

GM 67281

TECHNICAL REPORT 43-101 ON MINERAL RESOURCES OF THE DUNCAN LAKE IRON ORE PROJECT

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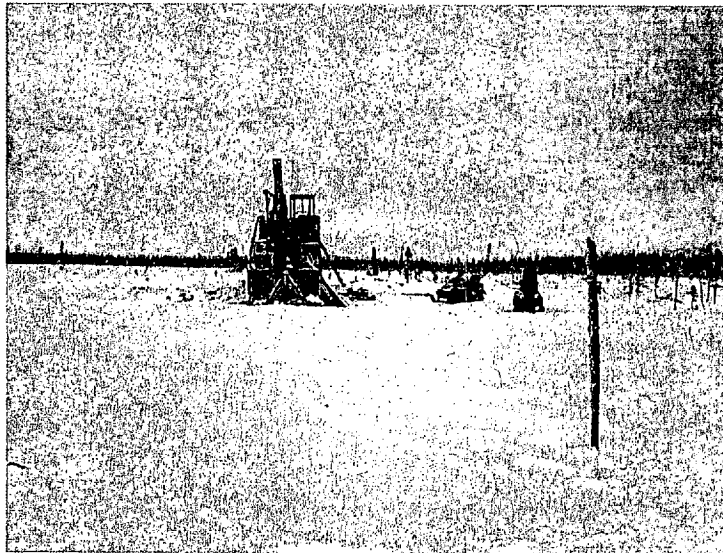
Énergie et Ressources
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Québec 

Augyva Mining Resources Inc.

TECHNICAL REPORT NI 43-101 ON MINERAL RESOURCES OF THE DUNCAN LAKE IRON ORE PROJECT

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QUEBEC - CANADA



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1.0 EXECUTIVE SUMMARY

1.1 Introduction

In the fall of 2009, Met-Chem Canada Inc. (Met-Chem) was retained by Augyva Mining Resources Inc. (Augyva) at the request M. Georges-Yvan Gagnon, President, to prepare an independent technical report on the mineral resources of the Duncan Lake Iron Ore Project (DLIOP) in Quebec, following the guidelines of the Canadian Securities Administrators National Instrument 43-101.

A drilling program was initiated in 2008 and completed in 2009 on the DLIOP. DLIOP is made of six (6) different blocks or properties named Deposits 1 to 6. Drilling program was realized on five (5) deposits, mainly drilled on Deposit 1, with few testing boreholes on Deposits 2, 3, and 5, and tentative confirmation boreholes (twin holes) on Deposits 4 which was previously drilled in 1973. Deposit 6 previously drilled in 1973 was not drilled in 2009. The 2008-2009 drilling program's objectives were to validate historical results from boreholes drilled in 1973 on Deposit 4, to convert historical mineral resources into NI 43-101 compliant resources and to define additional tonnage with definition resource on Deposit 1.

The 2008-2009 drilling program, consisting of 52-diamond drill holes for 10,460 meters, was completed in May 2009, under the supervision of an independent geological consultant assisted by Augyva's employees.

1.2 Property Description and Location

The DLIOP property is located approximately 570 km north of Matagami, Québec, which is the nearest mining community, using a paved road (Highway 109), connecting Matagami to Radisson. Road distance from Montreal to DLIOP property is estimated to 1,350 km. The property is located 50 km south of Radisson and 10 km south of the LG2 regional airport.

The property is subdivided into six (6) different blocks (Deposits 1 to 6) located close to and apart from Highway 109. Deposits 1, 2, and 5 are located southwest of the highway and Deposits 3, 4 and 6 to the northeast in the lateral extension of the other deposits.

The property consists of 99 mining claims covering 4,615.49 hectares. All claims were registered as CDC ("Claim designation sur carte") in the Québec Province electronic system with boundaries automatically attributed by the system, and are owned 100% by Augyva. Augyva is the sole beneficial owner of all claims with 100% ownership. However, DLIOP is subject to Option and Joint Venture Agreement with Virginia and Century.

1.3 Accessibility, Climate, Local Resources, Infrastructure, and Physiography

Deposits 1 to 6 are elongated southwest to northeast on a 28 km strike. Highway 109 goes through the property and splits it in two. Deposits 1, 2, and 5 are located on the west side of the road and the other deposits on the eastern part. Access is relatively easy using “Quad” on bush trails.

The property is located in the northwest part of Québec. Generally, summers are hot and winters are cold. The summer period lasts from mid-May to the end of September. The winter period starts in late-October up to mid-April. However, day-to-day climatic conditions may vary considerably. The climate is typical of middle Ungava plateau, with ice break-up starting in May and freeze-up at the end October.

Radisson is the closest municipality and is composed of 500 residents. Population may reach 700 people affected by temporary work realized by Hydro-Québec all around the sector. Hydro-Quebec keeps housing infrastructure and facilities provided during the construction period in good condition. Radisson was created by Hydro-Québec in 1974 to provide housing and to support development of the La Grande hydro-electric complex. Actually, Radisson provides services to local permanent population and many temporary employed of Hydro-Québec.

The local topography of DLIOP is characterized by low plain, rolling terrain, elongated in northeast direction, with several small hills and low lying swampy areas. In general, the terrain is quite swampy and flat, except for a few low rocky hills and unconsolidated glacial eskers and moraines composed of silt, sand, gravel and boulders. Presence of iron formation band does not influence too much the topography. Deposits 1, 3, 4, and 5 are characterized by low hills and elongated topographic features of less than 10 meters high.

1.4 History

The discovery of iron ore formation around Duncan Lake is attributed to a prospecting party composed of J.C. Hornsberger, Lloyd B. Almond and René Maloney in 1949. At that time, there was no interest in low grade magnetic taconites, so no claims were staked and the exact location of the deposits was not disclosed. In 1953, as interest increased in beneficiation of magnetic iron ores, Hornsberger returned with Maloney and three other men to stake the property.

Between 1957 and 1974, most of the work on the property was done on the behalf of Duncan Range Iron Mines Limited. Duncan Range Iron Mines conducted several exploration works and studies with Ingham and Ross in 1958 and Grondin in 1962. In 1973, a drilling campaign of 22 boreholes was completed on Deposits 3, 4, and 6 located on the eastern part of the DLIOP. From 1976 to 2004, sporadic exploration activities were only applied on gold and base metal and nothing is reported on iron ore.



In 2005, Augyva acquired the DLIOP and initiated field reconnaissance, magnetic field surveys, and grad samples of the iron ore occurrences in 2006, mainly on Deposit 1. Magnetic field survey was realized systematically on all deposits, followed by a major drilling campaign initiated in 2008 and terminated in 2009.

1.5 Geological Setting

This territory fills the central portion of the Superior Geological Province, which included four sub-provinces, which are, from north to south: La Grande, Opinaca, Némiscau and Opatica. DLIOP is located in La Grande sub-province. La Grande sub-province is boarded to the north by the Bienville sub-province close to Radisson city, and by the Opinaca sub-province to the east and southeast.

The main characteristic of the La Grande area is the presence of multiphase Meso to Neo-archean tonalitic basement associated to Langelier Complex, overlain by autochthonous to para-autochthonous volcano-sedimentary sequences of Yasinski Group and Ekomiak Formation. These sub-units of La Grande sub-provinces are constituted of volcano-pluton and metasedimentary groups which are crosscut by EW to WNW and ENE shears.

The volcano-sedimentary bands, called greenstone belt, trend generally southwest to northeast as elongated bands. The area is underlain Archean rocks, such as granites, gneisses and schists with some elongated bands of metamorphosed volcanic and sedimentary rocks at the amphibolite facies, associated with Yasinski Group. In the property vicinities, volcanic and metasedimentary greenstone belts extend some 50 km ENE from Duncan and Esprit Lakes. Rock formations include some iron formation lenses, mainly associated with magnetic oxide BIF.

The Yasinski Group, in tectonic contact with the Langelier Complex consists of tholeiitic basalts and andesites, which were settled in a deep marine environment. The BIF, mainly composed of oxide magnetite facies, and the sandstone beds are intercalated with volcanic tuffs and flows. Ekomiak Formation consists of fluviatile polygenic sandstones, iron formation and polygenic conglomerates, in tectonic contact with the Yasinski. Proterozoic gabbro dykes and local quartz arenite basins of Sakami Formation are also present. These rocks are intruded by several plutons. Sakami Formation is characterized by abundant and extensive (several kilometers) and relatively thick oxide-facies iron formation units.

The Duncan Lake Iron Ore Deposits are important in volume and suggest a setting in a relatively stable environment such as a continental platform. However, iron formations in Sakami area show characteristics halfway between Algoma type deposits (associated with volcanic rocks) and Superior type deposits (associated with platform environment).

In the DLIOP area, mafic volcanic and sedimentary rocks are strongly sheared, foliated, mylonitized and amphibolitized. Pillow lavas are flattened and stretched. Iron formations are banded with alternating bands of dark magnetite rich units and light silica bands of 1 to 10 mm, and called BIF. Rock color is greenish-grey with a brown altered surface, recrystallized, fine to medium grains, and granoblastic texture.

The BIF is part of the sediment rock assemblage and consist of alternate silica-rich and magnetite rich layers, compressed into a relatively fine-grained black rock with a strong thinly-bedded and banded structure. Alternating beds vary generally from 1 to 10 millimetres and more. Grain size is variable from bed to bed and inside it and from one deposit to the other, related to post metamorphism events associated to post orogeny and multiple intrusions. Drag-folding or crenulations are observed as well as disseminated pyrite crystals through the iron formation bands. Generally, the BIF is considered as a consecutive depositional sediment band and the duplication of them is interpreted as result of folding effect.

1.6 Deposit Types

Iron formations take form in a broad spectrum of depositional environments. Sediments, local source of constituents, tectonic and stratigraphic settings, and geological environments are controlled by interrelated and complex physical, chemical and biogenic factors (Gross G.A., 1960).

Iron formation can be generalized and classified in two types as Lake Superior and Algoma. Lake Superior type of iron formation has been the major source of iron ore throughout the world with two (2) sub-types: the Taconite and the Meta-Taconite. They formed in near-shore continental-shelf and platform basins along the margins of Early to Middle proterozoic cratons and are preserved on all the continents. They are associated with normal shelf-type sedimentary rocks, including dolomite, quartzite, arkose, black shale, conglomerate, tuff and other volcanic rocks. They appear to be the product of hydrothermal effusive activity and volcanism located along deep-seated fault and fracture zones in subduction settings (Gross, 1968; Alex-Androv, 1973; Bayley and Barnes, 1973; Zajac, 1974; Beukes, 1983; Gross and Zajac, 1983).

Algoma type iron formation found in all ages of rock is consistently associated with greywacke sedimentary units and volcanic rocks. They are formed close to volcanic centres and produced by fumarolic, effusive and exhalative hydrothermal processes related to volcanic centres (Gross, 1965). Oxide, silicate and carbonate lithological facies are common to both of these groups, and polymetallic sulphide facies, bearing copper, zinc, lead, silver, gold and manganese, are commonly associated with the Algoma type facies near centres of volcanism (Gross, 1965; James, 1954; Stanton, 1960; Moorhouse, 1965; Goodwin, 1961 and 1965).

Duncan Lake Iron Ore Deposits are composed of banded iron or BIF, and exhibit similarity with both iron ore formation types in consideration to rock type association. Black shale and quartzite and schist are closely associated to Lake Superior type and greywacke and volcanic as basalts, andesites and felsic intrusions to Algoma type. A volcanic cycle was present at Duncan Lake Iron Ore, as indicated by many felsic intrusions (mainly sill types), and the close association with volcanic and basalt flows.

In the 50's, iron ore mined was mainly Direct Shipping Ore (DSO) from Lake Superior type. However, iron ore concentration becomes more and more important in relation with depletion of DSO deposits and the need for resources replacement. Concentration or beneficiation methods include magnetic separation for magnetic ores and gravity separation and reverse circulation mainly for hematite ore. Generally, a silica value of less than 5% is required in iron ore concentrates. Other deleterious elements include phosphorus, manganese, and titanium, which must be rejected during the concentration process.

To quantify an iron resource for a deposit that requires concentration, it is not only important to have a good knowledge of mineral constituents (like iron, silica and others elements), but also to have some idea on the amount of iron recovered as the weight recovery along its chemical correspondence and quality. The standard test used to predict magnetic ores response is the Davis Magnetic Tube Test (DTT). Even though an iron ore resource may contain substantial tonnages, if the concentrate is unacceptable for steelmaking, the deposit has no value.

1.7 Mineralization

Mineralization consists of iron ore formation of BIF type. BIF consists of millemetric to centimetric beds alternating high grade magnetite and recrystallized chert beds with local chlorite-rich and silicate green mudrocks. Waste rocks and associate minerals are mainly quartz, actinolite, tremolite, diopside, grunerite, hornblende, biotite, chlorite, epidote and pyrite in decreasing order. Average head grade varies from 15 to 35% total Fe. Hematite content is very low, and not continuous if any.

BIF are of typical dark blue colour and becomes dark-green with increased of silicate amphibole minerals. Generally, fine grained, but can be coarser near granite basement contact. However, magnetite grain size can vary from one band to another from fine to medium coarse grains. BIF are mainly metamorphosed and iron ore grains are recrystallized similarly to secondary and accessories minerals.

Each deposit shows variation in terms of grade and thickness, greatly related or with occurrences of interbedded mafic and felsic intrusions. Deposits 1, 2, and 5 located to the west show less intrusion dykes compared to the other. Deposits 3, 4, and 6 located in the eastern part, and closely associated with granitic basement, contain much more intrusive



sills and dykes, which translates in a decrease of iron ore head grade, but also in a major thickness increase of the iron ore lenses.

At least three (3) sub-iron units have been identified as low grade greywacke iron unit, BIF unit and Lean BIF green silicate unit. However, depositional sequence is not clearly defined and appears complex, related to multi structural deformation and folding.

Well developed disseminated pyrite crystals are present in BIF sequence of DLIOP. However, based on completed DTT tests, pyrite minerals could be eliminated during the beneficiation process. Manganese, titanium and chromium were not observed and, based on chemical analysis, appears to be minor elements not present in DTT test concentrate. Phosphorous in the range of 0.1 to 0.4% P_2O_5 in the head grade from core samples is considered high. However, phosphorous mineral is mostly eliminated during DTT test (concentrate grade range is 0.01 to 0.03% P_2O_5).

Deleterious or contaminant minerals contents of iron formation have been verified as well as how they react to the beneficiation process with no problem detected. Consequently, the iron formation of DLIOP is considered as potential for iron ore deposit.

1.8 Exploration

Since 2008, many exploration activities are in progress under Augyva, and consist mainly of a new GPS positioned ground magnetic survey on all deposits, a drilling campaign on five of the six deposits, core sampling, preliminary petrography study and metallurgical testing.

No systematic mapping was done over all deposits. Field prospecting was limited to identify historical mapping and reported outcrops, to sporadically take some chip samples, and to collect magnetic susceptibility data with a portable instrument MPP-EM2S made by Instrumentation GDD Inc.

Since 2008, four (4) geophysical ground magnetic surveys totaling 203.3 km have been done by Abitibi Géophysique and Augyva. The last one was executed directly under Augyva's personnel, to cover extension of anomalies previously identified. Grid line orientations were mainly perpendicular to the iron formation elongations. Lines spacing varied (mainly 100 m on Deposits 1, 3, 4, and 6, and from 100 to 300 m on Deposits 2 and 5).

Magnetic ground surveys were completed with a protonic magnetometer Overhauser model GSM-19W distributed by GEM System. Total magnetic field measurements were taken in continuous mode fixed at interval from 0.5 to 2.0 seconds. Data point location was determined in real time with GPS system Novatel model OEMV-1 integrated to the magnetometer instrument. Diurnal variations were corrected using a stationary magnetometer with measurement every 10 seconds. Final data points were geo-



referenced in UTM coordinate system, zone 18N (datum NAD83). In general high magnetic susceptibility value is indicative of magnetic iron ore lenses. Magnetic anomalies have been identified on all deposits, and data was used to plan and locate the drilling campaign 2008-2009.

Magnetic susceptibility (MS) measurements were realized on thirteen (13) DDHs core in order to estimate the MS of the iron formation and make comparison with assaying intervals. MPP-EM2S instrument probe connected to a Dell Axim 51 reading unit was used to perform the MS measurements on core. The readings were completed every 0.5 to 1.0 meter along the core on representative boreholes encountered over Deposits 1 to 5. High MS values definitively represent iron ore formation, and other lithologies show weaker values.

1.9 Drilling

A drilling program was initiated in the summer 2008 (July 14), stopped for Christmas in mid-December, started again in January 2009 and stop in May 2009. Borehole DUN08-01 to 22 were drilled in 2008 and DUN09-23 to 52 in 2009.

The drilling program, core description and sampling were supervised by Alain Vachon, Eng. Geo., up to the end December. He was replaced by Allan Wenlong Gan, Geo., in January 2009, assisted by Benjamin Blaise (Geo. junior) and by Ken Lam for compilation and database management. In addition, Daniel Gaudreau, P. Eng., from Geologica, and Joel Simard, P. Geo., consultant, have provided assistance to drilling campaign and magnetic field survey program.

Diamond drill cores were transported, logged and sampled at the core building facility of Augyva, located 5 km south of Radisson along Highway 109. Core cutting and sampling process were done by Augyva's personnel. Augyva's personnel was housed at Radisson, travelling by truck and snowmobiles to drill sites.

A total of fifty-two (52) boreholes for 10,460.4 m of diamond drilling sized NQ were drilled on five deposits of the DLIOP. Deposit 1, drilled for the first time, was a priority drilling target and was more drilled than the others with thirty-one (31) DDHs totalling 5,979.2 m. Deposit 2 also drilled for the first time, received second priority with seven (7) boreholes for 1,566 m. Deposit 5 also drilled for the first time was drilled by six (6) boreholes for 874 m. Deposit 4 drilled with four (4) boreholes totalling 1,036.2 m, two of them planned for twin holes located close to 1973 past boreholes and two in the northeast extension to test a ground magnetic anomaly. Deposit 3 was tested with four (4) boreholes totalling 1,005 m, two of them on the south iron ore lenses, one on the northeast extension of the north iron ore lenses, and one on the west extremity closer to the plunging syncline structure.

From 10,460.4 m drilled, a total of 6,483.73 m of core have been cut in half and sampled for 1,489 samples collected and analysed for major elements by Chemex Laboratory. Total assayed number does not include duplicates, standards and blanks inserted for the QA/QC process, and chip samples from outcrops. Core splitting was realized with two (2) different splitters, first part with a diamond saw but the main portion using hydraulic hammer splitter. In addition, 218 samples were also sent to COREM for metallurgical testing.

Many assay intersections are very long. Some of them are essentially related to the drilling direction concerning ore lense geometry. Ore lense true thickness varies from 5 m to more than 80 m. Ore grades vary from 15 to 30.5% FeT, but are generally in the range of 25%. In general, total Fe is mainly related to magnetite iron ore. Iron ore grades obtained are considered to be representative of a low grade Taconite.

On Deposit 1, the longest interval comes from borehole DUN08-01 with a length interval of 118.75 m at 26.66% Fe, interpreted as 66 m true thickness. In addition, borehole DUN09-29 indicates a long interval of 79.78 m at 23.57% Fe for a true thickness of 70 m. From thirty (31) boreholes drilled on Deposit 1, a total of (forty-nine) 49 iron ore intervals were intersected for a thickness average of 32.47 m at 24.50% Fe, equivalent to 26 m true thickness of the iron ore lenses.

On Deposit 2, the longest interval comes from borehole DUN09-52 with a length interval of 130.91 m at 26.80% Fe, interpreted as 57 m true thickness. From seven (7) boreholes drilled on Deposit 2, a total of thirteen (13) iron ore intervals were intersected for a thickness average of 47.87 m at 26.52% Fe, equivalent to 31.9 m true thickness of the iron ore lenses.

On Deposit 3, the longest interval comes from borehole DUN09-33 with a length interval of 226.46 m at 24.64% Fe, interpreted as 150 m true thickness. From four (4) boreholes drilled on Deposit 3, a total of five (5) iron ore intervals were intersected for a thickness average of 89.25 m at 24.13% Fe, equivalent to 60.4 m true thickness of the iron ore lenses.

On Deposit 4, the longest interval comes from borehole DUN09-43 with a length interval of 174.07 m at 22.54% Fe, interpreted as 110 m true thickness. From four (4) boreholes drilled on Deposit 4, a total of five (5) iron ore intervals were intersected for a thickness average of 80.40 m at 21.91% Fe, equivalent to 47.4 m true thickness of the iron ore lenses.

On Deposit 5, the longest interval comes from borehole DUN09-36 with a length interval of 26.64 m at 24.54% Fe, interpreted as 24 m true thickness. From six (6) boreholes drilled on Deposit 5, a total of 6 iron ore intervals were intersected for a thickness

average of 16.32 m at 25.07% Fe, equivalent to 15.2 m true thickness of the iron ore lenses.

1.10 Sampling Method and Approach

A combination of surface chip samples and drill hole samples were collected by the different companies since 1958. The rock is hard and competent and the core recovery is excellent. Samples in provenance of drilling campaign 2008-2009 are of good quality and representative of the intersected iron ore interval.

The new drilling program consisted of fifty-two (52) NQ size diamond drill holes. Drilling was completed on five deposits. Drilling pattern varies on each deposit. Deposit 1 was mostly drilled with thirty (31) boreholes. Reconnaissance drilling was performed on Deposits 2, 3, and 5. Deposit 4 was tested to confirm previous drilling completed in 1973.

Drilling crews recovered the core and placed them into wooden boxes, each containing approximately 4.5 m of core. Next, they placed a wooden cube depth marker at the end of every three-meter run. Each core box was labelled and secured with a cover and packaging tape before transportation to the logging facility. Thereafter, the core boxes were opened, verified, validated length, measured, tagged and logged beginning by the geotechnical description first.

Drilling core were logged for geotechnical and geological features and sampled at the logging core facility. Samples length was about 3 m for the first twenty-two (22) boreholes and 5 m for the rest. Core samples were identified on analytical tags and intervals length marked directly on the core by geologist. Core cutting in half was realized by diamond saw and hydraulic splitters, and sampled into strong plastic bags.

A total of 1,440 samples have been realized from core drilling. Analytical tags, subdivided in three parts, were inserted in the plastic bag, inserted and stapled to the bottom of the core interval in the core boxes, and the remaining tag conserved as record in the assay booklets and entered into the computer by logging geologist or technician.

Augyva's staff carried out all aspects of core sample preparation. Geologist marked the sample interval on the core, and the line to be use for splitting. The remaining half was returned back in the core box, respecting the original orientation and position. The other half was placed in a plastic bag with sample tag identification. Sample bags were tied using single use plastic fasteners before being placed in large sturdy polypropylene bags for shipping and transportation to laboratory. Once a sufficient number of samples (150-170) were accumulated, the samples were delivered by Augyva's personnel to ALS-Chemex Laboratory, located in Val-d'Or for sample preparation process, and sent to Vancouver for analysis.

The core boxes were labelled with aluminum labels stapled at the front side of the core box, typewritten with the drill hole number, and the starting and ending length of the core in the box. Once examined, logged and sampled, the core boxes were cross-stacked in core rack for permanent storage at the core shack facility.

Augyva followed a systematic QA/QC program in its sampling method and approach.

1.11 Sample Preparation, Analysis and Security

The methodology used for samples assayed prior to 2008 (1958 and 1973) was not mentioned in any available report, same as for the laboratory name itself. The only assay term employed was percentage total soluble iron. Samples were coming from two sources: surface grab sampling (1958) and diamond coring samples (1973).

Sample preparation was completed under Augyva's personnel, and transported directly to Laboratory. Augyva has conducted a systematic QA/QC program, consisting of inserted blank, certified standard and duplicate samples. The QA/QC program was planned by Mr. Alain Vachon, senior geologist considered as QP geologist, at the beginning of the drilling campaign. In addition, ALS-Chemex laboratory ran internal check assays to ensure lab quality control. All analytical result including internal verification made by ALS-Chemex was shipped to Augyva for cross-examination and validation. ALS-Chemex Laboratory Group provides highest level of service and quality and achieves this through its dedicated client services staff, quality control department, and commitment to having ISO 9001:2000 certification at all locations. Val-d'Or site is registered under Certificate No: CERT-0025774, re-issued on September 12, 2008, and expiry date on February 12, 2011.

The QA-QC protocol was designed by Augyva to monitor precision and accuracy consisted of blanks, standards and duplicates inserted into the sample stream. The results made available to Met-Chem indicate that the control samples added to the samples batches analysed by ALX-Chemex laboratory represents 7.7% of the total. In addition, an equivalent of 9.7% (144 samples) of the total number of samples (1489) was sent to COREM for metallurgy tests and consequently re-sampled and analysed.

There is no reason to believe that the assays or samples were tampered to up-grade the iron ore content. In Met-Chem's opinion, the work has been completed in a professional manner by experienced geologists and support personnel in all phases. The QA-QC control process does not permit to detect any major bias during compilation and statistical data analysis.

1.12 Data Verification and Corroboration

Prior and subsequently to the site visit, Mr. Raynald Jean (Met-Chem Senior Geologist) reviewed publicly available technical data covering exploration work on all Deposits and

available information. Met-Chem has relied on internal reports gathered from Augyva, which are limited to a new major drilling campaign, named “Report on the Duncan Lake Property 2008-2009 Diamond Drilling”, on few previous historical reports recovered from MRNF of Québec, and the NI 43-101 Technical Report prepared by Geologica.

There is no reason to doubt the origin and reliability of the information supplied. Met-Chem is of opinion that the historical data regarding mapping, sampling and drilling and surveying are of good quality, and the new exploration works were performed by with by experienced professionals.

The site visit was made from September 14 to 16, 2009 by Mr. Raynald Jean. The core shack facility, core storage area, drill cores boxes, and collar diamond drill holes of the old drilling campaign and new drilling campaign were examined at the DLIOP. During the visit and the verification of the core drilling description, independent samples were collected, by splitting again the residual half core on the same interval length previously sampled, one sample by deposit for a total of 5 independent recheck samples.

Met-Chem has verified and compared the 1973 boreholes location with previous data and compilation map, and old air photo taken in 1987. Based on Met-Chem’s opinion, the drilling evidences and the quality of data concerning Deposits 3, 4 and 6, already verified by Augyva, are sufficient to be used in the mineral resource estimation process for the present study level in the category Inferred.

Two (2) boreholes have been drilled in 2009 to verify and validate previous drilling information data. Borehole DUN09-43 was the twinned borehole verification of 73-01 and DUN09-44 for twinned borehole 73-09. Geology described indicates similar features and rock types and in general, the geology interpretation makes sense. The average grade indicates little variation but considered acceptable and in relation with numerous dyke and sill intrusions.

During the site visit, all drilled Deposits 1 to 5 have been visited to validate some items like coordinates, azimuth direction, and wood stick used for identification. Many collar locations have been visited all along the trail using Quad. All boreholes verified are located as described, and identified by a large wooden stick inserted in the borehole, with metal tag identification. Coordinates verification show only differences related to surveying instrument precision. Residual drill cutting have been observed at all drilled location. A total of sixteen (16) boreholes have been visited in the field from five (5) deposits. Surveying verification made by Met-Chem is very close to Augyva’s DDHs survey.

During the site visit on September 16, 2009, drilling core of five (5) boreholes, one by deposit, have been verified at the core shack facility, in relation with lithological

description and contact locations, and interval sampled. In addition, independent samples have been sorted by Augyva's technician under Met-Chem's supervision.

In general, the core description is adequate. Sample intervals were also verified and are adequately reported. New independent samples, taken at the same interval consisted to re-cut in half previous sampled interval. The sample was cut in half using a hydraulic core splitter. If residual core pieces were too small to be re-cut, pieces were taken at regular intervals. Met-Chem is of opinion that assay results are representative of the Deposits.

1.13 Adjacent Properties

There is no mining activity in the area according to the MRNF Gestim claim management system. There is no mining property or adjacent claims close to the DLIOP. However, an exclusion block controlled by Hydro-Québec partially limits exploration extensions of Deposits 1, 2, and 6.

1.14 Mineral Processing and Metallurgical Testing

To characterize an iron ore resource for a deposit that needs concentration, not only head assays are required (like iron content, silica and others elements), but it is important to have some idea of the percentage of material which will be concentrated (named as weight recovery) along with its chemical correspondence and quality.

COREM has performed metallurgical tests as DTT and Satmagan analysis of 144 samples on Deposits 1 to 4. All sample tests have been ground at 85% passing -75 microns.

Differences between each deposit can be observed. Deposits 3 and 4 obtain better quality concentrate concerning lower % silica as well as the other chemical elements with respectively 68.93% FeT and 2.58% SiO₂, and 68.38% FeT and 4.61% SiO₂. Deposit 4 compared with Deposit 1 obtains better WR and quality product with identical head grade. Deposits 1 and 2 probably need finer grain size to reach better liberation of the silica with 65.83% FeT and 7.60% SiO₂, and 66.11% FeT and 7.11% SiO₂ respectively. All other chemical elements like phosphorous, manganese, titanium does not indicate contaminant or deleterious chemical elements in the concentrate.

However, the average of the selected samples is slightly higher than the average grade of the Deposits, based on the mineral resources estimation.

1.15 Mineral Resource Estimate

A Mineral Resource Estimate has been performed on the DLIOP, on the six (6) deposits named as Deposits 1 to 6. Following the recent drilling campaign 2008-2009, drilling information with metallurgical tests performed provide sufficient data to realize a new

mineral resource estimate. Drilling data from 1973 was verified in the field verification as well as log descriptions and assays. This data was considered relevant and included in the final drilling database for geological block model preparation.

Met-Chem's resource model estimation was performed using mainly MineSight mining software (Version 4.0) and Surpac (Version 6.0) for specific requests. Mineral resource was done using block modelling method, using polygonal ore lense interpretation by sections, linked together to produced solid 3D ore lenses. Met-Chem is of opinion that this methodology is adequate in relation with the data density and deposit type.

3D-solids of the ore lenses were used to assign and constraint block parameters in the model. Grade estimation was performed using inverse squared methods. Variography studies permitted definition of ore lenses continuity parameters used to assign grade and mineral resource category. Parameters found are considered a normal range for this deposit type.

Completion of the entire database was done jointly by Augyva and Met-Chem, followed by verification and validation by Met-Chem. A master database was constructed from the amalgamation of excel files produced by borehole, compiled together, and was regrouped into four (4) main categories, namely collar, assay, survey and geological data. The complete database contained seventy-four (74) diamond drill holes, of which fifty two (52) boreholes were from the latest 2008-2009 drilling campaign. In addition, twenty-two (22) boreholes were from the 1973 drilling campaign. Numerical topographic was developed using public data sources.

Grade cut-off selected by Met-Chem for lenses polygonal interpretation was fixed at 16% FeT. This figure is considered a minimum value, and applied with a minimum apparent thickness of 6 m.

Based on minimum thickness values of 6 m, the following block model dimension has been generated for the modelisation: 10 m high (elevation), 20 m on X (lateral continuity) and 5 m on Y (better control on the ore contacts). This block model dimension is considered as very small in relation to drilling grid spacing.

Ore Lenses were modelled based on drilling sections at different spacing. For each hole, a cut-off grade was selected for the beginning and the end mineralization interval from original assays, prior to compositing. Internal and small waste bands or lower grade present in the ore lenses are included in the ore band and create internal dilution if thickness is too small to discriminate. Lateral continuities of the ore lenses outside the drilled grid area were also modeled using magnetic profile signatures. Finally, ore lenses as defined on sections were linked and meshed together, with end boundary expanded 100 meters, to form a close 3D solid ore lenses. The 3D solid lenses were then used to assign specific ore codes into the block model.

Original assay length varied from 0.86 m to 12.59 m, with an average around 5 m. Compositing process uses down-the-hole method with 3 m composites. Final intervals less than 1 m were also added to the 3 m and constrained to 4 m maximum interval. This compositing length takes into consideration the actual quantity, drilling density and block size. Weighted values for percentage FeT composite samples are quite close to original assay value and consequently validates the process.

The variogram analysis was done on a 3 m composite and restrained specifically on Deposit 1, of which the continuity is relatively well known and the density data is relevant. In the present case, the variogram analysis shows normal anisotropy and good continuity for this type of deposit, in relation to a bedded sedimentary and continuous along strata. Continuity along the major axis corresponding to the horizontal direction of the Deposit 1, is in range of 300 m. Continuity along the minor axis, corresponding to stratification plane, perpendicular to the major axis, is in range of 25 m. Results obtained were used to define parameters and ellipsoid direction during the grade assignment process.

The simple search ellipsoid method was considered appropriate at this stage, using inverse square distance with oriented ellipsoid along major, semi-major and minor axis, representing the sediment strata continuity. Three (3) different estimation passes were done to estimate the mineral resources in relation to drilling density and accuracy of the information to define different categories of mineral resources. These multi passes simulate Measured, Indicated and Inferred Resource categories, with specific tag indicator category assigned in the block model to constraint it. Resource classifications used in this report conform to the following definitions from the Canadian Institute of Metallurgy, in accordance with National Instrument 43-101.

In the three (3) different passes, the continuity aspects are simulated by number of boreholes imposed for the classification category. Measured, Indicated and Inferred mineral resource categories need respectively four (4) boreholes, three (3) boreholes and one (1) borehole for the assignment process. In addition, the length of the ellipsoid axes vary in function of the continuity observed in the variography study. Major axis continuity is selected as 300 m length, in conformity with the variography study for the mineral resource of Measured and Indicated categories. For the minor axis corresponding to the ore thickness, 30 m was selected as defined by the variography study. Mineral Resource categories of the Measured and Indicated use same continuity ellipsoid length, and the categories are differentiate directly in relation to the presence or not of minimum borehole and composite quantity around the block estimated. For the Inferred mineral resource category, the search ellipsoid parameters are longer (500 m, 400 m, and 50 m) and only one borehole justified the grade calculation and assignment.

At the selected cut-off grade of 16% FeT, Mineral Resources in categories Measured and Indicated are illustrated in Table 1.1, all by Deposit number. Tonnage of the Measured

and Indicated is low in those categories related to low drilling density and wide drilling spacing.

Table 1.1 – Measured and Indicated Mineral Resources by Deposit

	Cut-off: 16% Fe_{Total}	
Measured Mineral Resources	Tonnes *	Fe _{Total} (%)
Deposit 1	4,090,000	21.89
Deposit 2	902,000	27.41
Deposit 3	0	
Deposit 4	708,000	26.19
Deposit 5	0	
Deposit 6	0	
Total	5,700,000	23.29
Indicated Mineral Resources	Tonnes *	Fe _{Total} (%)
Deposit 1	13,443,000	21.80
Deposit 2	4,931,000	27.44
Deposit 3	0	
Deposit 4	7,241,000	25.20
Deposit 5	0	
Deposit 6	0	
Total	25,615,000	23.84
Total (Measured + Indicated)	Tonnes *	Fe _{Total} (%)
Deposit 1	17,533,000	21.82
Deposit 2	5,833,000	27.44
Deposit 3	0	
Deposit 4	7,949,000	25.29
Deposit 5	0	
Deposit 6	0	
Total	31,315,000	23.74

*Tonnes are rounded

The Inferred mineral resources category cannot be added to the previous mineral resources in regards to NI 43-101 rules. Inferred category contains mostly all tonnage, mainly associated to Deposits 1 and 4 (mostly drilled), and Deposit 3. Deposits 2 and 5 are very limited for tonnage extension. However, Deposit 2 has better grade than other Deposits. Deposit 3 has relatively low drilling density. However, the thickness of the ore lenses appears important, also confirmed by the magnetic survey. Deposit 3 has good potential to increase tonnage related to favourable syncline structure anticipated.

Table 1.2 – Inferred Mineral Resources by Deposit

Inferred Mineral Resources	Tonnes *	Fe _{Total} (%)
Deposit 1	283,857,000	23.71
Deposit 2	78,795,000	26.90
Deposit 3	154,724,000	24.83
Deposit 4	192,336,000	24.33
Deposit 5	32,658,000	24.48
Deposit 6	78,765,000	25.35
Total	821,135,000	24.56

*Tonnes are rounded

1.16 Other Relevant Data and Information

Augyva has mandated Met-Chem to carry out an evaluation of additional tonnage potentially present in any deposit within the property limit. In addition to the mineral resource already defined, a simulation of potential tonnage has been realized in lateral or in-depth extensions of the drilled areas.

Methodology used to simulate potential tonnage was based on the current interpretation of polygonal ore lenses by section, but also taking in consideration magnetic response and shapes profiled of drilled sections, and applying same polygonal dimension to the new area without drilling using exclusively the new magnetic field survey profiled. Magnetic susceptibility intensity was also taken into account in comparison to drill results. Simulation of the ore lense geometry was applied only if the general characteristic related to the ore lenses is maintained as thickness and high susceptibility value.

Block modelling process is the same one already used in the mineral resource estimation process. The difference is related to the non-mineral resource assignation already codified in the block model, based on the parameters used in the calculation. All block not assigned in the model during the mineral resource assignation with category was re-assigned as only potential tonnage category. Potential tonnages were outlined on geological sections mainly in lateral continuities and at depth, but outside of the maximum range of ellipsoid used in estimation process.

Table 1.3 presents result of the simulated technique to define additional potential tonnage. Deposits 1 and 3 have better chance to increase substantially potential tonnage. Major reasons to this are related to the very long undrilled extension of Deposit 1 and on the very partial and limited drilling information data on Deposit 3, both associated with high magnetic susceptibility anomalies. Additional potential tonnage is in range of 400 to 500 millions of tonnes. Grade range varies from 23 to 27 % iron, considered and estimated in same range grade of the Inferred category.

Table 1.3 – Simulation of Potential Added Tonnage by Deposit

Simulation by Deposit	Range of Potential Tonnage* (M of Tonnes)	
	MIN	MAX
Deposit 1	100	120
Deposit 2	20	30
Deposit 3	160	180
Deposit 4	30	50
Deposit 5	40	60
Deposit 6	50	60
Total	400	500
<i>* Tonnes are rounded by millions</i>		
<i>Density = 3.2</i>		

1.17 Interpretation and Conclusions

The 2008-2009 drilling program confirms presence of important iron ore deposits and allows sufficient data information to produce a new mineral resource estimate under the Canadian NI 43-101 rules.

Metallurgical tests by Davis Tube method and chemical analysis of the products indicate that beneficiation process can be achieved to reach steelmaking standards. However, the iron ore head grade is considered low and the grain size liberation very fine in comparison with actual mining operations in North America (U.S. and Canada).

Based on previous reports and current data review and new mineral resources modeling, the following elements characterize the DLIOP:

- Distributed on 6 Deposits named 1 to 6;
- Close to the main highway and Radisson City in north of Quebec;
- Elongated and continuous iron ore lenses with local thickening relative to interpreted squeeze isoclinal folding;
- Duplication of the iron ore lenses associated to macro and micro folding;
- Long and continuous deposits at relatively steep bedding angle;
- Low knowledge of the vertical continuity of the ore lenses at depth, but looking important with preliminary results;
- Mainly magnetite iron ore type, associated to sediment and metavolcanic environment;
- Low grade iron ore or taconite type that requires beneficiation to reach concentrate grade;
- Fine grained liberation process may need pelletizing processing.

The new mineral resource estimation in conformity with NI 43-101 rules, following a major drilling campaign initiated in 2008 and completed in 2009, indicates the following tonnage in Measured, Indicated and Inferred mineral resource categories. Tonnage in the Measured and Indicated categories respectively at 5.7 and 25.6 million of tonnes are very low and attributed to drill spacing pattern and very low drilling density at depth on the same section, in relation to parameters used in the grade estimation process. For the total Measured and Indicated categories, mineral resources are estimated to 31.3 million tonnes at 23.74% FeT. Low tonnages in Measured and Indicated mineral resource categories are related to low density drilling data.

In the Inferred mineral category, mineral resources are estimated at 821 million tonnes at 24.6% FeT. In the Inferred category, Deposits 1, 3, and 4 have more tonnage in comparison with Deposits 2 and 5.

In addition to the official mineral resource category and considered as a relevant information for Augyva, a simulation of the additional potential tonnage has also been investigated in the lateral and in-depth continuity of the deposits using magnetic susceptibility. Simulation of the potential added tonnage is conceptual in nature.

It has been completed using geological interpretation on sections, based on drilling results, linked with new ground magnetic survey profiled interpreted on sections. The results of this survey were adjusted using intensity profile and shape of the magnetic susceptibility compared with the previous drilled and known drilled sections. This type of data and information are insufficient to classify any tonnage as Mineral Resource under NI 43-101 rules and should not be considered as such. The term used as “potential tonnage” is also not part of official Mineral Resource category under NI 43-101 rules and concerning CIM Mineral Resource definition.

However, the main objective of the tonnage simulation is to outline potential, lengths, widths, depth and dips of the iron formation lenses contained in the property. This approach could add value to the exploration process by producing higher quality drill targets to convert potential tonnage to mineral resource in near term. The potential tonnage is conceptual in nature, and it is uncertain that further exploration will result in a target being delineated as a mineral resource. However, the fact that potential tonnage outlined is in continuity of known and drilled areas, and linked to geophysical magnetic field response increase the chance to identify new potential resources.

Simulation of the potential added tonnage in all deposits is estimated to be in range of 400 to 500 million tonnes, and estimated in the same grade range of total iron.

The 2008-2009 drilling campaign permits to convert historical mineral resources into mineral resources estimation under NI 43-101 rules. However, the tonnage is mainly outlined in the Inferred category due to insufficient drilling. Ore lenses geometries within six deposits have been relatively well outlined and defined by drilling linked to magnetic susceptibility data, and only systematic drilling will permit to convert mineral resources in Indicated and Measured categories.

1.18 Recommendations

DLIOP's deposits were relatively well outlined by drilling and geophysical surveys completed to date. However, additional drilling will be required to convert Inferred Resources into Indicated or Measured categories. In addition, there is a strong potential to define additional tonnage in the deposit extensions.

Met-Chem is of opinion to drill Deposits 3 and 4 as a first priority, followed by Deposits 6 and 1. A drill pattern of 200 m between sections and 100 m on section should be adequate to define Indicated and Measured mineral resources categories in this type of deposit. For Deposits 2 and 5, the potential to increase significantly tonnage and grade are limited.

Deposits 3, 4, and 6 present a synform structure which is favourable for tonnage increase in relation to stripping ratio. It is important to better define the vertical extension of these structures, and the axial plunge of the synform structures.

Deposit 1 also represents a good drilling target. There is also a possibility of multi-synclines and anticlines structures, which might create thickening of the iron ore lenses. Vertical continuity appears to be very important. However, potential to eventually transfer resources into reserves at depth will be limited by economical aspects and mainly restricted by the ore to waste stripping ratio.

A close review of the previous mapping linked with a new mapping of the structural features will help to understand plunge of the axial fold, and better defined synform and antiform structures. Generally, a synform structure with shallow axial plunging is favourable to vertical tonnage increase and to minimize ore/waste stripping ratio. Met-Chem recommends starting detail mapping on Deposits 4, and thereafter on 6 and 3.

Met-Chem recommends initiation of a geotechnical study to assess rock quality to support final pit walls and to allow better planning of eventual scoping and pre-feasibility studies phases. The hand collected geotechnical data of 2008-2009 drilling campaign needs to be computerized. Hydrogeological knowledge will be also important.

Met-Chem recommends computerizing all previous exploration work in numerical format such as DXF or with other mining software, using the actual coordinate reference system. Previous exploration work to digitize is outcrop geometry of different rock types, structural features such as direction and dip, and previous lithological interpretation.

It is recommended to increase control blank samples randomly, but a large portion of the blanks should be within or immediately after expected high-grade samples. Pure quartzite rock is generally taken for blank and may be found closer to the deposit area as mentioned in historical report. It is also important to increase the total number of QA/QC control samples at 10% of the total samples analyzed.

For the sample numbering, it is recommended to use a simple numbering sequence with a unique number for each sample, including control samples.

COREM assay results appear slightly higher than ALX-Chemex's result for the same interval. It should be important to investigate the reasons, using a third independent laboratory for recheck assay if necessary.



It is important to standardize core description and log processing by setting-up a fixed lithological description nomenclature. The variability for lithological codes observed in database makes it impossible to complete statistical studies and comparison between different rock types. It is recommended to limit iron ore rock codes to only two or three (3) facies.

It is recommended to systematically realizing magnetic susceptibility on core with instrument GDD MPP-EM2S, with continuous reading method or at least at 0.5 m interval. The survey is inexpensive and can be quickly performed.

Data integrity and information should be kept and protected by limited accessibility and controlled by only one senior geologist thereby ensuring consistent data. It is recommended to use specialised software for data entries and in the validation process.

With regard to the current metallurgical test results obtained, Met-Chem suggests initiating some metallurgical tests to look at other aspects such as ore liberation at different grain sizes and a multi stage grinding possibility, to limit energy consumption by avoiding to grind all material at the same size and to optimize process flow sheet, for iron recovery, and to increase the final grade of ore concentrate. If very fine grains are needed for the metallurgical process, pelletizing process can also be verified.

2.0 INTRODUCTION AND TERMS OF REFERENCE

2.1 Introduction

Met-Chem was retained by Augyva Mining Resources Inc. (Augyva) at the request Mr. Georges-Yvan Gagnon, President, to prepare an independent technical report on the mineral resources of the Duncan Lake Iron Ore Project (DLIOP) in Quebec, following the guidelines of the Canadian Securities Administrators National Instrument 43-101.

In the world, new iron ore deposits have been recently the object of intense exploration after more than 30 years of low activities. Prices have increased over the past six years, having been relatively flat over than 25 years. A limited number of new iron ore deposit were developed during that period, mostly in Australia and Brazil, with decreasing activities in North America. Consequently, prices increased partly due to limited development, maturity of the old existing iron ore mines, major demand increase in China and India, and need for resources replacement.

In the past, most of the iron ore mined in the world was mainly Direct Shipping Ore (DSO), requiring limited metallurgical process, before to be shipped to the blast furnace, containing high iron ore head grade with minimal deleterious elements such as phosphorus, alumina, manganese and sulphur. The second major type of iron ore produced was coming from two different sources as low grade magnetite, mainly in the USA, and granular hematite (specularite) from Canada. Typical concentration methods include magnetic separation for magnetic iron ore and gravity separation for coarse hematite and magnetic of low grade iron ore. In the world, majority of undeveloped iron ore resources are composed of highly oxidized, finely grained, non magnetic iron ore. However, magnetic iron ore demand stays strong and some undeveloped deposits are appearing to be more attractive.

Augyva is a junior mining company with several exploration properties in Northern Québec. Some of these properties are related to low grade, magnetic iron ore type. The Company does not have any property in production. The Company's head-office is located at La Macaza, Québec.

In January 2008, Augyva submitted a technical report NI 43-101 on the Duncan Lake property prepared by Geologica, Groupe-Conseil, (Geologica) from Val d'Or, mainly related to past exploration works and historical mineral resources prior to NI 43-101 rules. The main recommendations were to undertake additional work and to conduct a drilling program on three (3) Deposits (1, 2, and 5) totalling 60,000 meters.

A drilling program was initiated in 2008 and completed in 2009 on the DLIOP. DLIOP is made of six (6) different blocks or properties named Deposits 1 to 6. Drilling program was realized on five (5) deposits, mainly drilled on Deposit 1, with few testing boreholes



on Deposits 2, 3, and 5, and tentative confirmation boreholes (twin holes) on Deposits 4 which was previously drilled in 1973. Deposit 6 previously drilled in 1973 was not drilled in 2009. The 2008-2009 drilling program's objectives were to validate historical results from boreholes drilled in 1973 on Deposit 4, to convert historical mineral resources into 43-101 compliant resources and to define additional tonnage with definition resource on Deposit 1.

In September 2009, Met-Chem was mandated to estimate the resources of the DLIOP based on the latest drilling campaign information as well as on a new field magnetometer survey. Mineral resource estimate is performed in accordance with "National Instrument 43-101, Standards of Disclosure for Mineral Projects" and the "CIM Definitions Standards on Mineral Resources and Mineral Reserves" adopted by CIM Council (2004).

The 2008-2009 drilling program, consisting of fifty-two (52) diamond drill holes for 10,460 meters, was completed in April 2009, under the supervision of independent geological consultants assisted by Augyva's employees.

2.2 Company Profile

Augyva was incorporated in 1986 under the Canada Business Corporations Act and is listed on the TSX Venture Exchange under the symbol AUV.

Augyva holds 100% interest on all its properties located in the James Bay area (Duncan, Yasinski, Kali, Elmer) and in Abitibi. However, the DLIOP is subject to an Option and Joint Venture Agreement. Details of the Option and Joint Venture Agreement with Virginia Gold Mines Inc. are explained in section 4.2.2.

On May 2008, Augyva concluded an Option and Joint Venture with Canadian Century Iron Ore Corporation (Century). Details of the agreement are explained in section 4.2.2.

More details are available on SEDAR with research constrained under Augyva.

2.3 Scope of Work

The scope of services provided by Met-Chem consisted of:

- Independent estimation of the mineral resources of the different mineralized blocs of DLIOP based on data provided by Augyva;
- Issuance of an independent report in conformity with NI 43-101 format and standards.

This mineral resource estimate included spot checks as well as a review of the work completed by Augyva and previous owners, from the verification of the collar locations in the field to modelling of the deposit and mineral resource classification. Met-Chem's

resource estimate was performed by Mr. Raynald Jean, Geo., Senior Geologist, and Ms. Céline Larderaz, Geo., Geologist, using MineSight mining software (Version 4.0). Technical Report was reviewed by Mr. Guy Saucier, Eng.

To perform the mineral resources estimation of the DLIOP, Met-Chem has:

- Visited the site of the Deposits and the core storage area, with observation of some outcrops and drill pads (2008/2009 drilling program), as well as past drilling evidence (1973);
- Examined available drill cores (2008/2009 only), lithological description, and relative % of iron content compared with analytical result;
- Hold discussions with Augyva's exploration team in order to review field procedures, sample preparation and analytical protocol;
- Reviewed previous exploration work, including general compilation work and previous NI 43-101 Technical Report;
- Reviewed drill hole logs, including collar and down hole survey information;
- Reviewed and validated drill hole database;
- Realized new geological interpretation;
- Realized new mineralization correlation, continuity and characteristics of ore lenses;
- Verified QA/QC procedures on drill holes;
- Verified assay intervals, composites, and data reproducibility;
- Performed statistics on assays and interval composites;
- Reviewed density determination and mineralization tonnage factors;
- Reviewed historical resources estimation report, as well as parameters used for Grade Interpolation;
- Reviewed metallurgical test work;
- Reviewed and recommended cut-off grade selection based on preliminary mining and metallurgical assumptions;
- Developed parameters for the Geological Model and Grade Interpolation;
- Completed a new mineral resource estimate;
- Reviewed other relevant studies completed, if any;
- Reviewed environmental considerations for the project.

2.4 Sources of Information

The documentation used in preparation of this Technical Report on Mineral Resources was supplied by Augyva, retrieved from publicly available reports on the property from SEDAR, or obtained through previous exploration work GM filed to Ministère des Ressources Naturelles et de la Faune (MRNF) of Quebec as statutory work. A portion of the information compiled in this report is derived from NI 43-101 Technical Report prepared by Geologica in 2008, and from Augyva's internal report on the 2008-2009 diamond drilling program produced in July 2009.

Metallurgical information and tests results are coming from COREM, Québec and are based on core samples selected during 2008-2009 drilling campaign. A list of the documentation reviewed is provided in Section 22.0 in this report.

