



**CSA Global**  
Mining Industry Consultants  
an ERM Group company

# EAGLE MOUNTAIN GOLD PROJECT, POTARO-SIPARUNI REGION, GUYANA

## NI 43-101 Technical Report

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PREPARED FOR: GOLDSOURCE MINES INC.



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Effective Date: 17 February 2021  
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# Certificates of Qualification

## Certificate of Qualification – Dr Luke Longridge, Ph.D., P.Geo

I, Luke Longridge, Ph.D., P.Geo (BC), do hereby certify that:

- I am employed as a Senior Structural Geologist with the firm of CSA Global Consultants Canada Ltd located at 1111 W Hastings St, 15<sup>th</sup> Floor, Vancouver, BC, V6E 2J3.
- I was admitted to the Degree of Bachelor of Science with Honours (Geology), from the University of the Witwatersrand, Johannesburg, South Africa in 2007. I was admitted to the Degree of PhD (Geology) from the University of the Witwatersrand in 2012.
- I am a Professional Geoscientist (P.Geo.) registered with the Association of Professional Engineers and Geoscientists of British Columbia (APEBC, Licence No. 49259).
- I have worked as a geologist since my graduation 13 years ago, and I have over nine years' experience with orogenic gold mineral projects.
- I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that because of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
- I have visited the Eagle Mountain Project on 22-25 November 2020.
- I am a co-author of the technical report titled: "Eagle Mountain Gold Project, Potaro-Siparuni Region, Guyana NI 43-101 Technical Report" for Goldsource Mines Inc., with an effective date of February 17, 2021, and signed and dated April 7, 2021 (the "Technical Report"). I am responsible for Sections 1 to 13 inclusive, and Sections 15 to 27 inclusive.
- As of the Effective Date of the Technical Report (February 17, 2021), 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.
- I am independent of the Issuer applying all the tests in section 1.5 of NI 43-101.
- I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

DATED this 7<sup>th</sup> day of April 2021 at Vancouver, Canada

["SIGNED AND SEALED"]  
{Luke Longridge}

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Luke Longridge, Ph.D., P.Geo

## Certificate of Qualification – Dr Adrian Martinez Vargas, Ph.D., P.Geo.

I, Adrian Martinez Vargas, PhD., P.Geo. (ON, BC), do hereby certify that:

- I am employed as a Senior Resource Geologist with the firm of CSA Global Consultants Canada Ltd located at 15 Toronto St., Suite 400, Toronto, Ontario, Canada M5C 2E3.
- I graduated with a degree in Bachelor of Science, Geology, from the Instituto Superior Minero Metalurgico de Moa (ISMM), 2000. I have a Postgraduate Specialization in Geostatistics (CFSG) MINES ParisTech, 2005, and a PhD on Geological Sciences, Geology, from the ISMM in 2006.
- I am a Professional Geoscientist (P.Geo.) registered with the Association of Professional Geoscientists of Ontario (APGO, No. 2934) and the Association of Professional Engineers and Geoscientists of British Columbia (APEBC, No. 43008).
- I have worked as a geologist since my graduation 20 years ago, I have experience with precious and base metals mineral projects in Cuba and Canada, including Mineral Resource estimation.
- I have read the definition of “Qualified Person” set out in National Instrument 43-101 (“NI 43-101”) and certify that because of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
- I have not visited the Eagle Mountain Project.
- I am a co-author of the technical report titled: “Eagle Mountain Gold Project, Potaro-Siparuni Region, Guyana NI 43-101 Technical Report” for Goldsource Mines Inc., with an effective date of February 17, 2021, and signed and dated April 7, 2021 (the “Technical Report”). I am responsible for Section 14.
- I have had no prior involvement with the Property that is the subject of the Technical Report.
- As of the Effective Date of the Technical Report (February 17, 2021), 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.
- I am independent of the Issuer applying all the tests in section 1.5 of NI 43-101.
- I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

DATED this 7<sup>th</sup> day of April 2021 at Toronto, Canada

[“SIGNED AND SEALED”]  
{Adrian Martinez Vargas}

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Adrian Martinez Vargas, PhD., P. Geo

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# 1 Summary

## 1.1 Introduction

Goldsource Mines Inc. (“Goldsource”, the “Company” or the “Issuer”) is a Canadian based mineral exploration company headquartered in Vancouver, British Columbia (BC); its common shares trade on the TSX Venture Exchange (TSX-V) under the symbol “GXS” and on the OTCQB under the symbol “GXSFF”. Goldsource owns 100% of the Eagle Mountain Gold Project (the “Project”), located approximately 200 km south-southwest of Georgetown, the capital of the Republic of Guyana, South America.

Goldsource commissioned CSA Global Consultants Canada Limited (“CSA Global”), an ERM Group company, to complete a Mineral Resource estimate (MRE) and prepare a Technical Report on the Eagle Mountain Gold Project in accordance with National Instrument 43-101. This Technical Report is based on Project data, internal company technical reports, testwork results, maps, published government reports, and public information. The cut-off date for drilling results to be included in MRE is November 6, 2020. The Effective Date of this Technical Report is February 17, 2021.

## 1.2 Property Description and Location

The Eagle Mountain Property is located in west-central Guyana, approximately 200 km south-southwest of Georgetown, the capital of Guyana, bounded by latitudes 573,600 N and 581,500 N and longitudes 261,000 E and 271,800 E (UTM WGS84, Zone 21N).

All mineral resources in Guyana are the property of the State. The Mining Act of 1989 and extensive Mining Regulations provide the framework for the mineral tenure system which includes small-scale permits (mining or prospecting), medium-scale permits (mining or prospecting), prospecting licences (PLs), and mining licences (MLs). In addition, permission may be granted for geological and geophysical reconnaissance surveys (PGGS). Only citizens of Guyana or legal Guyanese entities may hold a small-scale permit or medium-scale permit. Foreign companies may apply for PLs, MLs and PGGSs.

The Eagle Mountain Property is 11,982 acres in area and includes Goldsource’s 100% owned Eagle Mountain Prospecting Licence 03/2019 (EMPL) totalling 11,728 acres and Kilroy Mining Inc.’s (“Kilroy”) Medium-Scale Mining Permit K-60/MP/000/2014 totalling 254 acres on which Stronghold Guyana Inc. (“Stronghold”), a subsidiary of Goldsource, has a long-term lease. A total of nine verified, legal third-party small-scale and medium-scale permits are located within the EMPL boundary. Eight small-scale permits lie along the Mahdia River lowlands and work alluvial gold deposits. Two of these are owned by Kilroy Mining Inc and controlled by Goldsource. In addition, Goldsource has an option and purchase agreement to acquire a 100% interest in a third permit, the Ann Mining Claim. Another five small-scale permits are held by independent operators. One medium-scale permit (referred to as Bishops Growler) lies in the central part of the EMPL northeast of the Eagle Mountain resource area and was under an option and purchase agreement by Goldsource in 2018/19 which has since expired.

As any small or medium-scale mining permit is required under Guyana law to be held by a Guyanese national, Stronghold entered into agreements with Kilroy, a private arm’s length Guyanese company, pursuant to which Stronghold and Kilroy will jointly operate the Kilroy permit area, granted in July 2014 on a 254-ha portion of the EMPL. Kilroy has granted to Stronghold the exclusive right to conduct mining operations on the permit area and any additional areas acquired by Kilroy. Stronghold will fund all expenditure and receive 100% of all revenues, subject to applicable government royalties and a 2% net smelter return (NSR) royalty to Kilroy.

Goldsource has pledged a US\$206,200 (31 December 2019) performance bond, held by the Guyana Geology Mines Commission (GGMC), for exploration permits on the Eagle Mountain Property.

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

The Property is located approximately 7 km south of Mahdia Township and the Mahdia commercial airstrip. Mahdia has a population of approximately 3,000 and is the capital of Potaro Region 8. There is a local hospital, school, shops, restaurants, a gas station, several mechanical shops, two hotels/guest houses, diesel generated power, and cell phone coverage. The local economy is dominated by small-scale mining activity and a labour force familiar with mining is available to draw upon for any future mining activities. Several large gold mining operations are currently active in Guyana and suitable skilled personnel should be available with limited reliance on expatriates.

Mahdia can be accessed by road from Georgetown in five to seven hours, a driving distance of ~325 km. The road is paved from Georgetown to Linden, a wide laterite road between Linden and Mabura, and all-weather unpaved road from Mabura to Mahdia, though the rainy season may make access difficult. The Mahdia airstrip is hard surfaced and is suitable for small commercial and charter passenger aircraft. Unpaved roads and tracks from Mahdia provide access to and within the EMPL.

The region has limited infrastructure, with no commercial electric power. The Amalia Falls area approximately 50 km west-northwest of the EMPL is currently being assessed for large-scale hydroelectric power generation. The Company has two 500 kVA and one 120 kVA diesel generators on site, installed to provide power to the inactive gravity pilot plant and the exploration camp. Potable water is available from multiple small creeks and a few small rivers within the EMPL.

Goldsources' current field activities are supported by the 65-man exploration camp and offices on the Property. Supplies are partly sourced from Georgetown and partly from Mahdia. The camp has limited cell-phone coverage and an established satellite internet link. Dirt tracks that have been constructed to facilitate exploration.

The area of the EMPL appears to be sufficiently large for proposed exploration activities and infrastructure necessary for potential future mining operations should a mineable deposit be delineated.

### 1.4 Project History

The Eagle Mountain Property and adjacent Mahdia areas to the north were originally held by Golden Star Resources Ltd (GSR) as a five-year State Mineral Agreement issued in 1987, with various subsequent extensions. Between 1998 and 2002, GSR operated a joint venture agreement with Cambior Inc. to explore the Eagle Mountain Property through a joint venture company, Omai Gold Mines Ltd (OGML). GSR sold its interest in OGML to Cambior in 2002. Cambior became part of IAMGOLD Corporation (IAMGOLD) in 2006 with OGML becoming a 95% owned subsidiary of IAMGOLD (the remaining 5% held by the Republic of Guyana). In 2010, the EMPL was transferred from OGML to Eagle Mountain Gold Inc. (EMGI – the holding company for OGML) and renewed in 2012.

In 2010, via its Guyana subsidiary, TSX-V listed Stronghold Metals Inc entered a joint venture with OGML and EMGI, amended and restated in 2012 when Stronghold Metals Inc. exercised its option to earn a 50% interest in EMGI and changed its name to Eagle Mountain Gold Corp. (EMGC). In 2013, EMGC exercised its option to acquire the remaining 50% interest in EMGI and the Eagle Mountain Property from OGML, giving EMGC 100% ownership of EMGI and the Property. Subsequently, a new three-year prospecting licence (PL20/2013) was issued to EMGC's 100% Guyanese subsidiary, Stronghold Guyana Inc., on 9 August 2013, which was in turn renewed on October 18, 2019.

Alluvial gold has been exploited in the Eagle Mountain area since at least 1884, tunnels and shafts exploited hard-rock gold in the WW1-WW2 period, and dredging was carried out in the Mahdia and Minnehaha rivers up to 1948. Several phases of exploration were carried out in the Eagle Mountain area during the latter half of the 20<sup>th</sup> century, including:

- Anaconda British Guiana Mines Ltd (Anaconda) (1947–1948) carried out geological mapping, diamond drilling, tunnelling and shaft sinking.
- Guyana Geological Survey (1964–1965, 1970–1973, and 1980), who completed a soil geochemical sampling program, pitting and diamond drilling.
- Amax Exploration Inc. (1966–1967) who drilled an anomaly located to the north of the EMPL boundary.
- GSR (1986–1997), who carried out a multi-element drainage sample geochemical survey, soil and auger sampling, surface geophysics, trenching, and limited diamond drilling.
- OGML/Cambior (1998–2004), who carried out diamond drilling, auger sampling and surveying.
- OGML/IAMGOLD (2006–2009), who compiled a digital GIS database incorporating all available historical data, a regional multi-element drainage sampling program, auger sampling and geological mapping, fixed-wing airborne radiometric and magnetometer surveys, three-dimensional (3D) induced polarisation (IP) and resistivity surveys, and diamond drilling.

Mineral Resource estimations were previously carried out by IAMGOLD Technical Services and Exploration Guyana Group (ITS) in 2009 and audited by ACA Howe International Limited (ACA Howe) in 2010, as well as in 2012 (re-reported in 2014) by ACA Howe on behalf of EMGC.

## 1.5 Geology and Mineralization

The Eagle Mountain Gold Project occurs in the northern part of the Guiana Shield, an area of Paleoproterozoic greenstone belts and associated tonalite-trondhjemite-granodiorite (TTG) intrusive belts, deformed in the Trans-Amazonian Orogeny which records the convergence and collision between the Archean nuclei of the Amazonian Craton and the West African Craton between 2.2 Ga and 1.9 Ga. The greenstone-TTG terrain is intruded by Paleoproterozoic basic intrusions of the Avanavero Large Igneous Province which postdate the Trans-Amazonian Orogeny.

Many known gold deposits in northern Guyana are associated with a series of major northwest-southeast striking, sinistral shear zones. The Eagle Mountain Project lies between two of these structures, the Makapa-Kuribrong Shear Zone (MKSZ) and Issano-Appararu Shear Zone (IASZ). The northern Guiana Shield shares close similarities with the more widely explored Birimian of the West African Shield, where numerous >2 Moz gold deposits are known.

The Property is underlain by metavolcanic and metasedimentary rocks intruded by a composite granodiorite pluton that hosts the gold mineralization at the Eagle Mountain deposit. At the Salbora deposit, mineralization is within metavolcanic rocks adjacent to a northeast-trending monzonite pluton.

A large diabase to gabbro-norite sill (part of the Avanavero Suite) intrudes the granodiorite pluton and metavolcanic-sedimentary sequence and forms the ridge and cliffs at the top of Eagle Mountain. Associated dykes are oriented 120° and are probably less than 10 m thick.

The sequence has been deformed and folded in the Trans-Amazonian Orogeny and metamorphosed at greenschist facies. A system of low-angle, west-dipping thrust faults at the Eagle Mountain deposit and upright, north-south to northwest-southeast trending faults and breccias at the Salbora deposit are associated with this event and with gold mineralization. Younger northwest to north-northwest trending upright faults crosscut and offset the shallow dipping structures at the Eagle Mountain deposit.

The shallow, W-dipping thrust faults in granodiorite at the Eagle Mountain deposit range from narrow mylonite zones to broader zones of pervasive deformation and fracturing. These fault zones are affected by silicification and chloritic alteration with disseminated pyrite and associated gold mineralization. The steep breccia zones at the Salbora deposit are also affected by chloritic alteration, silicification, disseminated pyrite and associated gold mineralization.



At the Eagle Mountain deposit, the mineralized thrust zones vary from 1 m to 40 m in thickness separated by 10–100 m of unmineralized granite. At the Salbora deposit, gold mineralization within steep breccia zones coalesces near surface into a broad, sub-horizontal zone of mineralization. Gold occurs mainly as very fine disseminations of native gold within and associated with pyrite. Three discrete zones have been modelled at Eagle Mountain, Zone 1, Zone 2, Zone 3, the top of each zone ranges from surface to 220 m depth, with the deeper areas being at higher surface elevations. The variable thickness of each of the mineralized zones appears to be related to whether a single shear occurs or whether the deformation zone splits into several subparallel shears, thereby broadening the zone of alteration and mineralization.

The Eagle Mountain and Salbora areas have been affected by tropical saprolite weathering to a depth of 10–50 m. Gold mineralization at the Eagle Mountain deposit (particularly Zone 1) has been heavily weathered and occurs largely within saprolite derived from granitoid-hosted shear zone material, consisting of clay-rich material hosting very fine disseminated gold grains.

## 1.6 Deposit Types

The similarity of alteration types at Eagle Mountain and Salbora suggest they are part of a single mineralized system and are considered to be orogenic-type gold deposits, also known as lode-gold deposits or, for Archean and Paleoproterozoic examples, greenstone gold deposits. Orogenic gold deposits typically form in metamorphic rocks in the mid- to shallow crust (5–15 km depth), at or above the brittle-ductile transition, in compressional settings that facilitate transfer of hot gold-bearing fluids from deeper levels. Orogenic gold deposits have formed for more than 3 billion years of Earth’s history and contribute significantly to global gold production. There are a large number of orogenic gold deposits globally that could be considered comparable to Eagle Mountain, including several located in Guyana that are currently in production or under development.

## 1.7 Exploration

Exploration-related work carried out at the Eagle Mountain Property between 2011 and 2020 by Goldsource (including work conducted between 2011 and 2013 by EMGC), includes infrastructure improvements, environmental data collection, topographic surveys, line cutting, trench and outcrop sampling, hand auger sampling, ground geophysical surveys, and reprocessing of existing airborne geophysical data.

Trench and outcrop channel sampling used samples equivalent to NQ-sized core collected at 1 m intervals or according to identified geological intervals. Hand auger saprolite sampling programs were carried out in 2015 and 2017–2018 along cut lines at 25 m or 50 m pre-marked stations using a “Dutch” type hand auger with 1 m samples collected by compositing four samples collected every 25 cm, to a maximum depth of 6 m.

In 2019 and 2020, ground geophysical surveys in an area of ~7.5 km<sup>2</sup> surrounding Salbora consisted of gradient array and pole-dipole Induced Polarization (IP) and ground magnetics. Follow-up drill testing of IP/resistivity targets resulted in the discovery of the Salbora deposit as well as several targets.

## 1.8 Drilling

In 2011, 73 HQ/NQ diamond drillholes totalling 10,715.93 m were focused on infill and step-out drilling at the Eagle Mountain deposit to confirm previous results and to upgrade the Inferred Resources to Indicated. In 2017 and 2018, drilling focused on shallow saprolitic material using a Geoprobe® 540 direct push drill rig. A total of 257 holes (2,741.72 m) were drilled. Between 2018 and 2020, a total of 216 HQ/NQ diamond drillholes totalling 30,709.84 m were completed for infill and expansion of the Mineral Resource at the Eagle Mountain deposit, as well as identification and delineation of additional deposits within the Project area.

Core sampling procedures were similar for 2011 and 2018–2020 diamond drilling, with core retrieved using conventional wireline techniques, placed in plastic core boxes, and transported to the core facility where it was

cleaned, marked, logged, photographed, and sampled to a minimum interval of 30 cm and a maximum of 1.5 m. Sample details were recorded in a ticket book, one side placed in the sample bag and the second part stapled on the box.

Saprolitic samples were split with a spatula and fresh core with a core saw. Half the core was placed into sample bags with an assay tag and half returned to the core box. A QAQC sample (either a blank, a certified reference material (CRM), or a duplicate) was inserted every 15 samples. Core logging and sampling was completed either by or under the onsite supervision of a Goldsource geologist.

For the 2017–2018 Geoprobe drill core sampling, samples were placed in core trays inside plastic tubing. On delivery to the core shed, tubing was removed using a tube cutter and the sample was split by using a knife or putty knife. Each sample was 1 m in length.

Following analysis, digital assay files provided by the laboratory were merged with a “from” and “to” interval file created by Goldsource, with the sample number linking the two files. This methodology limits data entry errors to sample numbering, as well as the “from” and “to” specifications.

Core recovery for diamond drilling and Geoprobe drilling was generally very good, and the Qualified Person is confident there are no sampling or recovery factors that would negatively impact the sampling procedures. Overall, core sampling methods are to industry standards for mineralization of this type.

Upon completion, drillhole collar coordinates and elevations were surveyed in Universal Transverse Mercator (UTM) coordinates, Zone 21N (PSAD 56 datum). The drill contractor completed downhole directional surveys on all diamond drillholes at approximately 50 m intervals using a single shot digital survey tool.

At the Eagle Mountain deposit, mineralization occurs as several tabular, gently west dipping zones that may crop out at surface. The zones vary between 1 m and 80 m in thickness and extend over an area of approximately 2.2 km in a northeast direction and 1.4 km in a southeast direction. The upper contact of Zone 1 ranges in depth between surface and 80 m with a true thickness between 0.5 - 70 m. The Zone 2 upper contact ranges in depth between 14 - 220 m with a true thickness between 0.5 - 17 m. The top of Zone 3 ranges in depth between 70 - 280 m, with a true thickness between 0.5 - 40 m.

At the Salbora deposit, narrow sub-vertical mineralized zones range in true thickness between 0.5 - 25 m and extend along a strike length of approximately 900 m in a north-south direction to depths of at least 300 m. The shallow, sub-horizontal lens of mineralization at Salbora is approximately 80 m thick, extending from surface to 80 m depth and with a lateral extent of approximately 200 m x 200 m.

## **1.9 Data Verification, Sampling Preparation, Analysis and Security**

Samples from the 2011 diamond drilling program were prepared at Acme Analytical Laboratories (Acme), Georgetown, Guyana and sample pulps were forwarded to Acme Santiago, Chile for gold assay and to Acme Vancouver, Canada for multi-element analyses. Gold analyses were carried out using gold fire assay and AA finish. The Acme facilities were individually certified to standards within ISO 9001:2008. Sample preparations followed industry best practices and the analytical methods used are routine. Umpire check assays were completed at Activation Laboratories Ltd (Actlabs) in Georgetown.

Samples from the 2017–2018 Geoprobe drilling and the 2018–2020 diamond drilling programs were prepared, and gold fire assays with AA finish were completed at Actlabs, Georgetown. Sample pulps were forwarded to the Actlabs Ancaster, Canada laboratory for multi-element analyses using instrumental neutron activation analysis (INAA) and inductively coupled plasma with atomic emission spectrometry. The Actlabs facilities are individually certified to standards within ISO 9001:2008. Sample preparations followed industry best practices and the analytical methods used are routine. Umpire QAQC check assays were completed at MS Analytical in Georgetown using gold fire assay and AAS finish.

