | Wt% | Fe% | Fe Units | % Recovery |
|---|---|---|---|---|
| Heads | 100 | 41.55 | | 100 |
| Concentrate | 74 | 51.06 | 38.0 | 91.5 |
| Tails | 26 | 13.62 | 3.55 | 8.5 |

This work at ORF demonstrated the very fine grind necessary in liberating the iron particles and that reduction roasting would not produce marketable concentrate grades with the best grade achieved being 51.06% Fe.

## 16.3.3 ORF THERMAL SHATTERING

The ORF report dated November 1956 presents the results for a thermal shattering test on the mineralization. A small sample of -10 mesh was given an oxidizing roast at 1,000$^{\circ}$ C for 15 minutes. A flow of oxygen was maintained over the sample to ensure a strongly oxidizing atmosphere. The sample was then cooled quickly and ground to 100% -325 mesh. The sample was then given a reducing roast at 525$^{\circ}$C for 15 minutes in hydrogen and quenched by falling through the air into water to oxidize any metallic iron back to magnetite.

A Davis Tube test was carried out on the dried sample and results are presented in Table 28.

**TABLE 28.**
**RESULTS FOR DAVIS TUBE TESTS ON SAMPLES SUBJECT TO THERMAL SHATTERING**

| Material | Wt% | %TFe | % Distribution of TFe |
|---|---|---|---|
| Feed | 100 | 41.4 | 100 |
| Concentrate | 66.6 | 55.3 | 89.0 |
| Tails | 31.2 | 14.7 | 11.0 |
| Loss | 2.2 | | |

The grade of the concentrate obtained by this process was 55.3% TFe, well below normal market requirements.

A preliminary optical examination of the polished section of sample 7A of crude ore indicated the grain size varies from 30 microns down to about 4 microns.

### 16.3.4 METALLURGICAL TESTWORK BY M.A. HANNA 1957

Hanna completed laboratory beneficiation tests at its Hibbing Research laboratory on four bulk samples, 6B, 7B, 8B and 9B representing mineralization from the Eagle Island deposit. The work included:

1. Davis Tube tests on crude ore samples.
2. Magnetic roasting tests.
3. Jeffrey magnetic separator tests.
4. Cationic flotation on magnetic concentrates.
5. Metallizing tests.

Results for this work are documented in "*Report of Investigation Beneficiation Tests on Lake St. Joseph Iron Formation*" dated September 7, 1957. Davis Tube tests were first completed on crude ore ground to -325 mesh and -400 mesh. Results for the -400 mesh Heads are summarized in Table 29.

**TABLE 29.**
**DAVIS TUBE TESTS RESULTS ON Bulk SAMPLES**
**(GROUND TO -400 mesh)**

| Sample | Head Assay % Fe | Heads Assay $\%Fe^{++}$ | DTWR % | FeDTC % | $SiO_2$DTC % | Distribution % Fe |
|---|---|---|---|---|---|---|
| 6B | 35.11 | 4.98 | 27.50 | 56.18 | 20.54 | 43.88 |
| 7B | 38.47 | 7.07 | 44.44 | 54.74 | 20.72 | 62.92 |
| 8B | 37.83 | 5.63 | 32.49 | 56.67 | 18.24 | 49.01 |
| 9B | 36.07 | 4.82 | 28.64 | 56.18 | 21.00 | 44.14 |
| **Average** | **36.87** | **5.62** | **33.26** | **55.94** | **20.12** | **50.23** |

Magnetic roasting tests were then carried out using -10 mesh material from the four samples. The calcined products ground to -400 mesh were subjected to a Davis Tube test. Results are presented in Table 30.

Silica values are very high and iron grades relatively low, due to poor liberation at -400 mesh.

**TABLE 30.**
**DAVIS TUBE TESTS RESULTS ON SAMPLES FOLLOWING MAGNETIC ROASTING (GROUND TO -400 mesh)**

| Sample | Heads Assay % Fe | Heads Assay Fe++ % | Fe+++/Fe++ (after roasting) | FeDTC % | $SiO_2$DTC % | Distribution % Fe |
|---|---|---|---|---|---|---|
| 6B | 35.64 | 11.27 | 2.16:1 | 58.41 | 17.09 | 96.13 |
| 7B | 38.62 | 12.31 | 2.14:1 | 55.51 | 20.35 | 97.44 |
| 8B | 37.97 | 12.31 | 2.08:1 | 53.90 | 21.44 | 96.19 |
| 9B | 36.12 | 11.27 | 2.20:1 | 57.92 | 18.05 | 97.06 |

To produce a magnetic concentrate for a cationic flotation test, a composite of equal portions by weight of the four samples was made. The composite was then roasted and the -10 mesh calcined sample at 37.3% Fe was cobbed on a Jeffrey magnetic drum separator yielding 86.11% weight recovery with a 41.39% Fe concentrate grade. The cobber concentrate was then stage ground in a ball mill to -325 mesh. The -325 mesh material was cleaned and finished on the Jeffrey magnetic drum separator yielding a 66.20% weight recovery with a 58.51% Fe and 16.03% $SiO_2$ concentrate. The -325 mesh finisher tails carried a 9.03% Fe.

A single cationic flotation test was conducted at the Hanna Laboratory using the -325 mesh Jeffrey finisher magnetic concentrate. Cationic flotation testing consists of depressing the iron grains with starch or gum and floating the silica (and middlings) using a selective collector. The concentrate grade produced depended on the number of froth samples that were combined with the final concentrate. The results for the flotation circuit only are as shown in Table 31.

**TABLE 31.**
**FLOTATION CIRCUIT**

| Product | % Wt | % Fe | % $SiO_2$ | Distribution % Fe |
|---|---|---|---|---|
| Final flotation concentrate | 61.96 | 68.72 | 3.33 | 64.6 |
| or | | | | |
| Final flotation concentrate plus froth 3 & 4 | 73.46 | 66.4 | 6.38 | 83.0 |

Trace elements in the concentrate averaged: 0.54 to 0.60% P; 0.003% S; and, 0.1% $TiO_2$.

Table 32 illustrates the results of testing the magnetic roasted crude sample by individual test and overall results with reference to the Crude samples.

**TABLE 32.**
**COMBINED RESULTS, MAGNETIC ROASTING,**
**JEFFREY MAGNETIC SEPARATION AND CATIONIC FLOTATION**

| Product | % Wt | | Assay % | | Distribution % Fe | |
|---|---|---|---|---|---|---|
| | Ind. | Overall | Fe | $SiO_2$ | Ind. | Overall |
| Crude (assayed) | 100.0 | | 37.23 | | | |
| -10 mesh Cobber concentrate | 86.1 | | 41.39 | | 95.83 | |
| -10 mesh Cobber tails | 13.9 | | 11.19 | | 4.17 | |
| -325 mesh finisher concentrate | 66.2 | 57.00 | 58.51 | 16.03 | 92.7 | 88.8 |
| -325 mesh finisher tails | 33.8 | 4.62 | | | | |
| Flotation Concentrate | 61.96 | 35.32 | 68.72 | 3.33 | 72.73 | 64.6 |
| or | | | | | | |
| Flotation concentrate plus froth 3&4 | 73.46 | 41.87 | 66.14 | 6.38 | 83.02 | 73.7 |

The final testwork carried out by Hanna, in the 1950s, was a direct reduction roast procedure for metallizing tests on each of the four samples. The reduction roasting was completed in a Pereny furnace at 1,200°C for a period of two hours on -10 mesh sample material mixed with 15% by weight of bituminous coke. The roasted samples were then ground in the laboratory ball mill for 30 minutes at 50% solids. The samples were then subjected to Davis Tube tests. No sizes analyses are available. Results for the metallizing test are presented in Table 33.

**TABLE 33.**
**DAVIS TUBE TEST RESULTS ON METALLIZING TEST PRODUCTS**

| Concentrate ID | Heads Assay % Fe | DTWR % | Assays of DT Concentrate(%) Fe | Metallic Fe | $SiO_2$ | Distribution % Fe |
|---|---|---|---|---|---|---|
| 6B | 38.71 | 38.50 | 87.52 | 85.32 | 5.54 | 87.85 |
| 7B | 43.07 | 44.00 | 91.20 | 89.34 | 3.80 | 92.32 |
| 8B | 41.62 | 42.50 | 88.88 | 85.96 | 4.15 | 89.17 |
| 9B | 39.52 | 40.00 | 89.68 | 87.40 | 4.38 | 91.13 |

## 16.4 ALGOMA/HANNA/ORF PILOT PLANT TESTWORK 1974-1975

Metallurgical work was resumed in 1974 at the ORF facility west of Toronto during Algoma's option period on the deposit. Initial work included microscopic examination that revealed iron minerals are mainly hematite and magnetite, in an overall ratio of 1:1, within a gangue of quartz, sericite, mica, carbonate with some hornblende and apatite. It was concluded that grind requirements were 85% minus 500 mesh. The final report completed by the ORF, dated 18 January 1976, on the pilot plant testwork has not been recovered, but a detailed summary of results is available in a memorandum from F.F. Rahne, from the Hanna Mining Co. dated October 20, 1976 summarizing the results from a meeting held in Algoma's exploration office on 29 September, 1976.

The fine grind requirements of the mineralization were evident in the testwork and two main flowsheet choices were considered:

1. An all de-sliming flowsheet that was developed from laboratory testwork by Algoma on the magnetite-hematite taconite from the Geraldton, Ontario area.
2. A flowsheet with de-sliming followed by flotation, as used at the Tilden Mine, Wisconsin.

The laboratory testwork resulted in the production of pellet grade concentrate with two stages of grinding and 5 stages of de-sliming with two de-sliming stages between the first and secondary grinding and three stages of de-sliming following the second grinding stage. Testwork to evaluate the application of flotation in combination with de-sliming was also carried out. Calcium-actuated flotation was considered promising while the amine-flotation gave poor results.