2.5 Site Visit

Site visit was made by Mr. Raynald Jean, Met-Chem's Senior Geologist, between September 14 and 16, 2009. The main objectives were to look at 2008-2009 drilling results, to verify QA/QC protocol maintained by Augyva's geologists, and to find some field evidences of 1973 drilling campaign on Deposits 3 and 4, as well as similar evidence on Deposit 1, possibly drilled in 1956, as mentioned in a GM report. The main exploration camp, core shack area and office at Radisson were visited. The drill cores were examined. Reference grid line, diamond drill holes collar were examined on each Deposit, excluding Deposit 6, which was not drilled in 2009.

New independent samples were collected during the site visit on some drill holes, on already sampled intervals or from the residual half split core. Review of one geological drill-hole log description by deposit, for a total of five (5) boreholes, was also done. Independent samples were sent and analysed at COREM laboratory facility, Quebec.

2.6 Units and Currency

The metric system is used in this report. Historical report and fieldwork were done in imperial unit and mentioned if necessary. Metric units are used throughout the text, figures and drawings of this report.

All units used by Augyva are in the metric system. Table 2.1 shows the abbreviations list used in this Report. All currency amounts are in Canadian Dollars (\$CAD) unless otherwise stated.

Table 2.1 – List of Abbreviations

Abbreviation	Description
DDHs	Diamond drill holes (drilling)
DDT	Davis Tube Test
g	gram
g/t	gram/tonne
m	metre
kg	kilogram
km	kilometer
km ²	square kilometer
MAG	magnetometer survey
Mt	million metric tonnes
ppm, ppb	part per million, part per billion
QA/QC	Quality Assurance/Quality Control
tonnes or t	metric tonne
VLF	Very Low Frequency (electromagnetic survey)
%WR	% weight recovery

2.7 Met-Chem's Qualifications

Met-Chem is based in Montreal and was incorporated in October 1969 as a Canadian subsidiary of UEC Technologies LLC.

Since then, Met-Chem's mandate has been to offer a complete range of consulting and engineering services to the mining industry, including exploration, geology, resources evaluation, mine design, process design, feasibilities studies, detailed engineering, etc. Met-Chem has a very long history on the iron ore mineral related to low grade magnetic and coarse hematite ore type in Canada, US as well as India.

This Technical Report has been prepared by Raynald Jean, Geo., Senior Geologist for Met-Chem, a member in good standing of the "*Ordre des Géologues du Québec*", (Member # 135). He has over thirty (33) years of experience in mining and geological engineering related to exploration, mining development, and mine operation. He has more than 17 years of experience in the iron ore mining operation from 2 majors companies in Quebec and he participated in numerous feasibility studies related to iron ore, base metals, gold, bauxite and industrial minerals, as well as involved in many NI 43-101 mineral resource estimate. Specific expertise includes exploration campaign, resources calculation and audit geological modelling, geotechnical aspects and mine planning.

Part of the geological model, used by Raynald Jean to write the Technical Report, has been generated by Céline Larderaz, Geo., Geologist for Met-Chem, Ms. Larderaz is a member in good standing of the "*Ordre des Géologues du Québec*", member #844 and has five (5) years of experience in exploration and resource geology. Her field of expertise include gathering of geological data, core logging, drilling supervision and sampling, maintaining drilling datasets, geological and geophysical interpretations and modelling.

2.8 Disclaimer

It should also be understood that the Mineral Resources, presented in this report, are estimates of the size and grade of the deposits based on limited drilling performed at a wide spacing and recent field magnetic survey calibrated on the magnetic susceptibility of the core analyzed and sampling and the assumptions and the parameters currently available.

The level of confidence in the estimates depends upon a number of uncertainties. These uncertainties include, but are not limited to, future changes in iron ore prices and/or production costs, differences in size, grade, and recovery rates from those projected, as well as changes in project parameters.

In addition, there is no assurance that the project implementation will be realized.

3.0 RELIANCE ON OTHER EXPERTS

This report has been written by Met-Chem for Augyva and is based on historical information available to Met-Chem at the time of preparation of the report, on new drilling realized in 2008 and 2009, and on site visit carried out in September 2009. Met-Chem is pleased to acknowledge the helpful cooperation of Augyva management, which made all requested data available, and responded quickly and openly to all questions and queries.

Met-Chem relied on the following reports and opinions for information that is outside of the area of its technical expertise:

- a) Met-Chem has not researched legal ownership information and mining development limitation in the area. The information was provided by Augyva, or taken directly from public source information on SEDAR and on GESTIM (mining title management) under MRNF of Quebec government.
- b) There was no environmental review carried out under Met-Chem, and the limited relevant information already available is described in the report.
- c) Metallurgical concentration tests made by Davis Tube Test method (DTT) have been performed by COREM laboratory in Quebec City. The metallurgical tests and the process control were not verified by Met-Chem. However, results obtained are in accordance with geology and mineralogy observed at DLIOP, make sense and comparable with other iron ore deposit.

Met-Chem's estimates are based on methodologies and procedures consistent with accuracy levels as stated in the Report. This report is intended to be used by Augyva as a Technical Report with Canadian Securities Regulatory Authorities pursuant to provincial securities legislation. Except for the purposes contemplated under provincial securities laws, any other use of this report by any third party is at that party's sole risk.

This report, or portions of it, is not to be reproduced or used other than to fulfill Augyva's obligations pursuant to Canadian provincial securities legislation including disclosure on SEDAR, and if Augyva chooses to do so, to support financings, without written permission in each specific instance.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 Property Location and Description

The DLIOP property is located approximately 576 km north of Matagami, Quebec, which is the nearest mining community, using a paved road (Highway 109), connecting Matagami to Radisson (see Figure 4.1). Road distance from Montreal to DLIOP property is estimated to 1,350 km. The property is located 50 km south of Radisson and 10 km south of LG2 regional airport.

The property is elongated SW to NE and located in the NTS Sheets 33F05 and 33F12. It is situated between 307,905 m E/5,925,326 m N and 330,115 m E/5,942,065 m N (NAD 83, Zone 18).

The property is subdivided into six (6) different blocks (Deposits 1 to 6) located close to and apart from Highway 109 (see Figure 4.2 – Project Location). Deposits 1, 2, and 5 are located southwest of the highway and Deposits 3, 4 and 6 to the northeast in the lateral extension of the other deposits.

At kilometer 570 of the highway, a secondary gravel road leads west to Duncan Lake area, providing easy access to Deposits 1 and 5. Access to Deposit 2 can only be done through a “Quad” trail from the main road. Deposits 3 and 6 are also close to highway and can be easily accessed by “Quad”. Access to Deposit 4 is through a gravel road connecting Highway 109 to Desaulniers Lake and LG2 Reservoir, and from there using a “Quad” trail through the west.

4.2 Legal Titles Holder

4.2.1 Titles Holder

The GLIOP consists of six (6) separate blocks of claims referred to as Deposits 1 to 6, extended southwest to northeast on a 28 km strike (see Figure 4.2). The blocks are truncated and constrained by a rectangular polygon controlled by Hydro Quebec.

The property consists of 99 mining claims covering 4,615.49 hectares. All claims were registered as CDC (“Claim designation sur carte”) in Québec Province electronic system with boundaries automatically attributed by the system, and are owned 100% by Augyva. In the field, the limits can be easily located using a Differential Global Positioning System (DGPS).

Based on the registered GESTIM system, registration dates were multiple starting on August 12, 2004 to the most recent acquisition made on September 22, 2008. The claims are in good standing at the moment of writing this report.

In addition, it is mentioned in GESTIM that three (3) claims are affected by electric power line infrastructure system and seven (7) claims affected by electrode grounding infrastructure.

Based on review done in September 2009, the actual registered excess statutory work is \$45,136, the required works are \$61,333, and required fees are \$10,941. The claims are valid for 9 months, renewal due on August 11, 2010. The 2008 and 2009 exploration works already undertaken were not yet deposited as statutory work. If deposited at time, it should be sufficient to renew many times by two (2) years renewal period. The claims may be renewed indefinitely with the assessment work requirement increasing each renewal. Excess work on one claim may be spread to other continuous claims held by the same owner within an area of 4.5 km².

4.2.2 Legal Agreement

Augyva is the sole beneficial owner of all claims with 100% ownership. However, DLIOP is subject to Option and Joint Venture Agreement with Virginia and Century.

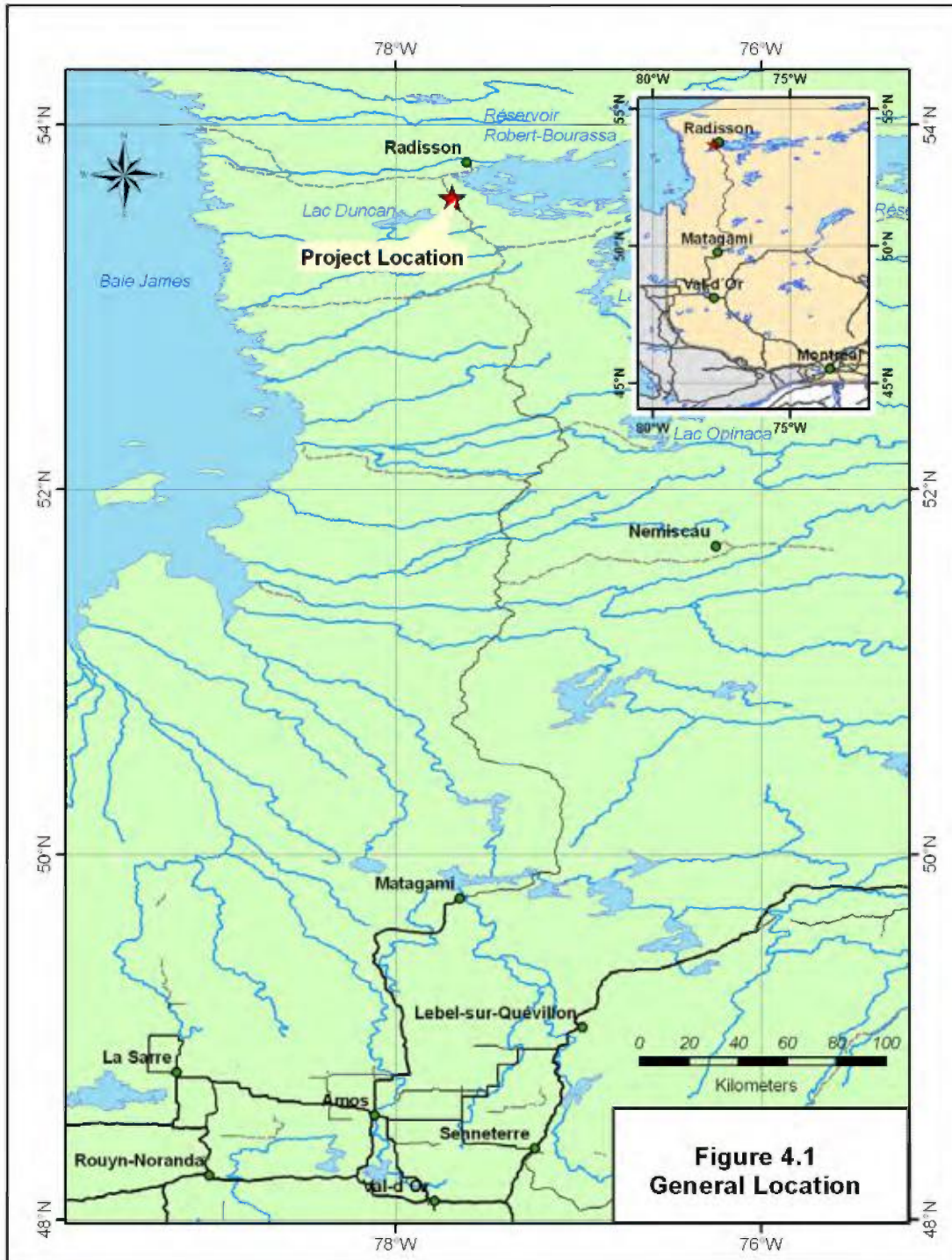
Under the terms of an agreement concluded with Virginia in February 2005, a perpetual production royalty of \$0.40 per ton of iron concentrate is payable to Virginia, including a buyback right to purchase 50% (\$0.20 per ton of concentrate) of the royalty for a payment of \$4 million. Furthermore, Augyva has been granted an additional option of buying back a further 20% royalty (\$0.08 per ton of concentrate) for an additional payment of \$4 million. Any additional resource of iron ore identified on lands covered by any titles, in an area of 1 kilometer surrounding the property, acquired before or after February 2005 is also subject to royalty. In addition, a 2% net smelter return (NSR) royalty, on any metal other than iron ore is to be paid to Virginia, on which Augyva has a buyback right to purchase 50% (1% NSR) for a payment of \$5 million.

On May 20, 2008, Augyva signed an Option and Joint Venture agreement with Canadian Iron Ore Corporation (Century). Under the terms of this agreement, Century can earn an initial 51% interest in the DLIOP by funding \$6 million over 4 years period with a minimum of \$1.5 million in the first year, for the exploration and development of the property. Pursuant to the agreement and after earning the initial 51% interest, Century will have the option to increase its interest in the property to 65% by expending a further \$14 million in the following 4 years thereafter. After Century completes its earn-in of the initial 51% interest, Century and Augyva will form a joint venture reflective of their proportionate ownership interest in the property. Augyva will remain manager and operator of the property until Century acquires a 51% interest. Also under the terms of the agreement, Century agrees that it shall pay to Augyva the amount of tax credits received from the investment on the property, under certain conditions. As at February 28, 2009, Augyva had received \$1.5 million from Century. More details are available on SEDAR web system or public information domain.

Finally, the property is located in an area ruled by the James Bay Convention, including aboriginal agreement for land use. The property is located in the Municipality of James Bay and should not be affected by specific land use Categories 1 or 2 as defined by James Bay Convention, which contained specific agreement, as some exclusivities of, land use by local aboriginal communities. The closest aboriginal villages are Weminji located to the southwest, and Chisasibi to the northwest. Met-Chem is not aware of any agreement under which aboriginal communities may hold title or historical agreement to the mineral land for this project.

A complete listing of registered claims is presented in Appendix A, taken directly from GESTIM claim management system of Québec Province dated September 2009.

Figure 4.1 – Duncan Lake Iron Ore Project Location, Québec



NUMÉRIQUE

Page(s) de dimension(s) hors standard numérisée(s) et positionnée(s) à la suite des présentes pages standard

DIGITAL FORMAT

Non-standard size page(s) scanned and placed after these standard pages

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

Deposits 1 to 6 are elongated southwest to northeast on 28-km strike. Highway 109 goes through the property and splits it in two. Deposits 1, 2 and 5 are located on the west side of the road and the other deposits on the eastern part. Access is relatively easy using “Quad” on bush trails. Highway 109 connects Radisson to Matagami, and from there it is possible to drive to Rouyn or Montreal on 1,350 km. The LG2 regional airport connects Montreal with daily flights. The railway infrastructure is not present in the area, ending at Rouyn-Noranda, located 630 km north of Montreal by road. Hydroelectric power line is located very close to the property.

To become more efficient on the exploration work, Met-Chem recommends a permanent access gravel road on all deposits. The road construction is expected to be easy and not expensive because some eskers with sand and gravel are presents on the property and the vegetation cover is small. Only local swampy areas may create local difficulty.

5.2 Climate

The property is located in the northwest part of Québec Province. Generally, summers are hot and winters are cold. The summer period lasts from mid-May to the end of September. The winter period starts in late-October up to mid-April. However, day-to-day climatic conditions may vary considerably. The climate is typical of middle Ungava plateau, with ice break-up starting in May and freeze-up at the end of October. There is no permafrost soil condition on the property. Coastal fogs do not affect the area and flying condition is normal.

According to the statistic provides by Environment Canada and compiled since 1971 in the La Grande area, the coldest month is January with average of -23.2°C , a minimum extreme daily of -28°C and maximum extreme of -18.3°C , and a minimum reached of -44.6°C on February 15, 1979 (see Table 5.1). The hottest month is July with average of 13.7°C , a minimum extreme daily of 7.4°C and maximum extreme of 20.0°C , and a maximum reached of 35°C on June 21, 1983. September is the rainiest month and November the snowiest. The wind stays relatively constant all year long, moving from west to south during the winter period.

Windy conditions can compound the cold temperatures. Snow accumulation varies from 20 cm to 1 meter from October to May, and snow precipitations may happen in summer time period. However, this sector is not very different from other mining operations already in operation in the northern part of Québec. Climatic condition does not support any commercial agriculture or farming activity.



Table 5.1 – Environment Canada – La Grande Rivière

Month	January	February	March	April	May	June	July	August	September	October	November	December
TEMPERATURE												
Daily Mean	-23.2	-21.6	-14.6	-4.9	4.3	10.5	13.7	12.9	7.4	1.2	-6.3	-17.1
Daily Max	-18.3	-15.8	-8.2	0.7	10.3	17.1	20.0	18.4	11.6	4.4	-3.3	-13.0
Daily Min	-28.0	-27.4	-20.9	-10.5	-1.6	3.9	7.4	7.4	3.1	-2.0	-9.4	-21.2
Max Extreme	1.4	5.0	11.3	22.3	32.6	35.0	32.3	31.2	26.8	23.5	12.3	12.5
Date	1993/22	2000/26	1979/21	1980/30	1998/16	1983/21	1990/15	1996/03	1996/02	1997/09	1977/03	1986/13
Min Extreme	-40.9	-44.6	-38.5	-31.4	-13.5	-6.6	-0.9	-0.5	-7.0	-16.7	-29.2	-40.4
Date	1982/18	1979/15	1984/12	1994/01	1981/10	1986/02	1978/01	1984/17	1978/29	1990/26	1989/25	1993/28
PRECIPITATION												
Rain (mm)	0.1	1.2	3.0	11.5	30.2	62.3	79.5	85.1	100.8	52.5	10.2	1.2
Snow (mm)	34.2	23.3	29.5	20.9	11.1	2.5	0.0	0.1	6.4	35.5	60.8	42.5
Precipitation	31.8	21.8	29.3	31.5	40.3	64.8	79.5	85.2	106.9	86.5	66.3	40.1
Extreme Prec	21.2	23.8	19.1	20.4	28.6	64.2	42.0	66.4	66.2	35.5	23.4	16.8
Date	1996/19	1994/19	1984/21	1997/07	1991/11	1977/29	1986/24	2000/16	1987/13	1981/18	1988/27	1982/03
WIND												
Km/h	14.4	13.8	14.6	14.4	15.0	15.5	14.5	14.6	15.9	16.2	16.0	14.3
Direction	W	W	W	W	W	W	W	W	W	S	SW	S

5.3 Local Resources and Infrastructure

Radisson is the closest municipality and is composed of 500 residents. The population may reach 700 people affected by temporary work realized by Hydro-Quebec all around the sector. Hydro-Québec keeps housing infrastructure and facilities provided during the construction period in good condition. Radisson was created by Hydro-Québec in 1974 to provide housing and to support development of the La Grande hydroelectric complex. Actually, Radisson provides services to local permanent population and many temporary employed of Hydro-Québec. Local hotels, accommodation, restaurants, sportive center and many others facilities like private garage, car sailors, helicopter company, and fishing-hunting outfitters are presents. Radisson is managed by the Société de development de la Baie-James (SDBJ) under local and permanent municipality council.

With the proximity of two local communities of Cree, there is a small unskilled labour pool in the area. However, specific training would be required for the mining operation. The bulk of the workforce would have to come from Radisson and southern cities.

The Radisson municipality is quite a new development, modern; with local facilities able to support more than 1,000 employed during the main phase development of the La Grande 1 to 5 (see Photo 5.1). The regional LG airport is also modern.

Photo 5.1 – Hydro-Québec Complex Installation at Radisson



The closest aboriginal communities are Chisasibi and Weminji located respectively to the northwest and southwest, near the James Bay shore. Chisasibi is connected by paved road on 90 km from Highway 109 with modern facilities for a population estimated to 4,000 residents. Weminji has 2,500 residents and connected by a gravel road starting at Km 518 of Highway 109.

5.4 Topography, Physiography and Vegetation

The local topography of DLIOP is characterized by low plain, rolling terrain, elongated in northeast direction, with several small hills and low lying swampy areas. In general, the terrain is quite swampy and flat, except for a few low rocky hills and unconsolidated glacial eskers and moraines composed of silt, sand, gravel and boulders. Presence of iron formation band does not influence too much the topography. Deposits 1, 3, 4, and 5 are characterized by low hills and elongated topographic features of less than 10 meters high.

Outcrop densities vary for each deposit. Based on historical mapping made in 1958 and 1973, Deposits 1, 2, 3, and 5 host limited outcrops presence, and Deposits 4 and 6 sparsest.

The property is roughly estimated to be made of 60-65% of land and 35-40% of water. Few shallow water ponds and swamps are present. Deposits 1 and 6 are particularly close to major lakes, respectively Duncan and Desaulniers Lakes. Duncan Lake hosts fishing activities during summer period, through gravel road access using small boat landings. The vegetation is similar to any northern areas. Overburden is made of humus, black soil with local eskers and sand bands. The area was never logged over in the past and not

considered to host mature commercial wood. The vegetation is typical of New Quebec close to the timberline, being characterized, where unburned, by stunted spruce and caribou moss.

Physiography of Deposit 1 is observed on Photo 5.2 as shallow elongated hills, with trees made of spruce, tamarack and small alder, and black soil. Location picket of the borehole DUN08-01 is centered on the photo with gravel road and pick-up in the background. The Duncan Lake access road reaches the eastern part of Deposit 1. Ground elevation varies from 160 to 170 m around the iron ore band area to compare with Duncan Lake elevation of 139 m located to the north. The small Hornsberger Lake is at 148 m elevation and some small ponds and lakes at 160 m. The Esprit Lake located in the south is at 134 m elevation.

Physiography of Deposit 2 is observed on Photo 5.3 as a flat and swampy area with black spruces. Ground elevation varies from 140 m in the south part to a peak of 172 m in the north plateau. Water elevation of the small Achan Amikap Lake located in the southwest part is at 140 m. The iron ore bands are at around 145 m elevation.

Physiography of Deposit 5 is observed on Photo 5.4 as a relatively low ground and flat area. A small unnamed and elongated lake is present around Deposit 5 at elevation 139 m. Iron ore bands are in the elevation range of 142 m. Trees vegetation is poorly developed due to ancient forest fires.

Physiography of Deposit 3 is observed on Photo 5.5 as a small hill surrounded by a very small lake. Trees vegetation is present with spruces and tamarack. Ground around borehole DUN09-40 is swampy with presence of grass. Only small lakes are present on the property around the iron ore band at elevation of 164-162 m. On the eastern part of the property, Desaulniers Lake is at 152 m elevation.

Physiography of Deposit 4 is observed on Photo 5.6 as an elongated small hill to the north and elongated shallow and artificial lake to the south at elevation 149 m. The iron formation bands are present on the flank of the small hill at elevation of 152-158 m. Trees are small made of spruce, aspen and birch. Trees vegetation is present with spruce and tamarack. Indication of forest fires can be observed. Ground around borehole DUN09-40 is swampy with presence of grass. The highest peak is located on the northeastern part of the deposit and reached 182 m elevation.

Photo 5.2 – Typical Landscape - Deposit 1



Borehole DUN08-01 with gravel road access on background, looking east

Photo 5.3 – Typical Landscape - Deposit 2



Borehole DUN09-52, looking south

Photo 5.4 – Typical Landscape - Deposit 5



Borehole DUN09-36 with small unnamed lake in background, looking northwest

Photo 5.5 – Typical Landscape - Deposit 3



Borehole DUN09-40

Photo 5.6 – Typical Landscape - Deposit 4



Borehole DUN09-44, looking southeast

5.5 Fauna

On the property area, normal northern fauna is observed as fox, bear, mouse, bird and migration bird as duck and goose. During the site visit of Deposit 1, one fox and one bear were observed very close to the pickup. Recent moose footprints were also observed on each deposit.

Duncan and Desaulniers Lakes are used for recreational fishing activity with the presence of walleye, pike and red trout.

6.0 HISTORY

The information given below was summarized from many reports and documents on the property filed at the MRNF. A summary of previous exploration work is presented in this section. Section 22.0 presents the list of documents reviewed and consulted.

6.1 Historical Discovery

Apparently, the Geological Survey of Canada (GSC) was active in the Duncan Lake area in 1949. However, the discovery of iron ore formation around Duncan Lake is attributed to a prospecting party composed of J.C. Hornsberger, Lloyd B. Almond and René Maloney in 1949. At that time, there was no interest in low grade magnetic taconites, so no claims were staked and the exact location of the deposits was not disclosed. In 1953, as interest increased in beneficiation of magnetic iron ores, Hornsberger returned with Maloney and three (3) other men to stake the property and complete a 12 km-long magnetic survey centred along lateral continuity of iron bands. They outlined an historical resource mentioned of 500 M tons of taconite.

6.2 General Overview

The first reconnaissance and geological mapping in the area were realized at the end of the nineteenth century by Low in 1889 and 1902 for GSC, mainly limited to the coast of James Bay/Hudson Bay and to the main rivers and tributaries. GSC followed up with surveys of Shaw (1942) and Eade (1957 and 1966).

The 1949 GSC team under Hornsberger and Ross has discovered and done some local mapping and outcrops reconnaissance on the property. However, the first systematic exploration work on the DLIOP was done in 1953 under Hornsberger's supervision.

In 1953 and 1956, Hornsberger conducted ground magnetometer surveys on few areas including the DLIOP and a 250-miles aeromagnetic survey. In 1957, Duncan Range Iron Mines was created and acquired the Duncan Lake properties under Mineral Exploration Licence (MEL) number 137, block 335. Between 1957 and 1974, most of the work on the property was done on the behalf of Duncan Range Iron Mines Limited. In the 60's, Duncan Range Iron Mines conducted several exploration works and studies with Ingham and Ross in 1958 and Grondin in 1962. Later on in 1973, a drilling campaign of (twenty-two) 22 boreholes was completed on Deposits 3, 4, and 6 located on the eastern part of the DLIOP.

Close to the property, and during the 1950s, the Yasinski Lake area was prospected by Main Exploration, which led to the discovery of many gold, silver, chrome and iron ore occurrences. During the 1970's, exploration efforts were mainly oriented towards the search of uranium by SES with Forques and Schumacher. During the 1980's, several studies were completed under the support of universities and provincial government.



During that period, Noranda Exploration was also active and prospected for gold in the volcano-sedimentary belt. The most recent works consisted of a metallogenic synthesis of sheet NTS33F by the MRNF under a program named “Moyen-Nord”, and the compilation reports (Gauthier and al., 1996-1997 and Jean Gauthier and al., 1998, RG98-09).

In 2005, Augyva acquired the DLIOP and initiated field reconnaissance, magnetic field survey, and grade samples of the iron ore occurrences in 2006, mainly on Deposit 1.

In general, main mineralisation found and mentioned in the area are iron ore formation of Algoma type called banded iron formation (BIF), magmatic chrome and platinum group elements (PGE), uraniferous conglomerates, and gold and copper mineralisation associated with sulphur.

Table 6.1 summarizes previous work done during different periods, companies and association.

Table 6.1 – Historical Exploration Work Summary

PERIOD	COMPANY	EXPLORATION WORK	STATUORY #
1956-1971	Duncan Range Iron Mines Ltd (DRIML)	Aeromagnetic survey	GM4947 GM7692 GM27617
		Ground magnetic survey	
		Geological mapping and compilation map	
		Geological survey samples of BIF	
		Economic evaluation	
		General prospecting for base metal Historical reserve calculation (from outcropping samples and magnetic survey)	
1972-1973	DRIML associated to International Mogul Mines Ltd	Diamond drilling of 4,140.7m in 22 boreholes	GM29762
1976	DRIML	Development Results and Economic Potential	GM32503
1972-1976	Société Développement Baie James (SDBJ)	Hydro-Quebec Development of LG1 and LG2	
1996-1998	MRNFPQ	Detailed reconnaissance and geological survey Metallogenic synthesis of the Yasunski area including the Duncan Lake Iron Ore Property	RG 98-09
2005-2006	Augyva Inc	Reconnaissance and staking	
		Property acquisition from Virginia	
		Magnetic field survey and sampling	

6.3 Previous Exploration Work Directly Related to the Property

This section summarizes the exploration work already registered at the MRNF as statutory work named as GM.

6.3.1 Year 1956

Registered GM4947 filed by Duncan Range Iron Mines Ltd on February 28, 1957, mention a drilling campaign done in 1956 summer, consisting of eight (8) diamond drill hole (DDH) located in the southeast part of Duncan Lake near Deposits 1 and 2. Based on the map provided in the report, DDHs 1 to 5 were approximately located north of Deposit 1 and 5 within the Hydro-Quebec protected area. DDHs 6 to 8 were located directly on Deposit 1.

Field searches were conducted by Augyva's team and Met-Chem during the site visit to locate evidences of any work, particularly boreholes collar location, without success. Log descriptions provided do not indicate accurate enough borehole coordinates. Consequently, these boreholes were not taken in consideration in the present study.

6.3.2 Year 1957

In 1957, a new company was incorporated as Duncan Range Iron Mines Limited to explore MEL 137, which covered 85.5 square miles. An aeromagnetic survey was done by Spartan Aero Service on the complete property, covering 325 square miles.

6.3.3 Year 1958

Registered GM7692 filed by Duncan Range Iron Mines Limited under the supervision of W. N. Ingham's represents the first organized and methodical exploration works performed over the deposits. The exploration works consisted in lines cutting, accurate geological mapping with structural control data, and systematic ground magnetometer survey over each deposit named blocks 1 to 6, and equivalent to Deposits 1 to 6.

Surveyed base lines and conjugate crosscut lines, as well as pickets located every 100 feet to form a grid were done in 1953 and refreshed in 1958. This grid was used as control points to map geological features as well as iron formation outcrops. Air photographs with stereoscopic overlap and adjustment were useful to locate outcrop in a magnetic environment. Areas outside of the grid were also investigated with traverse compass lines.

Extensive chip sampling was realized by taking rock pieces every foot along control line mainly perpendicular to BIF occurrences, and located on the best exposed parts for each deposit. In total, 955 sample points representing 4,014 feet totalling twenty-two (22) samples were collected. Waste rock intervals inside the iron ore bands were not sampled. These twenty-two (22) samples were combined into fifteen (15) samples for metallurgical testing purpose, with some of them combined together. Metallurgical tests were realized by a private laboratory under H.U. Ross supervision (Metallurgical Engineer based in Toronto). Conclusion on the metallurgical DDT tests (Ingham's report) was that a concentrate containing 66% soluble iron with 6.6% silica could be achieved by magnetic

separation with a recovery average of 94.2% of the iron at a concentration ratio of 2.19 or 2.19 tons of ROM to produce one ton of concentrate. However, individual metallurgical tests results on the 15 samples showed significant variations from one to another tests.

A geological compilation and interpretation map was done at scale 400 feet to the inch, and composite plan at 1,320 feet to the inch. The quality of the geological map produced demonstrates good quality work produced by experimented peoples. Geological report also included geological description of rock types and main structural features encountered on each deposit.

Major conclusions mentioned by Ingham's report were:

- Duncan Range Iron Mines contains a tremendous tonnage, from 13 ore bodies, totalling 13.7 miles length;
- Total potential iron ore is estimated to 3,157,300 tons by vertical foot, covering the total length;
- An average iron grade of 32.0%.

These historical conclusions figures do not respect the rules definition of NI 43-101. Met-Chem considers these figures as very optimistic in consideration of data collected in 1956. The recent diamond drilling campaign and mineral resource estimation indicate major decreased in the tonnage as well in the grade compared with these historical figures.

6.3.4 Years 1960-1961

In 1960, a new MEL (No.157) was granted to replace the No.137, covering 13.43 square miles centered on iron ore occurrences. In 1961, prospection for base metals has resulted in discovery of a copper showing at Long Lake, which was drilled in 1961 and 1962 without success.

6.3.5 Year 1967

MEL No.157 was reduced to 9.18 square miles.

6.3.6 Year 1971

Registered GM27617 filed by Duncan Range Iron Mines Limited under the supervision of Zurowski (M.E.M. Consultants Limited) presents a summary of the exploration activities completed at that time on the iron ore occurrences. The report also presents the result of combined magnetic and electromagnetic surveys performed on the property and the immediate surrounding area, indicating ten (10) conductivity anomalies. Field activities included also detailed ground electro survey on seven (7) of these anomalies located closely north of the deposits.



These anomalies were verified on the ground and discriminated in more than thirty-two (32) detailed anomalies, some of them located on the deposits. The report describes the work done to verify the electro anomalies on each deposit and located them on a general map at scale 1,320 feet by inch, annexed to the report. Anomalies 6 to 9 located in Deposit 1 area are attributed to the iron formation associated with minor sulphide presence. On Deposits 3 and 5, three (3) anomalies were attributed to sulphide occurrence within the iron formation band. On Deposit 4, two (2) anomalies were also attributed to the iron ore formation and one has been considered for further reconnaissance and required work.

In general, the reconnaissance work does not permit to translate into the discovery of significant base metals mineralization, but confirmed results obtained up to that point on iron ore occurrences. The main recommendation was to initiate a diamond drilling program on iron ore formations to convert resources into indicated category.

6.3.7 Year 1972

An agreement was made with International Mogul Mines Ltd. of Toronto for a five-year period to initiate exploration on the property.

6.3.8 Year 1973

Registered GM29762 filed by Duncan Range Iron Mines Limited under Zurowski supervision presents a summary of the exploration activities done in 1973. The work consisted in twenty-two (22) diamond drill holes totalling 13,585 feet (4,140.71 m) on 3 deposits (3, 4 and 6), and in a resources estimation for Deposits 4 and 6 based on the drilling campaign results. International Mogul Mines Limited was involved in the exploration works, as mentioned in the GM. However, the relationship between them and Duncan Range Iron Ore Ltd is unknown.

The main objective of the drilling campaign was to produce a Mineral Resource. A total of fifteen (15) DDHs (73-01 to 73-15) were drilled on Deposit 4 to produce eight (8) geological sections spaced every 800 feet (244 m). A total of five (5) DDHs (73-16 to 73-20) were drilled on Deposit 6, to produce two (2) sections 1,600 feet (488 m) apart. In addition, two (2) DDHs (73-21 and 73-22) were drilled on Deposit 3 on one section in middle portion of the north iron ore band.

There was no metallurgical investigation on representative samples from any of the deposits in order to ascertain recoveries and concentrate grade. Deposit 4 was considered the most attractive one for the drilling program in relation to transport and location facilities, low overburden thickness expected and the apparent wide iron ore intersection. For Deposit 6, it was mentioned that granite dykes and sills invaded the iron ore band

accounting for the dilution in grade. However, the ore zone thickness appears to remain important to at least 400 feet below surface.

The conclusions mentioned are: *“Reliable data as to tonnage and grade can be only be presented on Deposit 4. Insufficient drilling information precludes presenting reliable figures as to tonnage and grade of the Deposit 6 and 3. Nevertheless, it is relatively certain that final data will be less than that predicted or estimated from geophysical survey data and limited surface sampling. Initial assessment of pre-drilling results in Deposit 3 indicated considerable reductions in tonnage and grade. No drilling was conducted on the Deposit 1. By virtue of the results obtained in the drilling campaign, it is probable that some adjustments may be required.”*

In fact, the 1973 drilling result decreased considerably previous potential tonnage and grade estimations made in 1958. However, it was also mentioned that economic potential of these deposits is considered excellent and warrants maintaining the licence in good standing in relation to the new hydroelectric development by the Société de Développement de la Baie-James (SDBJ). The main recommendation mentioned in the GM report was to initiate metallurgical investigations. Historical mineral resource estimation related to 1973 drilling campaign is discussed in section 6.4.

6.3.9 Year 1976

Registered GM32503 filed by Duncan Range Iron Mines Limited under the supervision of J.C. Hornsberger (Consultants and Vice-President of Duncan Range Iron Mines Limited) presents a summary of the exploration activities since 1949, development results and economic potential of the property.

Deposit 1 south and north iron bands were described with estimation of length and thickness. On that basis, a potential tonnage of 400 M tons of ore up to a depth of 600 feet was reported.

Deposit 3 was divided into south, north and east iron ore lenses. Two (2) boreholes were drilled on the north lenses, interesting three (3) ore bands of 360, 80 and 85 feet thickness. A new mineral estimation was done, reducing tonnage by 30% the previous estimation based mainly on geophysical data. In addition, the total iron grade was lower than previous estimate. Potential tonnage of 100 M tons of ore was mentioned for the north lenses only, and in Hornsberger’s opinion, a total of 250 M tons of ore in the three (3) ore lenses was mentioned.

Deposit 4 was the most drilled. It contained 159 M tons of ore, within an open pit design of minimal dimension of 7,400 feet long and 1,350 feet wide, and up to a depth of 500 feet.

Deposit 6 also drilled is mentioned to contain 52 M tons , with dimensions of 3,500 feet long and 375 feet wide, and up to a depth of 375 feet. In Hornberger's opinion, if completely drilled, it would make a total of over 200,000,000 tons.

The summary potential reserves mentioned in the report as "tentatively estimated" by Hornsberger were estimated at 1,000 M tons with no grade specified mentioned.

In Met-Chem's opinion, these figures are not supported by sufficient drilling and sampling data, and for sure do not follow accepted and modern evaluation technique and NI 43-101 rules. In addition, grade and metallurgical aspect definitions are not technically robust enough to support these figures.

Hornsberger's recommendations were to initiate metallurgy and grindability tests from 1973 drilling samples, and to start development program divided in three (3) phases, including drilling of 80,000 feet on Deposits 1, 3 and 6.

6.3.10 Years 2005-2006

Following recent economic improvement in the iron ore market, Augyva took position to acquire the DLIOP from Virginia in 2005.

In early March 2006, Augyva started a GPS field magnetic survey of 11.7 km under Abitibi Geophysics supervision. The survey permitted to confirm and outline numerous strong magnetic lineaments on Deposit 1 oriented NO 50°.

In summer 2006, Augyva initiated reconnaissance prospection survey and realizes a composite sample for characterization at COREM. Additional field works were realized in November with eighteen (18) channel samples on Deposit 1.

6.3.11 Year 2008

The first NI 43-101 Technical Report on the Duncan Lake Property was completed by Geologica of Val-d'Or (Alain J. Beauregard and Daniel Gaudreault), on historical works and information at the request of Augyva.

6.4 Historical Mineral Resources

No mineral resources and reserves estimations were recently completed under NI 43-101 rules. However, some historical resource estimations have been done in the past. Met-Chem's opinion is that the historical resources reported should be only considered of hypothetical or conceptual level, as they were mainly related with geophysical survey and limited surface chip samples. In fact, portion of the historical mineral resources supported by drilling data, always translated into significant reductions in the mineral inventory from previous estimation.

Some information on mineral resources was mentioned in 1958 and in 1973, and associated to major exploration periods of work undertaken on the property. In 1976, a compilation report made by Hornsberger has retained the same data already mentioned in 1958 and 1973 with addition of personal comments made by Hornsberger.

In 1958, the mineral resource evaluation was described in the Inghan’s report, expressed in tons by vertical foot, based estimated continuity of the mineralized iron ore lenses as well the thickness and grade averaged from grab and chip samples. The main characteristics are summarized in Table 6.2. Met-Chem is of opinion that the methodology used in 1958 is technically not acceptable in relation to actual rules. Mineral resource was described by Inghan as “Potential Iron Ore”.

Table 6.2 – Potential Mineral Resource – Inghan (1958)

DEPOSIT #	LENGHT (feet)	THICKNESS (feet)	MAX THICK (feet)	TONS by Vertical Foot	GRADE		CONCENTRATION TEST				RECOVERY
					% Fe	% Fe	% SiO2	% Sulfur	% Phosp.	Ratio	% Fe
1 North	14,000	400	700	608,000	26.00	62.76	11.07	na	na	na	na
1 South	10,000	600	1,300	654,000	33.85	66.73	6.10	na	na	2.1	92.29
2 East	2,600	150	na	na	na	na	na	na	na	na	na
2 Center	3,000	na	300	na	31.30	67.91	4.80	0.017	0.016	2.2	97.89
2 West	2,300	na	150		33.60	65.72	7.25	0.015	0.018	1.9	97.87
3 North	7,200	500	1,000	390,000	35.50	na	na	na	na	na	na
3 East	3,500	300	500	na	28.90	67.44	5.10	na	na	na	96.43
3 WEST	7,400	200	400	160,000	31.17	70.16	2.60	na	na	2.2	97.82
4 South	6,000	500	1,100	na	33.90	62.19	12.50	na	na	na	76.77
4 North	5,000	300	850	na	32.40	65.56	5.31	0.021	0.022	na	na
5 East	1,600	100	na	na	na	na	na	na	na	na	na
5 Center	4,000	250	na	na	33.70	69.04	3.08	na	na	na	99.50
6	6,000	800	1,400	520,000	33.60	62.39	8.46	0.023	0.025	1.9	98.86
TOTAL	72,600	401		3,157,300	32.00	66.00	6.60	na	na	2.2	94.20
Inghan’s comments:											
At 600 feet depth, potential tonnage of deposit 1 is: 400,000,000 tons											
Only portion of thickness more than 100 feet is considered as ore											
Total potential of the 13 orebodies lenses is 3,157,300 tons by vertical foot											

In 1973, the mineral resource evaluation described in Zurowski’s report was associated with drilling restricted to Deposits 3, 4, and 6. Met-Chem considers that the methodology estimation employed in 1973 is better to compare with 1958, but technically not acceptable in regards with actual rules. The mineral resource was described by Zurowski as “Potential Drill Indicated Reserves”. The main results are summarized in Table 6.3.

Table 6.3 – Potential Drill Indicated Reserves by Zurowski (1973)

DEPOSIT #	OPEN PIT					GRADE	TONNAGE
	LENGHT (feet)	WIDE (feet)	SLOPE (degrees)	DEPTH (Feet)	RATIO ore/waste	% Fe (soluble)	Short tons (tons)
4	7,400	1,350	50	500	1.0/0.874	21.71	159,250,400
6	3,500	375	50	400	Less than 1	20 to 23	52,500,000
M. Zurowski's comments:							
New drilling on Deposit 4 indicates a 30% reduction in tonnage and 27.5% in grade							
Additional tonnage is anticipated with extension drilling on Deposit 6							
Insufficient drilling information for deposit 3 to define mineral resource							
New drilling data of Deposit 3 indicates important decreased in mineral resource in order of 30%							
No drilling on deposit 1, but by virtue of the tonnage decreased related to new drilling, some adjustments are required.							

In 1976, mineral resource evaluation described in Honsberger's report, was associated with a summary of the previous exploration works, incorporating some personal comments on the estimations done in 1958 and 1973. Mineral resource was qualified by Honsberger as "Summary of Potential Reserves". However, Honsberger did not retained Zurowski's opinion in relation with tonnage and grade reduction based on 1973 drilling information to be applied on the other deposits. Met-Chem considers that the summary mentioned in 1976 is not technically acceptable in relation with present rules and considerate as very optimistic figures. Main characteristics and results are summarized in Table 6.4.

Table 6.4 – Potential Reserves by Honsberger (1976)

DEPOSIT #	TONNAGE (short tons)	GRADE % Fe soluble
1	400,000,000	NA
3	250,000,000	20 to 23
4	160,000,000	21.71
6	200,000,000	20 to 23
TOTAL	1,010,000,000	NA

In 2008, the historical mineral resource mentioned in Geologica NI 43-101 Technical Report is estimated to one billion of tons for the six deposits of the DLIOP, based on mineral resource figures mentioned in GM32503. It was also mentioned that this evaluation remains approximate and not NI 43-101 compliant since it was evaluated from surface channels, short diamond drill holes samples, and then extrapolated by ground and air magnetic surveys.

7.0 GEOLOGICAL SETTING

All geological information have been derived from MRNF database, statutory works filed by Duncan Range Iron Mines, private reports, and GSC's compilation reports.

7.1 Regional Geology

The vast territory lies within a watershed that drains through to the eastern shore of, and in to James Bay. This territory fills the central portion of the Superior Geological Province, which included four sub-provinces, which are, from north to south: La Grande, Opinaca, Némiscau and Opatica. DLIOF is located in La Grande sub-province. La Grande sub-province is boarded to the north by the Bienville sub-province close to Radisson City, and by the Opinaca sub-province to the east and southeast (Figure 7.1).

The main characteristic of the La Grande area is the presence of multiphase Meso to Neo-archean tonalitic basement associated to Langelier Complex, overlain by autochthonous to para-autochthonous volcano-sedimentary sequences of Yasinski Group and Ekomiak Formation. These sub-units of La Grande sub-provinces are constituted of volcano-pluton and metasedimentary groups, which are crosscut by EW to WNW and ENE shears.

The volcano-sedimentary bands, called greenstone belt, trend generally southwest to northeast as elongated bands. The area is underlain Archean rocks, such as granites, gneisses and schists with some elongated bands of metamorphosed volcanic and sedimentary rocks at the amphibolite facies, associated with Yasinski Group. The exploration activities were mainly oriented on volcanic bands, looking for base metal and volcanogenic massive sulphide; gold veins associated with porphyry as well as gold bearing iron formation. Exploration activities directed to iron ore deposit related to BIF were conducted in the 60's.

Figure 7.1 – Regional Geology

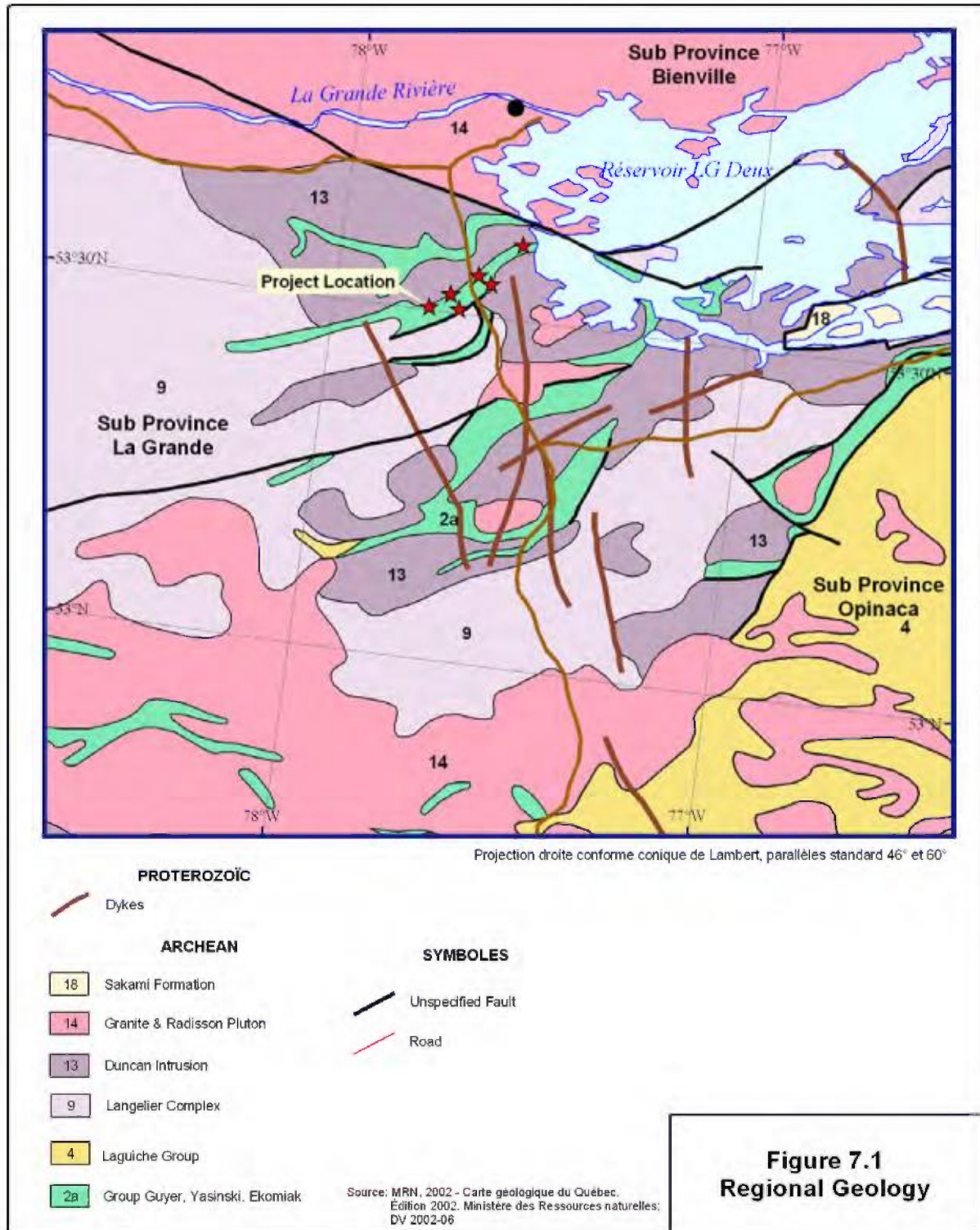


Figure 7.1
 Regional Geology

In the property vicinities, volcanic and metasedimentary greenstone belts extend some 50 km ENE from Duncan and Espirit Lakes. Rock formations include some iron formation lenses, mainly associated with magnetic oxide BIF. Rocks are considered as Archean to early Precambrian age, intruded by granitic masses and youngest proterozoic dykes. These rocks are associated with Langelier Complex and Yasinski Group. The Langelier Complex is the oldest rock assemblage and consists of three units: tonalitic gneiss, granoblastic diorite and biotite-hornblende tonalite, which are locally foliated and gneissic, and covers more than 50-60% of the area. The Yasinski Group, in tectonic contact with the Langelier Complex consists of tholeiitic basalts and andesites, which were settled in a deep marine environment.

The BIF, mainly composed of oxide magnetite facies, and the sandstone beds are intercalated with volcanic tuffs and flows. Ekomiac Formation consists of fluvialite polygenic sandstones, iron formation and polygenic conglomerates, in tectonic contact with the Yasinski. Proterozoic gabbro dykes and local quartz arenite basins of Sakami Formation are also present. These rocks are intruded by several plutons. The Duncan Lake Pluton is the most important one located to the west of the property. Volcanic rocks and the Yasinski Group are associated to continental rifting episode.

Tectonic grain is oriented NE to ENE in the south part and, in general, volcanic and metasedimentary formations dip steeply as monoclonal repetitive sequence or associated to squeezed isoclinal folds split by schist and mylonitic zones. Late ENE faults cut across the region. Parasitic and asymmetric folds with steep plunging are mainly observed in the BIF.

Sakami Formation is characterized by abundant and extensive (several kilometers) and relatively thick oxide-facies iron formation units. Duncan Lake iron ore deposits are important in volume and suggest a setting in a relatively stable environment such as a continental platform. However, iron formations in Sakami area show characteristics halfway between Algoma type deposits (associated with volcanic rocks) and Superior type deposits (associated with platform environment).

7.2 Local Geology

Historical geological interpretation indicates a good continuity of the iron ore lenses, possibly linked all together. Only Deposit 4 seems to be isolated but possibly linked with the Deposit 3 by weak or low grade iron ore lenses. Continuity break may be also explained by axial folding and plunging of the structures.

In the DLIOP area, mafic volcanic and sedimentary rocks are strongly sheared, foliated, mylonitized and amphibolitized. Pillow lavas are flattened and stretched. Iron formations are banded with alternating bands of dark magnetite rich units and light silica bands of 1 to 10 mm, and called BIF. Rock color is greenish-grey with a brown altered surface,

recrystallized, fine to medium grains, and granoblastic texture. Plagioclase forms millimetric light colored bands. Epidote is present as bunchy, banded and disseminated. Locally, basalts are amphibolitized with disseminated or banded garnet grains. A strong biotite foliation is developed and accentuated in the metasedimentary rocks.