Bulk density tests were carried out in 2011 on a variety of fresh and saprolitic, mineralized and non-mineralized rock types. In 2020, additional bulk density tests were carried out at MS Analytical in Georgetown on a variety of mineralized and unmineralized core samples. The water displacement method was used for both 2011 and 2020 tests and porous samples were coated with wax. The 2011 density tests on “Fresh” and saprolitic mineralized zones yielded average bulk densities of 2.60 t/m<sup>3</sup> and 1.60 t/m<sup>3</sup>, respectively. The 2020 density tests show a range of densities between 1.3 t/m<sup>3</sup> and 2.2 t/m<sup>3</sup> for saprolite and between 2.31 t/m<sup>3</sup> and 3.18 t/m<sup>3</sup> for fresh samples.

QAQC programs include CRM samples, blank samples, core duplicate, coarse duplicate samples, and pulp duplicate samples. During the 2011 program, CRMs were used at an average insertion frequency of 2.3%. During the 2017–2020 programs, CRMs were used at an average insertion frequency of 1.5%. Results show no significant negative or positive bias at the CRM grades evaluated. A total of 169 blank samples were assayed during the 2011 program and 410 during the 2017–2020 program. Blank samples returned below detection or very low values indicating very little contamination, with the exception of a few outliers. Laboratory duplicates (283) from the 2011 program were a mixture of coarse duplicates and pulp duplicates and showed good repeatability. A total of 342 quarter-core field duplicates were submitted between 2017 and 2020 and showed good repeatability with no relative bias between original and repeat assay values. A total of 262 quarter-core duplicates submitted to MSA laboratories showed reasonable repeatability and no relative bias. Because duplicate samples were not selected based on grade, a large number of samples have gold grades close to the lower limit of detection. This should be corrected by submitting a higher number of mineralized samples for duplicate analysis in future. Additionally, a higher frequency of blanks should be inserted (~5% of all samples) in future.

Qualified Person and author, Dr Luke Longridge, carried out a four-day site visit to the Eagle Mountain Project in November 2020, validated drillhole positions, reviewed drill core, inspected geology, observed core logging and sampling and preparation facilities, and documentation related to drilling, sampling, and assaying. Analytical facilities at both Actlabs and MSA in Georgetown, Guyana, were inspected. No samples were collected for additional laboratory verification; however, mineralized intervals were inspected and compared with assay values for confirmation of mineralization.

It is the Qualified Person’s opinion that sample preparation and analyses were done in line with industry standards and are satisfactory. Although the number of CRM, duplicate and blank samples is lower than what is considered standard, the quality of assays is considered robust and reliable, and suitable to be used for the MRE. The data available is a reasonable and accurate representation of the Eagle Mountain Project and are of sufficient quality to provide the basis for the conclusions and recommendations reached in this report.

### **1.10 Mineral Processing and Metallurgical Testing**

Metallurgical studies completed by GSR in 1989 and 1991 were limited to desliming and gravity gold recovery testwork.

In 2009, OGML completed testwork on four saprolite and four fresh samples at SGS Canada including head analyses, mineralogy and grindability studies and an investigation of the amenability of the samples to gold recovery/extraction utilizing gravity separation and cyanide leaching. Gold in saprolite was mostly present as native gold. Bottle roll cyanidation tests on both saprolite and fresh rock samples showed good response with gold recoveries over 90% to 95.5% in saprolite and 92.7% to 95.5% in fresh rock.

In 2013, Goldsource completed preliminary metallurgical testwork as part of its due diligence for potential amalgamation with EMGC. Twelve samples were sent to Met-Solve Laboratories Inc. for scoping level metallurgical testwork to evaluate the response of the material to gravity concentration and flotation. Grinding, gravity and flotation results were integrated into a preliminary process flowsheet. Overall, 83.1% of gold was recovered resulting in final tail grade of 0.38 g/t. The gravity approach, without flotation, provided an overall gold recovery of 77.3% resulting in a final tail grade of 0.50 g/t. The expected gold recovery using only gravity

concentration without grinding of the -1.3 mm material was estimated to be 60.3% based on an interpolation of the mass balance presented in the flowsheet.

A gravity pilot plant was constructed between October 2015 and December 2015 and operated intermittently from 28 January 2016 to 28 February 2017. An estimated 148,844 tonnes of feed grading 0.74 g/t Au (3,541 ounces gold contained) were processed through the gravity plant with 643.2 ounces gold reporting to doré, giving an estimated 18% recovery overall. Approximately 2,898 ounces gold (very fine size) went into tailings storage for potential recovery by cyanidation in future.

In 2018, testwork was completed on 22 saprolite samples from different mineralized zones at Eagle Mountain with additional samples of gravity plant tailings and the plus 2 mm stockpile. Five saprolite composites were generated together with a combined master composite. Sample characterization (assaying, sizing, mineralogy, and gold deportment) and grindability testing was followed by gravity separation and cyanidation testwork. With grinding and gravity concentration followed by cyanidation, the five saprolite composites produced elevated gold recoveries ranging from 94.8% to 97.7% with a relatively coarse grind size (p80 averaging 164 microns). The +2 mm stockpile and plant tailings material produced gold recoveries of 93.6% and 87.4%, respectively. Based on the results, a conceptual flowsheet envisaged a standard gravity-grind-leach (carbon-in-pulp) processing facility at a throughput rate of 4,000–5,000 tpd.

### 1.11 Mineral Resource Estimates

Goldsourc provided CSA Global with wireframes representing the interpretation of mineralized zones, the contact of saprolite with the fresh rock, a digital elevation model of the topography, drillhole collars, survey, assay results, density measurements, and geological logging of the oxidation state of the rock. An additional auger drilling database containing assays with QAQC control was provided and used for interpolation. Another auger drilling database, with assays completed without a proper QAQC program, was provided but not used for interpolation. Historical drillholes from the Anaconda campaign were used for geological interpretation but excluded from the interpolation. The drillhole data was reviewed, formatted, and validated. The drillholes and auger drillholes within the mineralized areas were extracted and separated into Salbora and Eagle Mountain datasets.

The Qualified Person reviewed all informing data and considered that the quality and quantity of the information is appropriate for Mineral Resource estimation.

The interpretation of the mineralization provided by Goldsourc was revised for the Salbora deposit and slightly modified for the Eagle Mountain deposit based on geological assessment with the Goldsourc team.

At the Eagle Mountain deposit, the modelled zones locally have very low grades so Zone 1 and Zone 2 were sub-domained into mineralized and unmineralized areas by modelling the probability of mineralization over 0.1 g/t using categorical indicator kriging. Mineralized domains were defined by the envelope representing over 50% probability of having mineralization over 0.1 g/t Au. Zone 3 was not sub-domained. At the Salbora deposit, the steep structures and breccias coalesce upwards into a broader sub-horizontal lens up to 100 m thick and approximated 200 m by 200 m in area, where higher-grade gold mineralization occurs. The mineralized bodies at the Salbora Deposit were modelled in Leapfrog Geo, exported in the form of wireframes, and used directly for interpolation. The saprolite zone at both deposits is up to 50 m thick and was modelled using logging information and used to define densities.

Drillhole data and auger data were flagged with mineralized and saprolite domains and composited to 1.5 m and 1 m respectively. At the Eagle Mountain deposit, Au grade values over 20 g/t were capped. At the Salbora deposit, a capping of 40 g/t Au was applied to the horizontal domain and 10 g/t in the steep domain. Composites samples were used to complete delustering analysis, basic statistics, construction of histograms and CDF, and

variography. Average densities were applied to fresh rocks ( $2.7 \text{ t/m}^3$  except  $3.0 \text{ t/m}^3$  for monzonites and saprolites ( $1.7 \text{ t/m}^3$  at Eagle Mountain and  $1.6 \text{ t/m}^3$  at Salbora).

Block models assuming selective mining within an open pit were built with full blocks (without sub-cells) and the proportion of the blocks below the topography was calculated. Block sizes are  $10 \text{ m} \times 10 \text{ m} \times 3 \text{ m}$  at Eagle Mountain and  $5 \text{ m} \times 10 \text{ m} \times 5 \text{ m}$  at Salbora. Gold grades were interpolated using ordinary kriging, inverse distance of squared, and nearest neighbour methods using two search passes at Salbora and three passes at Eagle Mountain. Subsequent search passes were used to estimate when the number of samples was insufficient to interpolate in the first pass. In Zone 2 and Zone 3 at Eagle Mountain, the block model and composites samples were flattened to a horizontal surface defined using the upper surface of the domain.

Validations were completed using comparison of average grades, swath plots, global change of support, comparison of the estimate and drillholes in sections, and using alternative estimates. An additional interpolation with uniform conditioning was completed for the Eagle Mountain Zone 1 and Zone 2 instead of using the mineralized subdomains defined by the probability of  $\text{Au} > 0.1 \text{ g/t}$ . This interpolation was used to validate global resources and complete semi-local visual comparisons with the traditional ordinary kriging estimation.

The Mineral Resources were classified as Indicated and Inferred in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum's "CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines" as per the requirements of NI 43-101. The classification was completed based on the understanding of the geology and the mineralization and the level of certainty obtained in the estimate. At the Eagle Mountain deposit, classification was completed by a dummy interpolation to identify blocks with at least three drillholes within  $90 \text{ m} \times 90 \text{ m} \times 10 \text{ m}$  search radius. These blocks were classified as Indicated except in domain Zone 3 which were downgraded to Inferred Resources. Blocks within  $160 \text{ m} \times 160 \text{ m} \times 20 \text{ m}$  not classified as Indicated Resources were classified as Inferred Resources. Blocks at the Eagle Mountain deposit classified as Indicated showed good continuity using this approach and no manual intervention was necessary. At the Salbora deposit, only blocks in the horizontal domain estimated in the first search pass were classified as Indicated Resources.

The prospect for eventual economic extraction was investigated assuming open-pit mining cost of  $\text{US}\$1.5/\text{t}$  for saprolite and  $\text{US}\$2.0/\text{t}$  for fresh rock, processing cost of  $\text{US}\$6/\text{t}$  for saprolites and  $\text{US}\$12/\text{t}$  for fresh rock, metallurgical recovery of 95%, and General and Administration of  $\text{US}\$3/\text{t}$ . The gold price was set to  $\text{US}\$1,500/\text{oz}$ . These parameters were used to optimize a pit with a maximum slope of 45 degrees. Only resources above the pit were reported. At the Salbora deposit, most resources are contained within the horizontal domain, and in general the mineralization starts right at the surface, producing a low vertical strip ratio (that ignores lateral blocks). The reference cut-off grade was  $\text{Au} 0.3 \text{ g/t}$  for saprolites and  $\text{Au} 0.5 \text{ g/t}$  for fresh rock. The Mineral Resources reported at these cut off are shown in Table 1-1, Table 1-2 and Table 1-3.

Table 1-1: MRE for the Eagle Mountain Gold Project (combined Eagle Mountain and Salbora deposits) with an effective date of 17 February 2021

Classification	Tonnes ('000 t)	Gold (g/t)	Gold (oz)
<b>Indicated</b>			
Saprolite	11,000	0.95	353,000
Fresh rock	12,000	1.32	495,000
<b>Total</b>	<b>23,000</b>	<b>1.14</b>	<b>848,000</b>
<b>Inferred</b>			
Saprolite	5,000	0.82	140,000
Fresh rock	20,000	1.16	728,000
<b>Total</b>	<b>25,000</b>	<b>1.09</b>	<b>868,000</b>

Table 1-2: MRE for the Eagle Mountain deposit with an effective date of 17 February 2021

Classification	Tonnes ('000 t)	Gold (g/t)	Gold (oz)
<b>Indicated</b>			
Saprolite	11,000	0.95	346,000
Fresh rock	11,000	1.23	436,000
<b>Total</b>	<b>22,000</b>	<b>1.09</b>	<b>782,000</b>
<b>Inferred</b>			
Saprolite	5,000	0.81	134,000
Fresh rock	19,000	1.15	701,000
<b>Total</b>	<b>24,000</b>	<b>1.08</b>	<b>835,000</b>

Table 1-3: MRE for the Salbora deposit with an effective date of 17 February 2021

Classification	Tonnes ('000 t)	Gold (g/t)	Gold (oz)
<b>Indicated</b>			
Saprolite	150	1.45	7,000
Fresh rock	660	2.82	60,000
<b>Total</b>	<b>810</b>	<b>2.57</b>	<b>67,000</b>
<b>Inferred</b>			
Saprolite	200	0.99	6,000
Fresh rock	500	1.74	27,000
<b>Total</b>	<b>700</b>	<b>1.52</b>	<b>33,000</b>

## Notes:

- Numbers have been rounded to reflect the precision of an MRE. Totals may vary due to rounding.
- Gold cut-off has been calculated based on a gold price of US\$1,500/oz, mining costs of US\$1.5/t moved for saprolite and US\$2.0/t for fresh rock, processing costs of US\$6/t processed for saprolite and US\$12/t for fresh rock, and mine-site administration costs of US\$3/t processed. Metallurgical recoveries of 95% are based on prior testwork.
- Mineral Resources conform to NI 43-101, and the 2019 CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines and 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves.
- Goldsource is not aware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, or political factors that might materially affect these MREs.
- Mineral Resources are not Mineral Reserves as they do not have demonstrated economic viability. The quantity and grade of reported Inferred Resources in this MRE are uncertain in nature and there has been insufficient exploration to define these Inferred Resources as Indicated or Measured Resources; however, it is reasonably expected that majority of the Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

## 1.12 Environmental, Permitting and Social Considerations

Wet and dry season biodiversity baseline assessments and water quality sampling studies were carried out on the project in 2012, covering the entire EMPL area. No endemic, rare or threatened plants, mammals, reptiles, birds or habitats were found to occur in the project area. There are a few vulnerable mammal species and one vulnerable reptile noted in the project area. Generally, the water quality within the project area is representative of water quality of similar environments in Guyana, with some streams directly affected by historical mining showing high sediment loads, but most streams exhibiting characteristics of the natural environment. The Qualified Person is unaware of any environmental, permitting, legal, title, taxation, socio-economic, marketing, and political or other relevant issues could potentially materially affect the MRE and the Eagle Mountain Property.



### 1.13 Interpretation and Conclusions

Two discrete deposits have been identified on the Property - the Eagle Mountain deposit and the Salbora deposit, based on historical exploration, augering and drilling carried out by at the Property between 2011 and 2020. These deposits are structurally controlled and occur both in fresh rock and in highly weathered saprolite. The deposits occur within the Paleoproterozoic greenstone-TTG belts of the Guiana Shield that share close similarities with the Birimian of West Africa which hosts multiple >2 Moz gold deposits.

Between 2011 and 2020, several phases of diamond and Geoprobe drilling built on exploration and resource definition by previous operators to support geological interpretation and resource modelling. Drill core samples were analysed using gold fire assay with AA finish and several QAQC procedures were implemented.

Structural mapping and logging of oriented drill core has been limited and additional structural evaluation integrated with alteration studies will improve understanding of the overall mineralized system and the relationship between Eagle Mountain and Salbora. An improved understanding of mineralization controls is expected to guide successful future resource extension and discovery at the Project.

Goldsources has conducted metallurgical testwork on the Eagle Mountain saprolite hosted (oxide) gold mineralization, and on hard-rock mineralization, and a gravity pilot plant was operated intermittently from January 2016 to February 2017. Gold mineralization does not appear to be amenable to a gravity-only recovery processing, but both hard rock and saprolite mineralization does appear amenable to gold extraction by a standard gravity-grind-leach (carbon-in-pulp) processing facility.

A MRE has been prepared for both the Eagle Mountain and Salbora deposits and classified as Indicated or Inferred based on the continuity of geological features and mineralization and the level of certainty obtained in the estimate. The deposit is assumed to have the potential for extraction via open pit mining. Possible risks to the MRE include the following:

- Density variability (e.g. a possible gradational change in density) for mineralization within saprolitic zones is not fully understood;
- The number of QAQC samples could be increased to provide additional verification of analysis quality;
- Lack of pulp duplicates (extensive use of quarter-core duplicates) has limited the investigation of laboratory accuracy;
- Inadequate detail of the topographic surface in the steep and deeply incised terrain.

Potential opportunities at the project include the following:

- Comprehensive density measurements within saprolite may allow for modelling of higher-density saprolite areas, potentially increasing the tonnage of saprolite mineralization;
- The alignment of targets along an apparent N-S structure (the Montgomery, Salbora, Toucan, Powis, Ann targets) suggest a large-scale structure that has not been fully understood and may hold high exploration potential;
- Ongoing step-out exploration drilling at the Eagle Mountain deposit continues to discover lateral extensions to this deposit, suggesting scope for further resource expansion;
- Recent drilling suggests the possibility of higher-grade pockets of mineralization at the Eagle Mountain deposit that may be delineated during infill drilling;
- The possibility to discover additional gently-dipping mineralised thrust zones at the Eagle Mountain deposit;
- The similarity of alteration styles in structures with different orientations between the Eagle Mountain deposit and Salbora deposit suggests an extensive system with several mineralized structures, and it may be possible to identify additional mineralized structures;

- Improved structural understanding of the project and integrated evaluation of structure and alteration across targets should allow for a more robust targeting and deposit model that is expected to result in new discoveries and Mineral Resource opportunities;
- Shallow depths of mineralization, particularly at Zone 1 of the Eagle Mountain deposit, may allow for low strip ratios during open pit mining.

### 1.14 Recommendations

The Eagle Mountain Project merits additional exploration and evaluation as an economic development opportunity through an updated evaluation at Preliminary Economic Assessment or Prefeasibility Study level. To advance the project towards this next stage, the Qualified Persons recommend that the initial additional work program by Goldsource on the Project should include:

- A comprehensive density testing program for saprolitic material to confirm the density value used in the MRE.
- Submission of additional QAQC samples (~5% pulp duplicates and 5% umpire samples), together with CRMs in order to improve the QAQC data.
- Completion of a LIDAR or other similar technique for high-resolution definition of the project topography
- Infill drilling to extend and upgrade Mineral Resources from Inferred to Indicated classification.
- Geotechnical drilling and other geotechnical studies to confirm appropriate slope angles for future open pit design work.
- Commencement of all permitting processes.
- Completion of a Gap Analysis on previous development studies and data acquired to support detailed planning and prioritisation of a work program to bring the Project to the next stage of study, including assessment of infrastructure requirements, hydrology, etc.

These items should be carried out concurrently as a single phase of work that is estimated to cost approximately US\$2.5 million.

Additional geological studies that should form part of this and subsequent work programs should include evaluation of structure and alteration to underpin a robust targeting and deposit model and additional evaluation and modelling of the saprolite profile, including initial development of a geometallurgical model to guide further composite selection and testwork.

## 2 Introduction

### 2.1 Issuer

Goldsource Mines Inc. (“Goldsource”, the “Company”, or the “Issuer”) is a Canadian based mineral exploration company headquartered in Vancouver, British Columbia (BC) and its common shares trade on the TSX Venture Exchange (TSX-V) under the symbol “GXS” and on the OTCQB under the symbol “GXSFF”.

Goldsource owns 100% of the Eagle Mountain Gold Project (the “Project”) located approximately 200 km south-southwest of Georgetown, the capital of Guyana, South America.

### 2.2 Terms of Reference

In June 2020, Goldsource commissioned CSA Global Consultants Canada Limited (CSA Global) to complete a Mineral Resource estimate (MRE) and prepare a Technical Report on the Eagle Mountain Gold Project in accordance with National Instrument 43-101 – Standards for Disclosure for Mineral Projects (NI 43-101) regulations. The timing of the MRE and report was delayed due to program delays related to the COVID-19 pandemic.

This Technical Report is based on internal company technical reports, testwork results, analytical results performed by accredited laboratories, maps, published government reports and public information. The cut-off date for drilling results to be included in the MRE is November 6, 2020. This report was completed in accordance with disclosure and reporting requirements set forth in NI 43-101, Companion Policy 43-101CP, and Form 43-101F1. This Technical Report discloses material changes to the Property, in particular an updated MRE for the Eagle Mountain Gold Project.

The MRE update has been prepared in accordance with Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves (10 May 2014) as per NI 43-101 requirements. Only Mineral Resources are estimated – no Mineral Reserves are defined for the Project. The report is intended to enable the Issuer and potential partners to reach informed decisions with respect to the Project.

The principal author of this report is Dr Luke Longridge, CSA Global Senior Structural Geologist. Dr Longridge has more than five years’ experience in the field of structurally controlled gold deposits and is a Qualified Person according to NI 43-101 standards.

The Effective Date of this report is 17 February 2021. The report is based on technical information known to the authors and CSA Global at that date.

The Issuer reviewed draft copies of this report for factual errors. Any changes made because of these reviews did not include alterations to the interpretations and conclusions made. Therefore, the statements and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading at the date of this report.

### 2.3 Principal Sources of Information

This report is based, in part, on internal Goldsource technical reports and maps, consultants’ reports, and public information as listed in Section 27 (References) of this Technical Report. A previous MRE and a previous Preliminary Economic Evaluation for the Eagle Mountain Gold Project were reported under NI 43-101 by ACA Howe International Limited (ACA Howe) in September 2014.

The authors have not conducted detailed land status evaluations, and have relied upon previous reports, public documents, and statements by Goldsource regarding Property status and legal title to the Eagle Mountain Gold Project.

The authors also had discussions with the management and consultants of the Issuer, including:

- Mr Steve Parsons (Chief Executive Officer, Goldsource) regarding the tenure of the Property and metallurgy
- Mr Ioannis (Yannis) Tsitos (President and Director, Goldsource) regarding the Project history, tenure, and metallurgy
- Mr Kevin Pickett (Chief Geologist, Goldsource) regarding the geology, drilling, sampling, and assays carried out on the Property, and the Project history
- Mr Ian Trinder (Principal Geologist, CSA Global, and previously of ACA Howe) regarding geology, drilling and the Project history.

This report includes technical information that requires calculations to derive subtotals, totals and weighted averages, which inherently involve a degree of rounding and, consequently, introduce a margin of error. Where this occurs, the authors do not consider it to be material.

