

NI 43-101 TECHNICAL REPORT

OF THE

ISHKODAY GOLD PROJECT NORTHERN ONTARIO, CANADA

UTM NAD83 Zone 16 412835 m E; 5512925 m N LATITUDE 49° 45' N, LONGITUDE 878° 47' W

Prepared for:

Laurion Mineral Exploration Inc. Scotia Tower 40 King Street West, Suite 5800 Toronto, Ontario, Canada M5H 3S1

Report Date: February 01, 2024 Effective Date: October 26, 2023

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SGS Project # 20087-01

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1 SUMMARY

SGS Geological Services. ("SGS") was contracted by Laurion Mineral Exploration Inc. ("Laurion" or the "Company") to complete sections of the updated technical report ("The Report") for the Ishkoday Property ("Ishkoday or The Project or The Property"), located near Beardmore, 220 km NNE of Thunder Bay, Ontario, Canada, and to prepare a technical report written in support of the Property development stage.

1.1 **Property Description, Location, Access, and Physiography**

The Project is located 220 km north-northeast of the city of Thunder Bay, Ontario. It occurs in NTS map sheets 42E13 centered at approximately 49° 45' N latitude and 878° 47' W longitude, or 412835 m E / 5512925 m N in UTM co-ordinates (NAD83 Zone 16).

1.2 **History of Exploration, Drilling**

Key historical events are:

- Most of the gold production from the Beardmore-Geraldton Gold Camp originates from the southern part of the belt, from Beardmore to Geraldton. Historically, one of the mines: the Sturgeon River Mine produced 73,438 ounces of gold and 15,922 ounces of silver from 145,123 tonnes of ore, milled grading an average 0.51 ounces per ton gold (17.0 g/t). The ore was essentially mined from one narrow, high grade quartz vein (No. 3 vein). The ore in the No. 3 vein is associated with a dominant NNE trending shear zone with an average strike of N 15°E, a subvertical dip and an average width of 22 cm. Vein minerals include calcite, pyrite, chalcopyrite, sphalerite, gold, and gold tellurides. Gold is found in the vein, in pyrite and between pyrite and gangue minerals, but also in fractures, and most commonly associated with pyrite on the Ishkoday Property with alteration products, chlorite and sericite near the walls (Mackasey 1976).
- 1934: Coniagas Mines Ltd. formed Sturgeon River Gold Mines Ltd., to operate a new gold mine on the No. 3 gold bearing quartz vein within Ishkoday's Sturgeon River Mine main Claim Block.
- From 1935 to 1942, Sturgeon River Gold Mines Ltd. operated the Sturgeon River Gold mine. The mine produced 73,322 ounces of gold and 15,929 ounces of silver between 1936 and 1942. Gold production was from narrow, high grade quartz veins between surface and the 533 m level at a daily rate between 35 to 70 tonnes per day. The veins range from 2 cm in width to widths up to 76 cm to produce an average hoisted grade of 10.28 g/t gold. The mineralized material tonnage and ounces extracted from the Sturgeon River Gold Mine are historical in nature, and a qualified person has not completed sufficient work to classify the historical estimate as current mineral resources or mineral resources or mineral reserves; and Laurion and the author is not treating the historical estimate as current mineral resources or mineral resources or mineral reserves.
- 1972: Jupiter Minerals Inc. acquired the Sturgeon River Gold Mine holdings and completed geological mapping, magnetic and electromagnetic surveys, sub-humus soil sampling, and extensive prospecting of anomalous areas.
- From 1983 to 1986, Phoenix Gold Mines Ltd. completed significant exploration work within the original Sturgeon River Mine Claim Block (included in the current Ishkoday Main Claims) including:
 - Collection of a 7-tonne sample of ore for testing, which indicated the higher-grade ore could be effectively sorted by mechanical means using a colorimetric upgrading technique for broken ore, such as the No. 3 vein which recovery from this sample returned a 98.5% of the white quartz vein material that yielded a grade of 86.63 g/t gold.
- Mapping, sampling, geophysics and stripping and trenching, bulk sampling of surface stockpiles and diamond drilling.



- 1988: Placer Dome Ltd., optioned the claims, and completed a program of re-evaluation, line cutting and diamond drilling to test several veins.
- 1990-2002: St. Andrew Goldfields Ltd. acquired the Sturgeon River Gold Mine Project. In 2002 St. Andrew Goldfields Ltd. completed an in-house valuation report on the Project.

1.2.1 Historical Estimates

In 2008 Laurion acquired the Ishkoday Property and commenced exploration work and drilling. All drilling and exploration work completed by Laurion, is described in Section 9 and Section 10 respectively. Using the results of work commissioned by Laurion during the summer of 2010, GeoVector estimated a resource number in 2012 for the mine stockpile and tailings area at the Sturgeon River Mine. Eighty-seven hollow-auger bore holes were drilled into the tailings area, totaling 156 metres and 273 assay samples. Thirty pits were excavated in the stockpile, totaling 1.22 tonnes and 46 assay samples.

Historical Estimate Description*	Category	Tonnes	Grade (g/t)	Contained oz
Sturgeon River Mine Stockpile	Indicated	144,070	1.59	7,383
Sturgeon River Mine Tailings	Indicated	137,501	0.67	2,944

Table 1-12013 Stockpile and tailings Historical Estimates

1. Historical Estimate disclosed at a 0 Au (g/t) Cut-Off.

2. Historical Estimate cut-off date set at June 7, 2013.

3. A qualified person has not done sufficient work to classify the historical resource estimate as current mineral resources and Laurion is not treating the historical resource estimate as current mineral resources.

This 2012 mineral resource estimate (MRE) is considered historical in nature. Although the resource estimate at the time was prepared and disclosed in compliance with all disclosure requirements for mineral resources or reserves set out in the NI 43-101 Standards of Disclosure for Mineral Projects (2011) and the classification of the resource as a Measured, Indicated and Inferred resource was consistent with CIM Definition Standards - For Mineral Resources and Mineral Reserves (2010), a qualified person has not completed sufficient work to classify the historical resource estimate as current mineral resources. Laurion is not treating the historical resource estimate as current mineral resources.

As the historical MRE was completed in 2012, and restated June 07, 2013 (Table 1-1), the historical MRE does not comply with current disclosure requirements for mineral resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects (2016), and does not comply with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves, including the critical requirement that all mineral resources "*have reasonable prospects for eventual economic extraction*".

Since then, in 2018, Laurion completed a total of 20 SONIC drill holes on the stockpile for 185 m, averaging 9.3 m in a range of 3.7 m to 15.2 m.

1.3 **Geology and Mineralization**

The Ishkoday property is located in the Meso-to Neoarchean Onaman-Tashota Greenstone Belt (OTGB), within the Elmhirst-Rickaby assemblage (ca. 2740 – 2734 Ma; Stott et al., 2002). The Southern margin of the belt is defined by the transcrustal Paint Lake Fault, and extensive first order structure that hosts the nearby Brookbank deposit. The Beardmore Geraldton Greenstone Belt (BGB) is located on the southern



side of the fault. The Ishkoday property itself is located within the Namewaminikan River member of the Rickaby formation, the uppermost portion of the Elmhirst-Rickaby assemblage (Strongman et al., 2018; Strongman et al., in prep). The Rickaby formation comprises intermediate to felsic volcaniclastic rocks interlayered with dacitic flows and related breccias. Crucially the Rickaby formation is intruded by an extensive fractionated dike swarm dominated by porphyritic intermediate dikes (Strongman et al., in prep).

Several key map units are present on the Ishkoday property itself, from oldest to youngest these are: 1) felsic-intermediate volcanic rocks of the Namewaminikan River member; 2) an extensive syn-volcanic intermediate-dominated dike swarm; 3) a large syn-volcanic diorite stock termed the "Sturgeon River Stock"; and 4) a large syn-tectonic granodiorite-tonalite pluton termed the Coyle Lake Pluton (Strongman et al., in prep). The syn-volcanic units are ca. 2740- 2734 Ma (Strongman et al., in prep) while the syn-kinematic Coyle Lake Pluton is roughly 2699 Ma (Stott et al., 2002).

1.4 Mineralization

Two distinct hydrothermal systems are recognized on the property: 1) a syn-volcanic polymetallic "epithermal-like" system characterized by comb-textured veins, base metal sulfides, propylitic, chloritequartz-sulfide, and calc-sodic alteration; and 2) a syn-tectonic orogenic gold system characterized by laminated to massive quartz-Au veins. These systems are dated at over 35 million years apart (Strongman et al., in prep).

The later orogenic veins often overprint and occur within the polymetallic zones, providing an example of ancestral structural control. Strongman et al (in prep), suggested that the orogenic veins are fault fill-veins, formed during D1 and D2 deformation within reactivated reverse faults. They further postulate that these structures originated as normal faults during volcanism, and that the spatial relationship between the polymetallic and orogenic gold systems can be attributed to the normal faults acting to control the earlier polymetallic fluid up flow zones.

The property hosts numerous occurrences. Among these are two historic mines: 1) the Sturgeon River Mine; and 2) the Brenbar Mine, both exploited the high grade laminated orogenic veins.

The Sturgeon River Mine operated from 1936 to 1942 produced 73,738 ounces of gold and 15,922 ounces of silver from 145,123 tonnes of ore, with an average grade of 0.51 oz/t (17.0 g/t) Au and 0.11 oz/t Ag (Mackasey, 1975). The mine is located at the contact between a large diorite stock (the Sturgeon River Stock) and dikes from an intermediate dike swarm (Figure 7-3). Mining exploited the laminated orogenic "No. 3 vein" via a 15 m down to ~530 m depth.

The Brenbar Mine operated from 1941-1949 and produced 134 ounces of gold from 46 tonnes with an average grade of 2.91 oz/t (82.5 g/t) gold (Mackasey, 1975). Brenbar is hosted within intermediate to felsic volcaniclastic rocks of the Namewaminikan River member (Figure 7-3; Strongman et al., in prep).

1.5 **Exploration Drilling**

Since acquisition, Laurion has carried out polarization and magnetic surveys. Laurion has completed data compilation of much of the historical surface, geological, geochemical and surface historical drill data. Laurion has also completed targeted geological mapping, prospecting, and channel sampling.

In early 2023, Laurion contracted a large-scale, helicopter-borne high-resolution gradient magnetic survey to provide uniform, high-resolution magnetic data coverage at better resolution. The magnetic geophysical survey comprised 882-line km at 50 m spacing over one survey block of 40.4 km².

Over the course of the last 14 years, Laurion as conducted several trenching and channel sampling campaigns in order to identify outcropping mineralization. A total of 68 areas on the Ishkoday were stripped



and washed, and channel samples were taken from outcropping veins and sulphide mineralization where visible. A total of 6,322 channel samples, for a combined length of 5,093m, were taken of the project area with metal (Au \pm Cu, Zn, Ag, Pb) assays and multielement analysis. The channel sample results were used in order to map out mineralized areas for 3D model construction.

Additionally, a total of 1,510 grab samples are available as csv format points (The Grab samples data are mostly comprised of Au assay results with varying amounts of Cu-Zn-Ag-Pb results and multielement analysis.

Since 2010 and up to the effective date of this report, Laurion has completed 154 NQ diamond drill holes for a total of 44,026 m of core on the Ishkoday Property. In 2018, Laurion also completed a total of 20 SONIC drill holes on the stockpile for 185.3 m, averaging 9.3m in a range of 3.7 m to 15.2 m.

Highlights of Laurion drill hole results include:

- 0.80 g/t Au, 5.12 g/t Ag, 1.07% Zn over 14.40 m on hole LBX21-054 between 105.2 and 119.6 m.
- 0.37 g/t Au, 3.03 g/t Ag, 0.05% Cu and 0.99% Zn over 11.0 m on hole LBX21-048 between 156.0 and 167.0 m.
- The A-Zone and McLeod mineralized areas are interpreted to constitute the same mineralized system.
- LBX22-057: 1.21 g/t Au, 6.40% Zn and 0.80% Cu over 8.70 m, including 1.67 g/t Au, 10.56% Zn, and 0.79% Cu over 2.68 m; 1.75 g/t Au, 13.36% Zn and 2.09% Cu over 1.45 m.
- LBX22-056a: 0.85 g/t Au, 1.98% Zn and 0.18% Cu over 3.45 m, including 1.55 g/t Au, 7.79% Zn and 0.27% Cu over 0.5 m.
- LBX22-058: 1.55 g/t Au, 1.12% Zn, 0.11% Cu over 1.30 m, including 2.79 g/t Au, 1.85% Zn and 0.15% Cu over 0.70 m.
- LBX22-060 from 201.5 m to 209.9 m: 8.40 m (6.72 m TW) @ 0.62 g/t Au, 3.05% Zn and 0.15% Cu; including 1.00 m (0.80 m TW) @ 0.61 g/t Au, 4.27% Zn and 0.19% Cu and 2.30 m (1.84 m TW) @ 1.15 g/t Au, 4.20% Zn and 0.23% Cu.
- LBX22-061 from 327.5 m to 329.1 m: 1.60 m (1.28 m TW) @ 1.31 g/t Au, 1.66% Zn and 0.36% Cu; including 0.50 m (0.40 m TW) @ 3.04g/t Au, 3.71% Zn and 0.75% Cu.
- LBX22-061 from 420 m to 422.6 m: 2.60 m (2.08 m TW) @ 1.11 g/t Au and 0.21% Zn; including 0.60 m (0.48 m TW) @ 3.49 g/t Au and 0.01% Zn.
- LBX22-063 from 173.5 to 175.25 m: 1.75 m (1.47 m true width (TW)) @ 0.52 g/t Au and 1.82% Zn.
- LBX22-064 from 234 to 239.95: 5.95 m (4.83 m TW) @ 0.85 g/t Au, 0.54% Zn and 0.20% Cu.
 Including 1.95 m (from 238 to 239.95 m) @ 2.44 g/t Au, 1.58% Zn and 0.56% Cu.
- LBX22-065 from 175.3 to 178.10 m: 2.80 m (2.24 m TW) @ 2.12 g/t Au, 3.07% Zn and 0.34% Cu.
- LBX22-067 from 63.00 to 64.40 m: 1.40 m (1.04 m TW) @ 0.70 g/t Au and 0.84 g/t Ag.
- LBX22-068 from 32.35 to 34.40 m: 1.95 m (1.57 m TW) @ 1.66 g/t Au, 0.70% Zn, and 7.79 g/t Ag.
- LBX22-069 from 100.10 to 101.40 m: 1.30 m (0.97 m TW) @ 1.16 g/t Au and 0.85 g/t Ag.
- LBX22-092 from 168 to 169 m: 1.64 g/t Au and 3.14% Zn 0.73 g/t Au.

1.6 Metallurgical Test Work – Ishkoday Property

Information taken from: Armitage, A., Studd, D., 2013. GeoVector Management Inc. Resource Estimate on The Sturgeon River Mine stockpile and Tailings, Ishkoday Property Northern Ontario, NTS Sheets 42E/12 And 42E/13, Latitude 49°45'02" N, Longitude 87°46'27" W, For Laurion Mineral Exploration Inc.

Prior 2013, Following the assaying of the sample fractions from the low-grade stockpile a composite sample was carefully selected from the remaining reject for metallurgical test work. The composite sample totaled 78.3 kilograms and was designed to be representative of the average grade of material within the stockpile block model. Assayed head grade for the sample was 1.75 g/t gold.

Metallurgical tests included gravity concentration using a Knelson Concentrator and cyanidation. The results of the gravity recovery test indicated that 87.58% of the gold in the sample was recovered by gravity concentration (at a fine grind of 97% passing -75 μ m), indicating that the ore was amenable to gravity concentration methods. The cyanidation tests indicated that a grind of 97% -75 μ m provided extractions of 92-93%. The combination of Knelson Concentration with cyanidation of the gravity tailings gave a combined recovery and extraction of 98.5%.

Following the assaying of the tailings samples, composite samples were prepared from all remaining from the remaining sample reject. The composites formed two populations, the sand to silt size tailings, and the organic layer beneath the tailings. Averaged assayed head grade for the tailing sample was 0.42 g/t gold. The organics had an averaged assayed head grade of 1.57 g/t gold. The organics samples required ashing prior to metallurgical testing to reduce preg-robbing effects of the organic carbon and the ashed organics had an averaged assayed head grade of 3.31 g/t gold.

The tests included gravity concentration using a Knelson Concentrator and cyanidation. The gravity concentration tests indicated that the ash samples from the tailings were not amenable to gravity concentration (less than 1% recovery). Likewise, the gravity tests on the tailings sample using the Knelson Concentrator had relatively poor results with only recovered 22% of the gold. The cyanidation tests indicated that a tailings/ash composite had dissolution of over 96% of the gold and required leaching time of less than 12 hours. The tailings alone required longer (48 hours) leaching times and the maximum dissolution achieved was 67-72%. Test results indicate that the low-grade tailings resource would be amenable to gold recovery using cyanide. In all cases the cyanide and lime consumptions were fairly low.

A sensor-based ore sorting from the Sturgeon River Mine surface stockpile was undertaken in 2022 and 2023. The Ishkoday stockpile mineralization responded very well to both laser and colour sensor-based sorting. Resulting in the possibility a reduction of downstream processing costs, lowering the costs in a scenario of low mill throughput rates (250 – 1000 t/day).

The first test campaign was based on samples from the stockpile sent for ore sorting targeted gold bearing minerals based on visual inspection and were shipped in bags categorized by their mineral content. The sampling's objective was to test the amenability of sorting particles with X-Ray Transmission (XRT) which sorts by difference in particle density combined with laser illumination (laser technology) sorting which utilizes a sensor to detect the light diffraction reflected from particles. Both technologies could select high grade particles to some extent, but the laser technology proved to be more effective.

The XRT test work indicated a potential to reject 30% of the coarse particles and accept 70% while upgrading the sample by 15% (from 5.9 g/t head grade to 7.8 g/t gold head grade), with a sorting efficiency of 72%. (Sorting efficiency is the number of particles above cut-off grade that report to the accepts pile divided by the total number of particles that are above cut-off grade.) These results are sub-par and are likely a result of minimal particle density differential between gangue and mineralization.

Laser illumination sorting showed more promising results, since much of the gold appears to be associated with quartz in the mineralized samples tested. The laser sorting resulted in upgrading the sample by 75% (from 5.9 g/t head grade to 10.4 g/t head grade gold) with a sorting efficiency of 74.4%.



The second test campaign's sample was a large sample taken from the stockpile with an excavator, crushed and split before shipping to SRC. The second sample is more representative of the mineralization in the stockpile. This sample was washed and screened out to material below 10 mm (generally considered unsortable in this process). The amount of minus 10 mm material made up approximately 50% of the mass of the sample. One hundred +10 mm particles were then selected at random to test laser and colorimetric sensors. A semi-empirical model for the laser sorter was established that indicated 69% of the mineralization could be rejected as Stock while only losing 0.6% of the gold to the reject pile. The test work upgraded the mineralization by 220% (from 2.63 g/t head grade to 8.42 g/t head grade) which exceeded expectations.

Similar results came from the colorimetric testing with a reject rate of 60% with a loss to the reject pile of 0.94% of the gold and an upgrading of 145% (From 2.63 g/t head grade to 6.44 g/t gold head grade) in the accepts pile.

1.7 **Recommendations**

Ishkoday has yet to receive and disclose its 2023 exploration and drilling results once the final analysis results and interpretations are done and based on a positive outcome of the 2023 drilling campaign, a proposed 2024 exploration and drilling program may start as soon as possible.

The Author considers that the Project has significant potential for delineation of additional grade and tonnage potential and the possible Mineral Resources, and that further exploration is warranted. Laurion is currently planning a winter and summer 2024 drilling program which will include testing zones such as the Sturgeon River Mine and M25 areas.

Based on the results to date, the Author is recommending Laurion continue to conduct their proposed exploration for 2024, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves.

1.7.1 **2024 Program and Budget**

The total cost of the recommended 2024 work program is estimated at C\$2.88 million and includes ongoing systematic exploration work such as prospecting, mapping, trenching and sampling; and a drilling program of about 6,500 m. Additional costs include 3D modelling as well as consulting.



2 INTRODUCTION

SGS was contracted by Laurion Mineral Exploration Inc. ("Laurion" or the "Company") to complete sections of the updated technical report ("The Report") for the Ishkoday Property ("Ishkoday or The Project or The Property"), located near the Town of Beardmore, 220 km NNE of Thunder Bay, Ontario, Canada, and to prepare a technical report written in support of the Property development stage.

SGS Geological Services. ("SGS") was contracted by Laurion Mineral Exploration Inc. ("Laurion") to complete a Technical Report (Report) for the Ishkoday property (the "Property"), formerly the Quebec Sturgeon Property, to prepare recommendations for future exploration, and to prepare a technical report in compliance with the requirements of NI 43-101.

This report is based upon unpublished reports and property data provided by Laurion, as supplemented by publicly available government maps and publications. Parts of Sections 4 to 16 in this report have been copied or summarized from property reports which are referenced throughout the text. These sections have been updated to include information on recent exploration work by Laurion. The Property has been subject to numerous exploration programs conducted since 2007 by Laurion. Details of historical exploration activities on the Property are outlined in many exploration reports by Laurion. References to these activities are provided in the historical sections below and summarized in previous reports on the Property.

Mr. Maxime Dupéré, P.Geo. has visited the Property on October 23 to October 26, 2023, accompanied by President and CEO of Laurion and Jean-Philippe Paiement P. Geo. M.Sc., the Technical Advisor to Laurion.