As previously mentioned, rocks are mainly of Precambrian age. They form an assemblage of volcanic and sedimentary rocks, intruded by a series of basic to acidic igneous rocks as dykes and sills, and intruded by late Precambrian diabase dykes. Volcanic and sedimentary rocks are highly altered, as schist and chloritic rock recrystallized as biotite rich looking as paragneiss.

The intrusive series vary in composition from quartz granite to hornblende gabbro. Intrusive rock may form major mass of rock. However, very often intrusive rocks are observed as small sill bands sub-parallel to the bedding, and following a similar deformation pattern than the volcanic and sedimentary rock. Pink potassic feldspar is also observed. The oldest impure granite is banded and gneissic. Gabbro is medium to coarse grained, black to dark green color with hornblende developed crystal. Diorite, quartz diorite and porphyry quartz diorite intruded the volcanic rock sequence. Syenite is often observed with a high proportion of dark colored minerals mixed with pink and red feldspar. The diabase and younger gabbro is looking fresh, generally as cross-cutting dykes at steep dip angle.

Volcanic rocks are structurally located under the sedimentary sequence and considered as the oldest rocks. However, interbedding of volcanic flows and clastic sediments is also present. Volcanic rocks are mainly located to the north, bounded on the north by granitic rocks and on the south by sedimentary rocks, represented by andesitic and dacitic flows with tuff. On weathered surface, color ranges from dark green to brownish to dark grey.

Sediments are clastic types as greywacke, cherty greywacke, chert, impure quartzite and slate. Greywacke is transformed into biotitic schist. All sedimentary rocks are well bedded as millimetre to decimetre bands strongly folded, drag-folded or contorted which is very common in this type of rock. Sedimentary rocks are plus or minus pyritized with rusty and oxidized surface.

BIF is part of the sedimentary rock assemblage and consists of alternate silica-rich and magnetite rich layers, compressed into a relatively fine-grained black rock with a strong thinly-bedded and banded structure. Alternating beds vary generally from 1 to 10 millimetres and more. Grain size is variable from bed to bed and inside it and from one deposit to the other, related to post metamorphism events associated to post orogeny and multiple intrusions. Drag-folding or crenulations are observed as well as disseminated pyrite crystals through the iron formation bands.

Generally, the BIF is considered as a consecutive depositional sediment band and the duplication of them is interpreted as result of folding effect. On DLIOP, several consecutive iron ore bands interbedded with waste rock, and sometime by thick rock sequence, are observed from outcrops and the core of 2008-2009 drilling campaign. Deposits 3 and 4 clearly exhibit major structural folding, and also squeezed isoclinal folding which increased relative thickness of the iron ore lenses.

7.3 Local Lithology and Mineralogy

7.3.1 Banded Iron Formation (BIF)

The BIF is observed at various locations within the volcanic sequence, hosted within sheared and altered mafic volcanic and volcano clastic rocks. These different strata locations are interpreted as result of duplication by intense folding and orogeny activities.

Three (3) sub-units of BIF are observed:

- a) Typical BIF composed of alternative of black rich-magnetite band with rich quartz silica white to pale layer band (Photo 7.2, Photo 7.3 and Photo 7.4);
- b) Silicate BIF composed of black to greenish rich magnetite band with white to green silicate band associated to iron silicate mineral assemblage as chlorite, actinolite, hornblende, and hornblende as well as free silica and biotite (Photo 7.3);
- c) Lean BIF or very low grade iron ore lenses, considered as waste rock and associated to sediment and greywacke facies. Very often, the lean BIF contains more silicate mineral and exhibits disseminated magnetic grains or in fine mm bands.

Quartz, recrystallized chert and magnetite are the main constituents of the BIF and represent a proportion of 70 to 80% in weight. However, feldspar (mainly plagioclase), silicate mineral assemblages such as amphiboles with hornblende and actinolite and pyroxene are also present in important quantity. Micas, such as biotite and phlogopite and some muscovite, with altered feldspar, chlorite with clinocllore and chamosite group, calcite and siderite, and pyrite sulphur are also present in lower quantity. Finally, others minor constituents are: apatite, epidote and rutile. These secondary minerals are not negligible and may influence total iron grade compared with the free portion of the iron oxide as magnetite. In addition, silicate minerals may influence the ore quality of the beneficiation process or may need very fine grinding to liberate adequately.

Hematite mineral was not observed by log description but probably present about assay results and Satmagan method. Sulphide mineralisation is dominated by coarse pyrite, trace of pyrrhotite, chalcopyrite and other minor sulphur. Layers thickness of the iron beds varies from 1mm to 1m but is generally in a 2-5 mm range, and may varies along strata continuity.

Based on a preliminary petrographic study made on three (3) core samples, magnetic grain size varies from fine (300 microns) to very fine (20 microns), and probably needs liberation grain size lower than 100 microns. In fact, the liberation tests were made at 70 microns.

Susceptibility tests realized on the core indicate highest value of susceptibility from 500 to $2,300 \times 10^{-3}$ SI, in relation to iron grade and thickness of the ore lenses intersected.

Photo 7.2 represent typical BIF half-split core from borehole DUN08-04 of Deposit 1. Black magnetic layer can be observed alternating white silica waste layer, and a local micro axial folding structure probably related to squeezed isoclinal fold.

Photo 7.3 represents BIF half-split core from borehole DUN09-33 of Deposit 3, with presence of green silicate mineral (chlorite, actinolite) and softly beige/brown fine band as grunerite. Quartz white bands are also observed.

Photo 7.4 represents an outcrop of typical BIF located on Deposit 1, composed of alternating band of 3 to 10 mm of rich magnetic layer and waste very low grade silica layer, and a relative high grade intersection (higher than 35% total Fe), and with some rusty altered waste band. Squeezed isoclinal micro folding axial is also observed.

Photo 7.5 represents an outcrop of BIF located on Deposit 1 with steep bedding plane showing an alternate of high and low grade bands and a relative high grade intersection.

7.3.2 Basalt and Intermediate Mafic Tuff

The volcanic assemblage is assumed to be located on the top of the rock sequence. However, volcanic rocks are located at different levels and on each side of the BIF iron formation lenses. The exact or precise stratigraphy and sedimentation sequence is not well defined and fixed in the area. Potential explanation of the repetition could be to the presence of major isoclinal folds and the different strata locations could be interpreted as duplication by intense folding and orogeny activities. These structural features are observed and already proved in the eastern Labrador Through.

Mafic volcanic rocks are represented mainly by basalt and intermediate mafic tuff. Mafic intermediate tuffs are lithic and composed of fine crystal (Photo 7.6). These rocks are strongly sheared, foliated, mylonitized and amphibolitized. Color is greenish-grey with a brown dull altered surface. Basalts as pillow lavas are amygdaloidal (Photo 7.7), of dacitic and andesitic composition. The pillow lavas are flattened, stretched and interdigitated with tuff and sediment, sometime with presence of iron magnetic band or as disseminated textures. Basalt is usually massive with quartz, calcite and carbonate amygdules up to 1 cm, and locally amphibolitized with garnet and biotite, locally with salmon and pink rusty color.

Magnetic susceptibility of the volcanic rocks measurement taken on the core samples indicates an average of 2 to 40×10^{-3} SI and varies in relation to the ferrous magnetic content.

Photo 7.6 is a core photo of typical intermediate mafic tuff from core of borehole number DUN09-32 located on Deposit 3. Chlorite and epidote alteration could be observed as well as contorted and strongly disturbed beds. It is difficult to discriminate this rock type with greywacke and turbidity sequence.

Photo 7.7 represents a core of massive typical basalt from core of borehole DUN09-52 located on Deposit 2. Spotted and well developed garnet crystals are also observed.

7.3.3 Sediment, Quartzite and Greywacke

Greywacke color varies from grey to dark, but sometimes can be light grey to white beige, composed of fine to medium grained sandstone with fine greenish chlorite altered mudstone. Darkness of the rock is related to biotitic content increase. Rich garnet bands are also present. Sometime salmon pink rusty color is observed in weathering surface. Fresh surface exhibits well laminated quartz band of 1 to 5 mm thick, alternating with darker band (\pm biotitic) of 1 to 3mm. This unit is closely associated to quartzite formation generally located at the base of the iron ore sequence.

Planar bedding is usually not well defined and mainly associated to disturbed and turbidite sequence, including little fine ash tuff (Photo 7.6). Some narrow magnetic beds are also associated to quartzite and greywacke as usually low grade iron. Locally garnet crystal is present in the greenish sandstone and mudstone.

Sediments grain size variability indicates a depositional environment in rapid fluctuation of the water depth, which may be caused by multiple transgressive and regressive depositional sequences.

Magnetic susceptibility measurements done on core samples indicate average range values in the order of 0.8 to 2.0×10^{-3} SI on the core poor magnetic portion. Magnetic susceptibility may increase in relation to magnetite increase.

Lean BIF (BIF with less than 15% iron) is also included in this group. Generally, Lean BIF is greenish color, composed of fine and disseminated magnetic associated with very high proportion of fine grained silicate minerals (Photo 7.7).

Photo 7.7 is a core photo of typical greywacke probably in turbiditic depositional rock sequence from borehole DUN09-31 located on Deposit 1 (North Band). Sometime this unit is looking quite similar to the intermediate tuff and can be mixed.

Photo 7.8 is a core photo of typical Lean BIF from borehole DUN09-37 located on Deposit 5. Magnetite content is quite low. Total iron percentage can be higher than 15% due to iron silicate mineral content. Recovery the magnetite part of the Lean BIF is probably very difficult and may require a very fine grain liberation process associated to high energy cost for grinding.

7.3.4 Intrusive Dyke and Sill

Intrusives observed from core include many types: gabbro, feldspar porphyry with plus or minus quartz, syenite and granite, and quartz rich monzodiorite. Very often, they are looking as sills or sub parallel to bedding plane. Younger diabase dyke can be observed from outcrops on Deposit 1.

Feldspar porphyry can have more than 50% of feldspar phenocrysts, more than 2mm in size, looking pegmatitic and sometime with salmon potassic alteration. The K-feldspar has a pinkish color mainly associated with granite and feldspar porphyry, medium to fine grained. These units are probably part of Amisech Wat Pluton, which consists in a tonalitic porphyry and appears to be the youngest Archean intrusion in the area. On surface, the tonalitic porphyry intrusion is medium to coarse grains, well foliated or gneissic of granitic composition. They are beige, grey to reddish on weathered surface and generally white, pink and grey on fresh surface.

Few pure quartz looking veins of up to 50 cm are injected parallel to the bedding. It might come from sedimentary process related to local, isolated and pinched sand quartz band, frequently observed in iron ore deposits located in northeast Quebec.

BIF in association with many small granite and sill intrusions shows generally higher iron grade in the magnetic lamellae bands, better recrystallization or coarse grains. This is frequently observed close to basement rock units and granite, and also associated with thick iron ore strata sequence in synform basin deposition. Based on this simple concept, Deposits 3, 4 and 6 where several felsic and small intrusion bands have been identified, represent good exploration targets about the thickness of the iron ore lenses.

Photo 7.9 is a core photo of typical massive granite with pink potassic alteration from borehole DUN09-43 located on Deposit 4. Photo 7.10 is a core photo of typical syenite/granite intruded as sill band in the BIF from surface outcrop located on Deposit 3 south.

Photo 7.1 – Typical BIF – Deposit 1



Borehole DUN08-04 (125 m)

Photo 7.2 – BIF silicate – Deposit 3



Borehole DUN09-33 (221m)

Photo 7.3 – BIF outcrop on Deposit 1



Notice the axial fold expression

Photo 7.4 – BIF outcrop on Deposit 1



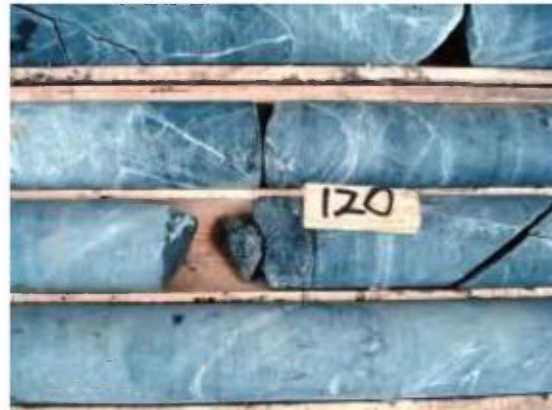
Notice the steep and planar layers

Photo 7.5 – Intermediate Mafic Tuff



Deposit 3, DUN09-32 (71 m)

Photo 7.6 – Massive Basalt



Deposit 2, DUN09-52 (120 m)

Photo 7.7 – Greywacke Turbiditic



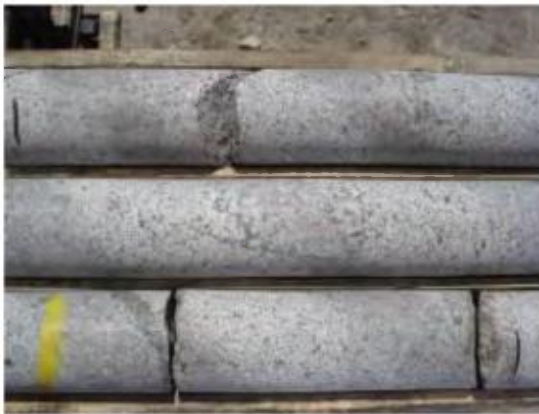
Deposit 1, DUN09-31 (88 m)

Photo 7.8 – Lean BIF



Deposit 5, DUN09-37 (100 m)

Photo 7.9 – Massive granite



Deposit 4, DUN09-43 (143m)

Photo 7.10 – Granite intruded in BIF

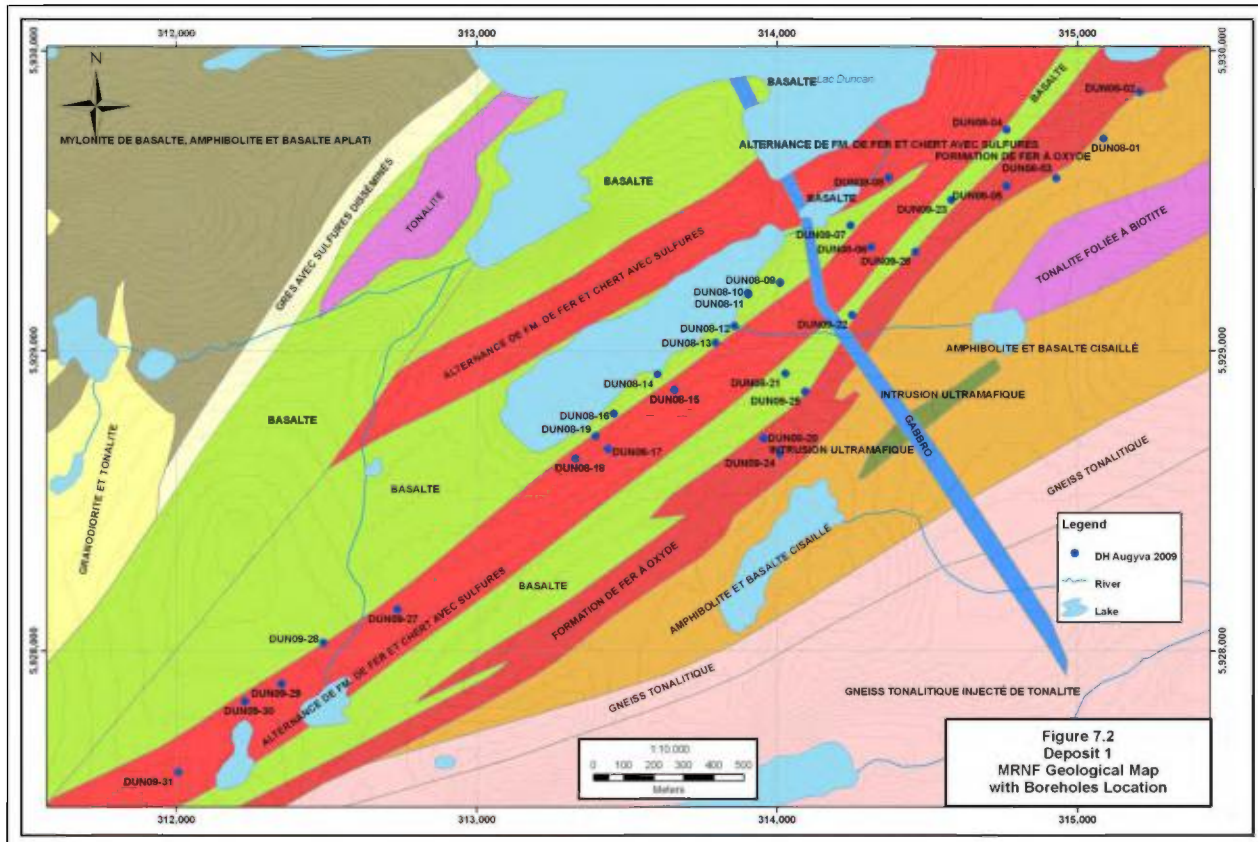


Deposit 3, surface outcrop, south band

7.4 Geology and General Features of Deposit 1

Deposit 1 is located on the south western part of the property. Deposit 1 is made of two (2) long and sub-parallel iron formation bands splits by a 60-120 m thick cherty greywacke containing few thin low grade magnetite bands (Figure 7.2). The northwest iron ore lenses interpreted in the MRNF geological map is probably not there or not considered as important iron ore lenses based on recent magnetic survey.

Figure 7.2 – Deposit 1 - MRNF Geological Map with Borehole Locations



On a regional point of view, Deposit 1 is the southwest continuity of Deposit 2, both deposits interpreted to form a 15 km long sedimentary iron band, transecting Duncan Lake, Almond Island and Maloney Lake, up to Deposit 2. In addition, based on magnetic survey, it is probable that the north branch of Deposit 3 represents the eastern continuity of Deposit 2. This very long iron ore band could potentially host iron ore deposit if thickness and grade are found to be important.

Based on ground geophysical survey and previous mapping of iron formation outcrops, Deposit 1 is estimated to have acceptable iron ore thickness and grade on more than 5.5 km. The northeast continuity of Deposit 1 is located within the block excluded for exploration and in continuity of Deposit 2. The southwestern extremity of Deposit 1 is not clearly defined and may be stopped by a fault or may move to the southeast in direction of Deposit 5. This area has no outcrop and is not drilled.

Based on geophysical expression and drilling information, thickness of the north band varies laterally and probably in relation with squeezed isoclinal folding, thickening the iron formation lenses. Thickness of the north iron ore lenses is looking more important

than the south lenses based on magnetic survey expression or related to better iron ore grade intersection.

Strike direction of Deposit 1 varies locally but is generally around N225°, dipping steeply northwest at 70 to 80°, based on drilling data interpretation as well as structural surface information from outcrops. Between sections 35 and 36, a younger gabbro dyke oriented N40W cross-cuts all rocks.

Based on the geological description of the recent drilling campaign, rocks intersected are mainly BIF and mafic volcanic unit, sediments, small gabbro dikes or sills, and very low grade BIF or Lean BIF generally in association with silicate iron mineral assemblage.

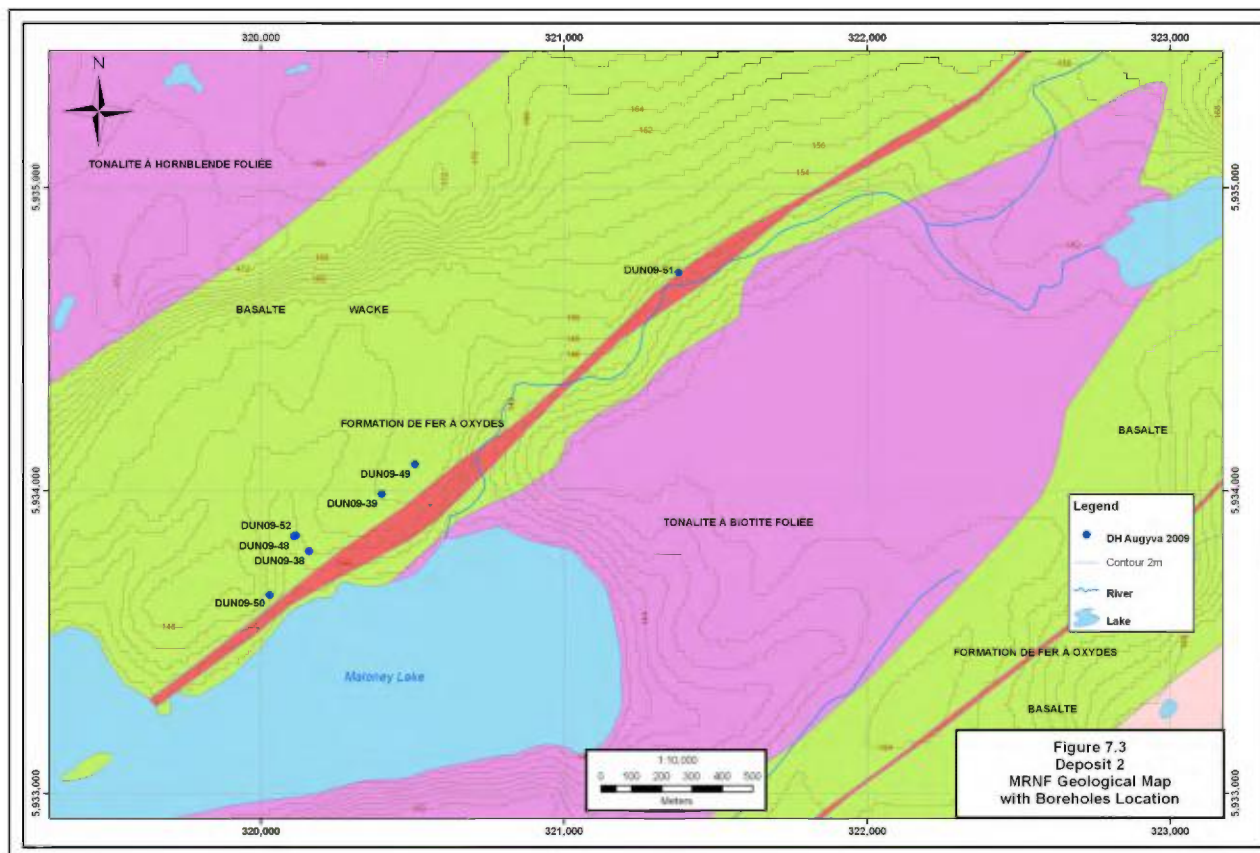
Based on recent lithological interpretation on sections, a minimum of two iron ore lenses are present in the north part area as well in the south area. General geometry may indicate a folded structure and duplication of the north and south iron ore bands. However, the depth of the axial fold and the plunging of the structures are unknown.

Deposit 1 has been mostly drilled in 2008-2009 with thirty-one (31) new DDHs. It was the first drilling campaign performed on this deposit.

7.5 Geology and General Features of Deposit 2

Deposit 2 is located northeast of Maloney Lake and appears to continue up to the north branch of Deposit 3 based on magnetic survey expression. It is a simple elongated iron ore lenses with thickness increased around sections 51 to 61, and 66 to 75. Outcrops are rare and iron ore formation is exhibited only between sections 54 and 55. Thickness of the iron ore band is generally weak (30 m) and only the widest portion of the iron formation band is considered as potential for iron ore deposit. The iron ore lenses thickening are probably related to isoclinal folding (Figure 7.3).

Figure 7.3 – Deposit 2 - MRNF Geological Map with Borehole Locations



Strike direction of Deposit 2 varies locally but is generally around N225°, dipping steeply northwest at 75 to 85°.

Based on the geological description of the recent drilling campaign, rocks intersected are mainly BIF and mafic volcanic unit, sediments, and small diorite, felsic dikes and sills.

From recent lithological interpretation made on 6 sections from only seven (7) DDHs, three iron ore lenses are present with larger iron ore intersection on the middle, separated by smaller and lower grade lenses on both sides. General geometry may indicate a squeezed synform structure with axial plane centered on the larger band. However, structure depth of the axial fold and the plunging are unknown.

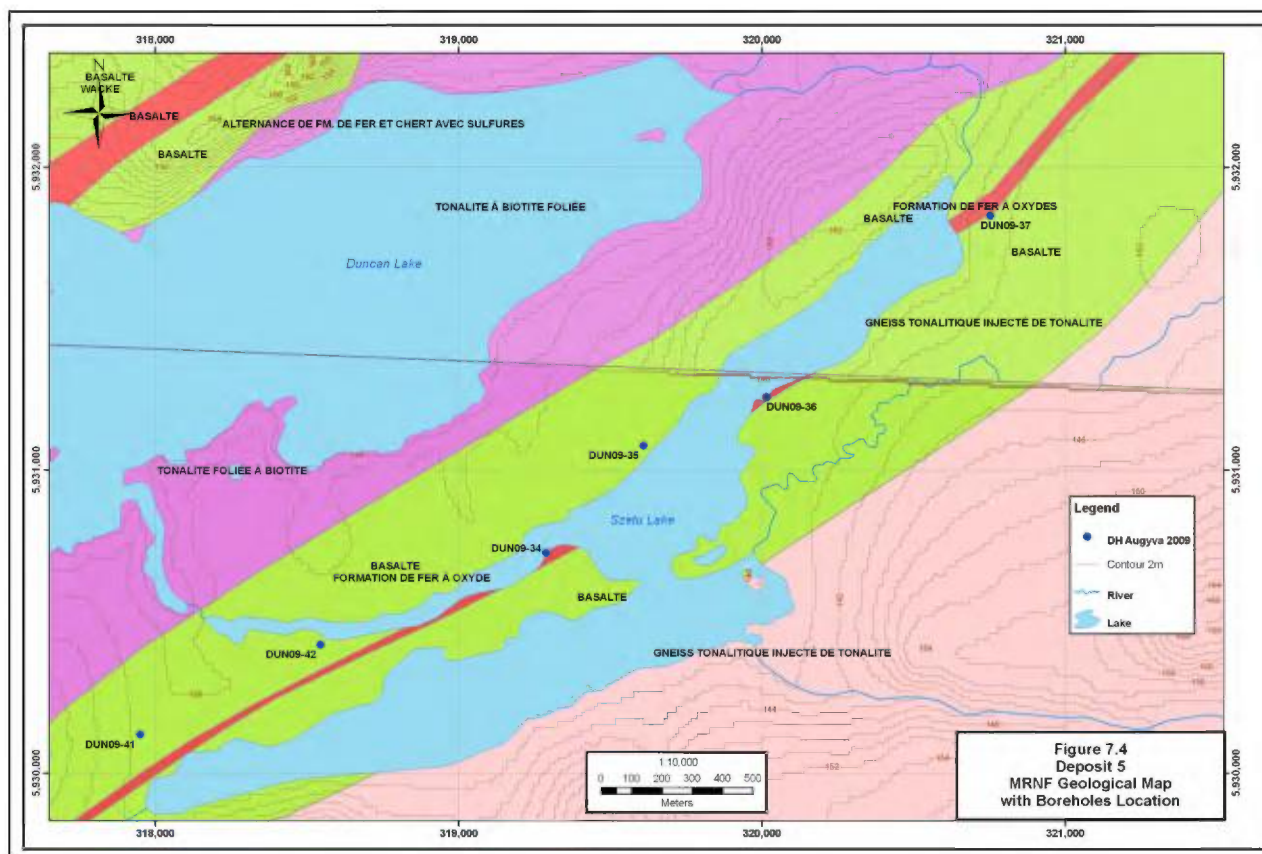
Deposit 2 has been drilled in 2009 with seven (7) new DDHs. It was the first drilling campaign realized on this deposit.

7.6 Geology and General Features of Deposit 5

Deposit 5 is looking as an isolate iron formation lenses located southeast of Deposit 1 and 2, separated by more than 1 km of volcanic rock. Based on magnetic survey expression,

this deposit could continue and extended to the south branch of Deposit 3 and may extend in direction of Deposit 6. The south-western extension and continuity is unknown, but may be connected with Deposit 1, to the west end. Expression of the magnetic anomaly indicates a continuity of 2.5 km. A small and shallow elongated lake (Szetu) follows the ore bands (Figure 7.4).

Figure 7.4 – Deposit 5 - MRNF Geological Map with Borehole Locations



Surface mapping as well as the recent drilling campaign indicates higher iron grade (around 25 to 28% Fe) with weaker thickness compared with the others Deposit.

Thickness of the iron ore lenses is generally weak. Based on the geophysical magnetic survey, at least two iron ore lenses are present with high magnetic expression on the north band and weak magnetic expression on the south interpreted band. Recent drilling of six (6) DDHs indicates a true thickness of 5 to 20 m on the north lenses. The south lenses are not outcropping and was not drilled. Lean BIF is also present between these two (2) lenses. Magnetic expression and profile indicates potentially a larger band. However, part of the anomaly is related to Lean BIF and not considered as potential iron ore lenses.

Strike direction of Deposit 5 varies locally but is generally around N230°, dipping northwest at 55 to 65°.

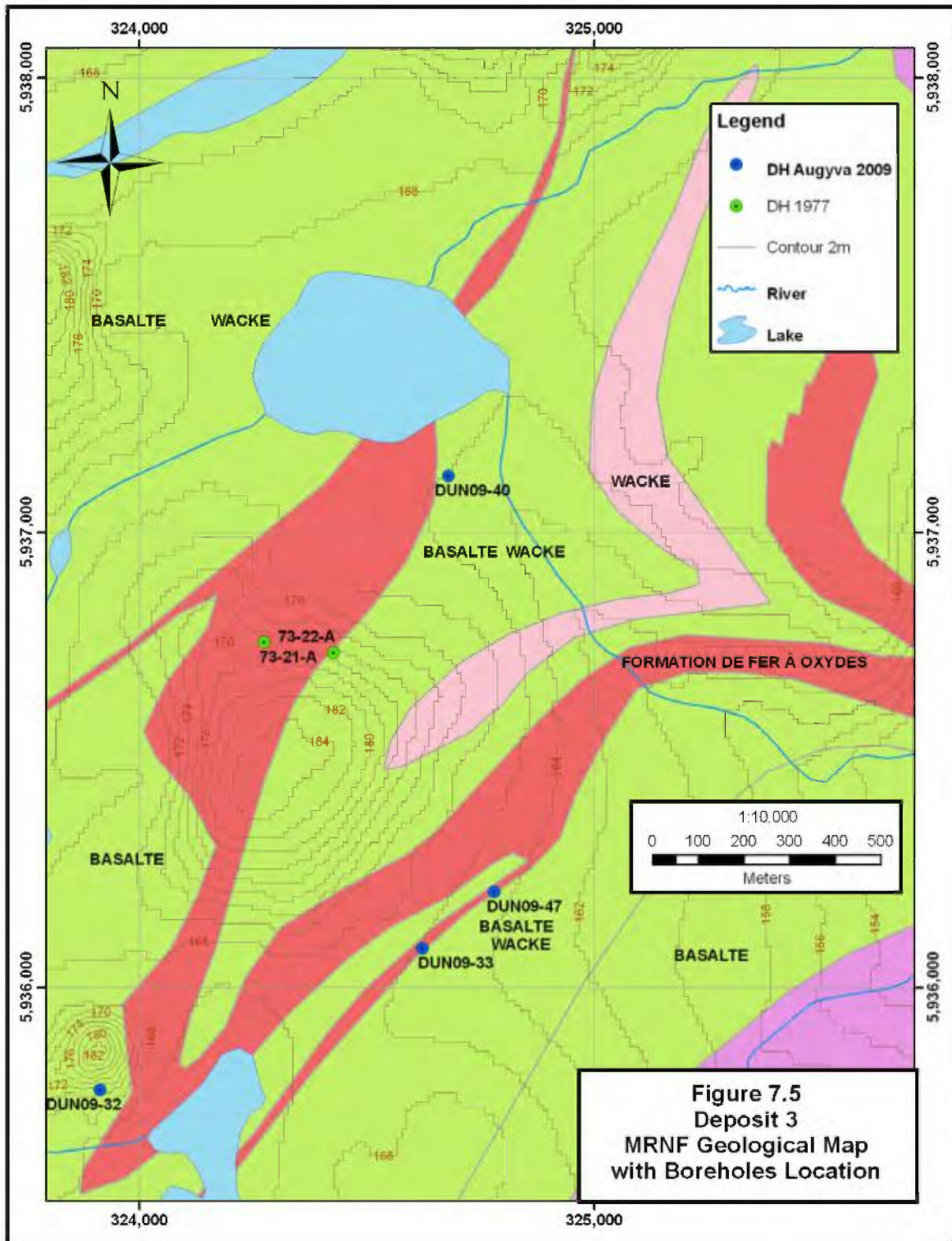
Deposit 5 has been drilled in 2009 with six (6) new DDHs. It was the first drilling campaign performed on this deposit.

7.7 Geology and General Features of Deposit 3

Deposit 3 lies west of the north-western end of Desaulniers Lake. Based on mapping realized and magnetic survey, Deposit 3 is a complex structure made of potential two (2) major synclines (2 V anomalies shapes) and two (2) secondary branches elongated and possibly linked in direction of Deposits 2 and 5. The first major syncline structure starts from the south extremity, plunging in north-east direction. The first syncline branch appears to be drag-folded and thickened. The north part of the syncline is possibly refolded and connected to Deposits 2 and 1 located further to the west, by a very long and narrow iron ore band. The south part of the syncline is also apparently drag-folded and thickened, possibly refolded and connected with Deposit 5 by a long and narrow band located further to the southwest (Figure 7.5).

The second major syncline structure is not well defined and located on southeast extremity, may be connected with Deposit 6. It apparently plunges in north direction, closely perpendicular to the plunging of the first major syncline structure.

Figure 7.5 – Deposit 3 - MRNF Geological Map with Borehole Locations



These two (2) major synform structures are still extended on northeastern direction based on magnetic survey expression in direction of Deposit 4. Deposit 3 shows a good potential to define important iron ore tonnage related to two (2) favourable syncline structures, which generally increase the tonnage factor and decrease the waste stripping ratio at depth. However, the plunge of the both structures is unknown same as the depth of the axial folds. Drilling data is also very limited.

West end and the north branch of the iron ore lenses are not outcropping, and covered by a thick 5-10 m overburden layer based on drilling. Only the southeast end of the branch related to the second major syncline structure is outcropping.

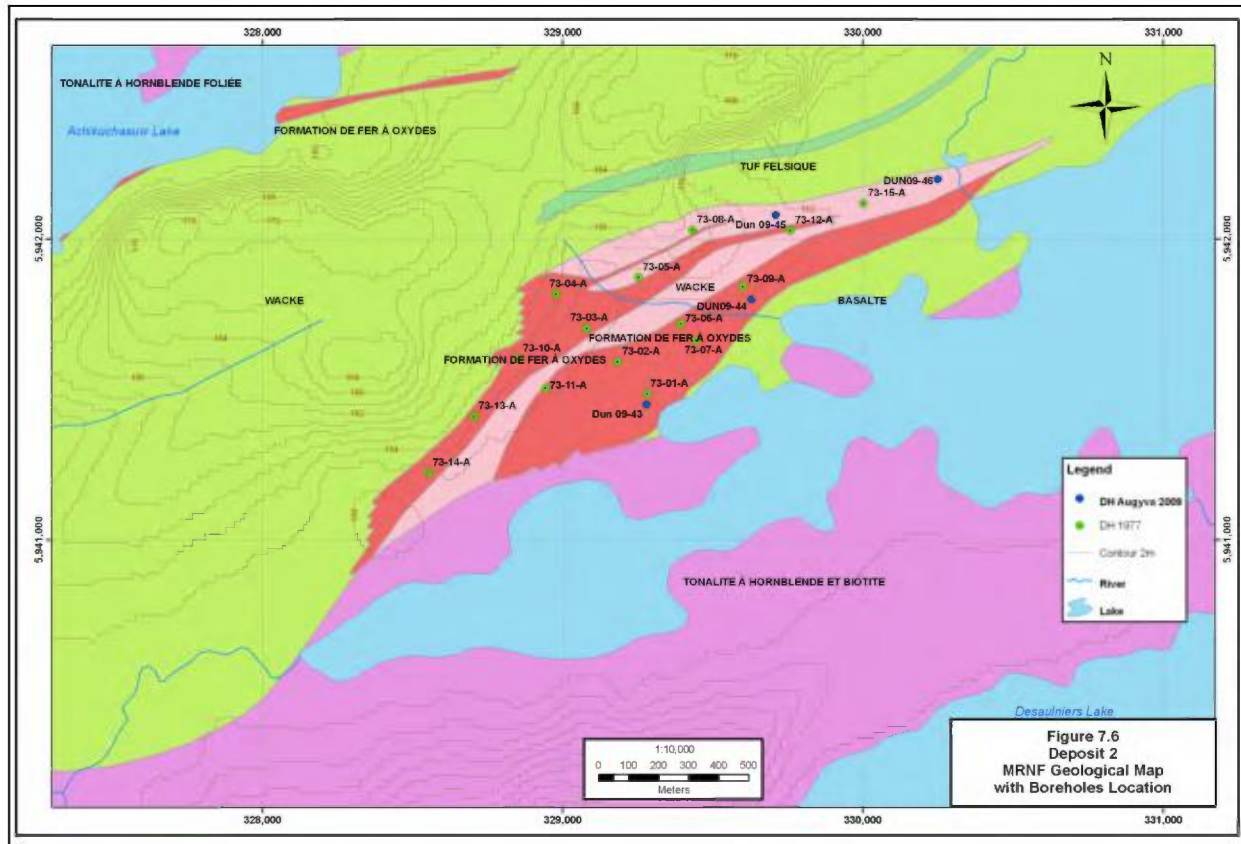
Potential connexion of the eastern syncline axial fold with Deposit 6 is not very well known or defined. However, it is possible that the southeast synform of Deposit 3 may extend in direction to Deposit 6.

Deposit 3 has been drilled in 2009 by adding four (4) new boreholes to the existing two (2) DDHs drilled in 1973 (boreholes 73-21 to 73-22). Evidence of the 1973 campaign can be easily seen on the ground with many drilling artefacts. However, accurate collar location could not be done. Therefore, the collars were adjusted as best fit and assumed to be very close to current drilling artefacts discovered on the field.

7.8 Geology and General Features of Deposit 4

Deposit 4 is located about 6 km in the northeast direction along the strike direction of Deposits 1, 2, and 3, and 2 km north of Desaulniers Lake. Deposit 4 is elongated in northeast direction, and lies on the granite basement. The deposit is made of two (2) major iron ore lenses (north and south), and apparently isolated from the others deposits based on the geological map (Figure 7.6). However, magnetic field survey indicates weak anomalies possibly associated to iron ore formation in direction of Deposit 3.

Figure 7.6 – Deposit 4 - MRNF Geological Map with Borehole Locations



Geological and geometric features indicates a complex synform structure composed of two (2) syncline structures on north and south and a possible anticline in the middle of it. North and south iron ore lenses are possibly thickened by a strong isoclinal folding. The north and south lenses are estimated respectively at 1.5 km and 2.5 km long, with variable thickness along strike related macro folding.

All rock formations dip steeply south and indicate isoclinals overturned structures. The two ore lenses are separated by greywacke of 25 to 100 m thickness, sometime carrying 10 to 15% Fe or low grade iron ore lenses (Lean BIF). The widest section, including the central waste part, is estimated at 600 m. Plunges of these structures are not known same as the depth of the axial fold of these iron ore lenses. Drilling data indicates scattered and small sills and dykes of granitic rock composition, which look like to be similarly folded then the iron formation bands.

In 2009, Deposit 4 has been drilled by adding four (4) new boreholes on the existing fifteen (15) drilled in 1973 (boreholes 73-01 to 73-14). Evidence of the 1973 drilling campaign has been recently discovery in the field after extensive search at the end of October 2009 just before snow cover. Part of the localisation problem was related to the

previous pin-point positioning of the historical information provided as GM and the compilation performed by MRNF. Historical data location of the boreholes was wrongly located on the official geological map and database, by a major off-set.

7.9 Geology and General Features of Deposit 6

Deposit 6 is located southeast of Deposit 3 and considered to be the southeastern end of the south iron band formation. It is possibly the south extension part of the cross-folded or faulted of Deposit 3. However, it is apparently separated by syenite or granite intrusion. Deposit 6 is at the southwestern end of Desaulniers Lake (Figure 7.7).

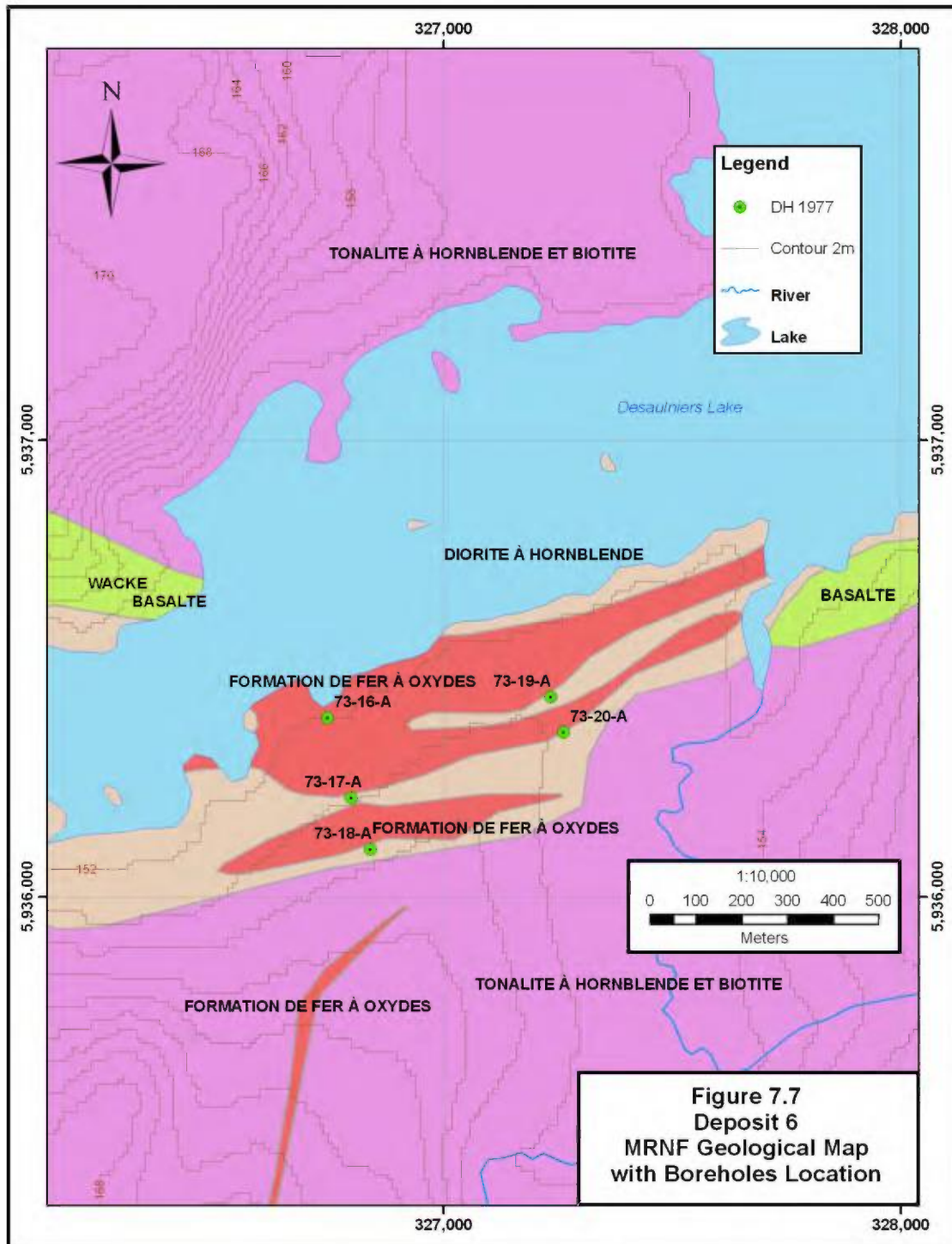
Deposit 6 is a mix of bedded, contorted, black iron magnetite formation and pinkish, ferromagnesian rich syenite and granite as layers sills banded within the BIF. Considered as a whole, Deposit 6 is estimated to contain about 10 to 20% of syenite or felsic intrusion.

Deposit 6 is estimated to be 2 km long, and lies directly on the granitic basement. Based on previous geological interpretation and surface expression, general geometry indicates a synform structure plunging in the east direction, composed of two (2) secondary anticline structures, given three (3) iron ore lenses on the eastern extension. Related to low drilling data, the axial fold as well the depth of the iron ore lenses are unknown.

Deposit 6 is a good example of iron ore formation associated with multiple felsic intrusion lenses as sills. Multiple intrusions as small lenses cannot be pulled out and need to be mined with the ore. Intrusions lowered the total iron grade, but the favourable geometry increased the tonnage in the syncline basin shape. Iron ore formation lenses lying directly on granite basement indicates generally better recrystallization or coarse grains, which facilitate the iron ore liberation process.

Deposit 6 was not drilled in 2009. Only past boreholes totalling six (6) DDHs are available. In 2009, ground field work investigation permitted to discover five (5) borehole collar on a total of six (6) (73-14 to 73-20). Consequently, the collar location of 73-20 has been estimated in relation with previous data and best adjusted with recent hand GPS survey of the boreholes found.

Figure 7.7 – Deposit 6 - MRNF Geological Map with Borehole Locations



8.0 DEPOSIT TYPES

Iron formations are taking form in a broad spectrum of depositional environments. Sediments, local source of constituents, tectonic and stratigraphic settings, and geological environments are controlled by interrelated and complex physical, chemical and biogenic factors (Gross G.A., 1960).

In order for the sedimentary rock to be classified as iron formation, the iron content must be higher than 15% Fe content (Gross). To be classified as iron ore, the iron content must be mined economically and required minimum iron content at a given market price. Some north-American mines in operation since a long period are mining low grade taconite. Generally speaking, these operations used a minimum cut-off grade as low as 16% total Fe. However, the average operating head grade for taconite deposit needs to be higher than the cut-off factor, in the 28-30% range for the hematite (specularite) type and 24-26% Fe for the magnetite type, This is related to the mining cost and the different beneficiation process and cost associated. Major part of the beneficiation process cost is related to the grinding stages itself.

Classification of iron formation based on tectonic systems and depositional environments (Gross, 1965, 1983) was a major step in understanding their metallogenetic significance (Gross, 1986). Deposition occurred in a broad range of tectonic environments from continental shelves and platforms, to craton and plate margins, to subduction zones. A great variety of lithofacies formed near volcanic centres in association with greywakes and volcanic rocks along offshore volcanic belts, island arcs, spreading ridges, and deep ocean-basin rift zones (Gross, 1973, 1980).

Iron formation can be generalized and classified in two types as Lake Superior and Algoma. Lake Superior type of iron formation has been the major source of iron ore throughout the world with two (2) sub-types: the Taconite and the Meta-Taconite. They formed in near-shore continental-shelf and platform basins along the margins of Early to Middle proterozoic cratons and are preserved on all the continents. They are associated with normal shelf-type sedimentary rocks, including dolomite, quartzite, arkose, black shale, conglomerate, tuff and other volcanic rocks. They appear to be the product of hydrothermal effusive activity and volcanism located along deep-seated fault and fracture zones in subduction settings (Gross, 1968; Alex-Androv, 1973; Bayley and Barnes, 1973; Zajac, 1974; Beukes, 1983; Gross and Zajac, 1983).

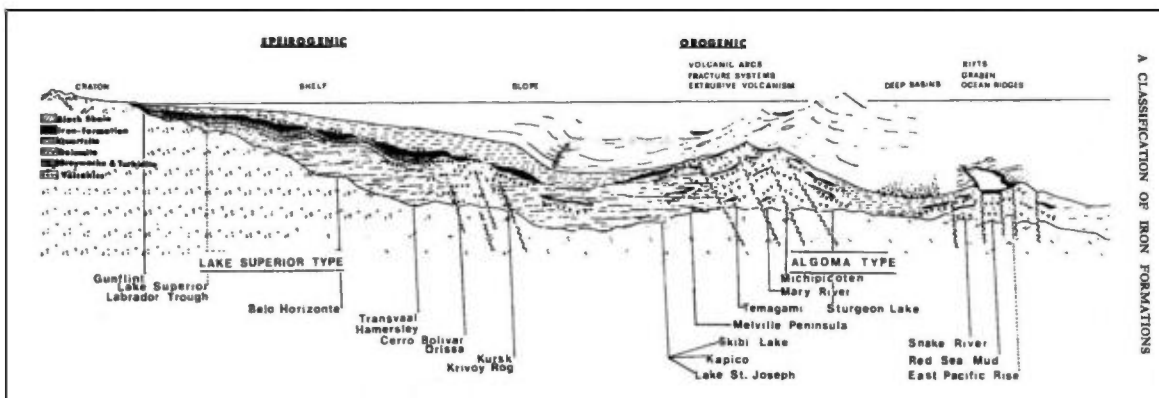
Algoma type iron formation found in all ages of rock is consistently associated with greywacke sedimentary units and volcanic rocks. They are formed close to volcanic centres and produced by fumarolic, effusive and exhalative hydrothermal processes related to volcanic centres (Gross, 1965). Oxide, silicate and carbonate lithological facies are common to both of these groups, and polymetallic sulphide facies, bearing copper, zinc, lead, silver, gold and manganese, are commonly associated with the Algoma type

facies near centres of volcanism (Gross, 1965; James, 1954; Stanton, 1960; Moorhouse, 1965; Goodwin, 1961 and 1965).

Iron formations recognized as classical Lake Superior type were formed on continental shelves, relative near the shore (James, 1954, Gross, 1965). However, it should be mentioned that many other examples of iron formation, classified at one time as Lake Superior type, have associated sedimentary rocks and features indicative of deeper water deposition; far offshore on the continental shelf or on slopes adjacent to or in deep marine basins (Alexandrov, 1973; Plaksenko and al., 1973). On the other hand, Algoma type iron formation deposition extends from the multi-facies development found near volcanic centres to the predominant oxide facies extending far into the greywacke and turbidite sediments. These sediments were deposited at considerable distances from the volcanic centres that provided the iron, silica, and others elements present in the rocks (Gross, 1970, 1973; Goodwin, 1973; Alexandrov, 1973).

Figure 8.1 shows many important examples of different types of iron formation and the order in which they occur in relation to near-shore and deeper water shelf conditions, and with respect to their proximity to volcanic centres or to rift and graben tectonic systems (Gross, 1980, “A Classification of Iron Formations based on Depositional Environments”).

Figure 8.1 – Classification of Iron Ore Formations Based on Depositional Environment



Duncan Lake Iron Ore deposits are composed of banded iron or BIF, and exhibit similarity with both iron ore formation types in consideration to rock type association. Black shale and quartzite and schist are closely associated to Lake Superior type and greywacke and volcanic as basalts, andesites and felsic intrusions to Algoma type. A volcanic cycle was present at Duncan Lake Iron Ore, as indicated by many felsic intrusions (mainly sill types), and the close association with volcanic and basalt flows.

Duncan Lake Iron Ore deposits are structurally deformed and elongated along N230 with steep dip varying from 60 to 80°. Each deposit exhibits complex structures represented

by duplication sequence and variable thickness along strike associated to isoclinal folding. In addition, many of these deposits look like syncline structures made of synform and antiform. Limited drilling data already available do not allow to accurately defining the geological model at depth.