Pilot plant testing was also conducted by ORF using 375 tons of a 1,100 ton bulk sample taken from Eagle Island. Both the de-sliming and de-sliming with amine flotation flowsheets were tested in a ½ ton/hr pilot plant over a three month period in 1975.

### 16.4.1 FLOWSHEET

For the all de-sliming flowsheet, the best combination was as follows:

- Primary grind to thickener I; and
- Regrind to thickener II, thickener III and thickener IV in sequence with the thickener overflows rejected to tails and the underflow from thickener IV being the final concentrate.

For the de-sliming-flotation combination, thickener IV was replaced with the flotation circuit, where the underflow from thickener III was the flotation feed.

### 16.4.2 GRIND

Both the primary grinding circuit and the secondary grinding circuit were closed with hydrocyclones in a cyclosizer unit with the overflow serving as the feed to thickeners. The results for this work are summarized in Tables 34, 35 and 36.

**TABLE 34.**
**CYCLOSIZER TEST RESULTS, PRIMARY GRIND PILOT PLANT**

| Particle Size | % Passing |
|---|---|
| 43.4 microns (325 mesh) | 96.0 |
| 32.2 microns (400 mesh) | 89.4 |
| 22.1 microns (500 mesh) | 74.6 |
| 15.5 microns | 59.8 |
| 10.9 microns | 40.8 |

**TABLE 35.**
**CYCLOSIZER TEST RESULTS, SECONDARY GRIND PILOT PLANT**

| Particle Size | % Passing |
|---|---|
| 40.4 microns | 99.4 |
| 30.0 microns | 97.8 |
| 20.64 microns | 87.4 |
| 14.4 microns | 63.4 |
| 10.1 microns | 45.2 |

**TABLE 36.**
**COMPARISON OF BEST PILOT PLANT RESULTS**
**(after Rahne, 1976)**

| Product | All De-sliming Process | | | | De-sliming Flotation Process | | | |
|---|---|---|---|---|---|---|---|---|
| | Wt% | % SFe | % $SiO_2$ | % Fe Recy | Wt% | %SFe | % $SiO_2$ | %Fe Recy |
| Feed | 100.00 | 28.2 | | 100 | 100.0 | 29.7 | | 100.0 |
| Tails | 66.0 | 8.5 | | 19.8 | 65.9 | 10.8 | | 23.9 |
| Concentrate | 34.0 | 66.5 | 5.4 | 80.2 | 34.1 | 66.3 | 4.82 | 76.1 |

### 16.4.3 SILICA FLOTATION FOLLOWING DE-SLIMING

Following completion of the pilot plant testwork on de-sliming , the samples from the Eagle Island North Zone were composited into 8-blocks and bench scale flotation testing was carried out on the de-slimed concentrate both with and without starch and gave the results shown in Table 37.

**TABLE 37.**
**RESULTS FOR EAGLE ISLAND DRILL CORE COMPOSITES**
**(after Rahne, 1976)**

| Block | Head | Concentrate Std. Flowsheet | | | Concentrate Starch Omitted | | |
|---|---|---|---|---|---|---|---|
| Sample | % SFe | Wt. % | % SFe | % Recy | Wt. % | % SFe | % Recy |
| 1 | 26.1 | 38.8 | 66.7 | 86.4 | 33.1 | 66.8 | 85.2 |
| 2 | 27.0 | 36.1 | 66.9 | 89.6 | 35.0 | 67.5 | 88.3 |
| 3 | 26.7 | 34.9 | 66.7 | 87.1 | 32.8 | 67.5 | 85.1 |
| 4 | 30.1 | 39.4 | 67.7 | 86.6 | 37.3 | 68.3 | 83.1 |
| 5 | 24.5 | 32.6 | 66.3 | 88.3 | 31.4 | 67.2 | 86.5 |
| 6 | 29.2 | 38.7 | 66.9 | 88.5 | 36.0 | 67.9 | 85.0 |
| 7 | 21.5 | 28.0 | 65.7 | 85.8 | 26.5 | 67.1 | 84.0 |
| 8 | 27.6 | 36.1 | 66.5 | 87.0 | 35.5 | 67.3 | 83.0 |
| **Average** | **26.6** | **35.6** | **66.7** | **87.4** | **33. 5** | **67. 5** | **85.0** |

The Head grades in these samples are lower than the average for the deposit possibly due to the inclusion of low-grade bands within the taconite deposit. No screen analyses or cyclosizer results are available to show the fineness of the grind. Analysis for trace elements was not completed and could affect the choice of a final flowsheet.

### 16.4.4 ROUTINE DAVIS TUBE TESTWORK ON DRILL CORE SAMPLES

In addition to the work conducted by Algoma and Hanna described above, routine Davis Tube testing of the drill core samples from Algoma's drill campaigns was also completed. Results are available for the 1974 and 1975 Algoma drillhole composites.

This work likely was carried out at Lakefield, (now SGS-Lakefield) but no reports have been located. These test results provide a rough guide to the distribution of magnetite and hematite throughout Eagle Island, but iron grades in tails are high and significant hematite may be carried with magnetite in the magnetic concentrates. The data shows that:

- No silica analyses were made on the DT concentrate;
- No screen analyses were reported with a standard grind of 25 minutes employed on all samples, and,
- Samples were analyzed for SFe whereas analysis for TFe may have produced higher grades.

Table 38 illustrates the range of weight yields, concentrate grades and Fe recoveries that resulted from the Davis Tube testing. It also shows that the DT % Fe recoveries vary considerably with similar Head % Mag Fe, due to variations in the hematite content.

**TABLE 38.**
**RANGE OF DTWR, DTC GRADES AND DT%FE RECOVERY**

| Hole ID | Length (ft) | Head Sample | | Davis Tube Concentrate | | | | %Total Fe Oxides Calculated |
|---|---|---|---|---|---|---|---|---|
| | | %SFe | %MagFe | %Wt Rec'y | %SFeDTC | %SFe Tails | %Fe Rec'y | |
| 002 | 369 | 30.3 | 13.2 | 19.4 | 68.0 | 21.3 | 43.5 | 95.7 |
| 013 | 277 | 26.1 | 14.5 | 22.2 | 66.5 | 14.4 | 60.0 | 93.6 |
| 020 | 346 | 21.2 | 15.2 | 22.6 | 66.9 | 7.6 | 71.1 | 94.3 |
| 021 | 389 | 28.6 | 14.9 | 22.0 | 68.1 | 16.8 | 57.5 | 96.0 |
| 023 | 930 | 20.3 | 13.1 | 20.2 | 65.4 | 9.2 | 70.7 | 92.1 |
| 020 | 573 | 32.5 | 15.1 | 22.1 | 68.3 | 21.9 | 49.5 | 96.3 |
| 031 | 258 | 25.3 | 22.2 | 33.3 | 66.6 | 3.2 | 87.7 | 93.8 |
| **Total Average** | **17,167** | **26.2** | **15.3** | **22.7** | **67.5** | **14.2** | **61.6** | **95.0** |

The following is indicated from the routine testing on the drill core samples:

- The DT concentrate grades from the 1974 drilling program are the highest compared to other testing with an average of 67.5% SFe;
- Although no silica analyses were available, an average silica grade is estimated to be 5.0%;
- The silica grade is estimated from the total Fe oxides of 95% based on a hematite to magnetite ratio of 1:1;
- Silica flotation developed since this testwork, is used widely to lower the silica grade by 2 to 3%; and,
- The DT % Fe Recovery can vary widely with the same crude % Mag Fe due to the variation in the hematite content.

## 16.5 DISCUSSION

Although the Eagle Island deposit has had three campaigns of metallurgical testwork it can only be concluded that the deposit will require fine grinding to allow concentration to saleable products. Standard work indices have not been defined nor the actual grain size that is required for the optimum iron recovery. It is probable that the liberation point will be at a finer screen size that will preclude normal high capacity and low cost gravity recovery methods to be part of the concentration flowsheet. Future testwork should evaluate coarse cobbing and stage grinding to reduce the energy requirements that are now indicated for the deposit. If the entire deposit requires the energy requirements indicated in the testwork completed to date it will burden the deposit with higher than normal costs for concentration.

At the next stage of testwork, variations in the mineralogy and metallurgical characteristics with the deposit should be investigated in conjunction with establishing the key parameters required for preliminary development studies. Future work should ensure that representative samples from across the deposit are used in bench scale work before progressing to larger scale testwork on representative composites.

# 17. MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

## 17.1 WGM MINERAL RESOURCE ESTIMATE STATEMENT

WGM has prepared a Mineral Resource estimate for the Western Lake St. Joseph Iron Project mineralized areas that have sufficient data to allow for continuity of geology and grades. WGM modelled the main Eagle Island mineralization, but did not include the Fish Island or Wolf Island areas at this time. More confirmation work and new drilling needs to be done before a Mineral Resource estimate can be completed on these other areas. Indicated Mineral Resources are defined as blocks being within 100 m of a drillhole intercept. Inferred Mineral Resources are interpolated out to a maximum of about 350 m on the ends/edges and at depth. The current drilling pattern is uneven and many areas are sparsely drilled, with possibly only one hole or one trench on a section line. Many of the holes did not penetrate the entire width of the mineralized zone hence the "boundaries" are not particularly well defined in some areas (particularly the dips of the zone and the depth extension). That being said, the mineralization shows very good continuity on a gross scale, however, internally the bedding/stratigraphy can be quite distorted due to folding and inlaying of waste sedimentary units. A summary of the Mineral Resources is provided in Table 39.

**TABLE 39.**
**CATEGORIZED MINERAL RESOURCE ESTIMATE FOR**
**WESTERN LAKE ST. JOSEPH IRON PROJECT (CUTOFF OF 18% HEAD SFe)**

| Resource Classification | Tonnes (000s) | %SFe Head-Individual Samples | %SFe Head-Composite | %magFe Head-Composite | %HmFe Head-Composite |
|---|---|---|---|---|---|
| Indicated | 590,847 | 28.84 | 28.43 | 14.86 | 13.56 |
| Inferred | 415,757 | 29.47 | 29.07 | 14.52 | 14.55 |

The classification of Mineral Resources used in this report conforms with the definitions provided in the final version of NI 43-101, which came into effect on February 1, 2001, as revised on December 11, 2005. WGM further confirms that, in arriving at our classification, we have followed the guidelines adopted by the Council of the Canadian Institute of Mining Metallurgy and Petroleum ("**CIM**") Standards. The relevant definitions for the CIM Standards/NI 43-101 are as follows:

> A **Mineral Resource** is a concentration or occurrence of diamonds, natural, solid, inorganic or fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location,

quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

An **Inferred Mineral Resource** is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes.