2.1 Sources of Information

In preparing the current technical report, the Authors utilized a digital database, and previous technical reports provided to the Author by Laurion. All background information regarding the Property has been sourced from previous technical reports and revised or updated as required.

• The Property was the subject of a NI 43-101 technical report by Allan Armitage, P.Geo. and Duncan Studd, P.Geo. in 2013 report titled "Resource Estimate on the Sturgeon River Waste Pile and Tailings, Ishkoday Property" for Laurion Mineral Exploration Inc. Dated: June 07, 2013 with an Effective Date of April 23, 2013. (Posted on SEDAR under Laurion's profile).

Information regarding the Property accessibility, climate, local resources, infrastructure, and physiography, exploration history, previous mineral resource estimates, regional property geology, deposit type, recent exploration and drilling, metallurgical test work, and sample preparation, analyses, and security for previous drill programs (Sections 5-13), have been sourced from the recent internal technical reports and updated where required. The Author believes the information used to prepare the current Technical Report is valid and appropriate considering the status of the Project and the purpose of the Technical Report.

2.2 Site Visit

Mr. Maxime Dupéré, B.Sc. P.Geo. ("Mr. Dupéré or "the Author") conducted a site visit to the Ishkoday Property on October 23, 2023, accompanied by Jean-Philippe Paiement P.Geo. M.Sc. ("Mr. Paiement" or "the Author"), Technical advisor.

During Mr. Dupéré's and Mr. Paiement's site visit to the Property to the Ishkoday Property, the Author and Mr. Paiement examined a number of selected mineralized core intervals from recently completed (2022) and older (2010-2011, 2020) diamond drill holes from the Ishkoday Property (LME10-010, LME11-020, LME20-026, LME20-028, LBX22-057).

The Author examined accompanying drill logs and assay certificates and assays were examined against the drill core mineralized zones. The Author inspected the core logging and sampling facilities and core storage areas, and reviewed current core sampling, QA/QC and core security procedures. The Author participated in a field tour of the Ishkoday Property area including visits to the drill (completing the 2023 drill



program on the Ishkoday Property) and recent and historical drill sites. Several drill hole coordinates were taken by the author and were verified against the current database. The comparison and the difference between the database drill hole coordinates and the ones taken in the field fall within accepted range limits.

As a result of the current site visit and previous site visits from Mr. Paiement (see section 12 below), the Author was able to become familiar with conditions on the Property as a whole. The Author was able to observe and gain an understanding of the geology and various styles of mineralization and was able to verify in the field Laurion's work on that basis. The Author is therefore able to review and recommend to Laurion Mineral Exploration an appropriate exploration program.

The Author consider the site visit conducted on October 23, 2023, as current, per Section 6.2 of NI 43-101CP. To the Author's knowledge, there is no new material scientific or technical information about the Ishkoday Project since that personal inspection. The technical report contains all material information about the Ishkoday Property.

2.3 Units of Measure

Units used in the report are metric units unless otherwise noted. Monetary units are in United States dollars (US\$) unless otherwise stated.

2.4 Effective Date

The Effective Date of the current MRE is October 26, 2023.

2.5 Units and Abbreviations

All units of measurement used in this technical report are in metric. All currency is in US dollars (US\$), unless otherwise noted (Table 2-1).

\$	Dollar sign	m²	Square metres
%	Percent sign	m ³	Cubic meters
0	Degree	masl	Metres above sea level
°C	Degree Celsius	mm	millimetre
°F	Degree Fahrenheit	mm ²	square millimetre
μm	micron	mm ³	cubic millimetre
AA	Atomic absorption	Moz	Million troy ounces
Ag	Silver	MRE	Mineral Resource Estimate
AgEq	Silver equivalent	Mt	Million tonnes
Au	Gold	NAD 83	North American Datum of 1983
Az	Azimuth	mTW	metres true width
CAD\$	Canadian dollar	NI	National Instrument
CAF	Cut and fill mining	NN	Nearest Neighbor
cm	centimetre	NQ	Drill core size (4.8 cm in diameter)
cm ²	square centimetre	NSR	Net smelter return
cm ³	cubic centimetre	oz	Ounce
Cu	Copper	OK	Ordinary kriging

Table 2-1List of Abbreviations



DDH	Diamond drill hole	Pb	Lead
ft	Feet	ppb	Parts per billion
ft²	Square feet	ppm	Parts per million
ft ³	Cubic feet	QA	Quality Assurance
g	Grams	QC	Quality Control
GEMS	Geovia GEMS 6.8.3 Desktop	QP	Qualified Person
g/t or gpt	Grams per Tonne	RC	Reverse circulation drilling
GPS	Global Positioning System	RQD	Rock quality designation
На	Hectares	SD	Standard Deviation
HQ	Drill core size (6.3 cm in diameter)	SG	Specific Gravity
ICP	Induced coupled plasma	SLS	Sub-level stoping
ID ²	Inverse distance weighting to the power of two	t.oz	Troy ounce (31.1035 grams)
ID ³	Inverse distance weighting to the power of three	Ton	Short Ton
kg	Kilograms	Zn	Zinc
km	Kilometres	Tonnes or T	Metric tonnes
km ²	Square kilometre	TPM	Total Platinum Minerals
kt	Kilo tonnes	US\$	US Dollar
m	Metres	μm	Micron
		UTM	Universal Transverse Mercator

3 Reliance on Other Experts

Information concerning claim location and surface area of the Ishkoday Property which is presented in Section 4 below has been provided to the Author by Laurion on October 26, 2023, by way of e-mail and direct data transfer during site visit.

Information concerning claim status and ownership of the Ishkoday Property status and ownership which is presented in Section 4 below, has been provided to the Author by Laurion Mineral Exploration Inc. in the form of an official Email from The Claims Group (TCG) acting as a property agent on behalf of Laurion Mineral Exploration Inc. Laurion and The Claims Group are responsible for maintaining all Ishkoday Property mining titles.

The Author only reviewed the land tenure in a preliminary fashion (location and number of claims and leases, total area, and expiry dates). The Author has not independently verified the legal status or ownership of the Ishkoday Property or any underlying agreements. However, the Author has no reason to doubt that the title situation is other than what is presented in this technical report. The Author is not qualified to express any legal opinion regarding titles or current ownership with respect to Ishkoday Property as a whole.

4 PROPERTY DESCRIPTION AND LOCATION

The Property is located in the Thunder Bay Mining Division in Irwin, Pifher, Walters, Elmhirst and Summer Townships (Figure 4-1). The Property comprises 5,743 ha land package covering eight properties consisting of 22 mining leases, totaling 1,433 ha and 250 mining claims totaling 4,310 ha. On a 1:50,000 NTS map sheet the Property can be found in blocks 42E/12 and 42E/13 (Figure 4-2).

4.1 **Property Description**

The patented surface and mining rights and mining rights only claims are registered 100% to Laurion. All the land is in good standing.

The Company's interest in the Ishkoday Project comprises several parcels, or blocks, summarized in Table 4-1. All are situated within the southern portion of the in the Onaman-Tashota Greenstone Belt, within the Irwin, Walters, Elmhirst, Pifher and Summer Townships Table 4-2.

Block	Claims/Leases (100% owned)	Size (Hectares)
Ishkoday	15 mining leases	657
Ishkoday North	164 boundary and single cell claims	2,864
Ishkoday South	5 boundary cell claims	64
Ishkoday East	28 boundary and single cell claims	336
Jubilee-Elmhirst	4 mining leases	74
Beaurox	1 mining lease	447
Brenbar	2 mining leases	255
Twin Falls	53 mining claims	1,046
	TOTAL	5,743

Table 4-1Summary of Claims and Lease at Ishkoday

Royalty Interests:

- 1. A third party holds a 2% Net Smelter Return royalty on the Company's 100%-owned 4 mining leases in Elmhirst Township (the Jubilee leases). The Company retains an option to reduce the royalty to 1% at any time upon making a payment of \$1,000,000 to the royalty holder.
- 2. A third party holds a 3% Net Smelter Return royalty on the Company's 100%-owned Beaurox mining lease. The Company retains the option to purchase 1.5% of the royalty for \$1,500,000 or 1% of the royalty for \$1,000,000.
- 3. A third party hold a 3% Net Smelter Return royalty on the Company's 100%-owned Ishkoday East mining claims (#4204276, #4204277, #4204278). This Net Smelter Agreement was executed on July 21, 2006, by Prodigy (previously Kodiak). Kodiak granted the sole and exclusive Option for the third party to purchase up to one-third of the Royalty (i.e.1%) from Kodiak for \$2,000,000, such option to be exercisable until 5.00pm (local time in Vancouver) on the second anniversary of the date of exercise of the option (July 21, 2008). This option was not exercised by the third party.

shkoday Sturgeon River Leases									
Lease Patent	Claim No.	Parcel	Issued	Expiry Date	Area (acres)	Township	Ownership		
109653	TB25967	2456TBL	01-Jun-74	31-May-37	38.04	Irwin	Laurion (100%)		
109653	TB25968	2456TBL	01-Jun-74	31-May-37	39.25	Irwin	Laurion (100%)		
109653	TB25969	2456TBL	01-Jun-74	31-May-37	41.77	Irwin	Laurion (100%)		
109653	TB25970	2456TBL	01-Jun-74	31-May-37	34.5	Irwin	Laurion (100%)		
109653	TB25971	2456TBL	01-Jun-74	31-May-37	45.5	Irwin	Laurion (100%)		
109653	TB25972	2456TBL	01-Jun-74	31-May-37	47.46	Irwin	Laurion (100%)		
107075	TB13641	2475TBL	01-Apr-76	30-Mar-39	43.626	Pifher/Irwin	Laurion (100%)		
107075	TB13642	2475TBL	01-Apr-76	30-Mar-39	32.366	Irwin	Laurion (100%)		
107075	TB13643	2475TBL	01-Apr-76	30-Mar-39	37.845	Irwin	Laurion (100%)		
107075	TB13644	2475TBL	01-Apr-76	30-Mar-39	44.736	Pifher/Irwin	Laurion (100%)		
107075	TB13645	2475TBL	01-Apr-76	30-Mar-39	38.683	Irwin	Laurion (100%)		
107075	TB13646	2475TBL	01-Apr-76	30-Mar-39	58.426	Irwin	Laurion (100%)		
107075	TB13647	2475TBL	01-Apr-76	30-Mar-39	49.664	Irwin/Walters	Laurion (100%)		
109345	TB13392	99TBL	02-Jul-70	30-Jun-33	53.36	Pifher/Elmhirst	Laurion (100%)		
109345	TB13393	99TBL	02-Jul-70	30-Jun-33	52.91	Pifher/Elmhirst	Laurion (100%)		
109345	TB13394	99TBL	02-Jul-70	30-Jun-33	59.39	Elmhirst/Walters	Laurion (100%)		
109345	TB13395	99TBL	02-Jul-70	30-Jun-33	44.09	Elmhirst/Walters	Laurion (100%)		
109345	TB13396	99TBL	02-Jul-70	30-Jun-33	40.29	Elmhirst	Laurion (100%)		
109345	TB13397	99TBL	02-Jul-70	30-Jun-33	40.35	Elmhirst	Laurion (100%)		
109345	TB13398	99TBL	02-Jul-70	30-Jun-33	51.52	Elmhirst	Laurion (100%)		
109345	TB13399	99TBL	02-Jul-70	30-Jun-33	56.01	Elmhirst	Laurion (100%)		
109345	TB13400	99TBL	02-Jul-70	30-Jun-33	60.53	Elmhirst/Walters	Laurion (100%)		
109345	TB13403	99TBL	02-Jul-70	30-Jun-33	53.34	Irwin/Walters	Laurion (100%)		
20173	TB16730	965TBL	01-Jun-42	31-May-32	42.17	Irwin	Laurion (100%)		
20174	TB16729	966TBL	01-Jun-42	31-May-32	51.36	Pifher/Irwin	Laurion (100%)		
20169	TB16728	966TBL	01-Jun-42	31-May-32	42.89	Irwin	Laurion (100%)		
20175	TB16731	968TBL	01-Jun-42	31-May-32	43.94	Irwin	Laurion (100%)		
20170	TB16727	969TBL	01-Jun-42	31-May-32	33.51	Irwin	Laurion (100%)		
20171	TB16726	970TBL	01-Jun-42	31-May-32	50.84	Pifher/Irwin	Laurion (100%)		
20172	TB16732	971TBL	01-Jun-42	31-May-32	38.97	Irwin	Laurion (100%)		
20177	TB16734	972TBL	01-Jun-42	31-May-32	54.42	Irwin	Laurion (100%)		
20176	TB16733	973TBL	01-Jun-42	31-May-32	33.75	Irwin	Laurion (100%)		
20180	TB13933	974TBL	01-Jun-42	31-May-32	67.91	Pifher	Laurion (100%)		
20179	TB13932	975TBL	01-Jun-42	31-May-32	51.32	Pifher	Laurion (100%)		
20178	TB13931	976TBL	01-Jun-42	31-May-32	48.02	Pifher	Laurion (100%)		
				Total:	1622.76 (656.72 Ha)				

Table 4-2 Ishkoday Claims and Leases List



					1			
Lease Patent	Claim No.	Parcel	Issued	Expiry Data	Area (acres)	Township	Ownership	Tenure Status
108910	TB15056	41TBEL	01-Jan-12	31-Dec-32	16.171 MRO	Elmhirst	Laurion (100%)	Active
108909	TB13639	39TBEL	01-Jan-12	31-Dec-32	19.223 MRO	Elmhirst	Laurion (100%)	Active
108911	TB13640	40TBEL	01-Jan-12	31-Dec-32	17.539 MRO	Elmhirst	Laurion (100%)	Active
109668	TB31383	2315TBL	16-Nov-95	31-Dec-37	21.185 MRO	Elmhirst	Laurion (100%)	Active
				Total:	183.15 (74 Ha)			

Jubilee-Elmhirst Leases

Beaurox Leases

Lease Patent	Claim No.	Parcel	Issued	Expiry Date	Area (acres)	Township	Ownership	Tenure Status
108899	TB511426 et of 30 mining	. al. (total g leases)	01-Sep-11	31-Aug-32	447.352 MRO	Elmhirst	Laurion (100%)	Active

Brenbar Leases

Lease Patent	Claim No.	Parcel	Issued	Expiry Date	Area (acres)	Township	Ownership	Tenure Status
109388	TB14001-3	2261TBL	29-Sep-12	30-Sep-33	66.122 MR+SR	Irwin	Laurion (100%)	Active
109813	TB143561-9	2641TBL		30-Sep-39	189.025 MR+SR	Irwin & Pifher	Laurion (100%)	Active

Staked Claims Ishkoday East

Legacy Claim Id	Township/ Area	Tenure ID	Tenure Type	Anniversary Date Ownership		Work Required (\$)
4204276	WALTERS	204044	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204276	ELMHIRST, WALTERS	278167	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204276	WALTERS	164257	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204276	WALTERS	223669	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204276	ELMHIRST, WALTERS	259605	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204276	WALTERS	312740	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	400
4204276	ELMHIRST, WALTERS	296976	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204276	WALTERS	128959	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204276	WALTERS	326761	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	400
4204276	WALTERS	115961	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	400
4204276	WALTERS	296977	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204277	ELMHIRST	281007	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204277	ELMHIRST, WALTERS	224987	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204277	WALTERS	194838	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204277	WALTERS	116640	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	400
4204277	ELMHIRST	268944	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204277	ELMHIRST, WALTERS	120404	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204277	ELMHIRST, WALTERS	165566	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	400
4204277	WALTERS	165567	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204278	ELMHIRST	174572	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204278	ELMHIRST	102195	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200

Legacy Claim Id	Township/ Area	Tenure ID	Tenure Type	Anniversary Date	Ownership	Work Required (\$)
4204278	ELMHIRST	276231	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204278	ELMHIRST	295109	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204278	ELMHIRST	257716	Single Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204278	ELMHIRST	324307	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204278	ELMHIRST	276232	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204278	ELMHIRST	295110	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200
4204278	ELMHIRST	324308	Boundary Cell Mining Claim	20-Jul-24	Laurion (100%)	200

Staked Claims Ishkoday North

Legacy Claim	Townshin/ Area	Tenure ID	Tenure Type	Anniversary Date	Tenure Status	Work Required
4209769	PIFHER	255948	Single Cell Mining Claim	15-Jun-24	Laurion (100%)	400
4209769	PIFHER	218612	Single Cell Mining Claim	15-Jun-24	Laurion (100%)	400
4209769	PIFHER	189282	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209769	PIFHER	238708	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209769	PIFHER	137269	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209769	PIFHER	125298	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209769	PIFHER	169784	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209769	PIFHER	226571	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209769	PIFHER	121054	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209769	PIFHER	183254	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209769	PIFHER	225646	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209769	PIFHER	218613	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209769	PIFHER	218614	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209769	PIFHER	344240	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4209769	PIFHER	305329	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4209769	PIFHER	232930	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4209770	PIFHER	162066	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4209770	PIFHER	251262	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209770	PIFHER	332571	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209770	PIFHER	299954	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209770	PIFHER	241810	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209770	ELMHIRST, PIFHER	335579	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209770	ELMHIRST, PIFHER	104789	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209770	ELMHIRST, PIFHER	191402	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209770	PIFHER	270143	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209770	PIFHER	148019	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209770	PIFHER	131941	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209770	PIFHER	317272	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400

Legacy Claim Id	Township/ Area	Tenure ID	Tenure Type	Anniversary Date	Tenure Status	Work Required (\$)
4209770	ELMHIRST, PIFHER	295861	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209770	PIFHER	214710	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209770	PIFHER	233378	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209770	PIFHER	332585	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209770	PIFHER	162067	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209770	ELMHIRST, PIFHER	287224	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209771	ELMHIRST	287223	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209771	ELMHIRST	307964	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209771	ELMHIRST	221189	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209771	ELMHIRST	325136	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209771	ELMHIRST	127926	Boundary Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209771	ELMHIRST	155930	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209771	ELMHIRST	172414	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209771	ELMHIRST	221190	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209771	ELMHIRST	287225	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209771	ELMHIRST	325137	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209772	PIFHER	160201	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	400
4209772	PIFHER	214155	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	400
4209772	PIFHER	194976	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	400
4209772	PIFHER	101449	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	400
4209772	PIFHER	101450	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	200
4209772	PIFHER	116778	Boundary Cell Mining Claim	10-Feb-24	Laurion (100%)	200
4209772	PIFHER	121055	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	400
4209772	PIFHER	121056	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	200
4209772	IRWIN, PIFHER	121057	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	200
4209772	PIFHER	225647	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	400
4209772	PIFHER	225648	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	200
4209772	PIFHER	232931	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	400
4209772	PIFHER	232932	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	200
4209772	PIFHER	281669	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	400
4209772	IRWIN, PIFHER	281670	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	200
4209772	IRWIN, PIFHER	281671	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	200
4209772	PIFHER	101448	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	400
4209772	PIFHER	214156	Single Cell Mining Claim	10-Feb-24	Laurion (100%)	200
4209772	PIFHER	288841	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4209772	PIFHER	127553	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4209772	PIFHER	162860	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400



Legacy Claim	Township/ Area	Tenure ID	Tenure Type	Anniversary Date	Tenure Status	Work Required
4209772	PIFHER	281668	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4209772	PIFHER	210230	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4209772	PIFHER	116777	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4209773	ELMHIRST	213155	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209773	PIFHER	193701	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209773	ELMHIRST, PIFHER	261855	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209773	PIFHER	328560	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209773	PIFHER	176312	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209773	PIFHER	130473	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209773	PIFHER	189630	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209773	PIFHER	257862	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209773	ELMHIRST	176313	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209773	ELMHIRST, PIFHER	213156	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	400
4209773	ELMHIRST	213157	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4209773	ELMHIRST, PIFHER	261856	Single Cell Mining Claim	17-Feb-24	Laurion (100%)	200
4213487	PIFHER	182964	Single Cell Mining Claim	15-Jun-24	Laurion (100%)	400
4213487	PIFHER	113682	Single Cell Mining Claim	15-Jun-24	Laurion (100%)	400
4213487	PIFHER	216860	Single Cell Mining Claim	15-Jun-24	Laurion (100%)	400
4213487	PIFHER	167476	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	204749	Single Cell Mining Claim	15-Jun-24	Laurion (100%)	400
4213487	PIFHER	325811	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	300582	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	270746	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	317862	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	148608	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	209888	Single Cell Mining Claim	15-Jun-24	Laurion (100%)	400
4213487	PIFHER	332828	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	251366	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	251367	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	332828	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	251366	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	251367	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
4213487	PIFHER	332829	Boundary Cell Mining Claim	15-Jun-24	Laurion (100%)	200
422538	PIFHER	247120	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
422538	PIFHER	345103	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400



Legacy Claim Id	Township/ Area	Tenure ID	Tenure Type	Anniversary Date	Tenure Status	Work Required (\$)
422538	PIFHER	190409	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
422538	PIFHER	313111	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
422538	PIFHER	239029	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
422538	PIFHER	182965	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
422538	PIFHER	190410	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
422538	PIFHER	239030	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
422538	PIFHER	313112	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242252	PIFHER	144737	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242252	PIFHER	155600	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242252	PIFHER	294867	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242252	PIFHER	209484	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242252	PIFHER	156843	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4242252	PIFHER	222278	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242252	PIFHER	258241	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242252	PIFHER	115057	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242252	PIFHER	144738	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242252	PIFHER	209485	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242252	PIFHER	222279	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242252	PIFHER	222280	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4242290	PIFHER	111511	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242290	PIFHER	316464	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242290	PIFHER	337322	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4242290	PIFHER	309703	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242290	PIFHER	131057	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242290	PIFHER	176400	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4242290	PIFHER	195261	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242290	PIFHER	261946	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4242290	PIFHER	261947	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242290	PIFHER	269174	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242290	PIFHER	309704	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4242290	PIFHER	316465	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245627	PIFHER	268940	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245627	PIFHER	120402	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245627	PIFHER	172193	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245627	PIFHER	178421	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245627	PIFHER	228312	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245627	PIFHER	165564	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200



Legacy Claim Id	Township/ Area	Tenure ID	Tenure Type	Anniversary Date	Tenure Status	Work Required (\$)
4245627	PIFHER	100962	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245627	PIFHER	213478	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245627	PIFHER	155601	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245627	PIFHER	268941	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245628	PIFHER	324173	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245628	PIFHER	201430	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245628	PIFHER	147082	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245628	PIFHER	161187	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245628	PIFHER	329119	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245628	PIFHER	242363	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245628	PIFHER	221556	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245628	PIFHER	195217	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245628	PIFHER	269172	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245628	PIFHER	193758	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245628	PIFHER	213210	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245628	PIFHER	261909	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245628	PIFHER	176348	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245628	PIFHER	176349	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245628	PIFHER	261910	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245628	PIFHER	269173	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	200
4245629	PIFHER	275522	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245629	PIFHER	311457	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245629	PIFHER	257517	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245629	PIFHER	114859	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245629	PIFHER	126301	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245629	PIFHER	114860	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245629	PIFHER	221557	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245629	PIFHER	228313	Boundary Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245629	PIFHER	294868	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400
4245629	PIFHER	100694	Single Cell Mining Claim	11-Mar-24	Laurion (100%)	400

Staked Claims Ishkoday South

Legacy Claim	Township/	Tenure		Anniversary		Work Required
Id	Area	ID	Tenure Type	Date	Tenure Status	(\$)
4265764	WALTERS	232315	Boundary Cell Mining Claim	13-Jun-24	Laurion (100%)	200
4265764	WALTERS	225526	Boundary Cell Mining Claim	13-Jun-24	Laurion (100%)	200
4265764	WALTERS	194874	Boundary Cell Mining Claim	13-Jun-24	Laurion (100%)	200
4265764	WALTERS	194875	Boundary Cell Mining Claim	13-Jun-24	Laurion (100%)	200

Legacy Claim Id	Township/ Area	Tenure ID	Tenure Type	Anniversary Date	Tenure Status	Work Required (\$)
4265764	WALTERS	225527	Boundary Cell Mining Claim	13-Jun-24	Laurion (100%)	200



BRENBAR

As of the end of December 2023, the Company satisfied all of the earn-in requirements under the previously announced option agreement on the Brenbar property, between the Company and Jubilee Gold Exploration Ltd (Jubilee"), (See December 30, 2019, Press Release) and increased its ownership from 60% to 100%. Brenbar consists of 2 leases covering 255 hectares contiguous and to the west of Ishkoday.