Any metallogenic model must take into account the huge amounts of iron and silica contained as well as the variability and erratic distribution of minor elements in the thick sequences of finely laminated, banded and bedded stratigraphic units of iron formation. These stratified sediments are interbedded with clastic sedimentary facies, volcanic rocks, and carbonate facies. It is generally believed that iron and silica contained in iron formation were derived from deeply weathered rocks and deposited in restricted basins where chemical precipitation was predominant over clastic sedimentation. In fact, the origin of iron formation continues to be controversial and discussed over the world.

In the 50's, iron ore mined was mainly Direct Shipping Ore (DSO) from Lake Superior type. At the beginning of the sixties, a second type of iron ore began to be produced involving metallurgical processing in order to increase total iron grade and to eliminate contaminants. Up to date, DSO is the main source of iron ore in the world, with or without use of simple washing systems. However, iron ore concentration becomes more and more important in relation with depletion of DSO deposits and the need for resources replacement. Concentration or beneficiation methods include magnetic separation for magnetic ores and gravity separation and reverse circulation mainly for hematite ore. Generally, a silica value of less than 5% is required in iron ore concentrates. Other deleterious elements include phosphorus, manganese, and titanium, which must be rejected during the concentration process.

To quantify an iron resource for a deposit that requires concentration, it is not only important to have a good knowledge of mineral constituents (like iron, silica and others elements), but also to have some ideas on the amount of material recovered as the weight recovery along with its chemical correspondence and quality. The standard test used to predict magnetic ores response is the Davis Magnetic Tube Test (DTT). The test, originally designed to measure magnetic content, has been modified to enable prediction of concentration response. This is done by varying grinding times and by performing chemical analyses and geological characterizations on the sample being tested, as well as on the various fractions being produced.

The iron resource can then be estimated using the test results obtained from individual or composite drill hole samples. Typically, percent head iron, percent weight recovery, percent concentrate iron, and percent deleterious elements are part of the resource estimation. Even though an iron ore resource may contain substantial tonnages, if the concentrate is unacceptable for steelmaking, the deposit has no value.

9.0 MINERALIZATION

9.1 Introduction

Mineralization consists of iron ore formation of BIF type. The relationship between geology and mineralization is very close, and is discussed in Geology, Section 7.0 and Deposits Types, Section 8.0 in this report.

9.2 Summary

The BIF at DLIOP are banded or lamellae, made of alternate band of iron rich oxide (mainly magnetite with little hematite) and silicate, composed of quartz and cherty facies associated with silicate and sulphide. BIF consists of millimetric to centimetric beds alternating high grade magnetite and recrystallized chert beds with local chlorite-rich and silicate green mudrocks. Waste rocks and associate mineral are mainly quartz, actinolite, tremolite, diopside, grunerite, hornblende, biotite, chlorite, epidote and pyrite in decreasing order. Average head grade varies from 15 to 35% total Fe. Hematite content is very low, and not continues, if any.

BIF are of typical dark blue colour and becomes dark-green with increased of silicate amphibole minerals. Generally, fine grained, but can be coarser near granite basement contact. However, magnetite grain size can vary from one band to another from fine to medium coarse grains. BIF are mainly metamorphosed and iron ore grains are recrystallized similarly to secondary and accessories minerals.

Each deposits show variation in term of grade and thickness, greatly related or with occurrences of interbedded mafic and felsic intrusions. Deposits 1, 2 and 5 located to the west show less intrusion dykes compare to the other. Deposits 3, 4, and 6 located in the eastern part, and closely associated with granitic basement; contain much more intrusive sills and dykes, which translate in a decrease of iron ore head grade, but also in a major thickness increase of the iron ore lenses.

Quite often a Lake Superior type of the iron ore formation (shell or platform deposition), is sub-divided into a minimum of three sub-units as: Lower Iron Formation (LIF), Middle Iron (MIF), and Upper Iron (UIF). This is a result of the various assemblages of iron ore and waste sediment and mineral associated, texture deposition, grain size and mineralogy. In Knob Lake's area (Labrador Trough), the iron ore sequence is very well understood and described in three major sub-units subdivided again in sub-members.

For DLIOP, the iron strata sequence is not defined clearly and can be associated to a mix of Algoma and possibly Lake Superior types. At least three (3) sub-iron units have been identified as low grade greywacke iron unit, BIF unit and Lean BIF green silicate unit.

However, depositional sequence is not clearly defined and seems complex, related to multi structural deformation and folding.

Well developed disseminated pyrite crystals are present in BIF sequence of DLIOP and may represent potential deleterious element. Pyrite sulphur amount change from bed to bed. However, based on DTT tests performed, pyrite mineral could be eliminated during beneficiation process.

Manganese, titanium and chromium were not observed and, based on chemical analysis, appears to be minor elements, not present in DTT test concentrate. Phosphorous in the range of 0.1 to 0.4% P_2O_5 in the head grade from core sample is considered high. However, phosphorous mineral is mostly eliminated during DTT test (concentrate grade range is 0.01 to 0.03% P_2O_5).

On the basis of simulated concentration test performed using DTT, deleterious chemical elements does not seems to present any particular problem within DLIOP deposits. This aspect will have to be confirmed with additional tests.

Deleterious or contaminant minerals contents of iron formation have been verified as well as how they react to beneficiation process with no problem detected. Consequently, the iron formation of DLIOP is considered as potential for iron ore deposit.

10.0 EXPLORATION 2008-2009

This section summarized exploration work undertaken since 2008. Historical exploration activities are described in Section 6.0 in this report.

Since 2008, many exploration activities are in progress under Augyva, and consisted mainly to a new GPS positioned ground magnetic survey on all deposits, a drilling campaign on five of the six deposits, core sampling, preliminary petrography study and metallurgical testing.

10.1 Field Prospecting, Mapping and Outcrops Sampling

No systematic mapping was done over all deposits. Field prospecting was limited to identify historical mapping and reported outcrops, to take sporadically some chip samples, and to collect magnetic susceptibility data with portable instrument MPP-EM2S made by Instrumentation GDD Inc.

In general, historical mapping performed in 1958 is relatively accurate. Compilation maps realized by MRNF are also acceptable in relation to current exploration level. Only Deposit 4 was not properly located on MRNF map. However, Met-Chem recommends conducting a geological mapping campaign to obtain more accurate location easily obtainable by GPS.

Few grab samples were taken and analysed during fieldwork program. These samples confirmed presence of iron formation, but were not used in mineral resources estimation. In fact, selected samples give generally higher value than a continuous and representative sample. On DLIOP, many small waste intervals can be observed, which contribute to decrease overall iron grade for the selected interval.

MRNF compilation map has been compared with the recent ground magnetic survey on Section 10.2 and appeared to match relatively well.

10.2 Ground Geophysical Magnetic Survey

Since 2008, four (4) geophysical ground magnetic surveys totalling 203.3 km have been done by Abitibi Géophysique and Augyva. The last one was executed directly under Augyva's personnel, to cover extension of anomalies previously identified. Grid line orientations were mainly perpendicular to the iron formation elongations. Lines spacing varied (mainly 100 m on Deposits 1, 3, 4, and 6, and from 100 to 300 m on Deposits 2 and 5).

All geophysical information was provided directly to Met-Chem by Joel Simard, Geophysicist. He was involved in geophysical surveys, in compilation and data analysis (magnetic map figures in this report). All data has been transferred to Met-Chem with



gridded and interpolated anomalies. From these data points by line, Met-Chem has prepared profile sections from data points by line, to be used as guide in the polygonal ore lenses interpretation.

Table 10.1 –Details on each geophysical campaign

Company	DEPOSITS #	PERIOD	PRODUCTION (km)
Abitibi Géophysique (Réf: 06N917)	Bloc 1	2 au 4/03/2006	8.8 km
Abitibi Géophysique (Réf: 08N039)	Blocs, 2, 3, 4, 5 & 6	4 au 10/04/2008	83.12 km
Abitibi Géophysique (Réf: 08N074)	Bloc 1	10 au 12/08/2008	29.2 km
Abitibi Géophysique (Réf: 08N099)	Blocs 1, 3 & 5	12 au 20/12/2008	41.0 km
Ressources Minières (Réf: 09C-04)	Blocs 2, 3,4 & 6	10 au 15/09/2009	50.0 km
TOTAL	Deposits 1 to 6		212.12

Ground surveys were performed with a protonic magnetometer Overhauser model GSM-19W distributed by GEM System. Total magnetic field measurements were taken in continuous mode fixed at interval from 0.5 to 2.0 seconds. Data point location was determined in real time with GPS system Novatel model OEMV-1 integrated to the magnetometer instrument. Diurnal variations were corrected using a stationary magnetometer with measurement every 10 seconds. Final data points were georeferenced in UTM coordinate system, zone 18N (datum NAD83).

Figure 10.1 presents a general compilation of all deposits. The iron ore formation associated with percentage Fe grade higher than 16% creates anomalies zones of pink color exclusively. The surrounding red color zones are indicatives of lower Fe grade or weaker ore band thickness, or could indicate a thick overburden coverage, which decreases anomaly.

Figure 10.2 to Figure 10.13 give a quick overview of the geophysical work compilation, and compared it with Met-Chem’s ore lenses interpretation projected at surface. As previously mentioned, Augyva did not realize a new geological compilation map; and geological maps actually used are coming from MRNF’s compilation work. In general, geological maps are acceptable on a large scale for analysis and comparison. However, many differences appear when rock contacts obtained are compared with drilling data and magnetometer survey.

Figure 10.1 – Ground Magnetic Survey for All Deposits (Total Field)

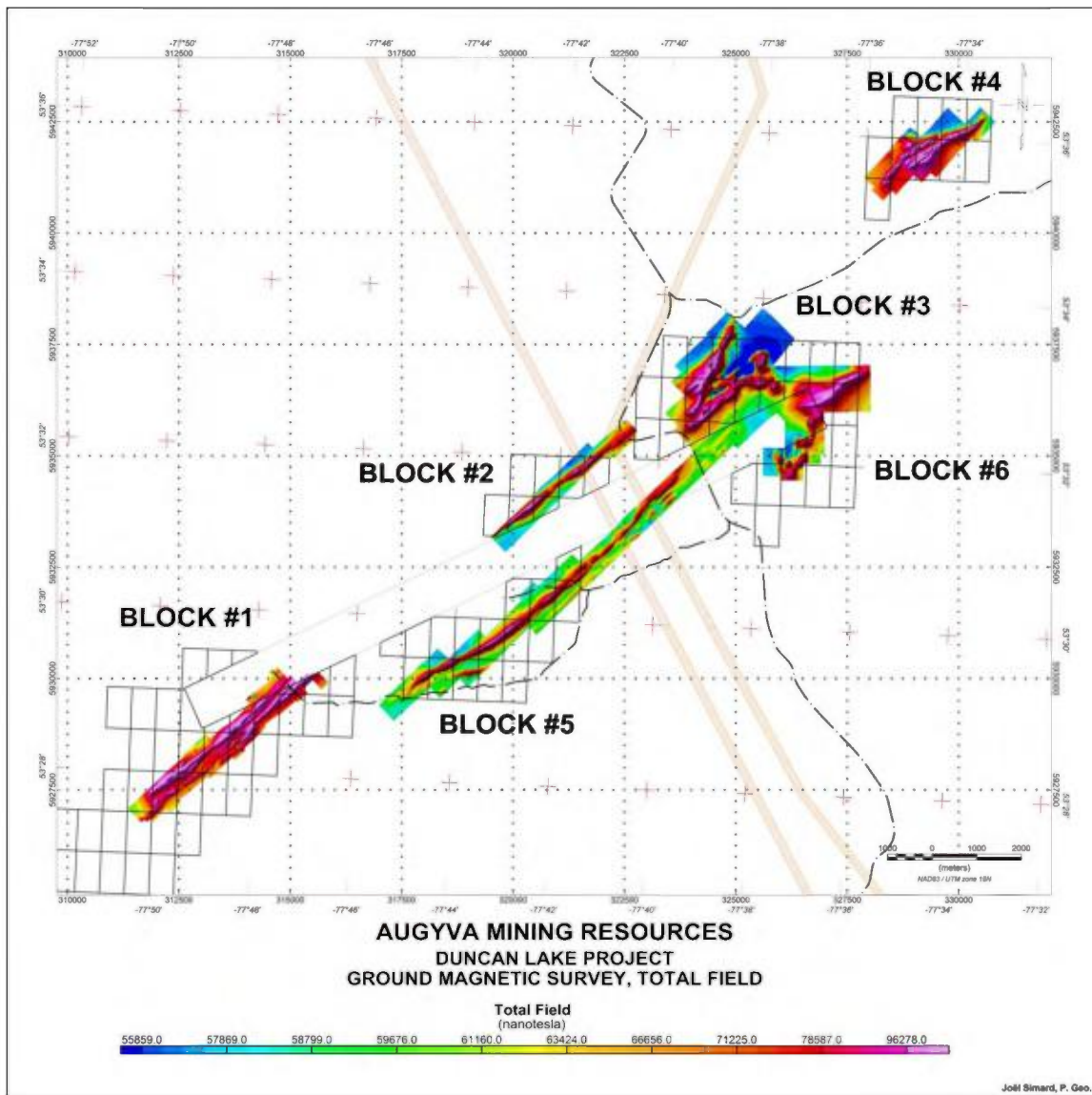


Figure 10.1 and Figure 10.3 represent respectively geological interpretation of iron ore lenses projected to surface and detail magnetic survey interpretation of Deposit 1. The north band is represented by a magnetic anomaly from line 800 to 4400 (3.6 km long) which became weak to the northeast toward Deposit 2. The south band can be followed from line 3000 to 5100 (2.1 km). A weak anomaly can also be observed from line 500 to 3000 in southwest direction. Geological map with iron lenses projected on surface gives more detail on the different iron ore lenses compared with the general magnetic anomalies concerning precise contacts and grade cut-off applied.

Figure 10.2 – Deposit 1 – Iron Ore Lenses with Borehole Locations

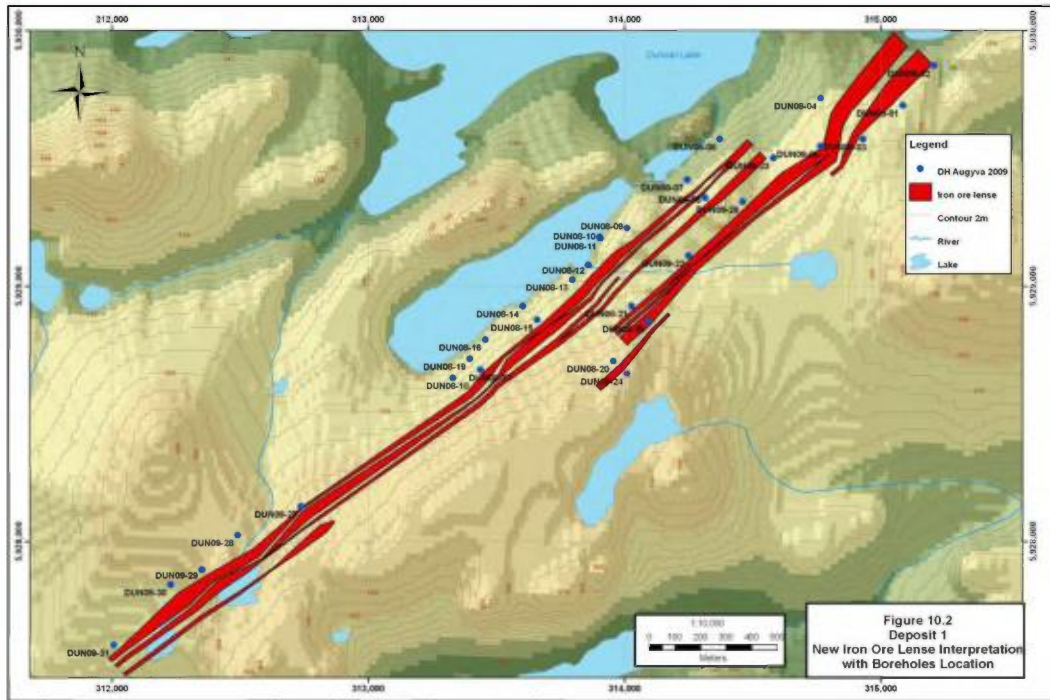


Figure 10.3 – Deposit 1 – Field Magnetic Anomaly Interpretation (J. Simard)

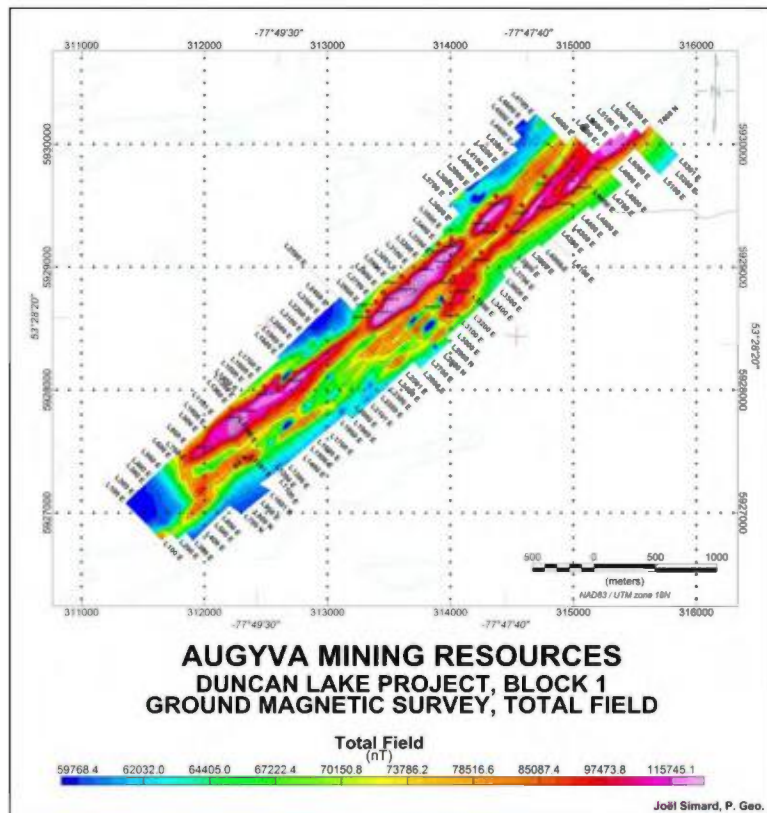


Figure 10.4 and Figure 10.5 represent respectively geological interpretation of iron ore lenses projected to surface prepared by Met-Chem and detailed magnetic survey interpretation of Deposit 2. Deposit 2 is composed of one major elongated band with local thickening with weak and smaller lenses on each side, drill tested in 2009 on two (2) areas related to high magnetic anomalies. Southwest area is from line 5000 to 6100 or 1.1 km long. Northeast area is from line 6700 to 7500 on 0.8 km long. Thickness is weak. Geological map with iron lenses projected on surface gives more details on the different iron ore lenses compared with the general magnetic anomalies about precise contacts and grade cut-off applied. Detail interpretation on sections indicates a high grade vertical iron ore lenses surrounded by a narrow low grade lenses on both sides.

Figure 10.4 – Deposit 2 – Iron Ore Lenses with Borehole Locations

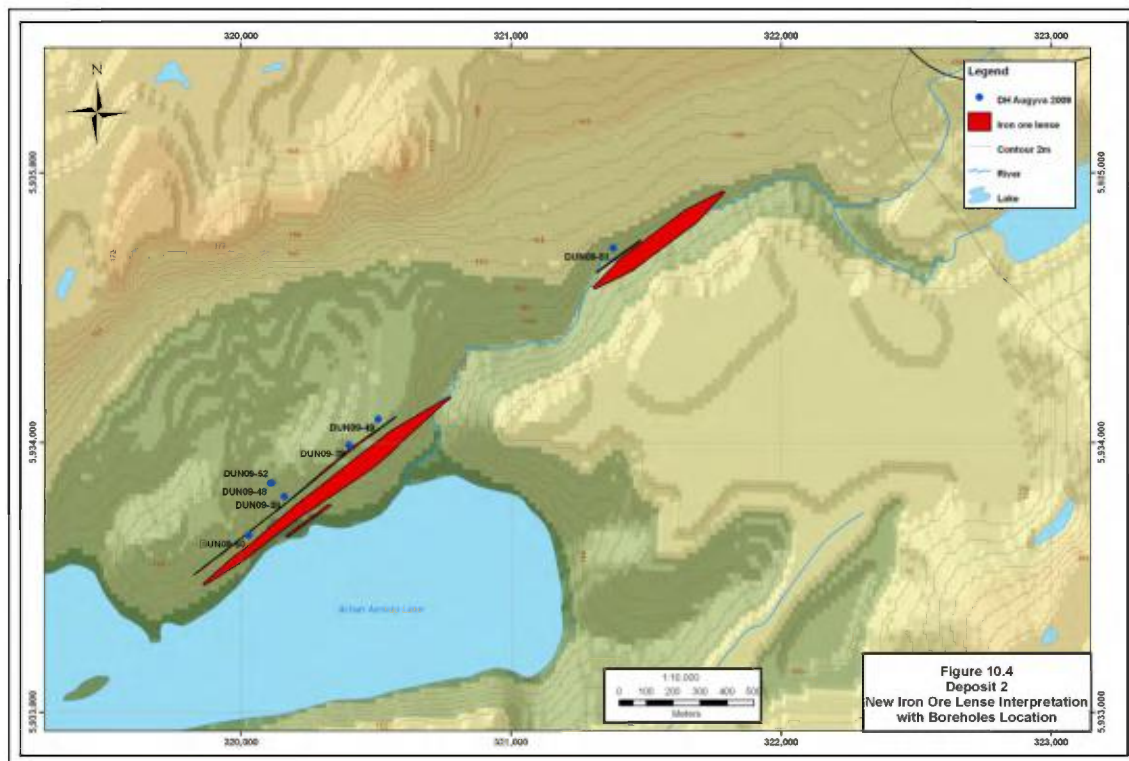


Figure 10.5 – Deposit 2 – Field Magnetic Anomaly Interpretation (J. Simard)

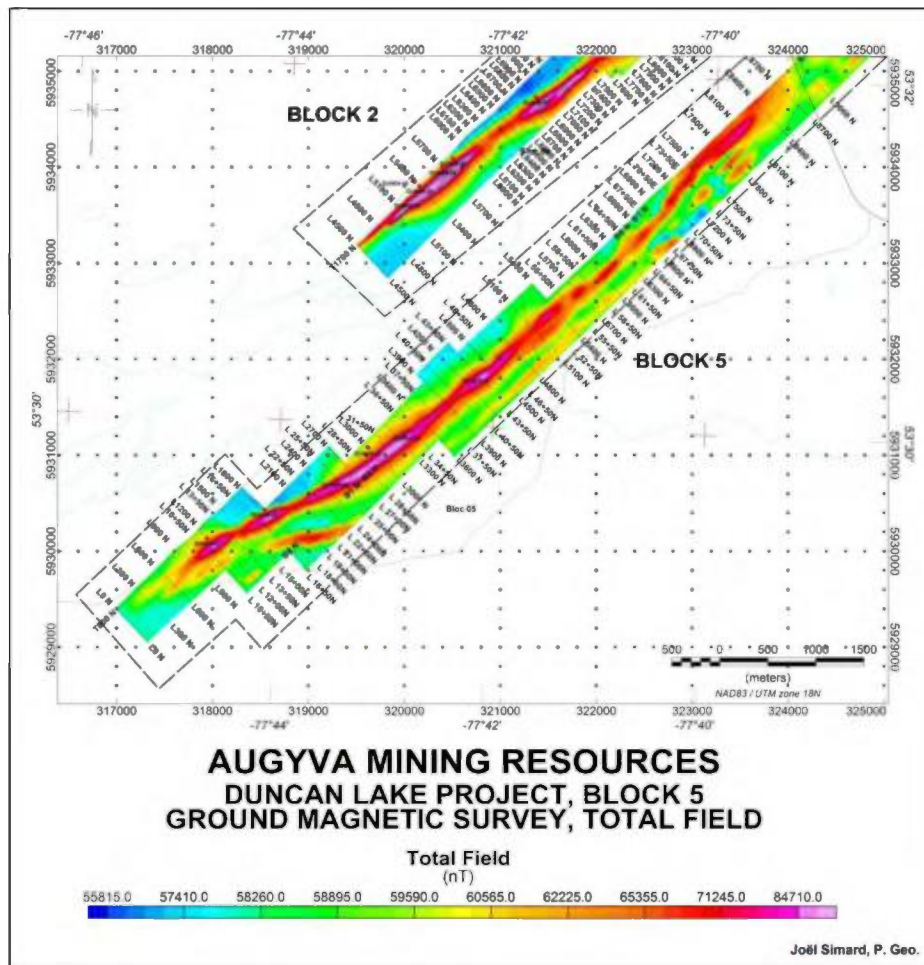


Figure 10.6 and Figure 10.7 represent respectively geological interpretation of iron ore lenses projected to surface prepared by Met-Chem and detailed magnetic survey interpretation of Deposit 5. Deposit 5 is made of one ore elongated band with local thickening, drill tested in 2009 on some areas. A weak anomaly extends from line 900 to 8700 (7.8 km). However, the iron ore zone anomalies are mainly associated with few small lenses probably continuous from line 2200 to 3600 (1.4 km), and from 4200 to 4800 (0.6 km). The ore thickness is very narrow and grade is low. Magnetic map also indicates a weak anomaly located to the south of the lenses and not drill tested. Geological map with iron lenses projected on surface gives more details on the different iron ore lenses compared with the general magnetic anomalies in regard to precise contacts and grade cut-off applied.

Figure 10.6 – Deposit 5 – Iron Ore Lenses Interpretation with Borehole Locations

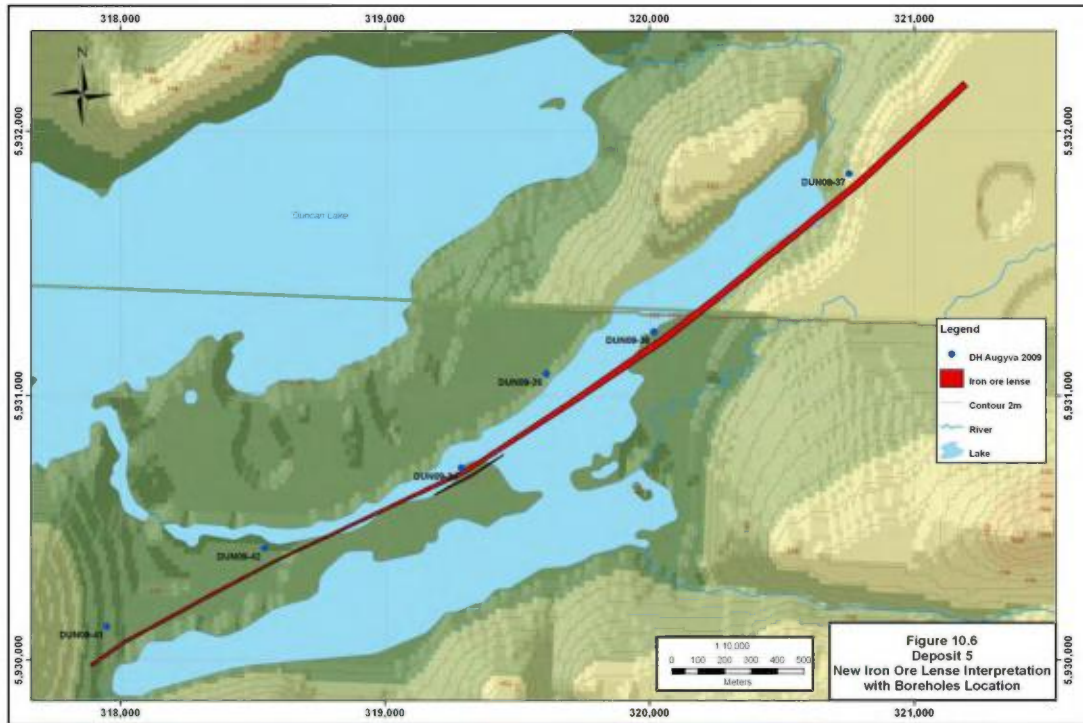


Figure 10.7 – Deposit 5 – Field Magnetic Anomaly Interpretation (J. Simard)

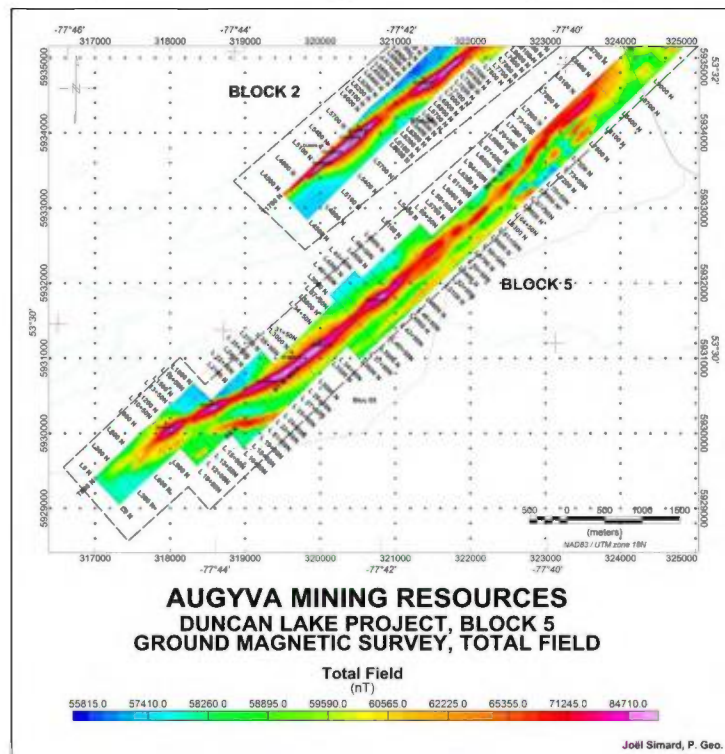


Figure 10.8 and Figure 10.9 represent respectively geological interpretation of iron ore lenses projected to surface prepared by Met-Chem and detailed magnetic survey interpretation of Deposit 3. Deposit 3 is made of two (2) V-shape ore bands interpreted as two (2) syncline structures. Magnetic anomalies are strong considering the thick overburden cover on the northwest lenses. Outcropping is rare and drilling information limited. Geological map with iron lenses projected on surface is simplified in relation to low drilling data density. However, Deposit 3 presents very good tonnage potential with possibility of two major synform structures but not drill tested. It is also possible that Deposit 3 extends in direction of Deposits 2 and 5 based on magnetic anomalies expression.

Figure 10.8 – Deposit 3 – Iron Ore Lenses with Borehole Locations

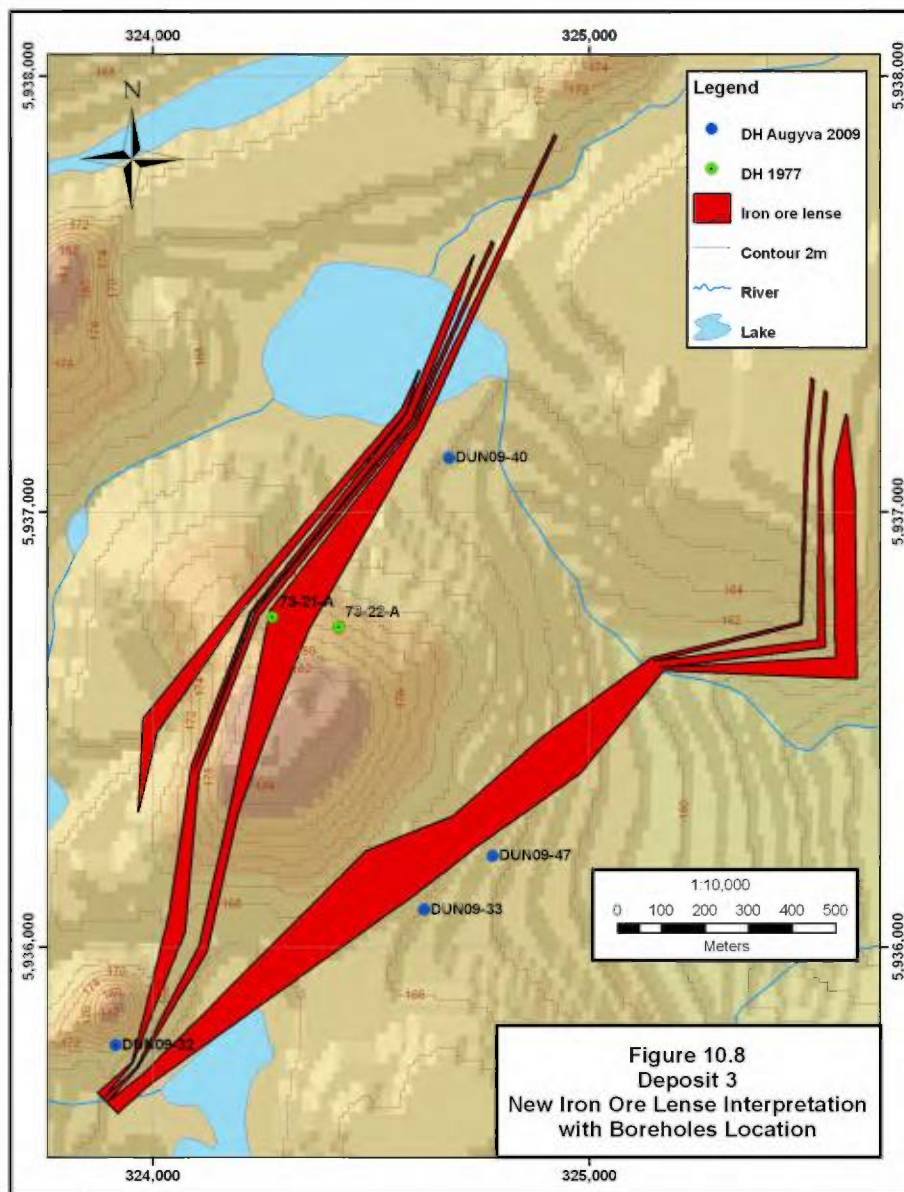
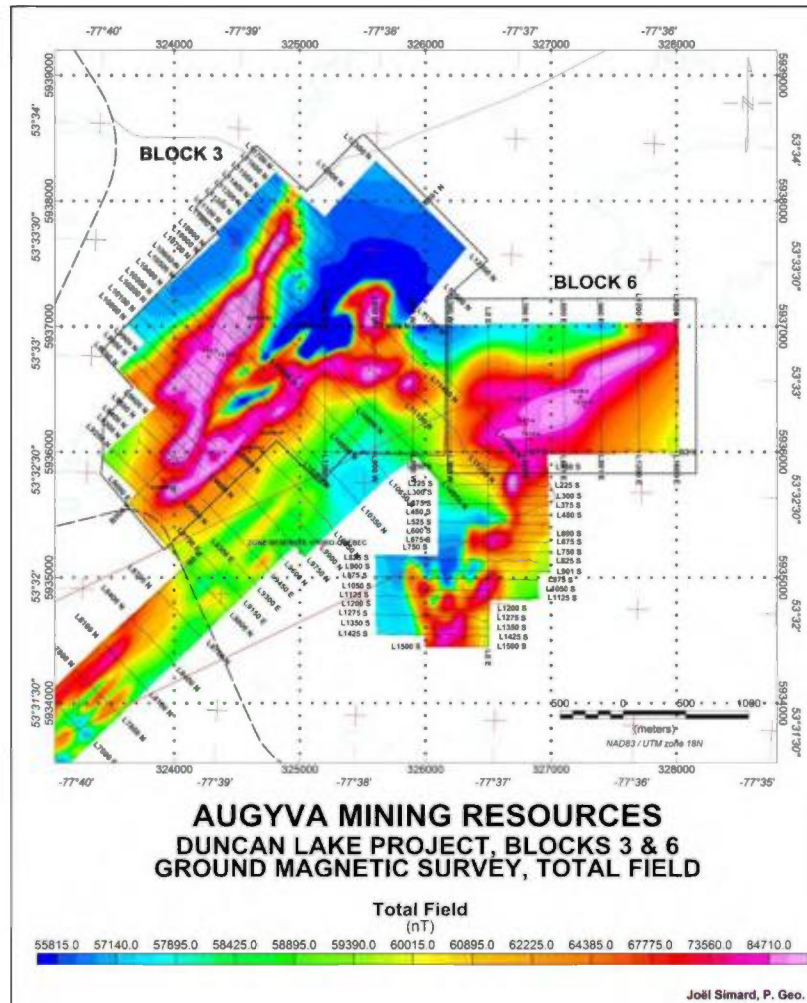


Figure 10.9 – Deposit 3 – Field Magnetic Anomaly Interpretation (J. Simard)



Based on magnetic interpretation, the southern V shape does not correspond to theory or normal signature associated to favourable syncline structure. The axial fold shows a low magnetic lineation break or possible separation between two (2) ore lenses where we are expecting a high magnetic anomaly. It is also possible that the axial fold area is covered by thick overburden, which can explain the weakening of the anomaly in the axial syncline fold. More drilling is required to better define general structure. (Figure 10.10)

Figure 10.10 and Figure 10.11 represent respectively geological interpretation of iron ore lenses projected to surface prepared by Met-Chem and detailed magnetic survey interpretation of Deposit 4, composed of two iron ore lenses. Magnetic anomalies of these iron lenses are very strong. Deposit 4 is interpreted as two synform structures, separated by an anticline. Several minor elongated isoclinal folds may create local ore lenses thickening. The north band magnetic anomaly is observed from line 161000 to 177000 (1.6 km), and the south band from line 168000 to 183000 (1.51 km). Deposit 4 was

partially drilled in 1973 with 15 boreholes, and boreholes added in 2009. However, more drilling is required to better define extension at depth and general plunging of the interpreted synform structures.

Figure 10.10 – Deposit 4 – Iron Ore Lenses Interpretation with Borehole Locations

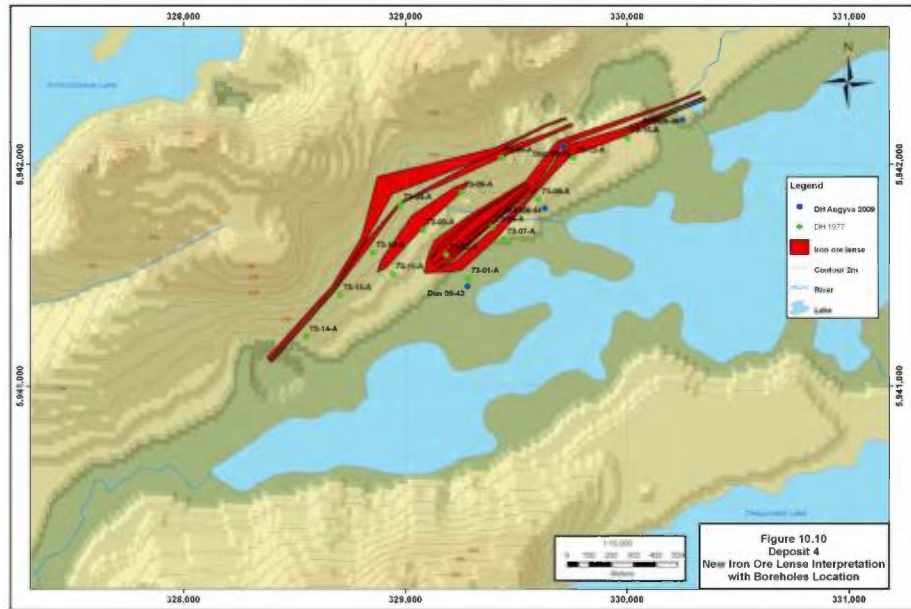


Figure 10.11 – Deposit 4 – Field Magnetic Anomaly Interpretation (J. Simard)

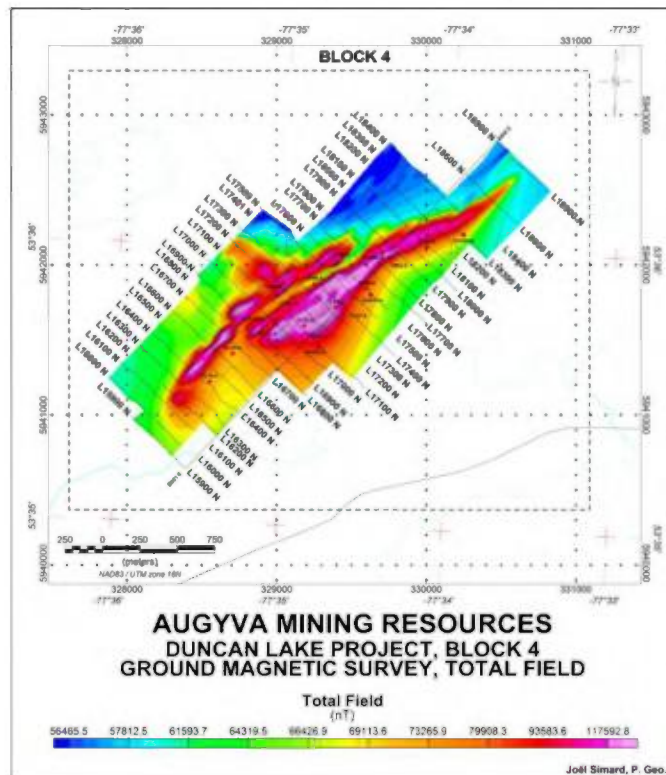


Figure 10.12 and Figure 10.13 represent respectively geological map and detailed magnetic survey interpretation of Deposit 6. Magnetic anomaly is very strong. Deposit 6 is probably composed of two ore bands interpreted as synform structures, separated by an anticline. Several minor elongated isoclinal folds may create local ore band thickening. The north band magnetic anomaly can be trace from line 9400 to 11400 (2.0 km); the south one from line 9300 to 12300 (3.0 km). The Deposit was partially drilled in 1973 with five (5) boreholes, and no borehole added in 2009. However, more drilling is required to better define extension at depth and general plunging of interpreted synform structures. Geological interpretation of the ore lenses is simplified. To better understand the geological features and structures, Met-Chem recommends new surface geological mapping emphasis on structural features.

Figure 10.12 – Deposit 6 – Iron Ore Lenses with Borehole Locations

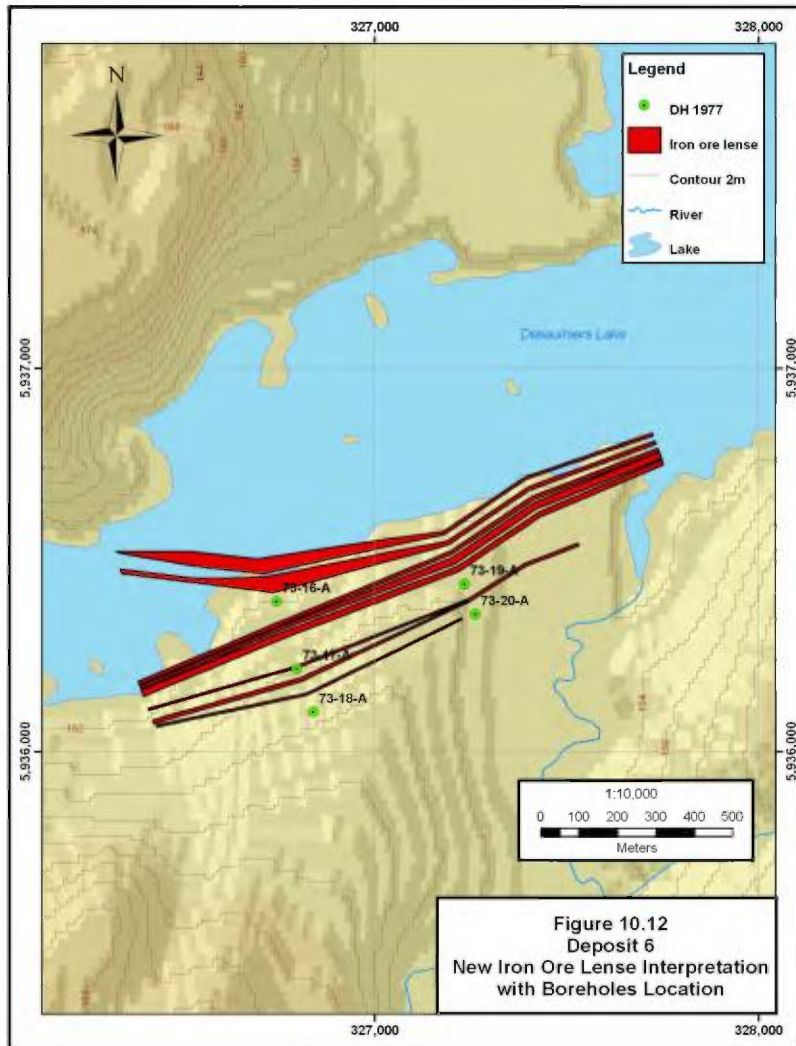
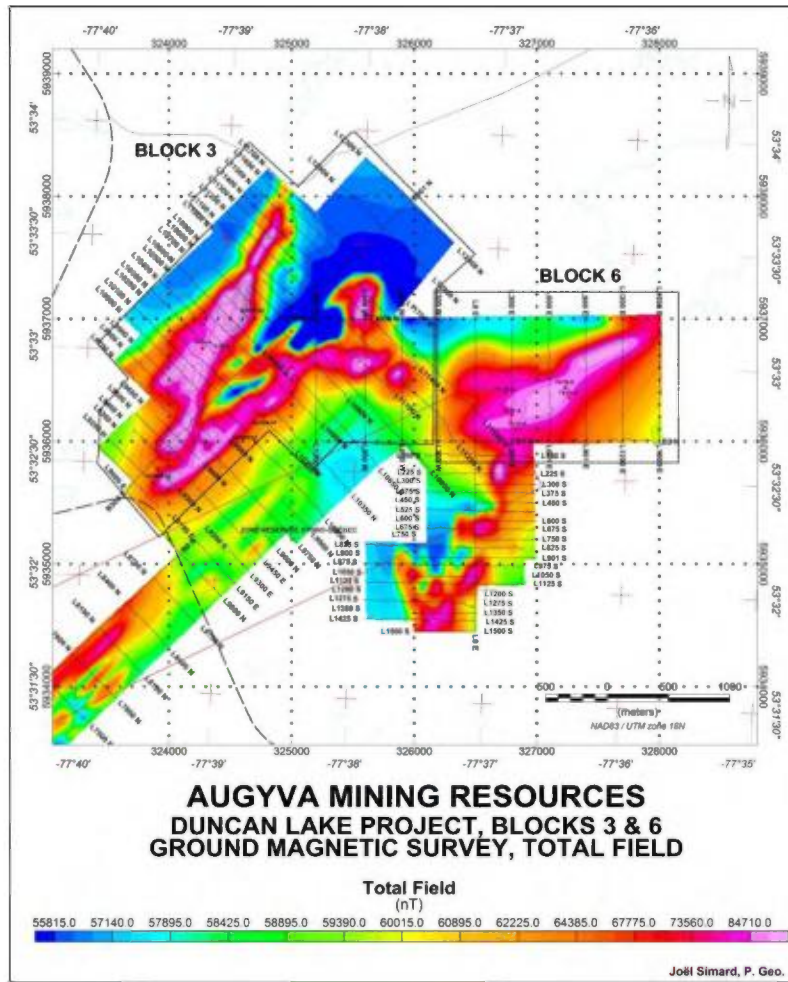


Figure 10.13 – Deposit 6 – Field Magnetic Anomaly Interpretation (J. Simard)



10.3 Magnetic Susceptibility Measurements on Core Drilling

Magnetic susceptibility (MS) measurements were performed on thirteen (13) DDHs core in order to estimate the MS of the iron formation and make comparison with assaying intervals. Table 10.2 is a list of the boreholes measured.

Table 10.2 – MS measurement on Core by Deposit

Deposit #	Borehole #
1	DUN08-07, 14, DUN09-23, 30
2	DUN09-38, 39
3	DUN09-33, 40
4	DUN09-43, 44
5	DUN09-35, 36, 37

MPP-EM2S instrument probe connected to a Dell Axim 51 reading unit was used to perform the MS measurements on core. The readings were completed every 0.5 to 1.0 meter along the core on representative boreholes encountered over Deposits 1 to 5. High MS values definitively represent iron ore formation, and other lithologies show weaker values. Table 10.3 presents MS range obtained for different rock types (N.B.: Analysis realized by Augyva, not verified by Met-Chem).

Table 10.3 – MS range by Rock Type

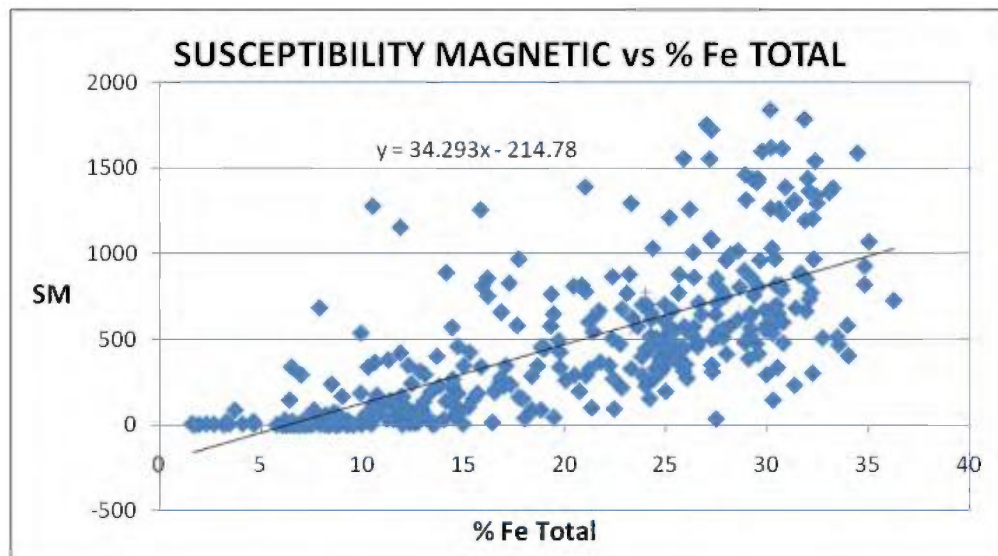
Rock Type	Lower Range (*10 ⁻³) Si	Upper Range (*10 ⁻³) Si
BIF	500	2000
Basalt	2	40
Graywacke + sediment	0.8	2.0
Intrusive rock	8	15

Met-Chem has performed data analysis to verify relation between percentage FeT and SM. Figure 10.14 shows MS vs. % Fe for 3,094 MS measurements made on 376 sampled intervals for an average of 8.3 SM measurements by analysed interval. All rock types analyzed have been taken, including BIF, lean BIF, sediment, greywacke and volcanic tuff.

MS measurement of core use for ore type discrimination could create errors and should be use with care. Indeed, individual MS core measurement takes only into account magnetic mineral present on core surface. Penetrative effect is limited and individual reading varies in relation with ore texture. As it can be seen on Figure 10.14, the relative high variability between MS and percentage Fe could be related to mineral texture influence on MS measurement or on the fact that % total iron is not necessarily associated with magnetic minerals, but also to non magnetic mineral as silicate or amphibole.

MS approach is a good method to locate iron ore lenses but not to quantify precisely percentage FeT. It is also possible that correlation between percentage Fe total and MS values would be better if it is limited only to BIF rock type and use only with % Satmagan result instead of % FeT. The actual study includes many rock types. As mentioned the lithological codes used by different geologists are not uniform and may created distortion in the data analysis. Indeed, percentage Satmagan is a better estimate of the magnetite content. Actual several readings below 500 SI are associated with high grade analyzed of 10 to 30% FeT. On the opposite, high MS readings are related to low Fe grade.