An **Indicated Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

A **Measured Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes that are spaced closely enough to confirm both geological and grade continuity.

A **Mineral Reserve** is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.

A **Probable Mineral Reserve** is the economically mineable part of an Indicated, and in some circumstances a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.

A **Proven Mineral Reserve** is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.

Mineral Resource classification is based on certainty and continuity of geology and grades. In most deposits, there are areas where the uncertainty is greater than in others. The majority of the time, this is directly related to the drilling density. Areas more densely drilled are usually better known and understood than areas with sparser drilling.

## 17.2 GENERAL MINERAL RESOURCE ESTIMATION PROCEDURES

The block model Mineral Resource estimate procedure included:

- validation of digital data in Gemcom Software International Inc.'s ("**Gemcom**™") geological software package – the data was transferred to WGM from Rockex in a format compatible to Gemcom;
- generation of cross sections and plans to be used for geological interpretations;
- basic statistical analyses to assess cutoff grades, compositing and cutting (capping) factors, if required;
- development of 3-D wireframe models for zones with continuity of geology/mineralization, using available geochemical assays for each drillhole sample interval; and
- generation of block models for Mineral Resource estimates for each defined zone and categorizing the results according to NI 43-101 and CIM definitions.

## 17.3 DATABASE

### 17.3.1 DRILLHOLE DATA

Data used to generate the Mineral Resource estimate originated from a Gemcom Project dataset set-up by Rockex technical personnel that was supplied to WGM. This Gemcom Project was established to hold all the requisite data to be used for any manipulations necessary and for completion of the geological modelling and Mineral Resource estimate.

The Gemcom drillhole database consisted of 167 records, of which 131 were drillholes (some holes were "duplicated" with an "A" nomenclature meaning the hole was redrilled in whole or in part); including 35 old LSJI holes and five new Rockex holes. The remainder of the records were Algoma holes or trenches. None of the LSJI or Rockex holes or the trenches were used for the grade interpolation for the Mineral Resource estimate, however, they were used for guidance and for additional geological control. A total of 63 Algoma holes were used for the current Mineral Resource estimate and were dispersed along approximately

2.4 km of N-S and 2.9 km E-W length/width on Eagle Island covering the iron mineralization over the island and slightly into Lake St. Joseph. The remaining Algoma and LSJI holes in the database were drilled from the ice or collared on Fish and Wolf islands and are outside the current area of the Mineral Resources.

The drillholes contained geological codes and short descriptions for each unit and sub-unit and assay data for Head and Davis Tube Concentrate analyses, where available (as summarized in Section 16 of this report). The raw sample intervals (2,908, including "waste") within the mineralized zone ranged from 0.9 m to 12.2 m and averaged 3.0 m. Approximately 95% of the Head assayed intervals were between 2.8 m and 3.2 m in length for the routine analyses. There was also composite data (approximately 530 samples) for the Davis Tube analyses – these were extremely variable in length and ranged from 0.9 m to 145 m, averaging 13.5 m (if the 145 m sample is thrown out).

Additional information, including copies of the geological logs, summary reports and internal geological interpretations were supplied to WGM digitally or as hard copies.

### 17.3.2 DATA VALIDATION

Upon receipt of the data, WGM performed the following validation steps:

- ✓ checking for location and elevation discrepancies by comparing collar coordinates with the copies of the original drill logs received from the site;
- ✓ checking minimum and maximum values for each quality value field and confirming/modifying those outside of expected ranges;
- ✓ checking for inconsistency in lithological unit terminology and/or gaps in the lithological code;
- ✓ spot checking original assay certificates with information entered in the database; and
- ✓ checking gaps, overlaps and out of sequence intervals for both assays and lithology tables.

The database tables contained some minor errors and these were corrected and confirmed by the client before proceeding with the Mineral Resource estimate. In general, WGM found the database to be in good order and accurate. After some minor corrections were made to the database that WGM identified, no additional errors were found that would have a significant impact on the Mineral Resource estimate. However, further field work will likely result in improved location and azimuth information for the Algoma drillhole collars and this may have an effect on classification for future Mineral Resource estimates. In addition, future metallurgical and assay testwork will determine the percentage of recoverable iron comprising the Mineral Resources.

### 17.3.3 DATABASE MANAGEMENT

The drillhole data were stored in a Gemcom multi-tabled workspace specifically designed to manage collar and interval data. The line work for the geological interpretations and the resultant 3-D wireframes were also stored within the Gemcom Project. The Project database stored cross section and level plan definitions and the block models, such that all data pertaining to the Project are contained within the same Project database.

## 17.4 GEOLOGICAL MODELLING PROCEDURES

### 17.4.1 CROSS SECTION DEFINITION

Thirty-two vertical cross sections were defined for the Property for the purpose of Mineral Resource estimation. The holes were drilled on variable spacing between section lines of from 100 m to about 250 m in the main area of mineralization. The cross sections were oriented radially due to the geometry of the iron mineralization and hence followed the change in attitude/strike of the mineralization due to folding (the mineralization mimicked the outline of Eagle Island). Drillholes on cross sections were also variably spaced at from 50 m to almost 200 m, and many holes were drilled in a scissor pattern. Each cross section contained from one to four or five holes (and trenches) and the closest spaced drilling was near the surface. The deeper mineralization, i.e., below 250 m vertical depth, has been tested by only three holes and is open at depth. See Figure 38 (Section 17.6) for the locations of the drillholes in the Mineral Resource area and the cross section orientations.

### 17.4.2 GEOLOGICAL INTERPRETATION AND 3-D WIREFRAME CREATION

WGM used Rockex's internal preliminary geological interpretations from the cross sections as a guide to define the boundaries of the mineralized zones for the Mineral Resource estimate. WGM's zone interpretations of the mineralization were digitized into Gemcom and each polyline was assigned an appropriate rock type and stored with its section definition. The digitized lines were 'snapped' to drillhole intervals to anchor the line which allows for the creation of a true 3-D wireframe that honours the 3-D position of the drillhole interval. Any discrepancies or interpretation differences between Rockex's original interpretation and WGM's final interpretations were discussed with Rockex technical personnel and agreed upon before finalizing the interpretation to be used for the Mineral Resource estimate. Mineralized boundaries were digitized from drillhole to drillhole that showed continuity of strike, dip and grade, generally from 100 m to 200 m in extent, and up to a maximum of about 350 m on the ends of the zones and at depth where there was no/little drillhole information, but only if the interpretation was supported by drillhole information on adjacent cross sections.

WGM modelled the Eagle Island Fe mineralization only, which represents a suite of clastic and chemical sedimentary rocks that form the Eagle Island assemblage, or Upper Clastic Rocks. Mineralization on Fish and Wolf islands was not included in the Mineral Resource estimate. Metamorphism is typically greenschist facies and the sedimentary assemblage is largely in the form of an east-west trending, steeply plunging syncline containing a pair of sub-parallel anticlinal folds. The tight and isoclinal folding has resulted in repetition of the iron formation sequence, which is mainly coincident with the north, east and south shores of Eagle Island. Due to this structural complexity (large-scale folding, drag folding and sedimentary slump features) and the resultant changes in attitude of the mineralization, the drilling (and hence the cross section definitions) was done in a radial pattern. This meant that the most effective way to wireframe the mineralization in 3-D was to complete it in two parts, and then “merge” the wireframes together for the block modelling process.

Internally, the bedding/stratigraphy can be quite distorted due to folding, particularly in the “junction area” where the two wireframes meet and the folding/metamorphism is the most intense. WGM attempted to model out two of the larger internal waste (sediment) units/beds that appeared to have fairly good correlation between holes and cross sections. This modeling was not perfect, however, due to the lack of drilling information and the complex nature of the folding, but WGM was of the opinion that it was better to try to model these units out (if possible) than just combine them with the “ore”. The creation of the two wireframes (Eagle Island Main and Eagle Island SE) overlapped so no gaps were left between the wireframes.

The extensions of the mineralization on the ends and at depth took into account the fact that the drilling pattern was irregular and that a proper grid was not complete; hence many drillholes did not penetrate the entire stratigraphy/zone. The continuity of the mineralization as a whole was very good, so WGM had no issues with extending the interpretation beyond the 250 m distance in some cases, but as stated above, there needed to be supporting data from adjacent sections. This extension was taken into consideration when classifying the Mineral Resources and these areas were given a lower confidence category.

Figure 35 shows the 3-D geological model to illustrate the above relationships. Figure 36 shows a typical cross section through the Western Lake St. Joseph deposit and illustrates the zone/unit boundaries, SFe% block model and Mineral Resource categorization (see Section 17.6 for a detailed explanation).