In order for the Company to earn its 60% interest, the Company made option payments, issued common shares and incurred exploration expenditures, as follows (Table 4-3):

	Option	Com	mon Shares	Exploration
	Payments	Number	Fair Value	Expenditures
	\$		\$	\$
Upon execution of agreement	50,000	300,000	48,000	-
September 18, 2020	40,000	160,000	32,800	-
December 18, 2020	25,000	100,000	20,000	100,000
	115,000	560,000	100,800	100,000

Table 4-3	Option Payments 2020
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In order to increase the Company's interest from 60% to 100%, the Company made option payments, issued common shares and incur exploration expenditures, as follows (Table 4-4):

	Option	Common Shares		Exploration
	Payments	Number	Fair Value	Expenditures
	\$		\$	\$
December 18, 2021	25,000	100,000	72,000	100,000
December 18, 2022	25,000	100,000	58,000	-
February 1, 2023 ⁽¹⁾	-	100,000	51,000	-
	165,000	860,000	281,800	200,000

Table 4-4Option Payments 2021-2023

⁽¹⁾ In accordance with the option agreement between the Company and Jubilee, if the Company fails to incur \$100,000 of exploration expenditures during the required period, the Company has the option to issue 100,000 common shares in lieu of exploration expenditures incurred. As of December 18, 2022, the Company had not met the exploration expenditures requirement. On February 1, 2023, the Company issued 100,000 common shares and fulfilled all payments and requirements under the option agreement and obtained a 100% interest in Brenbar and the claims have been transferred into the name of the Company.

430000

410000

420000











Figure 4-2 Location of the Ishkoday Property Claims

*UTM NAD83, Zone 16N

4.2 Property Claim Status

The Ishkoday Property was initially staked prior to 2018 under Ontario's ground-based claim staking process. On 10 April 2018, Ontario converted its manual system of ground and paper staking and maintaining unpatented mining claims, to an online mining claim registration system known as the Mining Land Administration System (MLAS). All active, unpatented claims (legacy claims) were converted from their legally defined location by claim posts on the ground or by township survey to a cell-based provincial grid. The provincial grid is built on the latitude- and longitude-based National Topographic System (NTS) and is made up of more than 5.2 million cells each measuring 15 seconds latitude by 22.5 seconds longitude and ranging in size from 17.7 ha in the north to 24 ha in the south. Cells in the Property area are approximately 22 ha in size. Each cell has a unique identifier based on the cell's position in the grid.

Ontario mining claims are now legally defined by their cell position on the grid and UTM coordinate location in the online MLAS Map Viewer. Legacy claims were not cancelled but continue as one or more cell claims or boundary claims that resulted from conversion.

As defined in the Ontario Mining Act ("Mining Act"), a cell claim is a mining claim that relates to all the land included in one or more cells on the provincial grid that is open for mining claim registration. A cell claim is created as a new registration after April 10, 2018, or at conversion where there are one or more legacy claims in a cell, and all are held by the same holder. In this case, if there is more than one legacy claim in a cell, those claims will merge into one cell claim. A cell claim created from conversion can be a minimum



of one cell (single cell mining claim or SCMC) though it can be amalgamated to form a multi-cell mining claim (MCMC) up to a maximum of 25 cells.

As defined in the Mining Act, a boundary claim is created at conversion when there are multiple legacy claims within a cell that cannot merge into a cell claim. There are two circumstances where mining claims will not merge into a cell claim:

- When the legacy claims are held by different holders.
- When the legacy claims are held by the same person who chooses to keep them separate by making an election through the Claim Boundary Report process.

Unpatented mining claims include no surface rights however a right to acquire the surface rights for development purposes exists through the Ontario Mining Act. The Mining Act also provides legal access to the land for the purpose of exploration.

Mining claims are generally subject to the following Crown reservations:

- The surface rights over a width of no more than 120 m from the high-water mark where a mining claim includes land covered with water or bordering on water
- Where a highway or road constructed or maintained by the Ministry of Transportation crosses a mining claim, the surface rights over a width of no more than 90 m, measured from the outside limits of the right
- of way of the highway or road along both sides of the highway or road
- Sand and gravel reserved
- Peat reserved.

Certain mining claims also:

- Are MRO or part MRO where all or part of the surface rights within the claim are held by a third party
- Exclude hydro right of ways
- Exclude withdrawn areas.

Given the nature of Ontario's MLAS cell-based map staking system, certain cell claims overlap areas which are withdrawn from mineral exploration and development. Such cell claims are referred to as encumbered claims. Features that are an encumbrance on a cell claim include:

- Land that is part of an Indian reserve.
- Provincial Park or a conservation reserve.
- Mining leases except for surface rights only leases.
- Freehold patents except those for surface rights only.
- Licences of occupation.
- Designated protected area in a community-based land use plan under the Far North Act.
- Land withdrawn under the Mining Act from prospecting, registration of mining claim, sale or lease for the following reasons:
 - Land included in a proposed Aboriginal land claim settlement
 - o Land intended to be added to an Indian reserve
 - Land part of a provincial park, conservation reserve or forest reserve created under Ontario's Living



- Legacy Land Use Strategy
- Land that meets the criteria for a site of Aboriginal Cultural Significance
- Land designated as an area of provisional protection under the Far North Act.

Where a cell or boundary claim overlaps a withdrawn area, the claim holder is only entitled to work on the claim area outside the withdrawn area.

Annual assessment work requirements per mining claim, to be filed on or before the claim due date (anniversary date), are:

- Single cell claim: \$400 (unless a cell was encumbered at conversion)
- Multi-cell claim: \$400 per cell (unless a cell was encumbered at conversion)
- Boundary claim: \$200,

If a cell is encumbered at conversion, the assessment work requirement for a cell claim in that cell will be \$200. This special rule applies only if the conversion process results in a claim holder having a cell claim in an encumbered cell. If that cell claim forfeits, the cell will be open for claim registration, subject to the encumbrance but any new cell claim registered for that cell will have the assessment work requirements set at the standard cell claim amount of \$400.

The staked claims listed in Table 4-2 the current MLAS designated encumbered/unencumbered cell classification and annual assessment work costs for the Ishkoday Property. As of the effective date of this report, MLAS designates boundary cell mining claims and single cell mining claims result in total annual assessment work of requirements of \$61,200.

The Ishkoday Property has over \$10,081,734 of available excess exploration work on selected claims and mining leases on the Property, assuring a balanced maintenance of exploration expenses and assuring the Property is and remains in good standing.

4.3 Environmental Liabilities

There are mine workings, tailing ponds, rock stockpiles and other significant natural and man-made features on the leases. However, the Property is not subject to any liabilities due to previous mining activities which may impact future development of the Property.

4.4 **Permits for Exploration**

To the Author' knowledge, Laurion currently holds all necessary permits required to conduct exploration on the Property.

4.5 **Other Relevant Factors**

The Project has no outstanding environmental liabilities from prior mining activities. The Author is unaware of any other significant factors and risks that may affect access, title, or the right, or ability to perform exploration work recommended for the Property.



5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

5.1 Accessibility

The Ishkoday Property is situated approximately 28 km northeast of the Town of Beardmore, Ontario. Access to the property is off Highway 11 by proceeding north for 12 km on Highway 801 located 22 km east of Beardmore. A secondary road on the south side of the Namewaminikan (Sturgeon) River trends southwest for 2.5 km to the property (deGagne, 2003).

5.2 Local Resources and Infrastructure

Local resources on the property consist of an abundance of fresh water, and mixed deciduous and coniferous trees. Remnant footings and structures associated with the mill and mine workings, a timber–covered and fenced shaft, fenced open raises, stockpile, and mine tailings are present on the property. The Town of Beardmore is serviced by Highway 11, the Canadian National Railway, hydro, and the Trans-Canada natural gas pipeline. The Town of Geraldton located 60 km to the east and the City of Thunder Bay is located 220 km to the southwest both of which offer all types of social amenities and is a source of skilled exploration and mining personnel, as well as mine related services.

5.3 Climate

The climate is cold temperate to continental with a temperature range generally from -35°C in January and February to +30°C in July and August. Snowfall accumulates normally between December and April to depths in the order of 1 m to 2 m depending on the year. Work can generally be carried out yearlong on the property by a series of roads and trails.

5.4 **Physiography**

Local relief on the property ranges from 270 to 300 m above mean sea level. Bedrock outcroppings are fairly common on the claim group as well as many stripped and trenched areas. Typical vegetation on the property consists of a boreal forest with a mixture of conifers and deciduous trees, including poplars, alders, and birch. The Namewaminikan (Sturgeon) River crosses the property approximately 760 m to the north of the Sturgon River Mine.



6 HISTORY

6.1 Introduction

Since 1925, the Beardmore-Geraldton Gold Camp has reportedly produced more than an estimated 4,373,300 ounces of gold and 300,000 ounces of silver from at least 24 operations in the Camp (Resident Geologist's Files, Ontario Ministry of Northern Development and Mines, Thunder Bay).

Most of the production from the Beardmore-Geraldton Gold Camp originates from the southern part of the belt, from Beardmore to Geraldton. Historically, the Sturgeon River Mine produced 73,438 ounces of gold and 15,922 ounces of silver from 145,123 tonnes of ore, milled grading an average 0.51 ounces per ton gold (17.0 g/t). The ore was essentially mined from one narrow, high grade quartz vein (No. 3 vein). The ore in the No. 3 vein is associated with a dominant NNE trending shear zone with an average strike of N 15°E, a subvertical dip and an average width of 22 cm. Vein minerals include calcite, pyrite, chalcopyrite, sphalerite, gold, and gold tellurides. Gold is found mostly in the vein, in pyrite and between pyrite and gangue minerals, but also in fractures and most commonly associated with pyrite on the Ishkoday Property with alteration products, chlorite and sericite near the wall rock (Mackasey 1976).

Historical reports indicate that over 60 named quartz veins across the Ishkoday Property have the potential for high grade gold values. In several cases these veins form sets of relatively closely spaced sub-parallel vein packages. These veins are running NE-SW to NNE-SSW occurring within a clearly defined tectonic - geologic formation which runs north easterly onto the Sturgeon River North Claims, of the Ishkoday Property. While the veins in the Sturgeon River Mine workings consist simply of gold-silver bearing quartz, many of the veins on the Ishkoday Property host a significant number of sulphides mainly, sphalerite, chalcopyrite and pyrite. These zones of massive sulphide veins are ancient epithermal-like mineralization overprinted by nearby gold bearing quartz veins.

The exploration on Ishkoday Property is summarized individually below:

1934

Coniagas Mines Ltd. formed Sturgeon River Gold Mines Ltd., to operate a new gold mine on the No. 3 gold bearing quartz vein within Ishkoday's Sturgeon River Mine Claim Block.

1935-1942

Sturgeon River Gold Mines Ltd. commenced shaft sinking a three-compartment shaft and underground development in 1936 and proceeded to production at 45 tonnes per day in 1936. Operations were suspended in 1942 due to wartime restrictions of the labour supply and vital materials. By 1942, the shaft had reached 642 m and lateral work below the bottom 533 m production level showed an expanding picture for both ore veins and grade. Underground development included drifts totaling 6,096 m and crosscut totaling 960 m. The mine produced 73,322 ounces of gold and 15,929 ounces of silver between 1936 and 1942. Gold production was from narrow, high grade quartz veins between surface and the 533 m level at a daily rate between 35 to 70 tonnes per day. The veins were mined across widths up to 76 cm to produce a hoisted grade of 10.28 g/t gold. The mineralized material tonnage and ounces extracted from the Sturgeon River Gold Mine are historical in nature, and a qualified person has not completed sufficient work to classify the historical estimate as current mineral resources or mineral reserves; and Laurion and the Author is not treating the historical estimate as current mineral resources or mineral reserves.

1972

Jupiter Minerals Inc. acquired the Sturgeon River Gold Mine holdings and completed geological mapping, magnetic and electromagnetic surveys, sub-humus soil sampling, and extensive prospecting of anomalous areas. A discontinuous, sheared zone with persistent sphalerite, chalcopyrite, and galena mineralization across widths of up to 15 m was discovered, but no further work was completed.



Gibbs (1972) completed a report on the "ore reserves" remaining in the shaft. It was reported that there were 489,042 tonnes at an average of 9.60 g/t in 407,564 tonnes indicated by drilling and 81,479 tonnes of "probable ore" over a 2.78 m width. Highly erratic values were cut to 34.28 g/t gold (or 1 oz/t). The "ore reserves" and "probable ore" are historical in nature, and a qualified person has not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves; and Laurion is not treating the historical estimate as current mineral resources or mineral reserves.

1973 Jupiter Minerals Inc. changed its name to Phoenix Gold Mines Ltd. in which Quebec Sturgeon River Gold Mines Ltd. held a 95% interest and Coniagas a 5% equity, which was subsequently purchased by Quebec Sturgeon in 1983.

1983-1986

From 1983 to 1986, Phoenix Gold Mines Ltd. completed significant exploration work within the original Sturgeon River Mine Claim Block (included in the current Ishkoday Main Claims).

It was reported that tonnages of ore were left in place and new undeveloped orebodies were indicated in the shaft. As well, Phoenix sent a 7-tonne sample of ore for testing which indicated the higher-grade ore could be effectively sorted by mechanical means using a colorimetric upgrading technique for broken ore, such as the No. 3 vein which recovered 98.5% of the white quartz vein material that yielded a grade of 86.63 g/t gold.

During 1984 to 1986, Phoenix re-mapped the claims, completed geophysics and considerable stripping and trenching, basal till sampling, additional bulk sampling of surface stockpiled material emanating from the No. 3 mine workings, and diamond drilling.

In 1984, Phoenix targeted a possible southwestward extension of vein systems developed in the former Sturgeon River Mine. Drilling yielded few encouraging results. Phoenix Gold Mines Ltd., targeted areas outside of the mine area, and discovered over 100 potentially gold bearing quartz veins which were subsequently trenched and sampled. At the conclusion of their program, Phoenix recommended follow up diamond drilling on the 85-M1, A-9, A-11R, 85-A2, A2, A4, and A5-A6 quartz vein areas.

In 1985, Phoenix worked in the Marge vein area, located approximately 600 m north of the Sturgeon River Mine shaft. The Marge vein was sampled and extended for a further 145 m. Previous work carried out on the Marge vein reported an average grade of 22.61 g/t gold over a width of 35 cm and a length of 155 m. The exposed new section carried an average of 9.14 g/t gold across a width of 37 cm. The vein reportedly disappeared under a swamp to the NE. The last surface exposure of Marge vein carried visible gold and a grade of 54.43 g/t gold across 91 cm. The exploration also identified and sampled smaller veins, all throughout the area.

In 1986, Phoenix reported an estimated 220,000 tonnes of mine grade "ore reserves" above the 535 m level at the Sturgeon River Mine. The "ore reserves" are historical in nature, and a qualified person has not done sufficient work to classify the historical estimate as current mineral resources or mineral reserves; and Laurion is not treating the historical estimate as current mineral resources or mineral reserves.

1988

In 1988, Placer Dome Ltd., optioned for the claims, and completed a program of re-evaluation, line cutting and diamond drilling to test the 85-M1 vein (Marge Quartz Vein), the 85-2 and A-3 veins, the A5-A6 vein system, the A-2 vein and the J-vein. From May to December 1988, a total of 4,213 m of BQ core was drilled in 25 holes (DDH351-001 to 025). The best results included 5 holes ranging in grade from 4.80 g/t gold over 0.9 m to 18.5 g/t gold over 0.9 m. Placer subsequently returned the claims to Phoenix.

1990

St. Andrew Goldfields Ltd. acquired the Sturgeon River Mine Project from Phoenix. In 1996, Watts, Griffis and McOuat were retained to complete a valuation of the St. Andrew Goldfields Ltd.'s assets, and a fair



market value was established for the Sturgeon River Mine Project. 2001 Roxmark Mines Ltd. processed 4,545 tonnes from the existing rock stockpile on the Project.

2002

St. Andrew Goldfields Ltd. completed an in-house valuation report on the Project.

6.1.1 Historical Estimates – Sturgeon River Mine

In 2012, using the results of work commissioned by Laurion during the summer of 2010, GeoVector estimated resource numbers for the Mine stockpile and Tailings Area at the Sturgeon River Mine. Eighty-seven bore holes were drilled into the tailings area, totalling 156.6 metres and 273 assay samples. Thirty pits were excavated in the stockpile, totalling 1.22 tonnes and 46 assay samples.

GeoVector estimated a range of Indicated resources at various gold (Au) cut-off grades for the Sturgeon River Mine stockpile Table 6-1. Using a 0.0 Au g/t cut-off grade, the stockpile is estimated to contain an Indicated Mineral Resource of 144,070 tonnes at 1.59 g/t for a total of 7,383 ounces Au. Using a 0.0 Au g/t cut-off grade, the Tailings Area is estimated to contain an Indicated Mineral Resource of 137,501 tonnes at 0.67 g/t for a total of 2,944 ounces Au. Inverse distances squared interpolation restricted to mineralized domains was used to estimate gold into the resource block model.

This 2012 mineral resource estimate (MRE) is considered historical in nature. Although the resource estimate at the time was prepared and disclosed in compliance with all disclosure requirements for mineral resources or reserves set out in the NI 43-101 Standards of Disclosure for Mineral Projects (2011) and the classification of the resource as a Measured, Indicated and Inferred resource was consistent with CIM Definition Standards - For Mineral Resources and Mineral Reserves (2010), a qualified person has not done sufficient work to classify the historical resource estimate as current mineral resources and Laurion is not treating the historical resource estimate as current mineral resources.

As the historical MRE was completed in 2012 and restated June 07, 2013, the historical MRE does not comply with current disclosure requirements for mineral resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects (2016) and does not comply with current 2014 CIM Definition Standards - For Mineral Resources and Mineral Reserves, including the critical requirement that all mineral resources "have reasonable prospects for eventual economic extraction".

Since then, in 2018, Laurion completed a total of 20 SONIC drill holes on the stockpile for 185.3 m, averaging 9.3 m in a range of 3.7 m to 15.2 m. Each of the SONIC drill holes was strategically positioned to sample the inner core of the tailings to a minimum of 1.5 m below the base of the tailings. However, additional specific gravity work of the tailings indicated ranges of 2.20 to 2.40 t/m³, with an updated volume range between 75,000 m³ to 80,000 m³ over an area of 12,000 m² or in the range of 150,000 to 190,000 tonnes, with gold grades between 0.67 to 1.59 g/t gold.