Figure 10.14 – Magnetic Susceptibility on Core vs Sampling Assayed Intervals



10.4 Diamond Drilling Campaign 2008-2009, Core Logging and Assaying

Drilling program was initiated in summer 2008 (July 14), stopped for Christmas in mid-December, started again in January 2009 to stop in May. Boreholes DUN08-01 to 22 were drilled in 2008 and DUN09-23 to 52 in 2009. The drilling operation was conducted by Forage Baie James, using one diamond drill (model EF-50), manufactured by Discovery Drill Manufacturer Ltd (DDM).

The drilling program, core description and sampling were supervised by Alain Vachon, Eng. Geo., up to the end December. He was replaced by Allan Wenlong Gan, Geo., in January 2009, assisted by Benjamin Blaise (Geo. junior) and by Ken Lam for compilation and database management. In addition, Daniel Gaudreau, P. Eng., from Geologica, and Joel Simard, P. Geo., consultant, have provided assistance to drilling campaign and magnetic field survey program.

Diamond drill cores were transported, logged and sampled at the core building facility of Augyva, located 5 km south of Radisson along Highway 109. Core cutting and sampling process were done by Augyva's personal. Augyva's personal was housed at Radisson, travelling by truck and snowmobiles to drill sites.

A total of fifty-two (52) boreholes for 10,461.4 m of diamond drilling sized NQ were drilled on five deposits of the DLIOP. Deposit 1, drilled for the first time, was a priority drilling target and was more drilled than the others with thirty-one (31) DDHs totalling 5,980.3 m. Deposit 2 also drilled for the first time, received second priority with seven (7) boreholes for 1,566 m. Deposit 5 also drilled for the first time was drill by six (6) boreholes for 874 m. Deposit 4 drilled with four (4) boreholes totalling 1,036.2 m, two

(2) of them planned for twin holes located close to 1973 past boreholes and two in the northeast extension to test a ground magnetic anomaly.

Deposit 3 was tested with four (4) boreholes totalling 1005.0 m, two of them on the south iron ore lenses, one on the northeast extension of the north iron ore lenses, and one on the west extremity closer to the plunging syncline structure.

From 10,461.4 m drilled, a total of 6,489.6 m of core have been cut in half and sampled for 1,489 samples collected and analysed for major elements by ALS-Chemex Laboratory. Total assayed number does not include duplicates, standards and blanks inserted for the QA/QC process, and chip samples from outcrops. Core splitting was realized with two (2) different splitters, first part with a diamond saw but the main portion using hydraulic hammer splitter.

In addition, 218 samples were also sent to COREM for metallurgical testing. is data compilation of the drilling program 2008-2009.

Table 10.4 – Compilation Drilling Program 2008-2009

ITEM	Deposit 1	Deposit 2	Deposit 3	Deposit 4	Deposit 5	Total
Drill Holes	31	7	4	4	6	52
Nb of Sections	23	5	4	4	6	42
Length (m)	5980.3	1566.0	1005.0	1036.2	874.0	10461.4
Core Sampled (m)	4027.5	883.4	609.9	559.6	409.3	6489.6
Samples Collected and Assayed	947	191	130	131	90	1489
Metallurgical Samples	128	57	23	10	0	218

In general, core recovery was excellent, averaging more than 99%. Geotechnical compilation by boreholes and lithology types were not done and not considered important at this level. All rocks are considered competent, hard, with local fractured and sheared zones mainly located along geological contacts.

11.0 DRILLING

11.1 Drill Program Prior to 2008

Previous drilling program was completed in 1973 under Duncan Range Iron Mines exploration period, in association with International Mogul Mines Limited. Drilling contractor was Bros & Bradley from Rouyn-Noranda, with one drill rig composed of Long Year drill machine (model not mentioned), tractor John Deere 1010, Beam pumps model, AX steel rods and rubber water line. Drilling rod size was AXT, or a standard type drill. These equipments were already shipped and stored in the field at the end of 1971 on Deposit 4, close to Noach Lake, as mentioned in the GM27617 report.

Drilling program started on August 4, located on Deposit 4, and finished on November 5, 1973, on Deposit 3, totalling twenty-two (22) boreholes for 4,141.54 m. Fifteen (15) boreholes were drilled on Deposit 4 totalling 2,699.84 m, followed by five (5) on Deposit 6 totalling 1,040.89 m, and finished by two (2) boreholes on Deposit 3, totalling 400.81 m. Table 11.1 is a compilation data of 1973 drilling campaign.

Table 11.1 – 1973 Drilling Campaign Compilation

Deposit #	Borehole #	Local 1973 Coordinate		UTM Nad 84 Coordinate			Azimut	Dip	Length (m)	Samples	
		Line	Station	East	North	Elevation				Qty	Length
4	73-01	0+00	7+50 S	329282.9	5941486.1	150.0	321	-50	225.95	21	102.73
4	73-02	0+00	2+90 S	329183.9	5941592.4	150.6	321	-55	172.36	17	86.72
4	73-03	0+00	2+00 N	329080.4	5941703.8	151.9	321	-50	231.95	28	150.45
4	73-04	0+00	7+00 N	328977.0	5941817.4	155.8	321	-50	230.73	24	158.22
4	73-05	8+00	3+25 N	329253.1	5941873.5	152.5	321	-78	156.67	17	120.30
4	73-06	8+00	4+00 S	329393.6	5941718.4	150.9	321	-62	183.79	19	121.22
4	73-07	8+00	6+75 S	329444.6	5941663.0	150.2	321	-65	185.62	15	110.25
4	73-08	16+00 E	2+75 N	329433.7	5942030.1	156.6	321	-70	135.03	14	116.10
4	73-09	16+00 E	5+25 S	329601.2	5941842.9	151.7	321	-62	205.44	19	113.69
4	73-10	8+00 W	4+30 N	328853.9	5941602.6	155.1	321	-60	195.68	10	73.15
4	73-11	8+00 W	0+00	328942.8	5941504.3	151.8	321	-58	149.35	8	56.85
4	73-12	24+00 E	4+00 S	329759.2	5942029.4	151.6	321	-63	172.21	14	100.98
4	73-13	16+00 W	2+60 N	328705.4	5941410.3	153.8	321	-82	135.94	8	52.00
4	73-14	24+00 W	1+30 N	328553.1	5941223.1	151.7	321	-76	149.96	9	60.53
4	73-15	32+00 E	7+00 S	330002.5	5942119.0	150.6	330	-70	169.16	12	87.93
6	73-16	16+00 E	5+00 N	326745.0	5936392.0	152.0	340	-45	206.35	22	142.04
6	73-17	16+00 E	0+50 S	326798.0	5936216.0	153.2	340	-45	257.86	10	62.73
6	73-18	16+00 E	4+35 S	326840.0	5936103.0	154.8	340	-57	196.60	8	51.66
6	73-19	32+00 E	1+35 N	327234.0	5936437.0	152.9	340	-50	210.92	18	115.03
6	73-20	32+00 E	1+50 S	327261.8	5936359.5	152.7	332	-62	169.16	2	11.98
3	73-21	32+00 N	3+50 W	324275.0	5936759.0	174.7	285	-45	175.26	9	62.73
3	73-22	32+00 N	1+35 E	324427.0	5936736.0	174.9	285	-50	225.55	20	141.58
TOTAL	22								4141.54	324	2098.87

In 1973, borehole collar locations (drill log identification) were estimated based on local grid (base line and station picketed method), using local coordinate system. Deviation dip

angle was measured by acid test tube method without any azimuth measurements. Given the relative length of the boreholes, small diameter boreholes, and the fact that dip tests indicated strong deviation, it is likely that boreholes may have also significant azimuth deviation. Borehole traces on historical interpreted sections represent the deviation at mid-distance between tests. Acid tests were taken systematically every 61 m (200 feet). Old core wood boxes found in the field were able to store 7.6 m (25 feet) of core.

Field research to locate 1973 boreholes was performed during summer and autumn 2009. Field observations permit to discover many boreholes and to relocate them by GPS technique (WGS84), and to allocate a best fit location for the remaining boreholes not precisely found.

The drill logs were reviewed and several evidences show that all aspects were carried out adequately. Iron formation contacts were reported at 0.1 feet precision. In general, log description appears to be accurate and well done. Sampling was limited to iron ore portions. However, for grade calculation purpose, waste intervals were diluted using a zero value. However, for metallurgical point of view, internal waste bands may impact the beneficiation process, or influence physical ore proprieties.

Iron ore intervals were split and sent for analysis (soluble iron method). There is no mention of the laboratory used, but it was probably located in Rouyn. However, it was mentioned that residual half core and rejects were shipped to Rouyn in GM29762 report. Average sample length used was 6.1 m (20 feet), with a minimum of 0.88 m and maximum of 11.89 m. Short samples were not split. A total of 325 samples were analysed for soluble iron element. Waste portions of iron ore interval were not analysed, but only diluted at a zero grade for calculation purpose. Waste length interval was mentioned for each sample.

As previously mentioned, the compilation made by MRNF does not locate accurately Deposit 4 boreholes. However, geological interpretation and compilation made by MRNF appears acceptable. DDHs collar location problems were limited to Deposit 4 borehole, which were not well geo-referenced in MRNF database.

During the site visit realized by Met-Chem, evidences of 1973 drilling campaign were observed by Raynald Jean, Senior Geologist. Timing did not allow a visit to Deposit 6. Deposit 4 was also visited and only some old access trails were observed during the visit. Thereafter, intense research using old air photos information, adjusted to actual topography map. In October 2009, borehole 73-01 on Deposit 4 was found on the ground by Augyva personnel. Drilling campaign 1973 is considered adequate and is used in the current geological interpretation, justified by past drilling evidences found in the field as trails, wood sticks used for boreholes identification, and artefacts of drilling materials around it (wood logs for set-up, steel rods, casing, and pieces of rubber water line).

Evidences have been found on each Deposit and precision on collar location is acceptable at this study level.

11.2 2008-2009 Diamond Drill Program

Most of the 2008-2009 drilling program was planned by Mr. Alain Vachon, using previous MRNF geological compilation map, ground magnetic survey and reconnaissance mapping, totalling 52 boreholes. Most of the borehole locations were covered by overburden.

The contract for diamond drilling, preparation of access trails and drill set-ups were awarded to 6947476 Canada Inc. (Forage Baie-James Inc.) of Radisson, Québec. Housing and food was provided in Radisson for the drill crew, travelling 40-60 km on asphalted and gravel roads, plus 2-8 km bush trails. The drill rig was equipped to retrieve NQ size core. Drill crews were working based on twenty-one (21) working shifts and 12 days off schedule, composed of two (2) shifts of 12 hours.

Core handling procedures included cores pick up from drillers at the drill site by Augyva's personnel and delivered to logging facility. There, core boxes were opened and cores were measured, tagged, and logged by the geologists or technicians, supervised by geologist, and selected portions marked for sampling. Once on the logging bench, a logging geologist/technician inspected core boxes for label errors.

Logging geologist/technician was responsible for labelling and photographing all core boxes. From boreholes DUN09-22 to DUN09-52, the core boxes and selected core samples were photographed after core logging and sample marking, but before the core splitting process. For boreholes DUN08-01 to DUN08-21, only selected core samples were photographed at the time of logging before splitting, and ultimately all core boxes were photographed on July 7, 2009, after the cores were cut and sampled. The technician hand-recorded Rock Quality Designation (RQD) and Core Recovery (REC) values prior to geological logging, and later entered them into a digital Microsoft Excel drill log. Core recovery was observed to be good with very little broken or core lost intervals.

From July 2008 to May 2009, four geologists and technicians (Alain Vachon, David Guerrero Garcia, Allan Gan, Benjamin Blaise) have performed drill core logging in the core logging facility. The core was logged onto paper sheets and later entered into Microsoft Excel files, one file per drill hole. It recorded brief descriptions of lithological characteristics, fracture and vein-filling minerals, mineralization, alteration types and textures. Core description and the rock type assigned were not fully uniform between geologists involved in the description process. Rock types need to be reviewed and simplified to allow continuity from section to section, and to allow further analysis constrained by rock type.

Drilling conditions were generally good, with minor difficulties in implementing some casing depending of overburden type and thickness. The major part of the drilling campaign was performed during winter period. Table 11.2 is a compilation of drilling campaign 2008-2009.

Table 11.2 – Drilling Campaign 2008-2009 prepared by Augyva

Hole	Line	Easting	Northing	Elev.	Deposit	Length (m)	Azimuth	Dip	Samples collected	Core sampled (m)
Dun 08-01	46+00N	315087	5929708	154	1	369.0	315	-45.0	115	316.1
Dun 08-02	48+00N	315208	5929863	151	1	138.6	315	-45.0	48	126.5
Dun 08-03	44+00N	314930	5929576	155	1	171.5	315	-45.0	33	90.3
Dun 08-04	44+00N	314765	5929737	151	1	195.6	135	-45.0	33	141.0
Dun 08-05	42+00N	314765	5929549	154	1	168.0	135	-45.0	31	137.3
Dun 08-06	38+00N	314314	5929346	155	1	104.2	135	-45.0	22	77.0
Dun 08-07	38+00N	314245	5929418	148	1	208.0	135	-45.0	35	154.4
Dun 08-08	40+00N	314372	5929577	144	1	222.0	135	-60.0	33	147.0
Dun 08-09	35+00N	314010	5929228	154	1	141.0	135	-45.0	22	91.0
Dun 08-10	34+00N	313903	5929193	148	1	295.0	135	-60.0	31	137.2
Dun 08-11	34+00N	313905	5929188	149	1	339.0	135	-70.0	35	163.0
Dun 08-12	33+00N	313859	5929083	149	1	150.0	135	-45.0	23	120.0
Dun 08-13	32+00N	313796	5929027	152	1	219.0	135	-55.0	34	168.0
Dun 08-14	30+00N	313603	5928922	150	1	300.0	135	-65.0	30	159.7
Dun 08-15	30+00N	313659	5928869	155	1	162.0	135	-50.0	27	145.0
Dun 08-16	28+00N	313457	5928791	151	1	261.0	135	-52.0	25	136.0
Dun 08-17	27+00N	313438	5928673	156	1	132.0	135	-50.0	27	112.0
Dun 08-18	26+00N	313330	5928641	154	1	222.0	135	-60.0	25	110.5
Dun 08-19	27+00N	313396	5928716	153	1	222.0	135	-62.0	27	123.0
Dun 08-20	31+00N	313956	5928708	165	1	137.8	135	-45.0	18	78.1
Dun 08-21	33+00N	314028	5928924	157	1	147.0	135	-45.0	33	141.1
Dun 09-22	36+00N	314250	5929120	155	1	128.0	135	-45.0	15	66.3
Dun 09-23	41+00 N	314581	5929503	151	1	204.0	135	-57.0	26	133.1
Dun 09-24	31+00 N	314009	5928658	167	1	89.0	135	-46.3	13	68.0
Dun 08-25	33+00 N	314094	5928864	160	1	119.1	135	-46.5	14	60.7
Dun 08-26	39+00 N	314461	5929331	155	1	180.0	135	-49.1	18	91.7
Dun 09-27	18+00 N	312737	5928138	163	1	182.0	135	-50.0	36	162.1
Dun 09-28	16+00 N	312490	5928027	163	1	215.6	135	-50.0	27	123.8
Dun 09-29	14+00 N	312350	5927891	163	1	179.9	135	-50.0	30	154.8
Dun 09-30	12+00 N	312228	5927832	161	1	225.0	138	-50.5	37	169.0
Dun 09-31	9+00 N	312006	5927596	157	1	153.0	135	-50.1	24	120.7
Dun 09-32	93+00 N	323915	5935775	171	3	231.0	135	-50.2	18	110.7
Dun 09-33	100+50 N	324623	5936086	165	3	294.0	315	-50.0	52	234.9
Dun 09-34	25+00N	319289	5930727	138	5	123.0	135	-60.0	19	81.8
Dun 09-35	30+00 N	319610	5931082	138	5	220.0	135	-50.0	19	88.7
Dun 09-36	33+70 N	320016	5931241	140	5	105.0	135	-51.0	13	60.7
Dun 09-37	43+00 N	320755	5931840	150	5	132.0	135	-48.0	12	58.9
Dun 09-38	54+00 N	320160	5933800	143	2	189.0	135	-46.8	25	109.7
Dun 09-39	57+00 N	320400	5933990	147	2	198.0	135	-50.0	30	142.3
Dun 09-40	108+00 N	324680	5937125	165	3	258.0	315	-59.8	27	118.4
Dun 09-41	12+00 N	317950	5930127	139	5	147.0	135	-50.0	10	46.0
Dun 09-42	18+00N	318545	5930423	138	5	147.0	135	-51.4	17	73.1
Dun 09-43	171+00 N	329280	5941450	150	4	342.0	320	-54.0	42	201.8
Dun 09-44	176+00 N	329629	5941800	151	4	312.0	320	-52.5	34	141.9
Dun 09-45	178+90 N	329710	5942080	152	4	190.2	320	-51.0	31	122.2
Dun 09-46	183+00 N	330250	5942200	150	4	192.0	320	-74.0	24	93.8
Dun 09-47	102+30 N	324780	5936210	164	3	222.0	315	-55.0	33	145.9
Dun 09-48	54+00 N	320110	5933850	143	2	255.0	135	-50.0	23	112.9
Dun 09-49	58+50 N	320509	5934087	148	2	204.0	135	-50.0	23	113.1
Dun 09-50	51+90 N	320030	5933655	145	2	132.0	135	-50.0	17	71.1
Dun 09-51	69+00 N	321379	5934721	147	2	174.0	135	-50.0	32	132.3
Dun 09-52	54+00 N	320116	5933852	143	2	414.0	135	-53.0	41	202.1
Total						10461.4			1489	6486.3

11.3 Significant Assay Results – Drilling 2008-2009

The significant assay results are presented in Table 11.3. The intersection length mentioned by borehole does not represent the true thickness of the iron ore lenses interval. Many assay intersections are very long. Some of them are essentially related to the drilling direction concerning ore lense geometry. Ore lense true thickness varies from 5 m to more than 80 m. Ore grade varies from 15 to 30.5% FeT, but are generally in the range of 25%. Deposits 2 and 5 are elongated and narrower. Thickness increases is associated to squeeze isoclinal folds. Deposit 1 has good continuity in thickness and grade with local thickness increases. In general, total Fe is mainly related to magnetite iron ore. Iron ore grade obtained are considered to be representative of a low grade Taconite. Assay results are discussed in the metallurgical section. As mentioned previously, to be considered as iron ore, the beneficiation process as well the quality of concentrate are important features.

On Deposit 1, the longest interval is coming from borehole DUN08-01 with a length interval of 118.75 m at 26.66% Fe, interpreted as 66 m true thickness. In addition, borehole DUN09-29 indicates long interval of 79.78 m at 23.57% Fe for a true thickness of 70 m. From thirty-one (31) boreholes drilled on Deposit 1, a total of forty-nine (49) ore intervals were intersected for a thickness average of 32.47 m at 24.50% Fe, equivalent to 26 m true thickness of the iron ore lenses.

On Deposit 2, the longest interval is coming from borehole DUN09-52 with a length interval of 130.91 m at 26.80% Fe, interpreted as 57 m true thickness. From seven (7) boreholes drilled on Deposit 2, a total of thirteen (13) iron ore intervals were intersected for a thickness average of 47.87 m at 26.52% Fe, equivalent to 31.9 m true thickness of the iron ore lenses.

On Deposit 3, the longest interval is coming from borehole DUN09-33 with a length interval of 226.46 m at 24.64% Fe, interpreted as 150 m true thickness. From four (4) boreholes drilled on Deposit 3, a total of five (5) iron ore intervals were intersected for a thickness average of 89.25 m at 24.13% Fe, equivalent to 60.4 m true thickness of the iron ore lenses.

On Deposit 4, the longest interval is coming from borehole DUN09-43 with a length interval of 174.07 m at 22.54 % Fe, interpreted as 110 m true thickness. From four (4) boreholes drilled on Deposit 4, a total of five (5) iron ore intervals were intersected for a thickness average of 80.40 m at 21.91 %Fe, equivalent to 47.4 m true thickness of the iron ore lenses.

On Deposit 5, the longest interval is coming from borehole DUN09-36 with a length interval of 26.64 m at 24.54% Fe, interpreted as 24 m true thickness. From six (6) boreholes drilled on Deposit 4, a total of six (6) iron ore intervals were intersected for a

thickness average of 16.32 m at 25.07% Fe, equivalent to 15.2 m true thickness of the iron ore lenses.

Table 11.3 – Significant Assay Result – Drilling Campaign 2008-2009

Deposit #	DDH #	From (m)	To (m)	Interval (m)	True thickness Estimation	Fe total (%)	And	From (m)	To (m)	Interval (m)	True thickness Estimation	Fe total (%)
1	DUN08-01	58.25	177.00	118.75	66	26.66						
1	DUN08-02	13.28	93.00	79.72	48	25.30						
1	DUN08-03	36.20	90.00	53.80	28	27.90						
1	DUN08-04	75.05	145.50	70.45	65	29.30						
1	Dun 09-05	38.10	86.75	48.65	42	30.47		116.00	131.57	15.57	13	25.46
1	Dun 09-06	48.00	53.35	5.35	5	21.97						
1	Dun 08-07	50.90	61.80	10.90	10	23.36		150.70	156.90	6.20	5	21.20
1	Dun 08-08	93.00	123.50	30.50	25	23.44		169.50	178.50	9.00	9	21.65
1	Dun 08-09	90.50	99.00	8.50	8	26.42						
1	Dun 08-10	114.00	145.00	31.00	24	20.86		249.60	254.60	5.00	5	23.27
1	Dun 08-11	123.25	189.27	66.02	38	21.16		290.42	298.90	8.48	6	22.60
1	Dun 08-12	58.25	78.70	20.45	17	24.29						
1	Dun 08-13	78.47	128.16	49.59	41	21.02		157.85	174.70	16.85	14	19.27
1	Dun 08-14	151.37	210.12	58.75	45	24.18		256.30	266.00	9.70	9	22.84
1	Dun 08-15	42.00	90.55	48.55	40	23.56		138.80	149.95	11.15	11	18.17
1	Dun 08-16	121.83	158.80	36.97	32	24.84		188.50	208.60	20.10	18	20.27
1	Dun 08-17	30.80	51.50	20.70	18	30.26		88.05	95.47	7.42	7	18.48
1	Dun 09-18	94.50	124.15	29.65	25	26.55		165.65	183.60	17.95	16	20.79
1	Dun 08-19	99.60	137.00	37.40	27	23.93		157.00	166.00	9.00	7	20.64
1	Dun 08-20	31.00	61.55	30.55	27	23.74						
1	Dun 08-21	70.30	113.00	42.70	38	26.09		128.85	147.00	18.15	17	25.15
1	Dun 08-22	22.10	63.35	41.25	40	24.41						
1	Dun 09-23	77.47	131.94	54.22	45	29.39		147.32	169.00	21.86	19	30.00
1	Dun 09-24	12.50	22.65	10.15	7	16.95						
1	Dun 09-25	1.43	17.06	15.63	14	27.04		38.70	52.22	18.42	13	22.97
1	Dun 09-26	31.00	60.29	29.29	27	25.40		73.58	83.84	10.26	10	26.53
1	Dun 09-27	20.18	62.45	42.27	38	21.58		130.26	161.75	31.49	27	20.62
1	Dun 09-28	88.80	153.05	64.25	57	23.53						
1	Dun 09-29	38.12	118.90	79.78	70	23.57						
1	Dun 09-30	47.12	118.11	70.99	61	23.62		215.55	219.52	3.97	4	24.51
1	Dun 09-31	19.34	50.10	30.76	27	20.60		123.00	135.90	12.90	9	18.13
3	Dun 09-32	147.90	160.40	12.50	9	28.78						
3	Dun 09-33	67.54	294.00	226.46	150	24.64						
5	Dun 09-34	12.00	26.20	14.20	13	25.89						
5	Dun 09-35	122.75	141.35	18.60	17	22.31						
5	Dun 09-36	30.26	56.90	26.64	24	24.54						
5	Dun 09-37	34.30	54.42	20.12	20	25.16						
2	Dun 09-38	32.15	35.10	2.95	2	23.83		69.45	132.70	63.25	48	28.27
2	Dun 09-39	15.10	24.80	9.79	8	21.57		69.22	159.40	90.18	69	27.12
3	Dun 09-40	137.00	237.95	100.95	69	22.67						
5	Dun 09-41	78.50	89.70	11.20	10	27.69						
5	Dun 09-42	55.20	62.35	7.15	7	28.29						
4	Dun 09-43	135.93	310.00	174.07	110	22.54						
4	Dun 09-44	133.50	279.00	145.50	76	21.56						
4	Dun 09-45	17.00	57.00	40.00	25	23.89						
4	Dun 09-46	80.87	87.30	6.43	4	24.17		129.00	165.00	36.00	22	17.70
3	Dun 09-47	67.10	80.57	13.47	9	25.79		106.63	199.50	92.87	65	23.63
2	Dun 09-48	134.30	141.87	7.57	5	22.05		167.36	236.90	69.54	50	27.55
2	Dun 09-49	42.45	50.64	8.19	5	18.11		87.20	162.87	75.67	55	28.48
2	Dun 09-50	38.00	81.90	43.90	33	27.19						
2	Dun 09-51	27.00	51.79	24.79	17	16.16		64.50	151.10	86.60	63	26.70
2	Dun 09-52	214.36	223.30	8.94	3	20.87		260.25	391.16	130.91	57	26.80

12.0 SAMPLING METHOD AND APPROACH

A combination of surface chip samples and drill hole samples were collected by the different companies since 1958. This section briefly look at sampling realized in the past and describe the methodology related to new drilling campaign realized by Augyva. The rock is hard and competent and the core recovery is excellent. Samples in provenance of drilling campaign 2008-2009 are of good quality and representative of the intersected iron ore interval.

12.1 Chip Sampling 1958

The chip sampling process was not consisted to cut a continuous channel across a given outcrop, but in breaking off pieces of one to 2 inch in size about 1 foot apart along ledges, cracks and joints. In order to make the samples as continuous and representative as possible, it was necessary to offset the line of sampling to one side of an arbitrary median line, in order to take advantage of the best exposed parts of an outcrop. In no case the width samples does represent the entire width of the iron ore at the point, because of lack of exposure.

A total of 955 points of chips samples were collected representing an aggregate sampled width of 4,014 feet. As dictated by the extent of the outcrop, individual samples varied in width from 1 to 6 feet. Chip sampling was grouped and composited by sectors but there is no detail about the process, same for splitting preparation. Metallurgical tests were performed on composite samples weighty of 30-35 pounds by H.U. Ross, metallurgical engineer of Toronto, and analyzed for head grade, concentrate grade obtained by Davis Tube Test magnetic separator. The reject or tail was also analysed for total Fe and few elements as phosphate, silica, sulphur, and titanium.

In general, the 1958 assay result indicates higher percentage Fe grade to compare with subsequent drilling campaign realized in 1973 and 2008-2009. The sampling methodology taken in 1958 is questionable on many points. The average grade obtained was in order of 32% Fe soluble (total Fe). The assay methodology was not described. There was no drilling and core sampling at that period.

12.2 Diamond Drill Holes Sampling 1973

No mention was made on the core cutting technique about the drilling made in 1973. Core containing iron formation from all boreholes were split and submitted for total soluble iron assay. The remaining on half were bagged and together with the rejects of the first one half stored for future tests in Rouyn-Noranda (mentioned in GM report).

Extensive waste sections encountered in drill holes were not assayed. However, the weighty average grades were calculated for each drilled section utilizing assays and



allocating zero value to non-sampled sections. The 1973 drilling core was not recovered in 2008 and considered to be destroyed over long time period of no activity. Original assay result mentioned as total Fe soluble and the name of laboratory used are not available. In the 1973 drilling report and mineral resources estimation, it was mentioned that grade is lower than previously estimated by 27.5% on Deposit 4.

12.3 Drilling Campaign 2008-2009

The completed drilling program consisted of fifty-two (52) NQ size diamond drill holes. Drilling was realized on five deposits. The drilling pattern varies on each deposit. Deposit 1 was mostly drilled with 31 boreholes. Reconnaissance drilling was performed on Deposits 2, 3, and 5. Deposit 4 was tested to confirm previous drilling realized in 1973.

Drilling crews recovered the core and placed them into wooden boxes, each containing approximately 4.5 m. Next, they placed a wooden cube depth marker at the end of every three (3) meter run. Each core box was labelled and secured with cover and packaging tape before transportation to the logging facility. Thereafter, the core boxes were opened, verified, validated length, measured, tagged and logged beginning by the geotechnical description first. Drilling core were logged for geotechnical and geological features and sampled at the logging core facility. Samples length was about 3 m for the first 22 boreholes and 5 m for the rest. Core samples were identified on analytical tags and intervals length marked directly on the core by geologist. Core cutting in half was realized by diamond saw and hydraulic splitters, and sampled into strong plastic bag.

Total of 1,440 samples have been realized from core drilling. Analytical tags subdivided in three parts were inserted in the plastic bag, inserted and stapled to the bottom of the core interval in the core boxes, and the remaining tag conserved as record in the assay booklets and entered into the computer by logging geologist or technician.

Augyva personnel carried out all aspects of core sample preparation. Geologists marked the sample interval on the core, and the line to be use for splitting. The remaining half is returned back in the core box, respecting the original orientation and position. The other half was placed in a plastic bag with sample tag identification. Sample bags were tied using single use plastic fasteners before being placed in large sturdy polypropylene bags for shipping and transportation to laboratory. Once a sufficient number of samples (150-170) had been cumulated, the samples were delivered by Augyva's personnel to ALS-Chemex Laboratory, located in Val-d'Or for sample preparation process and analyzed at Vancouver. The core boxes were labelled with aluminum labels stapled at the front side of the core box, typewritten with the drill hole number, and the starting and ending length of the core in the box. Once examined, logged and sampled, the core boxes were cross-stacked in core rack for permanent storage at the core shack facility. Augyva has conducted a systematic QA/QC program explained in the next section.

13.0 SAMPLE PREPARATION, ANALYSIS AND SECURITY

13.1 Analytical Method – Before 2008

The methodology used for samples assayed prior to 2008 (1958 and 1973) was not mentioned in any available report, same as for the laboratory name itself. The only assay term employed was percentage total soluble iron. Samples were coming from two sources: surface grab sampling (1958) and diamond coring samples (1973). The historical information has been summarized in the previous section.

Quality Assurance/Quality Control (QA/QC) past protocol is not explained, not observed in the report produced and probably not existing at the time. Consequently, insertion of any duplication, blank and standard samples is expected.

13.2 Previous NI 43-101 Technical Report made by Geologica, Groupe Conseil

In 2008 during a control verification visit, Geologica has collected independently and sent eight grab samples taken on Deposit 1, kept secure and transported samples to Broulamaque Assay Laboratories Ltd. From these samples, result reveals a range of 15.47 to 33.18% Fe, typical of the iron ore bands on DLIOP.

For a complete description of the methodology, the technical report can be retrieved from SEDAR website.

13.3 Laboratory Quality Control on 2008-2009 Drilling Campaign Summarized

Sample preparation was prepared under Augyva's personnel, and transported directly to Laboratory. Augyva has conducted a systematic QA/QC program, consisting of inserted blank, certified standard and duplicate samples. The QA/QC program was planned by Mr. Alain Vachon, senior geologist considered as QP geologist, at the beginning of the drilling campaign. In addition, ALS-Chemex laboratory ran internal check assays to ensure lab quality control. All analytical result including internal verification made by ALS-Chemex was shipped to Augyva for cross-examination and validation.

ALS-Chemex Laboratory Group provides highest level of service and quality and achieves this through its dedicated client services staff, quality control department, and commitment to having ISO 9001:2000 certification at all locations. Val-d'Or site is registered under Certificate No: CERT-0025774, re-issued on September 12, 2008, and expiry date on February 12, 2011. ALS-Chemex's service includes use of Webtrieve interface to laboratory data, through which clients can access results, certificates of analysis, and QC information, and can view their samples, via an online, encrypted account to protect data information.

All samples (chip, core drilling, and QA/QC control samples) were sent to ALS-Chemex Laboratory to be analysed for multi major elements, via XRF and sulphur via a Leco reader (ME-XRF06 and S-IR08).

Upon receipt, samples are placed in numerical order and compared with the packing list to verify and validate every sample. If the received samples do not correspond to the list, Augyva is notified.

Samples are dried if necessary and then reduced to ¼ inch with a jaw crusher. The jaw crusher is cleaned with compressed air between each sample and barren material between sample batches. The sample is then reduced to 90% passing 10 mesh with a roll crusher. The roll crusher is cleaned between samples with a wire brush, compressed air, and barren material between sample batches.

The first sample of each sample batch is screened at 10 mesh to determine and verify that 90% passes 10 mesh. Should 90% did not pass, the rolls crusher is adjusted and another test is done. Screen test results are recorded in the logbook provided. The sample is then riffled using a Jones type riffle to approximate 300 grams. Excess material is stored for the customer as crusher reject. The 300 grams portion is pulverized to 90% passing 200 mesh in a ring and puck type pulverizer. The pulverizer is cleaned between samples with compressed air and silica sand between sample batches. The first sample of each batch is screened at 200 mesh to determine that 90% passes 200 mesh. Should 90% not pass, the pulverizing time is increased and another tests is done up to acceptable result. Screen test result is also recorded.

In addition to these controls made by ALS-Chemex, 219 samples (same interval length) have been re-analysed by a second laboratory (COREM) for metallurgical test purposes, doing one other external verification source. COREM is also ISO certificated and uses similar controls and technique preparation than ALX-Chemex. From these 219 samples, 144 samples were totally analysed for the head grade, the magnetic product concentrate and the final reject.

13.4 QA/QC Protocol Summarized

The QA/QC protocol was designed by Augyva to monitor precision and accuracy consisted of blanks, standards and duplicates inserted into the sample stream. The results made available to Met-Chem indicate that the control samples added to the samples batches analysed by ALX-Chemex laboratory represents 7.7% of the total (Table 13.1). In addition, an equivalent of 9.7% (144 samples) of the total number of samples (1489) was sent to COREM for metallurgy tests and consequently re-sampled and analysed.

Table 13.1 – Summary of Control Samples made by Augyva and Laboratory

QA/QC	Core	Augyva (ALS-Chemex Laboratory)					ALS Laboratory (internal check)		Metallurgy COREM Laboratory	
		Number of QA/QC	% of QA/QC	Average (Fe ₂ O ₃ %)	Min (Fe ₂ O ₃ %)	Max (Fe ₂ O ₃ %)	Number Internal QA/QC	% Internal QA/QC	Number of Tests	% of resampling
Blank		22	1.48	0.61	0.35	1.38	158	10.61		
Standards - Total		43	2.89				316	21.22		
SCH-1		4		86.45	86.42	86.49				
FER-2		19		38.79	38.07	41.50				
FER-3		20		44.16	41.43	44.70				
Duplicate		49	3.29							
Pulp Duplicate							94	6.31		
Total core interval	1489	114	7.66				568	38.15		
Metallurgy (Corem)										
Batch 1									6	
Batch 2									48	
Batch 3									80	
Batch 4									10	
Total									144	9.67
Remarks on Corem										
78 samples shipped, analysed = 6 under option 1										
50 samples shipped, 49 tested under option 1										
106 samples shipped, 80 analysed										
10 samples shipped, 10 analysed										

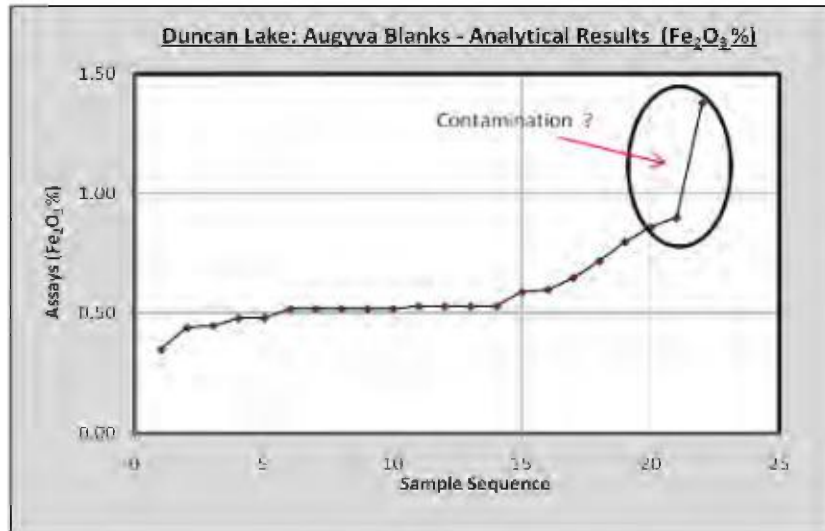
13.5 Blank Samples

Visually barren quartz vein were used as blanks, prepared in core logging facility and shipped in the sample stream. A total of twenty-two (22) blank samples for 1.5% of the total assayed were inserted in the batch sample stream. Based on result, it is difficult to look on cross-contamination or swapping of the sample numbers in these batches and to verify the air cleaning in the crushing preparation process. For a pure quartz vein, Met-Chem generally expects lower value in percentage Fe. The average of percentage Fe₂O₃ is 0.61, with a minimum value of 0.35 and maximum of 1.38% observed in Table 14.2. Figure 13.1 is a graphic plot of percentage Fe₂O₃. Highest percentage Fe₂O₃ values may indicate a possible contamination during the sample crushing preparation related to the air cleaning between each sample processed. Only one sample may indicate possible low contamination. Consequently, the result appears acceptable to Met-Chem.

Table 13.2 – Statistic on Blank Sample for % Fe₂O₃

Blanks	Fe ₂ O ₃ (%)
Average:	0.61
Max:	1.38
Min:	0.35
n:	22
Det. Limit:	-0.01%
Rejection threshold	
5* mean	1.75
Accepted	min = 0.00%
Limit: ± 5 *	max = 2.10%

Figure 13.1 – Blank Samples – % Fe₂O₃



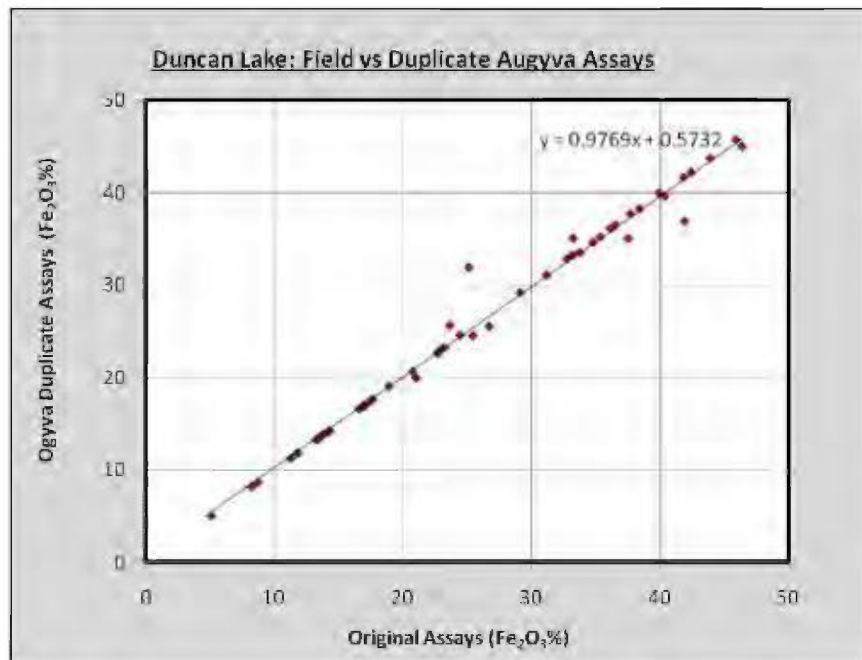
13.6 Duplicate Samples Assayed by ALS-Chemex

A total of forty-nine (49) samples analysed for multi chemical elements by ALS-Chemex were submitted as duplicate samples. Only two samples on forty-nine (49) pairs exceed the acceptable threshold. The duplicate results show an acceptable level of accuracy for the percentage Fe₂O₃. In addition, no apparent bias was observed (Table 13.3 and Figure 13.2).

Table 13.3 – Statistic on Duplicate Sample for % Fe₂O₃

Field Sample	Fe2O3 (%)	Duplicate	Fe2O3 (%)
Average:	25.91	Average:	25.89
Max	46.34	MAX	45.74
Min	5.05	Min	5.01
n=	49	n=	49
Det. Limit:	-0.01%	Det. Limit:	-0.01%

Figure 13.2 – Duplicate Samples – % Fe₂O₃



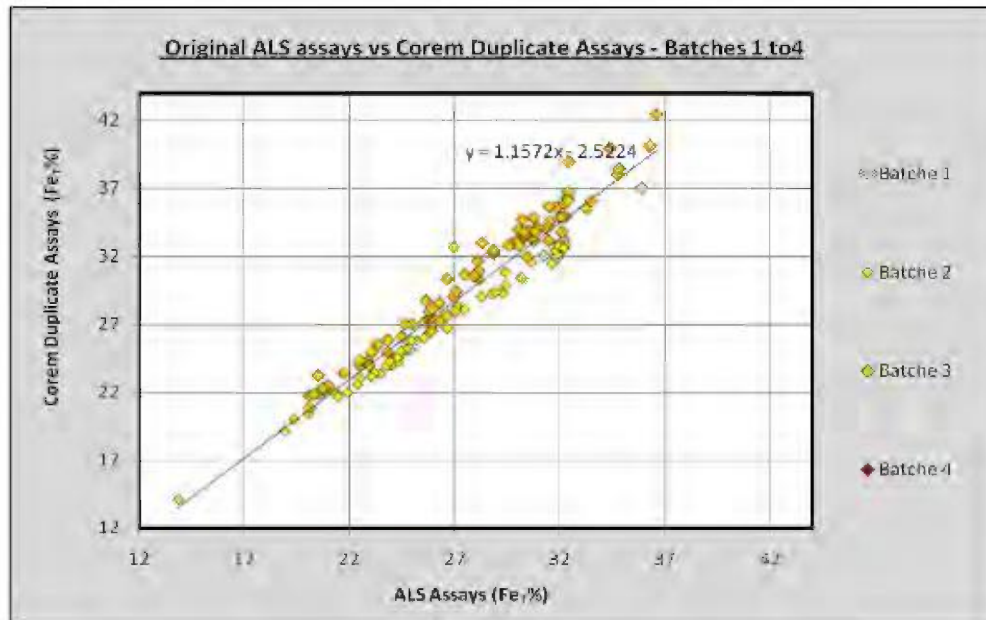
13.7 Duplicate Samples Assayed by COREM

A total of 144 samples originally analysed for multi chemical elements by ALS-Chemex were submitted as duplicate samples to COREM laboratory for metallurgical testing. The sample intervals selected were identical to the original assays. Samples are coming from the core sample rejects already crushed by ALS-Chemex. These samples were analysed using the same analytical method than ALX-Chemex laboratory. COREM’s result indicates higher assayed result on % FeT than ALS-Chemex (Table 13.4 and Figure 13.3). The difference is not negligible and more research and explanation are needed, using a third external laboratory. In addition, no apparent bias is observed (Table 13.3 and Figure 13.2). These recheck samples were not used for the mineral resource estimation.

Table 13.4 – Statistics on Duplicate Samples – ALS-Chemex vs. COREM

ALS Assays	FeT (%)	Corem Assays	FeT (%)
Average:	27.29	Average:	29.06
Max:	36.57	Max:	42.46
Min:	13.88	Min:	14.08
n:	144	n:	144

Figure 13.3 – Duplicate Sample – ALS-Chemex vs. COREM



13.8 Standard Certified Samples Assayed by ALS-Chemex Laboratory

The accuracy of the assay results was monitored through the insertion of certified reference material. Three (3) standard certified materials, including a range of iron grade values in provenance of typical iron ore formation rock, provided by Canmet, Toronto, Canada were inserted and used to monitor the accuracy of the assays from ALS-Chemex. A summary of the standards provided is shown in Table 13.5. A total of 43 standard certified samples in provenance of 3 different standards were inserted, or equivalent of 2.9% inserted samples.

Three (3) standard samples named FER-2, FER-3 and SCH-1 were prepared at Canmet facility and characterized by the Geological Survey of Canada. These samples are representatives and directly associated to iron formation rock.

FER-2 is from an iron-formation bed occurring in greywacke at the north pit of the Griffith Mine at Bruce Lake, Ontario. Magnetite makes up about 25% of the sample volume. Amphibole and quartz are the major gangue constituents. Theoretical % Fe grade of FER-2 is 39.21% Fe_2O_3 .

FER-3 is coming from the Sherman Mine property at Temagami, Ontario, located to the west pit in the north limb of the Tetapaga incline containing metavolcanic and pyroclastic rocks. Quartz is the most abundant mineral present. Hematite occurs as dusty inclusions in the quartz, but as micro-laminae in jasper layers. Theoretical % Fe grade of FER-3 is 44.50% Fe_2O_3 .

SCH-1 is from Iron Ore Company of Canada, given in 1973. It is coming from Schefferville area, Quebec, and is made of hematite with a mix of unidentified hydrous oxides of iron, minor magnetite, and trace of pyrolusite. The gangue consists mainly of quartz with minor amounts of feldspar and trace of biotite, chlorite, and amphibolites. Standard SCH-1 is certified at 86.84% of Fe₂O₃ at ± 0.13%.

Limited data available for each standards, shows a good correlation and a relative low variation between the given and the assayed values. However, the percentage Fe₂O₃ theoretical grade is slightly higher to compare with assayed result obtained by ALS-Chemex. Based on it, it is possible that ALS-Chemex’s instrument is calibrate slightly at lower range grade, given lower assayed value, and consequently created lower bias result for the total iron grade by 0.5 to 1.0%. As discussed previously, Corem’s recheck samples have produced same trend result. However, this difference value is not considered as critical point at this level study (Table 13.5).

The precision of the individual data result is acceptable if we consider the rule of the ‘Mean ± 2 Standard Deviation’ (Table 13.6).

Table 13.5 – Standard Sample Results

SCH-1	Fe ₂ O ₃ (%)	Certified	Diff	% Diff	FER-2	Fe ₂ O ₃ (%)	Certified	Diff	% Diff	FER-3	Fe ₂ O ₃ (%)	Certified	Diff	% Diff
Average:	86.45	86.84	-0.39	-0.45%	Average:	38.79	39.21	-0.42	-1.07%	Average:	44.16	44.50	-0.34	-0.77%
Max:	86.49	86.97	-0.48	-0.55%	Max:	41.50				Max:	44.70			
Min:	86.42	86.71	-0.29	-0.33%	Min:	38.07				Min:	41.43			
n:	4				n:	19				n:	20			
Det. Limit:	-0.01%	+ 0.13			Det. Limit:	-0.01%	na			Det. Limit:	-0.01%	na		

Table 13.6 – Theoretical Acceptable Limit

		Theoretical value (Fe ₂ O ₃ %)					
		SCH-1	86.84	FER-2	39.21	FER-3	44.50
Precision			+ 0.13				
Acceptable limit	Mean +1 Stard Dev.		86.87	Mean +1 Stard Dev.	39.93	Mean +1 Stard Dev.	45.16
	Mean -1 Stard Dev.		86.81	Mean -1 Stard Dev.	38.49	Mean -1 Stard Dev.	43.84
	Mean +2 Stard Dev.		86.90	Mean +2 Stard Dev.	40.65	Mean +2 Stard Dev.	45.81
	Mean -2 Stard Dev.		86.78	Mean -2 Stard Dev.	37.77	Mean -2 Stard Dev.	43.19

Figure 13.4 to Figure 13.6 show individual results for each different standard samples. Results of the standard SCH-1 are in the same range and always slightly under the acceptable limit and certified precision. However, deviation range is low and acceptable. Results of the standard FER-2 is acceptable and only one sample is over limit range of two standard deviations. Results of the standard FER-3 is acceptable and only one sample is over the limit range of one standard deviation.

Figure 13.4 – Standard SCH-1 Results

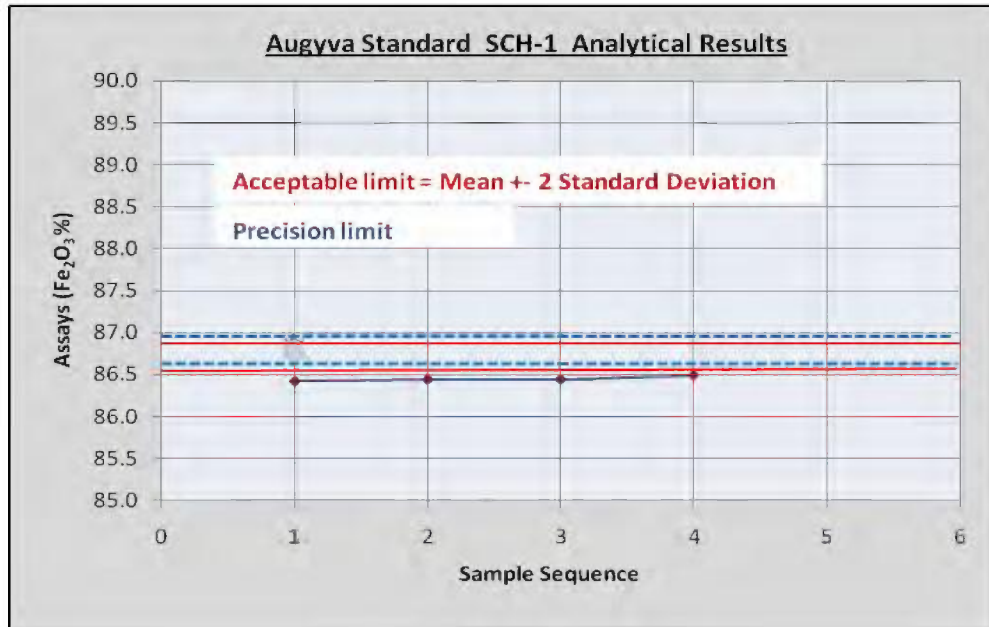


Figure 13.5 – Standard FER-2 Results

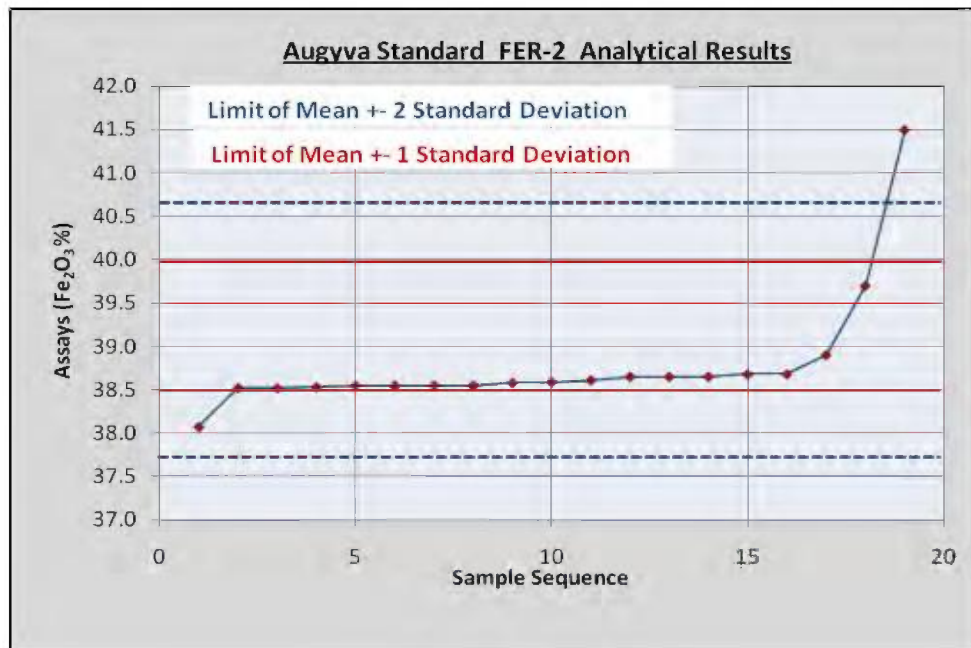
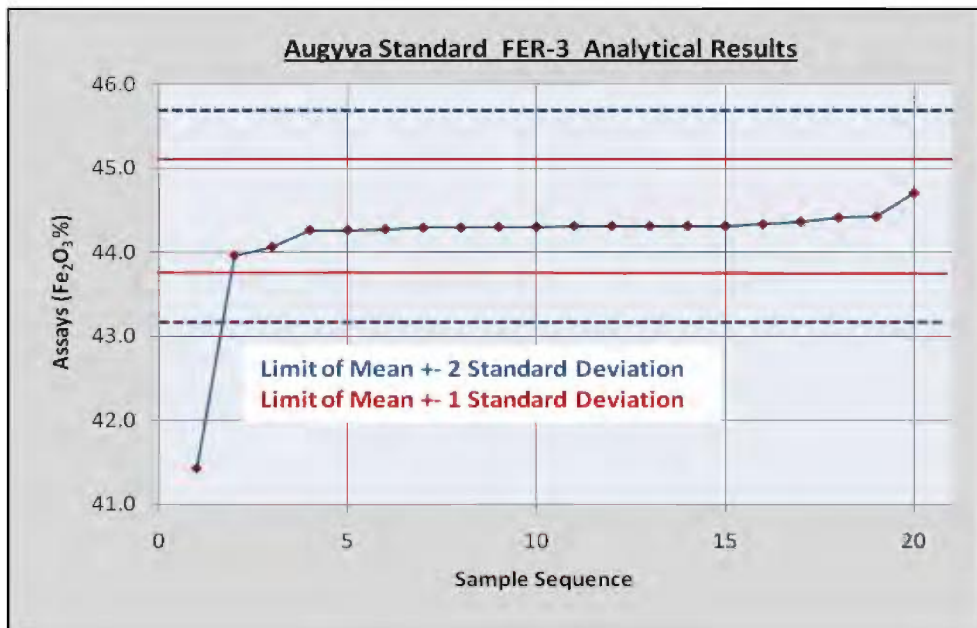


Figure 13.6 – Standard FER-3 Results



Data results from three different standard samples indicate that only two samples out of forty-three (43) exceeded slightly the threshold of the mean plus or minus two standard deviations. Although the results appear to be acceptable for calculation purposes and indicate a good precision and calibration for the assayed instrument. Met-Chem is of opinion that the assayed precision of ALS-Chemex is relevant and adequate for the mineral resources estimation process.