RKX EXP / RKX_03_3D_Model.cdr
Last revision date: Wednesday 8 December 2010

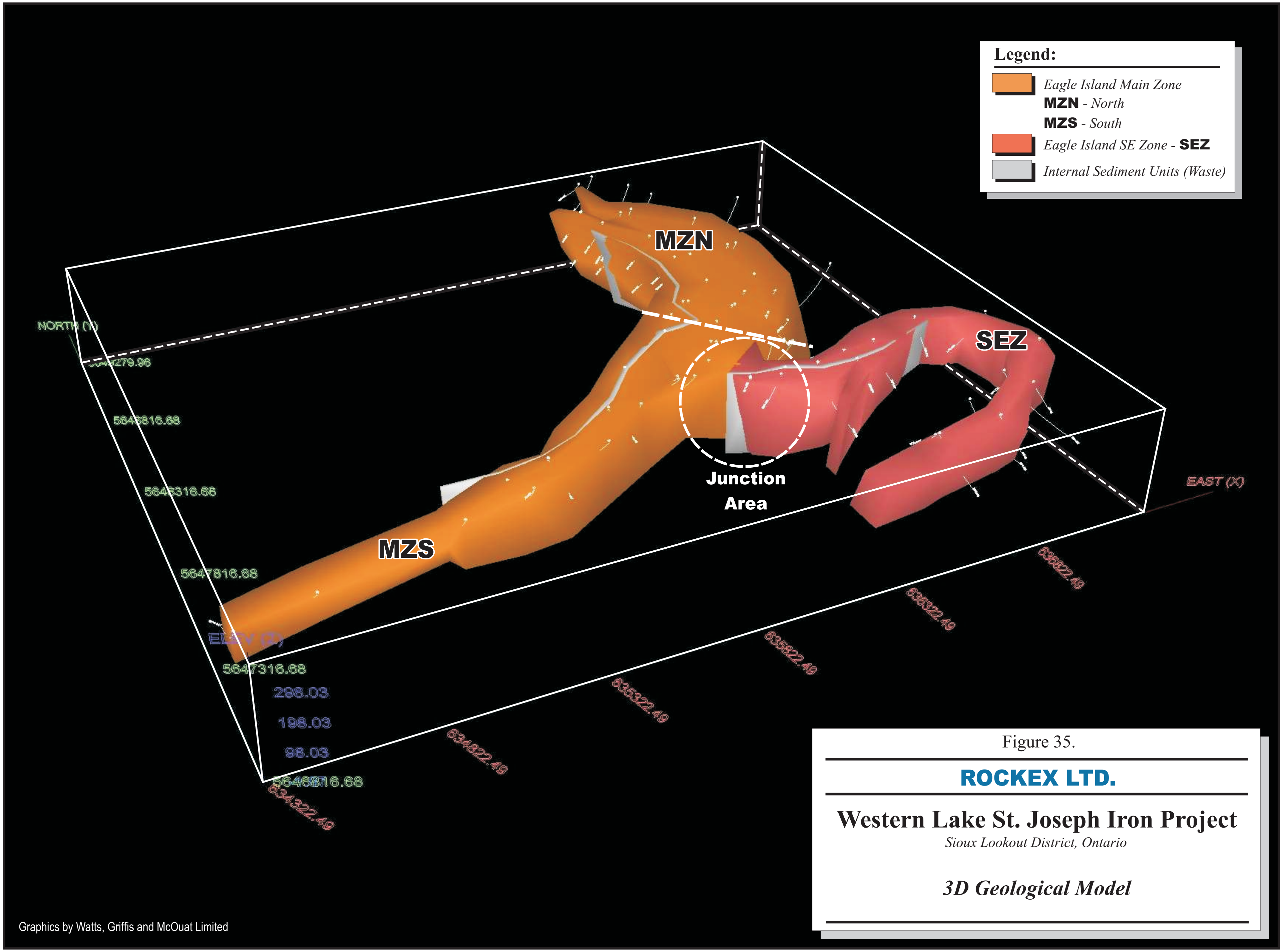



Figure 35.

**ROCKEX LTD.**

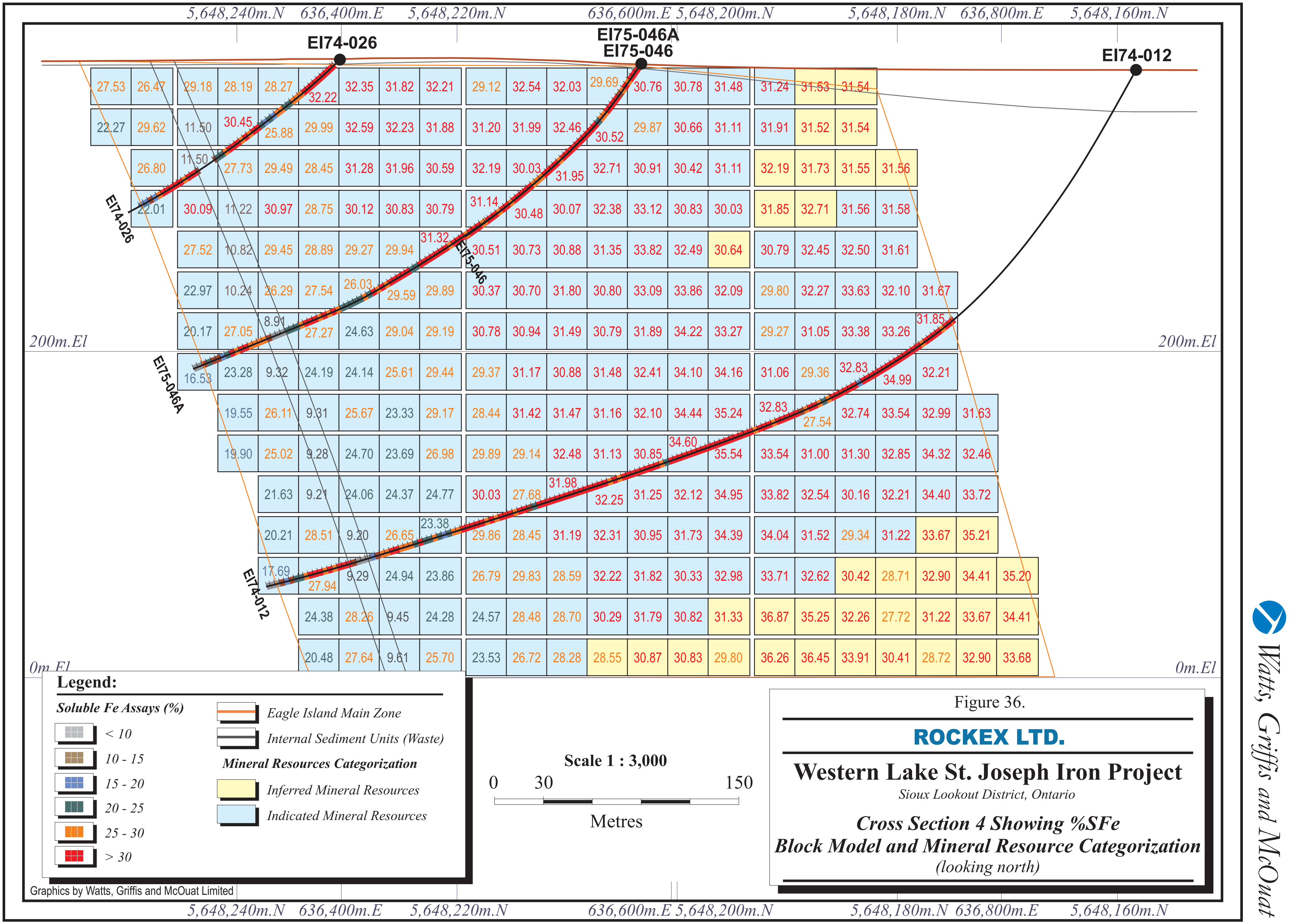
**Western Lake St. Joseph Iron Project**

*Sioux Lookout District, Ontario*

***3D Geological Model***

Watts, Griffis and McOuat

RKX EXP / RKX_05_Sect_4.cdr
Last revision date: Wednesday 8 December 2010



### 17.4.3 TOPOGRAPHIC SURFACE CREATION

A wireframed surface or triangulated irregular network ("TIN") was created using collar elevations of the drillholes in the Property area for the topography-water/ice surface and a surface representing the bottom of the overburden (if present) was also created. These surfaces were used to guide the 3-D wireframe creation representing the iron formation to ensure that the Mineral Resource estimate stayed below these surfaces.

WGM understands that the necessary data will be collected and a proper detailed (1 or 2 m contour) topography map will be generated during a future program.

## 17.5 STATISTICAL ANALYSIS, COMPOSITING, CAPPING AND SPECIFIC GRAVITY

### 17.5.1 BACK-CODING OF ROCK CODE FIELD

The 3-D wireframes / solids that represented the interpreted mineralized zone were used to back-code a rock code field into the drillhole workspace, and these were checked against the logs and the final geological interpretation. Each interval in the original assay table and the WGM generated composite table was assigned a rock code value based on the rock type wireframe that the interval midpoint fell within.

### 17.5.2 STATISTICAL ANALYSIS AND COMPOSITING

In order to carry out the Mineral Resource grade interpolation, a set of equal length composites of 10 m was generated from the raw drillhole intervals, as the original assay intervals were different lengths and required normalization to a consistent length. Composites of 10 m length were also generated for the available sample composites prepared by Lakefield for Davis Tube testwork. A 10 m composite length was chosen to ensure that more than one composite would be used for grade interpolation for each block in the model. Regular down-the-drillhole compositing was used.

Table 40 summarizes the statistics of the 10 m composites inside the defined geological wireframe for %SFeHead-Individual Samples, %SFeHead-Composites and %magFeHead-Composites and Figure 37 shows the histogram for the %SFeHead-Individual Samples.

**TABLE 40.**
**BASIC STATISTICS OF 10 m COMPOSITES**

| Element | Number | Minimum | Maximum | Average | C.O.V. |
|---|---|---|---|---|---|
| %SFeHead-Individual Samples[1] | 1,283 | 1.76 | 45.92 | 28.37 | 0.25 |
| %SFeHead-Composites[2] | 889 | 11.41 | 37.90 | 27.72 | 0.20 |
| %MagFeHead Composites[3] | 904 | 0.00 | 30.20 | 15.03 | 0.28 |

Notes: 1. These results represent original Head Fe assays for individual Algoma drill core samples composited in Gemcom by WGM.
2. These results represent Head Fe assays on original sample composites prepared by Lakefield for Davis Tube tests and composited by WGM in Gemcom.
3. These results represent %magFe for the Heads of the composites prepared by Lakefield calculated from the Davis Tube tests.

