# mercotor GEOLOGICAL SERVICES

## NI 43-101 TECHNICAL REPORT ON THE LABRADOR WEST IRON PROJECT

## NEWFOUNDLAND AND LABRADOR, CANADA

Prepared For:

## **High Tide Resources Corp.**

Suite 902 - 18 King Street East Toronto, Ontario, M5C 1C4 Canada

**Report Authors:** 

Alan Philippe, B.Sc., P.Geo.

## and

Peter Webster, B.Sc., P.Geo.

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## Report prepared for

| Client Name   | High Tide Resources Corp.   |
|---------------|---|
| Project Name  | Labrador West Iron Project  |
| Contact Name  | Steven Roebuck  |
| Contact Title | President   |
| Office        | Suite 902 - 18 King Street East, Toronto, Ontario, M5C 1C4 Canada |

## Report issued by

| Mercator Geological Services Limited |
|--------------------------------------|
| 65 Queen Street                      |
| Dartmouth, Nova Scotia               |
| B2Y 1G4 Canada                       |

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| Contributing | Peter Webster | Signature:                                   | November |
|--------------|---------------|--|----------|
| Author (QP)  | B.Sc., P.Geo. | [Original signed and sealed "Peter Webster"] | 20, 2020 |
| Contributing | Alan Philippe | Signature:                                   | November |
| Author (QP)  | B.Sc., P.Geo. | [Original signed and sealed "Alan Philippe"] | 20, 2020 |

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## **1.0 SUMMARY**

## 1.1 Overview

High Tide Resources Corp. ("High Tide") retained Mercator Geological Services Limited ("Mercator") with respect to planning and completing a diamond drilling program on their Labrador West Iron Project ("Labrador West" or the "Project") located near Labrador City, Newfoundland and Labrador (NL), Canada, and reporting the results in a National Instrument 43-101 ("NI 43-101") Technical Report. High Tide is a private subsidiary of Avidian Gold Corp. ("Avidian"). Avidian is a publicly-traded exploration company (TSXV:AVG) based in Toronto, Ontario, Canada. The Project is comprised of 99 mineral claims (2,475 hectares) located 17 kilometres northeast of Iron Ore Company of Canada's ("IOC") 23 million tonne per year Carol Lake iron ore mining operation and 6 kilometres north of the Julienne Lake iron deposit.

High Tide acquired the Project in August 2019 through an option agreement to acquire 100% of the Goethite Bay Iron Project from Altius Resources Inc. ("Altius"), a wholly owned subsidiary of Altius Minerals Corporation. The 700-hectare (28 mineral claims – Licence 026753M) Goethite Bay Iron Project, later renamed the "Labrador West Iron Project", formed a portion of a broader iron exploration joint venture between Rio Tinto Exploration ("Rio Tinto") and Altius that ran from 2008 to 2019.

On September 9, 2019, High Tide announced it had acquired an additional 71 mineral claims (1,775 hectares) from Altius in Labrador West surrounding the Project, increasing the property footprint of the Project to 2,475 hectares (99 claims). These 71 mineral claims comprise Licences 027298M, 027299M and 027300M and are subject to the same royalties, back-in rights or other payment obligations as part of the previous mentioned Altius agreement. On December 17, 2019, these three licences were transferred to High Tide.

This technical report summarizes historical work completed on the Project and results from a recent diamond drilling program completed on the Project by High Tide. In addition, this report makes recommendations for further exploration and drilling work on the Project. Report author Alan Philippe completed a personal inspection (site visit) of the Project between July 26<sup>th</sup> to September 3<sup>rd</sup>, 2020. This site visit was completed for the purposes of site inspection, ground truthing, review and supervision of active drilling activities (diamond drilling program) and to satisfy NI 43-101 "personal inspection" requirements. During his personal inspection, Mr. Philippe visited the Project and verified the geology, mineralization, local infrastructure, and accessibility into the project area for future exploration and drilling activities by High Tide.

The personal inspection completed by the report author between July 26<sup>th</sup> to September 17<sup>th</sup>, 2020, confirmed the following:

- The 2020 drilling program was executed according to CIM Mineral Exploration Best Practice Guidelines.
- Historical drill holes are in the approximate correct positions as recorded by Rio Tinto based on handheld GPS.

## 1.2 Property Description and Ownership

The Labrador West Iron Project is comprised of mineral licences 026753M, 027298M, 027299M and 027300M (99 mineral claims in total), 2,475.5 hectares in size, and 100% owned by High Tide. The four mineral licences are located approximately 20 to 30 km northeast of Labrador City, NL. The Project is centred at map coordinates 651,500 m Easting and 5,897,500 m Northing (UTM NAD83 Zone 19N) within NTS Map Sheet 23G/02.

The Project is located in the southern Labrador Trough in western Labrador approximately 20 km northeast of Labrador City (pop. 7,720). Labrador City is serviced by the Wabush Airport (YWK) and the airlines flying out of the airport. These include Provincial Airlines, Air Inuit and Pascan Aviation. Additionally, the Quebec North Shore and Labrador Railway provides freight rail transportation to and from Sept-Îles, Quebec. The Trans-Labrador Highway (Route 500) serves as the only road connection to Labrador City, connecting it with the rest of Labrador as well as the neighboring province of Quebec, becoming Quebec Route 389 at the provincial border. The mineral licenses are not accessible by road. Some of the claims can be reached by boat from Lake Shabogamo and Julienne Lake. During the 2020 field season, Mercator staff and contractors lived in Labrador City and accessed the license area by daily helicopter flights from a staging area located just outside Labrador City off the Trans-Labrador Highway connecting Labrador City to Happy Valley – Goose Bay. The staging area is easily accessible by truck.

## 1.3 Geology and Mineralization

The Labrador Trough consists of Paleoproterozoic (2.17 to 1.87 Ga) sedimentary and volcanic rocks, which extend along the eastern margin of the Archean Superior Craton to Ungava Bay. The Labrador Trough forms the western part of a larger orogenic belt called the New Québec Orogen. In southwestern Labrador, the Labrador Trough extends into the younger Grenville Province, where the sedimentary rocks were deformed and metamorphosed ca. 1.0 Ga. The western boundary of the Labrador Trough is the basal unconformity between Paleoproterozoic sedimentary rocks and the Archean basement. To the east, it is bounded by allochthonous deep water sedimentary and volcanic rocks, possibly derived from an oceanic realm. The sedimentary sequence of the Labrador Trough, termed the Kaniapiskau Supergroup, consists of the Knob Lake Group in the western part of the Trough including the project area. The Kaniapiskau Supergroup is interpreted to include a lower rift-related sequence and an upper transgressive sequence that progresses from shelf sediments at the base through deep water turbidites and into shallow marine and terrestrial rocks at the top.

Iron ore deposits in the Labrador Trough are hosted in the Sokoman Formation (within the Knob Lake Group), which sits toward the top of the shelf sequence, above a thick package of shale, dolostones, and siliciclastic rocks. The Sokoman Formation consists of a 30–170-m-thick sequence of cherty iron-rich sediments, and is continuous for 250 km from Labrador City to Schefferville; it also continues into Québec in both directions, and is one of the most extensive iron formations on Earth. North of the Grenville Province, the stratigraphic sequence is largely intact, and the position and distribution of the Sokoman Formation is very predictable. Parts of this area experienced low-grade (greenschist facies) metamorphism and open to tight folding, but in the western foreland, the rocks are gently dipping and essentially undisturbed. In the southern part of the Labrador Trough, the rocks are highly metamorphosed

and complexly folded, but the essential stratigraphy of the Kaniapiskau Supergroup remains discernable, albeit structurally disrupted. The productive unit in this area is locally known as the Wabush Iron Formation, but it is directly equivalent to the Sokoman Formation to the north.

In the Labrador West project area, the Sokoman Formation is informally divided into three iron formation lithofacies or "facies types" characterised by different mineralogy and textures. These lithofacies are not exclusive and there can be some overlap in mineral assemblages. Iron formations present in the project area are known to be very heterogeneous and bands with very different composition and mineralogy can occur at the sub-millimetre scale.

## **Oxide Facies Iron Formation**

The oxide facies is dominated by iron oxide iron minerals such as hematite and magnetite plus quartz (chert). There may be accessory carbonates (calcite or dolomite), silicates, and, rarely, manganese oxides or carbonates. Hematite and magnetite have a tendency to be easily recovered and beneficiated to high purity concentrates and are therefore the most desirable iron mineralogy. Manganese is an undesirable element, and its mineral deportment may have major impacts on metallurgy. In the southern Labrador Trough, original manganese oxides may have reacted with quartz to form rhodonite or carbonates to form kutnahorite during high-grade regional metamorphism.

## **Carbonate Facies Iron Formation**

The carbonate facies iron formation consists of quartz (chert) and iron-rich carbonate. In the project area, the carbonate is of variable grainsize and light to dark grey in colour and commonly weathers to a distinctive reddish-brown colour. Composition appears to vary from almost pure siderite to ferroan dolomite. Quartz is generally white and recrystallised but in places may be cherty and almost black on freshly broken surfaces. Rocks are generally thinly-banded, with layers usually ranging from a few millimetres to several centimetres. Thicker banding appears to be associated with proximity to oxide facies iron formation and in places carbonate and quartz-rich bands may be up to tens of centimetres thick. Some of the fine banding may be developed by transposition, especially in high-strain zones, but some is related to relict bedding and it can be difficult to distinguish between the primary and tectonic fabrics in small outcrops.

As a chemically intermediate type, carbonate iron-formations may grade into, or be interbedded with each of the other iron formation facies. The usual transitions are to complex silicate-magnetite-carbonatequartz rocks, interpreted to represent original quiet-water, more micritic environments. Reaction of carbonates and silicate species to fibrous tremolite and other silicate species (quartz+pyroxene+amphibole+garnet) appears to occur with increasing grade of metamorphism, especially in original, finely laminated lithofacies that have been more highly deformed. However, there are enclaves where quartz-carbonate assemblages are preserved, presumably where  $CO_2$  could not escape from the system.

#### **Silicate Facies**

In the project area, silicate-rich iron formation facies are typically thin- to medium-banded with quartzrich bands from millimetres up to several centimetres thick. Outcrops vary in colour from brown to grey. Fibrous amphiboles such as grunerite are common in some areas. Elongate silicate grains often define pronounced stretching lineation in high strain zones. Magnetite content is highly variable. Locally magnetite may occur in semi-massive bands up to several centimetres thick. Silicate facies lithology codes were used for any metre scale rock units where silicate and carbonate appear to comprise 10-30% of the interval. Iron oxides may be present as interlayering in these intervals comprising from 10-20% of the interval.

In southwestern Labrador including the project area, the Labrador Trough extends into the younger Grenville Province, where the sedimentary rocks were highly metamorphosed and complexly folded during the Trans-Hudsonian and Grenvillian orogenies. Although metamorphosed and deformed, the essential stratigraphy of the sedimentary rocks remains discernable in the Labrador City/Wabush area.

The Sokoman Formation falls within the Kaniapiskau Supergroup and has been subdivided into three members. The lower part of the Sokoman Formation (Lower Iron Formation) consists largely of a carbonate-silicate facies with some magnetite. This grades upward into an oxide facies with abundant coarse-grained hematite and/or magnetite and sugary textured quartz (Middle Iron Formation). These oxide-rich beds are the most important economically, with iron-rich layers and lenses commonly containing more than 50% hematite and magnetite. The upper part of the Sokoman Formation (Upper Iron Formation) is a carbonate-silicate facies with minor oxides. The Sokoman Formation is underlain by quartzites of the Wishart Formation. The overlying rocks (Menihek Formation) consist largely of graphitic, chloritic, and micaceous schists.

The lower part of the Sokoman Formation consists largely of iron silicates and siderite, with some disseminated magnetite. This grades upward into a sequence of thick, massive beds of grey to pinkish chert and iron-oxide-rich beds. These iron oxide-rich beds are the most important economically, with iron-rich layers and lenses commonly containing more than 50% hematite and magnetite. The upper part of the Sokoman Formation is comprised of dull green to grey or black massive chert that contains ferruginous carbonates but is relatively iron-poor. The Sokoman Formation is interbedded in places with mafic volcanic rocks of the Nimish Formation and is underlain by quartzites of the Wishart Formation. The iron rich units on High Tide property are thought to sit mostly within the Middle Sokoman Formation with most holes ending in the Wishart Formation quartzites. The overlying rocks (Menihek Formation) consist largely of black shales and slates that record a sudden deepening of the basin.

## 1.4 Drilling

High Tide completed a diamond drilling program between July 26, 2020 and September 3, 2020 focused on the iron deposits defined by previous drilling within the Project area by Rio Tinto. The drilling program comprised of four diamond drill holes totalling 999.5 m. The diamond drilling program was designed to test the lithological and grade continuity between several widely spaced historical Rio Tinto diamond drill

holes completed between 2010 and 2012. Table 1-1 indicates the location of diamond drilling holes completed in 2020 within the Labrador West project area.

| Hole No.    | Easting<br>NAD83<br>(m) | Northing<br>NAD83<br>(m) | Azimuth<br>(deg.) | Dip<br>(deg.) | Total<br>Depth (m) | Start Date<br>D/M/Y | End Date<br>D/M/Y |
|-------------|-------------------------|--------------------------|-------------------|---------------|--------------------|---------------------|-------------------|
| 20LB0056*   | 650609                  | 5895214                  | 341.0             | -80           | 128                | 7/28/2020           | 8/3/2020          |
| 20LB0057    | 650850                  | 5895414                  | 340.8             | -80           | 347                | 8/4/2020            | 8/13/2020         |
| 20LB0058*   | 651068                  | 5895589                  | 339.6             | -80           | 190                | 8/13/2020           | 8/18/2020         |
| 20LB0059    | 650631                  | 5895442                  | 339.8             | -80           | 334.5              | 8/19/2020           | 9/2/2020          |
| Total metre | age (m)                 |                          |                   |               | 999.5 m            |                     |                   |

 Table 1-1: Summary of Labrador West Diamond Drilling Program

#### Notes:

(1) Collar locations were surveyed using a handheld Garmin 64s GPS unit and are reported in UTM NAD83 Zone 19N

(2) True widths are estimated to be approximately 90% of the reported intervals

(3) Core drilling program using NQ diameter drilling rods

(4) \*Holes were stopped in mineralization due to poor ground conditions

Generally, overburden thickness varied from 1.8 m to 10 m and drilling confirmed that the bedrock sequences are predominantly comprised of thick (typically >50 m) lenses of massive specular hematite (HMOX) containing relatively thin (10-20 m) interbedded intervals of variably altered silicate and /or carbonate facies iron formation. All four holes intersected high grade intervals of total iron (Total Fe) dominated by HMOX. This is consistent with results returned for the four Rio Tinto holes completed previously in the immediate area of the 2020 drilling. The highest-grade interval using a 15% Total Fe cut-off is 35.3% Total Fe over 25.7 m in 20LB0056, beginning at a downhole depth of 31.5 m. The thickest composite intercept using the same 15% cut-off is 26.8% Total Fe over 321.5 m, beginning at a downhole depth of 1.8 m in 20LB0059.