## 2.4 Qualified Person Section Responsibility

This report was prepared by the Qualified Persons listed in Table 2-1.

Table 2-1: Qualified Persons – report responsibilities

Qualified Person	Report section responsibility
Luke Longridge, Ph.D., P.Ge. (BC), Senior Geologist, CSA Global	Sections 1 to 13 inclusive and Sections 15 to 27 inclusive; Property visit in 2020
Adrian Martinez Vargas, Ph.D., P.Ge. (BC, ON), Senior Resource Geologist, CSA Global	Section 14

The authors are Qualified Persons with the relevant experience, education, and professional standing for the portions of the report for which they are responsible.

CSA Global conducted an internal check to confirm that there is no conflict of interest in relation to its engagement in this project or with Goldsource and that there is no circumstance that could interfere with the Qualified Persons' judgement regarding the preparation of the technical report.

## 2.5 Qualified Person Site Inspections

A four-day visit to the Eagle Mountain Gold Project was completed by Luke Longridge from 22 to 25 November 2020, as detailed in Section 12.1. Adrian Martinez did not visit the Eagle Mountain Gold Project. The Qualified Persons consider Luke Longridge's 2020 site visit current under section 6.2 of NI 43-101.

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## 3 Reliance on Other Experts

The authors and CSA Global have relied upon Goldsource and its management for information related to the Eagle Mountain Prospecting Licence (EMPL) and the Kilroy Mining Inc. (Kilroy) Mining Permit location and status, and underlying contracts and agreements pertaining to the acquisition of the Prospecting Licence and the Mining Permit (Section 4).

The Property description presented in this report is not intended to represent a legal, or any other opinion as to title.

## 4 Property Description and Location

### 4.1 Location of Property

The Eagle Mountain Property is located approximately 200 km south-southwest of Georgetown, the capital of Guyana, South America (Figure 4-1). The Property comprises an area of approximately 11,982 acres and is located between the Potaro, Konawaruk and Essequibo rivers in Guyana’s Administrative District VIII-2 (Potaro-Siparuni) and in Mining District 2 (Potaro). It lies within the Kaieteur 1:50,000 scale topographic map sheets 43NE and 43SE, approximately bounded by latitudes 573,600 N and 581,500 N and longitudes 261,000 E and 271,800 E (UTM WGS84, Zone 21N).

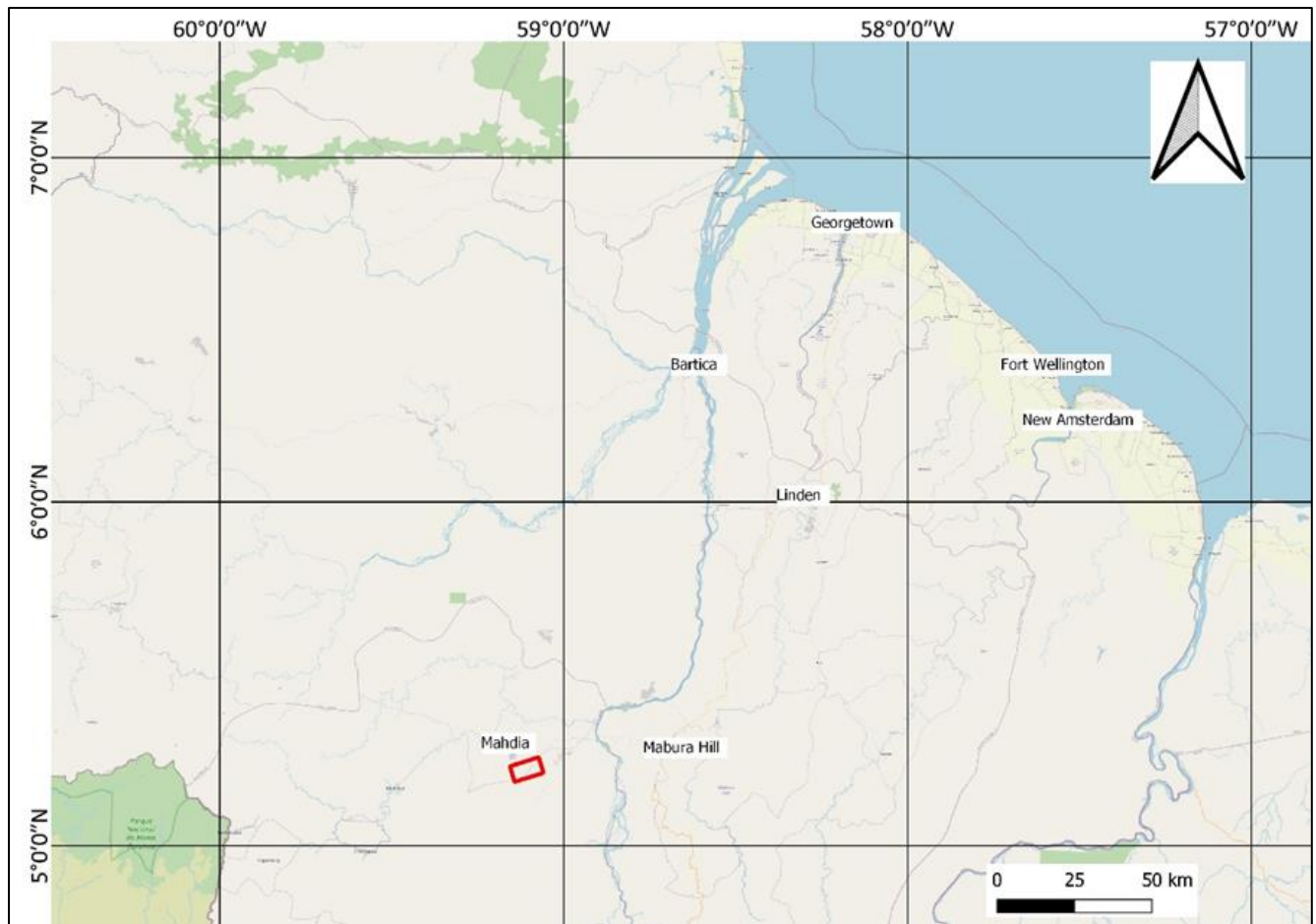


Figure 4-1: Location of the EMPL (red rectangle) relative to towns and villages  
Note: Coordinates are WGS84, geographic coordinates.

### 4.2 Mineral Tenure and Surface Rights

#### 4.2.1 Mining Regulations of Guyana

All mineral resources in Guyana are the property of the State. The state body responsible for the management of these resources is the Guyana Geology and Mines Commission (GGMC) under the Ministry of Natural Resources. The Mining Act of 1989 and extensive Mining Regulations provide the framework for the mineral



tenure system. Tenure is categorized as small-, medium- and large-scale and title renewal applications are reviewed based on actual performance relative to stated work programs and budgets.

The Mining Act, 1989 allows for four scales of operation:

- 1) A Small-Scale Permit (SSP, sometimes also referred as Small-Scale Mining Permit (SSMP)) has dimensions of 1,500 ft x 800 ft (457 m x 244 m) whilst a river permit consists of one mile (1,609 m) of a navigable river.
- 2) Prospecting Permit Medium-Scale Permits (PPMSs) and Medium-Scale Mining Permits (MSMPs) cover between 150 and 1,200 acres (60.7–486 ha).
- 3) Prospecting Licences (PLs) and Mining Licences (MLs) are issued for areas between 500 acres and 12,800 acres (202–5,180 ha).
- 4) Permission for Geological and Geophysical Surveys (PGGS) is granted for reconnaissance surveys over large acreages, with the objective of applying for PLs over favourable ground selected based on results of the reconnaissance surveys. The permits and licences are located and identified by orthogonal coordinates indicating the corners of the permits/licences.

Only citizens of Guyana or legal Guyanese entities may hold a small-scale permit or medium-scale permits; however, foreigners may make joint venture arrangements whereby the two parties jointly develop the property under a private contract. In order to maintain such a permit, there is no requirement to submit a work program or budget, provide reports of work, or survey and mark the permit corners. The area may enclose earlier holdings that retain preferential mineral rights. The initial term of a PPMS is one year with a rental fee of US\$0.25/acre (US\$0.10/ha). The rental fee increases by US\$0.10/acre (US\$0.04/ha) per year and the permit may be renewed indefinitely for one-year periods.

A Mining Permit may evolve out of a Prospecting Permit at the permittee's option. There is no requirement for a Feasibility Study to accompany an application to convert a PPMS to a MSMP. The MSMP is for an initial term of five years or the life of the deposit, whichever is shorter, but it is common to be extended to multiple subsequent terms, subject to the owner performing work on the MSMP. The rental rate on a MSMP is US\$1.00/acre (US\$0.40/ha). The State is entitled to a 5% non-contributory interest or royalty on gross production from an MSMP. In individual cases, it is possible to negotiate and enter into a Mineral Agreement with the GGMC. Such an agreement would include, but not be limited to, prospecting, exploration and mining/processing, and taxation.

Foreign companies may apply for PLs, MLs and PGGs. The term for PLs is three years with two rights of renewal of one year each for a total of five years. After five years, the licence may be further renewed through submission of a new licence application, the granting of which is at the discretion of the GGMC based on Company's performance during the previous five-year PL period considering fee payments and exploration expenditures in relation to the annual filings and budgets submitted to GGMC. In practice, PLs may be renewed indefinitely provided the licensee performs according to stated work programs and budgets.

The Mining Act, 1989 stipulates that three months prior to each anniversary date of licence, a work program and budget for the following year must be presented for approval. Rental rates for PLs are US\$0.50/acre for the first year; US\$0.60/acre for the second year, and US\$1.00/acre for the third year. An application fee of US\$100 and a Work Performance Bond, equivalent to 10% of the approved budget for the respective year, is also payable. The obligations of the licensee include quarterly technical reports on its activities and an audited financial statement to be submitted by 30 June for the previous year's expenditure. Should the licensee relinquish part or all the PL area, then it is required to submit an evaluation report on the work undertaken therein. PL properties are subject to ad hoc monitoring visits by technical staff of the GGMC.

At any time during the PL, and for any part or all the PL area, the licensee may apply for a ML. This application will consist of a positive Feasibility Study, Mine Plan, an Environmental Impact Statement, and an Environmental

Management Plan. Rental for a ML is currently fixed at US\$5.00 per acre per year and the licence is usually granted for 20 years or the life of the deposit, whichever is shorter. Renewals are possible.

#### 4.2.2 Eagle Mountain Property Description

The Property includes Goldsource's 100% owned EMPL 03/2019 totalling 11,728 acres and MSMP K-60/MP/000/2014 held by Kilroy Mining Inc. ("Kilroy") totalling 254 acres on which Stronghold Guyana Inc. ("Stronghold"), a subsidiary of Goldsource, has a long-term lease with a 2% NSR royalty (Figure 4-2). In October 2020, Goldsource also entered into an option and purchase agreement to acquire a 100% interest in the Ann Mining Claim, located within the EMPL 03/2019 boundary. A summary of all relevant licences is provided in Table 4-1.

Table 4-1: Summary of licences for the Eagle Mountain Property

License Name/Number	Ownership/ Agreement	Grant Date	Expiry Date	Area	Rent per Year	Expenditure Commitments
Eagle Mountain Prospecting License (EMPL) PL# 03/2019	Stronghold Guyana Inc. (100% Guyanese subsidiary of Goldsource Mines Inc)	Oct 18 2019	Oct 18 2022 which can be extended to Oct 18 2024	11,728 acres (11,820 acres less 5 SSMPs totalling 92 acres)	US\$1.10 per acre per year combined for Gold, Valuable Minerals, Moly and Base Metals (Cu, Pb, Zn, Sn, W, etc)	Variable based on own (Stronghold Guyana Inc)'s budget/reporting
Kilroy Mining Medium Scale Mining Permit (MSMP) #K-60/MP/000/2014	Kilroy Mining Inc. (100%). Under agreement with Stronghold Guyana Inc. for 100% control subject to 2% Royalty	July 17 2014	July 17 2024	254 acres	US\$1.00/year per acre	N/A
HO#21/213/1995, Small Scale Mining Claim, known as Ann SSMC.	Mark Crawford (Guyanese). Under Option and Purchase Agreement, dated Oct 20, 2020 for 100%. Currently in its 1st Option year.	December 21, 1998	N/A as long as fees paid annually	24.4 acres	US\$5.00/year for all 24.4 acres	N/A

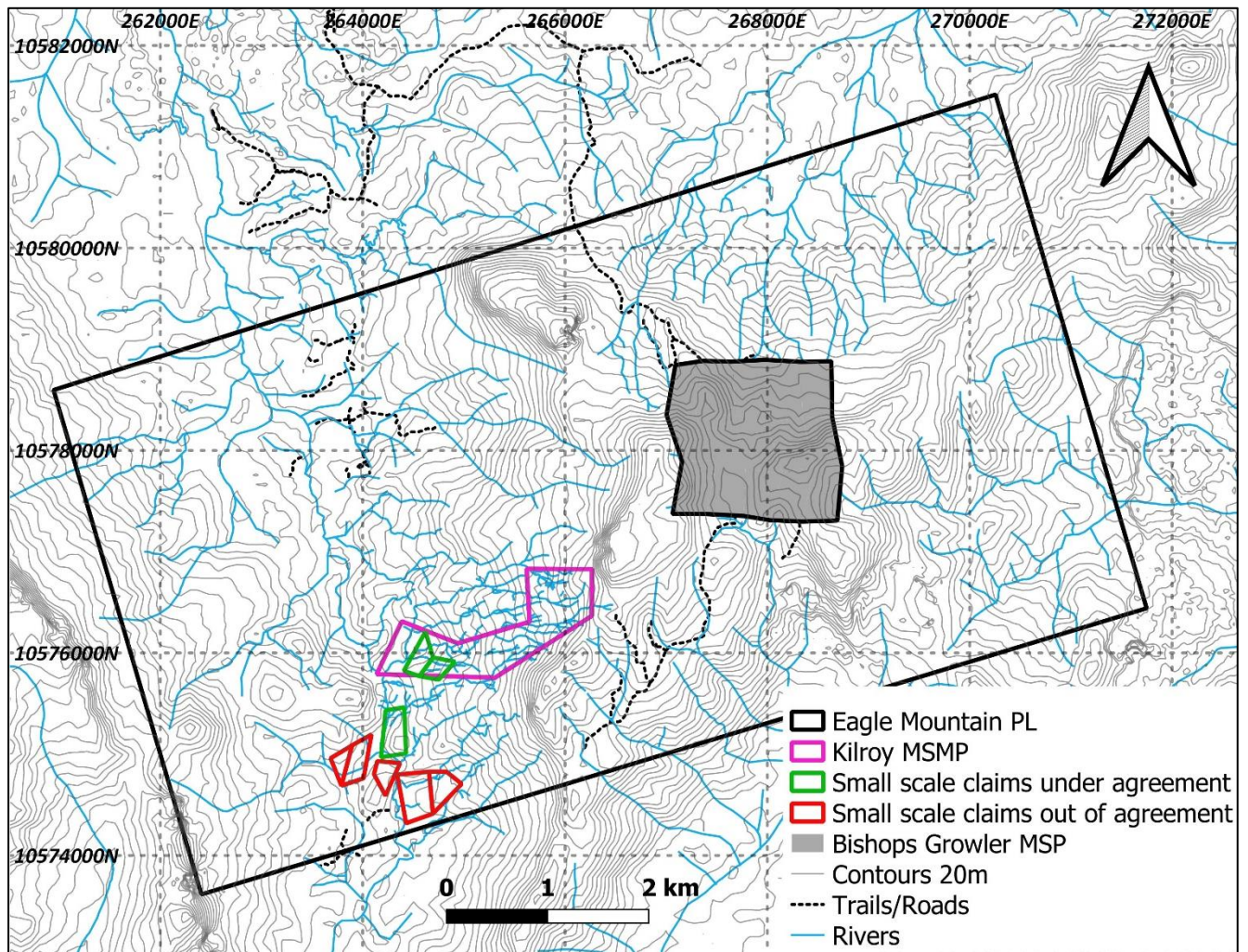


Figure 4-2: The EMPL with internal legal third-party small-scale and medium-scale permits

#### 4.2.3 Eagle Mountain Prospecting Licence 03/2019

Goldsource currently holds a 100% interest in the EMPL 03/2019 through Stronghold, a Guyanese subsidiary held 100% by Eagle Mountain Gold Corp. (EMGC), which itself is a 100% subsidiary of Goldsource as per a business combination described in Section 6.1.3.

EMPL 03/2019 was issued to Stronghold by GGMC on October 18, 2019 for a period of three years (expiring Oct 18, 2022). The PL covers 11,820 acres and gives Goldsource specific exploration rights to gold, valuable minerals and molybdenum and base metals including copper, lead, zinc and tungsten.

The EMPL is located in Potaro Mining District No. 2 on Terra Surveys 1:50,000 topographic map, 43SE. It is described as follows and takes for its reference, a point “X”, at the confluence of the Tiger River and Chance Creek at coordinates (UTM Zone 21N) of:

- UTM Easting 269,653.89
- UTM Northing 582,678.58

Thence 5 miles 1,462 yards (9.38 km) at a true bearing of 153° to the boundary commencement point “A” at the northeastern corner of the PL located with coordinates of:

- UTM Easting 270,266.02



- UTM Northing 581,508.97

Thence 3 miles 532 yards (5.31 km) at a true bearing of 164° to the southeastern corner of the PL, at point “B”, located with coordinates of:

- UTM Easting 271,758.61
- UTM Northing 576,434.36

Thence 6 miles, 105 yards (9.75 km) at a true bearing of 253° to the southwestern corner of the PL, at point “C”, located with coordinates of:

- UTM Easting 262,415.52
- UTM Northing 573,607.89

Thence 3 miles 425 yards (5.22 km) at a true bearing of 344° to the northwestern corner of the PL, at the point “D”, located with coordinates of:

- UTM Easting 260,953.87
- UTM Northing 578,590.66

Thence 6 miles 103 yards (9.75 km) at a true bearing of 72° to the northeastern corner or commencement point “A” of the PL.

A total of nine verified, legal third-party small-scale and medium-scale permits are located within the EMPL boundary. The boundary posts have been located by Goldsource and are shown in Figure 4-2. One of them, the Bishops Growler MPMS, is located northeast of Eagle Mountain in the central part of EMPL and was under an option and purchase agreement by Goldsource in 2018/19 which has since expired.

Eight small-scale permits lie along the Mahdia River lowlands and work alluvial gold deposits. Three of these claims (outlined by green color in Figure 4-2), are 100% controlled by Goldsource. Two of these claims were acquired by Kilroy Mining in 2015 and are included in the agreement between Kilroy and Goldsource (section 4.2.4) and the third, the Ann Small-Scale Mining Permit, is controlled through an option agreement entered into by Goldsource in October 2020, and lies adjacent to the southwest boundary of the Eagle Mountain Mineral Resource (Section 4.2.5). The remaining five small-scale permits remain independently owned and total 92 acres in area.

The small-scale and medium-scale mining permits within the licence area not controlled by Goldsource are not considered to constitute a major risk to the future development of the Project.

With exception to the eight legal small-scale permits and the one medium-scale permit, a very small area with a farm grant and a north-south historic public road (now a track) occurs within the EMPL, mineral rights are 100% held by Goldsource. In the northern part of the EMPL, creek water is funnelled into a 6-inch PVC pipe to supply potable water to Mahdia Township.

During the life of the EMPL, quarterly and annual reports are submitted to the GGMC, along with work programs and proposed budgets. GGMC is paid an annual fee of US\$1.10/acre for the respective rights to two mineral groups: 1) gold; and 2) other base metals and minerals except uranium. A performance bond representing 10% of the approved budget is also lodged. The currently lodged performance bond is approximately US\$206,200.

#### 4.2.4 *Kilroy Medium-Scale Mining Permit K-60/MP/000/2014*

The EMPL is beneficially controlled by Stronghold, Goldsource’s 100%-owned subsidiary in Guyana. As a MSMP is required under Guyana law to be held by a Guyanese national, Stronghold has entered into agreements with Kilroy, a private arm’s length Guyanese company pursuant to which Stronghold and Kilroy will jointly operate the permit area.

On 17 July 2014, Kilroy was granted MPMS K-60/MP/000/2014 (the “Kilroy Permit”) for operations on a 254 acre portion (“permit area”) of Goldsource’s Eagle Mountain gold deposit located within the boundary of the EMPL (Figure 4-2).

The Kilroy Permit grants permission to mine gold, diamonds, precious metals, and precious minerals within the permit area located in Potaro Mining District #2 and it is valid until 17 July 2024. Kilroy, as the holder of the permit, has granted to Stronghold the exclusive right to conduct mining operations on the permit area including any additional areas acquired by Kilroy. Stronghold will fund all expenditures on the permit area and receive 100% of all revenues, subject to applicable government royalties and a 2% NSR royalty to Kilroy as compensation for its participation. As part of the agreement, Goldsource issued to Kilroy 250,000 common shares of the Company.

#### 4.2.5 *Ann Small-Scale Mining Permit*

On 20 October 2020, Goldsource entered into an option and purchase agreement to acquire a 100% interest in the Ann Small-Scale Mining Permit, located within the EMPL boundary at the Minnehaha Creek area, for a total consideration of US\$290,000. The terms of the agreement include immediate access to the land for exploration purposes for two years, the right to purchase the claim for US\$250,000, and the right to terminate the agreement at any time. If not exercised, the option will expire after two years.