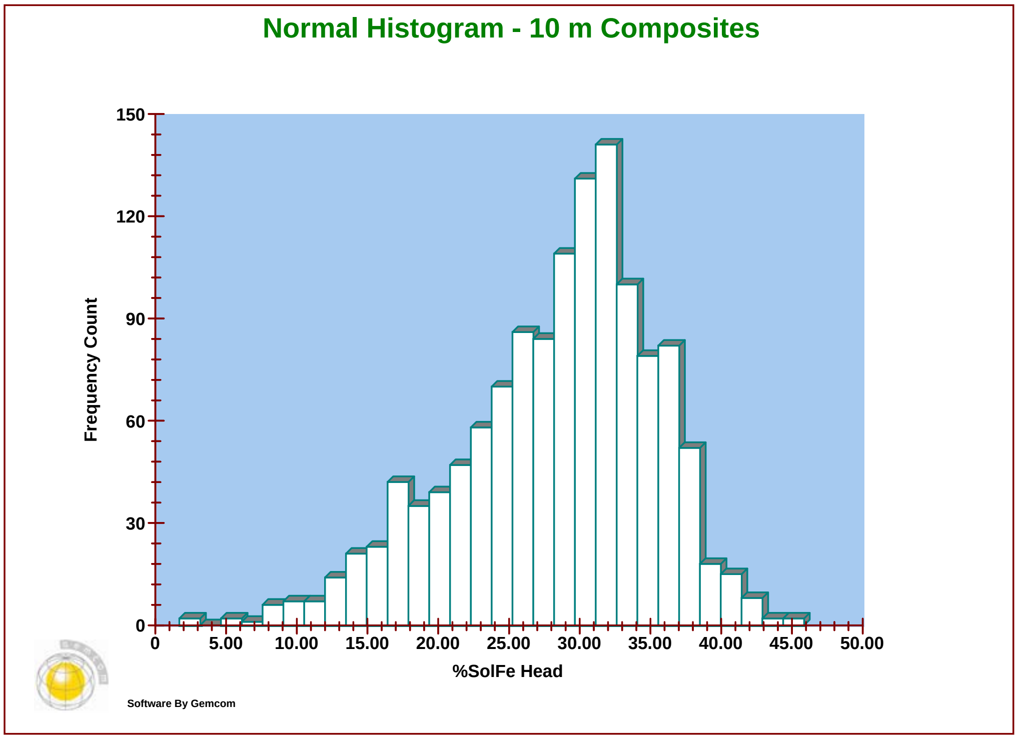



Figure 37. Normal histogram, %SFe Head-Individual Samples

## 17.5.3 GRADE CAPPING

The statistical distribution of the %SFe-Individual Samples showed fairly good normal distributions considering the number of samples available. Grade capping, also sometimes referred to as top cutting, is commonly used in the Mineral Resource estimation process to limit the effect (risk) associated with extremely high assay values, but considering the nature of the mineralization and the continuity of the zones, WGM determined that capping was not required for the Western Lake St. Joseph deposit.

### 17.5.6 DENSITY/SPECIFIC GRAVITY

Specific gravity is discussed in detail in Section 9 (Mineralization) of this report. For the Mineral Resource estimate, WGM created a variable density model, as typically the SG varies with the iron grade. Figure 8 (shown previously) illustrates a plot of SG vs. %TFe for the Rockex samples using the helium comparison pycnometer method on sample pulps. Most of the iron formation consists of a mix of magnetite and hematite, but there are sections that contain very little hematite and are mostly magnetite. SG shows excellent correlation with %TFe, as is typical with these types of deposits.

Rockex also modelled the SG slightly differently, but came up with a very similar graph to WGM's Figure 8. Since we are of the opinion that there is insignificant difference on a global basis between Total Fe and historic Soluble Fe in this deposit, the following formula was used to obtain the density of each block in the model: %SFe x 0.025 + 2.6. This formula also reflects WGM's experience with other iron ore deposits that we have modelled.

The range previously provided by Algoma for "ore" translates to a SG range of 3.1 to 2.7 and Juteau used a figure of approximately 3.2. As stated previously, at the high range of the Fe grades, these figures are probably conservative, considering the average estimated grade of the mineralization is 29% to 30% SFe (depending on cutoff). Using WGM's variable density model, a 29% SFe gives a SG of approximately 3.32. Also, the tonnage factor figure used by Algoma for waste was probably too low, as the waste consists mostly of shale and greywacke, but some of it includes bands of hematite/magnetite raising the SG. WGM's model returned an average SG value of 2.92 for the waste zones that we could define as a coherent unit.

## 17.6 BLOCK MODEL PARAMETERS, GRADE INTERPOLATION AND CATEGORIZATION OF MINERAL RESOURCES

### 17.6.1 GENERAL

The Western Lake St. Joseph Mineral Resource estimate was completed using a block modelling method and for the purpose of this study, the grades have been interpolated using an Inverse Distance ("ID") estimation technique. ID belongs to a distance-weighted interpolation class of methods, similar to Kriging, where the grade of a block is interpolated from several composites within a defined distance range of that block. ID uses the inverse of the distance (to the selected power) between a composite and the block as the weighting factor.

For comparison and cross checking purposes, the $ID^2$ and $ID^{10}$ methods, which closely resembles a Nearest Neighbour ("NN") technique, was used. In the NN method, the grade of a block is estimated by assigning only the grade of the nearest composite to the block. All interpolation methods gave similar results, as the grades were well constrained within the wireframes, and the results of the interpolation approximated the average grade of the all the composites used for the estimate. WGM's experience with similar types of deposits showed that geostatistical methods, like Kriging, gave very similar results when compared to ID interpolation, therefore we are of the opinion that ID interpolation is appropriate.

### 17.6.2 BLOCK MODEL SETUP / PARAMETERS

The block model was created using the Gemcom software package to create a grid of regular blocks to estimate tonnes and grades. The deposit specific parameters used for the block modelling are summarized below.

The block sizes used were:

- Width of columns = 25 m
- Width of rows = 25 m
- Height of blocks = 25 m

The specific parameters for the block model is as follows:

| | |
|---|---|
| Easting coordinate of model bottom left hand corner: | 631200.00 |
| Northing coordinate of model bottom left hand corner: | 5645400.00 |
| Datum elevation of top of model: | 450.00 m |
| Model rotation: | 0.00 |
| Number of columns in model: | 320 |
| Number of rows in model: | 180 |
| Number of levels: | 24 |

### 17.6.3 GRADE INTERPOLATION

The details of the geology and geometry of the mineralized body is quite complex and more drilling is required to get a better understanding of the depth potential, dip and internal detail of the leaner and waste sedimentary units. However, the gross overall mineralization controls are fairly well understood and mapped out. The search ellipse size and orientation for the grade interpolation were based on the current geological knowledge, and due to the folding causing orientation/strike complexity and change, three simple domains were defined; Main Zone North (MZN), Main Zone South (MZS) and Southeast Zone (SEZ). After more drilling has been completed, more domains maybe be added, or a technique known as unfolding may be applied during the statistical analysis and the grade interpolation. The following lists the general grade interpolation parameters (Note that the orientation of the search ellipses changed for each of the three defined domains):

ID Search Ellipsoid:

300 m in the East-West direction
500 m in the North-South direction
250 m in the Vertical direction
Minimum / Maximum number of composites used to estimate a block: 2 / 12
Maximum number of composites coming from a single hole: 3
Ellipsoidal search strategy was used with rotation about Z,Y,Z:
MZN: 0°, 70°, 0°
MZS: -60°, 80°, 0°
SEZ: 90°, 90°, 0°.

The large search ellipse was used in order to inform all the blocks in the block model with grade, however, the classification of the Mineral Resources (see below) was based on drillhole density (or drilling pattern), geological knowledge / interpretation of the geology and WGM's experience with similar deposits. The %SFe Head-Individual Samples grade (interpolated from 10 m composites) was used for the Mineral Resource estimate, however, %SFe, %magFe and %HmFe (calculated) from the Davis Tube testwork was also interpolated into the block model for comparison purposes.

The iron oxides in the deposit consist of fine grained specular hematite and magnetite, and various reports list the ratio of hematite to magnetite as anywhere from 3:1 to 1:1 (this latter ratio is the one that WGM tends to agree with). It is likely that in different parts of the Property, different ratios of hematite to magnetite occur, but this distribution is not completely mapped out and should be studied in detail for any future work. WGM calculated the Fe in hematite as a simple calculation of (%SFeHead - %magFe) and this manipulation was done in Gemcom in the block model. Where significant silicate Fe is present, this method would result in overestimating Fe in hematite. Fe in sulphide is also not taken into account, but WGM believes this is minor. WGM also tested these hematite grade estimates by calculating hematite using an alternative procedure which relied on original Lakefield assays on the Davis Tube tails ((100-%DTWR/100) X %SFe Davis Tube Tails). Comparison of the two methods for hematite estimation resulted in four or five samples out of 533 that did not reasonably compare. WGM believes that five samples are not significant and the hematite estimates are reasonable.

Gemcom does not use the sub-blocking method for determining the proportion and spatial location of a block that falls partially within a wireframed object. Instead, the system makes use of a percent or partial block model (if it is important to track the different rock type's proportions in the block – usually if there is more than one important type) or uses a "needling technology" that is similar in concept, but offers greater flexibility and granularity for accurate volumetric calculations. In the needling technique, all the blocks that are inside the wireframe (the user specifies the %threshold) are coded and thus are assigned the appropriate rock code and the interpolated grade. During the volumetric calculation, Gemcom's needling process reports only the volume / tonnage of the block actually within the wireframe itself, but applies the interpolated grade to that portion of the block within the wireframe / solid.

#### 17.6.4 MINERAL RESOURCE CATEGORIZATION

Mineral Resource classification is based on certainty and continuity of geology and grades, and this is almost always directly related to the drilling density. Areas more densely drilled are usually better known and understood than areas with sparser drilling, which would be considered to have greater uncertainty, and hence lower confidence.