A summary of the Labrador West significant composite assay results appears in Table 1-2 below. True widths for the sections drilled are estimated to be approximately 90% of measured sample interval thicknesses. The stratigraphic section containing the iron mineralization of interest is interpreted to be dipping gently to the southeast at less than 5 degrees.

| Hole ID  | From (m) | To (m) | Interval (m) | Total Fe (%) | Recovery (%) |
|----------|----------|--------|--------------|--------------|--------------|
| 20LB0056 | 31.5     | 57.2   | 25.7         | 35.3         | 35           |
| 20LB0056 | 68.0     | 128.0  | 60.0         | 33.8         | 66           |
| 20LB0057 | 23.3     | 338.0  | 314.7        | 29.6         | 74           |
| 20LB0058 | 4.5      | 120.2  | 115.7        | 26.9         | 100          |
| 20LB0058 | 132.8    | 190.0  | 57.2         | 31.0         | 91           |
| 20LB0059 | 1.8      | 323.3  | 321.5        | 26.8         | 70           |

Table 1-2: Significant Composite Assay Intervals for 2020 Labrador West Diamond Drilling Program

#### Notes:

- (1) Assay composites are reported using a 15% Total Fe cut-off grade
- (2) Minimum composite length = 10 m
- (3) Maximum consecutive waste interval = 10 m
- (4) Composite assay intervals shown are measured core lengths and true widths are estimated to be approximately 90% of the reported intervals. The Company and its geological consultants are not aware of any drilling, sampling, recovery or other factors that could materially affect the accuracy or reliability of the assay data disclosed herein. Sample recoveries vary from 3% to 100% and samples were constrained to a minimum of 30 cm of rock volume. Sample sizes averaged 2 metres with more constrained sampling as deemed necessary by the logging geologist. Recoveries were estimated for composite intervals using geotechnical information recorded at time of logging.
- (5) Composites may include minor low grade or unmineralized silicate facies iron formation units that are less than 10m in down hole length.
- (6) True widths are estimated to be ~ 90% of total composite intervals reported

The total cost of the 2020 core drilling program on the Labrador West Iron Project is approximately \$700,000. This includes diamond drilling services and support services (i.e. helicopter costs), core logging and sampling, laboratory assay testing, and geological consulting costs.

#### 1.5 Interpretation and Conclusions

The 2020 core drilling program intercepted rocks of the Sokoman Formation which can be informally divided into three iron formation lithofacies characterised by different mineralogy and textures. These three lithofacies are not exclusive and there is overlap in mineral assemblages. Iron formation facies present in this part of the Labrador Trough are known to be heterogeneous and bands with differing composition and mineralogy can occur at the sub-centimetre scale. Bedrock sequences encountered during the 2020 core drilling program are predominantly comprised of oxide facies iron formation units containing abundant specular hematite and/or magnetite that are variably interbedded with typically altered lithologies that assign to silicate and carbonate iron formation facies.

Rio Tinto completed a total of 18 historical drill holes on the Property and also completed LiDAR and airborne magnetic, electromagnetic, and gravity surveys. Based on results of these programs it was concluded that discovering an economically viable iron deposit in the area tested would require careful assessment of stratigraphic and lithological factors as well as structural factors such as folding and/or faulting that may have the effect of upgrading thinner mineralized units into structurally thickened, more economically attractive packages. The current authors are of the opinion that results of the 2020 core drilling program substantiate these conclusions. Discovering thick zones of predominantly oxide facies iron formation in the Project area is of highest priority and will require further interpretation of currently available core drilling, gravity, magnetic, and geological mapping data plus completed in 2020 by High Tide intersected high grade intervals of predominantly oxide facies iron formation, with variably interbedded units of carbonate and silicates facies iron formation lithologies. These results are directly comparable to the positive results returned previously for the four historical Rio Tinto drill holes that are located in the immediate area of the 2020 core drilling program.

Detailed evaluation of the historical Rio Tinto datasets and the 2020 core drilling results have resulted in the development of high priority targets for future drilling programs. Deposit infill drilling, deposit

extension drilling and new target assessment drilling within the Project area are all warranted at this time. To date, exploration has been focused on the assessment of the thickening of synclinal structures within the Labrador West Trough and this will continue to be an important exploration tool on Labrador West property. The 2020 diamond drilling results have defined substantial thicknesses and Total Fe grades for the areas drilled to date and these results correlate well with those for nearby Rio Tinto historical drill holes. In combination, the associated drilling datasets are of sufficient quality and scope to contribute to a maiden mineral resource estimate for Labrador West property prepared in accordance with NI 43-101 and CIM Standards (2014).

## 1.6 Recommendations

The recommended Phase 1 program is comparable in content to the 2020 core drilling program and includes further infill diamond drilling in the main deposit area followed by preparation of a maiden Mineral Resource Estimate (MRE) for the Project in accordance with NI 43-101 and the CIM Standards (2014).

Phase 2 will be contingent on the results of Phase 1 drilling and will include additional infill drilling and plus drill core bulk sampling for metallurgical testing to determine mineralization quality, beneficiation attributes, deleterious element issues, and potential concentrate grades. The results from these drilling programs and bulk sampling/metallurgical testing would be incorporated into a Preliminary Economic Assessment (PEA) for Labrador West Iron Project.

Table 1-3 below outlines the next phase of development for the Labrador West Iron Project and the estimated costs associated with these programs.

| Phase 1 | Task  | Estimated Cost |  |  |
|---------|---|----------------|--|--|
|         | Diamond Drilling – deposit infill only (1,000 metres)                         | \$500,000      |  |  |
|         | Mineral Resource Estimate and NI 43-101 Technical Report                      | \$75,000       |  |  |
|         | Total   | \$575,000      |  |  |
| Phase 2 | Task  | Estimated Cost |  |  |
|         | Diamond Drilling – deposit extension and new target assessment (2,500 metres) | \$800,000      |  |  |
|         | Metallurgical Testing   | \$75,000       |  |  |
|         | Preliminary Economic Assessment (PEA) for Labrador West                       | \$150,000      |  |  |
|         | Coring bulk sampling plus follow up metallurgical testing study               | \$100,000      |  |  |
|         | Total   |                |  |  |

Table 1-3: Recommended Work Program Budget for Labrador West Iron Project

Note: Phase 2 is contingent on the results of the Phase 1 program

## **2.0 INTRODUCTION**

## 2.1 Scope of Reporting

High Tide Resources Corp. ("High Tide") retained Mercator Geological Services Limited ("Mercator") with respect to planning and completing a diamond drilling program on their Labrador West Iron Project ("Labrador West" or the "Project") located near Labrador City, Newfoundland and Labrador (NL), Canada, and reporting the results in a National Instrument 43-101 ("NI 43-101") Technical Report. High Tide is a private subsidiary of Avidian Gold Corp. ("Avidian"). Avidian is a publicly-traded exploration company (TSXV:AVG) based in Toronto, Ontario, Canada. The Project is comprised of 99 mineral claims (2,475 hectares) located 17 kilometres northeast of Iron Ore Company of Canada's ("IOC") 23 million tonne per year Carol Lake iron ore mining operation and 6 kilometres north of the Julienne Lake iron deposit.

High Tide acquired the Project in August 2019 through an option agreement to acquire 100% of the Goethite Bay Iron Project from Altius Resources Inc. ("Altius"), a wholly owned subsidiary of Altius Minerals Corporation. The 700-hectare (28 mineral claims – Licence 026753M) Goethite Bay Iron Project, later renamed the "Labrador West Iron Project", formed a portion of a broader iron exploration joint venture between Rio Tinto Exploration ("Rio Tinto") and Altius that ran from 2008 to 2019.

Altius granted High Tide an exclusive option (the "Option") to purchase a 100% undivided interest in the Licence 026753M mineral claims upon: (i) High Tide incurring exploration expenditures on the claims of at least \$2,000,000 by December 31, 2021 (subject to one year extension due to COVID-19) (ii) the issuance of 19.9% of the issued and outstanding common shares of High Tide to Altius on a fully diluted basis calculated immediately following cumulative equity financings of no less than \$5,000,000; and (iii) High Tide becoming a publicly listed company ("Pubco") in Canada within 24 months from the execution date. Upon High Tide acquiring a 100% interest in these claims, Pubco shall grant to Altius a 2.75% gross sales royalty (GSR) on all iron ore produced, removed, and recovered from the claims. On December 17, 2019, Licence 026753M was transferred to High Tide.

On September 9, 2019, High Tide announced it had acquired an additional 71 mineral claims (1,775 hectares) from Altius in Labrador West surrounding the Project, increasing the property footprint of the Project to 2,475 hectares (99 claims). These 71 mineral claims comprise Licences 027298M, 027299M and 027300M and are subject to the same royalties, back-in rights or other payment obligations as part of the previously mentioned Altius agreement. On December 17, 2019, these three licences were transferred to High Tide.

This technical report summarizes historical work completed on the Project and results from a recent diamond drilling program completed on the Project by High Tide. In addition, this report makes recommendations for further exploration and drilling work on the Project. The diamond drilling program described in this report was supervised by author Alan Philippe, P. Geo., a Senior Project Geologist at Mercator, on behalf of High Tide between July 26<sup>th</sup> and September 3<sup>rd</sup>, 2020.

## 2.2 Qualified Persons

The report authors, Alan Philippe, P. Geo., and Peter Webster, P. Geo., are currently registered and in good standing with the Association of Professional Geoscientists of Nova Scotia and the Professional Engineers and Geoscientists of Newfoundland and Labrador and are employees of Mercator, which has its head office in Dartmouth, Nova Scotia, Canada. The report authors prepared this technical report after reviewing historical exploration work and assessment reports completed on the Project and completion of diamond drilling activities in 2020 on the Project by Mercator staff on behalf of High Tide.

The report authors are independent Qualified Persons (QP) as defined by NI 43-101 and are responsible for all sections of this report. Neither Mercator, nor the authors of this report, have any material present or contingent interest in the outcome of this report, nor do they have any financial or other interest that could be reasonably regarded as being capable of affecting their independence in the preparation of this report. This technical report has been prepared in return for professional fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report. Neither report author is a director, officer or other direct employee of Avidian and its subsidiary High Tide and neither has shareholdings in any of these companies.

## 2.3 Personal Inspection (Site Visit) and Data Verification

Report author Alan Philippe completed a personal inspection (site visit) of the Project between July 26<sup>th</sup> to September 3<sup>rd</sup>, 2020. This site visit was completed for the purposes of site inspection, ground truthing, review and supervision of active drilling activities (diamond drilling program) and to satisfy NI 43-101 "personal inspection" requirements. During his personal inspection, Mr. Philippe visited the Project and verified the geology, mineralization, local infrastructure, and accessibility into the project area for future exploration and drilling activities by High Tide.

During the site visit the report author completed the following tasks and inspections:

- completion of diamond drilling program, core logging, and sampling (Figure 2-1).
- numerous site visits during drilling operations (Figure 2-2).
- field checking of historical drill holes, prospecting on the northeastern part of the property around historical drill hole 10LB0011.
- reviewing four historical drill holes in the immediate area of the 2020 drilling program (11LB0027, 11LB0029, 11LB0030, 12LB0045) (Figure 2-3).
- select quarter core samples were taken from each of the historical drill holes examined.

The personal inspection completed by the report author between July 26<sup>th</sup> to September 17<sup>th</sup>, 2020, confirmed the following:

- The 2020 drilling program was executed according to CIM Mineral Exploration Best Practice Guidelines.
- Historical drill holes are in the approximate correct positions as recorded by Rio Tinto based on handheld GPS.

## Figure 2-1: Secure Core Storage Near Core Shack



Figure 2-2: Hole 20LB0058 Drill Site





Figure 2-3: Inspection of Historical Drill Hole 11LB0027 – Caved Hole Collar Location

In addition, based on a detailed review of the available historical rock and soil geochemistry data, geophysical data, past drilling programs, and QA/QC procedures, including exploration and drilling programs recently completed on the Project by Altius and Rio Tinto, the report author is satisfied this meets the data verification requirements under NI 43-101. The High Tide drilling program was designed according to CIM Mineral Exploration Best Practice Guidelines and no issues or fatal flaws were detected during the personal inspection.

## 2.4 Information Sources

Sources of information, data and reports reviewed as part of this technical report can be found in Section 27 (References). The report authors (Qualified Persons) take responsibility for the content of this report and believe the data review to be accurate and complete in all material aspects.

Exploration claim information, historical assessment reports, and exploration and drilling data were acquired by Mercator from public sources. Historical and recent exploration and drilling data was loaded into a Microsoft Access database and Leapfrog and validated by Mercator staff prior to evaluation and reporting.

#### 2.5 Table of Abbreviations

| Abbreviation | Meaning  |
|--------------|--|
| 3D           | three-dimensional  |
| AA           | atomic absorption  |
| Altius       | Altius Resources Inc.  |
| Avidian      | Avidian Gold Corp.   |
| CALA         | Canadian Association for Laboratory Accreditation                    |
| CIM          | Canadian Institute of Mining, Metallurgy and Petroleum               |
| DEM          | digital elevation model  |
| DGPS         | differential global positioning satellite                            |
| EL           | exploration licence  |
| EM           | Electromagnetic  |
| FA-AA        | fire assay-atomic absorption   |
| GPS          | global positioning satellite   |
| GSC          | Geological Survey of Canada  |
| g/t          | grams per tonne  |
| High Tide    | High Tide Resources Corp.  |
| ICP-OES      | Inductively Coupled Plasma Optical Emission Spectrometry             |
| IP           | Induced Polarization   |
| Lidar        | light detection and ranging  |
| Mag Susc     | Magnetic Susceptibility  |
| Mercator     | Mercator Geological Services Limited                                 |
| Mt           | millions of tonnes   |
| NI 43-101    | National Instrument 43-101   |
| NLDNR        | Newfoundland and Labrador Department of Natural Resources and Energy |
|              | Development  |
| NSR          | net smelter return (royalty)   |
| OZ           | Ounce  |
| P.Geo.       | Professional Geologist   |
| QAQC         | quality assurance and quality control                                |
| QP           | Qualified Person (within the meaning of NI 43-101)                   |
| RC           | reverse circulation  |
| UTM          | Universal Transverse Mercator  |
| VLF-EM       | very low frequency electromagnetic                                   |

| k           | Thousand                        |     |                         |
|-------------|---------------------------------|-----|-------------------------|
| Ma          | million of years                | 0   | degree symbol           |
| Ga          | billions of years               | %   | Percent                 |
| са          | circa                           | Ва  | Barium                  |
| et al.      | and others                      | PGE | Platinum Group Elements |
| С           | Celsius                         | REE | Rare Earth Elements     |
| ha          | hectare                         | Pb  | Lead                    |
| kg          | kilogram                        | Pd  | Palladium               |
| km          | kilometre                       | Au  | Gold                    |
| lbs         | pounds                          | Ag  | Silver                  |
| ft          | foot                            | As  | Arsenic                 |
| п           | inch                            | Cu  | Copper                  |
| μm          | micrometre                      | Ni  | Nickel                  |
| m           | metre                           | Zn  | Zinc                    |
| mm          | millimetre                      | Fe  | Iron                    |
| cm          | centimetre                      | Mg  | Magnesium               |
| ml          | millilitre                      | К   | Potassium               |
| /           | per                             | Th  | Thorium                 |
| g           | gram (0.03215 troy oz)          | Со  | Cobalt                  |
| OZ          | troy ounce (31.04 g)            | Pb  | Lead                    |
| Oz/T to g/t | 1 oz/T = 34.28 g/t              | Bi  | Bismuth                 |
| Sn          | tin                             | Са  | Calcium                 |
| st          | short ton (2000 lb or 907.2 kg) | In  | Indium                  |
| ppb         | parts per billion               | ppm | parts per million       |

## **3.0 RELIANCE ON OTHER EXPERTS**

Mercator is relying upon information provided by High Tide concerning any legal, political, environmental, or any option, joint venture or royalty matters relating to the Project. Mercator has acquired mineral titles information on the four mineral licences that are the subject of this technical report from the Newfoundland and Labrador Department of Natural Resources (NLDNR) online Mineral Rights Inquiry Portal. This information showed the subject mineral claims to be in good standing as of the effective date of this report. However, Mercator has not independently verified the status of, nor legal titles relating to, the mineral licences and their associated mineral claims.

No warranty or guarantee, be it express or implied, is made by Mercator or the author with respect to the completeness or accuracy of the mineral titles comprising the Project.