### 4.3 **Tenure Agreements and Encumbrances**

#### 4.3.1 *Underlying Property Agreement with Omai Gold Mines Limited (owned by IAMGOLD Ltd)*

The business arrangements under which Goldsource acquired the Eagle Mountain Property are described in Section 6.1 and included a Property Agreement with Omai Gold Mines Limited (OGML). Under the terms of this underlying Property Agreement, on effective commencement of commercial production on the Property and the granting of a mining licence by GGMC:

- a) Goldsource shall pay OGML (Owned by Iamgold Corporation) US\$3,025,500.94 (“Initial Payment”) in cash or, at Goldsource’s option, in common shares of Goldsource at a price per share equal to a 5% discount to the volume weighted average price (VWAP) of Goldsource’s common shares for the 20 trading days prior to issuance, upon the earlier of:
  - 1) If average market price of gold is US\$1,400/oz or higher, upon achieving total production of 40,000 ounces of gold, the Initial Payment is due 90 days after 40,000 ounces have been produced, otherwise payment to be made 90 days after 50,000 ounces produced from the Property, or
  - 2) Ninety days after having completed one year of gold production under a Large-Scale Mining Licence issued by the GGMC, or
  - 3) Five days after the date on which the 20-day VWAP of Goldsource exceeds CAD\$0.75 per share, provided such date is not earlier than 1 March 2015.
- b) Goldsource shall pay OGML an additional US\$5,000,000 (“Final Payment”) in cash or, at Goldsource’s option, US\$2,500,000 cash and US\$2,500,000 in common shares of Goldsource, at a price per share equal to a 5% discount to the 20-day VWAP of Goldsource’s common shares, one year after the earlier of:
  - 1) The payment set out in (a) above has been made, or
  - 2) Commencement of gold production under a Large-Scale Mining Licence issued by the GGMC.

Note that the above agreement represents a financial obligation to OGML/IAMGOLD, and that these obligations do not affect mineral tenure, which is 100% held by Goldsource.

#### 4.3.2 *Kilroy – Medium-Scale Mining Permit 637/2014 Agreement*

Goldsource, through its 100% owned subsidiary Stronghold, will fund all expenditures on the MSMP 637/2014 area and receive 100% of all revenues, subject to applicable government royalties and a 2% NSR royalty to Kilroy as compensation for its participation.

#### 4.3.3 *Ann Small-Scale Mining Permit Agreement*

On 20 October 2020, Goldsource entered into an option and purchase agreement to acquire a 100% interest in the Ann SSMP. The terms of the agreement include immediate access to the land for exploration purposes for two years, the right to purchase the claim for US\$250,000, and the right to terminate the agreement at any time. If not exercised, the option will expire after two years. Goldsource made an option payment of US\$20,000 upon the signing of the agreement. The remaining payments are scheduled as follows:

- US\$20,000 in October 2021
- US\$250,000 upon the exercise of the option.

#### 4.3.4 *Royalties Payable to the Government of Guyana*

The State is entitled to a 5% non-contributory interest or NSR royalty on gross production from a MSMP. In individual cases, it is possible to negotiate and enter into a Mineral Agreement with the GGMC. Such an agreement would include, but not be limited to, prospecting, exploration and mining/processing and taxation.

### **4.4 Environmental Liabilities**

Goldsource has a reclamation provision related to exploration activity and construction of the pilot plant at Eagle Mountain. This provision is currently estimated at US\$197,278 (September 30, 2020). Significant reclamation and closure activities are expected to include land rehabilitation, the removal of buildings and processing plant, and other associated costs. It is assumed that rehabilitation costs will be incurred in 2027.

To the Qualified Person's knowledge, there are no other known environmental liabilities at the Project, although some relatively small areas at low elevations and far from the main project have been deforested and disturbed by historical small-scale illegal alluvial mining before the involvement of Goldsource. There are currently no illegal artisanal miners on the Property.



## 5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

### 5.1 Topography, Elevation and Vegetation

The Property (i.e. the PL and mining permit) covers an area with elevations ranging from low-lying alluvial valleys (elevation ~100 m above mean sea level (amsl) to the summit of Eagle Mountain (elevation ~724.8 m amsl). Majority of the Eagle Mountain deposit lies on the northwestern and southwestern slopes of Eagle Mountain and generally lies at elevations between 160 m amsl and 500 m amsl, extending over an area approximately 2.5 km x 1 km (Figure 5-1). The topography in the mineralized areas is characterized by steep sections separating less steep “benches”.

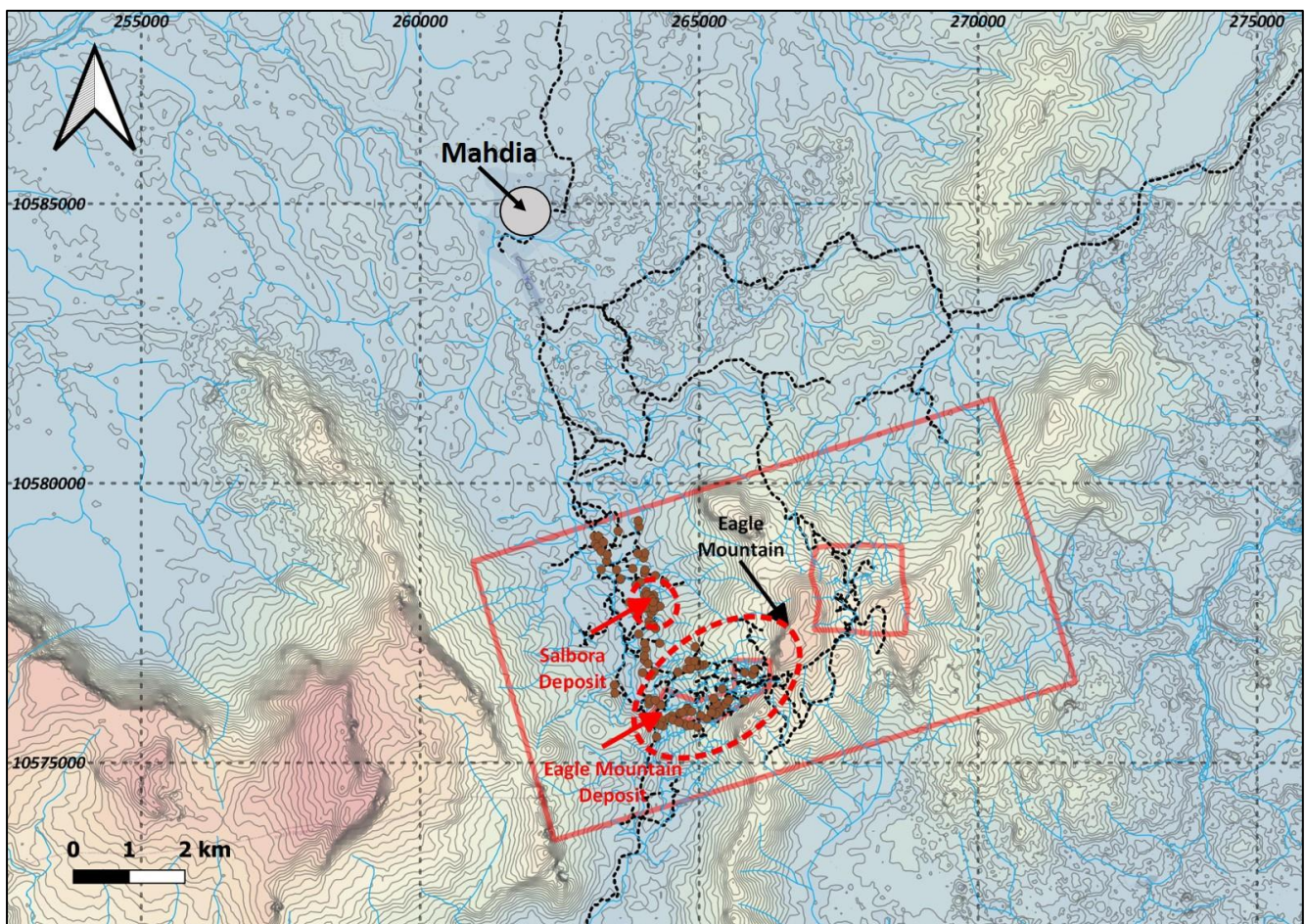


Figure 5-1: Physiography of the Eagle Mountain Property area showing the location of the Eagle Mountain and Salbora deposits, and of Mahdia town.

At higher elevations near the summit of Eagle Mountain, dolerite sills and dykes form steep cliffs of up to 150 m vertical relief. Fresh rock dolerite boulders up to 15 m in diameter derived from erosion of the dolerite are frequent at lower elevations on the western flank of Eagle Mountain.

Small deeply incised creeks widen quickly to form alluvial flats up to 2 km wide that drain either to the Mahdia River and then to the Potaro River, or to the Minnehaha River and then to the Konawaruk River. The alluvial deposits within both watersheds have been historically worked by artisanal miners and are still worked today

outside the property area. According to the GGMC, more than 1 Moz of gold has been produced by artisanal miners and recorded at GGMC since commencement of production records approximately 50 years ago.

The area is covered by thick tropical jungle, which has regrown since the last period of historical mining in the 1940s.

## 5.2 Access to the Property

The Eagle Mountain and Salbora deposits are located in an area of the EMPL 03/2019 and MSMP K-60/MP/000/2014 located approximately 7 km south of Mahdia Township (Figure 5-1), and 6 km south of the Mahdia airstrip. The Mahdia airstrip was hard surfaced in the spring of 2010 and is suitable for small commercial and charter twin-engine passenger aircraft. Charter flights from Georgetown to Mahdia provide the standard access route to the Project.

Mahdia can be accessed by road from Georgetown in 5–7 hours (approximately 325 km). The road is paved from Georgetown to Linden. Access between Linden and Mabura is via a wide laterite road historically built by OGML and Demerara Timbers Ltd. An unpaved road from Mabura to Mahdia is narrow and locally steep. The Mabura/Mahdia road is all weather, though access can be difficult during the rainy seasons. A large, motorized pontoon ferry is used to cross the Essequibo River at Mango Landing.

From Mahdia, the “old Potaro-Konawaruk Road” provides truck access to the western portion of the EMPL at Mile 118, a distance of 8 km. In 2015 and while Goldsource Mines was building the gravity pilot processing plant at Eagle Mountain, the Company widened and resurfaced the road and constructed eleven wooden bridges, allowing 40-ft container trucks with equipment to reach Eagle Mountain camp. From there, the old Millionaire Hill and Porphyry Hill roads allow easterly access into the main mineralized areas. These roads are steep and currently only traversable by four-wheel drive vehicles.

## 5.3 Climate

The climate is tropical, hot, and humid, with a main rainy season in May–August, “Christmas” rains in November–February, separated by a short March–April dry season and a more consistent dry season from August to October.

The abrupt topographic break in the area results in high rainfall, with a monthly average of between 93 mm (October) and 418 mm (June), and a recorded maximum of nearly 700 mm for the month of June. Annual average rainfall is 2,826 mm.

Temperatures are hot and vary little through the year, with average monthly lows ranging from 21.4° C (January) to 23.1° C (September), and average monthly highs between 29.6° C (January) and 31.6° C (September and October).

Exploration and development activities may be conducted year-round at the Property; however, access can be more difficult during the rainy seasons.

## 5.4 Local Resources and Infrastructure

### 5.4.1 Sources of Power

There is no commercial electric power available locally. An abandoned hydroelectric power station is located at Tumatumari, approximately 21 km northeast of the resource area. This was constructed in 1957 by British Goldfields Limited and operated until 1959 when mining operations ceased. The Government of Guyana recommissioned the station in 1969 to serve local communities. This development included an embankment dam, a concrete overflow dam, and a two-unit powerhouse with an installed capacity of 1,500 kW.

Several organizations have signed memorandums of understanding within the last 10 years to investigate the viability of refurbishing Tumatumari, but all are now believed to have expired. The Amalia Falls area located approximately 50 km west-northwest of the EMPL is currently being assessed for potential large-scale hydroelectric power generation.

Goldsource has two 500 kVA and one 120 kVA diesel generators on site. The generators were acquired to provide power to the pilot plant, which is no longer in operation, and the exploration camp, which can host up to 65 people at Eagle Mountain. The generators are still maintained and functioning.

#### 5.4.2 *Water*

Potable water is available from multiple small creeks and a few small rivers within the EMPL which will be unaffected by proposed mining and processing plan.

#### 5.4.3 *Local Infrastructure and Mining Personnel*

The nearby town of Mahdia was founded in 1884 and is the capital of the Potaro Region 8. It is reported to have a population of approximately 3,000 people, an increase from previous estimates of ~1,000 people since Mahdia was declared a township. Employment is dependent on local artisanal mining for gold and diamonds and mining related activities. There is a local hospital, regional airport, school, shops, restaurants, a gas station, several mechanical shops, and two hotels/guesthouses. Diesel generators provide electrical power to the town. Cell phone service is provided by Digicel and GTT. Apart from the hospital and regional airport, the limited infrastructure available (particularly with respect to power) is typical of inland villages in Guyana.

Goldsource's current field activities are supported by a 65-man exploration camp on the Eagle Mountain Property. Supplies are partly sourced from Georgetown and partly from Mahdia. The camp has limited Digicel cell-phone coverage and an established satellite link at camp provides internet access.

The local economy of the Mahdia area is dominated by small-scale mining activity and a labour force familiar with mining is available to draw upon for any future mining activities. Skilled workers and specialists will need to be sourced from outside the region. Elsewhere in Guyana, several large gold mining operations are currently active, and suitable personnel should be available within Guyana, with limited reliance on expatriates.

#### 5.4.4 *Property Infrastructure*

The Property has no infrastructure apart from dirt tracks that have been constructed to facilitate exploration, the current exploration camp and offices, a registered helipad site for potential emergency Medivac, and the remaining infrastructure from a gravity concentration plant that was constructed in late 2015 and operated until early 2017 to process the saprolite portion of the Eagle Mountain deposit (see Section 13.4).

#### 5.4.5 *Adequacy of Property Size*

The area of the EMPL at this time appears to be sufficiently large for proposed exploration activities and infrastructure necessary for potential future mining operations (including potential tailings storage areas, potential waste disposal areas, and potential processing plant sites), should a mineable mineral deposit be delineated at the Property. Alluvial flats in the northwest and southwest areas of the EMPL are potentially suitable sites for infrastructure and tailings facilities.



## 6 History

### 6.1 Project Ownership History

#### 6.1.1 *Golden Star Resources Ltd and Omai Gold Mines Ltd*

The Eagle Mountain Property (then called Minnehaha) and adjacent Mahdia areas to the north were originally held by Golden Star Resources Ltd (GSR) as a five-year Mineral Agreement with the Republic of Guyana (“the State”) dated 30 October 1987. Work was suspended between 1992 and 1997 while the State developed its current PL system, with various extensions of rights granted by Ministerial Decree.

In 1998, Cambior Inc. (“Cambior”) entered into a joint venture agreement with GSR to explore the Eagle Mountain Property through OGML and a three-year PL was granted to GSR under the new licensing system and then transferred to OGML on 23 December 1998. A new PL was issued to OGML in October 2000 for a three-year period, and GSR sold its interest in OGML to Cambior in 2002, after which Cambior became the unique owner of the Property through OGML. The PL was renewed in its entirety for a two-year period in October 2003 and again in 2005.

OGML and Cambior became part of IAMGOLD Corporation (“IAMGOLD”) in 2006, with OGML becoming a 95% owned subsidiary of IAMGOLD. The Republic of Guyana held the remaining 5% of OGML. A new PL (15/2007) was issued for a three-year period 14 October 2007, and in November 2010 a renewal of this PL until October 2011 was approved.

In December 2010, the EMPL was transferred from OGML to Eagle Mountain Gold Inc. (EMGI – the holding company for OGML) and was again renewed in October 2011 for an additional year. In August 2012 a new licence under EMGI was approved by the GGMC.

#### 6.1.2 *Stronghold/EMGI Joint Venture*

On 29 September 2010, TSX-V listed Stronghold Metals Inc. announced it had entered in an Earn-In and Joint Venture Agreement with OGML and EMGI, affiliates of IAMGOLD, whereby it could earn increasing interests up to 95% in EMGI and the Eagle Mountain Property, through its Guyana subsidiary Stronghold, based on a combination of cash payments, share issuances, and work expenditures. At the date of the agreement, EMGI owned 100% of the Eagle Mountain Property and EMGI was 100% owned by OGML (95% owned by IAMGOLD and the remaining 5% held by the Republic of Guyana).

On 16 January 2012, Stronghold announced that it had entered an Amended and Restated Earn-In and Joint Venture Agreement with OGML and EMGI. The amended agreement made several major changes to the terms of the original agreement pursuant to which the Stronghold was granted the right to acquire up to 95% of the issued and outstanding shares of EMGI.

Up to 16 January 2012, Stronghold had paid OGML US\$600,000, issued OGML 4,000,000 shares, and incurred approximately US\$3,500,000 in exploration expenditures on the Property. Stronghold incurred more than twice the required expenditures under the original agreement, which in part led to the restructuring of the amended agreement.

Under the terms of the original agreement, in addition to the cash and share payments made to 16 January 2012, Stronghold was required to:

- Pay OGML US\$900,000 by 28 February 2012.

- Pay OGML an additional US\$1.0 million; spend US\$3.5 million in qualified expenditures on the Property and issue OGML 2 million common shares of Stronghold by 31 October 2012, in order to earn a 50% interest in EMGI.
- Pay OGML an additional US\$1.0 million to increase the ownership to 95%. The Republic of Guyana holds the remaining 5%.

Under the terms of the amended agreement, OGML agreed to immediately transfer a 50% interest in EMGI to Stronghold in consideration of the issuance of 7,500,000 shares of Stronghold. The changes reduced the cash obligation required under the original agreement and acknowledged the progress Stronghold had made on the Property with US\$3.5 million expenditure during 2011.

Stronghold had the right to acquire the remaining 45% interest (or 50% interest, if the Government of Guyana would not exercise its right to keep the 5%) in EMGI on or before 30 April 2013 by paying OGML an additional US\$1,000,000 in cash or shares, at the Stronghold's discretion. The number of shares were to be determined based on a per share price equal to a 5% discount to the VWAP of Stronghold's shares for the 20 trading days before the date Stronghold notified OGML of its intention to issue such shares, provided such share issuance did not result in OGML controlling in excess of 19.99% of Stronghold's issued and outstanding shares. Between 31 October 2012 and 31 January 2013, OGML could require Stronghold to acquire the remaining 45% interest (or 50%, as above) in the Property under the same terms and conditions.

Upon the grant of a mining or exploitation licence by the Republic of Guyana for the development of the Property, Stronghold would pay OGML an additional US\$3,500,000. Stronghold could, at its sole option, elect to issue shares to OGML having a deemed value of US\$3,500,000, such value to be based on a per share price equal to a 5% discount to the VWAP of Stronghold's shares for the 20 trading days before the date Stronghold notified OGML of its intention to issue such shares, provided such share issuance did not result in OGML controlling in excess of 19.99% of Stronghold's issued and outstanding shares.

Finally, within 180 days from commencement of commercial production of gold from the Property, Stronghold would pay US\$5,000,000 cash to OGML.

Stronghold had the option to issue shares to OGML in lieu of the latter two cash payments provided such share issuance did not result in OGML controlling in excess of 19.99% of Stronghold's issued and outstanding shares.

On 30 March 2012, Stronghold announced it had exercised its option to earn a 50% interest in EMGI. Stronghold issued 7,500,000 shares to OGML, which together with prior cash payments (US\$600,000), share issuances (4,000,000) to OGML, and completion of exploration expenditure commitments (approximately US\$3,500,000) on the Property, met the conditions for Stronghold to acquire 50% of EMGI and effectively an indirect 50% interest in the Property. Stronghold and OGML became joint venture partners, with Stronghold continuing to act as operator.

On 6 July 2012, Stronghold Metals Inc. announced its intent to change its name to Eagle Mountain Gold Corp. (EMGC) to emphasize its focus on the exploration and development of the Eagle Mountain Gold Project.

On 11 February 2013, EMGC announced that it had exercised its option to acquire the remaining 50% interest in EMGI for a total of 100% interest in the Eagle Mountain Property from OGML pursuant to the terms of its 16 January 2012 Amended and Restated Earn-In and Joint Venture Agreement. EMGC issued OGML 3,236,246 common shares in the capital of EMGC in consideration of the US\$1,000,000 payment required for the remaining shares in EMGI. Consequently, as of 11 February 2013, OGML (owned 95% by IAMGOLD and 5% by the Republic of Guyana) held 5,536,246 out of 37,083,526 shares, representing 14.93% of the issued and outstanding shares in the EMGC subject to a hold period expiring four months and one day from their date of issue.

The closing of this transaction gave EMGC 100% ownership of EMGI and the Property. Subsequently, on 9 August 2013 GGMC issued a new three-year PL (20/2013) to EMGC's 100% Guyanese subsidiary, Stronghold. The PL gave

EMGC specific exploration rights to gold, valuable minerals and molybdenum, and base metals including copper, lead, zinc and tungsten.

### 6.1.3 Goldsource – Current Ownership and Title

#### *Eagle Mountain Prospecting Licence (PL 03/2019)*

On 28 February 2014, Goldsource and EMGC completed a business combination, jointly announced on 26 November 2013 and 3 March 2014. As a result, all the shareholders of EMGC became shareholders of Goldsource and EMGC became a wholly owned subsidiary of Goldsource. Pursuant to the business combination, each common share of EMGC was exchanged for 0.52763 of a common share of Goldsource. EMGC's common shares were delisted from the TSX-V on 5 March 2014, as announced in a TSX-V Exchange Bulletin.