WGM has abundant experience with similar types of mineralization to the Western Lake St. Joseph deposit, therefore we used this knowledge to assist us with our categorization of the Mineral Resources. Since the entire drilling grid was not completed to a regular spacing and some drillholes did not penetrate the entire stratigraphy/zone, the mineralization was further extended on the fringes/edges and at depth. The continuity of the mineralization in general was very good, but internally the continuity of the beds/sedimentary waste sub-units is poorly understood due to lack of drilling and folding/geometric complexity. WGM was of the opinion that extending the interpretation beyond the more densely drilled parts of the deposit, as long as there was supporting data from adjacent sections, was appropriate. This extension was taken into consideration when classifying the Mineral Resources and these areas were given a lower confidence category; in general, this represented the deeper mineralization. Variograms were also generated along strike and across the deposit in support of these distances. WGM has not classified any of the Western Lake St. Joseph mineralization as Measured at this stage of exploration.

Because the search ellipses were large enough to ensure that all the blocks in the 3-D model were interpolated with grade, WGM generated a distance model (distance from actual data point to the block centroid) and reported the estimated Mineral Resources by distances which represented the category or classification. WGM chose to use the blocks within the 3-D wireframes that had a distance of 100 m or less to be Indicated category and +100 m to be Inferred category. The average distance for the total Indicated Mineral Resources within the 3-D wireframe (i.e., at no cutoff) was 56 m, and for the Inferred the average distance was 152 m. The majority of the deeper mineralization is categorized as Inferred to due the current lack of drilling below 250-300 m from surface, and the maximum depth that the mineralization was taken to is 0 m elevation (approximately 400 m vertically from surface).

Figure 38 shows the zone outlines and interpolated %SFe blocks on Level Plan 320 m. An example of WGM's categorization of the Mineral Resources was shown previously on Figure 36 (Cross Section 4).

For the Mineral Resource estimate, a cutoff of 18% SFeHead was determined to be appropriate at this stage of the project (Table 41). This cutoff was chosen based on a preliminary review of the parameters that would likely determine the economic viability of a large open pit operation and compares well to similar projects and to projects that are currently at a more advanced stage of study. Table 42 shows the Mineral Resource estimate at various cutoffs for comparison purposes.

**TABLE 41.**
**CATEGORIZED MINERAL RESOURCE ESTIMATE FOR**
**WESTERN LAKE ST. JOSEPH IRON PROJECT (CUTOFF OF 18% HEAD SFe)**

| Resource Classification | Tonnes (000s) | %SFe Head-Individual Samples | %SFe Head-Composites | %magFe Head-Composites | %HmFe Head-Composites |
|---|---|---|---|---|---|
| Indicated | 590,847 | 28.84 | 28.43 | 14.86 | 13.56 |
| Inferred | 415,757 | 29.47 | 29.07 | 14.52 | 14.55 |

**TABLE 42.**
**CATEGORIZED MINERAL RESOURCES BY %HEAD SFe CUTOFF**
**WESTERN LAKE ST. JOSEPH IRON PROJECT**

| | Tonnes (000s) | %SFe Head-Individual Samples | %SFe Head-Composites | %magFe Head-Composites | %HmFe Head-Composites |
|---|---|---|---|---|---|
| **No Cutoff (all mineralization within the wireframe)** | | | | | |
| Indicated | 651,425 | 26.47 | 25.91 | 13.58 | 12.33 |
| Inferred | 425,028 | 29.03 | 28.46 | 14.22 | 14.24 |
| **15% SFe Cutoff** | | | | | |
| Indicated | 595,101 | 28.75 | 28.36 | 14.86 | 13.50 |
| Inferred | 416,367 | 29.45 | 29.05 | 14.52 | 14.53 |
| **18% SFe Cutoff** | | | | | |
| Indicated | 590,847 | 28.84 | 28.43 | 14.86 | 13.56 |
| Inferred | 415,757 | 29.47 | 29.07 | 14.52 | 14.55 |
| **20% SFe Cutoff** | | | | | |
| Indicated | 579,331 | 29.03 | 28.60 | 14.89 | 13.72 |
| Inferred | 411,000 | 29.59 | 29.17 | 14.54 | 14.63 |
| **22% SFe Cutoff** | | | | | |
| Indicated | 553,142 | 29.40 | 28.96 | 14.88 | 14.07 |
| Inferred | 399,793 | 29.83 | 29.38 | 14.53 | 14.85 |
| **25% SFe Cutoff** | | | | | |
| Indicated | 483,503 | 30.23 | 29.75 | 14.77 | 14.97 |
| Inferred | 371,695 | 30.30 | 29.81 | 14.49 | 15.32 |

RKX EXP / RKX_04_Plan_Map_320m.cdr
Last revision date: Thursday 9 December 2010

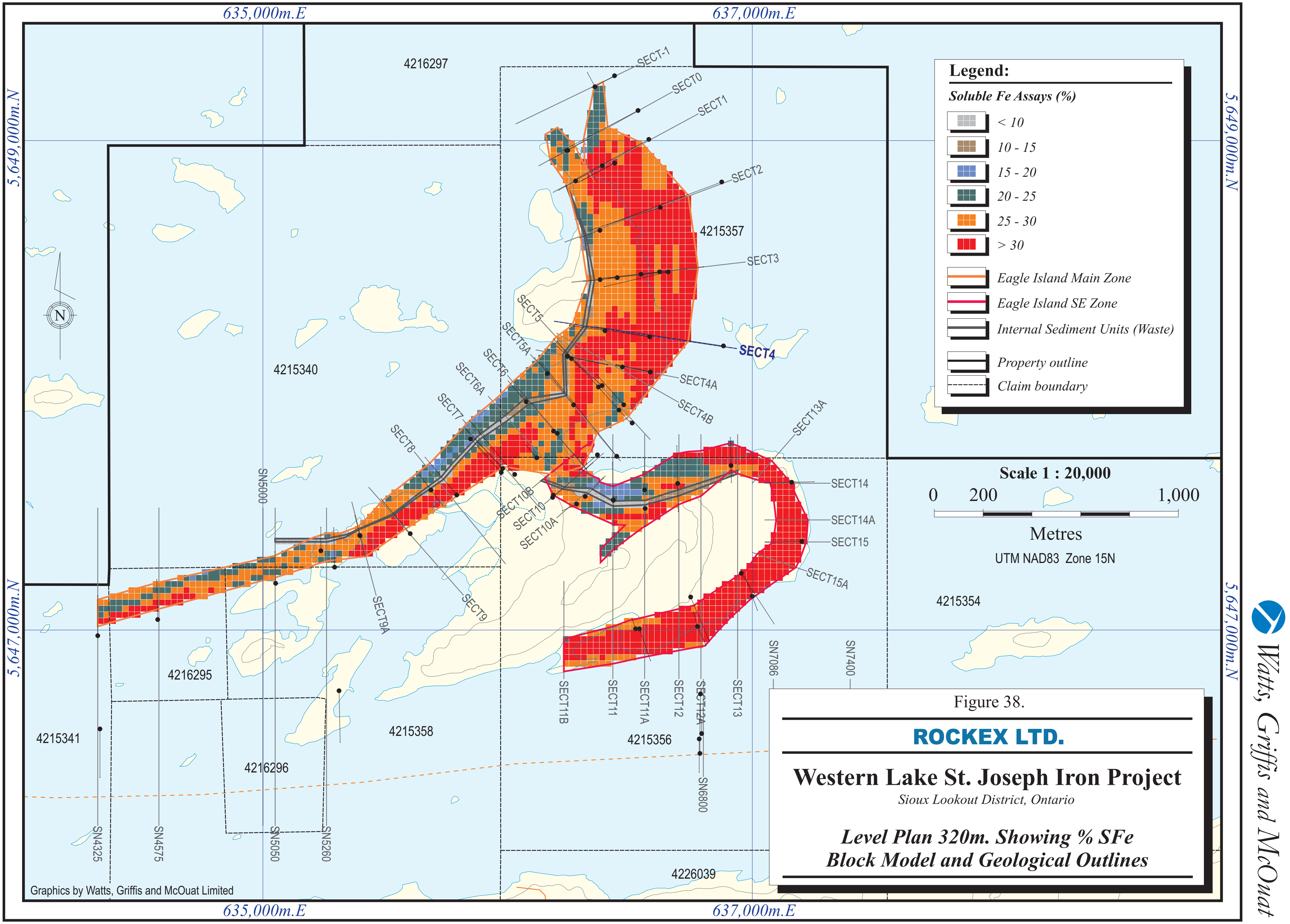



Figure 38.

**ROCKEX LTD.**

# Western Lake St. Joseph Iron Project

*Sioux Lookout District, Ontario*

***Level Plan 320m. Showing % SFe Block Model and Geological Outlines***

# 18. OTHER RELEVANT DATA AND INFORMATION

There is no other relevant information known to WGM.