Table 6-1Sturgeon River Mine Historical Estimates (June 7, 2013, Resource Estimate
on the Sturgeon River Mine Stockpile and Tailings, Ishkoday Property for Laurion
Exploration Inc., by GeoVector, Technical Report)

Historical Estimate Description*	Category	Tonnes	Grade (g/t)	Contained (oz)
Sturgeon River Mine Stockpile	Indicated	144,070	1.59	7,383
Sturgeon River Mine Tailings	Indicated	137,501	0.67	2,944

1. Historical Estimate disclosed at a 0 Au (g/t) Cut-Off.

2. Historical Estimate cut-off date set at June 7, 2013.

3. A qualified person has not done sufficient work to classify the historical resource estimate as current mineral resources and Laurion is not treating the historical resource estimate as current mineral resources.

6.2 Twin Falls Property

Power stripping in 1998 revealed a 60 m wide zone, adjacent to the swamp along the eastern shore of the lake, comprising highly sheared and sericitized quartz-eye feldspar porphyry or felsic tuff. This zone strikes E-W at 102 degrees and dips steeply to the south. The main showing on the Property consists of a quartz vein with Fe-carbonate alteration, 22.8 cm in width. In one place, specks of visible gold were observed (The Beardmore-Geraldton Economic Geologist - August 7, 1985, and October 24, 1985 - B. Nelson - MDI42E13NW00004).



7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Ishkoday property is located in the Onaman-Tashota Greenstone Belt (OTGB), a compound Meso-to Neoarchean belt with an extensive age span from 2968–2692 Ma (Stott et al., 2002). The property is located near the southern margin of this belt, within the Elmhirst-Rickaby assemblage (ca. 2740 – 2734 Ma; Stott et al., 2002). The Southern margin of the belt is defined by the transcrustal Paint Lake Fault, and extensive first order structure that hosts the nearby Brookbank deposit.

The Beardmore Geraldton Greenstone Belt (BGB) is located on the southern side of the fault. The Ishkoday property itself is located within the Namewaminikan River member of the Rickaby formation, the uppermost portion of the Elmhirst-Rickaby assemblage (Figure 7-1; Strongman et al., 2018; Strongman et al., in prep). The Rickaby formation comprises intermediate to felsic volcaniclastic rocks interlayered with dacitic flows and related breccias. Crucially the Rickaby formation is intruded by an extensive fractionated dike swarm dominated by porphyritic intermediate dikes (Strongman et al., in prep).



Figure 7-1 Regional Geology of the Onaman-Tashota Greenstone Belt

*Modified from Strongman et al.

7.2 Property Geology

Several key map units are present on the Ishkoday property itself (Figure 7-2), from oldest to youngest these are: 1) felsic-intermediate volcanic rocks of the Namewaminikan River member; 2) an extensive synvolcanic intermediate-dominated dike swarm; 3) a large syn-volcanic diorite stock termed the "Sturgeon River Stock"; and 4) a large syn-tectonic granodiorite-tonalite pluton termed the Coyle Lake Pluton



(Strongman et al., in prep). The syn-volcanic units are ca. 2740- 2734 Ma (Strongman et al., in prep) while the syn-kinematic Coyle Lake Pluton is roughly 2699 Ma (Stott et al., 2002).

7.2.1 Lithofacies

The coherent felsic volcanic rocks comprise mainly quartz-and quartz-feldspar-porphyritic-dacitic flows. The flows are tan, brown to grey in colour and are generally aphanitic. Spherulitic textures are common, imparting a spotted or striped appearance to these units. Centimetre-scale flow banding is also typically very well developed, and rare lithophysae are recognized. Quartz and feldspar phenocrysts are common and are generally comprise 10-25% of the rock by volume. The phenocrysts are usually smaller than those in the dikes.

The volcaniclastic-dominated volcanic rocks comprise mainly felsic-intermediate tuff breccias, lapilli stones, and lapilli tuffs, with lesser tuffs and crystal tuffs recognized. Both heterolithic and monolithic varieties exist; however, the heterolithic units are dominant by volume. These units range from matrix to clast supported, and generally contain between 20- 70% clasts in a felsic ash-sized matrix. Broken and angular feldspar and quartz crystals are common within some beds. Bedding is present at the meter to decimetre-scale and is generally defined by clast content and size. Two main groups of clasts are recognized: 1) lithic fragments, typically light tan colour and comprising blocks and lapilli of felsic and intermediate volcanic material, and 2) juvenile fragments, comprising dark, angular chlorite- and sericite-altered lapilli. The presence of the juvenile fragments typically gives a mottled appearance to these units. Fabrics are also typically better developed within the volcaniclastic lithofacies.

The intermediate dike swarm comprises numerous intermediate, mafic, and felsic dikes which vary extensively in composition, size, phenocrysts, internal textures, and overall extent. They occur as a swarm crosscutting the volcanic rocks, and in the center of the property are so prevalent that they comprise the entirety of the rock volume (i.e. in core only dikes, crosscutting more dikes, with little-to-no host volcanic material in between, is observed). The dikes are generally feldspar-, amphibole (now replaced by chlorite), and quartz porphyritic and aphanitic, though aphyric dikes do occur. Phenocrysts range up to 40% by volume but are generally between 2-20% by volume. Feldspar megacrystic and agglomerocrystic dikes are also present. Flow banding is present at the margins of the least altered dikes, some of which also display well developed chill margins. Alteration often destroys the textures within these dikes, including the phenocrysts and flow banding, making identification a challenge. Two broad groups of dikes are present: 1) pre-polymetallic dikes; and 2) post-polymetallic dikes. These are distinguished by their crosscutting relationships with respect to the polymetallic alteration and mineralization. The pre-polymetallic dikes are dominant by volume and are generally larger in size. Their textures and margins are commonly completely destroyed by alteration. The post-polymetallic dikes crosscut the polymetallic alteration and mineralization, and generally contain well preserved textures as a result. Distinguishing the two dike types is not possible unless the polymetallic mineralization and/or alteration is present. The latest dike phase is series of aphanitic aphyric mafic dikes with a soft, chlorite-rich groundmass.

The Sturgeon River Stock is a phaneritic diorite-granodiorite multi-phase intrusion. Two phases are volumetrically dominant at the lshkoday property: 1) a feldspar porphyritic fine-grained phase, and 2) an aphyric medium grained phase with a groundmass comprising hypidiomorphic feldspar along with hornblende, quartz, chlorite and sericite. The stock has sharp chilled intrusive margins with the volcanic rocks, with chill margins expressed as gradational grain size changes over 1-2 m. The Sturgeon River Stock crosscuts the pre-polymetallic dikes but is cut by the polymetallic alteration and the post-polymetallic dikes. Trace element chemistry indicates it's the same composition as the dikes. Large apophyses up to 50 m wide are present along the southern margin of the unit intruding into the dike swarm, these are interpreted as some of the latest phases of the intrusion. The intrusion as a whole is interpreted as co-magmatic with the dike swarm, and its age is interpreted as roughly the same as the dikes.

The Coyle Lake Pluton is a composite syn-tectonic pluton comprising granodiorite to tonalite phases. The main phase on the property is a medium grained idiomorphic granodiorite which generally lacks well developed fabrics. The pluton has sharp, chilled, intrusive contacts with the surrounding rocks over roughly 3-5 m. The surrounding rocks display a 10-40 m scale silicified and pyritized halo. Large 20+ m apophyses

intrude the surrounding dike swarm near the margin of the pluton. This unit is distinctly pink, white in outcrop and core, and is typically noticeably less altered than the surrounding rocks.



Figure 7-2 Local Geology on the Ishkoday Property

*Modified from Strongman et al., in prep


7.2.2 Structural Setting

Three distinct deformational events are recognized by Strongman et al. (in prep), and these coincide with those observed by Lafrance et al. (2004) and Tóth (2019) in the nearby Beardmore-Geraldton Greenstone Belt. D1 deformation comprises the initial collision of the BGB with the OTGB, and is dominated by compression and thrusting, generating a weak S1 bedding parallel fabric and isoclinal meter-scale folds and km-scale faults bounding the panels of the BGB (Lafrance et al., 2004, Tóth, 2019, Strongman et al., in prep). D1 features are poorly developed at the Ishkoday, and only the S1 bedding parallel fabric is well documented on the property.

D2 deformation comprises sinistral transpression, and is responsible for the dominant fabrics, folding, and shear zones observed at the Ishkoday. These consist of a strong penetrative northeast to north-northeast striking S2 fabric, as well as outcrop and map-scale asymmetrical F2 S-folds that plunge steeply to the southwest. D2 shear zones are decimeter- to meter-scale structures that strike east to northeast and display sinistral kinematics (Strongman et al., in prep).

D3 deformation comprises dextral transpression and is mainly expressed at the Ishkoday as a weak spaced S3 cleavage developed anticlockwise to S2. This generally strikes northeast and is axial planar to centimeter- to meter-scale asymmetrical F3 Z-folds mainly recognizable in veins. Several of the larger D2 shear zones show evidence of dextral reactivation during D3 deformation (Strongman et al., in prep).

7.3 Mineralization

Two distinct hydrothermal systems are recognized on the property: 1) a syn-volcanic polymetallic "epithermal-like" system characterized by comb-textured veins, base metal sulfides, propylitic, chloritequartz-sulfide, and calc-sodic alteration; and 2) a syn-tectonic orogenic gold system characterized by laminated to massive quartz-Au veins. These systems are dated at over 35 million years apart (Strongman et al., in prep).

The later orogenic veins often overprint and occur within the polymetallic zones, providing an example of ancestral structural control. Strongman et al (in prep) suggested that the orogenic veins are fault fill-veins, formed during D1 and D2 deformation within reactivated reverse faults. They further postulate that these structures originated as normal faults during volcanism, and that the spatial relationship between the polymetallic and orogenic gold systems can be attributed to the normal faults acting to control the earlier polymetallic fluid up flow zones.

The property hosts numerous occurrences Figure 7-3 displays a magnetic map with the occurrence locations and names for reference. Among these are two historic mines: 1) the Sturgeon River Mine; and 2) the Brenbar Mine, both exploited high grade laminated orogenic veins.

The Sturgeon River Mine operated from 1936 to 1942 produced 73,738 ounces of gold and 15,922 ounces of silver from 145,123 tonnes of ore, with an average grade of 0.51 oz/t (17.0 g/t) Au and 0.11 oz/t Ag (Mackasey, 1976). The mine is located at the contact between a large diorite stock (the Sturgeon River stock) and dikes from an intermediate dike swarm (Figure 7-3). Mining exploited the laminated orogenic "No. 3 vein" via a 15 down to ~530 m depth.

The Brenbar Mine operated from 1941-1949 and produced 134 ounces of Au from 46 tonnes with an average grade of 2.91 oz/t (Mackasey, 1975). Brenbar is hosted within intermediate to felsic volcaniclastic rocks of the Namewaminikan River member (Figure 7-2; Strongman et al., in prep).





Figure 7-3 Ishkoday Property Mineralization Occurrence Locations

Coordinate system in UTM NAD 83 Zone 16 *Modified from Strongman et al., in prep



8 DEPOSIT TYPES

The lshkoday is an atypical Archean hydrothermal system comprising: 1) early synvolcanic polymetallic mineralization; overprinted by 2) later syn-kinematic orogenic gold mineralization. The polymetallic occurrences are focused along syn-volcanic structures within a rift zone that was reactivated roughly 35 million years later during orogenesis related to the collision of the Beardmore-Geraldton and host Onaman-Tashota Greenstone Belts. This later orogenic event introduced new gold into the system within laminated quartz veins and may also have remobilized and relocated earlier gold mineralization, as well. Areas retaining the best potential for economically significant gold-mineralized rock occur where both stages of mineralization are found superimposed or in close proximity, or where there is a sufficient concentration of gold-bearing veins alone.

8.1 **Polymetallic Mineralization**

The polymetallic mineralization typically occupies the cores of the hydrothermal corridors and occurs as comb-textured and massive quartz veins and base metal sulfides (Strongman et al., in prep). The comb-textured quartz veins themselves have variable base metal sulfide contents, but generally contain only minor sulfides, as such the mineralization can be subdivided in an exploration context into two types: 1) comb-textured veins; and 2) base metal sulfides. The comb-textured veins are centimeter-scale and occur in stockworks at the cores of the hydrothermal corridors (Strongman et al., in prep). They generally contain ppb values of gold and silver. The base metal sulfides occur as veinlets, stringers, and semi-massive bodies (Strongman et al., in prep). These range in size from centimeter to metre-scale.

The hydrothermal corridors are marked by wide envelopes of propylitic alteration, developed patchy and pervasive epidote-albite-chlorite-calcite-quartz-pyrite-sericite-actinolite. This is the most wide-spread and traceable feature of the polymetallic system. Developed inboard of the propylitic alteration is silicification, which appears somewhat cryptic in nature. It occurs as pervasive replacement-style alteration that occurs as wide as 10 m near the flanks and center of some of the alteration zones, such as the A-Zone. Two forms of more localized alteration typically mark the immediate core of the hydrothermal corridors: chlorite-quartz-sulfide alteration; and calc-sodic alteration. The chlorite-quartz-sulfide alteration is paragenetically earlier than the calc-sodic alteration occurs as veins and breccia-fill, as well as lesser zones of wall rock replacement. It is characterized by actinolite, magnetite, and lesser quartz and albite. Strongman et al. (in prep) suggested that the calc-sodic alteration represented a higher temperature variant of the chlorite-quartz-sulfide assemblages. Tourmaline alteration also occurs as a spatially distinct alteration type within a zone northeast of the Brenbar Mine (Strongman et al., in prep). It is crosscut by some of the dikes and is interpreted as part of the polymetallic hydrothermal system. It occurs as breccia-fill, strong pervasive replacement, and orbicular replacement.

8.2 **Orogenic Mineralization**

The orogenic hydrothermal system developed roughly 35 million years after the polymetallic system during D1 and D2 deformation (Strongman et al., in prep). It occurs as a series of parallel quartz veins ranging from decimetre to metre scale along with lesser tension gash-style extensional veins. This mineralization overprints the polymetallic mineralization, and the two are spatially associated throughout the deposits. Strongman et al. (in prep) interpreted this relationship to reflect ancestral structural control. Specifically, they suggest the syn-volcanic normal faults localizing the polymetallic system were reactivated as reverse structures during deformation.

Two generations of orogenic quartz veins are recognized at the property: 1) early-D1 fault fill style laminated quartz veins; and 2) Syn-D2 quartz-chlorite extensional veins (Strongman et al., in prep). The early D1 veins are the most common by volume and comprise the main veins mined at the Sturgeon River and Brenbar mines. These have extensive strike length, are generally between 5 cm and 5 m wide, and are

typically boudinaged extensively. They strike broadly NE and are dominated by crack-seal laminated textures, with massive veins being somewhat common (Strongman et al., in prep). Visible gold is common in these veins, which can have very high grades. The syn-D2 veins develop mainly as extensional tension gashes striking southeast, orthogonal to the S2 fabric (Strongman et al., in prep). They are typically ladder textured with quartz and chlorite or massive with somewhat common vuggy textures. These veins range from roughly a centimetre to 20 cm in width and typically have strike lengths or a few meters at most (Strongman et al., in prep).

Alteration associated with the orogenic hydrothermal system occurs mainly as sericite and chlorite within metre-scale envelopes surrounding the quartz veins and along shear zones throughout the property. Variable, but typically low amounts of pyrite, ankerite and calcite are also associated with orogenic veins (Strongman et al., in prep).

9 EXPLORATION

Over the course of the last 14 years, Laurion has conducted several trenching and channel sampling campaigns in order to identify outcropping mineralization. A total of 68 areas were stripped and washed, channel samples were taken were outcropping veins and sulphide mineralization were visible. A total of 6,322 channel samples, for a combined length of 5,093.45 m, were taken of the project area with metal (Au \pm Cu, Zn, Ag, Pb) assays and multielement analysis. The channel sample results were used in order to map out mineralized areas for model construction.

Additionally, a total of 1,510 grab samples are available as csv format points (The grab sample data is mostly comprised of Au assay results with varying amounts of Cu-Zn-Ag-Pb results and multielement analysis (Figure 9-1).





9.1 2007 Exploration

Laurion acquired the Sturgeon River Main Claims (657 ha.) from St. Andrew Goldfields Ltd. and completed an independent environmental due diligence report. The report found the historic stockpile and tailings located on Ishkoday from the former Sturgeon River Mine (1936-1942) to be non-acid generating and benign.

9.2 **2008 Exploration**

Laurion collected a total of 14 selected grab samples during a preliminary project visit. Caracle Creek International Consulting Inc. completed a channel sampling program composed of 50 channel samples on the NW steeply dipping Marge gold-quartz vein over an identified strike length of approximately 365 m. A NI 43-101 Technical Report was also completed for the Sturgeon River Mine Claim Block and was filed on SEDAR.

In 2008, high resolution aeromagnetic, VTEM and radiometric surveys were completed by Terraquest Ltd., for Kodiak Exploration Ltd., over an area of 14 km (E-W) and 13 km (N-S), completing 6,992-line kilometers at 100 m line-spacings, covering the Ishkoday core claims and a portion of the North Ishkoday claims.

The survey identified and unexplained (to date) VTEM anomaly in the SE part of central Ishkoday. The anomaly lies between rhyolite flows and tuffs to the N and basaltic (-andesitic) volcanic rocks to the South. The airborne anomaly is located over a swamp which contains no outcrop.

Also, in 2008, a helicopter-borne magnetic and EM survey was completed by Pro-Am Exploration; a total of 446 km lines were completed at 100 m line-spacings, covering the total area of the Ishkoday North claims block. The Ishkoday North claim lock is covered by 50% to 65% overburden and was completed as a necessary method for geological and structural interpretation. Two dominant regional and northerly diabase dykes were interpreted from the magnetic data. A distinct E-W trending linear that transects the Project, which is sub-parallel to the Paint Lake Fault to the south.

9.3 **2010 Exploration**

Laurion retained GeoVector in order to design the 2010 Ishkoday exploration program. Sampling by GeoVector of surface showings from the No. 3 gold-quartz vein at the former site of the Sturgeon River Mine returned 95 g/t gold and 51.6 g/t gold over a 30 cm vein width, confirming the historically reported higher gold grade nature of this vein at surface. In addition, two samples of the adjacent host rock over approximately 50 cm width returned values of 1.35 g/t gold and 1.16 g/t gold, indicating that the host rock may well carry significant gold grades. Some 165 m South of the Sturgeon River Mine, two samples taken from the No. 3B quartz vein returned values of 34.6 g/t gold and 25.3 g/t gold.

GeoVector also completed a project wide mapping and sampling program, which resulted in the discovery of two new higher-grade gold mineralized zones. In total, 100 surface selected surface grab samples were collected at the Tala mineralization trend and 92 samples on the Asha mineralization trend. The first discovery zone at Tala, is located west of the Sturgeon River Gold Mine area and appears to be on strike and east of the Jubilee Gold Brenbar project. The second discovery zone at Asha is located south of the Sturgeon River Mine area. Higher gold assay values were clustered along an E-NE trend over a 1.8 km of strike length.

The Tehya Zone showing was stripped of overburden to expose the mineralized zone for mapping and channel sampling, following two promising diamond drill holes results in the area.

Initial sampling by GeoVector of the stockpile at the Sturgeon River Mine returned a range of 0.06 g/t gold to 10.20 g/t gold with an average grade of 2.83 g/t gold from 8 random samples. It was reported in 1984 that a bulk sample extracted at that time by front end loader returned an average of 2.95 g/t gold. Based on these initial results, Laurion commissioned a comprehensive program to accurately determine the location and volume of the stockpile, and to sample the stockpile using an excavator to dig pits to acquire representative samples throughout the stockpile. A survey of the tailings area was carried out by TBT Engineering Consulting Group ("TBTE") of Thunder Bay, using a Trimble R8 RTK GPS with an accuracy of approximately 1 cm.

9.4 **2011 Exploration**

On August 30, 2011, the Corporation entered into an option agreement with Jubilee Gold Inc. to acquire up to a 100% interest in 4 mining leases totalling 74 hectares located in Elmhirst Township. The agreement closed on September 9, 2011. (Jubilee-Elmhirst Leases).

On October 11, 2011, Laurion acquired a 100% interest in three mineral claims comprising 21 claim units totaling 135 hectares in the Walter and Elmhirst Townships from Prodigy Gold (Ishkoday East).

Laurion staked 1 mineral claim comprising of 4 claim units (26 hectares) located in Walters Township (Ishkoday South).

In October 2010, Laurion acquired an undivided 100% interest in 13 mining claims totalling 179 units (Ishkoday North), primarily located in Pifher Township, located north of the Laurion 100% owned Sturgeon River Project.

Laurion retained Quantec Geoscience to complete two induced polarization and magnetic surveys carried out on the NE Grid at the Ahki mineralization trend and the SE Grid at Asha Zone. The survey was carried out over 16-line kilometres with 100 m line spacing and 25 m station intervals using TDIP pole-dipole array for the IP.

9.5 **2012 Exploration**

On May 7, 2012, Laurion completed a definitive agreement with Beaurox Mines Limited whereby the Corporation received the option to acquire up to a 100% in 1 mining lease, 30 mining claims, covering an area of 447 hectares. The Beaurox property is contiguous to the Corporation's Ishkoday Property northeastern boundary, and is located in the south western quarter of Elmhirst Township (Beaurox Leases).