## 4.0 PROPERTY DESCRIPTION AND LOCATION

## 4.1 Property Location and Description

The Labrador West Iron Project is comprised of mineral licences 026753M, 027298M, 027299M and 027300M (99 mineral claims in total - Table 4-1) and is 2,475.5 hectares in size. The four mineral licences are located approximately 20 to 30 km northeast of Labrador City, NL. The Project is centred at map coordinates 651,500 m Easting and 5,897,500 m Northing (UTM NAD83 Zone 19N) within NTS Map Sheet 23G/02 (Figure 4-1).

| Mineral<br>Licence | NTS Map<br>Sheet | Beneficial Owner   | Mineral<br>Claims | lssue<br>Date | Expiry<br>Date | Area<br>(Ha) |
|--------------------|------------------|--|-------------------|---------------|----------------|--------------|
| 026753M            | 23G/02           | High Tide (100%)<br>subject to earn-in<br>option with Altius | 28                | 2019-01-09    | 2024-01-09     | 700          |
| 027298M            | 23G/02           | High Tide (100%)   | 64                | 2019-09-02    | 2024-09-02     | 1,600        |
| 027299M            | 23G/02           | High Tide (100%)   | 6                 | 2019-09-02    | 2024-09-02     | 150          |
| 027300M            | 23G/02           | High Tide (100%)   | 1                 | 2019-09-02    | 2024-09-02     | 25           |
|                    |                  | Totals:  | 99                |               |                | 2,475.5      |

Table 4-1: Mineral Licence and Claims Table for Labrador West Iron Project

The Newfoundland and Labrador Department of Natural Resources (NLDNR) electronic database of mineral titles is accessible via their online "Mineral Rights Inquiry Portal" and confirms that all mineral claims comprising the Project as described above in Table 4-1 were, at the effective date, in good standing, and that no legal encumbrances were registered with NLDNR against these mineral claims. The report authors confirm that payment of mineral licence transfer fees associated with the claims identified in Table 4-1 have been documented in the Mineral Licence Reports. The report authors make no further assertion concerning the legal status of the properties. None of the properties have been legally surveyed to date and there is no requirement to do so at this time.

## 4.2 Option Agreements and Royalties

High Tide acquired the Project in August 2019 through an option agreement to acquire 100% of the Goethite Bay Iron Project from Altius Resources Inc. ("Altius"), a wholly owned subsidiary of Altius Minerals Corporation. The project was later renamed to the Labrador West Iron Project.

Altius granted High Tide an exclusive option (the "Option") to purchase a 100% undivided interest in the 28 mineral claims that encompass Licence 026753M upon: (i) High Tide incurring exploration expenditures on the claims of at least \$2,000,000 by December 31, 2021 (subject to one year extension due to COVID-19); (ii) the issuance of 19.9% of the issued and outstanding common shares of High Tide to Altius on a

fully diluted basis calculated immediately following cumulative equity financings of no less than \$5,000,000; and (iii) High Tide becoming a publicly listed company ("Pubco") in Canada within 24 months from the execution date. Upon High Tide acquiring a 100% interest in these claims, Pubco shall grant to Altius a 2.75% gross sales royalty (GSR) on all iron ore produced, removed, and recovered from the claims. On December 17, 2019, Licence 026753M was transferred to High Tide.

On September 9, 2019, High Tide announced it had acquired an additional 71 mineral claims (1,775 hectares) from Altius in Labrador West surrounding the Property increasing the property footprint of the Project to 2,475 hectares (99 claims). These 71 mineral claims comprise Licences 027298M, 027299M and 027300M and are subject to the same royalties, back-in rights or other payment obligations as part of the previously mentioned Altius agreement. On December 17, 2019, these three licences were transferred to High Tide.

## 4.3 Surface Rights and Permitting

As the mineral licence holder, High Tide has the exclusive right to explore for designated minerals within the boundaries of the mineral claims comprising the Project, but this right does not reflect ownership of corresponding title to surface rights. High Tide has, however, secured Crown land access agreements with the Province of Newfoundland and Labrador to complete exploration and drilling on the Project.

Work requirements of the provincial government for mineral licences are defined by the Mineral Regulations under the Mineral Act (O.C. 96-299) (Mineral Act) and include a work expenditure of \$200 CDN per claim in the first year, rising by \$50 CDN per claim until year 5. The work requirement then rises to \$600 CDN per claim per year from year 6 to year 10, \$900 CDN per claim per year for years 11 to 15, and \$1,200 CDN per claim per year for years 16 to 20. Recent amendments to the Mineral Regulations allow a mineral licence to be held for 30 years, with expenditures of \$2,000 CDN per claim per year for years for years 21 to 25, and \$2,500 CDN per claim per year for years 26 to 30. The type of acceptable work for assessment purposes is defined under the Mineral Regulations and includes most conventional exploration survey methods.

## 4.4 Permits or Agreements Required for Exploration Activities

Exploration permits, water usage permits, and wood harvesting permits were issued to High Tide by the Government of Newfoundland and Labrador (GNL) for the purposes of the 2020 drilling program. The exploration permit was approved by a Regional Geologist with GNL, water withdrawal permit from a Water Management Engineer with GNL, and the wood harvesting permit was approved by a Regional Forest Ranger with GNL. These permits do (do not) cover future exploration programs recommended in this technical report.

## 4.5 Other Liability and Risk Factors

The report authors are not aware of any environmental liabilities on the Project. High Tide will require additional permits to conduct recommended future exploration work programs on the Project. The report

authors are not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the recommended work program on the Project.





## 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

## 5.1 Accessibility

The Project is located in the southern Labrador Trough in western Labrador approximately 20 km northeast of Labrador City (pop. 7,720) (Figure 5-1). Labrador City is serviced by the Wabush Airport (YWK) and the airlines flying out of the airport. These include Provincial Airlines, Air Inuit and Pascan Aviation. Additionally, the Quebec North Shore and Labrador Railway provides freight rail transportation to and from Sept-Îles, Quebec. The Trans-Labrador Highway (Route 500) serves as the only road connection to Labrador City, connecting it with the rest of Labrador as well as the neighboring province of Quebec, becoming Quebec Route 389 at the provincial border. The mineral licenses are not accessible by road. Some of the claims can be reached by boat from Lake Shabogamo and Julienne Lake (Figure 5-1). During the 2020 field season, Mercator staff and contractors lived in Labrador City and accessed the license area by daily helicopter flights from a staging area located just outside Labrador City off the Trans-Labrador Highway connecting Labrador City to Happy Valley – Goose Bay. The staging area is easily accessible by truck.

## 5.2 Climate and Physiography

The Wabush and Labrador City region has a continental subarctic climate (Köppen: Dfc) with mild summers and severely cold winters. Precipitation is heavy year-round (although higher in summer) due to the strong Icelandic low to the east driving cold, moist and unstable air onto the region. Snowfall is very heavy for seven months each year and snow depths can reach as high as 218 centimetres. Temperatures range from highs of 19°C in the summer and lows of -29°C in the winter, with snow cover from October to May.

Topography on the Project is gentle, consisting of rolling hills and open valleys with abundant lakes and marshes. Elevations range from 1,700 to 2,500 m above sea level. The licenses are covered by a mixed forest consisting of spruce and alder of varying density with abundant open marshlands and swampy biomes in low lying areas with abundant standing water.

## 5.3 Local Resources and Infrastructure

The Project is located in a region of Labrador that is sparsely populated, with hotels, medical services, hardware stores, grocery stores, and gas stations being confined primarily to the towns of Labrador City and Wabush, collectively referred to as "Labrador West". Labrador City forms the largest population center in this region of Labrador and supports a wide range of government, business, medical, educational, industrial and transportation services. Access to the regional electrical grid is possible along the highway corridors located near the Project but is lacking in more remote areas. Mainline rail facilities are accessible via the 418 km long Quebec North Shore and Labrador (QNS&L) Railway which provides freight rail transportation to and from Sept-Îles, Quebec.

The extensive surface drainage systems present in the area including the Lake Shabogamo and Julienne Lake watersheds provide readily accessible potential water sources for incidental exploration use such as

diamond drilling. They also provide good potential as higher volume sources of water such as those potentially required for future mining and milling operations.

Exploration staff and consultants, as well as forestry, heavy equipment and drilling contractors can be readily sourced from within Newfoundland and Labrador and surrounding provinces such as Quebec, New Brunswick, and Nova Scotia. Iron ore mining operations are the dominant employment in the region with IOC and ArcelorMittal being the primary employers in the area. The local rural and urban economies provide a large base of skilled trades, professional, and service sector support that can be readily accessed for exploration and resource development purposes.



## Figure 5-1: Location Map – Labrador West Iron Project

## 6.0 HISTORY

## 6.1 Pre-2007

The Project is located in close proximity to IOC Carol Lake iron ore mining operations within the Sokoman Formation. IOC is a joint venture between Rio Tinto (58.7%), Mitsubishi (26.2%) and the Labrador Iron Ore Royalty Income Corporation (15.1%). Outcrops surrounding this region have been prospected, mapped, and drilled since workers first targeted the area for iron ore deposits in the late 1940's (Neil, 2000). Outside of the current iron producing areas in Labrador City only very broad geologic mapping has been conducted (James & van Gool, 1997; Wardle, 1982, 1997).

Work by IOC on their past claims in areas now found within the Project area near Lake Shabogamo and Lake Julienne and described in their annual assessment reports filed by respective firms with the government of Newfoundland and Labrador and includes reconnaissance mapping, sampling, drilling, magnetic, and gravity surveys. Adjacent to the Project's mineral licences are holes drilled in the 1950's and early 2000's by IOC.

## 6.2 Rio Tinto Exploration Canada Inc. - 2007 to 2014

Rio Tinto staked a large area in the Labrador West area in late 2007 including claims currently held by High Tide in the project area, that were known as the Goethite Bay Iron Project. In 2008, Rio Tinto conducted gravity ground surveys, LiDAR airborne surveys, and prospecting activities. Work was reduced in 2009 to only a month of prospecting and outcrop sampling.

In 2010, field work resumed and consisted of diamond drilling, gravity ground surveys, prospecting and outcrop sampling. Additional staking was conducted in late 2010 and in 2011 field work resumed with diamond drilling, gravity ground surveys, airborne EM survey, and prospecting.

A magnetic and electromagnetic airborne RESOLVE survey was undertaken in November 2011 by Fugro Airborne Surveys. In spring 2012, a high-sensitivity HeliFALCON<sup>™</sup> Airborne Gravity Gradiometer (AGG) survey was completed in the area by Fugro Airborne Surveys. In June and July 2012, additional LiDAR data processing was completed from airborne surveys undertaken in 2008, 2009 and 2010 by Perron Hudon Belanger Lasermap (PHB). Additional diamond drilling including asbestos testing was also undertaken during this time and metallurgical test results from 2010 and 2011 drill core composites were submitted for metallurgical analysis in Sept 2012.

Further details on the geological mapping and prospecting, remote sensing, and airborne and ground geophysics programs undertaken by Rio Tinto between 2007-2012 can be found in government assessment reports for the respective years.

Rio Tinto completed a total of 18 diamond drill holes on the Project between 2010 and 2012 for a total of 4,227 m (Table 6-1 and Figure 6-1). The drilling program information provided below is referenced from several Rio Tinto assessment reports accessed from the NLDNR Geofiles Metadata Search.



Figure 6-1: Drill Hole Location of Rio Tinto Diamond Drilling Programs on Project

| Hole ID                 | Year<br>Drilled | Easting (m) | Northing (m)     | Hole Length<br>(m) | Hole<br>Azimuth | Hole<br>Inclination |
|-------------------------|-----------------|-------------|------------------|--------------------|-----------------|---------------------|
| 10LB0001                | 2010            | 651521      | 5896478          | 150.3              | 55              | -60                 |
| 10LB0002                | 2010            | 651026      | 5896790          | 31                 | 30              | -70                 |
| 10LB0003                | 2010            | 651026      | 5896790          | 90.3               | 30              | -60                 |
| 10LB0012                | 2010            | 649576      | 5895942          | 252                | 50              | -80                 |
| 11LB0024                | 2011            | 648662      | 5896560          | 165                | 307             | -80                 |
| 11LB0026                | 2011            | 649880      | 5895705          | 255                | 350             | -80                 |
| 11LB0027                | 2011            | 650837      | 5895342          | 348                | 10              | -80                 |
| 11LB0029                | 2011            | 650697      | 5895797          | 306.25             | 355             | -80                 |
| 11LB0030                | 2011            | 651310      | 5895721          | 255                | 6               | -80                 |
| 11LB0031                | 2011            | 650262      | 5896177          | 207                | 5               | -80                 |
| 11LB0032                | 2011            | 651892      | 5896004          | 446                | 357             | -80                 |
| 11LB0038                | 2011            | 650587      | 5897178          | 294                | 15              | -80                 |
| 12LB0045                | 2012            | 650451      | 5895554          | 336.77             | 3.4             | -85                 |
| 12LB0048                | 2012            | 651668      | 5895008          | 348                | 19.3            | -85.8               |
| 12LB0051                | 2012            | 649082      | 5895328          | 309                | 14.5            | -80                 |
| 12LB0053                | 2012            | 651248      | 5896290          | 31.03              | 338             | -80                 |
| 12LB0054                | 2012            | 651248      | 5896290          | 36.3               | 338             | -70                 |
| 12LB0055                | 2012            | 651250      | 5896291          | 366                | 340.24          | -80                 |
| Total of 18 drill holes |                 | Т           | otal m drilled = | 4,227              |                 |                     |

| Table 6-1: Rio Tinto Diamond Drill Holes | Completed on The | e Project Area | (2010-2012) |
|--|------------------|----------------|-------------|
|--|------------------|----------------|-------------|

Note: All collar coordinates in UTM NAD83 Zone 19

Between 2012 and 2013, Rio Tinto completed metallurgical testing (2012) and mineralogical test work (2013) on core samples from the 2010-2012 drilling programs. Rio Tinto engaged SGS Canada to perform a mineralogical test program using High Definition Mineralogy, including optical microscopy and QEMSCAN technology (Quantitative Evaluation of Materials by Scanning Electron Microscopy) on polished thin sections. The purpose of this mineralogical test program was to provide a petrographic summary, determine the overall mineral assemblage, mineral textures, with particular interest in the Fe-Oxide minerals, and the minerals that host Mn.

Based on the NL assessment report records, it does not appear that Rio Tinto performed any additional exploration or test work on the Project after 2014. In 2018, Rio Tinto dropped the mineral claims in the project area, which were subsequently re-staked by Altius Minerals Corp. ("Altius"). Altius did not complete any exploration activities on the Labrador West mineral licences prior to optioning the Project to High Tide in August of 2019.