# 19. INTERPRETATION AND CONCLUSIONS

Based on WGM's review of the available information for the Property, we offer the following conclusions:

- A substantial deposit of fine grained hematite/magnetic taconite, Algoma-type iron formation is located on the Property. The main parts of the deposit are located on, or adjacent to, Eagle, Fish and Wolf islands in Lake St. Joseph. Algoma in 1976 estimated over a billion tons of "reserves" grading near 30% SFe and open at depth. This "reserve" estimate was completed prior to NI 43-101 and should not be relied upon. Furthermore, Algoma completed subsequent exploration work on Fish Island subsequent to the "reserve" estimate and this work raised doubts with regard to widths of mineralization on Fish Island expressed in historic records. This caveat does not apply to Eagle Island mineralization where Algoma's "reserve" estimate relied only on Algoma exploration results;
- WGM has prepared a Mineral Resource estimate for the Western Lake St. Joseph Iron Project mineralized areas that have sufficient data to allow for continuity of geology and grades. WGM modelled the main Eagle Island mineralization, but did not include the Fish Island or Wolf Island areas at this time. More confirmation work and new drilling needs to be done before a Mineral Resource estimate can be completed on these other areas. The average grade of the deposit per the Mineral Resource estimate was estimated at a cutoff of 18% and utilized both SFe Head grades of individual Algoma drillhole samples and Head grades for Algoma's composite samples on which Davis Tube tests were completed. Indicated Mineral Resources aggregated 590,847,000 tonnes at an average grade of 28.43% SFe DT Composite Heads (28.84% SFe Crude Heads), 14.86% magFe and 13.56% HmFe. Inferred Mineral Resources aggregated 415,757,000 tonnes at an average grade of 29.07 %SFe DT Composite Heads (29.47% SFe Crude Heads), 14.52% magFe and 14.55% HmFe;
- Algoma was the last major company to control the Property. Algoma completed substantial work from 1973 through 1978, spending $2 million on diamond drilling (47,921 ft, (14,606 m) in 74 drillholes), assaying, resource estimates, bulk sampling, laboratory pilot plant studies and soil tests and development studies. In the late-1970s, Stelco and Dofasco agreed to join with Algoma to study the development of a large scale operation involving mining several properties adjacent to Lake St. Joseph. The concept included concentrating the ore at Lake St. Joseph and funnelling the concentrate into a pipeline transportation system for movement to pelletizing and shipping facilities on Lake

Superior. Records for work conducted in the 1980s and 1990s have not been acquired and may not be in the public domain;

- Although Algoma and LSJI have completed substantial metallurgical testwork on the mineralization in the past, there is little of any value to support predevelopment studies of the deposit to the standards currently necessary. Developments in technology and concentration equipment since completion of the previous metallurgical work and the current approach to flowsheet development will probably benefit this deposit in defining the optimum flowsheet for concentration. From the results to date it can only be concluded that very fine grinding will be necessary and it is possible to make saleable concentrate grade. There is only early stage mineralogy work and no work indices on the ore have been established. Neither the potential for coarse cobbing and stage grinding nor the potential of all possible concentration methods have not been investigated thoroughly. Possible variations in mineralogy and metallurgical characteristics throughout the deposit have not been investigated. All this work is necessary to support predevelopment studies.
- Algoma's testwork showed:
  - that pellet grade concentrates could be produced using two stages of grinding and a total of 5 deslimes; and
  - the all de-sliming pilot plant test produced a concentrate grading 66% SFe and 5.4% $SiO_2$ with an 80% SFe recovery. The de-sliming-flotation pilot plant test produced a concentrate grading 66.3% SFe with 4.82% $SiO_2$ with a SFe recovery of 75%;
- Direct reduction metalizing that was tested by Hanna demonstrated some possibilities but it is not a standard approach for concentrating iron deposits of this type. This possibility would require a further comprehensive study of markets for a product of this nature from this geographic location before it could be considered an option;
- Additional work may have been completed after 1976 and reports for this work has not been recovered;
- To develop one, or several open pits to mine these deposits, significant sections of Lake St. Joseph will require dams and/or dikes. A tourist operator owns the surface rights of a substantial part (but not all) of Eagle Island and another landowner owns the surface rights of parts of Fish island and Wolf island and these rights will need to be acquired; and,
- In WGM's opinion, significant hurdles for developing open pit mines on Lake St. Joseph will be negotiations with the various stake holders, and dealing with environmental concerns regarding the open pit mines, concentrators and tailings repositories.

## 20. RECOMMENDATIONS

Rockex has developed a program and budget to advance the project. WGM agrees the program and budget is reasonable. The estimated cost breakdown for the program is presented in Table 39.

**TABLE 39.**
**PROPOSED ESTIMATED BUDGET**

| Task | Costs (C$) |
|---|---|
| **Phase I Program** | |
| Drilling 3,500 m @$200/m excluding assays and testwork | C$700,000 |
| Assays for drill program including QA/QC 900 @ $110/sample | 99,000 |
| Airborne Geophysics 930 line km @ $122/km | 104,000 |
| Geological Mapping, Trench cleanout/mapping | 150,000 |
| Metallurgical testwork and Consulting | 152,000 |
| Environmental Baseline Studies | 100,000 |
| Preliminary Economic Assessment | 60,000 |
| ***Subtotal*** | ***1,365,000*** |
| Contingency 15% | 205,000 |
| ***Subtotal*** | ***1,570,000*** |
| | |
| Office, general and administrative expenses | 920,000 |
| **Total Phase I** | **C$2,490,000** |
| | |
| **Phase II Program** | |
| Drilling 2,600 m @ $200/m excluding assays | 520,000 |
| Assays for Phase II drill program including QA/QC 700 @ $110/sample | 77,000 |
| Subtotal | 597,000 |
| Contingency 15% | 90,000 |
| **Total Phase II** | **C$687,000** |

The first phase of drilling includes six holes 500 m to 650 m long for an aggregate of 3,500 m to test the east dip of the iron formation on the north south limp of Eagle Island. This program should be done this winter, when the lake is frozen. The other eight proposed drill holes for a total of 2,600 m will test the dip and some possible extensions of the iron formation on Eagle Island. WGM believes considerable more drilling is warranted and it mainly can be done from the ice.

The proposed airborne geophysics is a high resolution heli-mag survey. Acquisition will include high resolution aero magnetic and VLF-EM data. Traverse line will be oriented mostly north-south with a spacing of 100 m. The survey will also include six east-west oriented control lines. Over the north part of Eagle Island, where the iron formation trends north south a second set of survey lines spaced at 100 m intervals will be run in an east-west direction. WGM recommends that Rockex investigate whether topographic data can be captured simultaneously during this survey to build a Digital Elevation Model ("DEM") to support future Mineral Resource estimates and mine planning.

The trenching on Eagle Island will include two trenches of 300 m length across the larger part of the iron ore formation.

WGM recommends that Rockex complete a redesign of its drillhole and assay database to support future work.

The proposed metallurgical work is based on a proposal from SGS to carry out preliminary mineralogical investigations and preliminary bench testing for characterization of the mineralization as well as preliminary flowsheet development. The program would be staged depending on the drilling results and any variability in the deposit that is recognized with the intent to ultimately work with a representative composite to determine the metallurgical response and the main processing parameters needed to support preliminary economics of the deposit.

## 21. SIGNATURE PAGE

This report titled "*Technical Report and Mineral Resource Estimate on the Western Lake St. Joseph Iron Ore Project, Ontario, Canada for Rockex Limited and Rockex Mining Corporation*" dated January 28, 2011, was prepared and signed by the following authors:

Dated effective as of January 28, 2011.

Michael Kociumbas, P.Geo.
Senior Geologist and Vice-President

Richard Risto, M.Sc., P.Geo.
Senior Associate Geologist

G. Ross MacFarlane, P.Eng.
Senior Associate Metallurgical Engineer

# CERTIFICATE

## To Accompany the Report titled "Technical Report and Mineral Resource Estimate on the Western Lake St. Joseph Iron Ore Project, Ontario, Canada for Rockex Limited and Rockex Mining Corporation" dated January 28, 2011

I, Michael W. Kociumbas, do hereby certify that:

1. I reside at 420 Searles Court, Mississauga, Ontario, Canada, L5R 2C6.

2. I am a graduate from the University of Waterloo, Waterloo, Ontario with an Honours B.Sc. Degree in Applied Earth Sciences, Geology Option (1985), and I have practised my profession continuously since that time.

3. I am a member of the Association of Professional Geoscientists of Ontario (Membership Number 0417).

4. I am a Senior Associate Geologist with Watts Griffis and McOuat Limited, a firm of consulting geologists and engineers, which has been authorized to practice professional engineering by the Professional Engineers Ontario since 1969, and professional geoscience by the Association of Professional Geoscientists of Ontario.

5. I have experience with iron ore deposits and resource estimation techniques.

6. I am a Qualified Person for the purposes of NI 43-101 and I am responsible for the preparation of portions of this report. My relevant experience for the purpose of this Technical Report are:

   - Prepared several National Instrument 43-101 reports on iron properties; and
   - Prepared numerous Mineral Resource/Reserve estimates on iron properties globally.

7. I did not visit the Property.

8. I was responsible for Section 17 and I was jointly responsible with co-authors, Rick Risto and G. Ross MacFarlane for Sections 1, 2, 3, 18 to 20.

9. I have no personal knowledge as of the date of this certificate of any material fact or change, which is not reflected in this report.

10. This report was prepared for Rockex Limited in part by Michael Kociumbas and WGM. It is based almost exclusively on data that were provided to the authors by Rockex Limited. Michael Kociumbas and WGM disclaim all liability for the underlying data and do not accept responsibility for the interpretations and

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12. Neither I, nor any affiliated entity of mine, is at present, under an agreement, arrangement or understanding or expects to become, an insider, associate, affiliated entity or employee of Rockex Limited, or any associated or affiliated entities.

13. Neither I, nor any affiliated entity of mine own, directly or indirectly, nor expect to receive, any interest in the properties or securities of Rockex Limited, or any associated or affiliated companies.

14. Neither I, nor any affiliated entity of mine, have earned the majority of our income during the preceding three years from Rockex Limited, or any associated or affiliated companies.

15. I have read NI 43-101 and Form 43-101F1 and have prepared the technical report in compliance with NI 43-101 and Form 43-101F1; and have prepared the report in conformity with generally accepted Canadian mining industry practice, and as of the date of the certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

PROFESSIONAL GEOSCIENTISTS ONTARIO
MICHAEL W. KOCIUMBAS
PRACTISING MEMBER
0417

Michael Kociumbas, P.Geo.
January 28, 2011

# CERTIFICATE

**To Accompany the Report titled**
**"Technical Report and Mineral Resource Estimate on the Western Lake St. Joseph Iron Ore Project, Ontario, Canada for Rockex Limited and Rockex Mining Corporation" dated January 28, 2011**

I, Richard W. Risto, do hereby certify that:

1. I reside at 22 Northridge Ave, Toronto, Ontario, Canada, M4J 4P2.

2. I am a graduate from the Brock University, St. Catherines, Ontario with an Honours B.Sc. Degree in Geology (1977), Queens University, Kingston, Ontario with a M.Sc. Degree in Mineral Exploration (1983), and I have practised my profession for over 20 years.