Laurion commenced a prospecting program covering the Tehya, Ahki, the Loki ("Loki" and "A-Zone") base and precious metal sulphide trends. The program focused on the base metal occurrences in these trends to evaluate the VMS potential of the Project. Laurion mapped and sampled the polymetallic base metal veins, rarer gold and base metal veins as well as the gold in quartz veins with little to no base metals associated. The reader is referred to (Westoll, 2015) for details of this exploration program.

9.6 **2013 Exploration**

GeoVector completed a NI 43-101 Mineral Resources Estimates for the stockpile and tailings area associated with the processing of ore feed from the Sturgeon River Mine. The estimates for the stockpile were 144,070 tonnes grading 1.59 g/t gold for 7,383 contained ounces of gold in the Indicated category. The resource estimate for the tailing was 137,501 tonnes grading 1.67 g/t gold for 2,944 contained ounces of gold in the Indicated category. Total Indicated mineral resources for both the stockpile and tailings totaled 281,571 tonnes grading 1.14 g/t gold for 10,327 contained ounces of gold. The estimates were prepared by Dr. A. Armitage, P. Geo., an independent consultant to Laurion. The NI 43-101 report was filed on SEDAR.

Channel sampling followed up on several new discovery zones identified in a prospecting program (Westoll, 2015).

9.7 **2018 Exploration**

In early 2018, Laurion designed a long term 3-stage exploration program over a 3-to-5-year period with the prime objective of rapidly defining a significant near-surface bulk metal polymetallic system that could potentially be mined in one or more open pits. It was believed at the time there was sufficient evidence from the historical and Laurion's work for this potential to exist in a 3km by 1km are containing all of the known precious and base metals mineralization known to date.

Stage 1 consisted of an initial field validation exploration program with a first-pass interpretation to prove the existence of sufficient polymetallic mineralization that may offer the proposed potential. Some 80% of Stage 1 was completed in 2018. The remainder formed part of the 2019-2020 Stage 2 exploration program that is to determine the actual potential of the mineralized system via further outcrop stripping, continuous channel sampling, assaying, 2D and 3D geological modelling, and targeting to outline specific areas at



Ishkoday. The 2021-2023 Stage 3 exploration program would ultimately consist of defining the size of the Ishkoday mineralized system in Mineral Resources of all categories.

In Stage 1 - Phase 1 work from May to July 2018, Laurion recompiled the available Ishkoday data, and followed-up with prospecting of poorly explored areas of the Ishkoday North Claims and the Target Area of the South Claims in an expedited fashion in order to move the project to the next exploration phase. The activities included regional prospecting, limited regional geological mapping and the prospecting of known mineralized "veins" and their extensions, and new areas in the less explored Ishkoday North Claims, located north of the Namewaminikan River.

Some new mineralized quartz vein occurrences were discovered on the Ishkoday North Claims. These vein sets were systematically manually stripped and sampled. Outcrop stripping, mapping and sampling was also completed in the southern portion of the claims including the "85-A2" gold-quartz vein system and the polymetallic base metal veins. Hand stripping was completed in two areas, the "Jack showing" adjacent to Highway #801 and the 5157 area which was located southwest of the 85-A2 Quartz Vein system.

The Phase 1 - Stage 2 work included mechanized and additional manual outcrop stripping, channel sampling and assaying. Two large stripped areas/trenches, TR18-1 and TR18-2 were completed during this stage. Trenches were channel sampled in a semi-continuous fashion at 0.2 m to 1.5 m intervals. Trenches were designed to expose the favorable geology and veins associated with the 85-A2 Quartz Vein system (in TR18-1) and to test the lateral continuity of the gold mineralization and alteration on strike to the southwest.

Stripped area TR18-1 was constructed about 1km NE of the Sturgeon River Mine. The stripping was designed to expose a suite of NE-SW gold bearing quartz veins carbonatized and/or sericitized selvages that include the 85-A2 and other gold bearing quartz veins previously identified and to channel sample them in a semi-continuous fashion. Veins pinch and swell along strike from a few centimeters to locally over a meter in width. Quartz veins contain minor pyrite and rare chalcopyrite. The veins typically form anastomosing patterns. Thin 020^o trending chlorite-magnetite polymetallic veins occur sparsely in TR18-1 and correspond to base metal values in the channel samples.

The stripped area TR18-2 was designed to expose the geology and explore for gold bearing veins on strike with those veins exposed in TR18-1 (SW of TR18-1). The trench intersected volcaniclastic and tuffaceous volcanic rocks, felsic to intermediate flows and intermediate composition intrusive rocks similar to rocks in TR18-1.

The 2018 exploration program at Ishkoday focused on determining the extent and grade of selective vein sets, whether gold-quartz or gold polymetallic veins and stockworks, which could further advance the overall potential. The work also enhanced the understanding of the mineralizing systems and confirmed the results of the historic work and confirmed that the polymetallic base and precious metal systems are long lived, multi-generational events that are clearly associated with structures formed by the deformation events that have affected the area.

Laurion also completed metallurgical laboratory test work on its surface stockpile. The purpose of the test work was a follow-up of the 2010 and 2014 testing, designed to evaluate the gravity recoverable gold followed by flotation of the gravity tailings to recover any remaining gold.

9.8 **2019 Exploration**

The 2019 exploration program staged two field campaign consisting of mechanized outcrop stripping, geological mapping and prospecting, channel, and selected grab sampling, assaying and litho-geochemical



analysis, stripped area rehabilitation, a detailed airborne drone magnetic survey, current and historic data compilation and synthesis, 2-D and 3-D geological modelling, and reporting.

Outcrop stripping totalling 41,067m² was completed in 6 areas, of which 22% was rehabilitated in 2019:

- TR18-3 at the M24 Quartz Vein for 5,294 m² covering trenches numbered #1, 9, 10, 15, 16, 19, 21 and 24.
- TR19-1 at the Nos. 1, 2, 3 and 8/11 Quartz Veins (including the Coniagas Quartz Vein) for 4,943 m² covering trenches numbered #2, 4, 5, 6, 8, 11, 22 and 23.
- TR19-2 at the CRK Zone Oxide-Sulphide, Sulphide and A-2 Quartz Veins for 14,173 m².
- TR19-3 at the Marge, "F" and "X" Quartz Veins for 11,694 m2 covering trenches numbered #42 to 53 and 60.
- TR19-4 at the M23 and M25 Quartz Veins for 2,425 m² covering trench numbered #61.
- TR19-5 at the A9 and Nos 8/11 Quartz Veins for 2,538 m² covering trench numbered #59.

A total of 3,581 channel and 239 selected grab samples were sent to ALS Group laboratory for assay and limited litho-geochemical analysis.

9.9 **2020 Exploration**

Laurion's 2019 exploration work identified three major gold-mineralized trends, Sturgeon River Mine, M25/Marge and Loki, which extends along strike for 2+ km, 1.8+ km and 3+ km, respectively.

A 3D conceptual model of the A-Zone, produced in GEMCOM[™] by A. S. Horvath Engineering Inc., was initiated in December 2019 and completed in March 2020 in advance of the 2020 drill program. The model integrated approximately 26,000 m of historic (1987 to 1992) and recent (2012 to 2014) drill core and suggests that two orientations (010^o and 035^o) of sub vertically dipping mineralized vein structures are present in the area.

Several large, NE-trending anomalous zones were identified, with chargeable and/or resistive zones extending to depth. Several of the new anomalies coincided with known gold mineralization in the A Zone. These results were used to aid in targeting during the ongoing 2020/2021 drill campaign.

On a property scale, the A-Zone lies near the northeast boundary of the ellipsoidal Sturgeon River Stock. The elongation of the stock, coupled with the nearby shear zones inferred through previous Ontario Geological Survey, Laurentian University Metal Earth and the Corporation mapping and geophysics, suggests that the A-Zone is hosted in a major prospective extensional zone.

9.10 **2023 Exploration**

In early 2023, Laurion contracted Precision GeoSurveys Inc. of Langley, B.C., in May 2023 to perform a large-scale, helicopter-borne high-resolution gradient magnetic survey at the Ishkoday Property (Figure 9-2). The survey provided uniform, high-resolution magnetic data coverage of the Ishkoday Project at better resolution than existing surveys that cover only parts of the property. The high-resolution 3-axis magnetic gradiometer survey has helped to map subtle structures that may not have been delineated in previous surveys, including over the past-producing Sturgeon River and Brenbar Mines. The main target of this year's exploration is structurally controlled gold mineralization and therefore an understanding of the structural setting is particularly important. The magnetic geophysical survey comprised 882-line km at 50 m spacing over one survey block of 40.4 km² and will utilize four Scintrex CS-3 (or equivalent) cesium vapor magnetometer sensors. The sensors have a 0.0006 nT *sqrt*Hz RMS sensitivity in a proprietary non-magnetic and non-conductive survey bird for triaxial magnetic gradient and total magnetic intensity



measurements. The Helicopter, a Bell 206, is configured with a laser altimeter, attitude sensor, and its own GPS receiver. This system allows the horizontal and vertical gradients to be measured directly across two sensors and delivers unsurpassed total field and oriented gradient data.





Figure 9-2 2023 Helicopter-Borne High-Resolution Gradient Magnetic Survey over



10 DRILLING

Since 2010 and up to the effective date of this report, Laurion has completed 154 diamond drill holes for a total of 44,026 m of core on the Ishkoday Property. In 2010 Laurion completed 87 overburden drill holes on the area of the historic Sturgeon Mine tailings area. In 2018, Laurion also completed a total of 20 SONIC drill holes on the Stockpile for 185.3 m, averaging 9.3 m in a range of 3.7 m to 15.2 m (Figure 10-2). Diamond drilling completed on the Property by Laurion is presented below in Table 10-1 and Figure 10-1. One can see also the location of the Ishkoday Property zones of interest in Figure 10-13.



Figure 10-1 Laurion Drill Hole Location and Zones of Interest



	Stu	irgeon	Т	Tehya		Joe		CRK		Ahki	A	Zone	Exp	loration
Zone Year	Hole s	Length (m)	Hole s	Length (m)	Hole s	Length (m)	Holes	Length (m)	Hole s	Length (m)	Holes	Length (m)	Holes	Length (m)
2010	10	4,548.2 6	2	144.55	-	-	-	-	-	-	-	-	-	-
2011	-	-	3	294.00	1	152.00	4	513.25	2	355.00	3	427.69	8	1,687.70
2012	4	398.98	-	-	-	-	-	-	-	-	-	-	4	452.08
2014	-	-	-	-	-	-	-	-	2	207.00	-	-	-	-
2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2020	1	-	-	-	1	377.00	9	2,585.00	-	-	21	4,974.00	-	-
2021	-	-	-	-	-	-	-	-	-	-	25	8,953.00	-	-
2022	-	-	-	-	-	-	-	-	-	-	46	14,281.5 0	-	-
2023	9	3,675.0 0	-	-	-	-	-	-	-	-	-	-	-	-
Total	23	8,622.2 4	5	438.55	2	529.00	13	3,098.25	4	562.00	95	28,636.1 9	12	2,139.78

 Table 10-1
 Diamond Drill Holes completed by Laurion on the Ishkoday Property

10.1 2010 Drilling

A total of 4,003 m was drilled in 12 diamond drill holes during 2010. Five holes (LME10-001 to LME10-005) totaling 343 metres were drilled over a 150 metres strike length of the Marge vein located to the northwest of the Sturgeon River shaft. These holes were designed to intersect an area of the vein that had indications of high-grade gold from the historical trenching and channel samples collected in 2008. A reference location map is also available in Figure 10-1.

Laurion completed 2 shallow diamond drill holes totaling 144.55 m below the Thea zone to test the zone (LME10-006 & LME10-007).

Laurion also completed 5 deep diamond drill holes totaling 3,516m below the Sturgeon River Mine workings to test the down dip extension of the No. 3 Quartz Vein (LME10-008 to LME10-010). This included the wedged drilling of LME10-008W (+/-375 m) and LME10-009W (350 m).

Laurion initiated an overburden drilling program carried out by TBTE with hole locations determined using the Trimble R8 RTK GPS. Holes were planned on a diamond grid with 20 metre holes spacing. A total of 93 drill collars were spotted (BH1 to BH93) and 87 were drilled. five holes were not drilled (BH2, BH65,66,67 & BH88) as they appeared to be off the tailing area or were inaccessible. A total of 376 samples were collected, ranging from 0.10 meters to 1.10 meters, with an average thickness of 0.42 meters. Tailings thickness intersected in the drilling ranged from 0.60 meters to 3.90 meters. Most drill holes penetrated through the tailings into the underlying organics, which were also sampled.

Sampling of the overburden drilling was carried out by TBTE under the supervision of GeoVector. The samples were sent to Actlabs and were analyzed by fire assay with AA finish. Any high-grade samples over 3,000 ppb gold were further treated to fire assay with gravimetric finish to determine a final gold grade. Individual assay results ranged from below detection limit to 21.50 g/t gold. The gold grade was consistently higher in the lower intervals of the tailing's intersections, thus confirming that percolation of the gold had indeed occurred. Drill intersections through the total mill tailings thickness ranged from a low of 0.13 g/t over 1.0 meter to 9.65 g/t over 0.90 meters.



10.2 2011 Drilling

A total of 2,684 metres were drilled in 15 diamond drill holes during 2011 in two separate drilling campaigns. Seven diamond drill holes totaling 1,020m tested anomalies on the NE Grid at Ahki, the Makwa mineralization trend and at the Tehya Extension. All 7 holes (LME11-011 to LME11-017) intersected silver-copper-zinc +/-gold mineralization. Makwa is located northeast of the No. 3 vein. A reference location map is also available in Figure 10-1.

Six diamond drill holes totaling 1,383m (LME11-018 to LME11-023) targeted multiple strong chargeability anomalies identified by the induced polarization survey on the southwest grid carried out by Quantec Geoscience on the Asha trend. Drilling totaling 280m (LME11-024 and LME11-025) examined the extent of the previously drilled Tehya at depth and along the 800m strike length between diamond drill holes LME10-007 and LME11-017.

10.3 2012 Drilling

A drilling program totaling 3,218m for 23 DDH was achieved, targeting mainly the A Zone, and a possible extension northeast of #3 vein. (LBX12-001 to LBX12-015, LME12-026 to LMD12-029, LNG12-003 to LNG12-005, and LPG12-001). A reference location map is also available in Figure 10-1.

10.4 2014 Drilling

Laurion completed a drill program composed of a total of 533m of diamond drilling completed in 4 holes (LBX14-016, LBX14-017, LME14-030 and LME14-031) in January 2014. In March 2014, two strategic diamond drill holes (LBX14-018 and LBX14-019) totaling 424m on the high grade polymetallic "A" Zone of the Loki Trend.



Figure 10-2 Location of 20 SONIC Drill Holes

10.5 2020 Drilling

A total of 7,937 m of NQ size drill holes (31 drill holes) was completed on the A-Zone, McLeod, Joe, Ahki/Azurite and CRK Zones, located in the northeast Ishkoday Project. In May 2020, the Company commenced the first of two diamond drill programs, comprising 21 diamond drill holes (LBX20-001 to LBX20-021) of 4,925 metres, which focused of the A-Zone located 3.5 km to the northeast of the Sturgeon River Mine. This drill program focused on testing historic intercepts and the validity of a new structural model previously reported for the A Zone of the Loki Trend. A reference location map is also available in Figure 10-7.

In September 2020, Laurion commenced the second phase of 10 diamond drill holes (LME20-022 to LME20-031) comprising of 2,962m, focused on testing the mineralization both along and across strike at the CRK, Azurite, Ahki and Cooper Zone, and several other parallel NE- or N-striking mineralization (Figure 10-3 and Figure 10-4).



Figure 10-3 Plan and Cross Sections of LME20-022 to -025





Figure 10-4 Plan and Cross Sections of LME20-022 to -029

10.6 2021 Drilling

On November 17, 2021, the Company announced the final analytical results for the 2021 diamond drilling program (25 drill holes) on the Ishkoday Property, located 220 km northeast of Thunder Bay. The 2021 drill campaign focused on testing the strike continuity between the A-Zone and McLeod mineralized areas (Figure 10-5 and Figure 10-6). A reference location map is also available in Figure 10-1.

Highlights of current drill hole results include:

- 0.80 g/t Au, 5.12 g/t Ag, 1.07% Zn over 14.40m on hole LBX21-054 between 105.2 and 119.6 m.
- 0.37 g/t Au, 3.03 g/t Ag, 0.05% Cu and 0.99% Zn over 11.0 m on hole LBX21-048 between 156.0 and 167.0 m.



• The A-Zone and McLeod mineralized areas are interpreted to constitute the same mineralized system.

The 2021 drilling campaign was completed with a total of 8,930m (planned 10,000m). Current assay results continue to confirm the presence of volcanogenic mineralization, with significant width continuity at shallow depths (up to 150 m vertically) over the 1.4 km strike length between the A-Zone and the McLeod area. Exploration hole LBX21-055 results, indicate a possible new mineralized zone to the southwest located between the McLeod and the CRK Zones, which could signify an even greater strike length of the total mineralized system. The following Table 10-2 summarizes the best results from 2021 drilling campaign.

	•			-	-		-	
Hole ID	From (m)	To (m)	Length (m)	Au g/t	Ag g/t	Cu %	Zn %	Zone
LBX21-048	112.00	113.00	1.00	9.12	5.50			
And	156.00	167.00	11.00	0.37	3.03	0.05	0.99	A-Zone
And	172.00	181.50	9.50	0.21	1.88	0.02	0.44	A-Zone
LBX21-049	167.00	196.50	29.50	0.15	2.08	0.04	0.25	A-Zone
LBX21-051	187.20	194.40	7.20	0.51	5.54	0.10	0.86	A-Zone
LBX21-054	61.30	80.80	19.50	0.28	0.96	0.01	0.24	
And	105.20	119.60	14.40	0.80	5.12	0.06	1.07	A-Zone
LBX21-055	368.00	376.80	8.80	0.31	8.43	0.28	0.30	New Zone?
And	441.40	444.90	3.50	0.53				McLeod Vein
And	464.30	472.70	8.40	0.17	12.87	0.51	0.24	A-Zone?

Table 10-2 2021 Selected Best Results from Diamond Drilling Linking the Mineralized Zone Between McLeod Zone and A-Zone





Figure 10-5 2021 Drill Hole Location







10.7 2022 Drilling

On April 19, 2022, the Company announced assay results from the first three (3) diamond drill holes designed to expand the gold-and-zinc-rich mineralization at the A-Zone; located within a 2 km segment of the 6 km long Ishkoday mineralized trend. The A-Zone trend is located on the southeastern portion of the Ishkoday project which Laurion is targeting with a 15,000 m drill campaign, which commenced on January 14, 2022. One can see also the sections 1 through 4 (Figure 10-8 to Figure 10-11) outlining general information of 2021 and 2022 drill holes. A reference location map is also available in Figure 10-1.

The drilling (46 drill holes) confirmed the current geological interpretation and 3D model for the mineralization at the A-Zone. The interpreted mineralized horizon and veins, believed to be associated with syn-volcanics hydrothermal activity and later orogenic events, have been intercepted in all holes from the 2022 drill campaign. The redefined interpretation illustrates the stacked nature of the mineralization extending over more than 2 km strike length and 200m width from the CRK Zone to the A-Zone. (Table 10-3).

In this newly drilled area, gold-and zinc-rich mineralization were intercepted returning:

- LBX22-057: 1.21g/t Au, 6.40% Zn and 0.80% Cu over 8.70 m, including 1.67 g/t Au, 10.56% Zn, and 0.79% Cu over 2.68 m; 1.75 g/t Au, 13.36% Zn and 2.09% Cu over 1.45 m.
- LBX22-056a: 0.85 g/t Au, 1.98% Zn and 0.18% Cu over 3.45 m, including 1.55 g/t Au, 7.79% Zn and 0.27% Cu over 0.5 m.



LBX22-058: 1.55 g/t Au, 1.12% Zn, 0.11% Cu over 1.30m, including 2.79 g/t Au, 1.85% Zn and 0.15% Cu over 0.70 m.

Along the Ishkoday mineralized trend, two mineralization styles were identified:

- gold-and-zinc-rich volcanogenic veins/horizons.
- orogenic style gold veins.

On May 24, 2022, the Company announced assay results for three (3) new diamond drill holes testing the continuity of the newly opened area that extends the A-Zone by 700 m towards the Southwest. This area is located within a 2 km segment of the 6 km long Ishkoday mineralized trend, which is located in the southeastern portion of the Ishkoday Au-Zn-Cu-Ag project. These 3 holes are part of a 15,000 m drilling campaign design to confirm the presence of continuous mineralization from the A-Zone to the CRK Zone, over a strike length of 3 km (Figure 10-7).