As a condition to the Goldsource and EMGC business combination, the parties announced on 6 March 2014 the execution of an Amendment Agreement with OGML, with respect to EMGC's 100% owned Eagle Mountain Property. The Amendment Agreement made several changes to the terms of the previous agreement dated 16 January 2012. Certain cash and/or common share payments to OGML by EMGC set out in the 16 January 2012 agreement and based on effective commencement of commercial production on the Property and the granting of a ML by GGMC were deferred and triggered by different events as summarized in the amending terms below:

- a) Following the closing of the Business Combination announced on 3 March 2014, Goldsource agreed to issue to OGML 3,389,279 common shares subject to TSX-V approval, resulting in OGML acquiring 8% of the outstanding shares of Goldsource.
- b) Goldsource shall pay OGML US\$3,025,500.94 ("Initial Payment") in cash or, at Goldsource's option in common shares of Goldsource, at a price per share equal to a 5% discount to the VWAP of Goldsource's common shares for the 20 trading days prior to issuance, upon the earlier of:
  - 1) If average market price of gold is US\$1,400/oz or higher upon achieving total production of 40,000 ounces of gold, then the Initial Payment is due 90 days after 40,000 ounces have been produced, otherwise payment to be made 90 days after 50,000 ounces produced from the Property, or
  - 2) Ninety days after having completed one year of gold production under a Large-Scale Mining Licence issued by the GGMC, or
  - 3) Five days after the date on which the 20-day VWAP of Goldsource exceeds CAD\$0.75 per share, provided such date is not earlier than 1 March 2015.
- c) Goldsource shall pay OGML an additional US\$5,000,000 ("Final Payment") in cash or at Goldsource's option, US\$2,500,000 cash and US\$2,500,000 in common shares of Goldsource, at a price per share equal to a 5% discount to the 20-day VWAP of Goldsource's common shares. The Final Payment shall be made one year after the earlier of:
  - 1) One year after the payment set out in (b)(1) above has been made, or
  - 2) After having completed one year of gold production under a Large-Scale Mining Licence issued by the GGMC.

On 18 October 2019, GGMC issued a new three-year PL (03/2019) which can be extended to five years till October 18, 2024 to Goldsource's 100% Guyanese subsidiary Stronghold. The PL covers 4,784 ha and gives Goldsource specific exploration rights to gold, valuable minerals and molybdenum, and base metals including copper, lead, zinc and tungsten.

#### *Kilroy Medium Scale Mining Permit K-60/MP/000/2014*

The Kilroy Medium Scale Mining Permit (MSMP) was issued on July 17, 2014 and is valid till July 17, 2024. It is the intention of Goldsource, subject to achieving certain technical conditions in the coming years, to apply for a Mining License as per section 4.2.1, before the expiration of either the EMPL or the Kilroy MSMP.



## 6.2 Historical Property Exploration

Exploration work conducted prior to Goldsource and its predecessor companies' involvement in the EMPL is summarized in this section.

### 6.2.1 Pre-1986 Exploration

Alluvial gold has been exploited in the Eagle Mountain area since at least 1884. Dredging operations were carried out by the Minnehaha Development Company and the British Guiana Consolidated Gold Company in the Mahdia and Minnehaha Rivers up to 1948 (MacDonald, 1968). Total production from the general area is estimated at over 1 Moz of gold from alluvial and eluvial sources.

During World War I and World War II, several small stamp mills processing vein material from tunnels and shafts operated in the Eagle Mountain area. The largest included No. 1 Hill, which reportedly produced 1,000 ounces of gold from 1,000 tonnes of material in the period 1912–1914. The mine was revived in 1921, although production statistics were not recorded. In 1946, a small-scale miner named Larken drilled near the Powder Tunnel and also at Dickman's Hill north of the EMPL boundary.

Anaconda British Guiana Mines Ltd ("Anaconda") explored the Eagle Mountain area in 1947 and 1948. Most quarterly and annual reports are still available and include maps. Anaconda's activities included geological mapping, diamond drilling (57 holes), tunnelling, and shaft sinking. This work outlined a series of shallow dipping (20–50°), gold-bearing mylonite zones of variable width (1.8–10.7 m), occurrences of auriferous sub-vertical quartz veining, and molybdenite mineralization within quartz-feldspar porphyry to the west of Minnehaha Creek (Waterman, 1948). A summary report by Bracewell (1948) includes additional information such as petrology and specific gravity data from drill core.

In 1964–1965, a soil sampling program completed by the Guyana Geological Survey outlined several significant molybdenum geochemical anomalies, one with a cumulative strike of 2 km within the EMPL (Bateson, 1965).

In 1966–1967, Amax Exploration Inc. drilled nine vertical holes into the Dickman's Hill anomaly located to the north, outside of the EMPL boundary, but intersected only low-grade molybdenum mineralization (Banerjee, 1970). Data from this drilling program has not been located.

During 1970–1973, the Geological Survey of Guyana conducted follow-up work on the Eagle Mountain molybdenum anomaly within the EMPL, including pitting and 15 diamond (AX) drillholes. An additional five holes were drilled at Dickman's Hill to the north and outside of the EMPL boundary (Banerjee, 1972). Some of this core still exists, although a portion was submitted to a commercial laboratory by GSR for re-assay. During the same period, drainage and soil sampling was carried out to test the Baboon Creek area for tungsten mineralization. This work revealed widespread scheelite mineralization, but not in high concentrations. Several reports on molybdenum and tungsten mineralization investigations at Eagle Mountain are summarized in a M.Sc. thesis by Inasi (1975).

Subsequent work by the GGMC was performed specifically to investigate the gold potential of the area, including eight vertical diamond drillholes (AX) completed in 1980 (Livan, 1981). Check assays completed at the GGMC and at various external institutions indicate that original gold assays are unreliable due to poor sample preparation techniques. Consequently, this data has not been included in the current mineral resource model.

### 6.2.2 Golden Star Resources Ltd (1986 to 1997)

In 1986, GSR tested the regional exploration potential of the EMPL area by detailed multi-element -80 mesh drainage sample analysis and panning. This work allowed subsequent exploration to be focused on discrete areas of identified gold anomalies. GSR carried out mapping, soil sampling, auger sampling and surface geophysics (very low frequency electromagnetics (VLF-EM) and magnetics) between 1988 and 1990.

The VLF-EM survey identified several distinct features that were interpreted as shear zones. Some of the known dykes could be identified by their strong magnetic signature. However, the large dolerite boulders, derived from weathering of the sill, create significant noise and render most of the ground magnetic data unusable (Jagodits, 1989).

From 1997, GSR completed deep augering, trenching, diamond drilling (1,285 m in 21 holes) and a preliminary three-dimensional (3D) model. Exploration results are documented in quarterly and annual reports held at the GGMC, and much of GSR's database was later transferred to OGML.

### 6.2.3 *Growler Mine Joint Venture*

Growler Mine Joint Venture partners obtained an Exclusive Exploration Permission (EEP) covering the Irene-Good Hope Creek headwaters in 1988. This area was briefly explored by Red Butte Resources and IMPACT Minerals. Several current small-scale permits held by a local owner occupy a portion of the original EEP area and are excluded from the EMPL (Figure 4-2).

### 6.2.4 *Omai Gold Mines Ltd/Cambior Inc. (1998 to 2004)*

OGML/Cambior exploration activities between 1998 and 2004 included diamond drilling (70 holes for 5,936 m), auger sampling, and surveying. This work is described in Section 6.3.1.

### 6.2.5 *Omai Gold Mines Ltd/IAMGOLD Corporation (2006 to 2009)*

A decision was made in late 2005 to re-examine the gold potential of the EMPL. Initial work included compilation of a digital GIS database incorporating all available historical data. A significant spatial offset between the Anaconda and GSR/OGML datasets as well as the topography in some areas was detected and subsequently corrected through this work.

Fieldwork resumed in early 2006 with a regional multi-element drainage sampling program (84 sites). Stream sediment results revealed no significant gold anomalies in the southeastern part of the EMPL and confirmed the historically identified areas of molybdenum mineralization. Several new tin-tungsten anomalies were also revealed. A number of areas were examined by shallow auger sampling and geological mapping, including an area of granitoid northeast of Zion, north of the Bishop-Growler excluded area and at the headwaters of Tiger Creek. Results were generally erratic.

In addition, Terraquest Ltd was contracted to fly the western part of the EMPL with a fixed-wing airborne radiometric and magnetometer survey. Total Count radiometric data dramatically highlights the regional-scale Mahdia Valley Fault. Not all the radiometric highs are directly related to the presence of granite; tailings and bare ground are also anomalous. Low magnetic areas correspond to areas of mafic volcanics without interbedded/faulted porphyry.

In late 2006, auger and outcrop sampling in the Zion-Bacchus area, together with rock and channel sampling in the Bottle Bank, Dead Stop and VG Pit areas, confirmed significant gold anomalies. Subsequent work programs included detailed auger sampling, principally over the Zion, Coolie (Toucan), and Kilroy-Bottle Bank areas, with a few lines in the Baboon area (6,255 samples from 1,985 auger holes). Several areas were trenched and a number of historical adits were located and channel sampled. A total of 334 channel samples covering 306.3 m were collected, as well as 385 rock samples. Some petrological work was also completed.

Extensive auger sampling was instrumental in delineating the Eagle Mountain gold deposit. Together with earlier GSR/OGML/Cambior (1988–2004) programs, auger drilling by OGML/IAMGOLD between 2006–2009 resulted in a total of 5,271 (1 m) auger sample sites and a total of 14,286 samples from 4,711 deep auger sites, collected over the entire EMPL area. In addition, 85 predominantly 1 m samples were collected from 10 Trado auger holes. Grab samples were collected at 184 locations where soils were very thin or absent. In total, 2,090 m of surface

channel sampling was also completed in 39 localities, from hand dug and mechanically excavated trenches, road cuts, creek exposures, and small-scale workings.

The Eagle Mountain gold deposit was delineated by a 0.8 km<sup>2</sup> area of significant auger anomalies (Figure 6-1), where an anomalous result is defined as a minimum 3 m interval averaging over 0.5 g/t Au. The significant lateral extent of the auger anomaly is a consequence of the shallow-dipping deposit geometry and the fact that the soil profile is typically very thin in this area. The low-angle mineralized sheets are orientated approximately parallel to the topography in places so that the auger directly sampled mineralized saprolitic material.

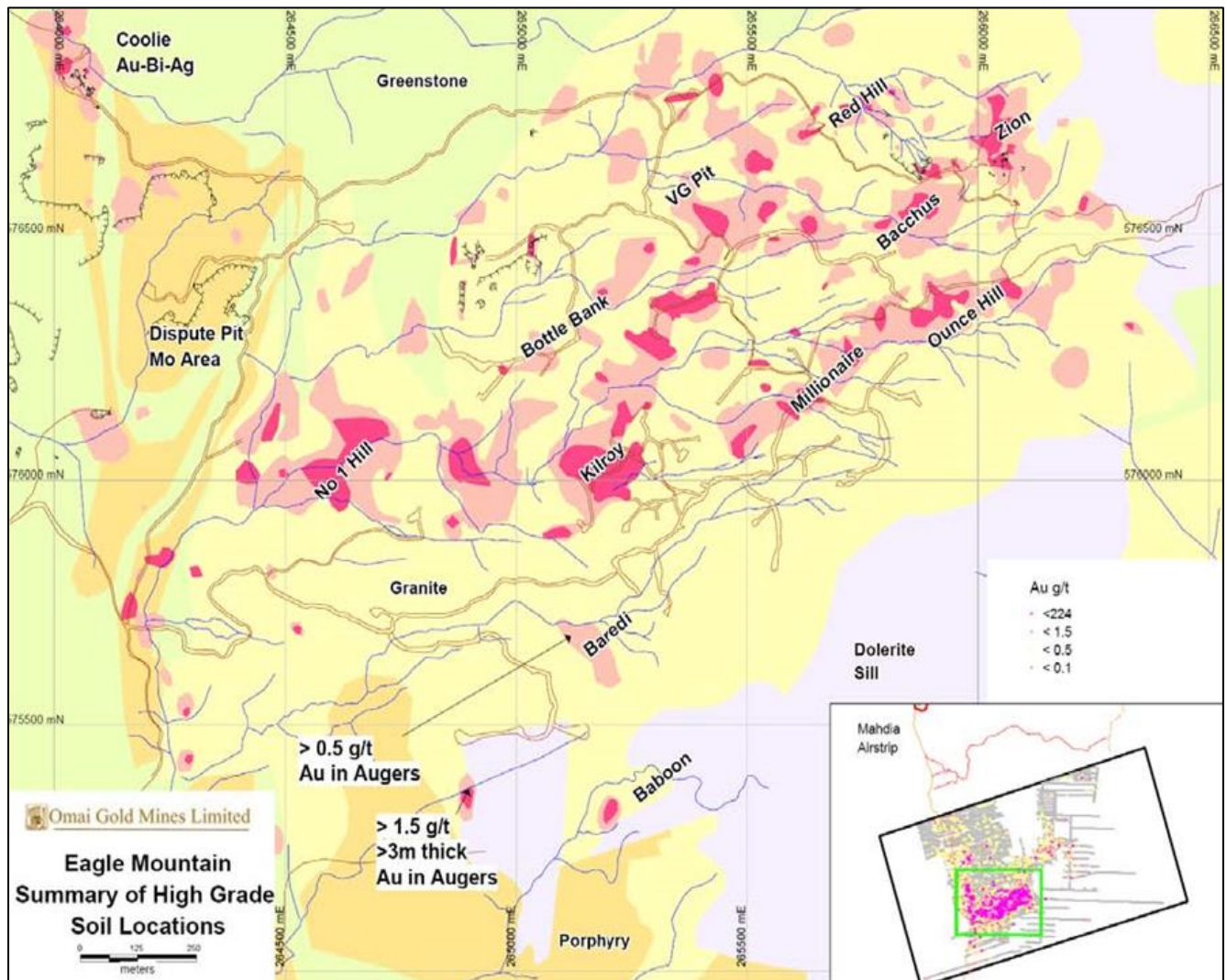


Figure 6-1: Eagle Mountain deposit area historical soil auger anomalies with local area names  
 Source: Casselman and Heesterman (2010)

Another significant auger gold anomaly occurs northwest of the main mineralized area, over flat alluvial areas. Systematic exploration to investigate potential alluvial resources has not been attempted, although small-scale miners have worked the Mahdia and Minnehaha valleys for at least 100 years.

A low-level gold anomaly to the northeast of the main mineralized area is potentially sourced from low-angle mineralized shear zones exposed on the other side of Eagle Mountain. Additional exploration is required to determine the tenor and thickness of mineralization in this area.

IAMGOLD completed a 3D induced polarisation (IP) and resistivity survey in 2008 over the main mineralized area. Survey results enabled the identification of several major structures, and inversion 3D modelling confirmed the presence of low-angle structures bounding domains of differing geology (Hill, 2008).

OGML/IAMGOLD completed a total of 43 diamond drillholes for 8,060 m (EMD001 to EMD043; includes one restart) in four phases from 2007 to 2009. Drilling programs were designed to expand and further delineate the known gold resources, investigate the molybdenum potential of the Dispute Pit area (now called Powis) and to test satellite structural, geochemical and/or geophysical targets. Results of this work led to significant advances in the understanding of the mineralization styles at Eagle Mountain. Four, shallowly southwest dipping gold mineralization zones (Saddle, Zion, Kilroy, and Millionaire) that constitute the bulk of the 2009 Eagle Mountain deposit MRE were identified by OGML/IAMGOLD.

In the Dispute Pit area west of the Eagle Mountain deposit, follow-up drill targeting of scattered molybdenum anomalies yielded several significant gold intersections (e.g. 1.5 g/t Au over 14 m in EMD08-21). Gold mineralization in this area is specifically associated with “cloudy” quartz vein arrays associated with epidote alteration. Economically significant concentrations of this mineralization style have not been identified. In the Coolie 271B Adit, (now called the Toucan area) a north-south striking quartz vein hosted in saprolitic granitoid is exposed in the adit walls, and averages 0.7 g/t Au over 6 m as well as 17.2 g/t Au over 19 m across the plunge of the vein. The sample widths are apparent; true thicknesses are uncertain. In the creek to the north, channel sampling across quartz veining in meta-volcanics returned results of 9.4 g/t Au over 3.5 m, 3.3 g/t Au over 3 m, and 9.8 g/t Au over 1 m. The sample widths are apparent; true thicknesses are uncertain.

Clouston (2009) considered the topography to be well defined over the main resource area but noted that it relied on sparser survey points in the fringe areas such as Baboon to the southwest and Dispute Pit to the northwest. Based on Clouston’s recommendations, additional theodolite survey points and traverses were collected by OGML after IAMGOLD’s October 2009 MRE. The survey included a total of 42 drillhole collars.

After completion of the October 2009 IAMGOLD MRE, OGML/IAMGOLD conducted specific gravity tests on a variety of fresh and saprolitic, mineralized and non-mineralized, rock types. The most significant observation was that the “Fresh” mineralized zones have average bulk densities of approximately 2.60 t/m<sup>3</sup> which was a 4% reduction from the value of 2.70 t/m<sup>3</sup> used for the October 2009 IAMGOLD MRE. The saprolitic mineralized zones maintained an average bulk density of approximately 1.60 t/m<sup>3</sup> as used for the October 2009 IAMGOLD MRE.

## 6.3 Historical Drilling Procedures

### 6.3.1 Drill Programs (1947 to 2009)

This section describes historical drilling procedures utilized by Anaconda, Guyana Geological Survey/GGMC, GSR, and OGML from 1947 to 2009.

Anaconda completed 57 AX-sized diamond drillholes totalling 5,832 m in the period 1947 to 1948 (AD01 to AD57; Table 6-1 and Figure 6-2). Most holes are located within the known resource area but have not been used for the current MRE.

Guyana Geological Survey completed eight vertical AX-sized diamond drillholes totalling 473 m in 1970 to evaluate the gold potential of the Property. Gold assay results are incomplete and not considered representative. Consequently, they have not been incorporated into the database. Some of the holes were re-logged by GSR in the 1980s, which was useful for locating barren post-mineral dykes.

GGMC followed-up Anaconda’s significant molybdenum results with soil sampling, pitting and 15 AX-sized diamond drillholes totaling 4,187 m (EHD1 to EHD15; Table 6-1, Figure 6-2). Tape-and-compass surveying was used to define collar locations. However, several collars were subsequently relocated in the field and re-surveyed. Downhole dip survey data but not azimuth was recorded. Core was transported to Georgetown



(Guyana), split and assayed for molybdenum using a spectrographic method. Results were encouraging, but partial re-assaying and re-logging of EHD02, EHD03, EHD08, EHD09, EHD10, EHD14 and EHD15 by GSR indicated that GGMC assay results had overstated molybdenum grades and were erratic for gold. Only GSR assay data has been retained in the database.

In 1997, GSR completed 30 diamond drillholes totaling 2,423 m using a bulldozer-supported Longyear 38 drill rig (EM001 to EM021 and re-drills; Table 6-1, Figure 6-2). HQ-sized core was drilled to the base of saprolite, reducing to NQ-sized core in hard rock. All drillhole collars were located and systematically surveyed using a theodolite. Down-hole survey data was collected using a Tropari survey tool. Core orientation surveys were completed.

GSR drilled a further 20 diamond drillholes totaling 1,114 m in late 1998 during the joint venture with OGML (EM022 to EM040; Table 6-1). Late in the following year, management of drilling shifted to OGML and 31 diamond drillholes totalling 2,399 m were completed (EM99-41 to EM99-70; Table 6-1). Almost all holes drilled between 1998 and 1999 were vertical.

OGML resumed drilling in 2007, with 21 diamond drillholes totaling 2,209 m (EMD07-01 to EMD08-19; Table 6-1). An RB 37 man-portable hydraulic drill rig was used, enabling access to steep areas such as Zion. HQ-sized core was drilled to the base of saprolite, reducing to NQ-sized core in fresh rock and continued to a maximum depth of 192 m. All drillhole locations were surveyed and marked with a concrete monument. Downhole survey data was not collected.

In 2008 to 2009, 25 diamond drillholes totalling 5,850 m were completed using a bulldozer-supported Longyear 38 drill rig (EMD08-20 to EMD09-43; Table 6-1). Holes tested predominantly geophysical targets. HQ-sized core was drilled to the base of saprolite, reducing to NQ-sized core in fresh rock and continued to a maximum depth of 414 m. Downhole survey data was collected for all holes except EMD09-32 to EMD09-37 using a Flexit survey instrument. All drillhole locations were marked with a concrete monument. All drillhole collars were positioned using a theodolite survey instrument. Core orientation surveys were completed for holes EMD08-32 to EMD08-43 using an orientation spear. Inconsistent work by drill crews and locally rubbly core resulted in the orientation work being discontinued.

Table 6-1: Summary of drilling completed on the Eagle Mountain Property (1947 to 2009)

Period	Company	Hole numbers	Number of DDH	Metres	Comments
1947 to 1948	Anaconda	AD01 to AD10, AD12 to AD26, AD28 to AD57	55	5,832	AX core. Not included in 2012 MRE.
1970	Guyana Geological Survey	G01 to G08	8	473	AX core. Only lithology data from a few holes available. Not included in 2012 MRE.
1973	Guyana Geological Survey	EHD01 to EHD15	15	4,172	AX core. Some holes re-assayed by Golden Star Not included in 2012 MRE.
1997	GSR	EM001 to EM021	21 (30 including failed starts)	2,423	HQ/NQ core. Metreage includes nine failed holes (272.01 m) that were restarted.
1998	GSR/OMGL	EM022 to EM040	19 (20 including failed starts)	1,114	HQ/NQ core – most holes vertical. Metreage includes one failed hole (16.5 m) that was restarted.
1999	OMGL/Cambior	EM99-41 to EM99-70	30 (31 including failed starts)	2,399	HQ/NQ core – most holes vertical. Metreage includes one failed hole (10.5 m) that was restarted.