3. I am a member of the Association of Professional Geoscientists of Ontario (Membership Number 276).

4. I am a Senior Associate Geologist with Watts Griffis and McOuat Limited, a firm of consulting geologists and engineers, which has been authorized to practice professional engineering by the Professional Engineers Ontario since 1969, and professional geoscience by the Association of Professional Geoscientists of Ontario.

5. I have experience with iron ore deposits and resource estimation techniques.

6. I am a Qualified Person for the purposes of NI 43-101 and I am responsible for the preparation of all aspects of this report, with the exception of the metallurgical review. My relevant experience for the purpose of this Technical Report are:

   - Prepared several National Instrument 43-101 reports on iron properties; and
   - Visited the Property and carried out several technical due diligence examination and geological examinations both on surface during the past seven years.

7. I visited the property between April 1 and 3, 2008.

8. I was responsible for Sections 4 to 15 and I was jointly responsible with co-author, Mr. G. Ross MacFarlane for Sections 1, 2, 3, 18 to 20.

9. I have no personal knowledge as of the date of this certificate of any material fact or change, which is not reflected in this report.

10. This report was prepared for Rockex Limited in part by Michael Kociumbas and WGM. It is based almost exclusively on data that were provided to the authors by Rockex Limited. Michael Kociumbas and WGM disclaim all liability for the

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13. Neither I, nor any affiliated entity of mine own, directly or indirectly, nor expect to receive, any interest in the properties or securities of Rockex Limited, or any associated or affiliated companies.

14. Neither I, nor any affiliated entity of mine, have earned the majority of our income during the preceding three years from Rockex Limited, or any associated or affiliated companies.

15. I have read NI 43-101 and Form 43-101F1 and have prepared the technical report in compliance with NI 43-101 and Form 43-101F1; and have prepared the report in conformity with generally accepted Canadian mining industry practice, and as of the date of the certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

PROFESSIONAL GEOSCIENTIST
RICHARD W. RISTO
PRACTISING MEMBER
0276
ONTARIO

Richard Risto, P.Geo.
January 28, 2011

representations or warranties, expressed or implied, contained in, or for omissions from, this report or any other written or oral communications transmitted or made available to any interested party when done without written permission or when they are inconsistent with the conclusions and statements of this report.

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12. Neither I, nor any affiliated entity of mine, is at present, under an agreement, arrangement or understanding or expects to become, an insider, associate, affiliated entity or employee of Rockex Limited, or any associated or affiliated entities.

13. Neither I, nor any affiliated entity of mine own, directly or indirectly, nor expect to receive, any interest in the properties or securities of Rockex Limited, or any associated or affiliated companies.

14. Neither I, nor any affiliated entity of mine, have earned the majority of our income during the preceding three years from Rockex Limited, or any associated or affiliated companies.

15. I have read NI 43-101 and Form 43-101F1 and have prepared the technical report in compliance with NI 43-101 and Form 43-101F1; and have prepared the report in conformity with generally accepted Canadian mining industry practice, and as of the date of the certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

LICENSED PROFESSIONAL ENGINEER
G.R. MacFARLANE
PROVINCE OF ONTARIO

Ross MacFarlane, P.Eng.
January 28, 2011

**CERTIFICATE**

**To Accompany the Report titled**
**"Technical Report and Mineral Resource Estimate on the Western Lake St. Joseph Iron Ore Project, Ontario, Canada for Rockex Limited and Rockex Mining Corporation" dated January 28, 2011**

I, G. Ross MacFarlane, do hereby certify that:

1. I reside at 1302 Woodgrove Place, Oakville, Ontario, Canada, L6M 1V5.

2. I am a graduate of the Technical University of Nova Scotia, Halifax, Nova Scotia, with a Bachelor of Engineering, Mining with Metallurgy Option in 1973 and have practiced my profession since that time.

3. I am a member of the Association of Professional Engineers Ontario (Registration Number 28062503).

4. I am a Senior Associate Metallurgical Engineer with Watts, Griffis and McOuat Limited, a firm of consulting engineers and geologists, which has been authorized to practice professional engineering by Professional Engineers Ontario since 1969, and professional geoscience by the Association of Professional Geoscientists of Ontario.

5. I have more than 35 years of experience in the operation, evaluation, and design of mining and milling operations.

6. I am a Qualified Person for the purposes of NI 43-101 because of my knowledge of and experience with iron ore operations including mining, concentrating, and pelletizing.

7. I have reviewed all of the technical data regarding the Property as provided by Rockex Limited, and have not visited the property.

8. I was responsible for Section 16 and I was jointly responsible with co-author, Mr. Richard Risto for Sections 1, 2, 3, 18 to 20.

9. I have no personal knowledge as of the date of this certificate of any material fact or change, which is not reflected in this report.

10. This report was prepared for Rockex Limited in part by Michael Kociumbas and WGM. It is based almost exclusively on data that were provided to the authors by Rockex Limited. Michael Kociumbas and WGM disclaim all liability for the underlying data and do not accept responsibility for the interpretations and representation made in this report where they were a result of erroneous, false, or misrepresented data. Michael Kociumbas and WGM disclaim any and all liability for

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Watts, Griffis and McOuat Limited

Sept. 24, 2010 Updated Technical Report on the Western Lake St. Joseph Iron Ore Project, Ontario, Canada for Rockex Limited" by Richard Risto, P.Geo., and Ross G. Macfarlane., P.Eng.

May 26, 2008 Technical Report on the Western Lake St. Joseph Iron Ore Project, Ontario, Canada for Rockex Limited" by Richard Risto, P.Geo., and H.E. (Buzz) Neal, P.Eng.

# APPENDIX 1:
# ANALYTICAL CERTIFICATES, SGS MINERALS SERVICES
# (WGM INDEPENDENT SAMPLING)

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

**Rockex Limited**
Attn : Pierre Gagne

580 New Vickers Street
Thunder Bay, ON
P7E 6P1, Canada

Phone: (807) 623-2626
Fax:(807) 623-4221

Monday, June 09, 2008

**Date Rec. :** 09 May 2008
**LR Report :** **CA00236-MAY08**
**Project :** CALR-11909-001
**Client Ref :** \Rockex Ltd

# CERTIFICATE OF ANALYSIS

## Final Report

| Sample ID | SiO2 % | Al2O3 % | Fe total as Fe2O3 % | MgO % | CaO % | Na2O % | K2O % | TiO2 % | P2O5 % |
|---|---|---|---|---|---|---|---|---|---|
| 1: SJWGM-01 | 44.7 | 4.44 | 44.0 | 1.45 | 0.97 | 1.03 | 1.83 | 0.12 | 0.72 |
| 2: SJWGM-02 | 38.0 | 3.65 | 51.9 | 1.31 | 1.18 | 1.06 | 0.99 | 0.11 | 0.66 |
| 3: SJWGM-03 | 41.1 | 5.09 | 46.3 | 1.49 | 1.15 | 1.29 | 1.43 | 0.15 | 0.88 |
| 4: SJWGM-04 | 43.6 | 4.19 | 46.5 | 1.35 | 0.94 | 0.78 | 1.82 | 0.12 | 0.59 |
| 5: SJWGM-05 | 52.4 | 8.60 | 30.2 | 1.40 | 1.49 | 2.11 | 1.76 | 0.27 | 0.25 |

| Sample ID | MnO % | Cr2O3 % | V2O5 % | LOI % | Sum % | S % | Magnetic Fe Fe % | Fe3O4 % | Fe2+ as FeO % |
|---|---|---|---|---|---|---|---|---|---|
| 1: SJWGM-01 | 0.03 | < 0.01 | < 0.01 | -0.15 | 99.1 | 0.02 | 14.1 | 19.5 | 7.45 |
| 2: SJWGM-02 | 0.03 | 0.01 | < 0.01 | 0.41 | 99.3 | < 0.01 | 14.8 | 20.5 | 7.48 |
| 3: SJWGM-03 | 0.02 | < 0.01 | 0.01 | 0.03 | 98.9 | 0.03 | 15.2 | 21.0 | 7.91 |
| 4: SJWGM-04 | 0.02 | 0.02 | < 0.01 | -0.02 | 100.0 | 0.02 | 14.8 | 20.4 | 7.39 |
| 5: SJWGM-05 | 0.06 | 0.01 | < 0.01 | 1.57 | 100.2 | 0.05 | 21.3 | 29.4 | 10.21 |

OnLine LIMS

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**LR Report :** **CA00236-MAY08**

| Sample ID | SiO2 % | Al2O3 % | Fe total as Fe2O3 % | MgO % | CaO % | Na2O % | K2O % | TiO2 % | P2O5 % |
|---|---|---|---|---|---|---|---|---|---|
| 6: SJWGM-06 | 55.3 | 10.2 | 26.2 | 1.65 | 0.79 | 0.22 | 3.48 | 0.32 | 0.32 |
| 9-STD: nbm-1 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10-STD: CZN-3 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12-STD: FER-2, SETT | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13-STD: 681-1, Iron Ore, SETT | --- | --- | --- | --- | --- | --- | --- | --- | --- |

| Sample ID | MnO % | Cr2O3 % | V2O5 % | LOI % | Sum % | S % | Magnetic Fe Fe % | Fe3O4 % | Fe2+ as FeO % |
|---|---|---|---|---|---|---|---|---|---|
| 6: SJWGM-06 | 0.06 | 0.01 | < 0.01 | 1.47 | 99.9 | 0.01 | 17.6 | 24.3 | 8.77 |
| 9-STD: nbm-1 | --- | --- | --- | --- | --- | 0.27 | --- | --- | --- |
| 10-STD: CZN-3 | --- | --- | --- | --- | --- | 31.6 | --- | --- | --- |
| 12-STD: FER-2, SETT | --- | --- | --- | --- | --- | --- | --- | --- | 12.27 |
| 13-STD: 681-1, Iron Ore, SETT | --- | --- | --- | --- | --- | --- | --- | --- | 6.76 |

Control quality assays

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