The current assay results confirmed the continuity of the A-Zone to the southwest by 160m since the last release and intercepted the stacked gold- and zinc-rich epithermal and orogenic gold veins (See Figure 10-7) returning:

- LBX22-059 from 141 m to 148 m: 7.00 m (5.60m true width ("TW")) @ 0.14 g/t Au and 0.63% Zn; including 1.00 m (0.80 m TW) @ 0.38 g/t Au and 1.60% Zn and 1.00 m (0.80m TW) @ 0.38 g/t Au and 1.84% Zn
- LBX22-060 from 201.5 m to 209.9 m: 8.40 m (6.72 m TW) @ 0.62 g/t Au, 3.05% Zn and 0.15% Cu; including 1.00 m (0.80 m TW) @ 0.61g/t Au, 4.27% Zn and 0.19% Cu and 2.30 m (1.84 m TW) @ 1.15 g/t Au, 4.20% Zn and 0.23% Cu.
- LBX22-060 from 251 m to 255 m: 4.00 m (3.20 m TW) @ 0.37 g/t Au, 2.90% Zn and 0.28% Cu; including 1.00 m (0.80 m TW) @ 1.21 g/t Au, 10.70% Zn and 0.93% Cu
- LBX22-061 from 327.5 m to 329.1 m: 1.60m (1.28m TW) @ 1.31 g/t Au, 1.66% Zn and 0.36% Cu; including 0.50 m (0.40 m TW) @ 3.04 g/t Au, 3.71% Zn and 0.75% Cu
- LBX22-061 from 420 m to 422.6 m: 2.60 m (2.08 m TW) @ 1.11 g/t Au and 0.21% Zn; including 0.60m (0.48 m TW) @ 3.49 g/t Au and 0.01% Zn

On May 31, 2022, the Company announced assay results for three (3) new diamond drill holes testing the continuity at depth of the northeastern portion of the A-Zone. The A-Zone is located along the 6 km long Au-Zn-Cu-Ag mineralized trend (Table 10-3).

The current assay results have demonstrated that the northeastern part of the A-Zone gold- and zinc-rich synvolcanic mineralization extends to depth over more than 240 m vertical. The drilling also identified a new mineralized structure, associated with the Behzik shear zone, bordering the northeastern edge of the A-Zone.

The depth extension of the A-Zone returned the following highlights (see table for full results):

- LBX22-063 from 173.5 to 175.25 m: 1.75 m (1.47 m true width (TW)) @ 0.52 g/t Au and 1.82% Zn.
- LBX22-064 from 234 to 239.95: 5.95 m (4.83 m TW) @ 0.85 g/t Au, 0.54% Zn and 0.20% Cu.
 Including 1.95m (from 238 to 239.95 m) @ 2.44 g/t Au, 1.58% Zn and 0.56% Cu.
- LX22-065 from 282 to 290 m: 8 m (6.69 m TW) @ 0.39 g/t Au, 2.48% Zn and 0.32% Cu. Including 1.00 m (from 289 to 290 m) @ 1.68 g/t Au, 6.26% Zn and 1.12% Cu.

The new mineralized structure in association with the Behzik shear returned the following highlights:

• LBX22-065 from 175.3 to 178.10 m: 2.80 m (2.24 m TW) @ 2.12 g/t Au, 3.07% Zn and 0.34% Cu.



On June 14, 2022, the Company announced assay results for six (6) new diamond drill holes which tested the potential of the undrilled continuity of mineralization, between the southwestern portion of the A-Zone and towards the McLeod Zone. Both the A-Zone and McLeod Zones are located along the 6 km long Au-Zn-Cu-Ag mineralized trend at the Ishkoday project, near Beardmore, Ontario (Table 10-1).

The current assay results demonstrate that anomalous gold-silver-zinc mineralization was intersected in each of the six recently completed drill holes linking the A-Zone and McLeod Zones for more than 200m along strike returning:

- LBX22-066 from 106.00 to 130.50 m: 24.50 m (22.26 m TW) @ 0.43 g/t Au, 3.86 g/t Ag and 0.49% Zn; including 2.20 m @ 0.87 g/t Au, 1.07% Zn and 7.55 g/t Ag
- LBX22-067 from 63.00 to 64.40 m: 1.40 m (1.04 m TW) @ 0.70 g/t Au and 0.84 g/t Ag
- LBX22-068 from 32.35 to 34.40 m: 1.95 m (1.57m TW) @ 1.66 g/t Au, 0.70% Zn, and 7.79 g/t Ag
- LBX22-068 from 197.00 to 211.20 m: 14.20 m (11.24 m TW) @ 0.26 g/t Au, 0.43% Zn, and 1.97 g/t Ag
- LBX22-069 from 100.10 to 101.40m: 1.30 m (0.97 m TW) @ 1.16 g/t Au and 0.85 g/t Ag
- LBX22-069 from 174.95 to 179.00 m: 4.05 m (3.02 m TW) @ 0.41 g/t Au, 0.26% Zn, and 1.70 g/t Ag
- LBX22-070 from 12.06 to 14.00 m: 1.94 m (1.57 m TW) @ 0.29 g/t Au, 0.11% Zn, and 2.74 g/t Ag
- LBX22-071 from 65.00 to 84.50 m: 19.50 m (15.00 m TW) @ 0.22 g/t Au and 1.02 g/t Ag; including 4.50 m @ 0.54 g/t Au, and 2.72 g/t Ag
- LBX22-071 from 126.30 to 138.00 m: 11.70 m (8.92 m TW) @ 0.31 g/t Au, and 2.11 g/t Ag; including 5.30m @ 0.51 g/t Au, and 3.65 g/t Ag, and 2.80 m @ 0.82 g/t Au; 1.09% Zn, and 5.41 g/t Ag.

On August 31, 2022, the Company announced the assay results for nine (9) new diamond drill holes, totaling 4,207m, which tested the potential continuity of mineralization between the southwestern portion of the A-Zone the McLeod Zone (Table 10-1).

These results confirm the strike length extension of the A-Zone over 1.6 km and remains open close to surface towards the Northeast and at depth towards the Southwest. The drilling also confirmed the continuity of the mineralization between the CRK and McLeod areas, in previously undrilled areas. Both the A-Zone and McLeod Zones are located along the 6 km long Au-Zn-Cu-Ag mineralized trend at the lshkoday project, near Beardmore, Ontario (Figure 7-3).

Drill holes LBX22-072 and 074 tested a potential N-S zone at 300m depth, which was found to hold mineralization. Holes LBX22-073, located to 205 m to the northeast of drill holes LME11-013 (3.22 g/t Au, 27.5 g/t Ag, 0.38% Cu and 5.63% Zn) in the Ahki Vein area has also confirmed the northeast extension of this system. Drill holes LBX22-075 and 076 successfully confirmed the southwestern continuity of the McLeod Zone at depth. Drill holes LBX22-077 to 082 also tested the potential extension of the A-Zone mineralization to the southwest between the A-Zone and McLeod Zone, with current results confirming the continuity of the mineralized system (Figure 10-7).

On October 18, 2022, the Company announced the assay results for seven (7) new diamond drill holes, totaling 2,577 m, which tested the undrilled potential continuity of mineralization between the southwestern portion of the A-Zone the McLeod Zone and the Southwest extension of the McLeod Zone (Table 10-3). These results confirm the strike length extension of the A-Zone over 1.6 km and remains open close to surface towards the Northeast and at depth towards the Southwest. The drilling also confirmed the

continuity of the mineralization between the CRK and McLeod areas, in previously undrilled areas. Both the A-Zone and McLeod Zones are located along the 6 km long Au-Zn-Cu-Ag mineralized trend at the Ishkoday Project, near Beardmore, Ontario.

Drill holes LBX22-083 and 085 are located approximately 45 m NW of drill holes LBX20-020 and 021, targeting a high-grade sulphide zone at the McLeod Area, 400 m southwest of the A-Zone. This area is interpreted to represent the confluence of the A-Zone syn-volcanic mineralization, and the orogenic mineralization associated with the Niish shear zone. Drill hole LBX22-084 was drilled 108 m southwest of drill hole LBX20-083 and approximately 127 m northwest of drill hole LBX20-021, which targeted the southwest extension of the high-grade sulphide zone at the McLeod Area, 400 m southwest of the A-Zone. Drill hole LBX086 was set back 75 m to northwest of drill holes LBX22-083 and 085 and targeted an undrilled strong I.P. chargeability high and resistivity low anomaly on the McLeod Zone. Drill hole LBX087 was set back 123 m to southwest of drill hole LBX22-085 and targeted an undrilled strong I.P. chargeability high anomaly on the McLeod Zone (Figure 10-7)

On October 25, 2022, the Company announced the assay results of for two (2) new diamond drill holes, totaling 600 m, which tested the undrilled potential continuity of mineralization in the southwestern portion of the McLeod Zone. The drill holes intersected orogenic style mineralization associated with the Niish shear zone (Figure 1), confirming the high-grade gold potential of this type of mineralization at the Ishkoday Property. This newly identified high-grade structure is open both on strike and at depth (Figure 10-7).

Drill hole LBX22-088 is located 80m southwest of drill hole LBX22-084 and tested the continuity of a strong I.P. chargeability high anomaly below the McLeod Zone and is associated with the Niish shear zone.

Drill hole LBX22-089 is located 100m NE of drill hole LBX22-088. This hole targeted the southeastern continuity of high-grade sulphide zone in the McLeod Area, 400 m southwest of the A-Zone. Past drilling in the area (LBX20-021) returned assay results of 5.95 g/t gold, 29.6 g/t silver over 0.49 m; 6.98 g/t gold, 15.2 g/t silver, 1.93 % zinc over 0.57 m; and 0.89 g/t gold, 4.0 g/t silver and 1.04 % zinc over 14.08m.

The Company announced the assay results for holes LBX22-090 to LBX22-094 complete the assay database for Laurion's 2022 drilling campaign. Results for five (5) holes were received for a total of 1,926 metres (NQ core) of which two holes, for a total of 744 metres, intersected the depth extension of the A-Zone polymetallic synvolcanic mineralization (Figure 10-7) The intercepts include 1.64 g/t Au and 3.14% Zn over 1 m (from 168m to 169 m) in hole LBX22-092 and 0.73 g/t Au and 3.1% Zn over 0.71m (226.4m to 227.1 m) in hole LBX22-093.

This structure has been identified in several drillholes on the property and also from surface mapping, as containing extensive orogenic style alteration. Key intercepts associated with this mineralized corridor along a 3.5 km strike are listed in Table 10-3.

Drill hole LBX22-088 is located 80m southwest of drill hole LBX22-084 and tested the continuity of a strong I.P. chargeability high anomaly below the McLeod Zone and is associated with the Niish shear zone. Drill hole LBX22-089 is located 100 m NE of drill hole LBX22-088. This hole targeted the southeastern continuity of high-grade sulphide zone in the McLeod Area, 400 m southwest of the A-Zone. Past drilling in the area (LBX20-021) returned assay results of 5.95 g/t gold, 29.6 g/t silver over 0.49m; 6.98 g/t gold, 15.2 g/t silver, 1.93 % zinc over 0.57 m; and 0.89 g/t gold, 4.0 g/t silver and 1.04 % zinc over 14.08 m. Laurion is pleased with its key exploration milestones achieved in 2022, validating the 6 km x 2.5 km mineralized corridor and extending the A-Zone to the McLeod Zone by 400 m to 1.4 km, thereby significantly increasing the gold potential of the property by identifying this new orogenic mineralization associated with the Niish Shear zone.

Drill hole LBX22-088 is located 80 m southwest of drill hole LBX22-084 and tested the continuity of a strong I.P. chargeability high anomaly below the McLeod Zone and is associated with the Niish shear zone. Drill hole LBX22-089 is located 100m NE of drill hole LBX22-088. This hole targeted the southeastern continuity



of high-grade sulphide zone in the McLeod Area, 400 m southwest of the A-Zone. Past drilling in the area (LBX20-021) returned assay results of 5.95 g/t gold, 29.6 g/t silver over 0.49m; 6.98 g/t gold, 15.2 g/t silver, 1.93% zinc over 0.57 m; and 0.89 g/t gold, 4.0 g/t silver and 1.04 % zinc over 14.08 m. Laurion is pleased with its key exploration milestones achieved in 2022, validating the 6 km x 2.5 km mineralized corridor and extending the A-Zone to the McLeod Zone by 400 m to 1.4 km, thereby significantly increasing the gold potential of the property by identifying this new orogenic mineralization associated with the Niish Shear zone.

These results confirm the strike length extension of the A-Zone over 1.6 km and remains open close to surface towards the Northeast and at depth towards the Southwest. The drilling also confirmed the continuity of the mineralization between the CRK and McLeod areas, in previously undrilled areas. Both the A-Zone and McLeod Zones are located along the 6 km long Au-Zn-Cu-Ag mineralized trend at the Ishkoday Project, near Beardmore, Ontario. The results for hole LBX22-081 to LBX22-087 (7 holes) include the following intersections in Table 10-3.

Drill holes LBX22-072 and 074 tested a potential N-S zone at 300 m depth, which was found to hold mineralization. Holes LBX22-073, located to 205 m to the northeast of drill holes LME11-013 (3.22 g/t Au, 27.5 g/t Ag, 0.38% Cu and 5.63% Zn) in the Ahki Vein area has also confirmed the northeast extension of this system.

Drill holes LBX22-075 and 076 successfully confirmed the southwestern continuity of the McLeod Zone at depth. Drill holes LBX22-077 to 082 also tested the potential extension of the A-Zone mineralization to the southwest between the A-Zone and McLeod Zone, with current results confirming the continuity of the mineralized system.

Hole ID	From	То	Core Length	True Width*	Au	Zn	Cu	Ag
	(m)	(m)	(m)	(m)	(g/t)	(%)	(%)	(g/t)
LBX22- 059	141.00	148.00	7.00	5.60	0.14	0.63	0.05	14.89
including	141.00	142.00	1.00		0.38	1.60	0.15	61.10
including	147.00	148.00	1.00		0.38	1.84	0.08	26.40
LBX22- 060	83.00	88.15	5.15	4.12	0.31	0.35	0.01	1.27
including	85.70	86.20	0.50		1.14	0.87	0.03	2.80
including	87.60	88.15	0.55		0.34	1.64	0.02	3.80
LBX22- 060	96.50	98.30	1.80	1.44	0.46	1.53	0.10	6.98
including	97.50	98.30	0.80		0.91	3.32	0.22	14.70
LBX22- 060	157.10	161.20	4.10	3.28	0.09	4.86	0.14	11.55
including	159.10	161.20	2.10		0.14	9.33	0.25	21.30
LBX22- 060	188.50	190.60	2.10	1.68	0.21	3.36	0.12	6.00
including	189.50	190.10	0.60		0.17	11.20	0.22	11.00
LBX22- 060	201.50	209.90	8.40	6.72	0.62	3.05	0.15	8.07
including	202.50	203.50	1.00		0.61	4.27	0.19	9.70
including	204.70	207.00	2.30		1.15	4.20	0.23	13.67
including	209.00	209.90	0.90		0.17	5.91	0.05	4.50
LBX22- 060	221.60	223.90	2.30	1.84	0.38	2.96	0.19	6.59

Table 10-32022 Highlights of A-Zone Extension Assay Results



Hole ID	From	То	Core Length	True Width*	Au	Zn	Cu	Ag
	(m)	(m)	(m)	(m)	(g/t)	(%)	(%)	(g/t)
including	223.32	223.90	0.58		0.99	7.40	0.39	11.40
LBX22- 060	237.70	239.00	1.30	1.04	0.17	1.14	0.01	0.75
LBX22- 060	251.00	255.00	4.00	3.20	0.37	2.90	0.28	15.37
including	252.40	253.40	1.00		1.21	10.70	0.93	26.70
LBX22- 061	27.30	29.00	1.70	1.36	0.43	2.19	0.06	3.68
LBX22- 056	13.50	15.50	2.00	1.60	0.26	1.59	0.08	13.91
LBX22- 056a	13.50	14.30	0.80	0.64	2.33	2.63	0.54	30.60
LBX22- 056a	127.55	131.00	3.45	2.76	0.85	1.98	0.18	13.10
including	128.60	129.10	0.50		1.55	7.79	0.27	18.60
including	129.70	130.20	0.50		1.01	2.06	0.28	32.70
LBX22- 056a	136.20	146.10	9.90	7.92	0.25	1.79	0.08	6.37
including	136.20	138.00	1.80		0.37	3.70	0.20	23.00
including	139.00	140.00	1.00		0.50	3.24	0.08	11.80
LBX22- 056a	161.70	163.46	1.76	1.41	0.60	6.66	0.33	18.42
including	162.86	163.46	0.60		0.86	15.00	0.43	34.30
LBX22- 057	144.00	146.75	2.75	2.20	0.20	4.00	0.11	4.64
including	144.00	144.50	0.50		0.56	9.18	0.20	10.80
including	146.15	146.75	0.60		0.40	10.40	0.31	0.50
LBX22- 057	152.50	155.85	3.35	2.68	0.17	1.04	0.02	3.59
including	155.35	155.85	0.50		0.85	5.10	0.09	9.20
LBX22- 057	171.00	173.50	2.50	2.00	0.47	1.07	0.03	1.96
including	171.00	171.50	0.50		0.84	3.33	0.07	5.40
LBX22- 057	222.55	231.25	8.70	6.96	1.21	6.40	0.80	19.83
including	222.55	224.00	1.45		1.75	13.36	2.09	48.91
including	228.57	231.25	2.68		1.67	10.56	0.79	23.64
LBX22- 058	41.00	42.30	1.30	1.04	1.55	1.12	0.11	8.86
including	41.60	42.30	0.70		2.79	1.83	0.15	13.20
LBX22- 063	10.50	14.90	4.40	3.80	0.15	0.72	0.03	1.92
LBX22- 063	100.00	108.50	8.50	7.22	0.19	0.09	0.03	7.22
LBX22- 063	173.50	175.25	1.75	1.47	0.52	1.82	0.20	12.79
including	174.45	175.25	0.80		1.02	3.18	0.34	23.70
LBX22- 064	234.00	239.95	5.95	4.83	0.85	0.54	0.20	11.72

Hole ID	From	То	Core Length	True Width*	Au	Zn	Cu	Ag
	(m)	(m)	(m)	(m)	(g/t)	(%)	(%)	(g/t)
including	238.00	239.95	1.95		2.44	1.58	0.56	33.95
LBX22- 064	275.30	276.00	0.70	0.56	0.37	4.07	0.31	14.00
LBX22- 065	15.40	16.55	1.15	0.92	0.86	1.89	0.06	5.35
LBX22- 065	175.30	178.10	2.80	2.24	2.12	3.07	0.34	20.14
LBX22- 065	218.20	219.70	1.50	1.26	0.54	2.51	0.23	9.86
LBX22- 065	282.00	290.00	8.00	6.69	0.39	2.48	0.32	13.96
including	282.00	287.00	5.00		0.26	2.60	0.26	12.72
including	289.00	290.00	1.00		1.68	6.26	1.12	39.50
LBX22- 066	85.10	88.50	3.40	3.09	0.13	0.11	0.01	1.76
LBX22- 066	96.50	100.00	3.50	3.18	0.51	0.20	0.01	1.16
LBX22- 066	106.00	130.50	24.50	22.26	0.43	0.49	0.03	3.86
including	106.00	110.70	4.70		1.13	0.30	0.03	3.19
including	109.00	111.50	2.50		1.66	0.14	0.03	10.66
including	114.00	117.70	3.70		0.58	1.62	0.10	6.53
including	115.50	117.70	2.20		0.87	1.07	0.07	7.55
including	126.00	130.50	4.50		0.50	0.89	0.01	4.29
LBX22- 066	205.00	210.50	5.50	4.99	0.12	0.05	0.01	0.67
LBX22- 067	63.00	64.40	1.40	1.04	0.70	0.01	-	0.84
LBX22- 067	148.00	150.90	2.90	2.15	0.14	0.03	-	0.45
LBX22- 068	32.35	34.30	1.95	1.57	1.66	0.70	0.13	7.79
LBX22- 068	140.80	144.20	3.40	2.71	0.65	0.84	0.06	4.75
including	140.80	143.00	2.20		0.95	1.27	0.09	6.31
LBX22- 068	169.50	173.00	3.50	2.78	0.37	0.02	-	0.54
LBX22- 068	197.00	211.20	14.20	11.24	0.26	0.43	0.03	1.97
including	205.50	208.30	2.80		0.55	0.52	0.06	3.47
LBX22- 068	247.20	250.55	3.35	2.64	0.60	0.01	-	1.05
LBX22- 068	259.00	261.94	2.94	2.31	0.30	0.01	-	0.76
LBX22- 069	16.80	20.00	3.20	2.43	0.05	0.28	0.01	0.92
LBX22- 069	100.10	101.40	1.30	0.97	1.16	0.01	-	0.85
LBX22- 069	132.00	134.00	2.00	1.50	0.17	0.42	0.03	1.63
LBX22- 069	138.50	140.00	1.50	1.12	0.24	0.01	-	0.70
LBX22- 069	155.90	158.80	2.90	2.17	0.04	0.16	0.01	0.55