## 6.2.1 Rio Tinto 2010 Diamond Drilling Programs

Rio Tinto completed a total of 4 diamond drill holes (524 m) on the Project between July to September 2010 using a Zintex, helicopter portable, diamond core drill operated by Team Drilling of Saskatoon (Table 6-1 and Figure 6-1). The drill was mobilized using an Astar 350BA helicopter contracted from Canadian Helicopters based in Quebec. All core was NQ in diameter and placed in 1.5m long wooden core boxes

and transported to Labrador City via helicopter to be processed and logged by Rio Tinto core technicians and geologists using a company unique coding scheme for iron formation subunits in core (Broadbent, 2010) (Table 6-2). Drill holes were surveyed using a downhole Reflex tool. All core was oriented using the ACT tool operated by the drill crew, however only about 30% of the core length had orientation marks that were deemed correct and useable. Extensive geotechnical, geological, and geophysical data was collected from each drill core including:

- Geotechnical- Total Core Recovery, Solid Core Recovery, and Longest Piece
- Geophysical- Magnetic Susceptibility
- Geological- Lithology, Structures, Mineralization
- Physical- Density

All data was entered directly into an AcQuire database at the time of collection using the coding scheme applied to each lithological unit (Table 6-2).

| Formation                     | Code | Description                     |
|-------------------------------|------|---------------------------------|
| Shabogamo                     | Sha  | Shabogamo Gabbro - post         |
|                               |      | Sokoman dolerite composition    |
|                               |      | intrusive (but may include      |
|                               |      | some syn-Sokoman volcanics)     |
| Menihek                       | Men  | Menihek Formation. Grey or      |
|                               |      | black carbonaceous              |
|                               |      | metasediments                   |
| Sokoman IF - undifferentiated | Sok  | Undifferentiated iron formation |
|                               |      | from legacy sources, compiled   |
|                               |      | from 1:100,000 scale map        |
|                               |      | localities with structural      |
|                               |      | observations.                   |
| Sokoman IF - carbonate facies | CARB | dominantly qtz-siderite         |
|                               |      | mineralogy, Fe oxides < 10%,    |
|                               |      | carbonate > 20%, silicates <    |
|                               |      | 10%, non-magnetic (Mag Susc <   |
|                               |      | 100x10-5SI)                     |
| Sokoman IF - carbonate facies | MTCA | dominantly qtz-carbonate-       |
|                               |      | magnetite mineralogy, Fe Oxides |
|                               |      | >20%, magnetic (Mag Susc        |
|                               |      | >20000)                         |
| Sokoman IF - carbonate facies | CAMT | dominantly qtz-carbonate-       |
|                               |      | magnetite mineralogy, Fe Oxides |
|                               |      | <20%, weakly magnetic (Mag      |
|                               |      | Susc < 20000)                   |
| Sokoman IF - carbonate facies | САНМ | dominantly qtz-carbonate-       |
|                               |      | hematite mineralogy, Fe Oxides  |
|                               |      | <20%, poorly to non-magnetic    |
|                               |      | (Mag Susc < 2000)               |

Table 6-2: Rio Tinto Coding Scheme for Recording Iron Formation Subunits in Core (Broadbent, 2010)

| Formation                     | Code | Description                               |
|-------------------------------|------|---|
| Sokoman IF - oxide facies     | НМОХ | dominantly qtz-                           |
|                               |      | hematite>magnetite(martite)-              |
|                               |      | carbonate mineralogy, Fe oxides           |
|                               |      | > 20%, carbonate<20%, poorly              |
|                               |      | to non-magnetic (Mag Susc <               |
|                               |      | 2000)                                     |
| Sokoman IF - oxide facies     | мнох | Mixed qtz-hematite-                       |
|                               |      | magnetite(martite)-carbonate              |
|                               |      | mineralogy, Fe oxides > 20%,              |
|                               |      | carbonate<20%, moderately                 |
|                               |      | magnetic (Mag Susc 2-20000)               |
| Sokoman IF - oxide facies     | МТОХ | dominantly qtz-                           |
|                               |      | magnetite>hematite-carbonate              |
|                               |      | mineralogy, Fe oxides > 20%,              |
|                               |      | carbonate and silicates < 20%,            |
|                               |      | strongly magnetic (Mag Susc >             |
|                               |      | 20000)                                    |
| Sokoman IF - oxide facies     | QMHT | Lean qtz-magnetite mineralogy,            |
|                               |      | little to no silicate or carbonate,       |
|                               |      | Fe oxides <10%, possibly near             |
|                               |      | base of Sokoman, weakly                   |
|                               |      | magnetic (Mag Susc <20000)                |
| Sokoman IF - silicate facies  | SILI | dominantly qtz-silicat <u>e</u> +siderite |
|                               |      | mineralogy, Fe oxides < 10%,              |
|                               |      | silicates > 20%, carbonate<               |
|                               |      | 20%, non-magnetic (Mag Susc <             |
|                               |      | 300x10-5SI)                               |
| Sokoman IF - silicate facies  | SICA | Mixed qtz-silicate-carbonate              |
|                               |      | mineralogy, Fe oxides < 10%,              |
|                               |      | silicates 10-30%, carbonate 10-           |
|                               |      | 30%, Variably-magnetic (Mag               |
| Colorean IE - siliante faciae |      | Susc variable 300-20000x10-55i)           |
| Sokoman IF - silicate facies  | SIMI | dominantiy qtz-silicate-                  |
|                               |      | magnetite mineralogy, silicates >         |
|                               |      | 20%, Fe Oxides 10-20%,                    |
|                               |      | Carbonales < 10%, weakly                  |
| Sokoman IE silicato facios    | MTSI | dominantly at magnetite                   |
|                               |      | silicate mineralogy silicates >           |
|                               |      | 10% Eq ovides $20%$                       |
|                               |      | 10/0, 100 carbonates < $10%$ strongly     |
|                               |      | magnetic (Mag Succ $>20000$ )             |
| Wishart                       | Wis  | Wishart Formation -                       |
|                               | VV13 | orthoquartzite                            |
|                               |      | ortnoquartzite                            |

| Formation   | Code | Description                       |
|-------------|------|-----------------------------------|
| Denault     | Den  | Denault Formation - carbonate     |
|             |      | marble, sometimes with minor      |
|             |      | silica banding                    |
| Attikamagen | Att  | Attikamagen Formation - mica      |
|             |      | schists, dominanlty qt-plag-bt or |
|             |      | qtz-felsp-musc- <u>b</u> t+garnet |
| Ashuanipi   | Ash  | Ashuanipi Basement complex -      |
|             |      | granitoids or foliated qtz-felsp- |
|             |      | mi-gt gneiss                      |

Where drill core was mineralized, samples were collected continuously throughout the interval defined by the geologist. These samples were 1.5 m in length of half core. Both a core saw, and a hydraulic core splitter were used to split core in half longitudinally. Unmineralized or weakly mineralized core was sampled approximately every 10-20 m with a single 1.5 m long sample. These samples were sent to SGS Minerals Services Laboratory (SGS) in Lakefield, Ontario for laboratory analysis with selected samples sent for detailed trace element analysis. SGS is independent of Rio Tinto and is ISO/IEC 17025 certified.

Quality control samples consisting of blanks, duplicates, and standards were inserted into the sampling sequence approximately 1 in every 5 samples. Pure, locally collected quartzite was used as blank material, and professionally prepared iron (Fe) sample materials of high, medium, and low Fe grades were used as certified reference materials (standards). Sample duplicates were collected from the remaining half of the core not used in the original sample (1st sample = half core; duplicate sample = half core). Finally, all individual samples were weighed, with each weight recorded in the database. The weights provide a simple way to verify if a given sample has been inadvertently switched with another during the assaying process.

Each batch of assay data received from the laboratory underwent Quality Control and Quality Assurance (QAQC) checks. Results from the sample standards were plotted to determine if the values reported by the lab were within acceptable tolerance of the know values. Blank samples were checked to see if they were, indeed, blank with respect to metal content. The lab was notified of any values that were outside of tolerance and would have been asked to re-run specific samples. Once an assay batch passed QA/QC the data was loaded into the AcQuire database.

Each sample was placed in a sealed cloth or plastic sample bag and securely tied shut. For shipping to the laboratory, individual samples were placed in 5 gallon plastic buckets, the lids sealed, and two security tags were attached to opposite rims of the bucket (180° apart) through holes drilled in the bucket lid and sides. Each bucket was assigned a number. The bucket number, seal numbers for each bucket, and total number of buckets were recorded on a sample tracking sheet, a copy of which was sent to the assay laboratory. Buckets were then palletized and shipped via local freight carrier to the lab. Upon receipt, the lab inventoried the sample shipment against the provided sample list to be sure that all buckets and samples were accounted for and no tampering of the shipment had occurred en route.

Once the samples arrived at the laboratory they were scanned, dried, and weighed before going through the prep facility. In the prep facility the samples were crushed to 85% passing 2mm fraction size and then a representative 1kg split was taken from the crushed allotment. This subsample was then pulverized to 90% passing 75 microns in size. After the prep was completed the sample was submitted for assay. Mineralized samples (>10% Fe oxide IF) underwent Whole Rock Analysis by XRF (Lithium Borate Fusion) with LOI 450°C, LOI 650°C, and LOI 1000°C to test the quantity of Fe and deleterious elements. These same samples also underwent 50 element 4 acid digest ICP-OES and MS analysis to scan for non-targeted mineralization that might be of interest. Unmineralized samples (<10% Fe oxides IF plus schist, quartzite, and gabbro lithologies) underwent the same ICP analysis to scan for unexpected mineralization.

**Drill hole 10LB0001** was drilled on a coincident magnetic and gravity high at Goethite Bay and intersected weakly mineralized iron formation throughout its length. Assay results were not encouraging due to the thin nature of oxide- rich iron formation units which were interspersed within units of carbonate facies and silicate facies iron formation. Assay highlights include:

- 31.4% total Fe% over 1.5 m at 38.5 m
- 33.2% total Fe% over 1.5 m at 41.5 m
- 32.4% total Fe% over 3 m at 108.5 m

Drill holes **10LB0002** and **10LB0003** were drilled within a magnetic low to test for the presence of hematite dominant mineralization. 10LB0002 failed at 33 m and 10LB0003 failed at 90 m when rods became irretrievably stuck in broken ground. Recovered core from 10LB0003 contained significant hematite, goethite, and limonite Fe mineralization that was strongly weathered and broken. Core recovery from the hole was poor. Assay values for total Fe were encouraging in these holes, but much of the core sample was washed out of the core tube. This fact likely skewed the assay results toward having high Fe values if the oxide mineralized material was preferentially recovered during the drilling process. Assay highlights include:

- 29.8% total Fe over 38 m beginning at 4m depth (61% core recovery)
  - Including 35.2% total Fe over 10 m beginning at 14 m depth (43% core recovery)
  - Including 34.0% total Fe over 9 m beginning at 32 m depth (85% core recovery)
- 41.1% total Fe over 2 m beginning at 14 m depth (37% core recovery)

Drill hole **10LB0012** was drilled within a deep magnetic low. This target was chosen based on a series of holes drilled nearby in the 1950's by IOC where significant thicknesses of hematite were reported from a ground gravity survey. The hole intersected deeply weathered iron formation containing hematite+goethite+/-limonite mineralization and was completed in Wishart Quartzite. Core recovery was uniformly low in the iron formation due to the strong weathering. Total Fe values were encouraging, but the core loss may have upgraded the Fe content of core samples. Assay highlights include:

- 31.5% total Fe over 9 m beginning at 87 m (48% recovery)
- 30.2% total Fe over 24 m beginning at 105 m (63% recovery)
- 30.6% total Fe over 21 m beginning at 132 m (57% recovery)

- 42.2% total Fe over 3 m beginning at 150 m (41% recovery)
- 31.9% total Fe over 11 m beginning at 162 m (60% recovery)
- 33.8% total Fe over 8 m beginning at 196 m (85% recovery)
- 33.0% total Fe over 17 m beginning at 207 m (55% recovery)

## 6.2.2 Rio Tinto 2011 Diamond Drilling Program

Rio Tinto completed a total of 8 diamond drill holes (2,276 m) on the Project area between June to September 2011 using a Zintex, helicopter portable, diamond core drill operated by Team Drilling of Saskatoon (Table 6-1 and Figure 6-1). The same drilling, core logging, sampling, and QAQC procedures used in the 2010 drilling program and as described in Section 6.2.1 were used for the 2011 drilling program, except that Rio Tinto recovered both NQ and HQ diameter core to increase recovery.

Drill hole **11LB0024** was completed on the flank of a magnetic high and gravity low. Only one small zone of iron oxide facies was intersected and returned 34.2% total Fe over 1.14 m from 85.52 m to 86.66 m downhole.

Drill hole **11LB0026** intersected many thin bands of hematite rich oxide facies iron formation. This drill hole was 1.4 km SE from hole 11LB0024 and also targeted a magnetic high and a gravity low. The amount of iron oxide intersected in this drill hole did not correlate directly to the gravity low interpretation. Near the top of the drill hole there was evidence of strong weathering to goethite and limonite with little remnant silicates preserved. This strongly weathered section was porous and interpreted by Rio Tinto geologists to be the cause of the gravity low anomaly. Assay results for this hole were encouraging with 29.6% total Fe over 92.5 m and 30.6% total Fe over 65 m beginning at a depth of 25.5 m.

Drill hole **11LB0027** encountered thick sections of goethite and hematite rich iron formation separated by a quartzite unit. This hole was drilled using larger diameter HQ size drill rods to evaluate whether the drill holes completed in 2010 that had poor recovery, but had intersected good iron grades, were preferentially upgrading the iron minerals at the expense of the silicates. Recoveries did significantly improve using HQ diameter core when compared to the NQ core recoveries from 2010.

The Fe grades intersected in hole 11LB0027 represent significant intercepts with both thickness and grade. The hole was targeting a magnetic null and slight gravity anomaly on the flank of a large magnetic high. The large amount of iron encountered in this hole should have produced a large gravity anomaly but due to the strong weathering of the rock much of the silicates have been altered and the rock has a high amount of void space. Assay highlights include:

- 29.8% total Fe over 279.73 m from 56.27-336 m depth (composite length)
  - $\circ$  ~ including 31.9% Fe over 157.31 m from 56.27-213.58 m depth
  - $\circ \quad$  and 32.9% Fe over 111.58 m from 102-213.58 m depth
  - $\circ$   $\$  and 30.5% Fe over 102 m from 246-336 m depth
- 35.7% total Fe over 15 m from 111 to 126 m depth (best interval)

Drill hole **11LB0029** was completed as a 500-m step-out from hole 11LB0027 and encountered 29.4% total Fe over 120 m (114-234 m depth) with similar mineralization to that observed in hole 11LB0027. This drill hole also returned a high-grade interval of 47.7% Fe over 2.7 m from 207.3-210 m depth.

Drill hole **11LB0030** was completed as a 600 m northeast step-out from hole **11LB0027** in order to assess the northeast extension of the mineralization observed in hole **11LB0027**. This hole targeted a larger gravity and highly magnetic anomaly compared to the anomaly observed at **11LB0027**. The oxide facies encountered in this hole were lower in overall grade but showed significant local iron content such as 44.9% Fe over 3 m from 66-69 m depth. Overall, this drill hole included a composite interval of 26.4% Fe over 214.5 m from 16.5-231 m depth.

Drill hole **11LB0031** targeted a weak gravity high and magnetic null 1km northwest of hole 11LB0027. This hole intersected 28.4% Fe over 97.5 m from 25.5-123 m depth with a smaller interval of 30.3% Fe over 51 m from a depth of 72 m. Similar to other drill holes in the area the geophysical signature did not seem to directly correlate with the amount of iron present so the strong weathering observed in this drill hole was thought to have converted any primary magnetite to a non-magnetic form of iron oxide and increased pore space, thereby reducing the gravity anomaly encountered.

Drill hole **11LB0032** was completed over a large magnetic anomaly and moderate gravity anomaly. The hole intersected a strongly weathered oxide facies near the top of the hole but the weathering quickly became localized and the mineralization intersected was fresh magnetite rich iron formation inter-banded with silicate rich iron formation. Assay highlights include 21.5% Fe over 323 m from 77-400 m depth including 28.4% Fe over 47 m from 77-124 m depth and a smaller interval of 36.4% Fe over 2.65 m from 116.08-118.73 m depth.

Drill hole **11LB0038** intersected a low-grade composited interval of 26.9% Fe over 187 m from 9.4-197 m depth including a higher-grade interval of 36.5% Fe over 5.8 m from 46.2-52 m depth. The majority of the drill hole was strongly weathered, which may have contributed to the subdued magnetic and gravity anomalies over the area.

The 2011 Rio Tinto drilling program discovered large intersections of iron formation that seemed to have good grades. Weathering from meteoric waters appeared to play a role in upgrading the original banded iron found in the holes drilled on the eastern side of the Project. Drilling determined that the depth of weathering was variable and likely controlled by a NW-SE trending fault that cuts across the Project. The realization that good iron grades could be found in areas without prominent gravity or magnetic anomalies resulted in Rio Tinto reviewing all of its iron properties to identify areas with similar characteristics for future drilling.

## 6.2.3 Rio Tinto 2012 Diamond Drilling Program

Rio Tinto completed a total of 6 diamond drill holes (1,427 m) on the Project between June to July 2012 using two helicopter portable, diamond core drills operated by Boart Longyear and Downing Drilling (Table 6-1 and Figure 6-1). The same drilling, core logging, sampling, and QAQC procedures used in the 2010 and 2011 drilling programs and as described in Section 6.2.1 were used for the 2012 drilling program, and Rio

Tinto recovered both NQ and HQ diameter core to increase recovery. In addition, during the 2012 drilling program a MultiMag Reflex or DeviFlex downhole survey tool was used to survey each hole once drilling was completed. In cases where the DeviFlex was used to survey a hole, that data was used to plot the hole in 3-D space for sections and plan maps.

Drill hole **12LB0045** was completed as a 470 m northwest step-out from hole 11LB0027 drilled to ensure that the mineralization encountered in holes 11LB0027 and 11LB0026 (both drilled in 2011) was continuous. Hole 12LB0045 reported a composite assay result of 30% total Fe over 191 m from 56.9 m depth including 34.3% total Fe over 22 m from 126 m depth. Rio Tinto inferred that the increased iron content in this subsection was due to goethite enrichment.