Period	Company	Hole numbers	Number of DDH	Metres	Comments
2007 to 2008	OMGL/IAMGOLD	EMD07-01 to EMD08-19	19	2,209	HQ/NQ man-portable rig. Two drilling periods.
2008 to 2009	OMGL/IAMGOLD	EMD08-20 to EMD09-43	24 (25 including failed starts)	5,851	HQ/NQ LY38 – two drilling periods. Metreage includes one failed hole (66.0 m) that was restarted.
<b>Total</b>			<b>191 (203 including failed starts)</b>	<b>24,473</b>	<b>Includes failed starts</b>

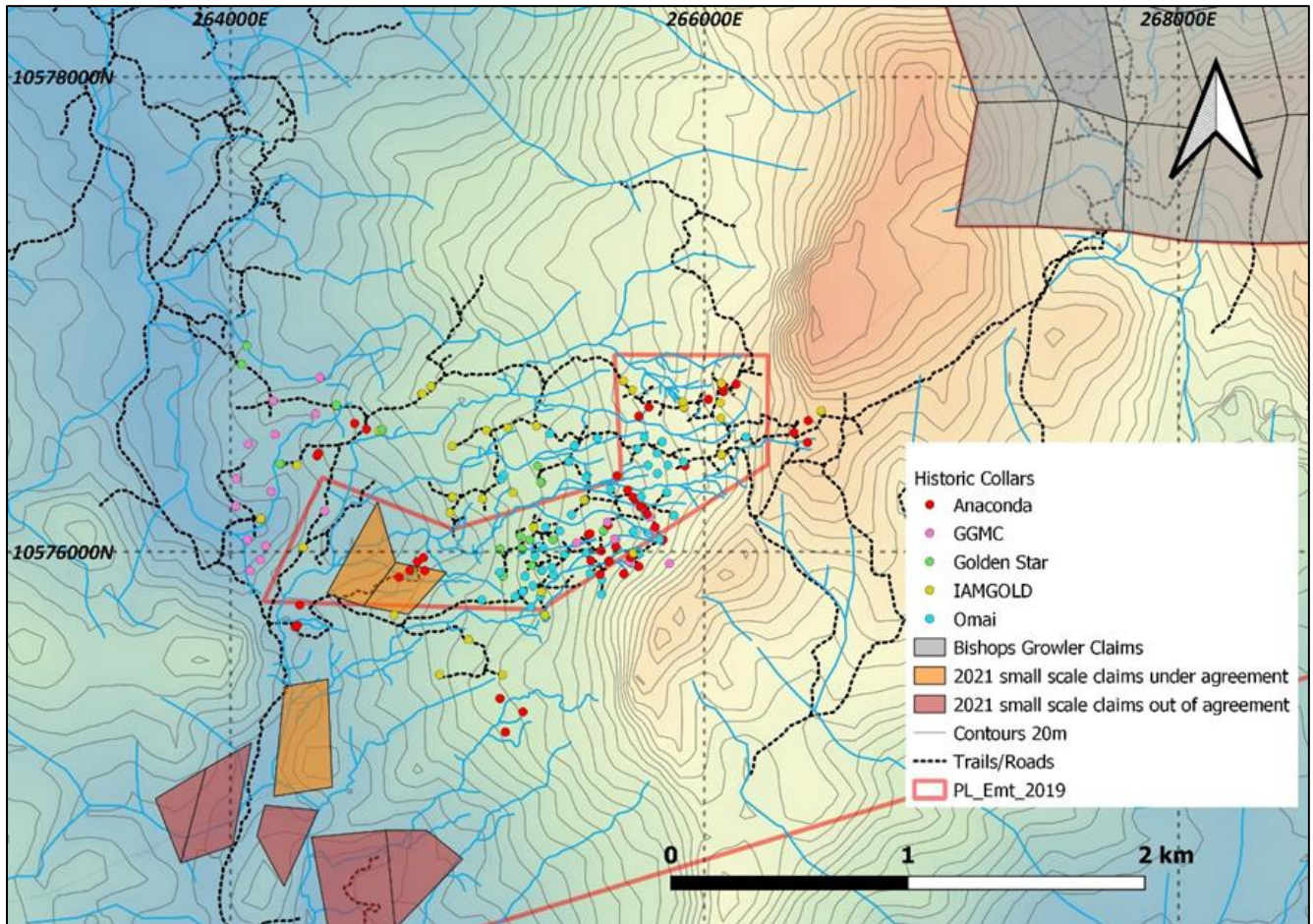


Figure 6-2: Eagle Mountain – historical diamond drillholes location plan

## 6.4 Historical Drill Core Handling, Logging and Sampling Methods

### 6.4.1 Drill Core Logging and Sampling

The sampling methodology described in this section relates specifically to post-2005 OGML diamond drilling campaigns. However, a similar procedure was followed for earlier GSR and OGML drillholes.

Diamond drill core was photographed using a digital camera and geotechnical data (recovery and rock quality designation – RQD) was recorded prior to geological logging. Historical core was also systematically photographed where available. Recovery data was recorded for most historical holes, and RQD data was documented for EM99-41 onwards.



The holes were logged and sample intervals marked out by the supervising geologist. Samples were collected to a minimum interval of 30 cm and a maximum of 1.5 m in areas that were visually unmineralized. Thick dolerite and gabbro-norite dykes were not routinely sampled, except at contact zones. Most samples were cut with a diamond saw, with one half placed in a sample bag and the other half retained in the core box for reference. A hydraulic core splitter was used to halve samples from drillholes directly targeting molybdenum mineralization and from all holes drilled prior to 2007. This applies to only 81 drillholes in the database.

Blanks and Rocklabs' commercial Certified Reference Materials (CRM) were randomly placed within the sample stream at a frequency of one blank and one standard per 50 samples. Blanks were inserted within zones that were considered to be mineralized or immediately after a sample containing visible gold. Blank material consisting of bauxite was inserted within saprolitic sample intervals; blank Omai dolerite was used for fresh rock sample intervals.

## 6.5 Previous Mineral Resource Estimates

A qualified person has not done sufficient work to classify the following historical estimates as current Mineral Resources. The Company is not treating this information as current Mineral Resources, has not verified this information and is not relying on it. The Company currently does not plan to conduct any work to verify the historical estimates other than using them to guide its exploratory and possible development work.

### 6.5.1 Mineral Resource Estimate (2009–2010)

In October 2009, IAMGOLD Technical Services and Exploration Guyana Group (ITS) reported an internal MRE (Clouston, 2009). This was reviewed and audited by ACA Howe at the request of Stronghold. ACA Howe's 2010 audit was reported in a Technical Report prepared in accordance with NI 43-101 (Roy and Trinder, 2010).

The Mineral Resources were reported as Inferred classification using a cut-off grade of 0.5 g/t Au, estimated at 17.96 Mt with an average grade of 1.27 g/t Au for 733,500 ounces of gold.

### 6.5.2 Mineral Resource Estimate (2012–2014)

EMGC retained ACA Howe to prepare an updated MRE for the Eagle Mountain gold deposit in 2012 (Trinder, 2012). The MRE was prepared in accordance with CIM Definition Standards on Mineral Resources and Reserves (adopted 27 November 2010) and reported in accordance with NI 43-101. The Mineral Resource was reported at a cut-off grade of 0.5 g/t Au in Inferred and Indicated classification. Indicated Mineral Resources were estimated as 3.9 Mt at 1.49 g/t Au for 188,000 ounces of gold. Inferred Mineral Resources were estimated as 20.6 Mt at 1.19 g/t Au for 792,000 ounces of gold.

The 2012 MRE was re-issued in 2014 on behalf of Goldsource in a technical report disclosing a Preliminary Economic Assessment of the Eagle Mountain Saprolite Gold Project (Roy, et al., 2014). Neither EMGC nor Goldsource had completed additional drilling since the 2012 MRE, therefore ACA Howe re-issued and reported the Mineral Resource without change, with an effective date of 15 June 2014 and in accordance with NI 43-101.

The 2012–2014 MRE (Trinder, 2012; Roy et al., 2014) is superseded by the 2021 MRE presented in Section 14 of this report.

# 7 Geological Setting and Mineralization

## 7.1 Regional Geology

The Eagle Mountain Gold Project occurs in the northern part of the Guiana Shield, and area of Archean to Paleoproterozoic greenstone belts and associated granitoid rocks (Figure 7-1). Two major Archean nuclei have been recognised in the Guiana Shield: the Venezuelan Imataca block in the west and the Amapá block in the eastern part, separated by greenstone belts, tonalite-trondhjemite-granodiorite (TTG), felsic volcanics and high-grade metamorphic rocks. The northernmost part of the Guiana Shield is occupied by a prominent Paleoproterozoic greenstone–TTG belt, generally attributed to the Trans-Amazonian Orogeny and thought to be 2.26–2.07 Ga in age (Kroonenberg et al., 2016).

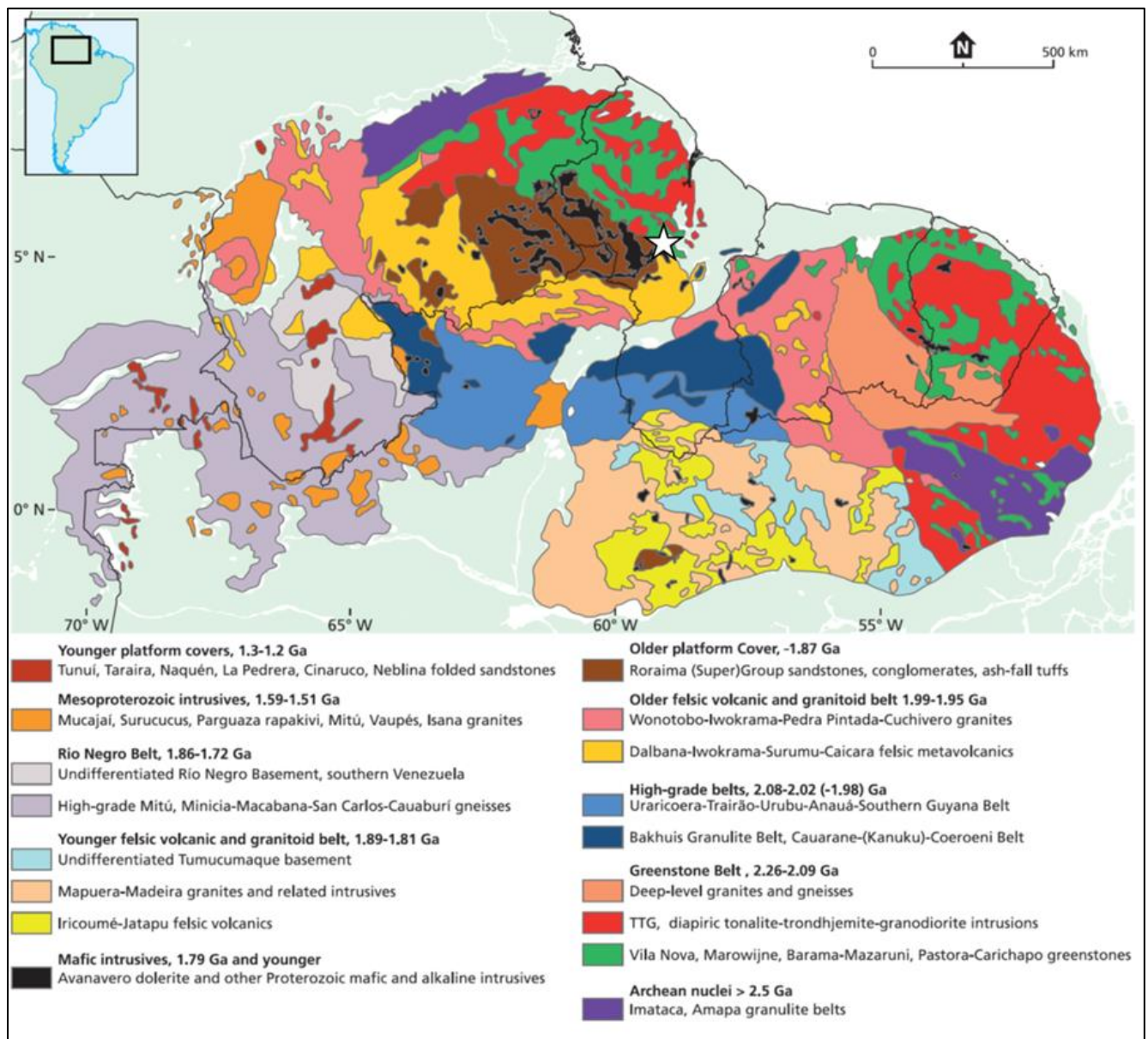


Figure 7-1: Simplified geological map of the Guiana Shield (from Kroonenberg et al., 2016)

Note: The location of the Eagle Mountain Gold Project is shown by the white star.

The Trans-Amazonian Orogeny is considered to record the convergence and eventual collision between the Archean nuclei of the Amazonian Craton and the West African Craton between 2.2 Ga and 1.9 Ga. The greenstone-TTG belts of the Trans-Amazonian orogeny share close similarities with the more widely explored Birimian of the West African Shield, where numerous >2 Moz gold deposits are known in Senegal, Mali, Guinea, Ivory Coast, Ghana, and Burkina Faso.

Northern Guyana is underlain largely by these Paleoproterozoic Trans-Amazonian greenstone-TTG belts and the Eagle Mountain Gold Project lies near the southwestern margin of this greenstone-TTG terrain. Within the greenstone-TTG terrain, a series of major northwest-southeast striking, sinistral shear zones within a 75–100 km wide belt developed during Trans-Amazonian orogenesis (Voicu et al., 2001). These structures are spatially associated with many known gold deposits in Guyana (e.g. Voicu et al., 1999; Bassoo and Murphy, 2018). The Eagle Mountain Gold Project lies between two of these structures, the Makapa-Kuribrong Shear Zone (MKSZ) and Issano-Appaparu Shear Zone (IASZ). The northwest-southeast lineament bounding the northern part of the Pakaraima Mountains to the west of Eagle Mountain is interpreted to be an extension of the MKSZ, and it is possible that the Eagle Mountain deposit is associated with another of these regional structures (Figure 7-2).

To the southwest, these older greenstone-TTG rocks are unconformably overlain by younger Paleoproterozoic sediments of the Roraima Supergroup within the Pakaraima Sedimentary Block (PSB). The PSB is a continuous area of sedimentary rocks covering some 73,000 km<sup>2</sup> of the Guiana Shield in parts of Venezuela, Brazil, and Guyana (Reis et al., 2017) representing foreland basin deposition following the main stage of the Trans-Amazonian orogeny. In western Guyana these sedimentary rocks comprise folded sandstones and siltstones of the Moruwa Formation and acid volcanics of the overlying Iwokrama Formation, overlain by a thick succession of flat-lying cross-bedded sandstones, arkoses, quartzite, and conglomerates of the Roraima Formation.

Based on the distribution and preserved thickness of the Roraima Formation, regional-scale uplift is interpreted to have occurred between a north-northeast trending lineament that partly controls the shape of the Mahdia Valley and a parallel structure that bounds the western margin of the Cannister Outlier located over 90 km to the southeast. These north-northeast trending structures postdate mineralization.

Both the Trans-Amazonian greenstone-TTG terrain and the PSB are intruded by unmetamorphosed basic intrusions of the Avanavero Large Igneous Province that represents the most important Paleoproterozoic mafic magmatic event in the Guiana Shield and comprises voluminous dykes and sills, intruded into regional sedimentary cover successions as well as the Proterozoic basement (Reis et al., 2012). The northeast trending Tumatumari Dyke, which extends from Eagle Mountain to beyond the Omai area, is considered to be the feeder structure to Eagle Mountain Sill as well as three regional-scale sills in the Pakaraima Mountains to the southwest. These intrusions are interpreted to have continental tholeiitic affinities (Gibbs and Barron, 1993) and vary from gabbroic to noritic in composition.

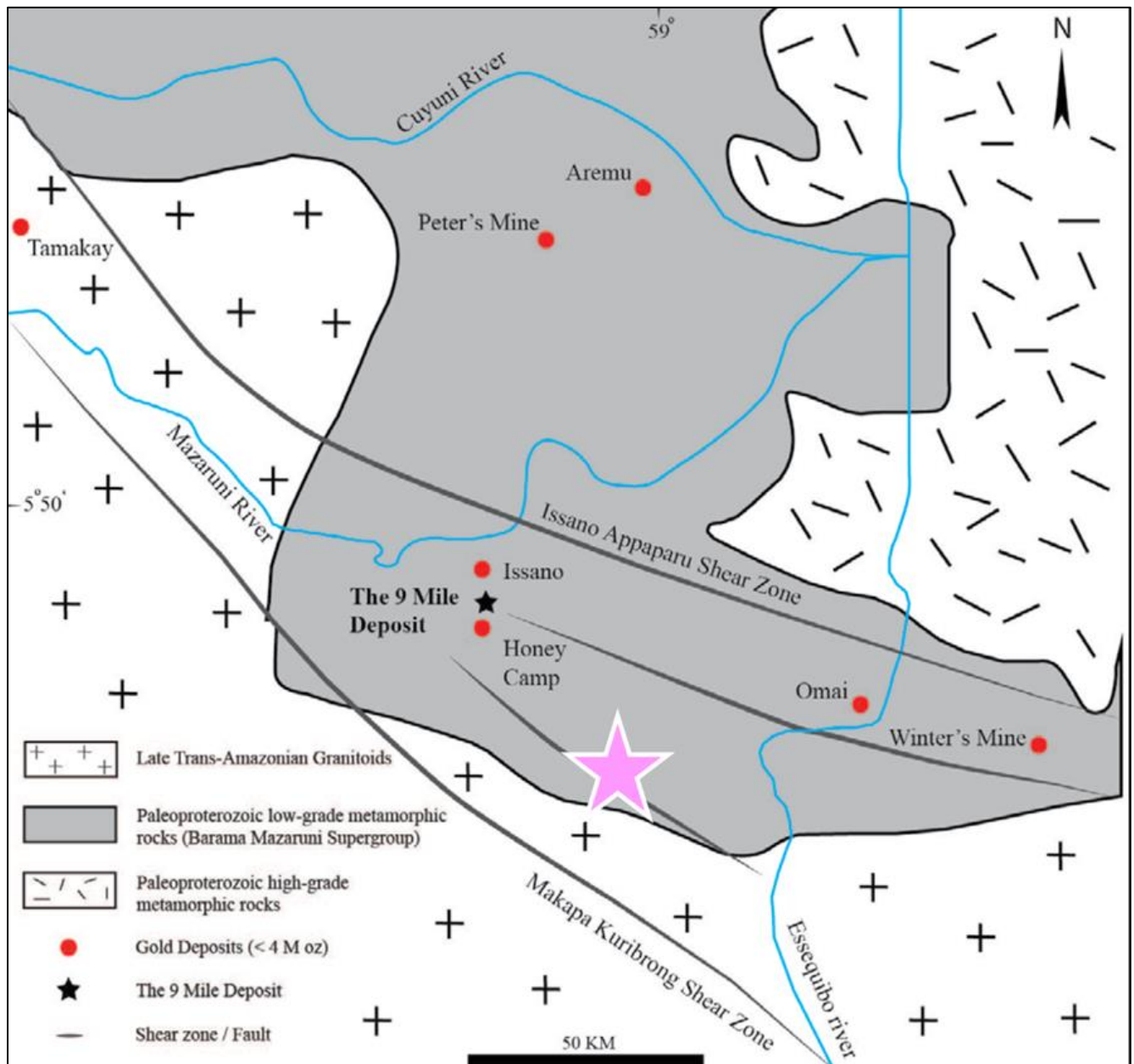


Figure 7-2: Regional geological map showing the spatial relationship between gold deposits, the MKSZ and the IASZ (from Bassoo and Murphy, 2018)

Note: Location of the Eagle Mountain Gold Project is shown by pink star.

## 7.2 Property Geology

The Property is underlain by an older package of metavolcanic rocks that have been affected by several intrusions of various ages and compositions. These metavolcanics are typically dark coloured and fine-grained, contain minor disseminated pyrite and display a general cleavage trending 030°. The metavolcanics are generally mafic to intermediate in composition (tholeiitic basalts and andesites have been distinguished), although more felsic compositions are also recorded (dacite and rhyolite). Metasediments, including sericitic fine-grained arkose and manganeseiferous siltstones, are locally interbedded with the mafic meta-volcanics. In addition, polymict volcanoclastic units are also locally interbedded in the package. These older metavolcanic and minor metasedimentary rocks have been intruded by older mafic intrusions. Both the older intrusions and the host



units have also undergone greenschist facies metamorphism, with porphyroblasts of actinolite/hornblende observed.

This package of metavolcanics and metasediments, as well as mafic intrusions, has been intruded by a composite granitoid pluton that hosts the gold mineralization at the Eagle Mountain deposit. This pluton has been mapped throughout the western flank of Eagle Mountain (Figure 7-3) and occurs in scattered outcrops and old workings to across the southern boundary of the EMPL. Several discrete compositions have been noted, including granodiorite, alkali granite and quartz diorite, but these have not been mapped as separate phases. In general, approximately equal amounts of medium-grained (2–6 mm) plagioclase, orthoclase and quartz are present, with minor amounts of biotite and amphibole. Minor primary magnetite, accessory pyrrhotite and ilmenite have been recognized in some samples. The texture of unaltered granitoid is typically hypidiomorphic, with quartz and perthite interstitial to plagioclase and mafic minerals. Plagioclase, biotite and amphibole appear to have crystallized earlier than the orthoclase, with quartz last. Some microgranite also occurs locally, possibly as late-stage dykes or at chilled margins.