13.9 Specific Gravity Past Data

No specific gravity measurement has been done during the 2008-2009 drilling campaign. Historical information indicates a specific gravity study realized in 1958, with average of 9.2 cubic feet of ore per short ton (3.48 g/cm³) on the north band of Deposit 1, for a grade estimated to 26% Fe total. However, test detail results were not available to validate data and methodology. It is probable that specific gravity was determined using a volumetric method (water displacement) coming from chip samples (no core at the time).

Historical mineral resource estimated in 1973 was calculated using a tonnage factor of 10.0 cubic feet by ton for iron ore (3.20 g/cm³) and 12.5 (2.56 g/cm³) for waste. However, no mention is done about data source.

Met-Chem considers that specific gravity of 3.20 g/cm³ is acceptable taken in consideration the density range of actual mining operations with similar grade. The rock is hard and competent. However, it is also fractured and jointed, creating secondary porosity added to the normal crystal interface porosity. Mining operation with similar

grade of 25-27% Fe, are using a range value of 3.1 to 3.3 in relation with iron ore facies. For the present study, Met-Chem takes 3.2 for density data and recommends realizing some tests on the drilling core already available for different rock types and different iron ore grade.

13.10 Recommendations

Met-Chem recommends using a simple sequential numbering system for all the samples, including the inserted control samples, preferably using sample books with pre-printed sample numbers. This will ensure that each sample has a unique number, easily handled in the computer database.

Considered as normal, we recommend using 10% total of QA/QC control samples to prevent bias and to ensure precision.

The different standards have to be kept to a number that will generate sufficient data to generate valid control charts and statistics. Met-Chem recommends to use 3 to 4 different certified standards, to cover the lower and the higher range of Fe grade. The current Standard samples used look adequate to ensure assay precision as for the ALS-Chemex and COREM Laboratories. Moreover, one Standard reference sample can be prepared with the material coming directly from the diamond drill core of the project.

13.11 Security

There are no reasons to believe that the assays or samples were tampered to up-grade the iron ore content. In Met-Chem's opinion, the work has been done in a professional manner by experienced geologists and support personnel in all phases. The QA/QC control process does not permit to detect any major bias during data compilation and analysis.

14.0 DATA VERIFICATION AND CORROBORATION

Prior to Met-Chem's visit, Geologica, Groupe Conseil had already visited Deposit 1 of the DLIOP in 2008, and had produced the first NI 43-101 Technical Report on the Duncan Lake Property (filed on SEDAR website).

Prior and subsequently to the site visit, Mr. Raynald Jean, Met-Chem Senior Geologist, reviewed publicly available technical data covering exploration work on all Deposits and all the available information. Met-Chem has relied on internal reports gathered from Augyva, which are limited to a new major drilling campaign, named "Report on the Duncan Lake Property 2008-2009 Diamond Drilling", on few previous historical reports recovered from MRNF of Québec, and the NI 43-101 Technical compilation report made by Geologica.

There is no reason to doubt the origin and reliability of the information supplied. Met-Chem is of opinion that the historical data regarding mapping, sampling and drilling and surveying are of good quality, and the new exploration works are realized with professionalism by experienced peoples.

14.1 Site Visit

The site visit was made from September 14 to 16, 2009 by Mr. Raynald Jean, Senior Geologist of Met-Chem. The core shack facility, core storage area, drill cores boxes, and collar diamond drill holes of the old drilling campaign and new drilling campaign were examined at the DLIOP.

During the visit and the verification of the core drilling description, independent samples were collected, by splitting again the residual half core on the same interval length previously sampled, one sample by deposit for a total of 5 independent recheck samples. Met-Chem does not see any reason to recheck or to doubt the reliability of the data and information.

14.2 Historical Drilling Campaign 1973

Log description and assays are available from past reports. However, this data and drilling evidences needed to be verified and identified in the field, including the borehole collar locations with new surveying, to transfer them into new coordinate system.

In 1973, a total of twenty-two (22) boreholes were drilled on Deposits 3, 4, and 6. Before Met-Chem's visit, several artefacts, drilling evidences and stick collar location were already discovered on Deposits 6 and 3. In addition, a pile of core boxes was observed on Deposit 6 close to an old base camp.



14.2.1 Evidences of 1973 Drilling Campaign on Deposit 6

On Deposit 6, many evidences were observed as wooden pad structure for the drill, some drilling parts, steel anchors, drill casing and few very well and precise collar stick identifications. From a total of five (5) boreholes drilled in 1973, four (4) of them are clearly and precisely located and surveyed by hand GPS surveying method. The last borehole was not precisely located, but some artefacts were found close to the assumed location. The best fit method was applied to estimate the collar coordinate using the other boreholes location. The borehole locations surveyed in the field were at ± 50 m off from the estimated coordinates assigned by MRNF during the compilation data process.

Table 11.1 indicates the collar coordinate in the previous local ground system and the new surveyed coordinate system WGS NAD84. Previous coordinate system used in the field was made by conventional cut grid line with picketed stick stations at specific interval. Old grid lines were observed in the field but not precisely surveyed. These old grid lines have been used in 1973 for reference grid system of geological mapping, field magnetic survey and the borehole location.

It is mentioned in old GM reports (1973 and 1976) that the core boxes and rejects were transported to Rouyn Noranda. However, a small quantity of core boxes was observed on Deposit 6.

Photo 14.1 to Photo 14.5 show the four boreholes positively identified in the field and the last one approximated and estimated very close location by Augyva during summer 2009 on Deposit 6. Photo 14.6 shows the core pile and old camp observed. Deposit 6 was not visited by Met-Chem during site visit. All information, surveyed location and photos have been realized by Augyva and made available to Met-Chem.

Met-Chem has verified and compared the 1973 boreholes location with past data and compilation map, and old air photo taken in 1987. Based on Met-Chem's opinion, the drilling evidences and the quality of data concerning Deposit 6, already verified by Augyva, are sufficient to be used in the mineral resource estimation process for the present study level in the category Inferred. However, it is recommended to add few boreholes to transfer the mineral resource into indicated category.

Photo 14.1 – Collar Location 73-16



Wood stick identification with metal tag identification

Photo 14.2 – Collar Location 73-17



Borehole casing

Photo 14.3 – Collar Location 73-18



Wood stick identification and rod steel anchor

Photo 14.4 – Collar Location 73-19



Collar wood stick identification

Photo 14.5 – Collar Location 73-20



Equipment parts, very close DDH location

Photo 14.6 – Core Piled Location



Old base camp and core piled

14.2.2 Evidences of Drilling Campaign on Deposit 3

On Deposit 3, many drilling evidences were observed as wooden pad structure for the drill, some drilling parts, steel anchors, drill rod casing, old camp and pieces of water line. However, the exact collar stick identification and location boreholes were not discovery during the field search.

From a total of two (2) boreholes drilled in 1973, two drill set-up are clearly identified, located and surveyed by hand GPS surveying method. The borehole locations surveyed in the field were at ± 50 m from estimated coordinates assigned by MRNF. Also the borehole location has been researched based on old air photo dated of 1987. On this old photo, some trails and set-up were identified, geo-referenced, and compared with the drill artefacts recoveries. All these items match well and confirm drilling activities. Borehole coordinates used in the database have been surveyed by hand GPS system during summer 2009, closer to the artefacts found.

Raynald Jean of Met-Chem has reviewed artefacts in the field and is of opinion that the past drilling data could be used in the present study level. The borehole collar location of borehole numbers 73-21 and 73-22 are estimated to be at 10 m precision. A more accurate localisation of borehole collar could be even possible and extensive ground cleaning close to the estimate location may permit to locate the precise collar location. Actually, caribou muskeg and humus and small trees cover the borehole location area.

Photo 14.7 and Photo 14.8 show the two boreholes pad and set-up positively identified in the field by Augyva during summer 2009 on Deposit 3 and reviewed by Raynald Jean during visit. Photo 14.9 and Photo 14.10 show other artefacts observed around it and the old camp observed. Few pieces of water rubber lines observed in the field are located along an old trail going to the water source for the drilling and also observed on an old air photo.

Met-Chem has verified and compared location of the two boreholes in regard to the past data and compilation map, and the old air photo taken in 1987. Based on Met-Chem's opinion, the drilling evidences and the quality of data concerning Deposit 3 are sufficient to be used in the mineral resource estimation process for the present study level in the category Inferred. However, it is recommended to add few boreholes to transfer the mineral resource into Indicated category. Deposit 3 is drilled only with six (6) boreholes, with four new boreholes and two from historical drilling. No borehole has been drilled directly at the same location to duplicate the past drilling result.

Photo 14.7 – Collar Location 73-21



Wooden pad, drill rods

Photo 14.8 – Collar Location 73-22



Wooden pad, core boxes empty

Photo 14.9 – Casing Rods



Located along the trail road

Photo 14.10 – Rubber Water Line



Located along trail road to small lake

14.2.3 Evidences of 1973 Drilling Campaign on Deposit 4

On Deposit 4, it was very difficult to discover any past drilling activities evidences. During Raynald Jean's visit made to Deposit 4, historical borehole location was wrongly assumed using erroneous data. Only one old bush trail was observed during the site visit. So no drilling evidence was observed. Later in October, using corrected historical data and new location estimated, and an old air photo dating 1987, positive evidence of drilling activities was discovered just before snow cover.

Many reasons explain the difficulty to recover past drilling evidence on the ground of Deposit 4. This area was the first one drilled in 1973 during summer time and all equipments were moved to the other deposits, later on September. Apparently, drill set-ups and camp supplies were cleaned carefully leaving few evidences on the ground. However, the main difficulty was related to the fact that historical data (mainly drilling borehole location) were wrongly located in the compilation realized by MRNF. In fact the assumed collar location was off-set by more than 600 m compared with the actual collar relocated (shifted mainly east-west, and borehole data location stretched in the west, southwest direction).

Using all previous data geo-referenced and incorporated into the ArcGis facilities, an estimation of the past borehole locations were attributed and sorted in WGS NAD 83, and transferred into Garmin file to be incorporated in hand GPS, work realized by Met-Chem. Research in the field by Augyva's employed was positive shortly after 1 or 2 days of field research. During the first day, some new trails were observed and possible set-up on two (2) different locations (25-50 m on west direction). On the second day, borehole 73-01 was identified 25 m west of estimated location. The past historical borehole 73-01 was clearly identified on the field, located closer the new borehole DUN09-43. The location discovered was off-set by only 25 m compared with the estimation data reviewed with ArcGis software facility. Borehole 73-01 is positively identified by wooden pad to stabilize the drill and the wood stick used for borehole collar identification, with similar form and technique already observed on Deposits 3 and 6.

From a total of fifteen (15) boreholes drilled in 1973, only borehole 73-01 drill set-up is clearly identified, located and surveyed by hand GPS surveying method. Borehole researched in field was stopped shortly after it started due to a major snow storm in October with covered ground. Met-Chem recommends to re-initiate research in 2010, using the latest collar location data, adjusted on the borehole recovery. Consequently all previous boreholes have been re-located using the past georeferenced data adjusted to borehole 73-01 surveyed, and transferred in WGS NAD83 coordinate system.

Raynald Jean reviewed all artefacts in the field and is of opinion that the past drilling data on Deposit 4 is adequate to be used in the present study level. The borehole collar location of borehole numbers 73-01, closer to new borehole DUN09-43 and the past borehole 73-09, closer to new borehole DUN09-44 indicates similar rock types and grade, and is considerate as admissible evidence by the duplication boreholes process. Based on Met-Chem's opinion, the drilling evidences observed on Deposit 4 and the quality of data concerning the other Deposits 3 and 6, are sufficient to be used in the mineral resource estimation process for the present study level.

With the actual estimation location of the borehole, it should be easy to recover and survey few more boreholes in 2010. However, the exact location will not change substantially the actual mineral resource estimation process. Met-Chem recommends

researching and to survey a few more boreholes and increase the precision of the borehole location drilled.

Photo 14.11, Photo 14.12 are taken from borehole 73-01 located in the field, with wooden pad and the wood stick used for borehole collar identification.

Photo 14.11 – Borehole 73-01



Wooden pad structure

Photo 14.12 – Borehole 73-01



Collar wood stick used for identification

14.2.4 Twin Boreholes Validation on Deposit 4

Two (2) boreholes have been drilled in 2009 to verify and validate previous drilling information data. Borehole DUN09-43 was the twinned borehole verification of 73-01 and DUN09-44 for twinned borehole 73-09.

Table 14.1 gives results and difference by items. New boreholes DUN09-43 and DUN09-44 were off-set by respectively 36 and 43 m. Main reason to explain the off-set location is related to the fact that drilling campaign was realized during winter time period and the drilling data from previous drilling campaign was not verified and located in the field before the drilling campaign. The location was selected as best fit or closer to previous borehole drilled based on best fit coordinate from previous compilation data and map. True location of the previous drilling campaign was discovered during autumn period or later on in 2009.

However, the geology described indicates similar features and rock types and in general, the geology interpretation makes sense. The average grade indicates little variation but considered acceptable and in relation with numerous dyke and sill intrusions.

Consequently, Met-Chem is of opinion that drilling campaign 1973 can be used for the modelisation process and mineral resources estimation process.

Table 14.1 – Twin Boreholes Verification on Deposit 4

TWIN BOREHOLES (closer) - Deposit 4			
Hole_ID	DUN09-43	DUN73-01	DIFF
UTM_X	329280	329283	3
UTM_Y	5941450	5941486	36
UTM_Z	150	150	0
Lenght (m)	250.00	225.00	25
Azimuth (°)	320.00	321.00	1
Dip (°)	-50.00	-50.00	0
From (m)	135.93	80.66	
To (m)	323.00	225.95	
Interval (m)	187.07	145.29	41.78
% FeT	22.18	18.73	3.45
TWIN BOREHOLES (closer) - Deposit 4			
Hole_ID	DUN09-44	DUN73-09	DIFF
UTM_X	329629	329601	28
UTM_Y	5941800	5941843	43
UTM_Z	151	152	1
Lenght (m)	200.00	205.00	5
Azimuth (°)	320.00	321.00	1
Dip (°)	-50.00	-62.00	12
From (m)	133.50	56.63	
To (m)	279.00	172.55	
Interval (m)	145.50	115.82	29.68
% FeT	21.56	23.81	2.25
Remarks			
DUN09-43 = Interval w aste assayed or diluted at 0% Fe (4m diluted at 0)			
73-01 = Interval w aste not assayed and diluted at 0% Fe (42.55m diluted at 0)			
DUN09-44 = Interval w aste assayed or diluted at 0% Fe (20.22m diluted at 0)			
73-09 = Interval w aste not assayed and diluted at 0% Fe (5.52m diluted at 0)			

14.3 Drilling Campaign 2008-2009

During the site visit, all drilled Deposits 1 to 5 have been visited to validate some items like coordinate, azimuth direction, and wood stick used for identification. Many collar locations have been visited all along the trail using Quad.

All boreholes verified are located as described, and identified by a large wooden stick inserted in the borehole, with metal tag identification. Coordinate verification shows only difference related to surveying instrument precision. Residual drill cutting have been observed at all drilled location.

Table 14.2 presents a list of the borehole collar verified by Raynald Jean during the field visit, surveyed with a Garmin GPS model 76CX. Total of sixteen (16) boreholes have been visited in the field from five (5) deposits. Surveying verification made by Met-Chem is very close to Augyva’s DDHs survey.

Table 14.2 – Borehole Location Verified by Raynald Jean

Borehole #	Deposit #	Coordinate Verification RJ		Coordinate Augyva	
		E	N	E	N
DUN08-01	1	315082	5929702	315087	5929708
DUN08-08	1	314372	5929573	314372	5929577
DUN08-13	1	313785	5929033	313796	5929027
DUN08-14	1	313607	5928924	313603	5928922
DUN08-17	1	313436	5928669	313438	5928673
DUN09-36	5	320016	5931235	320016	5931241
DUN09-37	5	320752	5931839	320755	5931840
DUN09-38	2	320162	5933801	320160	5933800
DUN09-39	2	320397	5933991	320400	5933990
DUN09-48	2	320110	5933848	320110	5933850
DUN09-49	2	320508	5934095	320509	5934087
DUN09-52	2	320114	5933852	320116	5933852
DUN09-40	3	324680	5937127	324680	5937125
DUN09-44	4	329629	5941797	329629	5941800
DUN09-45	4	329707	5942081	329710	5942080
DUN09-46	4	330246	5942194	330250	5942200

14.3.5 Deposit 1 – Borehole Collar Verification

A total of five (5) collar locations were visited during the site visit on Deposit 1, on September 14, 2009. In addition, boreholes declared to be drilled in 1956 from report GM4947 (boreholes number 56-6, 56-7 and 56-8), located on Deposit 1 were also researched. Prior to the site visit, the best estimation of the borehole locations based on past reports and old maps were inserted in hand GPS. These locations were verified during the field visit with no success. Consequently, the 1956 drilling campaign data and results are not included in this study. Pictures of the borehole collar locations visited are presented in Appendix B.

14.3.6 Deposit 2 – Borehole Collar Verification

A total of five (5) borehole collar locations were visited on Deposit 2, on September 14, 2009. Pictures of the borehole collar locations visited are presented in Appendix C.

14.3.7 Deposit 5 – Borehole Collar Verification

A total of two (2) borehole collar locations were verified on Deposit 4, on September 14, 2009. Access is facilitated by the recreational gravel road giving access to Duncan Lake. Pictures of the borehole collar locations visited are presented in the Appendix D.

14.3.8 Deposit 3 – Borehole Collar Verification

Only one of the four (4) boreholes was visited on Deposit 3, on September 15, 2009. In addition, previous drilling evidences and artefacts related to 1973 drilling campaign were visited to precisely locate them. Collar locations compiled by MRNF were off-set by almost 50 m. However, review of the 1987 geo-referenced photo, linked to location map of the historical boreholes has proved that the drill set-up found in the field and the drilling artefacts are indicatives of the collar location. Pictures of the visited borehole collar locations are presented in Appendix D.

14.3.9 Deposit 4 – Borehole Collar Verification

A total of three (3) borehole collar locations were visited on Deposit 4, on September 15, 2009. During site visit, old drilling artefact and set-up were searched for with no success. However, later in October, historical drilling evidences were observed by Augyva’s team. Pictures of the visited borehole collar locations are presented in Appendix E.

14.4 Verification of Drill Log Description and Independent Samples Collection

During the site visit on September 16, 2009, drilling core of five (5) boreholes, one by deposit, have been verified at the core shack facility, in relation with lithological description and contact locations, and interval sampled. In addition, independent samples have been sorted by Augyva’s technician under Raynald Jean supervision. These samples have been transported by Augyva’s technician directly to Corem laboratory.

Table 14.3 – Cores Verified and Independent Samples Verification

Borehole #	Deposit #	Core Length Observed (m)	Independent Sample Interval		Assay #
			From	To	
DUN08-04	1	195.6	92.35	96.00	14366
DUN09-33	3	294.0	167.00	172.00	14367
DUN09-36	5	105.0	45.70	49.20	14368
DUN09-44	4	200.0	204.00	207.00	14369
DUN09-48	2	255.0	209.15	213.60	14370

In general, core description is adequate with precise interval contacts. Sample intervals were also verified and are adequately reported.

New independent samples taken at the same interval consisted to re-cut in half previous sampled interval. Residual sample part is estimate to be quart of original core. The sample was cut in half using hydraulic core splitter. If residual core pieces were too small to be re-cut, pieces were taken at regular intervals. Table 14.4 shows re-sampling results. Complete Corem’s assay results are presented in the Appendix F.

The results appear acceptable, considering that the core was already split in half using a hydraulic splitter, which creates small pieces as opposed to a diamond saw cut with plane and regular surface. Irregular surfaces of split half core make it difficult to select precisely pieces of similar size and consequently decreases confidence in grade result obtained. However, Met-Chem is of opinion that assay results are representative of the Deposits.

Table 14.4 – Site Visit – Independent Sampling Results

Borehole #	Deposit #	Independent Sample - Met-Chem			Augyva Sample - ALS-Chemex Lab		
		Assay #	FeT (%)	SiO ₂ (%)	Assay #	FeT (%)	SiO ₂ (%)
DUN08-04	1	14366	31.54	44.6	15263	32.78	42.72
DUN09-33	3	14367	25.94	50.1	10829	25.66	49.97
DUN09-36	5	14368	22.03	51.2	14003	25.24	48.53
DUN09-44	4	14369	28.53	51.7	14260	27.81	50.99
DUN09-48	2	14370	33.01	45.5	14089	28.75	47.00
Recheck assay realized by Corem Laboratory							

Photo 14.13 to Photo 14.16 represent residual part of the independent samples remaining in core boxes, from the selected boreholes. Photo 14.18 was taken inside of the core splitting facility, including two different core splitters and independent samples already in plastic bags for transportation.

Photo 14.13 – DUN08-04



Sample 14366

Photo 14.14 – DUN09-33



Sample 14367

Photo 14.15 – DUN09-36



Sample 14368

Photo 14.16 – DUN09-44



Sample 14369

Photo 14.17 – DUN09-48



Sample 14370

Photo 14.18 – 5 Independent Samples



Independent Samples collected

14.5 Core Storage Area and Facilities

The major part of the core from 1973 diamond drill campaign was not found by Augyva. Only a few core boxes were observed on Deposit 6 and considered destroyed. As previously mentioned in historical report GM32503, diamond drill core was transported

to the storage area of Bross & Braddley drilling company, located in Rouyn-Noranda. This company no longer exists and the AX core size is considered destroyed. However, it is recommended to check the existence of the AX core size.

The core drilling of campaign 2008-2009 is stored in metal steel rack with protected roof at the core storage facility, located close to Radisson City. Photo 14.19 and Photo 14.20 are photos of the core rack storage area. During core verification process, core review was performed directly outside along the core rack to minimize core boxes transportation. However, excellent building facility for logging is there, closer to the core storage area.

Photo 14.19 – Core Storage Area



Photo 14.20 – Closer View



14.6 Laboratories Verification Process

Laboratories were not part of the verification process. Laboratories used for sample preparation and analysis are external and private companies. Met-Chem is of opinion that ALS-Chemex and COREM laboratories are excellent, with good reputation, already certified ISO with quality control in practice. Met-Chem does not have any reason to believe in falsification and tampering of the samples and the assay data of the iron content.

14.7 Database Verification

Information received from Augyva was from numerical sources as Excel files by borehole; each sheet representing different data source as collar information sheet, assay, lithology or rock type, and survey or deviation data, related to the 2008-2009 drilling campaign. These borehole individual files were formatted and organized to obtain printable copy of borehole description. Consequently, a new database structure has been generated by Met-Chem in partnership with Augyva, and later validated by Met-Chem. In addition, a new database was created for the 1973 drilling campaign, and later on linked with the 2008-2009 databases for the geological modelisation and mineral resources estimation process.

Met-Chem did not receive any geological interpretation of the ore lenses. Geophysical data point was received, transformed and used in the modelisation process. Geological maps came from MRNF compilation in numerical mode.

All borehole collar locations used in the resource estimation have been surveyed using a hand GPS garmin type, with a precision of ± 5 m estimated on X and Y coordinates for the 2008-2009 drilling campaign and best adjusted for the 1973 drilling campaign. Furthermore, Met-Chem has linked elevation to the general Digital Terrain Model (DTM) at a relative precision of 2 m contour generated by Met-Chem. Met-Chem has compared the survey collar elevations of database with result obtained from DTM topographic contours. Generally, differences in elevation were considered not important at the moment and are less than 4 m. Consequently, for modelling purpose, the borehole collar elevation was linked to the DTM.

Prior to building the master database, Met-Chem replaced missing assay interval with a -1 value, looked for duplicate assay intervals and for the uniformity of the total length in all tables. For the assay table, value lower than detection limit was replaced by artificial value fixed at 50% of the detection limit. Overlapping intervals were also verified in all tables (geology, assays), and recorded with total depth drilled.

Major concerns were related to the uniformity of lithological or rock type assigned. In fact, different geologists have described the core and the description was not fully uniform between geologists involved in the process. For geological modelisation purposes, lithology code needs to be simplified. This situation may create difficulties in the interpretation of the geological continuity from section to section. Met-Chem recommends to simplify and to adjust the rock type definition.

Sometimes, geological interval does not correspond with the assay interval. In this case and for software use and interpretation, a new interval rock code was created to match both.

Met-Chem has confidence in the current database with regard to coordinate collar table, assays and geology tables. The deviation borehole survey table was check again as well.

14.8 Statistical Analysis on Assay Data

From the drill hole database, Met-Chem performed simple and basic statistics on the assay values of different drilling campaigns (1973 and 2008-2009) to verify bias possibility. Basic statistic was realized on 3m down- the-hole compositing process associated to the ore lenses. It should be remembered that 1973 drilling campaign was mainly related to Deposit 4, 6, and 3 (by decreasing importance), and 2008-2009 drilling campaign was related to Deposits 1, 5, 2, 4 and 3. The assay data sources are different.

However, Met-Chem considers that the geological environment is similar between Deposits. In facts, small differences are observed between those.

Basic statistic on assay composited (Table 14.5) indicates minor variation between 1973 drilling campaign as compared to the 2008-2009 campaign, as observed by the mean and the mean at different percentiles. Based on basic statistical result, Met-Chem is of opinion that the 1973 drilling campaign is relevant, does not indicated bias and can be used in the estimation of the mineral resource. However, only percentage Fe total (soluble) of chemical analysis is available from 1973 drilling campaign, mainly related to Deposit 4.

Table 14.5 – Basic Statistics on % FeT Assay Composited by Drilling Campaign

Output Filename: stat_1973_fet File: Comp 3m 1973.str		Output Filename: stat_2008_fet File: Comp 3m 2008.str		Output Filename: stat_total_fet File Comp 3m Total 1.str	
String range (deposit 1 to 6)	1,6,1	String range	1,6,1	String range	1,6,1
Variable	% Fe Total	Variable	% Fe Total	Variable	% Fe Total
	RESULT		RESULT		RESULT
Number of samples	609	Number of samples	1266	Number of samples	1875
Minimum value	6.68	Minimum value	1.94	Minimum value	1.94
Maximum value	35.6	Maximum value	37.22	Maximum value	37.22
25 Percentile	20.91	25.0 Percentile	20.15	25.0 Percentile	20.52
50 Percentile (median)	24.58	50.0 Percentile (median)	25.015	50.0 Percentile (median)	24.93
75 Percentile	28.125	75.0 Percentile	28.87	75.0 Percentile	28.725
Mean	24.519	Mean	24.232	Mean	24.325
Variance	27.24	Variance	34.984	Variance	32.487
Standard Deviation	5.219	Standard Deviation	5.915	Standard Deviation	5.7
Coefficient of variation	0.213	Coefficient of variation	0.244	Coefficient of variation	0.234
Skewness	-0.296	Skewness	-0.564	Skewness	-0.507
Kurtosis	2.687	Kurtosis	3.035	Kurtosis	3.011
Trimean	24.549	Trimean	24.763	Trimean	24.776
Biweight	24.683	Biweight	24.675	Biweight	24.707
MAD	3.645	MAD	4.295	MAD	4.103
Alpha	-6.613	Alpha	-1.921	Alpha	-1.921
Sichel-t	2.58E+16	Sichel-t	7.60E+17	Sichel-t	2.93E+17

Figure 14.1 to Figure 14.3 show respectively the 3 m composite for percentage FeT for the 1973 drilling campaign, for the 2008-2009 campaign and for both together.

14.9 Capping of High Assay Values

Based on the statistical study, grade distribution and iron mineral type, Met-Chem does not apply a capping limit to the high assay values. The histogram distribution of percentage FeT made on Deposit 1 does not indicate uncommon data distribution or bias about high total iron grade value. Consequently, Met-Chem is of opinion that capping value is not necessary for this type of deposit.

Figure 14.1 – Histogram Distribution of % FeT (1973 Drilling Campaign)

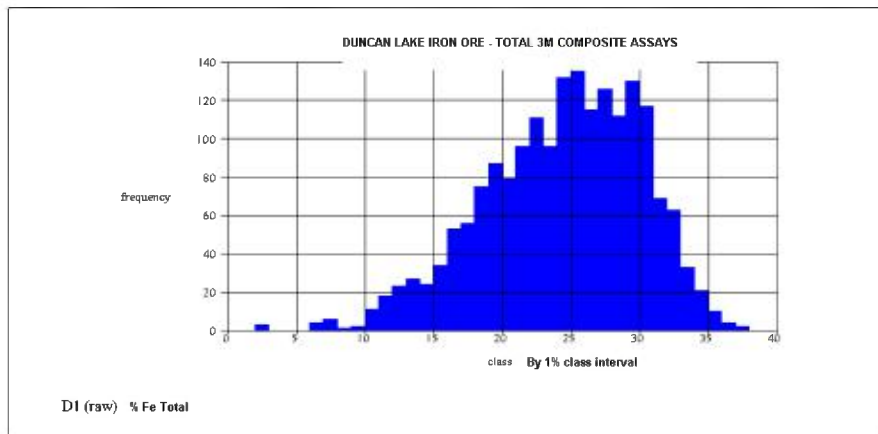


Figure 14.2 – Histogram Distribution of % FeT (2008-2009 Drilling Campaign)

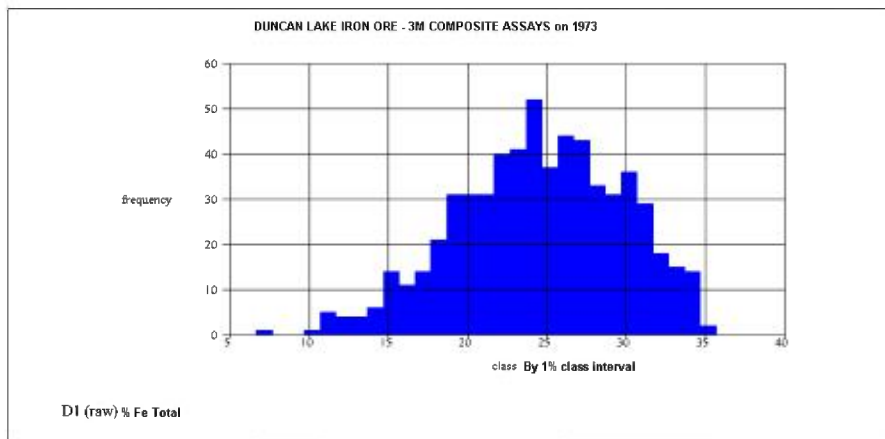
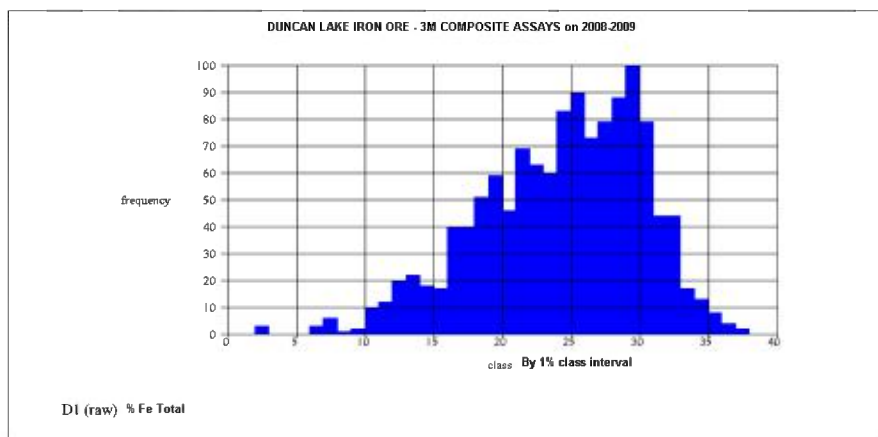


Figure 14.3 – Histogram Distribution of % FeT (Total Assay Data)



15.0 ADJACENT PROPERTIES

There is no mining activity in the area according to MRNF Gestim claim management system. There is no mining property or adjacent claim close to the DLIOP. However, an exclusion block controlled by Hydro-Québec partially limits exploration extension of Deposits 1, 2, and 6.

As of December 2009 and based on GESTIM website system, only Augyva is in the area, which corresponds to Deposit 1 to 6.

16.0 MINERAL PROCESSING AND METALLURGICAL TESTING

16.1 General

Even though an iron ore resource may contain substantial tonnes of material, if the concentrate is unacceptable for steelmaking, the deposit has no value. As a result, in order to determine an iron ore mineral resource, the deposit must have some metallurgical test work completed that demonstrates potential for production of commercially viable iron ore concentrate.

The standard test used to predict the response of magnetic ores is the Davis Magnetic Tube Test (DTT). The test device consists of a strong electromagnet, a glass tube and an agitation mechanism. The tube is mounted between the poles of the magnet at an angle of 45°. The test involves the grinding of a sample of crude ore for a predetermined period of time. A sample of the ground product (10 grams) is then split out and fed to the Davis Tube device.

After introducing the sample, the tube is filled with water and agitated. The magnetic material is trapped between the poles of the magnet while the non-magnetic material is washed through the tube and collected as tails. The test, originally designed to measure the magnetic content, has been modified to enable the prediction of concentration response by varying grind times and performing chemical analyses and geological characterizations of the ore sample being tested, as well as the test products.

16.2 Metallurgical Data Source

From the historical documentation, a few metallurgical tests (Davis Tube Tests) have been performed from surface chip samples in 1958. However, these results are questionable due to doubts on quality of surface chip sample methodology and the representativeness of iron ore grade, liberation grain size and concentrate grade obtained. Many metallurgical tests don't reach acceptable concentration grades.

New metallurgical tests have been performed on core samples from the 2008-2009 drilling campaign, on each deposit drilled, and on selected samples representing the same interval source than previously assayed. Metallurgical tests were performed using Davis Tube but this time they were performed on ground samples at selected grain sizes that were closer to liberation and were indicating in a better way the potential of the deposits.

16.3 Historical Metallurgical Tests (1958)

A total of twenty-four (24) chip samples weighting 615 lbs., were combined into fifteen (15) metallurgical test samples on six (6) deposits. Table 16.1 shows the information available from historical report.

The process description is explained as follows: “After crushing all of the samples to minus ¼ inch, a representative portion was cut out and ground in a MacCool pulverizer until all of it passes through a 200 mesh screen. A 30-gram portion of this ground material was then separated into a concentrate and tailing which were separately dried, weighed and analysed for soluble iron. The concentrate was also analysed for phosphorous, silica, sulphur and titanium dioxide, as well as the head sample for the soluble iron. Metallurgical tests were performed by H.U. Ross, Metallurgical Engineer, Toronto”.

Table 16.1 – Metallurgical Test Results (1958 from Surface Chip Samples)

Field Description						Metallurgical Test Result							
Deposit	Location	Sample #	Thickness	Weight	Grade	Grade	FeT	Silica	Sulphur	Phosphorous	Titanium	Recovery	Concentration
#			(feet)	pounds	% FeT	Test	(%)	(%)	%	%	dioxide	%	Ratio
1	North band	C.S. 18	85	30	30.3	24.74	62.26	11.07	0.067	0.027	0.103	88.72	2.85
1	South band	C.S. 23, 23A	210	45	33.7	34.16	66.69	6.06	0.016	0.022	na	79.84	2.04
1	South band	C.S. 24, 28	75	30	35.5	34.85	64.41	8.52	0.025	0.031	na	96.26	1.92
1	South band	C.S. 19 to 22	205	45	37.5	35.6	68.67	4.09	0.010	0.024	0.12	98.79	1.953
1	South band	C.S. 27	120	35	32.7	30.81	67.17	5.75	0.029	0.020	na	94.27	2.314
2	West	C.S. 14	110	35	34.1	33.68	65.72	7.25	0.015	0.018	na	97.87	1.992
2	Center	C.S. 15	90	35	34.5	31.28	67.91	4.80	0.017	0.016	na	97.89	2.217
3	West	C.S. 12A, B, C	na	35	32.3	31.17	70.16	2.60	0.030	0.025	na	97.82	2.299
3	East	C.S. 6A, B, C	238	43	35.2	28.94	67.44	5.10	0.032	0.022	na	96.43	2.421
4	North	C.S. 8	na	15	32.6	26.3	68.62	4.11	0.019	0.023	na	95.37	2.739
4	North	C.S. 5	na	40	32.7	33.09	62.51	6.52	0.023	0.021	0.98	97.90	1.93
4	South band	C.S. 3	290	40	36.1	33.97	62.19	12.50	0.019	0.020	na	76.77	2.386
5	Center	C.S. 17	20	20	35.6	33.75	69.04	3.08	0.031	0.019	na	99.51	2.057
6	West	C.S. 10	na	120	37.1	33.81	61.32	6.83	0.026	0.023	0.95	99.14	1.831
6	East	C.S. 11	na	40	31.0	33.41	63.47	10.10	0.023	0.025	na	98.59	1.926

(Items as expressed in the report)

Metallurgical test results appear to be reasonable in relation to the relative high grade of the composited samples (Table 16.1). Variation in the result may be attributed to normal variability in any deposit. However, Met-Chem is concerned by the average head grade of the 1958 samples compared to 2009 drilling campaign as well to 1973 drilling campaign, which indicate lower head grade. In general, higher iron ore grade samples give better result to compare with low grade samples.

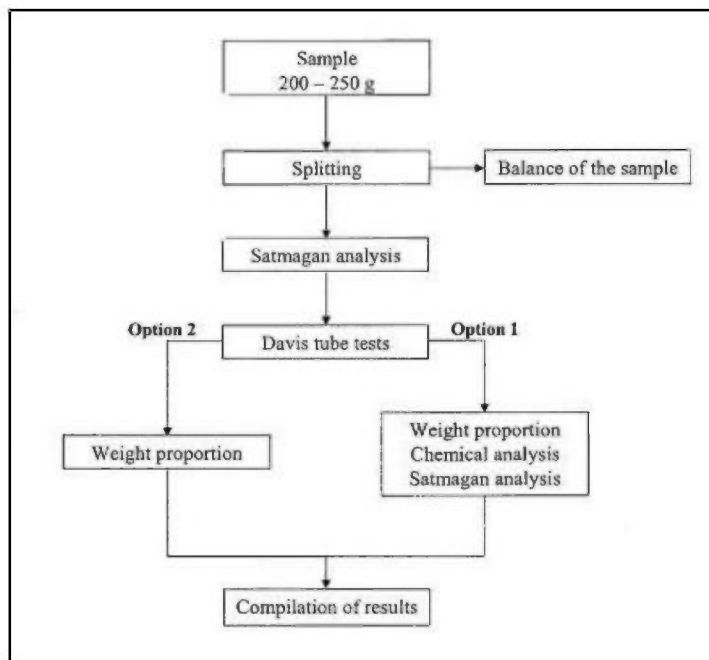
Based on the results and methodology of the chip sampling technique, Met-Chem is of opinion that chip sampling process completed in 1958 was not representative of the iron grade of the deposit. Metallurgical test results performed in 1958 need to be used with care and are not representative in comparison with the recent metallurgical test results.

16.4 Corem Metallurgical Tests (2009)

COREM has performed metallurgical tests such as DTT and Satmagan analysis. The samples were processed using the flow sheet presented in Figure 16.1. Two options were proposed and used both at the first sample batch. Later on, only Option 1 was considered. Option 1 includes chemical and Satmagan analysis of the products of the David Tube

tests (magnetic and non magnetic). Option 2 was without chemical and Satmagan analysis of the DTT products. For sample Batch 1, selected samples have been composited to reach minimum weight sample for testing.

Figure 16.1 – Samples Treatment using Option 1 and 2



All sample tests have been ground at 85% passing -75 microns. Met-Chem does not have explanation concerning the justification of the grain size liberation selection or if previous tests were realized at first. Table 16.2 summarizes the sample batch origin and the option taken.

Table 16.2 – Sample Batch Characterization

Deposit	Sample Batch 1		Sample Batch 2		Sample Batch 3		Sample Batch 4		TOTAL	
	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1
1	72	6	0	48					72	54
2					0	57			0	57
3					0	23			0	23
4							0	10	0	10
144 test samples under option 1										
72 test samples under option 2										

At the beginning of the program, Option 2 was used and later on, Option 1 was retained to better reflect the quality of concentrate product obtained. Consequently, 144 samples have been tested with chemical analysis of the product based on Option 1. In addition, 72 samples from Deposit 1 have been tested under the Option 2 scenario.

Table 16.3 summarizes results by Deposit. Difference between each deposit can be observed. Deposits 3 and 4 obtain better quality concentrate in regard to lower % silica as well as the other chemical elements. Deposit 4 compared with Deposit 1 obtains better WR and quality product with identical head grade. Deposits 1 and 2 need probably finer grain size to reach better liberation of the silica. All other chemical elements such as phosphorous, manganese, titanium does not indicate contaminant or deleterious chemical elements in the concentrate. The average grade of the selected samples is higher than the average grade of the Deposits based on the mineral resources estimation (section 17.0), and may affect quality and for sure the weight recovery.

Table 16.3 – Mean of Chemical Analysis of Product by Deposit

Location		Head Assay	Concentrate Assays													WR
Deposit #	Samples Qty	FeT %	FeT %	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	MgO %	CaO %	Na ₂ O %	K ₂ O %	TiO ₂ %	MnO %	P ₂ O ₅ %	Cr ₂ O ₃ %	LOI %	%
1	54	27.18	65.83	7.60	0.29	94.18	0.14	0.24	0.048	0.111	0.025	0.026	0.021	0.012	-2.87	34.01
2	57	31.01	66.11	7.11	0.27	94.58	0.24	0.11	0.038	0.122	0.035	0.015	0.024	0.014	-2.80	38.77
3	23	29.45	68.93	2.58	0.08	98.62	0.08	0.07	0.022	0.028	0.024	0.013	0.014	0.015	-2.46	31.08
4	10	27.11	68.38	4.61	0.12	97.83	0.07	0.08	0.027	0.053	0.020	0.017	0.019	0.014	-3.11	34.13
Total	144															

In addition 42 tests on option 1

Generally, for the iron ore deposit, the head grade influences weight recovery ratio. Compilation of the Davis Tube test results indicates that there is a low correlation between % FeT in the concentrate and the head grade (Figure 16.2). This could be explained by the influence of other factors such as the iron ore facies, the silicate mineral, the texture and the grain size. In a similar way there is no better correlation or not considerate as good correlation when comparing the percentage Satmagan reading and the % Fe in the Figure 16.3.

Figure 16.2 – % FeT Head vs. % FeT Concentrate Grade

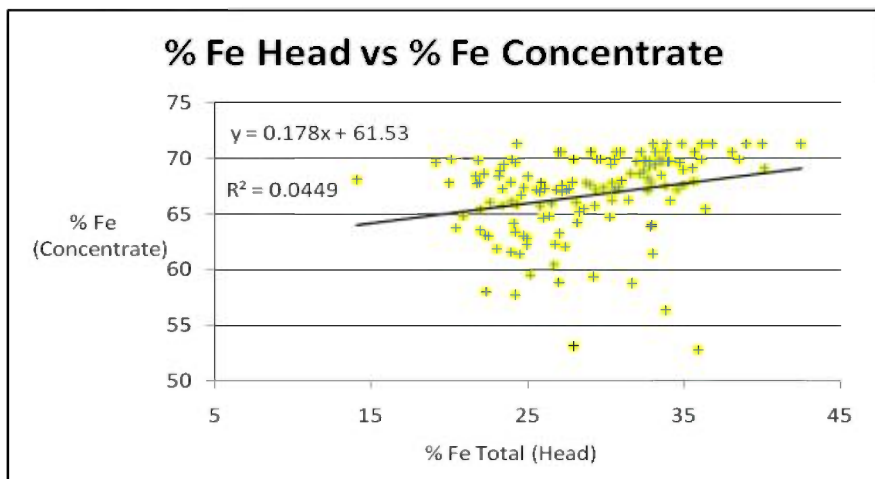
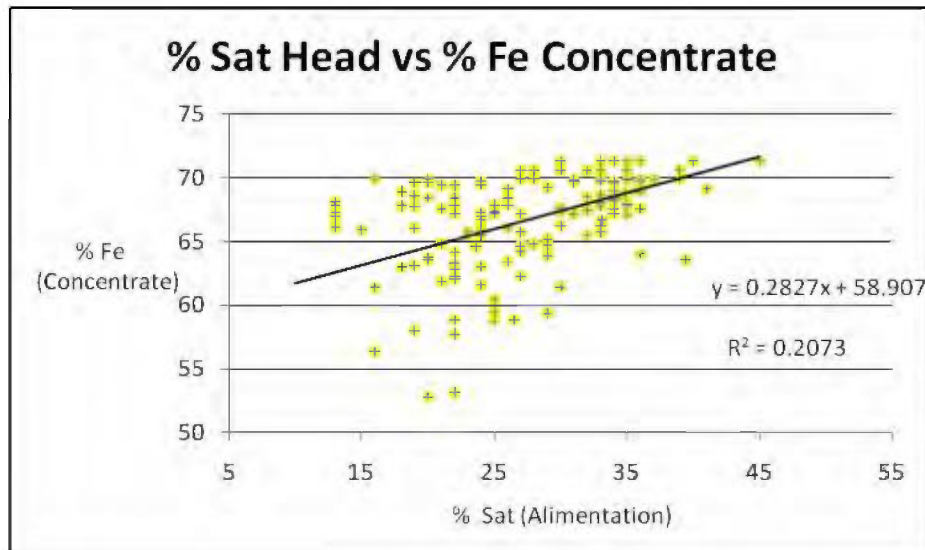
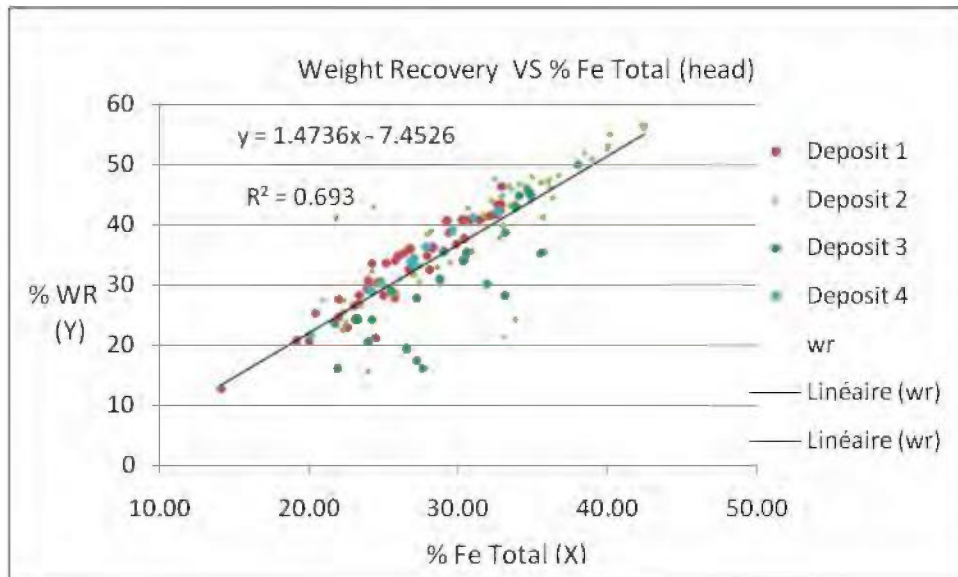


Figure 16.3 – % Satmagan Head vs. % FeT Concentrate Grade



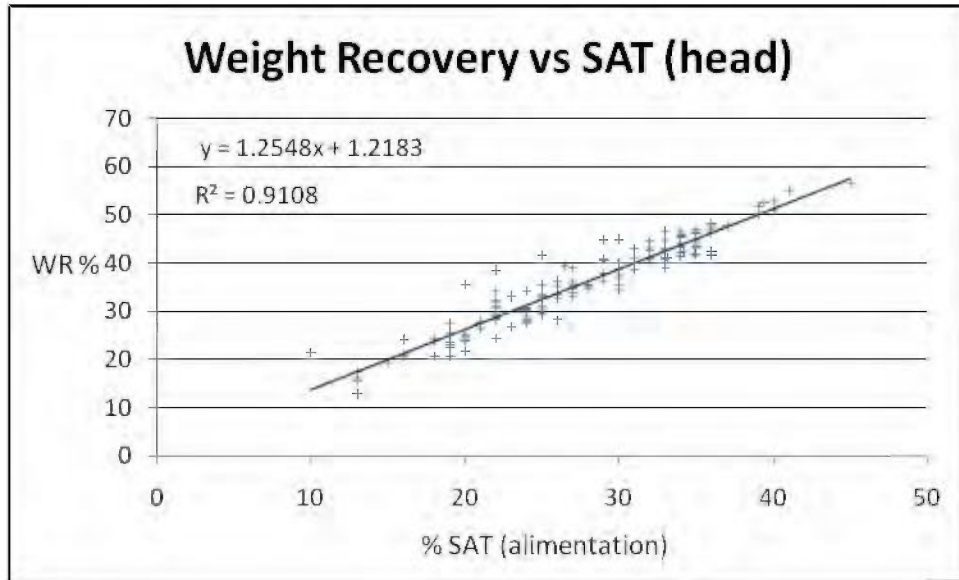
Weight recovery is partially a function of % FeT in the feed, as observed in Figure 16.4. Also, some differences by Deposit can be observed (dot color by deposit). It seems that a part of the total iron is not magnetic ore and not recovered by DTT, and is probably associated to hematite and silicate iron mineral assemblage. For grade estimation process related to mineral resources, WR was calculated from the equation mentioned in Figure 16.4 as $\%WR = 1.4736\% \text{ FeT} - 7.4526$, taking into account only % FeT calculated in the mineral grade estimation process. The % Sat analysis was not analyzed by ALS-Chemex, and only % FeT data was available to approximate the weight recovery factor.