Drill hole **12LB0048** was completed to test the extension of a magnetic anomaly to the south of hole 11LB0032 (drilled in 2011). The hole collared into hematite-rich mineralization with abundant goethite and limonite and contained a continuous mineralized interval of 32.8% total Fe over 70.16 m from 11.13 m depth. Rio Tinto inferred that some of the iron in this intersection could be attributed to goethite and limonite abundances. The assay results also detected deleterious pyrolusite and manganese, which produced increases in MnO. Below this interval, iron mineralization and associated Fe percentages fluctuated throughout the limonite dominated rocks with only a few individual 3 m samples reporting above 30% total Fe.

Drill hole **12LB0051** was completed to the southwest of hole 11LB0026 (drilled in 2011) to test the southern extent of iron mineralization on the Project. This drill hole provided valuable information on the structural characteristics within the Project area with evidence of overturned strata and a precisely located thrust faulting plane. The hole intersected approximately 130 m of schist before entering oxide facies iron formation at approximately 192 m depth returning a composite assay interval of 28.1% total Fe over 33.7 m including 35.88% total Fe over 3.2 m at 221.8 m depth. The hole was completed in silicate facies iron formation with increasing grades.

Drill hole **12LB0053** was completed in order to fill in a stratigraphic hole in the middle of a large magnetic anomaly and possibly extend iron mineralization encountered in hole 11LB0029. Hole 12LB0053 was abandoned at 31.03 m depth due to sand infilling the hole from above (poor ground conditions). The hole was collared in hematite-dominated oxide facies iron formation in a continuous interval of 27.61% total Fe over 19.53 m until it was abandoned.

Drill hole **12LB0054** was completed as a twin hole to 12LB0053 after it was abandoned due to poor ground conditions. Hole 12LB0054 was also abandoned at 36.3 m depth due to sand infilling the hole from above. The hole collared into hematite-dominated iron formation in a continuous interval of 26.51% total Fe over 15.65 m until it was abandoned.

Drill hole **12LB0055** was completed to a depth of 366 m as a twin hole to 12LB0053 and 12LB0054 that were both abandoned due to poor ground conditions. To avoid the problems with sand infilling that affected holes 12LB0053 and 12LB0054, the casing for hole 12LB0055 was extended far into bedrock (35 m in total). The hole encountered hematite dominated iron formation with a composite interval of 27.1%

total Fe over 254 m from 35 m depth (bottom of casing). The hole also intersected intermittent magnetite dominated iron formation and goethite/limonite rich intervals in a composite interval of 32% total Fe over 20.31 m from 180 m depth, and rare schist intervals of 25.2% total Fe over 51.63 m from 314 m depth.

Structural interpretations of the project area by Rio Tinto suggested the geology is composed of intensely folded beds that dip to the southeast. However, Rio Tinto reported that correlation of lithological packages was difficult between drill holes due to abundant folding, and strong to intense alteration of the iron formation lithologies. Lithological units (facies) showed intense folding on a centimetre scale in core and suggested folding on a kilometre scale. Rio Tinto also noted significant variable alteration patterns that transected observed lithological layers in the core. The lack of easily identifiable stratigraphic markers coupled with abundant micro- and macro-folding and the spatially-variable intense alteration made it difficult to recognize repeated layers and folding patterns or decipher the scale of folding in the drill core.

Rio Tinto also noted the generally accepted regional division of subunits within the Sokoman Iron Formation were difficult to distinguish in the core. This may have been due to core logging errors, or that the generally shallow holes made it difficult to discern the differences between Upper, Middle, and Lower Iron Formation units that have been defined on adjacent iron properties. Rio Tinto noted that identifying the three main iron formation facies types in drill core (i.e. oxide, carbonate, or silicate) was possible except in cases were alteration had obscured these facies types.

Rio Tinto concluded that discovering an iron ore deposit in the area with the necessary grade and tonnage to economically mine includes identifying areas where structural controls such as folding and/or faulting have upgraded thinner mineralized units into a mineable package thickness. Finding these zones requires further interpretation of gravity, magnetic, and drill core data, and additional diamond drilling.

## 6.2.4 Rio Tinto Metallurgical Testing Program

In September 2012, Rio Tinto sent 10 composite samples from drill holes 11LB0026, 11LB0027, 11LB0029 and 11LB0030 to SGS Laboratories in Lakefield for metallurgical testing. The program consisted of:

- Head assays on each composite sample including WRA, S, ICM-90A and C.
- Heavy liquid separation at 3.32 g/cm3 on material ground at 100% passing 20 mesh, 28 mesh, 35 mesh, 60 mesh and 100 mesh respectively with WRA and C on the sink fraction only.
- Davis tube testing at 100% passing 60 mesh, 100 mesh, 200 mesh, 270 mesh, 325 mesh and 400 mesh respectively with WRA and C on magnetic fraction only.

In addition, WRA and C was conducted on non-magnetic fraction for 60 mesh, 100 mesh and 200 mesh, SPI testing on half core samples, and bond ball mill grindability testing on half core samples.

Metallurgical test results indicated the following for the iron ore samples collected in the project area:

 Heavy Liquid Separation (HLS): a moderate to high iron grade, moderate to low contaminant concentrate could be achieved using solely HLS separation at a relatively coarse grind size, but weight and iron recoveries are low.
- Davis Tube Recovery (DTR): a high iron grade, low contaminant concentrate could be achieved using solely magnetic separation, at a relatively coarse grind size, but weight and iron recoveries were extremely low.
- Fine grinding: the BWI results to date indicate that the Labrador West Iron deposit is considered "medium" to "hard", and approximately a median BWI hardness in the SGS database. The BWI results showed limited variability between the five samples tested.
- Coarse grinding: The SPI results showed the Project firmly in the bottom quartile of SPI hardness in the SGS database. The SPI results showed moderate variability between the five samples tested.
- Although preliminary in nature, Rio Tinto considered the metallurgical program results to be positive with respect to potential for production of high-quality, low impurity concentrate at reasonable grind sizes.

## 6.3 Historical Mineral Resource and Past Production

To date no historical mineral resource has been completed for the Project. No historical mining activity of any sort has taken place within the area covered by the Labrador West claims.

## 7.0 GEOLOGICAL SETTING AND MINERALIZATION

## 7.1 Regional Geology

The Labrador Trough consists of Paleoproterozoic (2.17 to 1.87 Ga) sedimentary and volcanic rocks, which extend along the eastern margin of the Archean Superior Craton to Ungava Bay. The Labrador Trough forms the western part of a larger orogenic belt called the New Québec Orogen. In southwestern Labrador, the Labrador Trough extends into the younger Grenville Province, where the sedimentary rocks were deformed and metamorphosed ca. 1.0 Ga. The western boundary of the Labrador Trough is the basal unconformity between Paleoproterozoic sedimentary rocks and the Archean basement. To the east, it is bounded by allochthonous deep water sedimentary and volcanic rocks, possibly derived from an oceanic realm. The sedimentary sequence of the Labrador Trough, termed the Kaniapiskau Supergroup, consists of the Knob Lake Group in the western part of the Trough including the project area. The Kaniapiskau Supergroup is interpreted to include a lower rift-related sequence and an upper transgressive sequence that progresses from shelf sediments at the base through deep water turbidites and into shallow marine and terrestrial rocks at the top.

Iron ore deposits in the Labrador Trough are hosted in the Sokoman Formation (within the Knob Lake Group), which sits toward the top of the shelf sequence, above a thick package of shale, dolostones, and siliciclastic rocks (Figure 7-1). The Sokoman Formation consists of a 30–170-m-thick sequence of cherty iron-rich sediments, and is continuous for 250 km from Labrador City to Schefferville; it also continues into Québec in both directions, and is one of the most extensive iron formations on Earth. North of the Grenville Province, the stratigraphic sequence is largely intact, and the position and distribution of the Sokoman Formation is very predictable. Parts of this area experienced low-grade (greenschist facies) metamorphism and open to tight folding, but in the western foreland, the rocks are gently dipping and essentially undisturbed. In the southern part of the Labrador Trough, the rocks are highly metamorphosed and complexly folded, but the essential stratigraphy of the Kaniapiskau Supergroup remains discernable, albeit structurally disrupted. The productive unit in this area is locally known as the Wabush Iron Formation, but it is directly equivalent to the Sokoman Formation to the north.





Source: Wardle, R J et al. Government of Newfoundland and Labrador, Department of Mines and Energy, Geological Survey, Open File LAB/1226 Version 1.0, 1997.

## 7.2 Property Geology

In the Labrador West project area, the Sokoman Formation is informally divided into three iron formation lithofacies or "facies types" characterised by different mineralogy and textures. These lithofacies are not exclusive and there can be some overlap in mineral assemblages. Iron formations present in the project area are known to be very heterogeneous and bands with very different composition and mineralogy can occur at the sub-millimetre scale.

## **Oxide Facies Iron Formation**

The oxide facies is dominated by iron oxide iron minerals such as hematite and magnetite plus quartz (chert). There may be accessory carbonates (calcite or dolomite), silicates, and, rarely, manganese oxides or carbonates. Hematite and magnetite have a tendency to be easily recovered and beneficiated to high purity concentrates and are therefore the most desirable iron mineralogy. Manganese is an undesirable element, and its mineral deportment may have major impacts on metallurgy. In the southern Labrador Trough, original manganese oxides may have reacted with quartz to form rhodonite or carbonates to form kutnahorite during high-grade regional metamorphism.

## **Carbonate Facies Iron Formation**

The carbonate facies iron formation consists of quartz (chert) and iron-rich carbonate. In the project area, the carbonate is of variable grainsize and light to dark grey in colour and commonly weathers to a distinctive reddish-brown colour. Composition appears to vary from almost pure siderite to ferroan dolomite. Quartz is generally white and recrystallised but in places may be cherty and almost black on freshly broken surfaces. Rocks are generally thinly-banded, with layers usually ranging from a few millimetres to several centimetres. Thicker banding appears to be associated with proximity to oxide facies iron formation and in places carbonate and quartz-rich bands may be up to tens of centimetres thick. Some of the fine banding may be developed by transposition, especially in high-strain zones, but some is related to relict bedding and it can be difficult to distinguish between the primary and tectonic fabrics in small outcrops.

As a chemically intermediate type, carbonate iron-formations may grade into, or be interbedded with each of the other iron formation facies. The usual transitions are to complex silicate-magnetite-carbonateguartz rocks, interpreted to represent original quiet-water, more micritic environments. Reaction of carbonates and silicate species to fibrous tremolite and other silicate species (quartz+pyroxene+amphibole+garnet) appears to occur with increasing grade of metamorphism, especially in original, finely laminated lithofacies that have been more highly deformed. However, there are enclaves where quartz-carbonate assemblages are preserved, presumably where  $CO_2$  could not escape from the system.

#### **Silicate Facies**

In the project area, silicate-rich iron formation facies are typically thin- to medium-banded with quartzrich bands from millimetres up to several centimetres thick. Outcrops vary in colour from brown to grey. Fibrous amphiboles such as grunerite are common in some areas. Elongate silicate grains often define pronounced stretching lineation in high strain zones. Magnetite content is highly variable. Locally magnetite may occur in semi-massive bands up to several centimetres thick. Silicate facies lithology codes were used for any metre scale rock units where silicate and carbonate appear to comprise 10-30% of the interval. Iron oxides may be present as interlayering in these intervals comprising from 10-20% of the interval.

In southwestern Labrador including the project area, the Labrador Trough extends into the younger Grenville Province, where the sedimentary rocks were highly metamorphosed and complexly folded during the Trans-Hudsonian and Grenvillian orogenies. Although metamorphosed and deformed, the essential stratigraphy of the sedimentary rocks remains discernable in the Labrador City/Wabush area (Figure 7-2).

The Sokoman Formation falls within the Kaniapiskau Supergroup and has been subdivided into three members (Figure 7-3). The lower part of the Sokoman Formation (Lower Iron Formation) consists largely of a carbonate-silicate facies with some magnetite. This grades upward into an oxide facies with abundant coarse-grained hematite and/or magnetite and sugary textured quartz (Middle Iron Formation). These oxide-rich beds are the most important economically, with iron-rich layers and lenses commonly containing more than 50% hematite and magnetite. The upper part of the Sokoman Formation (Upper Iron Formation) is a carbonate-silicate facies with minor oxides. The Sokoman Formation is underlain by quartzites of the Wishart Formation. The overlying rocks (Menihek Formation) consist largely of graphitic, chloritic, and micaceous schists.

The lower part of the Sokoman Formation consists largely of iron silicates and siderite, with some disseminated magnetite. This grades upward into a sequence of thick, massive beds of grey to pinkish chert and iron-oxide-rich beds. These iron oxide-rich beds are the most important economically, with iron-rich layers and lenses commonly containing more than 50% hematite and magnetite. The upper part of the Sokoman Formation is comprised of dull green to grey or black massive chert that contains ferruginous carbonates but is relatively iron-poor. The Sokoman Formation is interbedded in places with mafic volcanic rocks of the Nimish Formation and is underlain by quartzites of the Wishart Formation. The iron rich units on High Tide property are thought to sit mostly within the Middle Sokoman Formation with most holes ending in the Wishart Formation quartzites. The overlying rocks (Menihek Formation) consist largely of black shales and slates that record a sudden deepening of the basin.

## 7.3 Regional Structure and Metamorphism

As described above, two major episodes of deformation are recognized in the Labrador Trough; the Hudsonian Orogeny (~1,750 to 1,800 Ma) and the major deformation and thermal re-working events of the Grenvillian Orogeny (~1,200 to 1,100 Ma). In the northern part of the Labrador Trough (Schefferville

northwards), regional NW-trending folds and thrusts are ascribed to the early Hudsonian Orogeny with less impact from the Grenvillian Orogeny.

The Project is located within the Gagnon Terrane, a Grenvillian foreland-directed, metamorphic foldthrust belt that carried Paleoproterozoic metasediments and part of their Archean crystalline basement in a generally north-northwest-directed thrust movement onto the Superior province foreland. The most obvious structural elements are a major series of NE-striking, NW-verging folds and thrusts, resulting from complex and polyphase deformation and metamorphism, with complex local structural regimes within the developing stack of brittle-ductile thrust sheets. It is not clear whether deformation shifted progressively with time or was pulsed in discrete episodes, but at least three major deformation phases can be recognized. Overall, the deformation is considered synkinematic with major metamorphism and granitic intrusions that increases in intensity to the south and east.



#### Figure 7-2: Property Geology Map for the Labrador West Iron Project

Source: Wardle, R J et al. Government of Newfoundland and Labrador, Department of Mines and Energy, Geological Survey, Open File LAB/1226 Version 1.0, 1997.



#### Figure 7-3: Stratigraphy of the Kaniapiskau Supergroup and Sokoman Formation (after Zajac, 1974)

## **8.0 DEPOSIT TYPES**

The iron formation within the Labrador Trough and project area is of the Lake Superior-type. Lake Superior-type iron formations consist of banded sedimentary rock composed principally of bands of iron oxides, predominantly magnetite and hematite, within quartz (chert)-rich rock interbedded with variable amounts of silicate, carbonate and sulphide lithofacies iron formation. Such iron formations have been the principal sources of iron throughout the world (Gross, 1996). Table 8-1 indicates the general characteristics of the Lake Superior-type iron deposit model.

All iron ore deposits in the Labrador Trough formed as chemical sediments that were lithified and variably affected by alteration and metamorphism. This had important effects upon grade, mineralogy and grain size, which impacts the mineability of iron-ore deposits. In addition, faulting and folding led to repetition of sequences in many areas, which greatly increases the surface extent and mineable thicknesses of the iron-ore deposits.

The three main types of iron-ore deposits present in the Labrador Trough include:

**Taconites:** These are present throughout the Labrador Trough and are comprised of fine-grained, unmetamorphosed or weakly metamorphosed sedimentary iron formations (15 to 30% Fe), with magnetite as the dominant iron-ore mineral. None are presently mined in the Labrador Trough, although they are important sources for iron ore elsewhere (e.g., Minnesota).

**Meta-taconites**: These are present in the southern part of the Labrador Trough, especially in the Labrador City-Wabush area, including within the Labrador West Iron Project. They have been moderately to strongly metamorphosed during the Grenville orogeny at ca. 1.0 Ga, and are coarse grained with specular hematite, granular magnetite and friable quartz. The grade of these iron-ore deposits is generally higher than unmetamorphosed taconites (up to 41% Fe). They are easily beneficiated into iron concentrates (approximately 65% Fe), which are ideal for pellet production.