Hole ID	From	То	Core Length	True Width*	Au	Zn	Cu	Ag
	(m)	(m)	(m)	(m)	(g/t)	(%)	(%)	(g/t)
LBX22- 069	174.95	179.00	4.05	3.02	0.41	0.26	0.01	1.70
including	174.95	178.00	3.05		0.36	0.34	0.02	1.89
LBX22- 070	12.06	14.00	1.94	1.57	0.29	0.11	0.07	2.74
LBX22- 070	43.90	45.21	1.31	1.06	0.18	0.02	0.02	1.30
LBX22- 071	34.00	36.60	2.60	1.99	0.19	0.01	0.01	0.85
LBX22- 071	65.00	84.50	19.50	15.00	0.22	0.04	0.01	1.02
including	65.00	69.50	4.50		0.54	0.02	0.03	2.72
including	65.00	66.90	1.90		0.94	0.01	0.02	0.91
including	72.00	76.50	4.50		0.25	0.05	0.01	0.87
LBX22- 071	92.00	94.50	2.50	1.92	0.18	0.03	0.02	1.18
LBX22- 071	115.00	116.70	1.70	1.30	0.29	0.59	0.02	2.14
LBX22- 071	126.30	138.00	11.70	8.92	0.31	0.30	0.02	2.11
including	129.20	134.50	5.30		0.51	0.63	0.04	3.65
including	130.70	133.50	2.80		0.82	1.09	0.06	5.41
LBX22- 081	24.00	25.50	1.50	1.20	1.00	0.63	-	0.03
including			0.50	0.40	2.95	1.30	-	0.04
LBX22- 081	452.00	456.50	4.50	3.60	0.45	2.92	0.01	0.01
LBX22- 083	90.10	91.50	1.40	1.12	1.30	16.80	1.14	0.06
LBX22- 083	212.50	214.50	2.00	1.60	1.78	6.09	0.16	3.93
including			0.85	0.68	2.99	10.20	0.25	6.87
LBX22- 083	237.50	239.00	1.50	1.20	1.60	2.50	0.04	1.12
LBX22- 085	268.00	269.80	1.80	1.44	1.35	5.19	0.20	0.60
including			0.80	0.64	2.63	7.80	0.35	0.72
LBX22- 085	297.50	300.50	3.00	2.40	1.90	6.69	0.21	0.77
including			1.00	0.80	3.63	1.40	0.02	0.11
LBX22- 085	301.50	303.50	2.00	1.60	1.79	16.95	0.38	0.60
including			1.00	0.80	2.91	27.70	0.51	0.77
LBX22- 087	167.14	169.00	1.86	1.49	2.77	4.58	0.09	1.09
including			0.86	0.69	5.77	8.40	0.17	1.80
LBX22- 087	244.00	245.00	1.00	0.80	2.46	5.00	0.11	0.09
including			0.86	0.69	5.77	8.40	0.17	1.80
LBX22- 088	94.00	96.00	2.00	1.60	0.82	0.44	0.06	3.80
including	94.60	95.13	0.53	0.42	2.47	1.00	0.16	10.00

Hole ID	From	То	Core Length	True Width*	Au	Zn	Cu	Ag
	(m)	(m)	(m)	(m)	(g/t)	(%)	(%)	(g/t)
LBX22- 088	128.50	130.50	2.00	1.60	2.46	0.64	0.25	17.10
including	129.50	130.50	1.00	0.80	4.59	0.98	0.47	27.50
LBX22- 089	31.00	37.10	6.10	4.88	1.30	0.03	-	1.70
including	32.50	34.00	1.50	1.20	4.18	0.05	0.02	2.80
including	35.00	36.00	1.00	0.80	1.03	0.02	-	1.10
LBX22- 089	70.50	73.05	2.55	2.04	2.50	1.17	0.02	7.96
including	72.50	73.05	0.55	0.44	8.91	4.67	0.04	21.80
including	72.00	72.50	0.50	0.40	2.60	0.33	0.03	7.30
LBX22- 089	83.00	86.00	3.00	2.40	0.93	1.13	0.02	6.57
including	83.00	84.00	1.00	0.80	2.56	3.23	0.05	16.30
LBX22- 089	290.15	290.85	0.70	0.56	1.65	-	-	0.70

*True widths are calculated based on an average dip of 70° towards N330° for the mineralized zones



Figure 10-7 2022 Drill Hole Location



Figure 10-8 Section 1 Highlighting 2021 & 2022 Drill Holes

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Figure 10-9 Section 2 Highlighting 2021 & 2022 Drill Holes



Figure 10-10 Section 3 Highlighting 2021 & 2022 Drill Holes



Figure 10-11 Section 4 Highlighting 2021 & 2022 Drill Hole

10.8 2023 Drilling

On March 15, 2023, the Company announced the commencement of 5,000 metres. The 2023 exploration campaign focused on the orogenic gold corridor associated with the Niish Shear Zone, and those areas where there is potential for a sufficient concentration/density of the several well-mineralized veins.

On October 4, 2023, the Company announced the start of a 3,675 metres drilling program focusing on targeting the northeast extension of the Sturgeon River Mine structure. The objective of targeting the Number 1, 2, 3 quartz veins and other quartz veins and shear structures encountered in the historic mining of the Sturgeon River Mine.

The complete results of the 2023 drilling campaign are still pending at the moment of the writing of this report. The drill hole locations of the Ishkoday Property are presented in Figure 10-12.



Figure 10-12 Location of the Ishkoday Property 2023 Drill Holes





11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

Since acquiring the Property, Laurion has maintained a comprehensive and consistent system for the sample preparation, analysis and security of all surface samples and drill core samples, including the implementation of an extensive QA/QC program. Laurion currently uses the software Geotic to record and store drill logs and information.

Drill core intervals are cut in half. Remaining half of the core, as well as the unsampled core are stacked on a skid outside in Beardmore at the 77-Audrey St. All core on these skids was transferred during fall of 2021 at the Sturgeon River Mine core farm for final storage.

The sample preparation, analysis and security completed by Laurion for drilling completed on the Ishkoday Property is presented below.

Laurion drill logs include several sets of data, on lithology, alteration, veining, mineralization, and structure as well as geotechnical data including recovery, rock quality data ("RQD"), magnetic susceptibility and conductivity. Details recorded include the colour, texture, and deformation of the rock; the intensity and texture of alterations recorded separately by type; orientation, texture, and mineralization of veins; mineralization and the texture and percentage by volume of sulphide minerals; and the orientation of geological structures. All tables in the logs are designed to be granular and easy to record, read, and especially to be easily displayed by common geological modelling software.

11.1 2010 to 2014 Actlabs

All 2010, 2011, 2012 and 2014 exploration and core samples from Laurion were shipped to Actlabs preparation laboratory in Thunder Bay, Ontario for preparation and analysis. Samples were dried, crushed entire sample (up to 5 kg) to 80%-10 mesh, riffle split and pulverized a 350-gram split (500-gram bowl) to 95% -1500 mesh (Preparation- Code RX1). Cleaner sand was used between every sample to avoid contamination (Code RX-4-pulverization).

Gold values were assays with the Fire assay fusion method with AA finish. Fire Assay-AA and Fire Assay-Gravimetric were used to analyze the drill core and exploration samples during 2010, 2012, and 2014. Fire Assay method-AA finish (Actlabs Code: 1A2(1A2510) Au Fire assay -AA: Results were given in ppb. A sample size of 5 to 50 grams can be used but the routine size is 30 g for rock pulps, soils, or sediments (exploration samples). The sample is mixed with fire assay fluxes (borax, soda ash, silica, litharge) and with Ag added as a collector and the mixture is placed in a fire clay crucible. The mixture is then preheated at 850°C, intermediate 950°C and finish 1060°C with the entire fusion process lasting 60 minutes. The crucibles are then removed from the assay furnace and the molten slag (lighter material) is carefully poured from the crucible into a mould, leaving a lead button at the base of the mould. The lead button is then placed in a preheated cupel which absorbs the lead when cupelled at 950°C to recover the Ag (doré bead) + Au. Detection Limit is from 5 ppb to 5,000 ppb.

Au values returning over 3,000 ppb were analyzed by Fire Assay-Gravimetric: (Actlabs Code 1A3 (1A3-30 or 50) – Au Fire Assay-Gravimetric). A sample size of 5 to 50 grams can be used but the routine size is 30 g for rock pulps, soils, or sediments (exploration samples). The sample is mixed with fire assay fluxes (borax, soda ash, silica, litharge) and with Ag added as a collector and the mixture is placed in a fire clay crucible. The mixture is then preheated at 850°C, intermediate 950°C and finish 1060°C with the entire fusion process lasting 60 minutes. The crucibles are then removed from the assay furnace and the molten slag (lighter material) is carefully poured from the crucible into a mould, leaving a lead button at the base of the mould. The lead button is then placed in a preheated cupel which absorbs the lead when cupelled at 950°C to recover the Ag (doré bead) + Au. Au is separated from the Ag in the doré bead by parting with nitric acid. The resulting gold flake is annealed using a torch. The gold flake remaining is weighed gravimetrically on a microbalance. Detection limit is from 0.03 ppm to 10,000 g/t.

Aqua Regia -ICP assay method was also used. A 0.5 g of sample is digested with aqua regia. The sample is cooled and then diluted with deionized water. The samples are then analyzed using an ICP for the 38-element suite. QC for the digestion is 15% for each batch, 2 method reagent blanks, 6 in-house controls, 8 sample duplicates and 5 certified reference materials. An additional 20% QC is performed as part of the instrumental analysis to ensure quality in the areas of instrumental drift. This method was used for the following elements in the next table lists the elements analyzed as well as their specific detection limits (Table 11-1).

Element	Detection Limit	Upper Limit
Ag	0.2	100
AI	0.01%	8%
As	2	10,000
В	10	10,000
Ва	10	10,000
Be	0.5	1000
Bi	2	10,000
Ca	0.01%	10%
Cd	0.5	2,000
Co	1	10,000
Cr	1	10,000
Cu	1	10,000
Fe	0.01%	30%
Ga	10	10,000
Hg	1	10,000
K	0.01%	10%
La	10	10,000
Mg	0.01%	25%
Mn	5	100,000
Мо	1	10,000
Na	0.00%	10%
Ni	1	10,000
Р	0.00%	5%
Pb	2	5,000
S+	0.01%	20%
Sb	2	10,000

Table 11-1 2010 Aqua Regia Elements Detection limits

In 2014 a small number of core samples were sent to ALS Minerals in Thunder Bay, Ontario for preparation and analysis as check assays.

11.2 2018 to 2022 – ALS Minerals

Starting 2018, Individual drill core and rock samples were sent to ALS Lab in Thunder Bay, Ont. (ISO/IEC 17025:2017 and ISO 9001:2015 accredited facility) for preparation and analysis. Remaining half of the core, as well as the unsampled core were stacked on skids at the 77-Audrey St in Beardmore. All core on these skids was transferred during fall of 2021 to the Sturgeon River mine site core farm for final storage.

The entire sample was crushed to 70% passing 2 mm (CRU-31) and a riffle split of 250 grams is taken and pulverized to 95% passing 105 µm (PUL-32). Samples were tested by method ME-ICP61 based on a four-acid digestion and reading by ICP (33 elements). Samples were also tested for lead and Zinc using ore grade method Pb-OG62 and Zn-OG62. Gold was assayed by fire assay 50g with ICP-AES ICP-AES finish (Au-ICP22). Gold values above 10 ppm were re-assayed by fire assay 50g with gravimetric finish (method Ag-GRA22). Overlimit samples values for zinc (>1%) and Pb (>0.5%) are re-assayed using a four-acid digestion overlimit method with ICP-AES 9 (Cu-OG62, Zn-OG62).
ALS is part of an international laboratory system and has ISO 9001:2008 and 17025:2005 certifications. ALS is independent from Laurion.

Laurion uses a quality assurance/quality control (QA/QC) program that monitors the chain of custody of samples and includes the insertion of blanks (5% of the announced results), duplicates (3% of the announced results), and standard reference material (5% of the announced results) in each batch of samples sent for analysis. Drill core is photographed, logged, and cut in half with one half retained in a secured location for verification purposes and one half shipped for analysis.

11.3 Specific Gravity

Laurion has not undertaken collection of specific gravity measurements.

11.4 **QAQC by Laurion**

Laurion introduced QAQC protocols staring 2011 and carried through with minor refinements through the years. Quality Control (QC) samples are introduced into the sample stream at a rate of 5% for blank samples, field duplicate samples and CRM samples.

11.4.1 Summary

In the opinions of Mr. Dupéré the logging, sampling, assaying, and chain of custody protocols practiced through the history of the Project meet or exceed industry standards. The drill programs have been configured and carried out in a manner that is appropriate for the exploration and the geometry of the different deposits. Drill holes tend to be oriented perpendicular to strike and aimed to intersect the zones at an angle generally greater than 45°. As such, the samples should be representative of the deposit as it is presently known, and suitable for use in future Mineral Resource estimation.

Mr. Dupéré has reviewed the QC reports and files, as well as the laboratory procedures undertaken and conclude that the QC program for the Project is adequate and has no major flaws. QC sample failures were dealt with on a case-by-case basis and were documented by Laurion.

11.4.2 Blank Samples

Sample blank material comprised unmineralized play sand, from a local hardware store. A total of 1,428 sample blanks from 3 different types of material (BL: 585, BLK-ML:318, Play Sand: 514) were inserted throughout the drilling campaigns between 2010 and 2022, representing an insertion rate of 5%. A failure threshold of 10 times the analytical detection limit of Au (i.e., a threshold of 0.1 ppm) was used to discriminate samples showing evidence of cross-contamination. Results of field blank control samples indicated that there was no significant source of cross-contamination during analytical work during 2010 to 2022 drilling campaigns. The overall failure rate for BL was 0.3%. the overall failure rate for Play Sand was 0.0% and the overall failure rate of BLK-ML was 0.0%. The overall failure rate is judged to be acceptable within industry standards.

The highest result from al blank samples was 8.9 g/t Au which is probably a mislabel further investigation from Laurion is warranted. Over 46% of BL blank samples assayed at or below detection limits (Figure 11-1). Over 98% of Play Sand blank samples assayed at or below detection limits (failure rate is 0%). Over 61% of BLK-ML blank samples assayed at or below detection limits (Figure 11-1). With very little gold detected in blanks, and with the few reported gold assays being economically insignificant, it is judged unlikely that there is a contamination problem at either laboratory.





Figure 11-1 Ishkoday Property Control Charts for Blanks (BL, Play Sand, BLK-ML)

11.4.3 CRMs (Standards)

Standards have been sourced from Ore Research & Exploration of Bayswater North, Australia ("OREAS"). Standards are checked against their certified value and standard deviation, as stated by the manufacturer of the standard. A result within two standard deviations of the expected value is considered a pass, between two and three standard deviations is a warning, and a value more than 3 standard deviations from the expected is considered a failure. Warnings and failures are subject to investigation.

Since 2011, Laurion sent 1,408 standards for analysis with drill core (23 from channel sampling) from the Ishkoday Property (Table 11-2) (Figure 11-2 to Figure 11-5), to different analytical labs throughout the years. As per Table 11-2, the failure % is relatively low. Many of these failures were mislabeled. The results of the study were given to Laurion for additional investigations. The results indicate there are no significant issues with the drill core assay data. The data verification programs undertaken on the data collected from the Project support the geological interpretations, and the analytical and database quality, and therefore data can support mineral resource estimation.



	· · ·								
Metal	STD	Count	Value	Sigma	Pass	Warning	% Warning	Failed	% Failed
Ag (g/t)	Oreas600	293	24.8	1.01	289	4	1.37%	0	0.00%
	Oreas60d	195	4.57	0.18	140	39	20.00%	16	8.21%
	Oreas610	74	49.4	1.79	61	9	12.16%	4	5.41%
Au g/t)	Oreas216b	98	6.66	0.16	96	1	1.02%	1	1.02%
	Oreas217	2	0.338	0.01	2	0	0.00%	0	0.00%
	Oreas223	5	1.78	0.04	4	1	20.00%	0	0.00%
	Oreas600	294	0.2	0.01	277	10	3.40%	7	2.38%
	Oreas60d	195	2.47	0.08	193	0	0.00%	2	1.03%
	Oreas610	74	9.83	0.25	65	6	8.11%	3	4.05%
	Oreas61f	58	4.6	0.13	58	0	0.00%	0	0.00%
	Oreas630b	222	11100	250	199	6	2.70%	17	7.66%
Cu (%)	Oreas23b	48	46.7	1.43	41	4	8.33%	3	6.25%
	Oreas600	293	482	23	293	0	0.00%	0	0.00%
Pb (%)	Oreas23b	48	22.6	1.29	32	10	20.83%	6	12.50%

 Table 11-2
 Summary of Laurion QA\QC Samples and Results





Figure 11-2 Ishkoday Property Control Chart for OREAS Gold (Au) Standards





Figure 11-3 Ishkoday Property Control Chart for OREAS Silver (Ag) Standards









Figure 11-5 Ishkoday Property Control Chart for Oreas Lead (Pb) standards

11.4.4 Duplicates

Laurion inserted core duplicates (quartered drill core) at a rate of approximately 5%. Laurion and SGS evaluated duplicate (paired) sample data for bias through analysis of quantile-quantile (QQ) plots, X-Y scatter plots, and cumulative distribution function ("CDF") plots. Precision was monitored through analysis of student -T tests and sign tests. Field duplicate results are summarized in Table 11-3. Shows that there are no indications of the presence of bias in the database.

Statistics	Au g/t
Count+	379
Count-	399
Count=	129
Odds	0.53
Sign test	Not Conclusive
Mean Original	0.32
Mean Duplicate	0.30
Mean Difference	- 0.02
Count	907
SD-Diff	0.34
SDM	0.01
t obs	- 1.33
t crit	1.96
Student T Test	Not Conclusive
Student T Test Log	Not Conclusive

 Table 11-3
 Results of 2011 through 2022 Field Duplicate Samples



12 DATA VERIFICATION

The following section summarize the data verification procedures that were carried out and completed and documented by the Author for this technical report, including verification of data collected during the October 2023 site visit.

As part of the verification process, the Author reviewed all available geological data and databases provided by Laurion (including recent assay certificates and historical drill logs), past public and technical reports, and reviewed procedures and protocols as practiced by the Laurion field and technical team. The Laurion team provided all relevant data, explanations, and interpretations.

The Author conducted verification of the laboratories analytical certificates and validation of the Project digital database supplied by Laurion for errors or discrepancies. A minimum of 20% of the digital assay records (2010-2022 drill data collected by Laurion) were randomly selected and checked against the laboratory assay certificates. Verifications were carried out on drill hole locations (collar coordinates), down hole surveys, lithology, SG, trench data, and topography information. Minor errors were noted and corrected during the validation process but have no material impact on the overall validity of the Ishkoday database in the current report.

All previous drilling has been completed by other issuers and is described in Section 6: History. Assay certificates were not available for previous drilling, however historical drill logs were. The Sturgeon River Mine on the Ishkoday Property was a past producing mine. Mr. Dupéré assumes that the sample preparation, analyses, and security for drilling completed by other issuers prior to the effective date of this report was completed in a manner consistent with industry standard sampling techniques at the time. The data provided by the drilling completed by Laurion represents approximately 68% of the data present in the validated database and provides good verification of the geology and mineralization of the Ishkoday Property.

In addition, the Author conducted a site visit to the Ishkoday Property on October 23, 2023 (see below) to better evaluate the veracity of the data.

12.1 Site Visit – Ishkoday Property

The Author, Mr. Dupéré conducted a site visit to the Ishkoday Property on October 23, 2023, to better evaluate the veracity of the data. The author was accompanied by Mr. Jean-Philippe Paiement, P.Geo. and technical advisor for Laurion.

During the first site visit to the Ishkoday Property, the Author and Mr. Paiement examined a number of selected mineralized core intervals from recently completed (2022) and older (2010-2011, 2020) diamond drill holes from the Ishkoday Property (LME10-010, LME11-020, LME20-026, LME20-028, LBX22-057). The Author examined accompanying drill logs and assay certificates and assays were examined against the drill core mineralized zones. The Author inspected the core logging and sampling facilities and core storage areas, and reviewed current core sampling, QA/QC and core security procedures. The Author participated in a field tour of the Ishkoday Property area including visits to the drill (completing the 2023 drill program on the Ishkoday Property) and recent and historical drill sites. Several drill hole coordinates were taken by the author and were verified against the current database. The comparison and the difference between the database drill hole coordinates and the ones taken in the field fall within accepted range limits.

As a result of the current site visit, both the Author and Mr. Paiement were able to become familiar with conditions on the Ishkoday Property as a whole, was able to observe and gain an understanding of the geology and various styles mineralization. Mr. Dupéré and Mr. Paiement were able to verify the work done and, on that basis, are able to review and recommend to Laurion an appropriate exploration program.

The Author considers the site visit conducted on October 2023 as current, per Section 6.2 of NI 43-101CP. To the Authors knowledge there is no new material scientific or technical information about the Ishkoday



Property since that personal inspection. The technical report contains all material information about the Ishkoday Property

12.2 Conclusion

All geological data has been reviewed and verified by the Author as being accurate to the extent possible and to the extent possible all geologic information was reviewed and confirmed. Minor errors were noted and corrected during the validation process but have no material impact on validity of the current database and information presented in the current report. Although Mr. Dupéré was unable to review all original assay certificates from drill programs prior to 2010, the author believes that sample preparation, analysis and security by previous operators was completed in a manner consistent with industry standard sample preparation, analysis, and security at the time. Based on a review of all possible information, Mr. Dupéré is of the opinion that the database is of sufficient quality to be used for future work on the Ishkoday Property. The data provided by the drilling completed by Laurion represents approximately 68% of the data present in the current drill hole database of the Ishkoday Property and provides good verification of the geology and mineralization of the Ishkoday Property.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

Information taken from: Armitage, A., Studd, D., 2013. GeoVector Management Inc. Resource Estimate on The Sturgeon River Mine Stockpile and Tailings, Ishkoday Property Northern Ontario, NTS Sheets 42E/12 And 42E/13, Latitude 49°45'02" N, Longitude 87°46'27" W, For Laurion Mineral Exploration Inc.

Following the assaying of the sample fractions from the low-grade stockpile a composite sample was carefully selected from the remaining reject for metallurgical test work. The composite sample totaled 78.3 kilograms and was designed to be representative of the average grade of material within the stockpile block model. Assayed head grade for the sample was 1.75 g/t gold.