Figure 16.4 – Weight Recovery vs. % FeT (head)



Weight recovery product is mainly function of % Sat feed grade, as observed in Figure 16.5. However, Satmagan analysis could not be used as this item was not present in the original assay database. The metallurgy test data incorporated in the database does not contain sufficient data to sustain interpolation on each deposit.

Figure 16.5 – Weight Recovery vs. % Sat (head)



17.0 MINERAL RESOURCE ESTIMATE

The Mineral Resource Estimate has been performed on the DLIOP, on the six deposits named as Deposits 1 to 6. This is the first mineral resources estimation under NI 43-101 rules. In 1958, some estimation of the potential tonnage has been done, based on mapping, chip sampling and field magnetic surveyed. Later in 1973, and following a drilling campaign, historical mineral resources estimations have been realized on Deposits 4 and 6.

Following the recent drilling campaign 2008-2009, drilling information with metallurgical tests performed provide sufficient data to realize a new mineral resource estimate. Drilling data from 1973 was verified in the field verification as well as log description and assays. These data were considered relevant and included in the final drilling database for geological block model preparation.

Met-Chem's resource model estimation was performed using mainly MineSight mining software (Version 4.0), and Surpac (Version 6.0) for specific request. Mineral resource was done using block modelling method, using polygonal ore lense interpretation by sections, linked together to produced solid 3D ore lenses. Met-Chem is of opinion that this methodology is adequate in relation with the data density and deposit type.

3D solids of the ore lenses were used to assign and constraint blocks parameters in the model. Grade estimation was done using inverse squared method. Variography study permitted to define ore lenses continuity parameters used to assign grade and mineral resource category. Parameters found are considered a normal range for this deposit type.

17.1 Drill Hole Database and Approach

Completion of the entire database was done jointly by Augyva and Met-Chem, followed by verification and validation by Met-Chem. A master database was constructed from the amalgamation of excel files produced by borehole, compiled together, and was regrouped into four (4) main categories, namely collar, assay, survey and geological data. The complete database contained seventy-four (74) diamond drill holes, of which fifty-two (52) boreholes were from the latest 2008-2009 drilling campaign. In addition, twenty-two (22) boreholes are from 1973 drilling campaign.

Drilling grid spacing varies from 200 m to 400 m, with some sections drilled at 100 m spacing. Drilling density is too low to define Measured or Indicated mineral resource categories concerning variography study and parameters used for the grade estimation process. However, drill spacing is adequate to assign mineral resources mainly in Inferred category level.

Numerical topographic was developed using public data source (Geobase.ca, Federal government website) to create a digital terrain modelling (DTM) with 2 m interval contour lines. The drill hole collar locations have been verified and confirmed with the topographic map generated, with an error range of ± 5 m between GPS elevation and the DTM. The borehole collar elevation was linked on the DTM topographic map generated for block modelling purpose.

Table 17.1 – Samples and Lengths by Data Category

Data	2008-2009 Drilling Campaign		1973 Drilling Campaign	
	Number of Samples	Total Length (m)	Number of Samples	Total Length (m)
Collar	52	10461.4	22	4141.5
Assays	1,489	6489.6	324	2098.9
Survey	393	na	72	na
Geology	899	10461.4	314	4141.5

Table 17.2 – Drill Hole Database Content

File	Fields
Collar	Hole ID, Northing, Easting, Elevation, Length, Deposit #, Date
Assays	Hole ID, From, To, Length, FeT, SiO ² , Al ₂ O ₃ , Fe ₂ O ₃ , CaO, MgO, Na ₂ O, K ₂ O, Cr ₂ O ₃ , TiO ₂ , MnO, P ₂ O ₅ , SrO, BaO, S, FeO
Survey	Hole ID, Depth, Azimuth, Dip
Geology	Hole ID, From, To, Rock Code

Prior to building the master database, Met-Chem replaced missing assay intervals with -1 value, looked for duplicates and verified the total length in the different tables. For the purpose of resource estimation, the missing assay intervals were assigned at zero values.

Historical data contained surface chip sampling, was not considered as precise location and not representativeness grade for estimation process. Consequently, these data were not used in the estimation.

17.2 Cut-off Grade for Interpretation of Iron Ore Lenses

In polygonal and sectional methods, iron content cut-off factors must be fixed prior to modeling. During periods of higher iron ore prices, cut-off grades may change rapidly. Grade cut-off selected by Met-Chem for lenses polygonal interpretation was fixed at 16% FeT. This figure is considered a minimum value.

Cut-off of 16% FeT is considered low but this value is actually used by few mines operation in Canada and US, mining iron ore in the low range grade. However, the cut-

off selected was not based on any economical study specifically applied to DLIOP. It is considered as a realistic number considering that value is already used by mining companies already in production and in consideration of the early exploration stage of the project. Cut-off grade factors and selection need to be clarified in the next development phases of DLIOP.

17.3 Iron Ore Lenses Thickness

Iron ore limits were modelized using a 16% FeT cut-off grade, and applied with a minimum apparent thickness of 6m. Minimum thickness is related to ore type and mining operation. Open pit mines need minimum ore thickness for selection of large truck and shovel equipment and associated realistic mining dilution. Based on minimum thickness values of 6 m, the following block model dimension has been generated for the modelisation: 10 m high (elevation), 20 m on X (lateral continuity) and 5 m on Y (better control on the ore contacts). This block model dimension is considered as very small in relation to drilling grid spacing and may created artificial precision.

17.4 Lithology and Mineralized Lenses

Polygonal section interpretation begins generally with lithology assignation or rock type polygonal envelops performed on sections. Sections were defined perpendicular to the elongation of the Deposits, and looking East-Northeast. Next step is to overprint iron ore lenses interpretation using polygonal lithology as guide.

Deposit 1 was first modelled and tested for major rock type interpretation by section mainly made by lithological code. Second part of the geological model is to define ore lenses limit (mainly based on assays data) which in general follow relatively well the previous lithological interpretation. However, in this study, it was difficult to use both data sources, lithology code and assay data. Indeed, the lithology assigned by Augyva was complex and variable which make difficult to follow upon continuity of rock types from section to section. Consequently, only ore lenses polygons were modelized on sections and adjusted from section to section. Met-Chem recommends to simplify rock code legend and to uniforms lithology code used by the geologists involved in the core description.

Ore lenses are dipping steeply (70 to 80°) in relation to the structural features observed from outcrops and data retrieved from historical information. The previous direction and dip structural data is also confirmed by the lithology continuity and iron ore lenses interpretation. Geological surface map and historical data provided by MRNF was used with some adjustments. The surface map was produced on a large scale and not precise enough to take into account precise drilling information and contacts. Thereafter, iron ore lenses polygons on sections were linked together to produce a 3D-solid for each lenses.

Ore Lenses were modelled based on drilling sections at different spacing, with contacts snapped on individual section and on real (X-Y-Z) coordinate contact in the holes. For each hole, cut-off grade was selected for the beginning and the end mineralization interval from original assays, prior to compositing. Internal and small waste bands or lower grade present in the ore lenses are included in the ore band and create internal dilution if thickness is too small to discriminate. Lateral continuities of the ore lenses outside the drilled grid area were also modeled using magnetic profile signatures. Finally, ore lenses as defined on sections were linked and meshed together, with end boundary expanded 100 metres, to form a close 3D solid ore lenses. The 3D solid lenses were then used to assign specific ore codes into the block model.

17.5 Block Model Dimension and Extension

Deposits 1 to 6 are located inside a very long corridor. It was not convenient to create only one (1) block model, linked with software capacity manipulation of big files. A total of six (6) block models were created, centered on each Deposit.

The block was fixed at: X = 20 m, Y = 5 m and Z = 10 m, in relation to a minimum ore lenses thickness. Only the iron ore lenses or rock category was codified in the block model. By default, the other rock types were not modelled and assigned in relation to inadequate lithology code, variability or complexity of the rock code present in the database. Consequently, the block models contain only two different lithologies as ore and undifferentiated waste rock. Table 17.3 indicates limits of each block model corresponding respectively to Deposits 1 to 6.

Table 17.3 – Block Models Limits

DEPOSIT	Direction	Minimum (UTM)	Maximum (UTM)	Block Size	Number of block
Deposit 1	Easting (X)	310,630	316,238	20	280
	Northing (Y)	5,925,836	5,931,444	5	466
	Elevation (Z)	-400	200	10	60
Deposit 2	Easting (X)	319,119	322,371	20	180
	Northing (Y)	5,932,445	5,935,697	5	200
	Elevation (Z)	-400	200	10	60
Deposit 3	Easting (X)	322,699	326,588	20	165
	Northing (Y)	5,934,583	5,938,472	5	440
	Elevation (Z)	-400	200	10	60
Deposit 4	Easting (X)	327,531	331,157	20	180
	Northing (Y)	5,940,175	5,943,523	5	270
	Elevation (Z)	-400	200	10	60
Deposit 5	Easting (X)	316,855	322,696	20	318
	Northing (Y)	5,928,197	5,934,037	5	380
	Elevation (Z)	-400	200	10	60
Deposit 6	Easting (X)	325,946	327,980	20	90
	Northing (Y)	5,935,568	5,937,124	5	200
	Elevation (Z)	-400	200	10	60

17.6 Ore Lenses Constraints

The resource estimate was not constraint on different ore lenses because the ellipsoids were very elongated with geometry limitation along bedding plane. The ellipsoid and anisotropy selected limits the possibility to automatically use an external composite sample from other lenses. At the actual study level, it is not relevant to limit the composite sample data at specific ore lenses. In addition, high iron grade zone was not limited or constrained by polygon ore lenses interpretation.

17.7 Composite Samples

Cut-off of mineralized intersections is 16% FeT, for the beginning and the end of the ore interval limits. Internal low grade assays were included in the compositing process if the mean is higher than the cut-off. If zero grade or missing values were present, a zero value was assigned to the interval before compositing process. Partial composites were allowed if they were more than 1m. Each intersection was tagged for the compositing process on the starting and exit points in the lenses, including the internal waste dilution.

Original assay length varied from 0.86 m to 12.59 m, with an average around 5 m. Compositing process uses down-the-hole method with 3 m composites. Final intervals less than 1m were also added to the 3 m and constraint to 4 m maximum. Consequently, composite average length is 3 m with small percentage of composites between 1 to 3 m and between 3 to 4 m. The three (3) metres compositing is considered adequate with the block model dimension. In relation to the drilled direction and ore lenses geometry, the block is covered by minimum of two (2) composites by borehole and generally by three (3) to four (4) composites. This compositing length takes into consideration the actual quantity, drilling density and block size.

Table 17.4 shows average weighted grade by Deposit, for original assay, and after compositing. Original assays were weighted and zero (0) value applied on missing assay interval, to compare both types of data. As can be seen, weighted values for percentage FeT composite samples are quite close to original assay value and consequently validates the process. In Met-Chem's opinion, sample compositing is appropriate and sample composites are valid to use in block model estimation process.

Table 17.4 – Compositing Assay Verification

Deposit #	Assays			Composites				
	Total Length (m)	FeT(%)			Total Length (m)	FeT(%)		
		Min.	max.	Mean		Min.	max.	Mean
Deposit 1	2,269.90	0.00	38.23	23.03	2,250.30	0.00	37.22	23.20
Deposit 2	608.20	6.38	36.59	26.92	608.00	12.33	36.59	26.92
Deposit 3	620.40	0.00	34.76	24.30	620.50	0.00	34.76	24.48
Deposit 4	1,723.50	0.00	34.11	23.22	1,724.20	0.00	34.11	24.15
Deposit 5	104.10	8.59	32.33	25.05	104.30	15.33	32.33	25.07
Deposit 6	291.50	0.00	35.60	26.38	291.80	16.75	35.60	26.38
<i>Assays cut by geology, inside the ore lense (ENVLP=1), missing values replaced by 0% FeT</i>								
<i>Composites done from the assays (ENVLP=1, missing values=0% FeT)</i>								

17.8 Basic Statistic and Histogram Distribution Assays of Deposit 1

Deposit 1 was mostly drilled in 2008-2009. In Met-Chem’s opinion, this is the only deposit to contain sufficient data to analyse the variability and to define anisotropy and lateral continuity. Deposit 1 is long, continuous with no major deformation or complicated structure, which facilitates the variability study. In addition, other deposits do not have acceptable density data and continuity to analyse properly the variability and define the continuity research parameters. Consequently parameters define on Deposit 1 will be applied on each deposit, adjusted for direction and dip of each one.

Basic statistic has been realized on few chemical elements composited at 3 m length not limited to any envelop or prior ore lenses interpretation. Chemical elements are percentage FeT, % SiO₂, % MgO, % MnO, and % P₂O₅. Majority of the samples composited are associated to BIF, with small quantity of lean BIF, lean Tuff (low magnetite content) and Sediment rock types. Table 17.5 presents basic statistics by chemical element. Variability is important for each element with means considered to be in as normal range. Variability observed is related to the different rock types included in the study and is expected to be lower if the study is constrained by rock type.

Histogram distribution of five (5) chemical elements was done. Normal distribution curves are expected for each element in this iron ore geological environment. Figure 17.1 to Figure 17.5 present results for five chemical elements as: % FeT, % SiO₂, % MgO, % MnO, and % P₂O₅. No specific anomaly or bias was observed, and there is no need to cap the high assay value. Data shows normal distribution frequency of the sample population.

Table 17.5 – Deposit 1 - Basic Statistics on Chemical Elements

Variable	% FeT	% SiO ₂	% MgO	% MnO	% P ₂ O ₅
Number of samples	752	752	752	752	752
Minimum value	6.42	41.62	1.36	0.01	0.06
Maximum value	37.22	60.94	15.42	0.17	0.37
25.0 Percentile	18.81	48.775	1.82	0.04	0.12
50.0 Percentile (median)	23.855	51.43	2.2	0.05	0.14
75.0 Percentile	28.3	53.695	2.685	0.07	0.16
Mean	23.359	51.241	2.552	0.056	0.142
Variance	38.703	10.992	1.928	0.001	0.001
Standard Deviation	6.221	3.315	1.389	0.023	0.038
Coefficient of variation	0.266	0.065	0.544	0.419	0.271
Skewness	-0.272	-0.199	4.221	1.48	0.918
Kurtosis	2.489	2.743	28.262	6.182	6.294
Trimean	23.705	51.333	2.226	0.053	0.14
Biweight	23.6	51.337	2.196	0.052	0.139
MAD	4.74	2.478	0.426	0.012	0.019
Alpha	-6.356	-41.204	-1.193	0.01	0
Sichel-t	1.33E+18	4.17E+24	33.579	1.058	1.153

Figure 17.1 – Histogram of % FeT

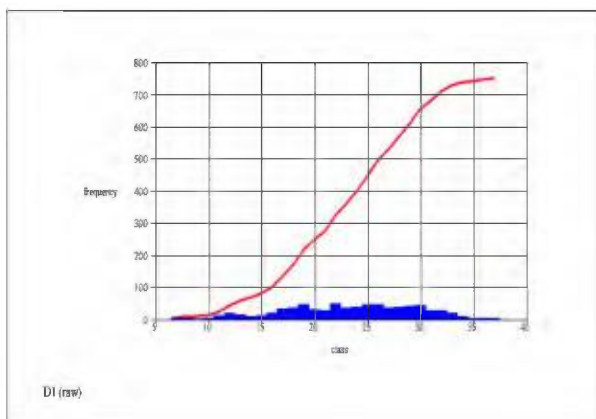


Figure 17.2 – Histogram of % SiO₂

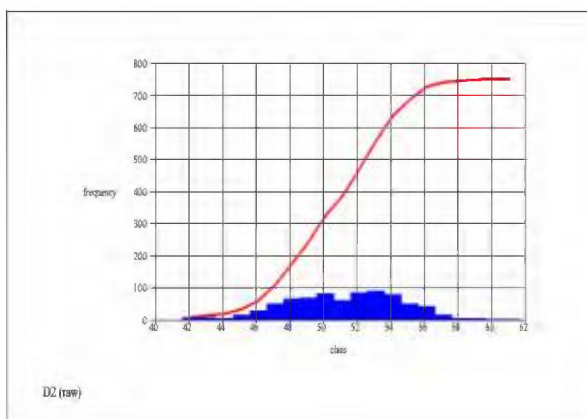


Figure 17.3 – Histogram of % MgO

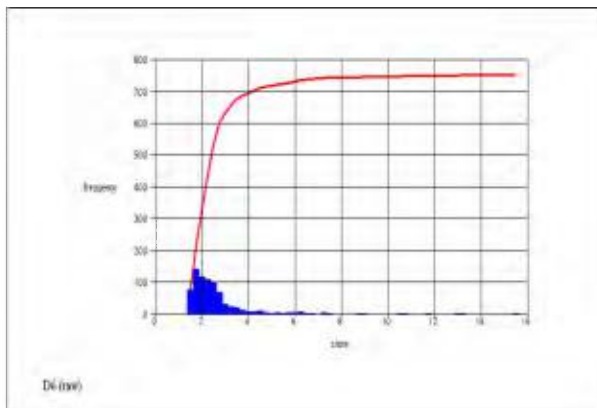


Figure 17.4 – Histogram of % MnO

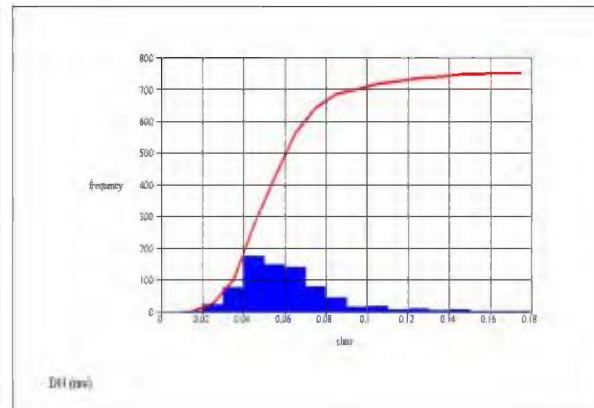
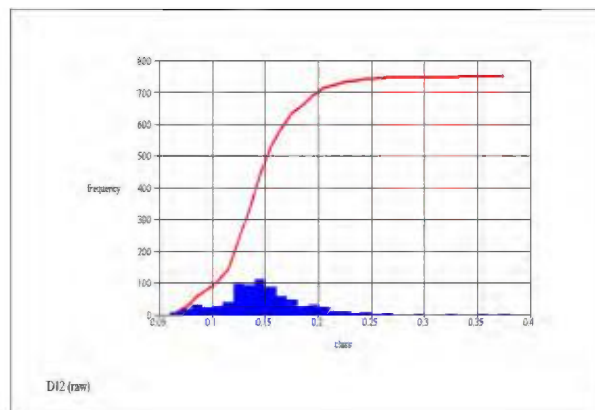


Figure 17.5 – Histogram of % P₂O₅



17.9 Variogram Analysis of Deposit 1

The variogram analysis was done on a 3 m composite and restrained specifically on Deposit 1, of which the continuity is relatively well known and the density data is relevant.

Directional variograms for two (2) main axis directions are shown in Figure 17.6 and Figure 17.7. In the present case, the variogram analysis shows normal anisotropy and good continuity for this type of deposit, in relation to a bedded sedimentary rock and continuous along strata. Figure 17.6 represents continuity along the major axis corresponding to the horizontal direction of the Deposit 1, in range of 300 m. Figure 17.7 represent the minor axis, corresponding to stratification plane, perpendicular to the major axis, in range of 25 m. It was not possible to obtain good variography result on the semi-axis direction, and along vertical strata continuity, due to weak sample density in that direction. Results obtained were used to define parameters and ellipsoid direction during the grade assignment process.

Figure 17.6 – Variogram of the Major Axis (AZ230, DIP80)

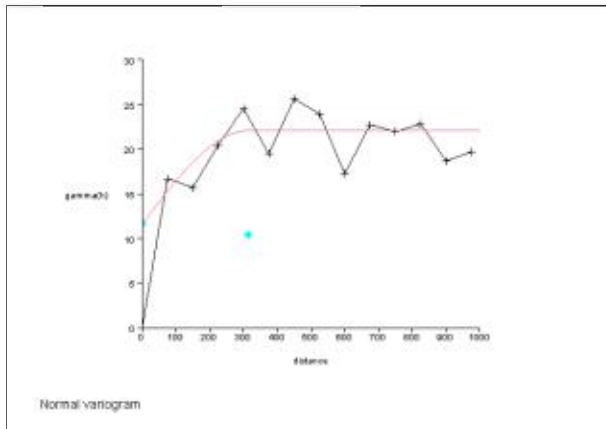
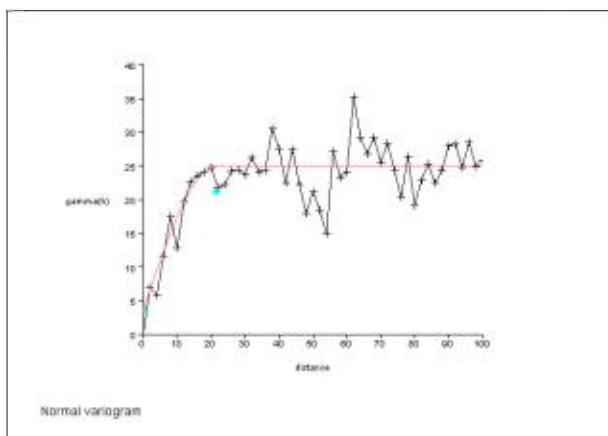


Figure 17.7 – Variogram of the Minor Axis (AZ320, down the hole)



17.10 Specific Gravity

There are no gravity tests done on the DLIOP. Specific gravity selection is fixed at 3.2 in relation with actual rock density used by other mining operations having similar iron ore grade. However, Met-Chem recommends tests to better define specific gravity values.

17.11 Block Model Search Parameters

In consideration with the actual study level and about the stratiform iron ore deposit type, the drilling density, the relatively well known lenses geometry and the continuity interpretation, the simple search ellipsoid method was considered appropriate at this stage, using inverse square distance with oriented ellipsoid along major, semi-major and minor axis, representing the sediment strata continuity.

This method makes sense if the ore lenses geometry is relatively well defined and continuous along strike and dip. If the strike and dip vary, few windows limitative boxes

or zones (assignment domains) are used to simulate the direction continuity of the iron ore lenses by variation of the orientation of the ellipsoid dip and direction by limitative sectors during estimation grade process.

In addition, three (3) different estimation passes were done to estimate the mineral resources in relation to drilling density and accuracy of the information to define different categories of mineral resources. These multi passes simulate Measured, Indicated and Inferred Resource categories, with specific tag indicator category assigned in the block model to constraint it. The block model search parameters are summarized in Table 17.6.

Resource classifications used in this report conform to the following definitions from the Canadian Institute of Metallurgy, in accordance with National Instrument 43-101. On DLIOP mineral resource estimation process, three (3) mineral resource categories have been defined in regards to the quality and the density of the geological data as: Measured, Indicated and Inferred Mineral Resource.

In the three (3) different passes, the continuity aspects are simulated by number of boreholes imposed for the classification category. Measured, Indicated and Inferred mineral resource categories need respectively 4 boreholes, 3 boreholes and 1 borehole for the assigning process.

In addition, the length of the ellipsoid axis vary in function of the continuity observed in the variography study. Major axis continuity is selected as 300 m length, in conformity with the variography study for the mineral resource of Measured and Indicated categories. For the semi-major axis corresponding to the bedding strike direction, a shorter length was selected at 250 m based on past experience in this deposit type. For the minor axis corresponding to the ore thickness, 30 m was selected as defined by the variography study. Mineral Resource categories of the Measured and Indicated use same continuity ellipsoid length, and the categories differentiate directly in relation to the presence or not of minimum borehole and composite quantity around the block being estimated.

For the Inferred mineral resource category, the search ellipsoid parameters are longer (500 m, 400 m, and 50 m) and only one borehole justified the grade calculation and assignment.

17.12 Mineral Resource Estimate

At the selected cut-off grade of 16% FeT, Mineral Resources are illustrated in Table 17.6 for the Measured and Indicated categories, and in Table 17.7 for the Inferred category, all by Deposit number. As shown on Table 17.7, the tonnage of the Measured and Indicated is low in those categories related to low drilling density, wide drilling spacing and very



low density on the same section to provide extra boreholes information on the same lenses at depth.

Table 17.6 – Parameters for the Mineral Resources Estimation Process

DUNCAN LAKE IRON ORE DEPOSITS				
Items	Description			
Interpolation method	IDW (square inverse distance)			
Compositing method	Descending along borehole, limited to ore lenses			
Compositing length	3m and cut at 1m minimum length			
High value cut-off	No			
Mineral Resource Categories				
Minimum number	Composites	12	9	4
Maximum number	Composites	20	20	20
Maximum by borehole	Composites	3	3	4
Ellipsoid dimension - major X axis	Meter	300	300	500
Ellipsoid dimension - secondary Z axis	Meter	250	250	400
Ellipsoid dimension - minor Y axis	Meter	30	30	50
Qty of boreholes needed	Minimum	4	3	1
Ellipsoid Research Orientation				
Deposit 1	Degrees	235	-70	No
Deposit 2	Degrees	232	-82	No
Deposit 3	Degrees	219	-88	a
		233	-88	b
Deposit 4	Degrees	036	-81	a
		066	-85	b
		050	-87	c
Deposit 5	Degrees	245	-61	a
		231	-59	b
Deposit 6	Degrees	078	-90	a
		067	-90	b

The Inferred mineral resources category cannot be added to the previous mineral resources in regards to NI-43-101 rules. Inferred category contains mostly all tonnage, mainly associated to Deposits 1 and 4 (mostly drilled), and Deposit 3. Deposits 2 and 5 are very limited for tonnage extension. However, Deposit 2 has better grade than other Deposits. Deposit 3 has relatively low drilling density. However, the thickness of the ore lenses appears important, also confirmed by the magnetic survey. Deposit 3 has good potential to increase tonnage related to favourable syncline structure anticipated.

Detail compilation tables with other selected items (% WR, % SiO₂, % MnO, % P₂O₅, and % S) is presented in the Appendix G.

Table 17.7 – Measured and Indicated Mineral Resources by Deposit

Cut-off: 16% Fe_{Total}		
Measured Mineral Resources	Tonnes*	Fe _{Total} (%)
Deposit 1	4,090,000	21.89
Deposit 2	902,000	27.41
Deposit 3	0	
Deposit 4	708,000	26.19
Deposit 5	0	
Deposit 6	0	
Total	5,700,000	23.29
Indicated Mineral Resources		
	Tonnes*	Fe _{Total} (%)
Deposit 1	13,443,000	21.80
Deposit 2	4,931,000	27.44
Deposit 3	0	
Deposit 4	7,241,000	25.20
Deposit 5	0	
Deposit 6	0	
Total	25,615,000	23.84
Total (Measured + Indicated)		
	Tonnes*	Fe _{Total} (%)
Deposit 1	17,533,000	21.82
Deposit 2	5,833,000	27.44
Deposit 3	0	
Deposit 4	7,949,000	25.29
Deposit 5	0	
Deposit 6	0	
Total	31,315,000	23.74

*Tonnes are rounded

Table 17.8 – Inferred Mineral Resources by Deposit

Inferred Mineral Resources	Tonnes*	Fe _{Total} (%)
Deposit 1	283,857,000	23.71
Deposit 2	78,795,000	26.90
Deposit 3	154,724,000	24.83
Deposit 4	192,336,000	24.33
Deposit 5	32,658,000	24.48
Deposit 6	78,765,000	25.35
Total	821,135,000	24.56

*Tonnes are rounded

17.13 Cut-off Factor Simulation

Also as previously discussed, a 16% FeT cut-off grade selection is adequate at the current iron ore price market. Low grade taconite deposits react slowly to cut-off selection because the grade of iron formation lenses does not change too much. To simulate the cut-off selection effect, the mineral resource of the actual block model was constrained at different cut-off selections of 16 % FeT, 18% FeT, and is 20% FeT, and presented in Table 17.8 and Table 17.9, respectively for the total Measured and Indicated categories and for the Inferred category. Detailed compilation tables are presented in Appendix G at cut-off grade of 16%, 18% and 20% FeT. These higher cut-off figures are estimated and not precise for the real grade and tonnage estimation because the new modelled envelopes are not made with higher grade cut-off. Cut-off figures are considered as indicative

results only. As observed in the following tables, the total iron grade increases slowly at higher cut-off selected, and the tonnage decreases also slowly.

Table 17.9 – Measured and Indicated Mineral Resources by Cut-off Selection

(Measured + Indicated) Deposit	Cut-off 16% FeT		Cut-off 18% FeT		Cut-off 20% FeT	
	Tonnes	% FeT	Tonnes	% FeT	Tonnes	% FeT
1	17,533,000	21.82	14,824,000	22.68	10,333,000	24.30
2	5,833,000	27.44	5,833,000	27.44	5,826,000	27.45
3						
4	7,949,000	25.29	7,883,612	25.35	7,827,611	25.40
5						
6						
Total	31,315,000	23.74	28,540,612	24.39	23,986,611	25.42

Table 17.10 – Inferred Mineral Resources by Cut-off Selection

Inferred Deposit	Cut-off 16% FeT		Cut-off 18% FeT		Cut-off 20% FeT	
	Tonnes	% FeT	Tonnes	% FeT	Tonnes	% FeT
1	283,857,000	23.71	253,353,000	24.49	217,349,000	25.40
2	78,795,000	26.90	78,795,000	26.90	78,770,000	26.90
3	154,724,000	24.83	149,069,000	25.12	133,767,000	25.83
4	192,336,000	24.33	187,234,000	24.52	170,458,000	25.05
5	32,658,000	24.48	32,649,000	24.49	32,461,000	24.51
6	78,765,000	25.35	78,190,000	25.40	71,624,000	26.00
Total	821,135,000	24.56	779,290,000	24.95	704,429,000	25.58

The block model estimation process was done using consecutive steps to segregate and discriminate the different categories of the Mineral Resources. Met-Chem is of opinion that mineral resources figures represent status of the present knowledge of the Deposits.

With additional drilling, it should be relatively easy to transfer the Inferred mineral resources in Indicated and Measured categories. In addition, potential to increase the tonnage is already identified and discussed in Section 18.

17.14 Typical Section Interpretation and Isometric Block Model View by Deposits

One representative section and one isometric view are presented for each Deposit. However, all drilled sections are presented in Appendix H to M, respectively for Deposits 1 to 6, totalling fifty-two (52) geological sections. Each geological section includes topographic profile, borehole trace, ores lenses interpretation, and blocks inside ore lenses with a color coding representing mineral resource category.

Appendix D – Photos of Borehole Collar Locations – Deposits 3 and 5

DUN09-36 Collar Location



Deposit 3

DUN09-37 Collar Location



Deposit 3

DUN09-40 Collar Location



Deposit 5

17.14.1 Deposit 1

Figure 17.8 and Figure 17.9 present respectively geological section 3300E and isometric view of Deposit 1. A total of twenty-four (24) geological sections are presented in Appendix H.

Figure 17.8 – Deposit 1 – Typical Section 3300E

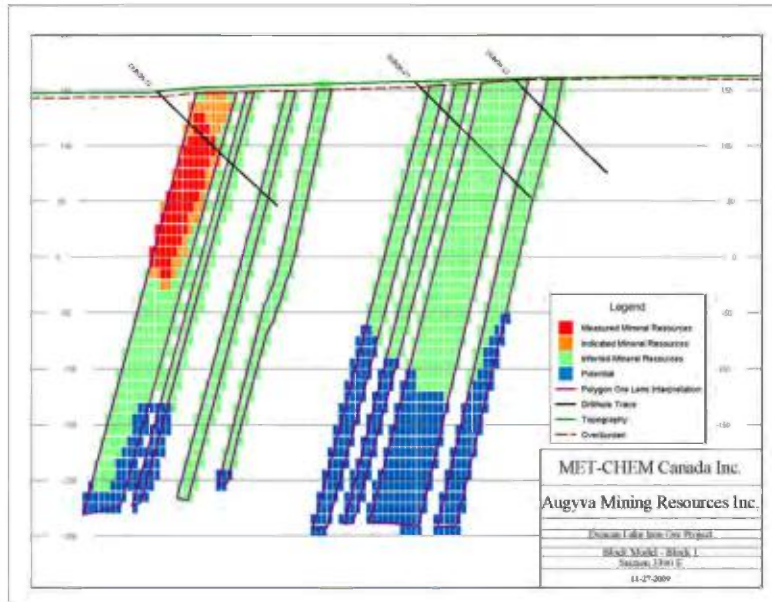


Figure 17.9 – Deposit 1 – Surface Isometric View



17.14.2 Deposit 2

Figure 17.10 and Figure 17.11 present respectively geological section 11100E and isometric view of Deposit 2. A total of five (5) geological sections are presented in Appendix I.

Figure 17.10 – Deposit 2 – Typical Section 11100E

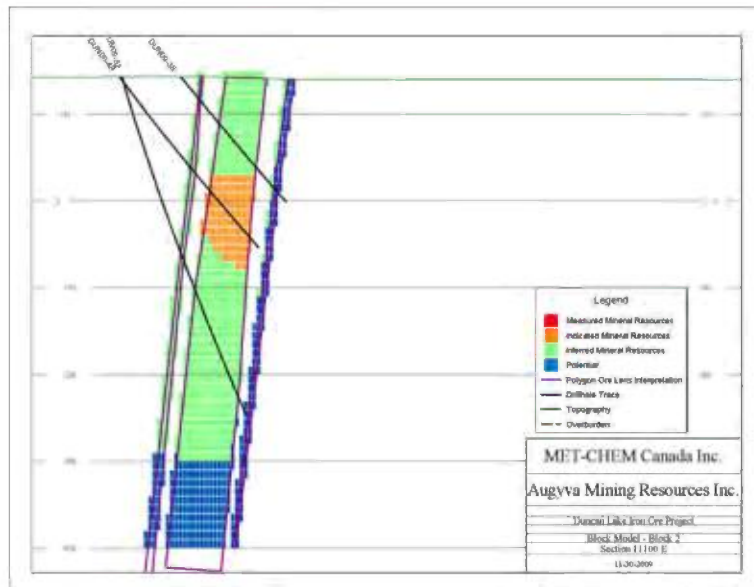
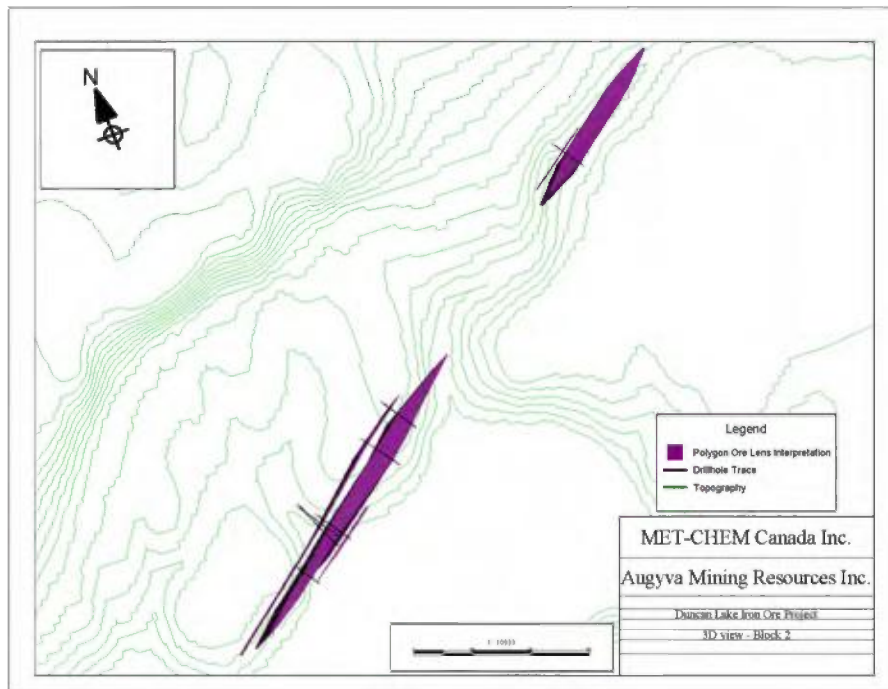


Figure 17.11 – Deposit 2 – Surface Isometric View



17.14.3 Deposit 3

Figure 17.12 and Figure 17.13 present respectively geological section 10200E and isometric view of Deposit 3. A total of five (5) geological sections are presented in Appendix J.

Figure 17.12 – Deposit 3 – Typical Section 10200E

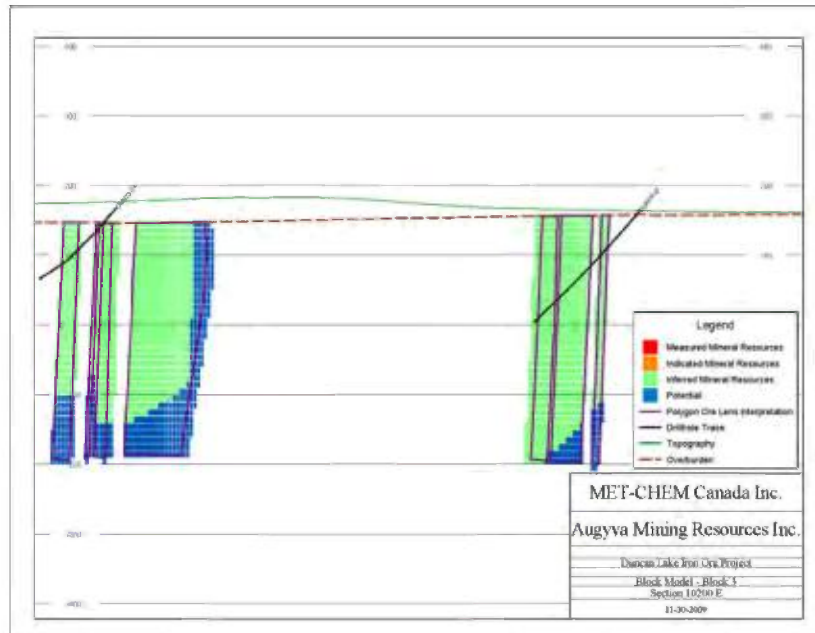
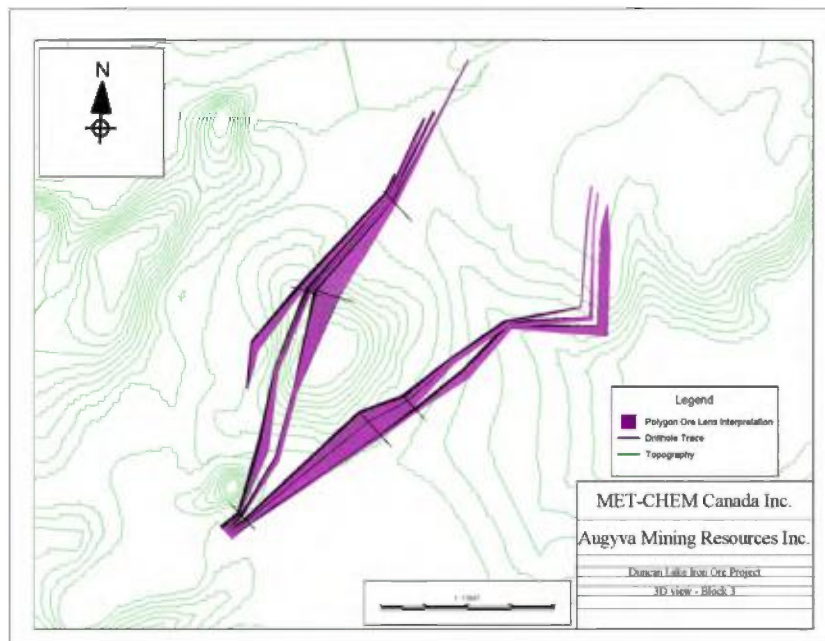


Figure 17.13 – Deposit 3 – Surface Isometric View



17.14.4 Deposit 4

Figure 17.14 and Figure 17.15 present respectively geological section 17100E and isometric view of Deposit 4. A total of ten (10) geological sections are presented in Appendix K.

Figure 17.14 – Deposit 4– Typical Section 17100E

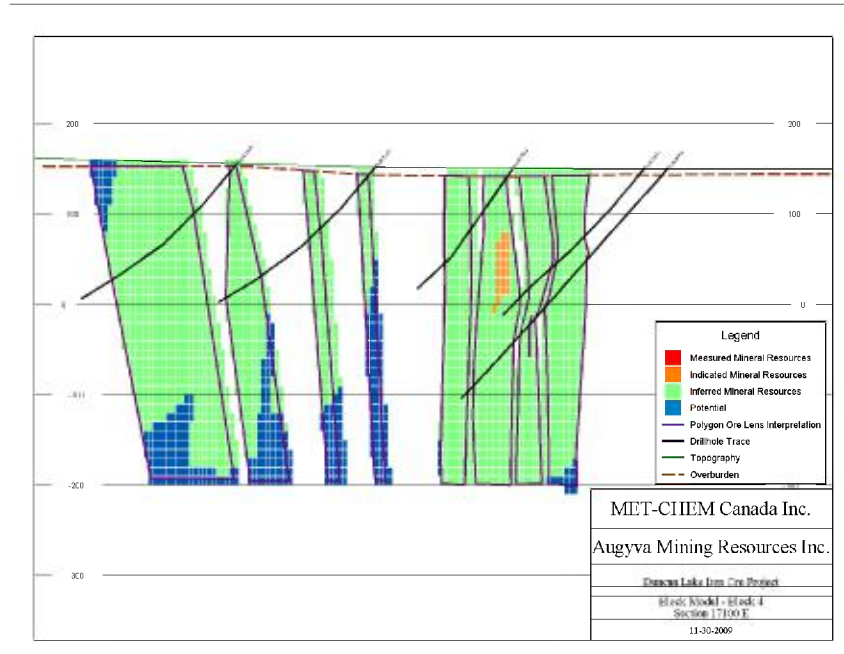
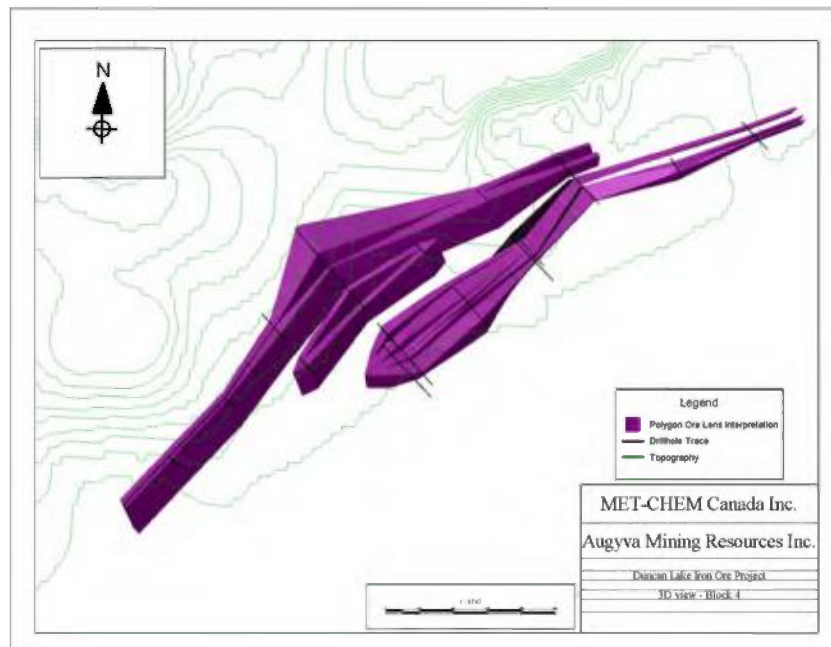


Figure 17.15 – Deposit 4 – Surface Isometric View



17.14.5 Deposit 5

Figure 17.16 and Figure 17.17 present respectively geological section 2600E and isometric view of Deposit 5. A total of six (6) geological sections are presented in Appendix L.

Figure 17.16 – Deposit 5– Typical Section 2600E

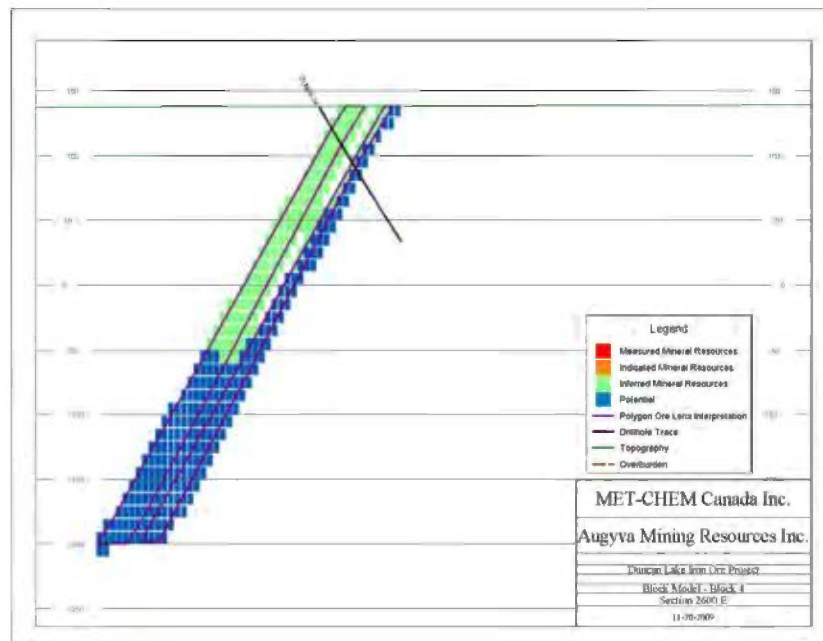
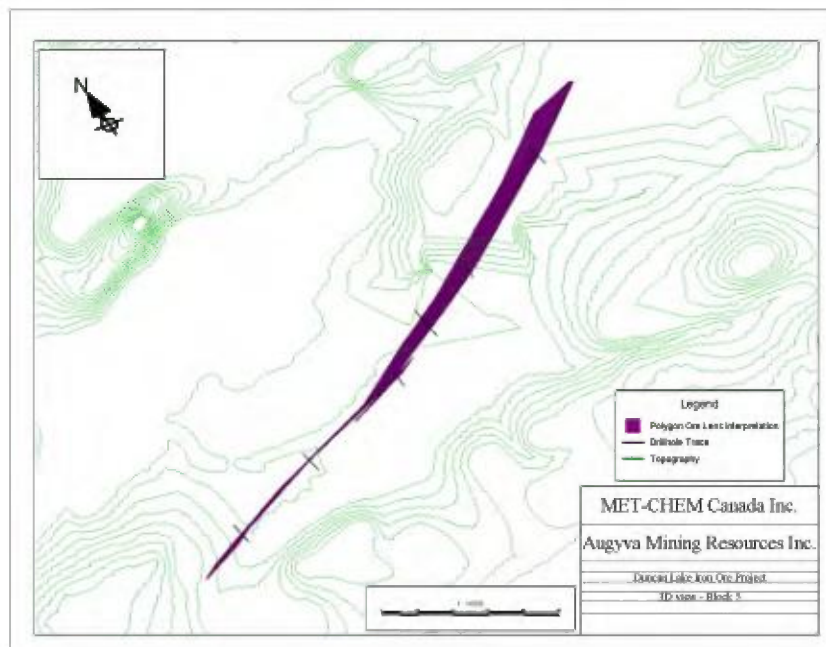


Figure 17.17 – Deposit 5 – Surface Isometric View



17.14.6 Deposit 6

Figure 17.18 and Figure 17.19 present respectively geological section 2600E and isometric view of Deposit 6. A total of two (2) geological sections are presented in Appendix M.

Figure 17.18 – Deposit 6– Typical Section 2600E

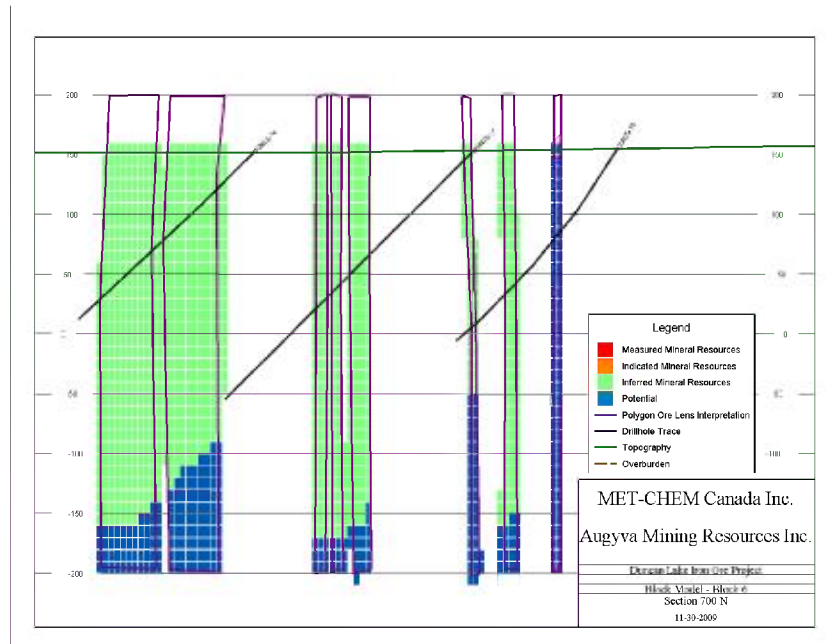
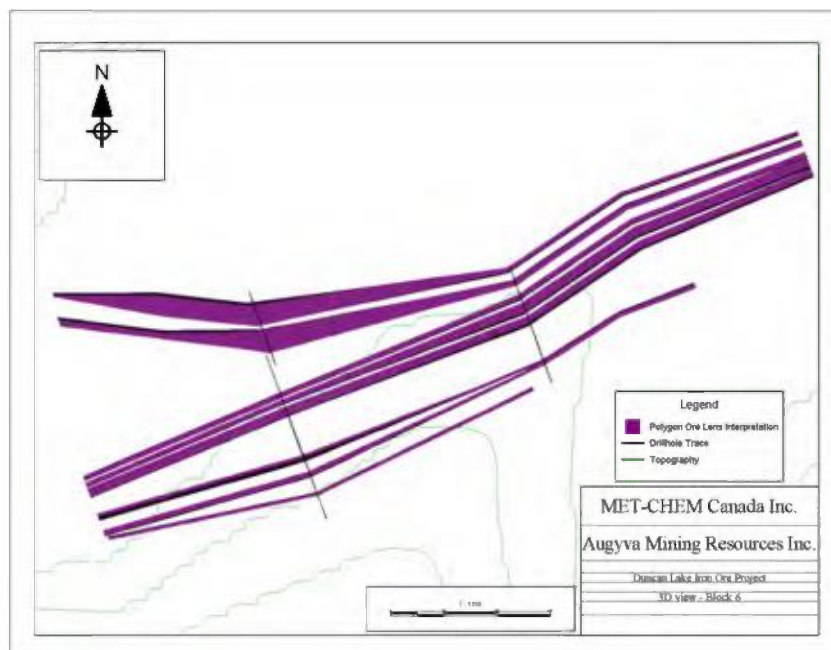


Figure 17.19 – Deposit 6 – Surface Isometric View



18.0 OTHER RELEVANT DATA AND INFORMATION

18.1 Other Studies

Met-Chem is not aware of any other study carried out on DLIOP or any other relevant information.