**Direct Shipping Ores (DSO):** These are secondary iron ores containing >50% Fe that formed from the enrichment of primary taconites. Such iron ores require minimal beneficiation and have very low mining costs. Two main types of DSO deposits have been described in the Labrador Trough. Soft, friable, finegrained, variably porous deposits occur mostly in the Schefferville District of Quebec and may be related to deep groundwater circulation and supergene enrichment associated with Mesozoic (Cretaceous) tropical climates. Specifically, silica and carbonate were leached from the ores, leaving a high residual iron content. Hard DSO deposits occur in several locations, including Sawyer Lake and Astray Lake southeast of Schefferville, Quebec.

The iron deposits in the Grenville part of the Labrador Trough in the vicinity of Wabush and Mont-Wright that have been developed through mines operated by IOC (Rio Tinto), ArcelorMittal, and Cliffs Natural Resources ("Cliffs") (Wabush Mine) are meta-taconites. The Bloom Lake iron deposit being mined by Champion is also a meta-taconite. The iron formation within the Project area is similarly Lake Superior-type meta-taconite.

For non-supergene-enriched iron formation to be mined economically, iron oxide content must be sufficiently high, but the iron oxides must also be amenable to concentration (beneficiation). The concentrates produced must also be low in deleterious elements such as silica, aluminum, phosphorus, manganese, sulphur and alkalis. Additionally, for efficient bulk mining, the undesirable silicate and carbonate lithofacies and other rock types interbedded within the iron formation must be sufficiently segregated from the iron oxides at scales appropriate for exclusion through the mining method being applied. Folding can be important for structurally repeating iron formation units. This is an important contributing factor at various locations within the currently producing sections of the Labrador Trough, where thick sections comprised of economic concentrations of iron have been the direct result.

| Criteria  | Description   |
|---|---|
| Deposit Examples: Canadian and<br>Foreign                 | Knob Lake, Wabush Lake, and Mont-Wright areas, Quebec and Newfoundland and<br>Labrador, Canada<br>Mesabi Range, Minnesota, USA<br>Marquette Range, Michigan, USA<br>Minas Gerais area, Brazil   |
| Importance  | Canada: the major source of iron<br>World: the major source of iron   |
| Typical Grade, Tonnage                                    | Up to billions of tonnes, at grades ranging from 15 to 45% Fe, and averaging 30% Fe.  |
| Geological Setting  | Continental shelves and slopes possibly contemporaneous with offshore volcanic ridges. Principal development in Middle Precambrian shelf sequences marginal to Archean cratons  |
| Host Rocks or Mineralized Rocks                           | Iron formations consist mainly of iron and silica-rich beds; common varieties are taconite, itabirite, banded hematite quartzite, and jaspilite; composed of oxide, silicate and carbonate facies and may also include sulphide facies. Commonly intercalated with other shelf sediments: black   |
| Associated Rocks  | Bedded chert and chert breccia, dolomite, stromatolitic dolomite and chert, black<br>shale, argillite, siltstone, quartzite, conglomerate, red beds, tuff, lava, volcaniclastic<br>rocks; metamorphic equivalents of the preceding rock types   |
| Form of Deposit, Distribution of<br>Ore Minerals          | Mineable deposits are sedimentary beds with cumulative thicknesses typically from 30 m to 150 m and strike lengths of several km. In many deposits, repetition of beds caused by isoclinal folding or thrust faulting has produced widths that are economically mineable. Iron mineral distribution is largely determined by primary sedimentary deposition. Granular and oolitic textures are common |
| Minerals: Principal Ore Minerals<br>- Associated Minerals | Magnetite, hematite, goethite, pyrolusite, manganite, hollandite.<br>Finely laminated chert, quartz, Fe-silicates, Fe-carbonates and Fe-sulphides (primary)<br>or metamorphic derivatives of the preceding rock types   |
| Age, Host Rocks   | Precambrian, predominantly early Proterozoic (2.4 to 1.9 Ga).   |
| Age, Iron Ore   | Syngenetic, same age as host rocks. In Canada, major deformation during Hudsonian and, in places Grenvillian orogenies produced mineable thicknesses of iron formation  |

| Table 8-1: De | posit Model for | Lake Superio  | or-Type Iron | Formation ( | after Eckstrand. | 1984) |
|---------------|-----------------|---------------|--------------|-------------|------------------|-------|
|               |                 | Lance Caperio |              |             |                  | ,     |

| Criteria                               | Description  |
|--|--|
| Genetic Model                          | A preferred model invokes chemical, colloidal and possibly biochemical precipitates of<br>iron and silica in euxinic to oxidizing environments, derived from hydrothermal effusive<br>sources related to fracture systems and offshore volcanic activity. Deposition may be<br>distal from effusive centers and hot spring activity. Other models derive silica and iron<br>from deeply weathered land masses, or by leaching from euxinic sediments.<br>Sedimentary reworking of beds is common. The greater development of Lake Superior-<br>type iron formation in early Proterozoic time has been considered by some to be<br>related to increased atmospheric oxygen content, resulting from biological evolution |
| Ore Controls, Guides to<br>Exploration | Distribution of iron formation is reasonably well known from aeromagnetic surveys.<br>Oxide facies is the most economically important of the iron formation facies. Thick<br>primary sections of iron formation are desirable. Repetition of favorable beds by<br>folding or faulting may be an essential factor in generating widths that are mineable<br>(30 to 150 m). Metamorphism increases grain size, improves metallurgical recovery.<br>Metamorphic mineral assemblages reflect the mineralogy of primary sedimentary<br>facies. Basin analysis and sedimentation modeling indicate controls for facies<br>development and help define location and distribution of different iron formation<br>facies.       |

## 9.0 EXPLORATION

High Tide did not complete any exploration work on the Project prior to the diamond drilling program carried out in 2020. Refer to Section 10 for details on the 2020 diamond drilling program.

## **10.0 DRILLING**

## 10.1 Overview

High Tide completed a diamond drilling program between July 26, 2020 and September 3, 2020 focused on the iron deposits defined by previous drilling within the Project area. The diamond drilling program was supervised by report author Alan Philippe, P. Geo., (Mercator Senior Project Geologist) and comprised four diamond drill holes totalling 999.5 m. The diamond drilling program was designed to test the lithological and grade continuity between several widely spaced historical Rio Tinto diamond drill holes completed between 2010 and 2012 (refer to Section 6 for details). Table 10-1 and Figure 10-1 indicate the location of diamond drilling holes completed in 2020 within the Labrador West project area.

| Hole No.    | Easting<br>NAD83<br>(m) | Northing<br>NAD83<br>(m) | Azimuth<br>(deg.) | Dip<br>(deg.) | Total<br>Depth (m) | Start Date<br>D/M/Y | End Date<br>D/M/Y |
|-------------|-------------------------|--------------------------|-------------------|---------------|--------------------|---------------------|-------------------|
| 20LB0056*   | 650609                  | 5895214                  | 341.0             | -80           | 128                | 7/28/2020           | 8/3/2020          |
| 20LB0057    | 650850                  | 5895414                  | 340.8             | -80           | 347                | 8/4/2020            | 8/13/2020         |
| 20LB0058*   | 651068                  | 5895589                  | 339.6             | -80           | 190                | 8/13/2020           | 8/18/2020         |
| 20LB0059    | 650631                  | 5895442                  | 339.8             | -80           | 334.5              | 8/19/2020           | 9/2/2020          |
| Total metre | age (m)                 |                          |                   |               | 999.5 m            |                     |                   |

Table 10-1: Summary of Labrador West Diamond Drilling Program

#### Notes:

(1) Collar locations were surveyed using a handheld Garmin 64s GPS unit and are reported in UTM NAD83 Zone 19N

(2) True widths are estimated to be approximately 90% of the reported intervals

(3) Core drilling program using NQ diameter drilling rods

(4) \*Holes were stopped in mineralization due to poor ground conditions

The 2020 diamond drilling program was undertaken using a CDI 500 heli-portable diamond drilling rig provided by Cartwright Drilling Inc. ("Cartwright") of Happy Valley – Goose Bay, NL. The drilling rig was broken down into numerous components weighing less than 900 kilograms (approx. 2,000 lbs) and flown by a Eurocopter AS350 B2 helicopter to the drill pad site where it was re-assembled. This program was completed using wireline drilling equipment that recovered NQ size (47.6 mm diameter) core. The depth capacity of the equipment used is approximately 500 metres using NQ rods at hole inclinations between -90° and -45°.

Drill holes described in this report were located on Crown land owned by the Province of Newfoundland and Labrador. Completed drill holes depths ranged from 128 m to 347 m in drilled length. Due to poor local ground conditions core loss occurred in certain drill holes. Zones of poor recovery correlate with possibly faulted areas and also with otherwise broken and friable rock units. Within such zones issues related to the use of excess water pressure, ineffective use of drilling additives, grinding of core, and the re-drilling of core that had dropped from the core barrel commonly occurred.





Core loss was documented during geotechnical logging as well as in every sample record comment where loss for a sampled interval exceeded 50 cm. Drill holes were spotted using a Garmin 64s global positioning system (GPS) hand-held instrument using UTM NAD83 Zone 19N coordination. All drill pads were cleaned of any debris after completion of drilling activities and remain clearly visible at this time. Future surveying of hole locations using more accurate positioning methods can be readily undertaken.

# 10.2 Labrador West 2020 Diamond Drilling Program Details

The following summarizes the geology and mineralization for each of the four diamond drill holes completed on the Labrador West property in 2020. Generally, overburden thickness varied from 1.8 m to 10 m and drilling confirmed that the bedrock sequences are predominantly comprised of thick (typically >50 m) lenses of massive specular hematite (HMOX) containing relatively thin (10-20 m) interbedded intervals of variably altered silicate and /or carbonate facies iron formation. All four holes intersected high grade intervals of total iron (Total Fe) dominated by HMOX. This is consistent with results returned for the four Rio Tinto holes completed previously in the immediate area of the 2020 drilling. The highest-grade interval using a 15% Total Fe cut-off is 35.3% Total Fe over 25.7 m in 20LB0056, beginning at a downhole

depth of 31.5 m. The thickest composite intercept using the same 15% cut-off is 26.8% Total Fe over 321.5 m, beginning at a downhole depth of 1.8 m in 20LB0059.

A summary of the Labrador West significant composite assay results appears in Table 10-2 below and Figure 10-2 presents a typical cross section through the mineralized stratigraphic section present in the drilling area. True widths for the sections drilled are estimated to be approximately 90% of measured sample interval thicknesses. The stratigraphic section containing the iron mineralization of interest is interpreted to be dipping gently to the southeast at less than 5 degrees. A summary of the main lithologies encountered in each drill hole appears below in section 10.2.1 and Table 10-3 describes the lithocoding system used during the 2020 core logging program.

| Hole ID  | From (m) | To (m) | Interval (m) | Total Fe (%) | Recovery (%) |
|----------|----------|--------|--------------|--------------|--------------|
| 20LB0056 | 31.5     | 57.2   | 25.7         | 35.3         | 35           |
| 20LB0056 | 68.0     | 128.0  | 60.0         | 33.8         | 66           |
| 20LB0057 | 23.3     | 338.0  | 314.7        | 29.6         | 74           |
| 20LB0058 | 4.5      | 120.2  | 115.7        | 26.9         | 100          |
| 20LB0058 | 132.8    | 190.0  | 57.2         | 31.0         | 91           |
| 20LB0059 | 1.8      | 323.3  | 321.5        | 26.8         | 70           |

Table 10-2: Significant Composite Assay Intervals For 2020 Labrador West Diamond Drilling Program

#### Notes:

(1) Assay composites are reported using a 15% Total Fe cut-off grade

(2) Minimum composite length = 10 m

- (3) Maximum consecutive waste interval = 10 m
- (4) Composite assay intervals shown are measured core lengths and true widths are estimated to be approximately 90% of the reported intervals. The Company and its geological consultants are not aware of any drilling, sampling, recovery or other factors that could materially affect the accuracy or reliability of the assay data disclosed herein. Sample recoveries vary from 3% to 100% and samples were constrained to a minimum of 30 cm of rock volume. Sample sizes averaged 2 metres with more constrained sampling as deemed necessary by the logging geologist. Recoveries were estimated for composite intervals using geotechnical information recorded at time of logging.
- (5) Composites may include minor low grade or unmineralized silicate facies iron formation units that are less than 10m in down hole length.

(6) True widths are estimated to be ~ 90% of total composite intervals reported

Figure 10-2: Cross Section Of Labrador West Drill Holes With Significant Composite Assay Intervals (View to Northwest)



| Code         | Description   | Fe Oxide | Carb  | Sil    | Mag    |
|--------------|---|----------|-------|--------|--------|
| AMPH         | quartz. Pyrite if present is typically in this unit.                | <10%     |       |        |        |
| GSBA         | variable mica   |          |       |        |        |
|              |   |          |       |        |        |
|              | Quartz-carbonate-hematite; Fe Oxides <10%; carbonate >10%;          | <10%     |       | <10%   | low    |
| CAHM         | silicates <10%; weakly to non-magnetic (Mag susc <200x10-3).        |          |       |        |        |
|              | Quartz-siderite (carbonate unreactive to 10% acid). Fe Oxides       |          |       |        |        |
|              | <10%; Carb>20%; Silicates <10%; weakly magnetic (Mag susc           | <10%     | >20%  | <10%   | low    |
| CAMT         | <200x10-3).   |          |       |        |        |
|              | Quartz-siderite (carbonate unreactive to 10% acid). Fe Oxides       |          |       |        |        |
|              | <10%; Carb >10%; Silicates <10%; non-magnetic (Mag suc <3x10-       |          | >10%  | <10%   | non    |
| CARB         | 3)  |          |       |        |        |
|              | Granular carbonate>quartz rock; quartz <50%. Carbonate likely       |          |       |        |        |
| CMBL         | to be HCl reactive.   |          |       |        |        |
| FMSC         | Feldspar>mica>quartz rock   |          |       |        |        |
| FQTE         | Feldspar>quartz>mica rock   |          |       |        |        |
| <b>C C C</b> | Goethite-limonite>silicate-carbonate; Fe oxides >10%; silicate      | >10%     |       |        |        |
| GLOX         | and carbonates variable   |          |       |        |        |
|              | Quartz-nematite>magnetite (martite); Fe oxides >10%;                | × 100/   | -100/ | 1100/  | 1      |
|              | carbonate and silicates <10%; weakly to non magnetic (Mag           | >10%     | <10%  | <10%   | IOW    |
|              | Justz-hamatita-magnatita (martita): Ea avidas >10%.                 |          |       |        |        |
|              | carbonate and silicates <10%; moderately magnetic (Mag succ         | >10%     | <10%  | <10%   | mod    |
| MHOX         | 200-500y10-3)   | ~10/0    | ~10%  | ~10%   | mou    |
| WINDA        | MT or HM-rich oxide faces with distinctive pink colour due to       |          |       |        |        |
| MNOX         | Mn silicates and carbonates   |          |       |        |        |
| WINCOX       | Quartz-carbonate-magnetite: Fe Oxides >10%: carbonate               |          |       |        |        |
| MTCA         | >10%: silicates <10%: magnetic (Mag susc >200x10-3)                 | >10%     | >10%  | <10%   | mod    |
|              | Quartz-magnetite>hematite-carbonate: Ee oxides >10%:                |          |       |        |        |
|              | carbonate and silicates <10%; strongly magnetic (Mag susc           | >10%     | <10%  | <10%   | high   |
| мтох         | >500x10-3).   | - 10/0   | -20/0 | -10/0  |        |
|              | Quartz-magnetite-silicate; Fe oxides >10%; carbonates <10%;         |          |       |        |        |
| MTSI         | strongly magnetic (Mag susc >200,000)                               | >10%     | <10%  |        | v high |
|              | Lean quartz-magnetite-hematite; little to no silicate or            |          |       |        |        |
|              | carbonate; Fe oxides present but <10%; weakly to non-               |          |       |        | low    |
| QMHT         | magnetic (Mag susc <200x10-3).                                      |          |       |        |        |
|              | Granula quartz>carbonate rock; quartz>50%. Carbonate likely         |          |       |        |        |
| QTEC         | to be HCl reactive.   |          |       |        |        |
| QTEF         | Quartz dominated rock with feldspar as main accessory               |          |       |        |        |
|              | Quartzite or quartz dominated rock with micas as main               |          |       |        |        |
| QTEM         | accessory   |          |       |        |        |
|              | Amphibole-rich schist; dark green or blueish green in colour;       |          |       |        |        |
| SCAM         | often with biotite and garnet                                       |          |       |        |        |
|              | Graphitic schist; varies from almost massive graphite to finely     |          |       |        |        |
| SCGP         | banded graphitic mica schist  |          |       |        |        |
|              | Garnet-rich schist; garnet >10%; mica and qtz-rich; may be          |          |       |        |        |
| SCGT         | granpitic or have some Fe silicates.                                |          |       |        |        |
|              | Ivicaceous schist-muscovite/biotite rich; quartz and feldspar       |          |       |        |        |
| SCM          | vary up to >70%; relaspar; quartz etc to be specific in             |          |       |        |        |
| SCIVII       | comments.   |          |       |        |        |
|              | Quartz-cilicate-carbonate: carbonates variably reactive to acid.    | <10%     | >10%  | >10%   | Var    |
| SICA         | Eq. Ovides <10%: Carb >10%: Silicates >10%: variably magnetic       | ×10%     | ~10%  | ~10%   | vdi    |
| JICA         | $\Omega_{\rm mattr-silicate>carbonate-garnet >10%. Fe oxides <10%.$ |          |       |        |        |
|              | common garnet: silicates >10%; carbonate <10%; non-magnetic         | <10%     | <10%  | >10%   | non    |
| SIGT         | (Mag susc <3x10-3)  | 10/0     | ~10/0 | / 10/0 | 1011   |
| 5101         | Quartz-silicate>carbonate: Fe oxides <10% silicates >10%            |          |       |        |        |
| SILL         | carbonate <10%: non-magnetic (Mag susc <2x10-3)                     | <10%     | <10%  |        | low    |
|              | Quartz-silicate-magnetite: Fe oxides <10%: carbonates <10%          |          |       |        |        |
| SIMT         | weakly magnetic (Mag susc <200x10-3).                               | <10%     | <10%  |        | low    |
|              | Relog code: non-magnetic schist. Marker "spotty doa"?               |          |       |        |        |
| SCFB         | Abundant amphibole.   |          |       |        |        |
|              | Relog code: goethite + limonite and quartz. Highly weathered,       |          |       |        |        |
| GLSI         | incompetent core. Silicate protolith.                               |          |       |        |        |
| GLCA         | Relog code: goethite +/- limonite. Likely SICA protolith.           |          |       |        |        |
|              |   |          |       | -      |        |