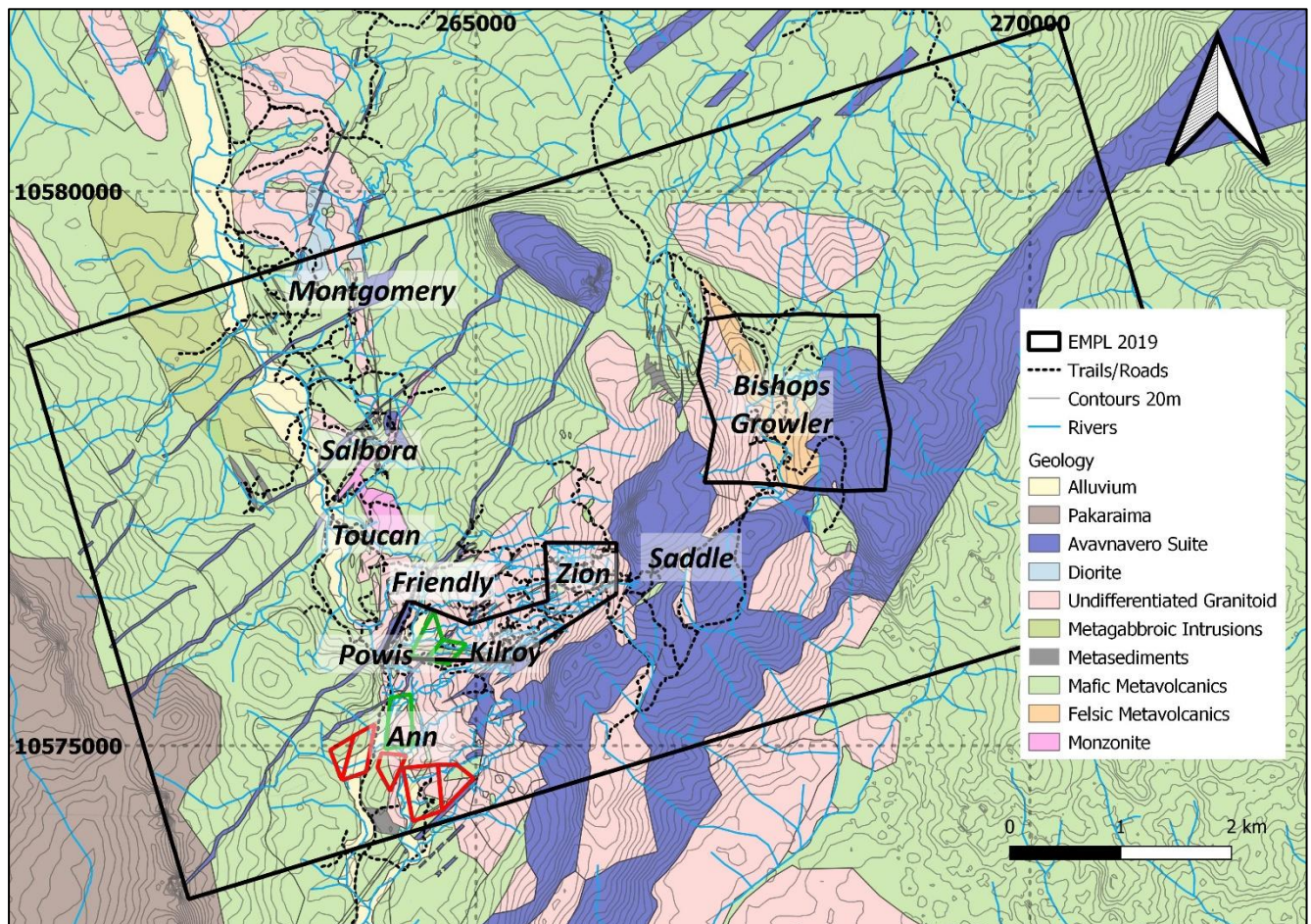


Figure 7-3: Simplified geological map of the Eagle Mountain area

Note: Names refer to target areas, although each of these names does not necessarily represent a single deposit (e.g. Kilroy and Zion are part of the Eagle Mountain deposit.)

In the Salbora deposit area, a northeast-trending monzonite pluton is emplaced into older metavolcanic rocks of tholeiitic composition and small altered granitoid bodies, with mineralization occurring in structures formed within mafic units adjacent to the monzonite.

The Roraima Formation occurs as a thick flat lying sequence of sandstones, arkoses and quartzite along the extreme western side of the property where large boulders and flat-lying outcrops are exposed. The Roraima Formation does not occur within the mineralized area and is not recognized east of the Mahdia valley.

A large diabase to gabbro-norite sill (likely part of the Avanavero Suite) intrudes the granodiorite pluton and metavolcanic-sedimentary sequence. The sill is 25–40 m thick in the Saddle area but appears to thicken to the north and south. It partly forms the ridge and cliffs at the top of Eagle Mountain. Northwards, the sill merges with the Tumatumari Dyke, which extends northeast to the Omai area where it intersects the Omai Sill. The basic sill is interpreted to be generally flat lying, although locally it dips shallowly to the southwest. Additional examples of younger basic intrusions include at least two major (up to 60 m thick), 030–040° striking and steeply dipping dykes that extend up to 0.8 km in strike, plus a number of several smaller sills and dykes up to 15 m in thickness.

Rare basic porphyry intrusions with feldspar crystals several centimetres in size and locally containing abundant rounded small xenoliths may be lamprophyres (Casselman, pers. comm., 2012). These dykes are oriented 120°, are probably less than 10 m thick, and post-date the granodiorite pluton that hosts the bulk of the gold mineralization.

Tertiary-age shallow marine/fluviatile sands are preserved as a thin cap below 60 m amsl outside of the EMPL. A number of Tertiary paleo-channels occur within the area and contain alluvial gold, including the Proto-Mahdia Channel and the Homestretch-Salbora area located east of the access road at the northern EMPL boundary. Modern alluvium and dredge tailings fill the Mahdia and Minnehaha valleys downhill of the resource area, obscuring bedrock geology. A small bowl-like basin within the mineralized area is also filled with recent alluvium.

## 7.3 Eagle Mountain Property Structural Geology

### 7.3.1 Folding

Small scale folding is observed in limited outcrop in the Friendly and Powis areas as well as isolated drill core within finely laminated sediments. The folding observed is related to adjacent shear deformation.

### 7.3.2 Faulting

Several episodes and orientation of faulting can be recognised within the Project:

- Within the Eagle Mountain area, a low-angle (10–30°), southwest dipping system of thrust faults can be identified. These range in character from single discrete, narrow mylonite zones only a few cm wide (Figure 7-4A) to broader zones of pervasive deformation and fracturing (Figure 7-4B). In places several fracture orientations occur and Riedel shear fractures can be recognised (Figure 7-4C). These faults may occur as single deformation zones with a distinctive mylonite at the base and fracturing of the granitoid above or may occur as a series of sub-parallel zones of deformation, where several thrusts occur. Shear sense-indicators suggest a roughly top-to-the-east sense of vergence. These fault zones are affected by silicification as well as chloritic alteration and disseminations of pyrite. Gold mineralization at Eagle Mountain is associated with these low-angle thrusts.
- A series of upright, north-south to northwest-southeast trending faults and breccia structures are identified at the Salbora deposit. Rock-matrix breccia zones (Figure 7-5) that can be correlated between drillholes have been interpreted as structures and may form part of a larger system that extends south to the Toucan area. The sense of movement along these structures is not yet clear and they may be hydrothermal in origin. These structures are also affected by chloritic alteration, silicification and contain associated pyrite disseminations. Gold mineralization is associated with these structures and they are considered to be related to the low-angle thrusts at the Eagle Mountain deposit, although the relationship between the two orientations is not yet understood.



- Two younger, northwest to north-northwest trending, upright faults (referred to as the Elephant Fault and the Kilroy Fault) crosscut and offset the older shallow dipping structures at the Eagle Mountain deposit. These appear to be normal faults, but may have a strike-slip component or be scissor faults.

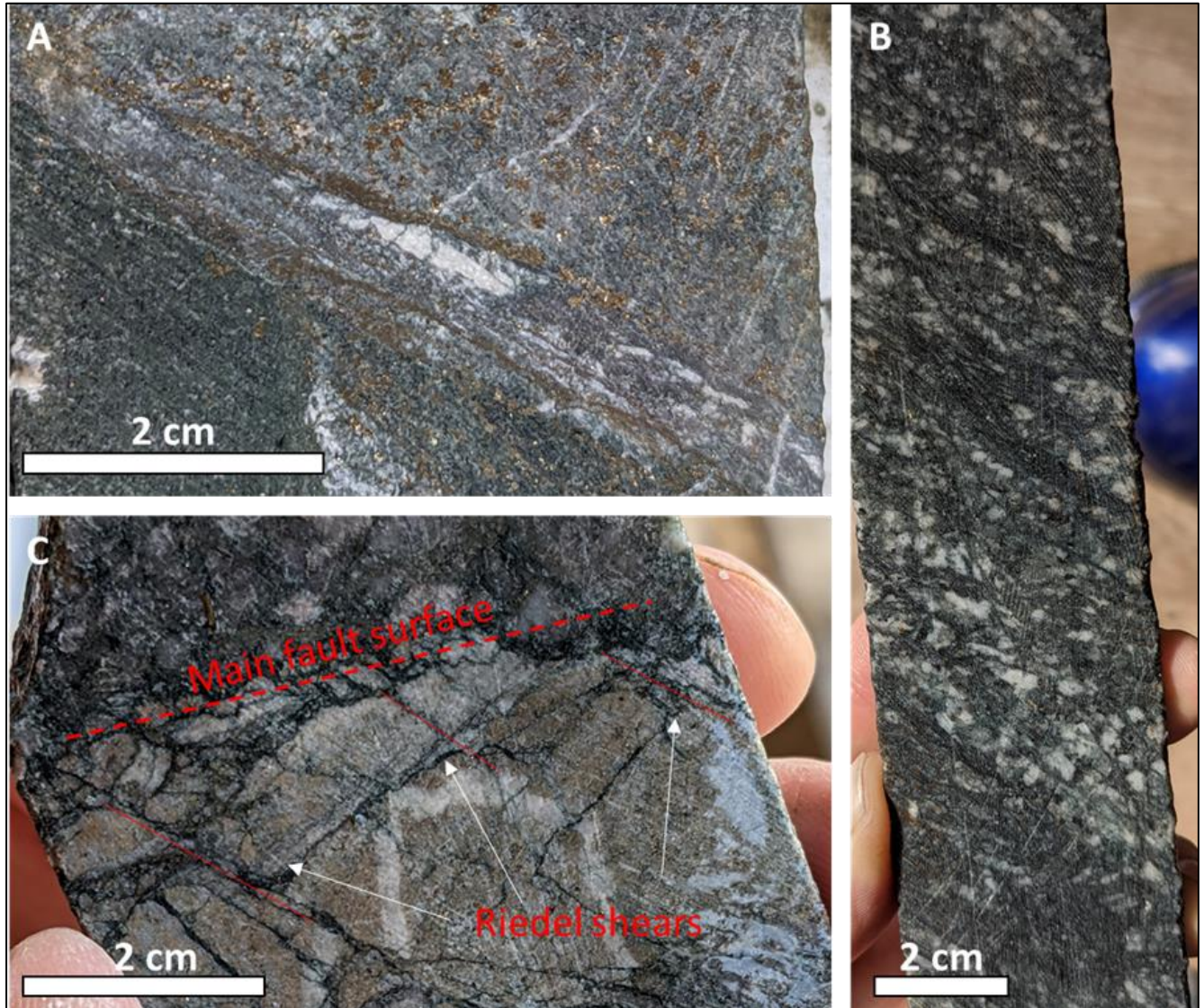


Figure 7-4: Examples of deformation associated with shallow shear zones at Eagle Mountain  
A – Single discrete shear with associated pyrite. B – Broader zone of deformation. C – Discrete fractures displaying Riedel shears.



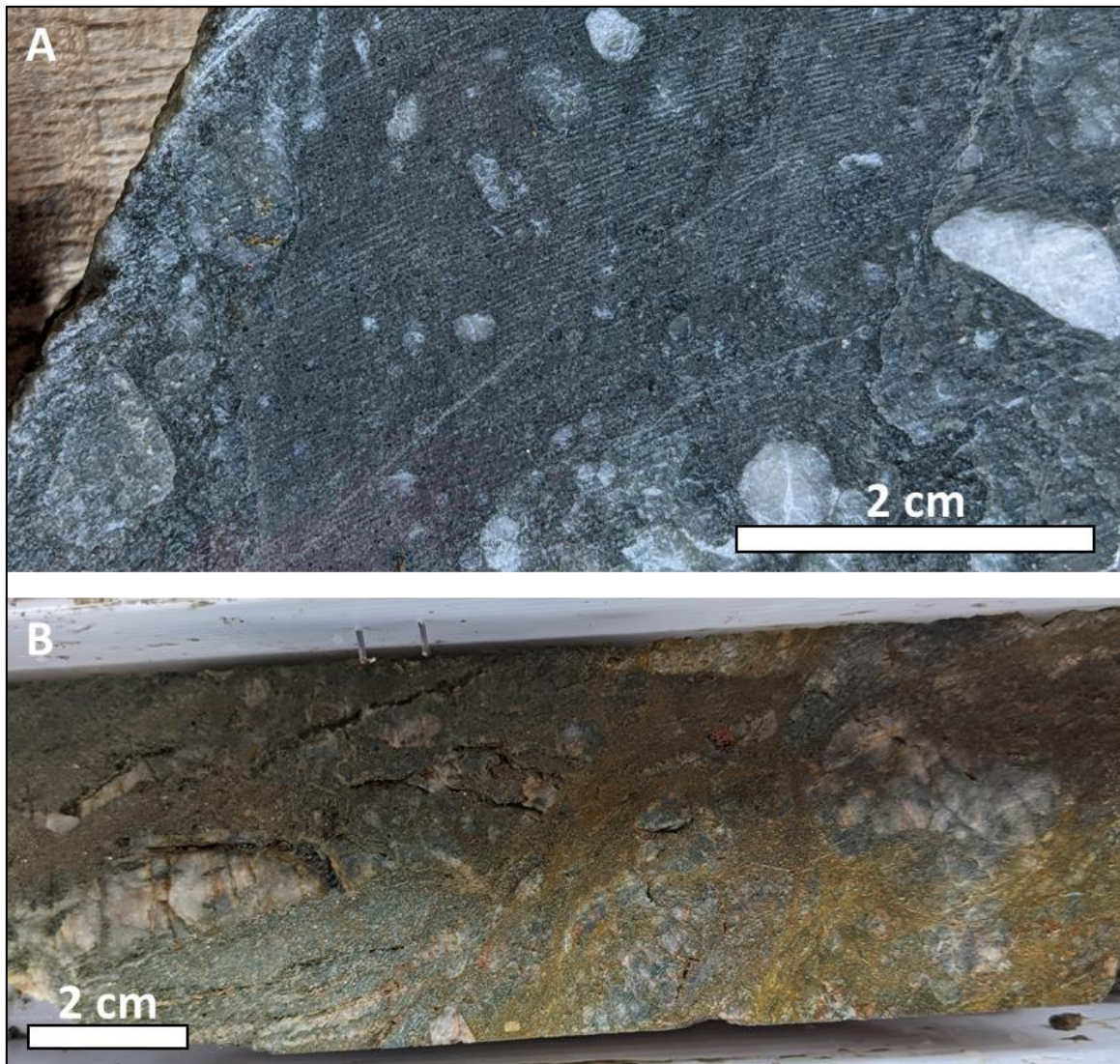


Figure 7-5: *Example of breccia zones at Salbora*  
A – Rounded quartz and metavolcanic clasts within a fine-grained chloritic matrix. B – Partially weathered deformation zone with associated chlorite and pyrite.

## 7.4 Mineralization

Mineralization at both the Eagle Mountain and Salbora deposits is structurally controlled and related to shallow-dipping shear zones and upright faults and breccia zones, respectively.

At the Eagle Mountain deposit, disseminated, fracture-controlled gold mineralization occurs in granite, and is related to multiple low-angle southwest dipping zones which vary from 1 m to 40 m in thickness separated by 10–100 m of unmineralized granite. These mineralized zones are related to thrust zones and associated with chloritic alteration, silicification, disseminated pyrite and lesser arsenopyrite. Although mineralization is not strictly localised in thrusts but is broadly disseminated around these structures, very often the highest grades are found within or close to the main thrust zone, where there is intense silicification and chloritic alteration, and a high density of small fractures containing chlorite and pyrite. Bleaching, potassic alteration and epidote are also locally noted and proximal to mineralization.

At Salbora, gold mineralization occurs within and adjacent to sub-vertical, north-south trending breccia zones that are generally a few cm to 1 m in thickness. Near the surface, these breccia zones appear to coalesce into a broad, sub-horizontal zone of brecciation with mineralization occurring over several metres. Breccias are developed in a tholeiitic mafic volcanic and small units of altered granitoid adjacent to a monzonite intrusion, and mineralization is associated with silicification, chloritic alteration and pyrite. Multi-element geochemistry indicates that gold is associated with minor silver and arsenic.

Gold at both Eagle Mountain and Salbora occurs as native gold, as very fine disseminations associated with and contained in pyrite that are not visible to the naked eye, and this pyrite is typically associated with chlorite alteration or chlorite veins (Figure 7-6A). An exception is rare visible gold within what appears to be an early generation of quartz veins that have been subsequently deformed (Figure 7-6B), and this may represent an earlier stage of gold mineralization than the main mineralization event. An earlier episode of molybdenum mineralization associated with quartz veining is also locally noted within the Eagle Mountain Gold Project.

Although the orientation of the controlling structures is different, both the Eagle Mountain and Salbora deposits show an association of gold with silica-chlorite-pyrite alteration, and at both deposits these syn-mineralization alteration assemblages are overprinted by brittle carbonate veins. These veins crosscut mineralization (Figure 7-6B) and represent late-stage fluids. The similarity of the alteration assemblages suggests that both deposits formed as part of a single mineralizing system.

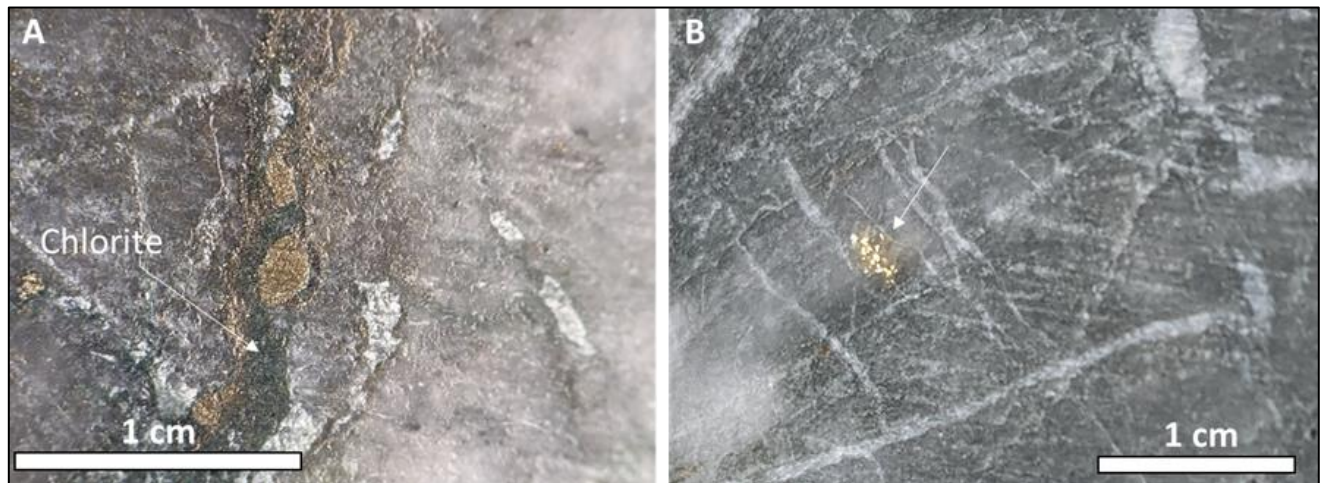


Figure 7-6: Examples of mineralization at the Eagle Mountain Gold Project

A – Typical mineralization with pyrite associated with chlorite infill within a structure. B – Rare visible gold (indicated by arrow) within vein quartz. Note the younger brittle carbonate veins overprinting the veining.

Three discrete zones have been modelled at the Eagle Mountain deposit (Zone 1, Zone 2, Zone 3). Zone 1 is the shallowest, often cropping out at surface and ranging in depth to 80 m in areas of high elevation (e.g. the Saddle target), although generally below 20 m depth and has been well-defined through drilling. Zone 2 is also fairly well defined and occurs below Zone 1 at depths of 20–220 m, the deeper areas being at higher surface elevation. Zone 3 is only locally defined as it occurs at depths of 70–280 m below surface, and most drilling does not extend to these depths.

These three mineralized zones have been defined on the basis of alteration, grade and identification of structures, and the variable thickness of each of the mineralized zones appears to be related to whether a single shear occurs or whether the deformation zone splits into several sub-parallel shears, thereby broadening the zone of alteration and mineralization (Figure 7-7).



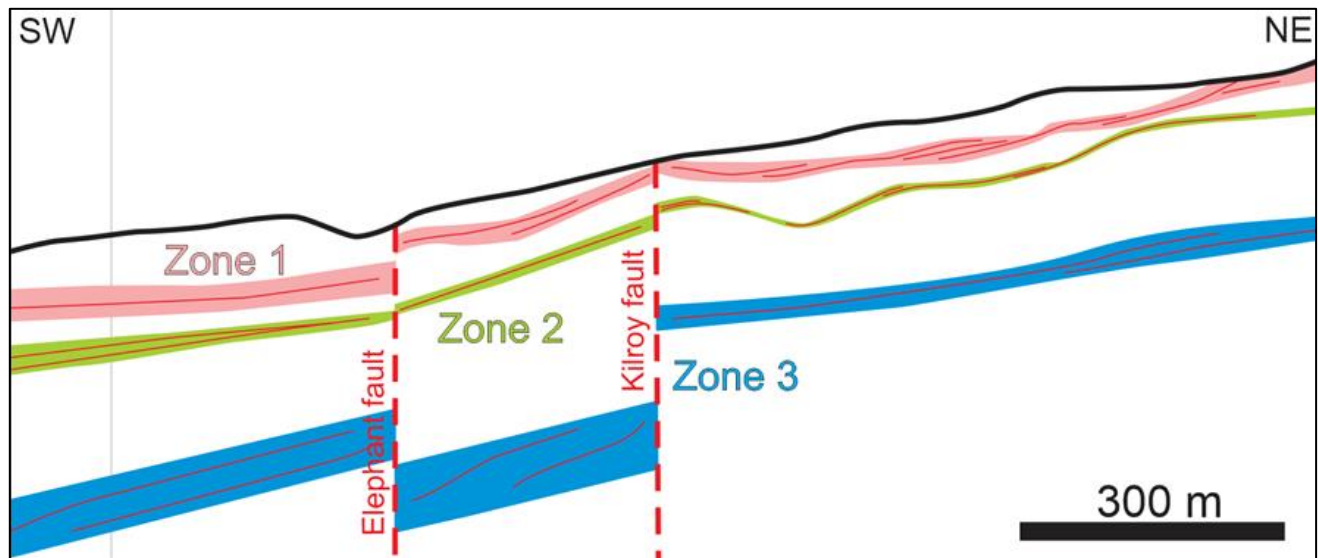


Figure 7-7: Schematic section through the Eagle Mountain deposit looking northwest, illustrating the various mineralized zones, younger crosscutting Elephant Fault and Kilroy Fault  
 Note: Within each mineralized zone, several thrust structures may be present (indicated by red lines).