The metallurgical tests included gravity concentration using a Knelson Concentrator and cyanidation. The results of the gravity recovery test indicate that at a fine grind of 97% passing -75µm 87.58% of the gold in the sample can be recovered by gravity concentration, which indicates an ore exceptionally amenable to gravity concentration methods. The cyanidation tests indicated that a grind of 97% -75 µm provided extractions of 92-93%. The combination of Knelson Concentration with cyanidation of the gravity tailings gave a combined recovery & extraction of 98.5%.

Following the assaying of the tailings samples composite samples were prepared from all remaining from the remaining sample reject. The composites formed two populations, the sand to silt size tailings, and the organic layer beneath the tailings. Averaged assayed head grade for the tailing sample was 0.42 g/t gold. The organics had an averaged assayed head grade of 1.57 g/t gold. The organics samples required ashing prior to metallurgical testing to reduce preg-robbing effects of the organic carbon and the ashed organics had an averaged assayed head grade of 3.31 g/t gold.

The tests included gravity concentration using a Knelson Concentrator and cyanidation. The gravity concentration tests indicated that the ash samples were not amenable to gravity concentration (less than 1% recovery). Likewise, the gravity tests on the tailings sample using the Knelson Concentrator had relatively poor results with only recovered 22% of the gold. The cyanidation tests indicated that a tailings/ash composite had dissolution of over 96% of the gold and required leaching time of less than 12 hours. The tailings alone required longer (48 hours) leaching times and the maximum dissolution achieved was 67-72%. Test results indicate that the low-grade tailings resource would be amenable to gold recovery using cyanide. In all cases the cyanide and lime consumptions were fairly low.

13.1 Sensor-Based Ore Sorting from the Sturgeon River Mine Surface Stockpile

The information below was taken in part and modified from Laurion's June 6, 2023, Press Release.

A sensor-based ore sorting from the Sturgeon River Mine surface stockpile was undertaken in 2023. The Ishkoday stockpile mineralization responded very well to both laser and colour sensor-based sorting. Resulting in the possibility a reduction of downstream processing costs, lowering the costs in a scenario of low mill throughput rates (250-1000 t/day).

The first test campaign was based on samples from the stockpile sent for ore sorting targeted gold bearing minerals based on visual inspection and were shipped in bags categorized by their mineral content. The sampling's objective was to test the amenability of sorting particles with X-Ray Transmission (XRT) which sorts by difference in particle density combined with laser illumination (laser technology) sorting which utilizes a sensor to detect the light diffraction reflected from particles. Both technologies could select high grade particles to some extent, but the laser technology proved to be more effective.

The XRT test work indicated a potential to reject 30% of the coarse particles and accept 70% while upgrading the sample by 15% (from 5.9 g/t head grade to 7.8 g/t head grade), with a sorting efficiency of 72%. (Sorting efficiency is the number of particles above cut-off grade that report to the accepts pile divided by the total number of particles that are above cut-off grade.) These results are sub-par and are likely a result of minimal particle density differential between gangue and mineralization. Laser illumination sorting



showed more promising results, since much of the gold appears to be associated with quartz in the mineralized samples tested. The laser sorting resulted in upgrading the sample by 75% (from 5.9 g/t head grade to 10.4 g/t head grade) with a sorting efficiency of 74.4%.

The second test campaign's sample was a large sample taken from the stockpile with an excavator, crushed and split before shipping to SRC. The second sample is more representative of the mineralization in the stockpile. This sample was washed and screened out to material below 10 mm (generally considered unsortable in this process). The amount of minus 10 mm material made up approximately 50% of the mass of the sample. One hundred +10 mm particles were then selected at random to test laser and colorimetric sensors. A semi-empirical model for the laser sorter was established that indicated 69% of the mineralization could be rejected as waste while only losing 0.6% of the gold to the reject pile. The test work upgraded the mineralization by 220% (from 2.63 g/t head grade to 8.42 g/t head grade), which exceeded expectations.

Similar results came from the colorimetric testing with a reject rate of 60% with a loss to the reject pile of 0.94% of the gold and an upgrading of 145% (From 2.63 g/t head grade to 6.44 g/t head grade) in the accepts pile.



14 MINERAL RESOURCE ESTIMATES

There are no mineral resource estimates stated on this project. This section does not apply to the Technical Report.

15 MINERAL RESERVE ESTIMATE

There are no mineral reserve estimates stated on this project. This section does not apply to the Technical Report.

16 MINING METHODS

17 RECOVERY METHODS

18 PROJECT INFRASTRUCTURE

19 MARKET STUDIES AND CONTRACTS

20 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

21 CAPITAL AND OPERATING COSTS

22 ECONOMIC ANALYSIS

23 ADJACENT PROPERTIES

There is no information on properties adjacent to the Property necessary to make the technical report understandable and not misleading.

24 OTHER RELEVANT DATA AND INFORMATION

All relevant data and information regarding the Ishkoday Property is included in other sections of this Technical Report. There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading.

25 INTERPRETATION AND CONCLUSIONS

SGS was contracted by Laurion Mineral Exploration Inc. ("Laurion" or the "Company") to complete sections of the updated technical report ("The Report") for the Ishkoday Property ("Ishkoday or The Project or The Property"), located near Beardmore, 220km NNE of Thunder-Bay, Ontario, Canada, and to prepare a technical report written in support of the Property development stage.

The Company is engaged in gold and base metal exploration in Northern Ontario and related activities including property acquisition, exploration, and advancement of its projects.

The current report is Authored by Maxime Dupéré, B.Sc., P.Geo. of SGS, and the Mr. Dupéré is an independent Qualified Person as defined by NI 43-101 and is responsible for all Items of this report.

25.1 Exploration and Diamond Drilling

Trench sampling program, rock chip sampling programs, structural mapping and geophysical surveys were completed on the Property by Laurion since 2008. Laurion is continuously acquiring scientific and geological data for the advancement of the Ishkoday development.

The database was checked for typographical errors in drill hole locations, down hole surveys, lithology, assay values and supporting information on source of assay values. Overlaps and gapping in survey, lithology and assay values in intervals were checked.

The Author was provided with a series of interpretations of mineralization and geology of the different mineralized areas of the Ishkoday Property.

There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading. The Author is not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the current Mineral Resource Estimate.

25.2 Risk and Opportunities

The following risks and opportunities were identified that could potentially affect the future economic outcome of the project. The following does not include external risks that apply to all exploration and development projects (e.g., changes in metal prices, exchange rates, availability of investment capital, change in government regulations, etc.).

There is no other relevant data or information available that is necessary to make the technical report understandable and not misleading. The Author is not aware of any known mining, processing, metallurgical, environmental, infrastructure, economic, permitting, legal, title, taxation, socio-political, or marketing issues, or any other relevant factors not reported in this technical report, that could materially affect the Ishkoday Property. To the Author's knowledge, there are no additional risks or uncertainties that could reasonably be expected to affect the reliability or confidence in the data present in this report.

25.2.1 Risks

25.2.1.1 <u>Historical Estimate</u>

Historical estimates are present on the Property corresponding to the Stockpiles and tailings from the old Sturgeon Mine. The Historical estimate is considered historical in nature. Although the estimate at the time



was prepared and disclosed in compliance with all disclosure requirements for mineral resources or reserves set out in the NI 43-101 Standards of Disclosure for Mineral Projects (2011) and the classification of the resource as a Measured, Indicated and Inferred resource was consistent with CIM Definition Standards - For Mineral Resources and Mineral Reserves (2010), a qualified person has not done sufficient work to classify the historical resource estimate as current mineral resources and Laurion is not treating the historical resource estimate as current mineral resources.

25.2.2 **Opportunities**

25.2.2.1 Mineral Resource Estimate and Tonnage Potential

There is an opportunity in all areas of the Property to extend known mineralization at depth and elsewhere on the Property and to potentially convert historical estimates into classified Mineral Resources, with proper validation work.

The property also hosts a mineral exploration potential. Exploration and drilling work caried out by Laurion over several mineralized zones such as the Brenbar, Brenbar_002, M25, M24, M21, Sturgeon No 2, Sturgeon No 3, esSturgeon No3, esSturgeon No2, esSturgeon No1, Tehya, Ahki, CRK, A2, Joe, A-Zone 006, A-Zone 005, A-Zone 003, A-Zone 002, A-Zone 001 has given good information to establish a global mineral exploration potential of 22.5 to 45 Mt at an average grade between 0.11 g/t Au and 8.67 g/t Au (Table 25-1).

In order to give a qualitative estimate of associated with the Ishkoday Property, an exercise was conducted to estimate the potential tonnage and grade ranges associated with the different mineral deposits. Of the twenty (20) existing drilled and sampled structures, a 3D model was constructed using the Au grades from drilling and channel sampling at a minimum average grade of 0.12 g/t over 1.5 m. The mineral intercepts were modelled in 3D using Leapfrog Geo(c) with the inclusion of occasional barren intervals in order to keep a consistent geometry. Once the mineralized envelops were modelled, a volumetric estimate was produced. From the different volumes, tonnage estimates were produced using at fixed specific gravity of 2.7 t/m3 and overall mineralized percentage of volume of 20% and 40%. The percentages represent the proportion of the volume containing potentially economic mineralization. The average grades of the structures were estimated using the drilling/channel intercepts contained in each volume. The lower and upper ranges are estimated using quantile information of the overall grade distribution from the given solids.

The grade and tonnage values are conceptual in nature and should take as a range of possible grades and tonnages present on the property. There has been insufficient exploration to define a mineral resource. It is uncertain if further exploration will result in the described zones being delineated as a mineral resource.

Zone	Number DDH/trench intercepts	Density	Exploration Potential	
		(t/m3)	Tonnage (Mt)	Avg Au (g/t)
Brenbar	31	2.7	0.5 - 1.0	0.6 - 1.3
Brenbar_002	32	2.7	1.4 - 2.8	0.8 - 1.5
M25	10	2.7	0.1 - 0.14	2.0 - 2.6
M24	18	2.7	0.2 - 0.5	1.5 - 2.1
M21	1	2.7	0.2 - 0.4	0.1 - 0.8
Sturgeon No. 2	28	2.7	1.8 - 3.6	1.0 - 1.7
Sturgeon No. 3	41	2.7	0.9 - 1.8	8.0 - 8.7
esSturgeon No. 3	8	2.7	1.3 - 2.5	0.7 - 1.4
esSturgeon No. 2	16	2.7	0.3 - 0.5	0.9 - 1.6
esSturgeon No. 1	9	2.7	0.9 - 1.8	1.5 - 2.2
Tehya	19	2.7	0.7 - 1.4	2.4 - 3.1
Ahki	43	2.7	0.2 - 0.4	0.6 - 1.3
CRK	114	2.7	0.5 – 1.0	0.2 - 0.9
A2	30	2.7	0.4 - 0.7	1.2 - 1.9
Joe	31	2.7	0.6 - 1.14	2.5 - 3.2
A-Zone 006	22	2.7	0.8 - 1.63	0.4 - 1.1
A-Zone 005	61	2.7	5.4 - 10.9	0.2 - 0.9
A-Zone 003	133	2.7	1.5 - 2.9	0.5 - 1.1
A-Zone 002	162	2.7	2.4 - 4.9	0.2 - 0.9
A-Zone 001	98	2.7	2.5 - 5.1	0.4 - 1.1
	TOTAL	22.5 - 45.0	0.1 - 8.7	

Table 25-1 Ishkoday Property Mineral Exploration Potential

26 RECOMMENDATIONS

Ishkoday has yet to receive and disclose its 2023 exploration and drilling results once the final analysis results and interpretations are done and based on a positive outcome of the 2023 drilling campaign, a proposed 2024 exploration and drilling program may start as early as soon as possible.

The Author considers that the Project has significant potential for delineation of additional grade and tonnage potential and the possible Mineral Resources, and that further exploration is warranted. Laurion is currently planning a winter and summer 2024 drilling program which will include further testing of the Sturgeon River Mine area.

Based on the results to date, the Author is recommending Laurion continue to conduct their proposed exploration for 2024, subject to funding and any other matters which may cause the proposed exploration program to be altered in the normal course of its business activities or alterations which may affect the program as a result of exploration activities themselves.

26.1 2024 Program and Budget

The total cost of the recommended 2024 work program is estimated at C\$2.88 million (Table 26-1) and includes on-going systematic metallurgical studies.

Table 26-1	Recommended 2024	Exploration	Work Program	for the Ishkoday Property
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Item	Cost
Data Acquisition (Lidar, etc.)	\$30,000
Prospecting, Mapping, assays	\$156,500
Drilling (\$250 per m ¹)	\$1,625,000
Mechanical Trenching Channel Sampling	\$395,400
Consulting Services & Project Management	\$200,000
3D Modelling	\$35,000
Technical Report - Mineral Property of Merit ²	\$50,000
Claim costs	\$175,000
Contingency 8%	\$213,352
Total:	\$2,880,252

¹Inclusive of sampling cost, assaying, logging, drill management, core storage, travel accommodation, logging facilities, consumables, and data reporting, based on 6 years of drill programs.

²Includes assessment reporting and NI 43-101 technical reporting updates.



27 REFERENCES

The Beardmore-Geraldton Economic Geologist - August 7, 1985 and October 24, 1985 - B. Nelson - MDI42E13NW00004).

Armitage, A., Studd, D., 2013. GeoVector Management Inc. Resource Estimate on The Sturgeon River Mine Stockpile and Tailings, Ishkoday Property Northern Ontario, NTS Sheets 42E/12 And 42E/13, Latitude 49°45'02" N, Longitude 87°46'27" W, For Laurion Mineral Exploration Inc

Bednarz, M., 2007. Environmental Due Diligence of the Sturgeon River Gold Mine Property; BZ Environmental, 2007.

Burr, S.V., 1973. Phoenix Gold Mines Ltd. Report on Phoenix Gold Mines Ltd.

Campbell, J., - 2011 Report on 2010 and 2011 Drilling Program on Sturgeon River Mine

deGagne, R., Yaw, D., 2003. AMEC Partial Report, AMIS N.003978

Franklin, J.M., 1996. Volcanogenic-Associated Massive Sulphide Base Metals; Geology of Canadian Mineral Deposit Types, (ed) O.R. Eckstrand, W.D. Sinclair, and R.I. Thorpe; Geological Survey of Canada, no. 8, p.158-183.

Franklin, J.M., 1999b. Systematic Analysis of Lithogeochemical Data in, Exploration Tools for Volcanogenic Massive Sulphide Deposits short course sponsored by Mineral Deposits Research Unit, University of British Columbia.

Franklin, J.M., Gibson, H., 1999. Exploration Tools for Volcanogenic Massive Sulphide Deposits short course sponsored by Mineral Deposits Research Unit, University of British Columbia.

Halladay, M.L., 1985. Report on Geological Mapping, Phoenix Gold Mines Ltd.

Hart, T.R., Gibson, H.L., and Lesher, C.M., 2004. Trace Element Geochemistry and Petrogenesis of Felsic Volcanic Rocks Associated with Volcanogenic Massive Cu-Zn-Pb Sulphide Deposits; Economic Geology, v.99, p.1003-1013.

Hoy, T., 1991. Volcanogenic Massive Sulphide Deposits in British Columbia; Ore Deposits, Tectonics, and Metallogeny in the Canadian Cordillera, W.J. McMillan, Coordinater, British Columbia Ministry of Energy, Mines and Petroleum Resources, Paper 1991-4, p.89-123.

Gibbs, G.H., 1972 - Jupiter Minerals Incorporated, Beardmore Property

James Wade Engineering., 1983. Phoenix Gold Mines Ltd., Sturgeon River Project.

Koskitalo, L.O., 1985. Phoenix Gold Mines Ltd. 1984 Exploration Program Report, Sturgeon River Gold Mine Property.

Laudrum, D., 1988. Report on Diamond Drilling, Project 351 (Phoenix Option), Irwin & Pifher Townships, Ontario.

Laurion Mineral Exploraton Inc. Website – http://www.laurion.ca

Laurion Management Discussions and Analyses - (www.sedar.com)

Laurion relevant Press Releases http://www.laurion.ca and SEDAR.com

Lawrence, R., 1996. Watts, Griffis, and McOuat. Valuation of the Stock, Taylor-Carr, QSR, Hislop East, Phoenix Gold (Beardmore), Winchester, Island Group, Holcorp, and York Harbour Properties of St. Andrew Goldfields.

Lesher, C.M., Goodwin, A.M., Campbell, I.H., Gorton, M.P., 1985. Trace-element geochemistry of the oreassociated and barren felsic metavolcanic rocks in the Superior Province, Canada, Department of Geology, University of Toronto, 15pp.

Lydon, J.W., 1984. Volcanogenic massive sulphide deposits, Part 1-A descriptive model: Geoscience Canada, v.11, p. 195-202.

Mackasey, W.O. 1976

Geology of Walters and Leduc Township, District of Thunder Bay, Ontario Div. Mines, GR149, 58p. Accompanied by Map 2356.

McBride, D., 1986. Phoenix Gold Mines Ltd. Exploration Summary Report on the Sturgeon River Mines Property of Phoenix Gold Mines Ltd., Beardmore, Ontario.

Ministry of Northern Development and Mines; Geology of Ontario, Assessment File Research Information (AFRI) found at www.geologyontario.mndm.gov.on.ca

Ontario Geological Survey, 2007. Open File Report 6201, 2006 Report on Activities, Thunder Bay North District.

Ontario Geological Survey 2006. 1:250,000 Scale Bedrock Geology of Ontario; Ontario Geological Survey, Miscellaneous Release Data 126 revised.

Orlowski, K., Venter, N., Legault, J. and Smith, G: Report on a Helicopter-Borne Versatile Time Domain Electromagnetic (VTEM) and Aeromagnetic Geophysical Survey, Brenbar & QSR Property, Beardmore, Ontario, for Kodiak Exploration Limited; Geotech Ltd; Project 10074; May 2010.

Seeber, O.A., 1983. Phoenix Gold Mines Ltd. Geological Report, Sturgeon River Area, Ontario.

Stott, G. M., Davis, D. W., Parker, J. R., Straub, K. J., and Tomlinson, K. Y. 2002 Geology and tectono-stratigraphic assemblages, eastern Wabigoon Subprovince, Ontario. Ontario Geological Survey, Preliminary Map P-3449, Geological Survey of Canada Open File 4285, scale 1: 250 000.

Strongman, K.R., Gibson, H.L., Lafrance, B., Lewis, D, Hamilton, M.A., Mark, B., Stott, G., Toth, Z. The Ishkoday deposit: an Archean epithermal Zn-Cu-Au-Ag-Pb deposit overprinted by orogenic gold veins. In press. 87 p.

Z. Toth et al., 2019 The Geraldton-Onaman Transect – Volcanology, Metamorphism, Deformation and Mineralization, MERC 2019 Geraldton-Onaman Field Trip Guide "pp. 11 to 14; and LAURION's exploration work in 2018-2019)

Walter, M., 2002. St. Andrew Goldfields. Fair Market Valuation of the Quebec Sturgeon River Property, Beardmore, Ontario.

Z. Toth et al., 2019

The Geraldton-Onaman Transect – Volcanology, Metamorphism, Deformation and Mineralization, MERC 2019 Geraldton-Onaman Field Trip Guide "pp. 11 to 14; and LAURION's exploration work in 2018-2019)

28 DATE AND SIGNATURE PAGE

This report titled "NI 43-101 Technical Report of The Ishkoday Gold Project Northern Ontario, Canada" dated February 01, 2024 (the "Technical Report") prepared for Laurion Mineral Exploration Inc. was prepared and signed by the following authors:

The effective date of the report is October 26, 2023. The date of the report is February 01, 2024.

Signed by:

Qualified Person

Company

Maxime Dupéré B.Sc., P. Geo. February 2024 SGS Geological Services ("SGS")

29 CERTIFICATES OF QUALIFIED PERSONS

QP CERTIFICATE – MAXIME DUPÉRÉ

To accompany the report entitled: titled "NI 43-101 Technical Report of The Ishkoday Gold Project Northern Ontario, Canada" dated February 01, 2024 (the "Technical Report") prepared for Laurion Mineral Exploration Inc.

I, Maxime Dupéré, B. Sc., P. Geo., of Blainville, Quebec, Canada do hereby certify that:

- 1. I am a geologist with SGS Canada Inc, SGS Geological Services, with an office at 10 Boul. de la Seigneurie Est, Suite 203, Blainville Quebec Canada, J7C 3V5.
- 2. I am a graduate from the Université de Montréal, Québec in 1999 with a B.Sc. in geology. I am a member in good standing of the Ordre des Géologues du Québec (#501, 2007).
- 3. I have practiced my profession continuously since 2001 in mining exploration for diamonds, gold, silver, base metals, and iron ore. I have prepared and made several mineral resource estimations for different exploration projects including gold at different stages of exploration. I am aware of the different methods of estimation and the geostatistics applied to metallic, non-metallic and industrial mineral projects.
- 4. I visited the property site on October 23, 2023.
- 5. I am the author of this report and responsible for all sections. I have reviewed all sections and accept professional responsibility for all sections of this technical report.
- 6. I am independent of Laurion Mineral Exploration Inc. as defined in Section 1.5 of National Instrument 43-101.
- 7. I have had no prior involvement with the subject property.
- 8. I have read the definition of "qualified person" set out in the National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfil the requirements to be an independent qualified person for the purposes of NI 43-101.
- 9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
- 10. I have read NI 43-101 and Form 43-101F1 (the "Form"), and the Technical Report has been prepared in compliance with NI 43-101 and the Form.

Signed and dated this first day of February 2024 at Blainville, Québec.

"Original Signed and Sealed"

Maxime Dupéré, géo., SGS Canada Inc.