18.2 Simulation of Added Potential Tonnage

Mineral resource and categories have been discussed in Section 17. However, Augyva has mandated Met-Chem to carry out an evaluation of additional tonnage potentially present in any deposits or inside property limit. In addition to the mineral resource already defined, a simulation of potential tonnage has been realized in lateral or in-depth extensions of the drilled areas.

Methodology used to simulate potential tonnage was based on the current interpretation of polygonal ore lenses by section, but also taking in consideration magnetic response and shapes profiled of drilled sections, and applying same polygonal dimension to the new area without drilling using exclusively the new magnetic field survey profiled. Magnetic susceptibility intensity was also taken into account in comparison to drill results. In drilled area, if ore lenses thickness is too small or if grade is too low, magnetic profiles decreases rapidly. Consequently, magnetic profiled shape is indicative of and iron lenses thickness and grade.

Simulation of the ore lense geometry was applied only if the general characteristic related to the ore lenses is maintained as thickness and high susceptibility value. Thereafter the ore lenses polygonal interpretation simulated by sections, the ore lenses polygons were linked together to produce a 3D solid. 3D solid is used to assign the lithology ore code in the block model.

In fact, the block modelling process is the same one already used in the mineral resource estimation process. The difference is related to the non-mineral resource assignation already codified in the block model, based on the parameters used in the calculation. All block not assigned in the model during the mineral resource assignation with category was re-assigned as only potential tonnage category.

Potential tonnages were outlined on geological sections in lateral continuities and at depth, but outside of the maximum range of ellipsoid used in estimation process. Observation of the actual borehole location on map and sections indicates a very low density drilling at depth and on the same section, which limits the vertical extension assignation of the iron ore lenses in Measured and Indicatives categories. On sections, quantity of boreholes drilled is very limitative and consequently the assignation parameters used limits the quantity of iron ore block previously interpreted. To outline a

mineral resource, a minimum of boreholes is needed to prove continuity. As such, magnetic susceptibility is not considered as an acceptable source of data to define a mineral resource. However, magnetic susceptibility data applied with simulation of iron ore lenses interpretation have a good chance to define additional tonnage that will eventually be drilled.

Table 18.1 presents results of the simulated technique to define additional potential tonnage. Deposits 1 and 3 have better chance to increase substantially with the potential tonnage. Major reasons to this are related to the very long undrilled extension of Deposit 1 and on the very partial and limited drilling information data on Deposit 3, both associated with high magnetic susceptibility anomalies. Additional potential tonnage is in range of 400 to 500 million of tonnes. Grade range varies from 23 to 27 % iron, considered and estimated in range grade of the Inferred category.

Table 18.1 – Simulation of Potential Added Tonnage by Deposit

Simulation by Deposit	Range of Potential Tonnage* (M of Tonnes)	
	MIN	MAX
Deposit 1	100	120
Deposit 2	20	30
Deposit 3	160	180
Deposit 4	30	50
Deposit 5	40	60
Deposit 6	50	60
Total	400	500
<i>* Tonnes are rounded by millions</i>		
<i>Density = 3.2</i>		

Figure 18.1 shows section example of the mineral resource categories and the relation with the potential tonnage increased at depth. Geological section 3300 is located on Deposit 1. Block color indicates type of mineral resource by categories. Blocks of Mineral Resource Measured category are in red color, in orange color for Indicated category, and in green for the Inferred category. Finally, block of the potential tonnage increased are in blue color and mainly located at depth in this section example.

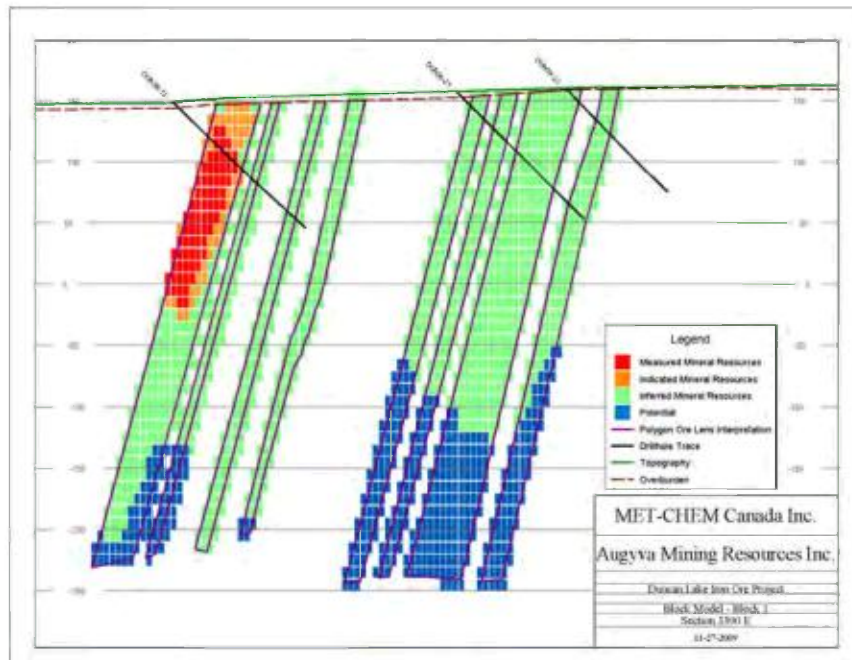
18.3 Environmental Considerations

There are no environmental liabilities mentioned in GESTIM management system, and no known environmental concerns mentioned on the DLIOP. Augyva will ensure that all exploration programs on the property will be conducted in an environmental manner.

Met-Chem is not aware of any environmental liabilities on the site. During site visit, few drill set-ups were visited and appeared clean. No field camp was installed for 2008-2009 drilling campaign. Field disturbances were mainly related to small trails and tractor access trails for the 2008-2009 drilling program. Mature trees were rare, cut and piled along the trail.

Few drilling artefacts of the 1973 drilling campaign were observed mainly as drill rods and casing. It should be easy to clean this material. Contaminated soil by oil or gasoline was not observed.

Figure 18.1 – Example of the Potential Added Tonnage at Depth



19.0 INTERPRETATION AND CONCLUSIONS

The 2008-2009 drilling program confirms presence of important iron ore deposits and allows sufficient data information to produce a new mineral resource estimate under the Canadian NI 43-101 rules. Historical information and data related to 1973 drilling campaign has been also investigated and considered adequate to be used in this mineral resource estimate.

Metallurgical tests by Davis Tube method and chemical analysis of the products indicate that beneficiation process can be achieved to reach steelmaker standards. However, the iron ore head grade is considered low and the grain size liberation very fine to compare with actual mining operations in North America (U.S. and Canada).

Based on previous reports and current data review and new mineral resources modeling, the following elements characterize the DLIOP:

- Distributed on 6 Deposits named 1 to 6;
- Close to the main highway and Radisson City in north of Québec;
- Elongated and continuous iron ore lenses with local thickening relative to interpreted squeeze isoclinal folding;
- Duplication of the iron ore lenses associated to macro and micro folding;
- Long and continuous deposits at relatively steep bedding angle;
- Low knowledge of the vertical continuity of the ore lenses at depth, but looking important with preliminary result;
- Mainly magnetite iron ore type, associated to sediment and metavolcanic environment;
- Low grade iron ore or taconite type that needs beneficiation process to reach concentrate grade;
- Fine grained liberation process may need pelletizing process.

19.1 Mineral Resources Categories

The new mineral resource estimation in conformity with NI 43-101 rules, following a major drilling campaign initiated in 2008 and completed in 2009, indicates the following tonnage in Measured, Indicated and Inferred mineral resource categories. With a cut-off value of 16% Total Fe proposed by Met-Chem, mineral resources by deposit are as follows in the Measured and Indicated categories (Table 19.1) and the Inferred category (Table 19.2).

Tonnage in the Measured and Indicated categories respectively at 5.7 and 25.6 millions of tonnes are very low and attributed to drill spacing pattern and very low drilling density at depth on the same section, in relation to parameters used in the grade estimation process. In the Measured and Indicated categories, minimum of four (4) and three (3) boreholes are needed to prove lateral continuity in 3 dimensions.

In the total Measured and Indicated category, Deposit 1 contains higher tonnage mainly because this deposit was mostly drilled in 2008-2009. For the total Measured and Indicated categories, mineral resources are estimated to 31.3 millions of tonnes at 23.74% FeT. Low tonnage in Measured and Indicated mineral resource categories is related to low density drilling data.

In the Inferred mineral category, mineral resources are estimated at 821 millions of tonnes at 24.5% FeT. In the Inferred category, Deposits 1, 3 and 4 have more tonnage to compare to Deposits 2 and 5.

Table 19.1 – Measured and Indicated Mineral Resource Category

	Cut-off: 16% Fe_{Total}	
Measured Mineral Resources	Tonnes *	Fe _{Total} (%)
Deposit 1	4,090,000	21.89
Deposit 2	902,000	27.41
Deposit 3	0	
Deposit 4	708,000	26.19
Deposit 5	0	
Deposit 6	0	
Total	5,700,000	23.29
Indicated Mineral Resources	Tonnes *	Fe _{Total} (%)
Deposit 1	13,443,000	21.80
Deposit 2	4,931,000	27.44
Deposit 3	0	
Deposit 4	7,241,000	25.20
Deposit 5	0	
Deposit 6	0	
Total	25,615,000	23.84
Total (Measured + Indicated)	Tonnes *	Fe _{Total} (%)
Deposit 1	17,533,000	21.82
Deposit 2	5,833,000	27.44
Deposit 3	0	
Deposit 4	7,949,000	25.29
Deposit 5	0	
Deposit 6	0	
Total	31,315,000	23.74

*Tonnes are rounded

Table 19.2 – Inferred Mineral Resource Category

Inferred Mineral Resources	Tonnes*	Fe _{Total} (%)
Deposit 1	283,857,000	23.71
Deposit 2	78,795,000	26.90
Deposit 3	154,724,000	24.83
Deposit 4	192,336,000	24.33
Deposit 5	32,658,000	24.48
Deposit 6	78,765,000	25.35
Total	821,135,000	24.56

19.2 Simulation of Potential Added Tonnage

In addition to the official mineral resource category and considered as a relevant information for Augyva, a simulation of the additional potential tonnage has also been investigated in the lateral and in-depth continuity of the deposits using magnetic susceptibility.

Simulation of the potential added tonnage is conceptual in nature. It has been realized using geological interpretation on sections, based on drilling results, linked with new ground magnetic survey profiled interpreted on sections. The results of this survey were adjusted using intensity profile and shape of the magnetic susceptibility compared with the previous drilled and known drilled sections.

This type of data and information are insufficient to classify any tonnage as Mineral Resource under NI 43-101 rules and should not be considered as such. The term used as “potential tonnage” is also not part of official Mineral Resource category under NI 43-101 rules and concerning CIM Mineral Resource definition.

However, the main objective of the tonnage simulation is to outline potential, lengths, widths, depth and dips of the iron formation lenses contained in the property. This approach could add value to the exploration process by producing higher quality drill targets to convert potential tonnage to mineral resource in near term.

The potential tonnage is conceptual in nature, and it is uncertain that further exploration will result in a target being delineated as a mineral resource. However, the fact that potential tonnage outlined is in continuity of known and drilled areas, and linked to geophysical magnetic field response increase the chance to identify new potential resources.

Simulation of the potential added tonnage in all deposits is estimated to be in range of 400 to 500 million of tonnes, and estimated in the same grade range of total iron. Table 19.3 presents results of simulated and added tonnage by deposit.

Table 19.3 – Simulation of Potential Tonnage

Simulation by Deposit	Range of Potential Tonnage* (M of Tonnes)	
	MIN	MAX
Deposit 1	100	120
Deposit 2	20	30
Deposit 3	160	180
Deposit 4	30	50
Deposit 5	40	60
Deposit 6	50	60
Total	400	500
<i>* Tonnes are rounded by millions</i>		
<i>Density = 3.2</i>		

19.3 Conclusions

The 2008-2009 drilling campaign permits to convert historical mineral resources into mineral resources estimation under NI 43-101 rules. However, the tonnage is mainly outlined in the Inferred category due to insufficient drilling. Ore lenses geometries within six deposits have been relatively well outlined and defined by drilling linked to magnetic susceptibility data, and only systematic drilling will permit to convert mineral resources in Indicated and Measured categories.

Metallurgical tests performed indicate good quality product at finer grain size liberation process. No major deleterious or contaminant has been detected in the concentrate product.

The tonnage is important, but the iron ore grade is considered to be in the low range for a Taconite deposit to compare with other actual mining operations in North America.

Location of deposits is favourable, close to Radisson City with an easy access from highway. Hydro-electricity infrastructure are also at proximity and available and as energy cost is a crucial point in the development of this type of iron ore Taconite deposit, it represents a definitive advantage.

Augyva has conducted a major exploration drilling program in 2008-2009, using QA/QC protocol and control, with professionalism and experienced peoples. Met-Chem is pleased to acknowledge the helpful cooperation of Augyva management, which made all requested data available, and responded quickly and openly to all questions and queries.

20.0 RECOMMENDATIONS

DLIOP's deposits were relatively well outlined by drilling and geophysical surveys realized up to now. Additional drilling will be needed to convert Inferred Resources into Indicated or Measured categories. In addition, there is a strong potential to define additional tonnage in the deposits extensions.

20.1 Drilling Campaign

Met-Chem is of opinion to drill in priority Deposits 3 and 4, followed by Deposits 6 and 1. Drill pattern of 200 m between sections and 100 m on sections should be adequate to define Indicated and Measured mineral resources categories in this type of deposit. This will have to be confirmed by further geostatistical studies when more drilling data will be available. For Deposits 2 and 5, potential to increase significantly tonnage and grade are limited.

Deposits 3, 4, and 6 present a synform structure which is favourable for tonnage increase in relation to stripping ratio. It should be important to better define the vertical extension of these structures, and the axial plunge of the synform structures.

Deposit 1 represents also a good drilling target. There is also a possibility of multi-synclines and anticlines structures, which might create thickening of the iron ore lenses. Vertical continuity appears to be very important. However, potential to eventually transfer resources into reserves at depth will be limited by economical aspects and mainly restricted by the ore to waste stripping ratio.

20.2 Mapping and Main Structural Features

Different geological features are observed on the eastern part compared to the western sector, divided by the highway location road.

Deposits 1, 2, 5 appear to be long and continuous. Ore lenses duplication and thickening are present and probably associated with major folding, which extended at depth, and squeezed micro isoclinal folding with steep axial plunging that creates local thickening of the iron ore lenses.

Deposit 3, 4 and 6 present very different geological structures and susceptibility magnetic features, are associated to gentle isoclinal folding seated on rock basement (granite), and are also associated to micro thickening of the ore lenses.

A close review of the previous mapping linked with a new mapping of the structural features will help to better understand plunge of the axial fold, and better defined synform and antiform structures. Generally, a synform structure with shallow axial plunging is favourable to vertical tonnage increase and to minimize ore/waste stripping



ratio. Met-Chem recommends starting detail mapping on Deposits 4, and thereafter on 6 and 3.

20.3 Geotechnical Data

Met-Chem recommends initiation of a geotechnical study to assess rock quality to support final pit wall and to allow better planning of eventual scooping and prefeasibility stage studies. The hand collected geotechnical data of 2008-2009 drilling campaign needs to be computerized. Hydrogeological knowledge will be also important.

20.4 Previous Exploration and Technical Information

Met-Chem recommends computerizing all previous exploration work in numerical format such as DXF or with other mining software, using the actual coordinate reference system. Previous exploration works to digitize are outcrop geometry of different rock types, structural features such as direction and dip, and previous lithological interpretation.

20.5 QA/QC Control

It is recommended to increase control blank samples randomly, but a large portion of the blanks should be within or immediately after expected high-grade samples. Pure quartzite rock is generally taken for blank and may be found closer to the deposit area as mentioned in historical report.

It is also important to increase the total number of QA/QC control samples at 10% of the total samples analyzed.

For the sample numbering, it is recommended to use a simple numbering sequence with a unique number for each sample, including control samples.

Corem assay results appear slightly higher than ALX-Chemex's result for the same interval. It should be important to investigate the reasons, using a third independent laboratory for assay recheck if necessary. For the present mineral resource estimation, Corem's assay results were not used in the grade calculation process.

20.6 Rock Code Assignment

It is important that core description and log process be uniform, by setting-up a fixed lithological description nomenclature. The actual variability for lithological codes observed in database makes impossible to realize statistical studies and comparison between different rock types. It is recommended to limit iron ore rock codes to only two or three (3) facies.

In addition, sediment and tuff rock types must be better discriminated as they are also associated with low grade iron ore formation. Use of chemical assays elements (major

and minor elements) linked with susceptibility magnetic survey on core may help to resolve the identification problems in addition to core description.

20.7 Magnetic Susceptibility Measurements on Core

It is recommended to systematically realizing magnetic susceptibility on core with instrument GDD MPP-EM2S, with continuous reading method or at least at 0.5 m interval. The survey is inexpensive and can be quickly done.

20.8 Database Integrity and Protection

Data integrity and information should be kept and protected by limited access and controlled by only one senior geologist keeping uniformity data. However, this information should be accessible to Augyva's management as well as technical personnel. It is recommended to use specialised software for data entries and in validation process.

20.9 Metallurgical Tests

With regard to the current metallurgical test results obtained, Met-Chem suggests initiating some metallurgical tests to look at others aspects such as ore liberation at different grain sizes and a multi stage grinding possibility, to limit energy consumption by avoiding to grind all material at the same size and to optimize process flow sheet, for iron recovery, and to increase the final grade of ore concentrate. If very fine grains are needed for the metallurgical process, pelletizing process can also be verified.

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CERTIFICATE OF AUTHOR

I, Raynald Jean, Geo., do hereby certify that:

I am a Senior Geologist with Met-Chem Canada Inc. (Met-Chem) with an office situated at Suite 300, 555 René-Lévesque Boulevard West, Montréal, Canada;

I am a graduate of Laval University in Québec City with B.Sc. in Geology obtained in 1976;

I am a member in good standing of the "Ordre des Géologues du Québec" (135);

I have worked as a geologist continuously since my graduation from university and I have worked directly on iron ore mineral with two major mining companies in Québec and Newfoundland provinces for more than 16 years;

I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined by NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101;

I have participated in the preparation of the report entitled "Technical Report NI 43-101 on Mineral Resources of the Duncan Iron Ore Project" dated January 2010. I have participated and worked on all sections and sections of the report and reviewed the entire report.

I visited the Duncan Lake Iron Ore Project and property from September 14 to 16, 2009. I have reviewed all available documents, technical data regarding to Augyva's historical data and previous Compilation Report prepared by Duncan Lake Iron Ore Mines, deposited exploration work under the MRNF of Quebec government, as well as GobiMin's Technical Reports filed under SEDAR;

I have not had prior involvement with Augyva's Duncan Lake Iron Ore Project and property that is the subject of the Technical Report;

I am not aware of any material fact or material change with respect to the subject matter of the Technical Report, which is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading;

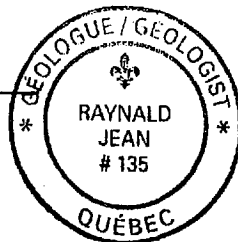
I am independent of the issuer as defined in section 1.4 of NI 43-101;

I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form;

I consent to the filing of the Technical Report with any Canadian stock exchange and other securities regulatory authority and any publication by them for regulatory purposes of the technical report.

This third day of February 2010.

Raynald Jean
Raynald Jean, géo.
Signed
2012-11-13



I have not had prior involvement with Augyva's Duncan Lake Iron Ore Project and property that is the subject of the Technical Report;

I am not aware of any material fact or material change with respect to the subject matter of the Technical Report, which is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading;

I am independent of the issuer as defined in section 1.4 of NI 43-101;

I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form;

I consent to the filing of the Technical Report with any Canadian stock exchange and other securities regulatory authority and any publication by them for regulatory purposes of the technical report.

This third day of February 2010.

Raynald Jean, géo.

22.0 REFERENCES

The following sources of information on the Duncan Lake Iron Ore Project were consulted for the current study.

22.1 Reports

The following documentation was either made available by Augyva or retrieved from MRNF as GM files:

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- Ingham, W.N., Report on Geological Survey and Economic Potential of Iron Ores – Duncan Range Iron Ore Mines Limited, 1956, (GM7692);
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22.2 Reports from SEDAR Website

Augyva Mining Resources Inc., 2008, NI 43-101 Technical Report on the Duncan Lake Property, prepared by Geologica Groupe Conseil;

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22.3 Sources of Information on Iron Ore Genesis Studies

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Appendix A – Land Holding - Mining Title

INDEX #	SNRC #	ROW #	COLUMN 3	PART (Nb)	AREA (Ha)	TYPE	TITLE #	STATUS	DATE REGISTRATION	DATE EXPIRY	LEASE RENEWAL	EXCESS WORK (\$)	REQUIRED WORK (\$)	REQUIRED FEES (\$)	TITLE HOLDERS
1	33F05	28	24	1	29.98	CDC	26739	Actif	16/08/2004	15/08/2010	2	1,376.47	800	96	Ressources minières Augyva Inc., 100 %
2	33F05	28	25	1	45.94	CDC	26740	Actif	16/08/2004	15/08/2010	2	1,824.49	900	107	Ressources minières Augyva Inc., 100 %
3	33F05	28	26	0	51.32	CDC	26741	Actif	16/08/2004	15/08/2010	2	1,638.43	900	120	Ressources minières Augyva Inc., 100 %
4	33F05	28	27	0	51.31	CDC	26742	Actif	16/08/2004	15/08/2010	2	0.00	900	120	Ressources minières Augyva Inc., 100 %
5	33F05	28	28	0	51.31	CDC	26743	Actif	16/08/2004	15/08/2010	2	0.00	900	120	Ressources minières Augyva Inc., 100 %
6	33F05	29	26	1	11.14	CDC	26744	Actif	16/08/2004	15/08/2010	2	764.14	320	26	Ressources minières Augyva Inc., 100 %
7	33F05	29	27	1	27.37	CDC	26745	Actif	16/08/2004	15/08/2010	2	1,248.41	800	96	Ressources minières Augyva Inc., 100 %
8	33F05	29	28	1	43.59	CDC	26746	Actif	16/08/2004	15/08/2010	2	1,639.19	800	96	Ressources minières Augyva Inc., 100 %
9	33F05	29	31	0	51.30	CDC	26747	Actif	16/08/2004	15/08/2010	2	524.70	900	120	Ressources minières Augyva Inc., 100 %
10	33F05	29	32	0	51.30	CDC	26748	Actif	16/08/2004	15/08/2010	2	524.70	900	120	Ressources minières Augyva Inc., 100 %
11	33F05	29	33	0	51.30	CDC	26749	Actif	16/08/2004	15/08/2010	2	524.70	900	120	Ressources minières Augyva Inc., 100 %
12	33F05	30	32	1	51.08	CDC	26750	Actif	16/08/2004	15/08/2010	2	522.98	900	120	Ressources minières Augyva Inc., 100 %
13	33F05	30	33	0	51.29	CDC	26751	Actif	16/08/2004	15/08/2010	2	524.51	900	120	Ressources minières Augyva Inc., 100 %
14	33F12	3	34	1	50.28	CDC	26752	Actif	12/08/2004	11/08/2010	2	505.32	900	120	Ressources minières Augyva Inc., 100 %
15	33F12	3	35	1	37.53	CDC	26753	Actif	12/08/2004	11/08/2010	2	313.07	800	96	Ressources minières Augyva Inc., 100 %
16	33F12	3	36	3	21.38	CDC	26754	Actif	12/08/2004	11/08/2010	2	166.23	320	26	Ressources minières Augyva Inc., 100 %
17	33F12	4	35	0	51.25	CDC	26755	Actif	12/08/2004	11/08/2010	2	449.46	900	120	Ressources minières Augyva Inc., 100 %
18	33F12	4	36	0	51.25	CDC	26756	Actif	12/08/2004	11/08/2010	2	10.05	900	120	Ressources minières Augyva Inc., 100 %
19	33F12	6	44	1	45.58	CDC	26757	Actif	12/08/2004	11/08/2010	2	415.64	900	107	Ressources minières Augyva Inc., 100 %
20	33F12	6	46	1	13.62	CDC	26758	Actif	12/08/2004	11/08/2010	2	98.78	320	26	Ressources minières Augyva Inc., 100 %
21	33F12	7	46	0	51.22	CDC	26759	Actif	12/08/2004	11/08/2010	2	523.18	900	120	Ressources minières Augyva Inc., 100 %
22	33F12	7	47	0	51.22	CDC	26760	Actif	12/08/2004	11/08/2010	2	523.18	900	120	Ressources minières Augyva Inc., 100 %
23	33F12	6	42	0	51.23	CDC	30280	Actif	13/08/2004	12/08/2010	2	523.18	900	120	Ressources minières Augyva Inc., 100 %
24	33F12	6	43	0	51.23	CDC	30281	Actif	13/08/2004	12/08/2010	2	523.18	900	120	Ressources minières Augyva Inc., 100 %
25	33F12	6	48	0	51.23	CDC	30282	Actif	13/08/2004	12/08/2010	2	523.18	900	120	Ressources minières Augyva Inc., 100 %
26	33F12	7	42	2	50.11	CDC	30283	Actif	13/08/2004	12/08/2010	2	502.09	900	120	Ressources minières Augyva Inc., 100 %
27	33F12	7	43	0	51.22	CDC	30284	Actif	13/08/2004	12/08/2010	2	523.18	900	120	Ressources minières Augyva Inc., 100 %
28	33F12	7	44	0	51.22	CDC	30285	Actif	13/08/2004	12/08/2010	2	523.18	900	120	Ressources minières Augyva Inc., 100 %
29	33F12	7	45	0	51.22	CDC	30286	Actif	13/08/2004	12/08/2010	2	523.18	900	120	Ressources minières Augyva Inc., 100 %
30	33F12	7	48	0	51.22	CDC	30287	Actif	13/08/2004	12/08/2010	2	523.18	900	120	Ressources minières Augyva Inc., 100 %
31	33F12	12	50	0	51.17	CDC	30288	Actif	13/08/2004	12/08/2010	2	522.23	900	120	Ressources minières Augyva Inc., 100 %
32	33F12	12	51	0	51.17	CDC	30289	Actif	13/08/2004	12/08/2010	2	522.23	900	120	Ressources minières Augyva Inc., 100 %
33	33F12	12	52	0	51.17	CDC	30290	Actif	13/08/2004	12/08/2010	2	522.23	900	120	Ressources minières Augyva Inc., 100 %
34	33F12	6	45	2	29.66	CDC	30485	Actif	26/07/2004	25/07/2010	2	163.54	800	96	Ressources minières Augyva Inc., 100 %
35	33F12	6	47	2	36.07	CDC	30486	Actif	26/07/2004	25/07/2010	2	285.33	800	96	Ressources minières Augyva Inc., 100 %
36	33F05	24	14	0	51.36	CDC	56798	Actif	15/02/2005	14/02/2011	2	0.00	900	120	Ressources minières Augyva Inc., 100 %
37	33F05	24	15	0	51.36	CDC	56799	Actif	15/02/2005	14/02/2011	2	0.00	900	120	Ressources minières Augyva Inc., 100 %
38	33F05	25	16	0	51.35	CDC	56800	Actif	15/02/2005	14/02/2011	2	0.00	900	120	Ressources minières Augyva Inc., 100 %
39	33F05	25	17	0	51.35	CDC	56801	Actif	15/02/2005	14/02/2011	2	0.00	900	120	Ressources minières Augyva Inc., 100 %
40	33F05	25	18	0	51.35	CDC	56802	Actif	15/02/2005	14/02/2011	2	0.00	900	120	Ressources minières Augyva Inc., 100 %
41	33F05	25	19	0	51.35	CDC	56803	Actif	15/02/2005	14/02/2011	2	739.90	900	120	Ressources minières Augyva Inc., 100 %
42	33F05	26	19	0	51.34	CDC	56804	Actif	15/02/2005	14/02/2011	2	1,009.41	900	120	Ressources minières Augyva Inc., 100 %
43	33F05	26	20	0	51.34	CDC	56805	Actif	15/02/2005	14/02/2011	2	1,954.41	900	120	Ressources minières Augyva Inc., 100 %
44	33F05	26	21	0	51.34	CDC	56806	Actif	15/02/2005	14/02/2011	2	2,359.40	900	120	Ressources minières Augyva Inc., 100 %
45	33F05	26	22	0	51.34	CDC	56807	Actif	15/02/2005	14/02/2011	2	2,359.40	900	120	Ressources minières Augyva Inc., 100 %
46	33F05	27	21	0	51.33	CDC	56808	Actif	15/02/2005	14/02/2011	2	2,358.91	900	120	Ressources minières Augyva Inc., 100 %
47	33F05	27	22	0	51.33	CDC	56809	Actif	15/02/2005	14/02/2011	2	3,367.75	900	120	Ressources minières Augyva Inc., 100 %
48	33F05	27	23	0	51.33	CDC	56810	Actif	15/02/2005	14/02/2011	2	2,358.91	900	120	Ressources minières Augyva Inc., 100 %
49	33F05	27	24	0	51.33	CDC	56811	Actif	15/02/2005	14/02/2011	2	2,358.91	900	120	Ressources minières Augyva Inc., 100 %
50	33F05	24	16	0	51.36	CDC	58019	Actif	02/03/2005	01/03/2011	2	0.00	900	120	Ressources minières Augyva Inc., 100 %
51	33F05	24	17	0	51.36	CDC	58020	Actif	02/03/2005	01/03/2011	2	0.00	900	120	Ressources minières Augyva Inc., 100 %
52	33F05	26	23	0	51.34	CDC	58022	Actif	02/03/2005	01/03/2011	2	826.40	900	120	Ressources minières Augyva Inc., 100 %
53	33F05	28	22	1	28.52	CDC	58023	Actif	02/03/2005	01/03/2011	2	0.00	800	96	Ressources minières Augyva Inc., 100 %
54	33F05	28	23	1	13.73	CDC	58024	Actif	02/03/2005	01/03/2011	2	491.20	320	26	Ressources minières Augyva Inc., 100 %
55	33F12	1	35	1	50.51	CDC	62374	Actif	12/04/2005	11/04/2011	2	509.69	900	120	Ressources minières Augyva Inc., 100 %
56	33F12	1	36	0	51.28	CDC	62375	Actif	12/04/2005	11/04/2011	2	524.32	900	120	Ressources minières Augyva Inc., 100 %
57	33F12	1	37	0	51.28	CDC	62376	Actif	12/04/2005	11/04/2011	2	524.32	900	120	Ressources minières Augyva Inc., 100 %
58	33F12	2	37	5	35.37	CDC	62377	Actif	12/04/2005	11/04/2011	2	235.55	800	96	Ressources minières Augyva Inc., 100 %
59	33F05	30	30	1	24.71	CDC	62385	Actif	12/04/2005	11/04/2011	2	309.49	320	26	Ressources minières Augyva Inc., 100 %
60	33F05	29	34	0	51.30	CDC	62386	Actif	12/04/2005	11/04/2011	2	524.70	900	120	Ressources minières Augyva Inc., 100 %
61	33F05	29	35	0	51.30	CDC	62387	Actif	12/04/2005	11/04/2011	2	524.70	900	120	Ressources minières Augyva Inc., 100 %
62	33F05	30	31	1	40.91	CDC	62388	Actif	12/04/2005	11/04/2011	2	377.29	800	96	Ressources minières Augyva Inc., 100 %
63	33F05	30	34	0	51.29	CDC	62389	Actif	12/04/2005	11/04/2011	2	74.51	900	120	Ressources minières Augyva Inc., 100 %
64	33F05	30	35	0	51.29	CDC	62390	Actif	12/04/2005	11/04/2011	2	524.51	900	120	Ressources minières Augyva Inc., 100 %
65	33F05	30	36	0	51.29	CDC	62391	Actif	12/04/2005	11/04/2011	2	524.51	900	120	Ressources minières Augyva Inc., 100 %
66	33F05	24	18	0	51.36	CDC	2024551	Actif	12/09/2006	11/09/2010	1	0.00	450	120	Ressources minières Augyva Inc., 100 %
67	33F05	24	19	0	51.36	CDC	2024552	Actif	12/09/2006	11/09/2010	1	0.00	450	120	Ressources minières Augyva Inc., 100 %
68	33F05	25	20	0	51.35	CDC	2024553	Actif	12/09/2006	11/09/2010	1	0.00	450	120	Ressources minières Augyva Inc., 100 %

Augyva Mining Resources Inc.

Technical Report 43-101 on Mineral Resources of the Duncan Lake Iron Ore Project

INDEX #	SNRC #	ROW #	COLUMN 3	PART (Nb)	AREA (Ha)	TYPE	TITLE #	STATUS	DATE REGISTRATION	DATE EXPIRY	LEASE RENEWAL	EXCESS WORK (\$)	REQUIRED WORK (\$)	REQUIRED FEES (\$)	TITLE HOLDERS
69	33F05	25	21	0	51.35	CDC	2024554	Actif	12/09/2006	11/09/2010	1	0.00	450	120	Ressources minières Augyva Inc., 100 %
70	33F05	25	22	0	51.35	CDC	2024555	Actif	12/09/2006	11/09/2010	1	0.00	450	120	Ressources minières Augyva Inc., 100 %
71	33F05	26	24	0	51.34	CDC	2024556	Actif	12/09/2006	11/09/2010	1	0.00	450	120	Ressources minières Augyva Inc., 100 %
72	33F05	27	25	0	51.33	CDC	2024557	Actif	12/09/2006	11/09/2010	1	0.00	450	120	Ressources minières Augyva Inc., 100 %
73	33F05	24	20	0	51.36	CDC	2172006	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
74	33F05	24	21	0	51.36	CDC	2172007	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
75	33F12	3	45	0	51.26	CDC	2172008	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
76	33F12	4	45	0	51.25	CDC	2172009	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
77	33F12	4	46	0	51.25	CDC	2172010	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
78	33F12	4	47	0	51.25	CDC	2172011	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
79	33F12	4	48	0	51.25	CDC	2172012	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
80	33F12	5	42	2	26.84	CDC	2172013	Actif	23/09/2008	22/09/2010	0	0.00	120	96	Ressources minières Augyva Inc., 100 %
81	33F12	5	43	2	10.70	CDC	2172014	Actif	23/09/2008	22/09/2010	0	0.00	48	26	Ressources minières Augyva Inc., 100 %
82	33F12	5	48	0	51.24	CDC	2172015	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
83	33F12	6	40	0	51.23	CDC	2172016	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
84	33F12	6	41	0	51.23	CDC	2172017	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
85	33F12	7	41	0	51.22	CDC	2172018	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
86	33F12	11	49	0	51.18	CDC	2172019	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
87	33F12	12	49	0	51.17	CDC	2172020	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
88	33F12	12	53	0	51.17	CDC	2172021	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
89	33F12	13	50	0	51.16	CDC	2172022	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
90	33F12	13	51	0	51.16	CDC	2172023	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
91	33F12	13	52	0	51.16	CDC	2172024	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
92	33F12	13	53	0	51.16	CDC	2172025	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
93	33F12	4	37	1	50.99	CDC	2172026	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
94	33F12	4	38	1	40.27	CDC	2172027	Actif	23/09/2008	22/09/2010	0	0.00	120	96	Ressources minières Augyva Inc., 100 %
95	33F12	4	44	1	45.59	CDC	2172028	Actif	23/09/2008	22/09/2010	0	0.00	135	107	Ressources minières Augyva Inc., 100 %
96	33F12	5	40	1	51.24	CDC	2172029	Actif	23/09/2008	22/09/2010	0	0.00	135	120	Ressources minières Augyva Inc., 100 %
97	33F12	5	41	1	43.01	CDC	2172030	Actif	23/09/2008	22/09/2010	0	0.00	120	96	Ressources minières Augyva Inc., 100 %
98	33F12	5	46	1	26.78	CDC	2172031	Actif	23/09/2008	22/09/2010	0	0.00	120	96	Ressources minières Augyva Inc., 100 %
99	33F12	5	47	1	43.45	CDC	2172032	Actif	23/09/2008	22/09/2010	0	0.00	120	96	Ressources minières Augyva Inc., 100 %
					4615.49							45,135.73	61,333.00	10,941.00	

Appendix B – Photos of Borehole Collar Locations – Deposit 1

DUN08-01 Collar Location



DUN08-08 Collar Location



DUN08-13 Collar Location



DUN08-17 Collar Location



DUN08-14 Collar Location



Appendix C – Photos of Borehole Collar Locations – Deposit 2

DUN09-38



DUN09-39



DUN09-48



DUN09-49



DUN09-52



Appendix E – Photos of Borehole Collar Locations – Deposit 4

DUN09-44 Collar Location



DUN09-45 Collar Location



Deposit 2, DUN09-52 (120 m)

DUN09-46 Collar Location



Appendix F – Control Recheck Independent Samples Realized by Met-Chem
Corem Laboratory Result

Ressources Minières Augyva Inc.

Georges Yvan Gagnon
154, rue des Cascades

La Macaza, Québec
J0T 1R0

Ce rapport contient des renseignements protégés et confidentiels à l'intention du destinataire. Les résultats ne se rapportent qu'aux échantillons soumis à l'analyse. Cette version remplace et annule toute version antérieure, le cas échéant. * Analyse faite par un sous-traitant.

Numéro COREM :	28845- 1	28845- 2	28845- 3
Nature :	SOLIDES	SOLIDES	SOLIDES
Désignation :	DUN-08-04 14366	DUN-09-33 14367	DUN-09-36 14368
A01- 2 Analyse	2009-10-06	2009-10-06	2009-10-06
A01- 2 SiO ₂	44.2 %	50.0 %	51.0 %
A01- 2 Al ₂ O ₃	2.83 %	4.22 %	6.18 %
A01- 2 Fe ₂ O ₃	45.4 %	37.3 %	31.7 %
A01- 2 MgO	2.63 %	2.12 %	3.84 %
A01- 2 CaO	2.18 %	1.96 %	3.78 %
A01- 2 Na ₂ O	0.59 %	0.70 %	1.67 %
A01- 2 K ₂ O	2.12 %	1.81 %	1.34 %
A01- 2 TiO ₂	0.13 %	0.15 %	0.28 %
A01- 2 MnO	0.04 %	0.05 %	0.08 %
A01- 2 P ₂ O ₅	0.14 %	0.09 %	0.22 %
A01- 2 Cr ₂ O ₃	0.01 %	< 0.01 %	0.02 %
A01- 2 PAF	0.20 %	1.59 %	0.35 %
A21- 2 Analyse	2009-10-07	2009-10-07	2009-10-07
A21- 2 SiO ₂	44.6 %	50.1 %	51.2 %
A21- 2 Al ₂ O ₃	2.84 %	4.27 %	6.19 %
A21- 2 Fe ₂ O ₃	45.1 %	37.1 %	31.5 %
A21- 2 MgO	2.62 %	2.14 %	3.84 %
A21- 2 CaO	2.19 %	1.95 %	3.75 %
A21- 2 Na ₂ O	0.56 %	0.66 %	1.66 %
A21- 2 K ₂ O	2.13 %	1.83 %	1.36 %
A21- 2 TiO ₂	0.12 %	0.15 %	0.28 %
A21- 2 MnO	0.05 %	0.06 %	0.09 %
A21- 2 P ₂ O ₅	0.13 %	0.08 %	0.20 %
A21- 2 Nb ₂ O ₅	< 0.03 %	< 0.03 %	< 0.03 %
A21- 2 ZrO ₂	< 0.02 %	< 0.02 %	< 0.02 %
A21- 2 Ta ₂ O ₅	< 0.01 %	< 0.01 %	< 0.01 %
A21- 2 BaO	0.080 %	0.048 %	< 0.04 %
A21- 2 Y ₂ O ₃	< 0.003 %	< 0.003 %	< 0.003 %
A21- 2 SrO	< 0.06 %	< 0.06 %	< 0.06 %
A21- 2 ThO ₂	< 0.01 %	< 0.01 %	< 0.01 %
A21- 2 Ce ₂ O ₃	< 0.02 %	< 0.02 %	< 0.02 %
A21- 2 La ₂ O ₃	< 0.02 %	< 0.02 %	< 0.02 %
A21- 2 Nd ₂ O ₃	< 0.03 %	< 0.03 %	< 0.03 %
A21- 2 PAF	0.20 %	1.59 %	0.35 %
P02- 1 Préparation	2009-10-05	2009-10-05	2009-10-05
P02- 1 Conc.	Terminée	Terminée	Terminée
P03- 1 Préparation	2009-10-06	2009-10-06	2009-10-06
P03- 1 Pulv. P	Terminée	Terminée	Terminée

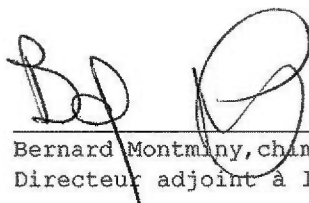
Ce rapport contient des renseignements protégés et confidentiels à l'intention du destinataire. Les résultats ne se rapportent qu'aux échantillons soumis à l'analyse. Cette version remplace et annule toute version antérieure, le cas échéant. * Analyse faite par un sous-traitant.

Georges Yvan Gagnon
100510 Ressources Minières Augyva Inc.

Date de réception : 2009-10-01
Certificat émis le : 2009-10-08

Numéro COREM :	28845- 4	28845- 5
Nature :	SOLIDES	SOLIDES
Désignation :	DUN-09-44 14369	DUN-09-48 14370
<hr/>		
A01- 2 Analyse	2009-10-06	2009-10-06
A01- 2 SiO2	51.5 %	45.3 %
A01- 2 Al2O3	2.92 %	2.02 %
A01- 2 Fe2O3	41.1 %	47.4 %
A01- 2 MgO	1.79 %	1.91 %
A01- 2 CaO	1.78 %	1.69 %
A01- 2 Na2O	0.41 %	0.48 %
A01- 2 K2O	1.71 %	0.77 %
A01- 2 TiO2	0.08 %	0.08 %
A01- 2 MnO	0.03 %	0.03 %
A01- 2 P2O5	0.15 %	0.10 %
A01- 2 Cr2O3	< 0.01 %	< 0.01 %
A01- 2 PAF	-0.36 %	0.07 %
<hr/>		
A21- 2 Analyse	2009-10-07	2009-10-07
A21- 2 SiO2	51.7 %	45.5 %
A21- 2 Al2O3	2.89 %	2.00 %
A21- 2 Fe2O3	40.8 %	47.2 %
A21- 2 MgO	1.81 %	1.94 %
A21- 2 CaO	1.77 %	1.68 %
A21- 2 Na2O	0.39 %	0.45 %
A21- 2 K2O	1.72 %	0.77 %
A21- 2 TiO2	0.08 %	0.07 %
A21- 2 MnO	0.04 %	0.04 %
A21- 2 P2O5	0.13 %	0.08 %
A21- 2 Nb2O5	< 0.03 %	< 0.03 %
A21- 2 ZrO2	< 0.02 %	< 0.02 %
A21- 2 Ta2O5	< 0.01 %	< 0.01 %
A21- 2 BaO	0.049 %	< 0.04 %
A21- 2 Y2O3	< 0.003 %	< 0.003 %
A21- 2 SrO	< 0.06 %	< 0.06 %
A21- 2 ThO2	< 0.01 %	< 0.01 %
A21- 2 Ce2O3	< 0.02 %	< 0.02 %
A21- 2 La2O3	< 0.02 %	< 0.02 %
A21- 2 Nd2O3	< 0.03 %	< 0.03 %
A21- 2 PAF	-0.36 %	0.07 %
<hr/>		
P02- 1 Préparation	2009-10-05	2009-10-05
P02- 1 Conc.	Terminée	Terminée
<hr/>		
P03- 1 Préparation	2009-10-06	2009-10-06
P03- 1 Pulv. P	Terminée	Terminée

Responsable :



Bernard Montminy, chimiste, M.Sc.
Directeur adjoint à la réalisation technique

Ce rapport contient des renseignements protégés et confidentiels à l'intention du destinataire. Les résultats ne se rapportent qu'aux échantillons soumis à l'analyse. Cette version remplace et annule toute version antérieure, le cas échéant. * Analyse faite par un sous-traitant.

Appendix G – Detail Compilation Table of the Mineral Resources

		Cut-off: 16% Fe _{Total}									Cut-off: 18% Fe _{Total}									Cut-off: 20% Fe _{Total}										
Mineral Resources Category		Tonnes*	WR(%)	Fe _{Total} (%)	SiO ₂ (%)	MnO(%)	P ₂ O ₅ (%)	S(%)			Mineral Resources Category		Tonnes*	WR(%)	Fe _{Total} (%)	SiO ₂ (%)	MnO(%)	P ₂ O ₅ (%)	S(%)			Mineral Resources Category		Tonnes*	WR(%)	Fe _{Total} (%)	SiO ₂ (%)	MnO(%)	P ₂ O ₅ (%)	S(%)
Bloc 1	Measured	4,090,000	24.80	21.89	51.54	0.062	0.136	0.51	Bloc 1	Measured	3,447,000	26.12	22.79	51.05	0.059	0.132	0.51	Bloc 1	Measured	2,493,000	28.26	24.23	50.37	0.055	0.123	0.52				
	Indicated	13,443,000	24.67	21.80	51.88	0.059	0.129	0.55		Indicated	11,377,000	25.92	22.65	51.44	0.057	0.125	0.55		Indicated	7,839,000	28.39	24.32	50.62	0.052	0.116	0.55				
	Total (Measured + Indicated)	17,533,000	24.70	21.82	51.80	0.060	0.131	0.54		Total (Measured + Indicated)	14,824,000	25.97	22.68	51.35	0.057	0.127	0.54		Total (Measured + Indicated)	10,333,000	28.35	24.30	50.56	0.052	0.118	0.55				
	Inferred	283,857,000	27.48	23.71	51.19	0.054	0.142	0.53		Inferred	253,353,000	28.64	24.49	50.77	0.053	0.141	0.52		Inferred	217,349,000	29.97	25.40	50.29	0.051	0.140	0.51				
Bloc 2	Measured	Same as Cut-off 18% Fe _{Total}							Bloc 2	Measured	Same as Cut-off 20% Fe _{Total}							Bloc 2	Measured	902,000	32.94	27.41	48.54	0.046	0.129	0.44				
	Indicated	Same as Cut-off 18% Fe _{Total}								Indicated	4,931,000	32.98	27.44	48.63	0.047	0.124	0.48		Indicated	4,924,000	33.00	27.45	48.63	0.047	0.124	0.48				
	Total (Measured + Indicated)	Same as Cut-off 18% Fe _{Total}								Total (Measured + Indicated)	5,833,000	32.98	27.44	48.62	0.047	0.125	0.47		Total (Measured + Indicated)	5,826,000	32.99	27.45	48.62	0.047	0.125	0.47				
	Inferred	Same as Cut-off 18% Fe _{Total}								Inferred	78,795,000	32.18	26.90	49.31	0.048	0.134	0.53		Inferred	78,770,000	32.19	26.90	49.31	0.048	0.134	0.53				
Bloc 3	Measured	0							Bloc 3	Measured	0							Bloc 3	Measured	0										
	Indicated	0						Indicated		0									Indicated	0										
	Total (Measured + Indicated)	0						Total (Measured + Indicated)		0									Total (Measured + Indicated)	0										
	Inferred	154,724,000	29.13	24.83	n/a	n/a	n/a	n/a		Inferred	149,069,000	29.57	25.12	n/a	n/a	n/a	n/a		Inferred	133,767,000	30.60	25.83	n/a	n/a	n/a	n/a				
Bloc 4	Measured	Same as Cut-off 20% Fe _{Total}							Bloc 4	Measured	Same as Cut-off 20% Fe _{Total}							Bloc 4	Measured	708,000	31.15	26.19	n/a	n/a	n/a	n/a				
	Indicated	7,241,000	29.68	25.20	n/a	n/a	n/a	n/a		Indicated	7,175,000	29.79	25.27	n/a	n/a	n/a	n/a		Indicated	7,119,000	29.86	25.32	n/a	n/a	n/a	n/a				
	Total (Measured + Indicated)	7,949,000	29.81	25.29	n/a	n/a	n/a	n/a		Total (Measured + Indicated)	7,883,612	29.91	25.35	n/a	n/a	n/a	n/a		Total (Measured + Indicated)	7,827,611	29.97	25.40	n/a	n/a	n/a	n/a				
	Inferred	192,336,000	28.40	24.33	n/a	n/a	n/a	n/a		Inferred	187,234,000	28.68	24.52	n/a	n/a	n/a	n/a		Inferred	170,458,000	29.45	25.05	n/a	n/a	n/a	n/a				
Bloc 5	Measured	0							Bloc 5	Measured	0							Bloc 5	Measured	0										
	Indicated	0						Indicated		0							Indicated		0											
	Total (Measured + Indicated)	0						Total (Measured + Indicated)		0							Total (Measured + Indicated)		0											
	Inferred	32,658,000	28.63	24.48	49.40	0.072	0.168	0.61		Inferred	32,649,000	28.63	24.49	49.40	0.072	0.168	0.61		Inferred	32,461,000	28.67	24.51	49.39	0.072	0.168	0.61				
Bloc 6	Measured	0							Bloc 6	Measured	0							Bloc 6	Measured	0										
	Indicated	0						Indicated		0							Indicated		0											
	Total (Measured + Indicated)	0						Total (Measured + Indicated)		0							Total (Measured + Indicated)		0											
	Inferred	78,765,000	29.90	25.35	n/a	n/a	n/a	n/a		Inferred	78,190,000	29.98	25.40	n/a	n/a	n/a	n/a		Inferred	71,624,000	30.86	26.00	n/a	n/a	n/a	n/a				

*Tonnes rounded by thousands
 Density = 3.2% Fe_{Total}

*Tonnes rounded by thousands
 Density = 3.2% Fe_{Total}

*Tonnes rounded by thousands
 Density = 3.2% Fe_{Total}

**Appendix H – Deposit 1 – Geological Sections Interpretation and Block Model
Mineral Resources Categories, 24 Sections**

**900E
1000E
1300E
1400E
1600E
1900E
2600E
2700E
2800E
3000E
3100E
3200E
3300E
3400E
3500E
3600E
3800E
3900E
4000E
4100E
4300E
4400E
4600E
4800E**

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DIGITAL FORMAT

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Appendix I – Deposit 2 – Geological Sections Interpretation and Block Model
Mineral Resources Categories, 5 Sections

10900E

11100E

11400E

11500E

12600E

NUMÉRIQUE

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Appendix J – Deposit 3 – Geological Sections Interpretation and Block Model
Mineral Resources Categories, 5 Sections

9300E
10000E
10200E
10300E
10800E

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Appendix K – Deposit 4 – Geological Sections Interpretation and Block Model
Mineral Resources Categories, 10 Sections

16400E
16600E
16900E
17100E
17300E
17400E
17600E
17800E
18100E
18300E

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**Appendix L – Deposit 5 – Geological Sections Interpretation and Block Model
Mineral Resources Categories, 6 Sections**

1200E

1800E

2600E

3000E

3400E

4400E

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Appendix M – Deposit 6 – Geological Sections Interpretation and Block Model
Mineral Resources Categories, 2 Sections

700E
1180E