## Table 10-3: Lithology Coding for Labrador West Diamond Drilling Program

Notes: Carb = carbonate facies; Sil = silicate facies; Mag = magnetic susceptibility; non = nonmagnetic, var = variable

## 10.2.1 Labrador West 2020 Diamond Drill Hole Summary Descriptions

#### Drill hole 20LB0056

This hole had a planned depth of 350 m but terminated at a depth of 128 m due to poor ground conditions. Attempts to recover the hole were not successful. The hole was collared approximately 260 m east of Rio Tinto hole 11LB0027 and was targeted as an infill hole to test continuity of iron mineralization between holes (Figure 10-1). The hole intersected predominantly iron formation rocks, including a thick section of massive specular hematite (HMOX lithocode) as well as thinner, interbedded sections of carbonate/silicate facies iron formation rocks with greater than 10% interbedded iron formation (oxide facies), plus goethite and limonite bearing intervals (GLOX, GLSI lithocodes). The hole also encountered a 6.8m thick silicate carbonate interval (QMHT lithocode), with a granular quartz matrix plus patchy ankerite, and minor goethite mineralization. Significant core loss was noted (approx. 90%) between 57.2 m and 68.2 m and is noted in Figure 10-3.



Figure 10-3 Cross Section of Drill Hole 20LB0056 (View to Northwest)

## Drill hole 20LB0057

This hole was drilled to a depth of 347 m and was collared 75 m north of Rio Tinto drill hole 11LB0027 (Figure 10-1). The top of the hole from 3 m to 12 m intercepted silicate facies iron formation (GLSI lithocode) with hematite and magnetite mineralization followed by a 11.3 m thick marker bed of biotite schist (SCAM lithocode) to a depth of 23.3 m. The remainder of the hole was dominated by thick iron formation (HMOX, GLOX lithocodes) interlayered with minor silicate facies iron formation (GLSI lithocode) and a thin interval (< 10m) of a quartz rich unit (QMHT lithocode). The hole intersected quartzite of the Wishart Formation at a depth of 338 m and was shut down at 347 m (Figure 10-4).

## Drill Hole 20LB0058

This hole had a planned depth of 350m but was terminated at a depth of 190m due to poor ground conditions. The hole was collared as an infill hole between Rio Tinto hole 11LB0030 in the northwest and High Tide hole 20LB0057 in the southeast (Figure 10-1). The top of the hole, from 4.5 m to 120.2 m, was dominated by iron oxides (>10%) (MTCA, MTSI lithocodes) and minor thin silicate-quartz-carbonate iron formation, (SICA, SIMT lithocodes at <10%). Iron oxides in these silicate units were mostly comprised of centimetre-scale magnetite bands (10-20% visual estimates). A 12.6 m think quartz-biotite schist (SCAM lithocode) was intersected from 120.2 m to 132.8 m. From 132.8 m to 190 m the hole intersected magnetite banding. Minor intercalated strongly altered goethite iron formation (GLOX lithocode) and thin quartz units (QMHT lithocode at <10m thicknesses) were also intersected within the predominantly oxide facies mineralization interval. The hole was terminated at 190m due to poor ground conditions (Figure 10-5).

## Drill hole 20LB0059

This hole was targeted as a step-out infill hole located 225m east from High Tide hole 20LB0057 and Rio Tinto hole 12LB0045 (Figure 10-1). The hole collared into bedrock at 1.8m and intersected a quartz rich unit (QMHT lithocode) to a depth of 20.2m, including a 4.9m interval of quartz-biotite rich schist (SCAM lithocode). From 20.2m to 325.1m the hole was dominated by thick lenses of oxide facies iron formation with quartz, hematite, magnetite (HMOX, GLOX lithocodes) and a small 4m interval of interbedded quartz-silicate-carbonate (SILI lithocode). Quartzite of the Wishart Formation was intersected at 325.1m and the hole was terminated at 334.5m (Figure 10-6).

## 10.3 Cost of 2020 Core Drilling Program

The total cost of the 2020 core drilling program on the Labrador West Project is approximately \$700,000. This includes diamond drilling services and support services (i.e. helicopter costs), core logging and sampling, laboratory assay testing, and geological consulting costs.

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#### Figure 10-5 Cross Section Drill Hole 20LB0058 (View to Northwest)

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#### Figure 10-6 Cross Section Drill Hole 20LB0059 (View to Northwest)

## **11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY**

## 11.1 Core Logging, Sampling and Sample Preparation

Core from a total of 999.5 m of drilling was collected from the Labrador West diamond drilling program and logged, sampled, and tested for magnetic susceptibility (Mag Sus) using a KT-10 magnetic susceptibility meter. Geotechnical logging included recording of core box tags and calculation of total core recovery (TCR) and rock quality designation (RQD). Drill core was generally continuously sampled based on an average core sample length of 2 m through competent sections of core, and 1.5 m through iron oxide rich zones and incompetent sections of core. Larger sample intervals (>3 m) were also used in some instances and correspond to areas of significant core loss within the sample interval. Every sample had a water immersion specific gravity (SG) test performed (Figure 11-1). No bulk density samples were collected from rubbly core or strongly weathered core. All core was photographed both dry and wet, with digital images being securely stored on an Imago Incorporated (Imago) cloud-based server accessible to both High Tide and Mercator. Photos are were also securely stored on the Mercator cloud-based server.



#### Figure 11-1: Water Immersion Specific Gravity Station

Core samples were sawn in half longitudinally using a VANCON 240-volt core saw (Figure 11-2). The core was cut in half so that the half retained in the box for archival purposes was that which contained the china marker writing applied during the logging process. The other half core for each sampled interval was placed into a numbered plastic sample bag along with a sample number tag and the bag was sealed using a zip tie. QAQC samples to be inserted in the sampling stream were prepared in advance. A paper sample tag corresponding to the sample number was placed inside the sample bag prior to sealing of the bag with

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the zip tie. The bagged core samples were grouped and then placed in labelled rice bags for shipment to the laboratory. Rice bags were placed on wooden pallets, shrink wrapped and delivered to the transport company Procam International Inc. (ProCam) located in Labrador City. Procam is a commercial shipping firm independent of High Tide, Avidian and Mercator.

### Figure 11-2: Core Saw Setup



Procam delivered the palleted core samples to Activation Laboratories Ltd. (Actlabs) in Ancaster, ON where they were prepared and analyzed. Iron content was measured using the Lithium Metaborate fusion technique. Prior to fusion, the loss on ignition (LOI), which includes H<sub>2</sub>O+, CO<sub>2</sub>, S and other volatiles, is determined from the weight loss after roasting the sample. The fusion disk is made by mixing the roasted sample with a combination of lithium metaborate and lithium tetraborate. Samples are fused in Pt

crucibles using an automated crucible fluxer and automatically poured into Pt molds for casting. Samples are analyzed on a Panalytical Axios Advanced wavelength dispersive XRF.

Sample preparation at Actlabs was through the laboratory's standard rock preparation protocol that begins with jaw crushing followed by pulverization of a sample split (250g) to generate a pulp having 95% passing 0.074 mm grain size.

# **11.2** Sample Analysis

Iron content of core samples was determined at Actlabs using X-Ray Fluoresence (XRF) methods after lithium metaborate fusion of a sample pulp. As noted earlier, Actlabs is a commercial analytical services firm that is ISO 17025 registered and CALA accredited. It is fully independent of High Tide Resources, Avidian, and Mercator.

Prior to fusion, loss on ignition (LOI), which includes H<sub>2</sub>O+, CO<sub>2</sub>, S and other volatiles, was determined from the weight loss after roasting of the sample. The fusion disk was made by mixing the roasted sample with a combination of lithium metaborate and lithium tetraborate. Samples were fused in Pt crucibles using an automated crucible fluxer and automatically poured into Pt molds for casting. Samples were analyzed on a Panalytical Axios Advanced wavelength dispersive XRF.

## 11.3 QAQC Program

## 11.3.1 Program Summary

High Tide's QAQC sample insertion rates were established by Mercator, with certified reference material prepared previously for High Tide by Smee & Associates Consulting Ltd. of North Vancouver, BC, Canada used for both blanks and standards. These were inserted at a rate of every alternating 10<sup>th</sup> sample. Standards A, B, and C were selected in random order and inserted in the sample stream. A certified blank (referred to as Standard D) was also systematically inserted in the sample stream. Duplicate core splits were taken every 45<sup>th</sup> or 95<sup>th</sup> sample (or from a nearby core sample section more amenable to sampling). Standards and blanks were pre-made and blindly inserted into the core sample numbering sequence. Details of each insertion were recorded into the original sample booklet and then entered into the project digital database. Any out of sequence samples collected were identified by flagging tape inside the core box prior to cutting and also recorded in the original sample booklet and then the project digital database. Results of the QAQC program was monitored by Mercator on an on-going basis. As detailed below in Section 11.3.2, acceptable QAQC program results were returned for all of the 2020 drilling program analyses.

# 11.3.2 QAQC Program Results

The certified mean values for total iron (Total Fe) provided for the four certified reference materials provided by Smee and Associates Consulting Ltd. are presented in Table 11-1. Standards A, B and C were submitted as blind certified reference standards whereas Standard D, which has a much lower Fe content,

was submitted as a blind blank sample. In total, 26 blind certified reference standards and 26 blind blank samples were submitted to Actlabs to be analyzed. Reference samples were systematically inserted into the laboratory sample shipment sequence by Mercator staff following the insertion procedure described above. Records of reference standard and blank insertions were maintained as part of the core sampling and logging QAQC protocols.

| Reference Material | Certified Mean Total Fe % | Number of Samples Submitted |
|--------------------|---------------------------|-----------------------------|
| Standard A         | 21.02 ± 0.25              | 8                           |
| Standard B         | 20.35 ± 0.31              | 10                          |
| Standard C         | 25.40 ± 0.22              | 8                           |
| Standard D         | 4.31 ± 0.08               | 26                          |

## Table 11-1: Certified Mean Total Fe % for Standards

The Total Fe results for the three submitted reference standards are plotted in Figures 11-3 to 11-5. All Total Fe results for Standard A and Standard B fall within two standard deviations of the respective mean certified values and the majority of Total Fe results for Standard C also fall within two standard deviations of mean certified value. Standard A returned values averaging 21.05% Total Fe, or 0.2% above the mean certified value; Standard B returned values averaging 20.40% Total Fe, or 0.2% above the mean certified value; and Standard C returned values averaging 25.47% Total Fe, or 0.3% above the mean certified value. Only one sample of Standard C returned a value (25.74% Total Fe) slightly above the two standard deviations range. The time sequence represented by all reference standard analyses shows that results progressively trend from generally above certified mean values early in the program to slightly below mean values in the latter part of the program. However, this trend occurs largely within the two standard deviations control limits. A clear explanation for the trend is not readily apparent but it is not considered to have imparted a significant bias within the core data set. Further investigation of this trend is warranted.

The Total Fe results for the submitted blank material (Standard D) are plotted in Figure 11-6. The Total Fe results for the blank samples are systematically high with only 6 of the 26 submitted blank samples returning values below the certified mean value. The average returned value is 4.38% Total Fe which is approximately 1.62% above the certified mean value for Standard D of 4.31 % +-.08%. Eight of the submitted blank samples returned values above two standard deviations of the certified mean value with the highest value being 4.63%, or approximately 7.42% above the certified mean value but still within the mean +/- 3 standard deviations limits for the blank sample material. Overall, results of the blank sample program are interpreted as indicating that sample preparation stage cross contamination is not a significant issue within the 2020 core sample dataset. However, spiking of results above the 2 standard deviations for such results. Spiking could represent a non-systematic, low-level cross contamination effect but also might indicate heterogeneity within the volume of previously prepared blank sample material submitted for analysis.

















High Tide also carried out a duplicate quarter core and pulp check sampling program by summitting quarter core samples and by requesting Actlabs to create and analyze duplicate pulp splits on requested samples. This was done to check on laboratory precision during the 2020 diamond drilling program. A total of 5 duplicate analyses of quarter core and pulp splits were processed during the 2020 drilling program. Duplicate quarter core and pulp splits were systematically analyzed within the laboratory sample sequence to ensure at least one duplicate pulp was analyzed for every 95<sup>th</sup> sample. Total Fe results for duplicate – original pairs are presented in Figure 11-7 and 11-8. The correlation coefficient (R<sup>2</sup>) between the duplicate – original pairs for Total Fe is 1.00 and the distribution of the results group along the 1:1 equality line. While the dataset is limited in extent, the high correlation factor indicates that good precision exists for the Total Fe results.



Figure 11-7: Duplicate Quarter Core Duplicate Sample Results for Total Fe% (N = 5)



Figure 11-8: Duplicate Pulp Split Sample Results for Total Iron (N = 5)

## 11.4 Authors' Opinion on Sample Preparation, QAQC Protocols, and Analytical Methods

The report authors are of the opinion that results of the various data validation program components discussed above indicate that industry standard levels of technical documentation and detail are evident in records of the exploration programs carried out by High Tide to date on their exploration licences in Labrador West. Site visit field observations also show that lithological and other field attributes were being accurately recorded by field staff and that industry standard QAQC protocols were consistently applied from core logging and sampling to laboratory analysis for the 2020 diamond drilling program. Results of the 2020 core drilling QAQC program are interpreted as indicating that associated data are of acceptable quality.

## **12.0 DATA VERIFICATION**

Data verification procedures carried out by the report authors for the High Tide Labrador West Project consisted of three main components: (1) review of public record and internal source documents cited by High Tide with respect to key geological interpretations, previously identified geochemical or geophysical anomalies, or historical drilling results that support the arguments for iron ore potential on the Labrador West Project; and (2) completion of various site visits to the immediate drilling area 11LB0027 and north eastern property area of historic hole 10LB001; and (3) validation of digital drilling files against source information such as laboratory reports and field data. During this verification process diamond drilling, core sampling, and QAQC procedures were observed to assess the relative quality of exploration data to be used for geological interpretation and modelling purposes. Details of site visit activities carried out by report author Alan Philippe are presented in Section 2. Several site visits were conducted, and no issues were identified that impact the findings and conclusions of this report.

Mercator staff were responsible for data compilation and implementing the exploration program designed by High Tide. Mercator staff also interpreted the data sets for drill targeting and modelling purposes using mining industry standards and CIM Mineral Exploration Best Practice Guidelines.

Review of field procedures showed that a coordination error internal to High Tide at the start of the 2020 drilling program resulted in drill holes 20LB0056 and 20LB0057 being completed at locations that did not optimize their distribution relative to the previously drilled historical drill holes and other planned 2020 holes. Notwithstanding this issue, both holes were completed within the property limits and provide good quality geological and analytical information that can be used by High Tide to assess the property's iron potential. The net effect of this factor was that spacing between these two holes and neighbouring historical holes was reduced from originally planned separations.

Core review by Mercator staff during logging procedures identified that core loss from some cored sections is substantial. These intervals were clearly logged are readily apparent from the Total Core Recovery (TCR) values recorded in the core logs and drilling database. While localized, these intervals have greater uncertainty with respect to associated analytical results due to associated reduced core volumes and a potential sampling bias introduced by the core loss factor. Importantly, core loss is not considered to be an issue that pervasively affected the 2020 drilling program. Observed core loss levels are consistent with those recorded earlier for historical core drilling by Rio Tinto in the Project area.

## 12.1 Review of Supporting Documents and Assessment Reports

The report authors obtained copies of relevant historical assessment work reporting as part of the data validation procedures. In addition, internal documents such as technical presentations summarizing exploration program results were also made available. Key aspects of this historical reporting are in part referenced in this technical report and were obtained through online searching of historic assessment reports available through the provincial government GeoAtlas interactive online database.

Results of the reference documentation checking program showed that in all instances considered, digital and written records presented by High Tide and Mercator accurately reflect content of referenced source documents.

## 12.2 Review of Drilling Procedures and Data Results

The report authors verified the data collection and QAQC procedures during the diamond drilling program in the field including collar locations, sampling procedures, and the insertion of certified standards, blanks, and duplicates. A complete validation of the geological and assay database was also completed including checking for overlapping intervals, missing collar data, negative widths, and results past the specified maximum depth in the collar table. Downhole survey data was checked for overlapping intervals, surveys beyond drill hole depths, duplicate entries, survey intervals past the specified maximum depth in the collar table and/or any abnormal dips and azimuths. There were no issues identified with the geological, collar, assay, and downhole survey records other than those issues identified above.

The QAQC program applied to the 2020 core drilling program included submission of certified reference materials (standards), blank samples, quarter core duplicate samples and duplicate pulp split samples. Results of all programs were described previously in report section 11. As detailed in that report section, the report authors have interpreted the QAQC program results as indicating that analytical data for the 2020 drilling program are of acceptable quality.

## 12.3 Authors' Opinion on Data Verification

The report authors are of the opinion that results of the various data validation program components discussed above indicate that industry standard levels of technical documentation and detail are evident in records of the exploration programs carried out by High Tide to date on their exploration licences in Labrador West. The site visit field observations show that lithological and other field attributes were accurately recorded by field staff and that industry standard QAQC protocols have been consistently applied for all aspects of High Tide's diamond drilling core sampling program.

# 13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

This section is not applicable.

## **14.0 MINERAL RESOURCE ESTIMATES**

This section is not applicable.

## **23.0 ADJACENT PROPERTIES**

The Labrador West Iron Project is located 20 km northeast of the Carol Lake iron ore mining operations (Carol Lake) operated by IOC. Labrador Iron Ore Royalty Corporation (LIORC), directly and through its wholly-owned subsidiary Hollinger-Hanna Limited, holds a 15.10% equity interest in IOC. LIORC receives a 7% gross overriding royalty and Hollinger-Hanna receives a 10 cent per tonne fee on all iron ore products produced and sold by IOC. The remaining major IOC shareholders include Rio Tinto (58.72%) and Mitsubishi Corporation (26.18%).

The IOC iron ore deposits in the Carol Lake area occur as specular hematite and magnetite, generally in the ratio of 65%:35% (LIORC, 2020). The mineral reserve and mineral resource deposits, with an average iron grade of approximately 38%, occupy the middle iron unit of the Sokoman Formation overlain by waste rock. The deposits are intricately folded and overturned. The iron ore mineral reserve and mineral resource deposits at Carol Lake are close to the surface and thereby facilitate open-pit mining.

The total estimated iron ore mineral reserves and resources at the IOC Carol Lake mine operations as of December 31, 2019, as disclosed by LIORC in its 2019 Annual Information Form (LIORC, 2020). These were prepared in accordance with NI 43-101 and the CIM Standards (2014) and are as follows:

|  | Tonnes<br>(in millions) | Average Iron Ore Grade<br>(Fe %) |
|--|-------------------------|----------------------------------|
| Mineral Reserves                       |                         |                                  |
| Proven Reserves                        | 560                     | 38.6                             |
| Probable Reserves                      | 693                     | 38.1                             |
| Total Proven and Probable Reserves     | 1,253                   | 38.4                             |
| Mineral Resources                      |                         |                                  |
| Measured Resources                     | 151                     | 40.9                             |
| Indicated Resources                    | 669                     | 38.4                             |
| Total Measured and Indicated Resources | 820                     | 38.8                             |
| Inferred Resources                     | 972                     | 38.0                             |

Notes:

(1) Source of information: Labrador Iron Ore Royalty Corporation (LIORC) Annual Information Form (AIF) for year-ended 2019, dated March 5, 2020 and filed on SEDAR under LIORC.

(2) Mineral Resources exclude Mineral Reserves. Mineral resources are reported on an in-situ basis and mineral reserves are reported on an as-mined (i.e. net of dilution and mining losses) basis. In-situ and as-mined material is reported on a dry basis.

IOC has the nominal capacity to process up to 55 million tonnes of iron ore annually, and in 2019 a total of 43 million tonnes of iron ore was mined from three operating pits at Carol Lake (LIORC, 2020). IOC's concentrating plant in Labrador City has a nominal capacity to produce approximately 23.3 million tonnes of iron ore concentrate per year, depending on iron ore quality, for either direct shipping or as feed to IOC's pellet plant. In 2019, approximately 19.0 million tonnes of iron ore concentrate were produced by IOC (LIORC, 2020).

Please note: the adjacent property discussed in this section contains broadly similar geology and structure to the Labrador West Property. However, the report authors have not independently verified the technical information for this adjacent property and information related to the adjacent property is not necessarily indicative of the mineralization potential on the Labrador West Property. Furthermore, the mineral resource and mineral reserve estimates completed by the owner of this adjacent property and disclosed above have not been verified by the report authors and are not necessarily indicative of the mineralization potential of the Labrador West Property. As per Section 2.4(a) of NI 43-101, the source and date of these mineral resource and reserve estimates have been disclosed above and in Section 27.
## 24.0 OTHER RELEVANT DATA AND INFORMATION

No additional information or explanation is required to make this technical report understandable and not misleading.

## **25.0 INTERPRETATION AND CONCLUSIONS**

### 25.1 Interpretations

This technical report summarizes the results of the historical data compilation and 2020 core drilling program for the Labrador West Iron Project. A total of four NQ-diameter diamond drill holes totaling 999.5 m were completed by High Tide between July and September 2020 and were designed to test the lithological and iron grade continuity between several key and widely spaced historical Rio Tinto drill holes completed on the property from 2010 to 2012.

The 2020 core drilling program intercepted rocks of the Sokoman Formation which can be informally divided into three iron formation lithofacies characterised by different mineralogy and textures. These three lithofacies are not exclusive and there is overlap in mineral assemblages. Iron formation facies present in this part of the Labrador Trough are known to be heterogeneous and bands with differing composition and mineralogy can occur at the sub-centimetre scale. Bedrock sequences encountered during the 2020 core drilling program are predominantly comprised of oxide facies iron formation units containing abundant specular hematite and/or magnetite that are variably interbedded with typically altered lithologies that assign to silicate and carbonate iron formation facies.

Rio Tinto completed a total of 18 historical drill holes on the Property and also completed LiDAR and airborne magnetic, electromagnetic, and gravity surveys. Based on results of these programs it was concluded that discovering an economically viable iron deposit in the area tested would require careful assessment of stratigraphic and lithological factors as well as structural factors such as folding and/or faulting that may have the effect of upgrading thinner mineralized units into structurally thickened, more economically attractive packages. The current authors are of the opinion that results of the 2020 core drilling program substantiate these conclusions. Discovering thick zones of predominantly oxide facies iron formation in the Project area is of highest priority and will require further interpretation of currently available core drilling, gravity, magnetic, and geological mapping data plus completion of additional core drilling in the area tested in most detail to date. The report authors have recommended completion of such continued programs in Section 26 below. All four drill holes completed in 2020 by High Tide intersected high grade intervals of predominantly oxide facies iron formation, with variably interbedded units of carbonate and silicates facies iron formation lithologies. These results are directly comparable to the positive results returned previously for the four historical Rio Tinto drill holes that are located in the immediate area of the 2020 core drilling program.

# 25.2 Conclusions

Detailed evaluation of the historical Rio Tinto datasets and the 2020 core drilling results have resulted in the development of high priority targets for future drilling programs. Deposit infill drilling, deposit extension drilling and new target assessment drilling within the Project area are all warranted at this time. To date, exploration has been focused on the assessment of the thickening of synclinal structures within the Labrador West Trough and this will continue to be an important exploration tool on Labrador West property. The 2020 diamond drilling results have defined substantial thicknesses and Total Fe grades for the areas drilled to date and these results correlate well with those for nearby Rio Tinto historical drill holes. In combination, the associated drilling datasets are of sufficient quality and scope to contribute to a maiden mineral resource estimate for Labrador West property prepared in accordance with NI 43-101 and CIM Standards (2014).

The report authors do not foresee any significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information disclosed in this technical report.

### **26.0 RECOMMENDATIONS**

As summarized in Section 25, in 2020 High Tide successfully drilled a part of its Labrador West Iron Property. Results of this program are highly comparable to those of historical diamond drilling carried out in the area during the 2010-2012 period by Rio Tinto.

The recommended Phase 1 program is comparable in content to the 2020 core drilling program and includes further infill diamond drilling in the main deposit area followed by preparation of a maiden Mineral Resource Estimate (MRE) for the Project in accordance with NI 43-101 and the CIM Standards (2014).

Phase 2 will be contingent on the results of Phase 1 drilling and will include additional infill drilling and drill core bulk sampling for metallurgical testing to determine mineralization quality, beneficiation attributes, deleterious element issues, and potential concentrate grades. The results from these drilling programs and bulk sampling/metallurgical testing would be incorporated into a Preliminary Economic Assessment (PEA) for the Labrador West Iron Property.

Table 26-1 below outlines the next phase of development for the Labrador West Iron Project and the estimated costs associated with these programs.

| Phase 1 | Task  | Estimated Cost |
|---------|---|----------------|
|         | Diamond Drilling – deposit infill only (1,000 metres)                         | \$500,000      |
|         | Mineral Resource Estimate and NI 43-101 Technical Report                      | \$75,000       |
|         | Total   | \$575,000      |
| Phase 2 | Task  | Estimated Cost |
|         | Diamond Drilling – deposit extension and new target assessment (2,500 metres) | \$800,000      |
|         | Metallurgical Testing   | \$75,000       |
|         | Preliminary Economic Assessment (PEA) for Labrador West                       | \$150,000      |
|         | Coring bulk sampling plus follow up metallurgical testing study               | \$100,000      |
|         | Total   | \$1,125,000    |

Table 26-1: Recommended Work Program Budget for Labrador West Iron Project

Note: Phase 2 is contingent on the results of the Phase 1 program

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## 28.0 CERTIFICATE OF QUALIFIED PERSON

#### I, Alan F. Philippe, B.Sc., P.Geo., do hereby certify that:

- I am currently employed as a Project Geologist with: Mercator Geological Services Limited
  65 Queen Street, Dartmouth, NS B2Y 1GA Canada
- 2. The Technical Report to which this certificate applies is titled "*NI 43-101 Technical Report on the Labrador West Iron Project, Newfoundland and Labrador, Canada*" with an effective date of November 20, 2020.
- 3. I hold a B.Sc. with an Advanced Major in Earth Science from Dalhousie University (2005). I have worked as a geologist in Canada and Finland since my graduation 15 years ago. My relevant experience with respect to this project includes extensive professional experience with respect to geology, mineral deposit styles, and exploration activities in the Atlantic Canada.
- 4. I am a member in good standing with the Association of Professional Geoscientists of Nova Scotia (Registration Number: 220) and the Association of Professional Engineers and Geoscientists of Newfoundland and Labrador (Registration Number: 10215).
- I have read the definition of a "Qualified Person" as set out in National Instrument 43-101 ("NI 43-101"), and certify that by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
- 6. I completed a personal inspection of the Labrador West Iron Project between July 26<sup>th</sup> to September 17<sup>th</sup>, 2020.
- 7. I am responsible for Section 2.3 and Section 12 of this Technical Report and I have no prior involvement with the Labrador West Iron Project that is subject of this Technical Report.
- 8. I am independent of Avidian Gold Corp. and High Tide Resources Ltd. as described in Section 1.5 of NI 43-101.
- 9. I have read NI 43-101 and this Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
- 10. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make this Technical Report not misleading.

Signed, sealed and dated this 20<sup>th</sup> day of November, 2020.

#### [Original signed and sealed "Alan Philippe"]

Alan F. Philippe, B.Sc., P.Geo. Project Geologist, Mercator Geological Services Limited

#### I, Peter C. Webster, B.Sc., P.Geo., do hereby certify that:

1. I am currently employed as a President and Senior Geoscientist with:

Mercator Geological Services Limited 65 Queen Street, Dartmouth, NS B2Y 1GA Canada

- 2. The Technical Report to which this certificate applies is titled "*NI 43-101 Technical Report on the Labrador West Iron Project, Newfoundland and Labrador, Canada*" with an effective date of November 20, 2020.
- 3. I hold a B.Sc. in Earth Sciences from Dalhousie University (1981). I have worked as a geologist in Canada, USA, South America, Australia, Africa, Russia, and Finland since my graduation 39 years ago. My relevant experience with respect to this project includes extensive professional experience with respect to geology, mineral deposit styles, and exploration activities, including the management of drilling for Champion Iron Ltd. within similar geology and mineralization of Labrador and Quebec.
- 4. I am a member in good standing with the Association of Professional Geoscientists of Nova Scotia (Registration Number: 047) and the Association of Professional Engineers and Geoscientists of Newfoundland and Labrador (Registration Number: 03337).
- I have read the definition of a "Qualified Person" as set out in National Instrument 43-101 ("NI 43-101"), and certify that by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
- 6. I did not complete a personal inspection of the Labrador West Iron Project.
- 7. I am responsible for all sections of this Technical Report, except for Section 2.3 and Section 12. I have no prior involvement with the Labrador West Iron Project that is subject of this Technical Report.
- 8. I am independent of Avidian Gold Corp. and High Tide Resources Ltd. as described in Section 1.5 of NI 43-101.
- 9. I have read NI 43-101 and this Technical Report has been prepared in compliance with NI 43-101 and Form 43-101F1.
- 10. As of the effective date of this Technical Report, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make this Technical Report not misleading.

Signed, sealed and dated this 20<sup>th</sup> day of November, 2020.

#### [Original signed and sealed "Peter Webster"]

Peter C. Webster, B.Sc., P.Geo. President and Senior Geoscientist, Mercator Geological Services Limited