Two example sections through the Eagle Mountain deposit are shown in Figure 7-8.

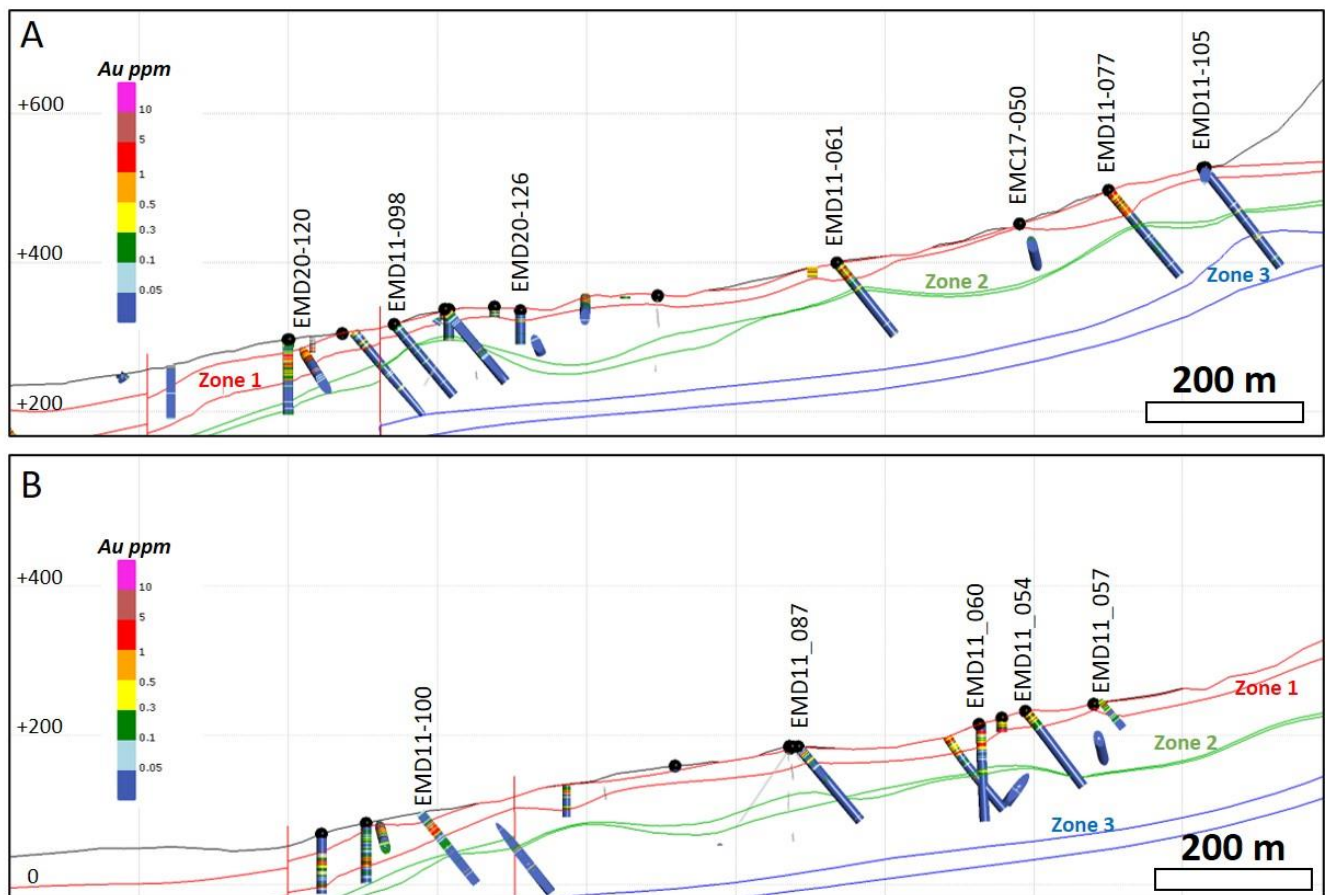


Figure 7-8: Example cross sections through the Eagle Mountain deposit, showing gold grades and modelled zones.

Several other target areas have been identified within the project area, outside of the areas of the Eagle Mountain deposit or the Salbora deposit. These are referred to as the Friendly, Toucan, Powis, Ann and Montgomery targets (Figure 7-3).

The Friendly target is situated to the north-west of the Eagle Mountain Deposit, where granodiorite appears interfingered with mafic and quartz porphyry units. The mineralization occurs along shallow-dipping shear zones within both granodiorite and mafic units. Mineralization within granodiorite is associated with chlorite and pyrite as at the Eagle Mountain deposit, while mineralization within mafic units is associated with silicification and disseminated fine pyrite. Small breccia zones with chlorite+silica+pyrite (similar to the Salbora deposit) are also noted.

The Toucan target shows mineralisation within chlorite+silica+pyrite filled breccias within and associated with silicified granitoid host rock. The breccia structures form the contact between mainly granitoid lithologies to east and mafic lithologies to west. Brecciation is preferential in granitoid, as is silicification.

Mineralization at the Powis target occurs in small discrete “cloudy” veins, often showing visible gold, and preferentially developed in a quartz porphyry granitoid, and is thought to be an early stage of mineralization.

The Ann target lies south of the Toucan and Powis targets, and mineralisation is primarily associated with chlorite+silica+pyrite breccia zones within granitoid rocks to mafic units.

The Montgomery target lies north of Salbora, and mineralization occurs associated with chlorite+silica+pyrite filled breccia zones in granitoid rocks near the contact between mafic and granitoid units. Breccias are also developed in mafic units but appear to be less mineralized.

The Ann-Toucan-Powis-Salbora-Montgomery targets forms in a N-S alignment, interpreted to represent a large-scale, N-S trending zone for deformation and mineralization. The kinematics and orientation of this deformation zone are not yet clearly understood, but several targets identified along this structure suggest a large-scale mineralizing system. The Friendly target appears to represent an intermediate style between the Salbora deposit type and the Eagle Mountain deposit type.

## 7.5 Weathering and Oxidation – Saprolite Mineralization

Saprolite is the chemical weathering product of the underlying bedrock that has decomposed in place and generally retains the rock’s original structure and is especially characteristic of tropical lateritic weathering profiles. Both the Eagle Mountain and Salbora deposits have been affected by weathering to a depth of 10–50 m from surface, creating typical saprolite material, both mineralized and unmineralized. The saprolite consists of soft clay to sandy particles, depending on the rock type being weathered and the amount of quartz present.

The vertical and lateral variability within the laterite profile at Eagle Mountain has not been clearly defined. No ferruginous zone has been described and the upper part of the laterite profile may have been removed by erosion.

Gold mineralization within the saprolite at the Eagle Mountain deposit occurs mainly within mineralized Zone 1, which crops out at surface and has been strongly weathered to saprolite at shallow depths. Mineralized saprolite is derived from mineralized sheared granodiorite, and consists of clay-rich material with very fine-grained disseminated gold. There is no evidence for gold remobilisation or enrichment in the supergene environment.

At Salbora, the shallow mineralized zone has also been affected by weathering, resulting in a zone of mineralized saprolite near the surface. Figure 7-9 displays typical mineralized saprolite found in core drillholes.



Figure 7-9: Typical mineralized saprolite core from the Salbora area in DDH EME20-57.



## 8 Deposit Types

The main style of gold mineralization on the Eagle Mountain Property is related to a series of tabular, shallow southwest-dipping, brittle-ductile composite shear zones within a granodiorite intrusion (Eagle Mountain deposit), or within upright breccia structures within mafic volcanics (Salbora deposit). Gold mineralization is associated with silicification and with chloritic  $\pm$  pyritic alteration. Alteration and sulphide mineralization within the mylonitic structures is interpreted to be syn-deformational, and the similarity of alteration types at Eagle Mountain and Salbora suggest that they are part of a single mineralized system.

Both the Eagle Mountain and Salbora deposits are considered to be an orogenic-type gold system, also known as lode-gold deposits or (in the case of Archean and Paleoproterozoic deposits), greenstone gold deposits. Orogenic gold deposits typically form in metamorphic rocks in the mid to shallow crust (5–15 km depth), at or above the brittle-ductile transition, in compressional settings that facilitate transfer of hot gold-bearing fluids from deeper levels (Tomkins, 2013). These deposits likely form in accretionary and collisional orogens (Groves et al., 1998), and hence the term “orogenic” is used.

Orogenic gold deposits have formed for more than 3 billion years of Earth’s history, episodically during the Middle Archean to younger Precambrian, and continuously throughout the Phanerozoic (Goldfarb et al., 2001). They contribute significantly to global gold production, and recognized production and resources from economic Phanerozoic orogenic-gold deposits are estimated at just over one billion ounces of gold (including placer accumulations associated with this deposit type), with known Precambrian gold concentrations are about half this amount (excluding Witwatersrand ores – Goldfarb et al., 2001). There are a large number of orogenic gold deposits globally that could be considered comparable to Eagle Mountain, including, several located in Guyana that are currently in production or under development (e.g. the Karouni gold deposit – Tedeschi et al., 2018; the 9-Mile deposit – Bassoo and Murphy, 2018; and Omai deposit – Voicu et al., 1999).

### 8.1 Mineralization Styles

In orogenic gold systems such as Eagle Mountain, mineralization forms with generally consistent geological characteristics, which include deformed and variably metamorphosed host rocks; low sulphide volume; carbonate-sulphide  $\pm$  sericite  $\pm$  chlorite alteration assemblages in greenschist-facies host rocks; and a spatial association with large-scale compressional to transpressional structures. The orogenic gold deposits normally consist of abundant quartz  $\pm$  carbonate veins and show evidence for formation from fluids at supralithostatic pressures. The mineralized lodes formed over a uniquely broad range of upper to mid-crustal pressures and temperatures, between about 200–650° C and 1–5 kbar. Within the host volcano-sedimentary sequences at the province scale, world-class orogenic gold deposits are most commonly located in second-order structures adjacent to crustal-scale faults and shear zones.

### 8.2 Conceptual Models

In Phanerozoic orogenic gold systems, mineralization forms in subduction-related tectonic settings in accretionary to collisional orogenic belts, from metamorphic fluids derived either from metamorphism of intrabasinal rock sequences or de-volatilization of a subducted sediment wedge (Figure 8-1), during a change from a compressional to transpressional stress regime (Groves et al., 2018). Although Archean and Paleoproterozoic crustal tectonics and subduction may have differed in scale and duration, similar metamorphic and intrusive processes drove orogenic gold mineralization in greenstone belts.

Orogenic gold deposits are structurally controlled and typically located adjacent to second-order structures related to district-scale jogs in crustal-scale faults. These jogs are commonly the site of arrays of cross-faults that accommodate the bending of the more rigid components (e.g. volcanic rocks and intrusive sills) of the host belts.

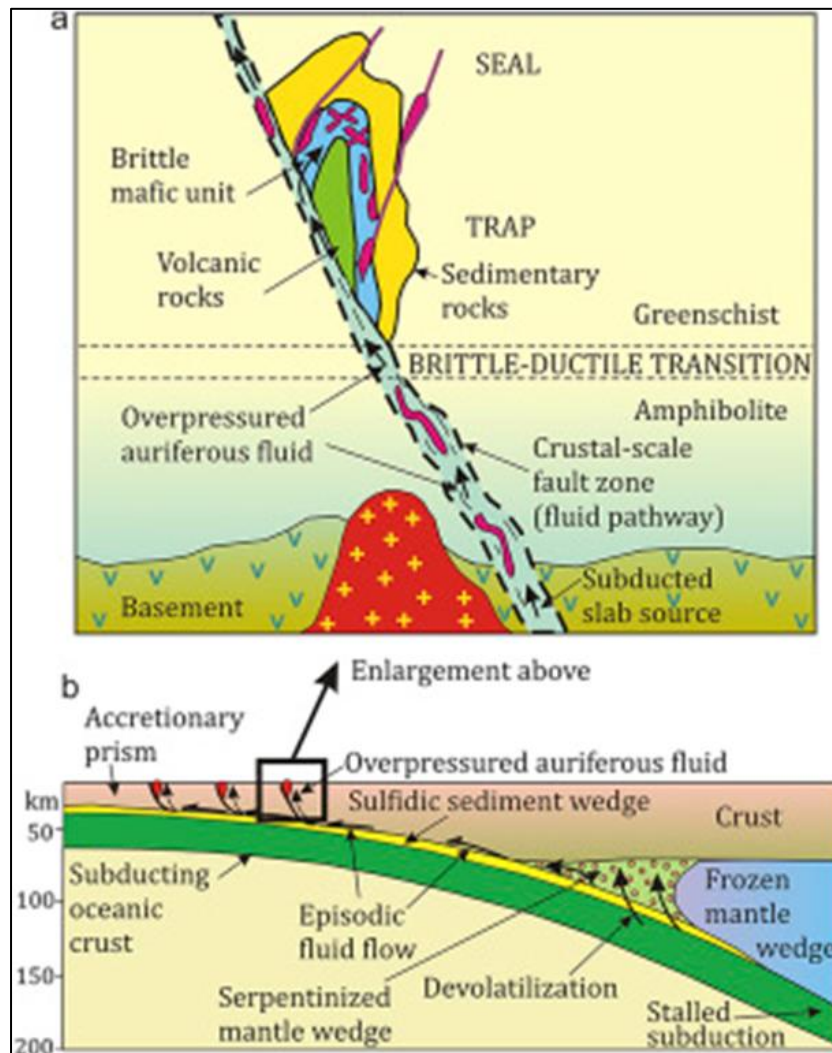


Figure 8-1: Schematic representation of orogenic gold deposit formation model, involving a subcrustal fluid and metal source from slab devolatilization

Note: Over-pressured slab-derived fluids intersect deep-crustal faults and advect upwards to form orogenic gold deposits in second-order structures or hydraulically fractured rock bodies (from Groves and Santosh, 2016).

## 9 Exploration

The following sections detail exploration carried out at the Eagle Mountain Property between 2011 and 2020 by Goldsource. Work conducted between 2011 to 2013 was completed by EMGC which was acquired in 2014 and is now a now a subsidiary of Goldsource. Historical exploration carried out prior to 2011 is documented under Section 6 of this report. Goldsource diamond drilling and metallurgical testwork programs are described in Sections 10 and 13 respectively of this report.

### 9.1 Infrastructure Improvements (2011)

EMGC's infrastructure improvements on the Eagle Mountain Property included the upgrade of camp buildings and expansion of the camp with additional housing and core storage sheds. A notable accomplishment was the building of a diamond drill rig access road over the top of the historic Saddle area between Eagle Mountain proper and Chalmers Cliff.

### 9.2 Environmental Data Collection (2010 to 2014)

Daily temperature maximums and minimums and rainfall accumulations were recorded from October 2010 to June 2014, and Goldsource has over 3.5 years of data. Weather data has not been recorded daily since 2014.

EMGC retained Environmental Management Consultants (EMC) of East Coast Demerara, Guyana to conduct an environmental baseline study in 2013. The study comprised a biodiversity assessment conducted from 29 May to 9 June 2013 (wet season) and from 3 to 14 September 2013 (dry season), and a surface water quality assessment conducted on 30 May 2013 (wet season) and 4 September 2013 (dry season).

### 9.3 Bulk Density Data (2011)

EMGC completed internal (non-independent) bulk density tests on a variety of fresh and saprolitic, mineralized and non-mineralized rock types from 2011 diamond drill core. Measurements from "fresh" mineralized zones and saprolitic mineralized zones confirmed historical average bulk densities of approximately 2.60 t/m<sup>3</sup> and 1.60 g/cm<sup>3</sup>, respectively (see Section 11 for details).

### 9.4 Topographic Surveys (2012)

#### 9.4.1 LiDAR Survey (2012)

EMGC contracted Atlis Geomatics Inc. to conduct a light detection and ranging (LiDAR) topographic survey for the Eagle Mountain Property area in an effort to establish better topographic control. The survey was partly flown (60%) on 9 May 2012 and was halted due to equipment failure.

A new drone-based Lidar survey is planned for June/July 2021. This is a high priority as the current topographic data is inadequate and represents a risk to deposit modelling as well as to any project development planning.

#### 9.4.2 Line Cutting and Ground Surveying (2012)

In 2012, EMGC collected additional theodolite survey points, traverses and 73 EMGC drillhole collar coordinates to supplement historical data (Figure 9-1). These points were collected utilizing a CST/Berger 205 theodolite survey instrument by Mr David Griffith of South Rumsveld, Guyana.

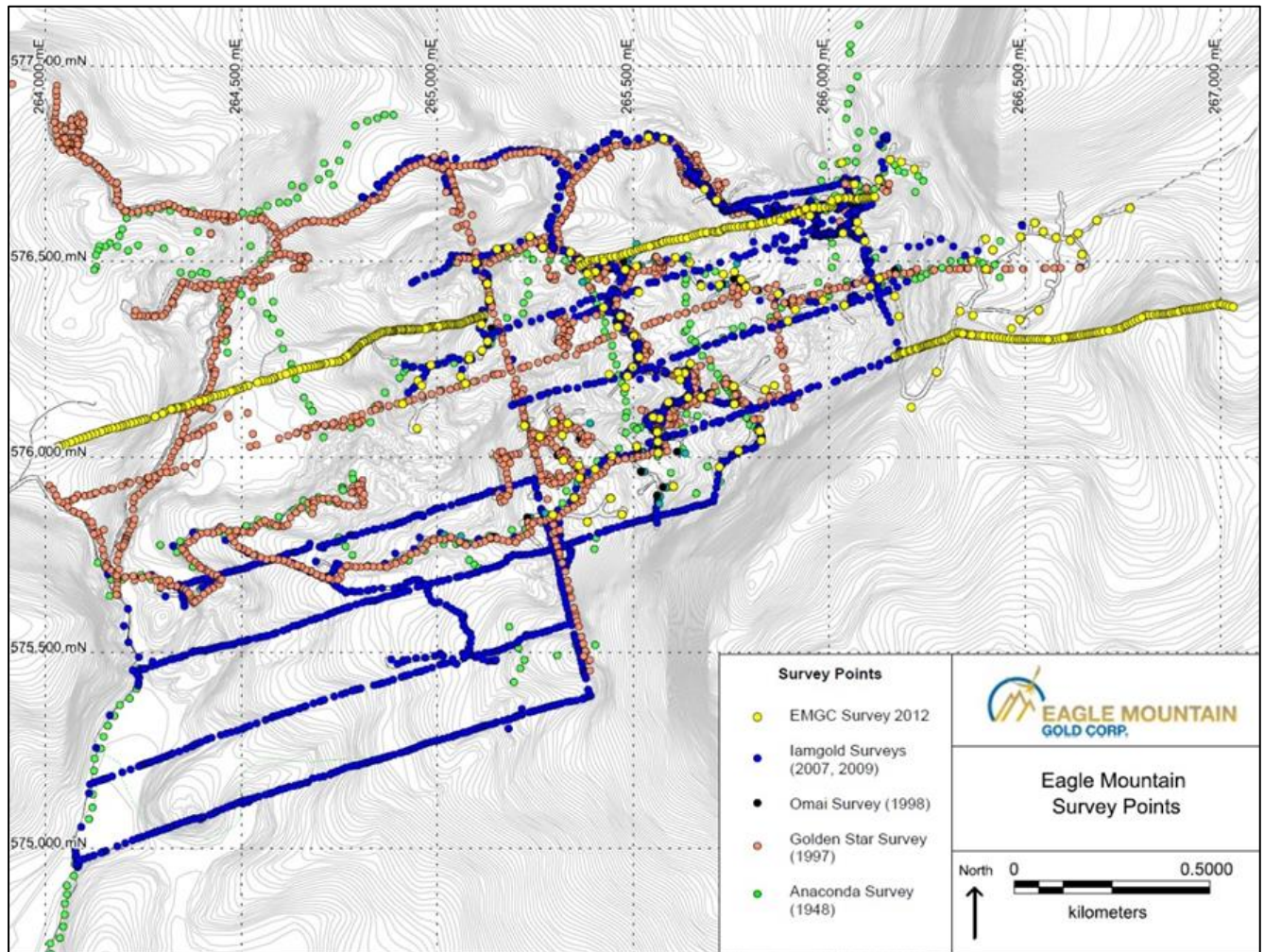


Figure 9-1: Topographic map and survey point locations – 2012 EMGC and historical 1948–2009 locations (EMGC, 2012)

## 9.5 Mapping and Geochemical Sampling (2011 and 2018)

### 9.5.1 Trench and Outcrop Channel Sampling (2011)

In 2011, EMGC completed a total of 102.4 m of surface channel sampling from mechanically excavated drill pad walls in 27 localities (Figure 9-2). At each site, a start point was designated, and from that point sample intervals were marked out using a tape measure, either at regular 1 m intervals or according to identified geological intervals. Samples equivalent to NQ-sized core were collected. Detailed plans and sections were created to illustrate logged geology, structure, and assay results.



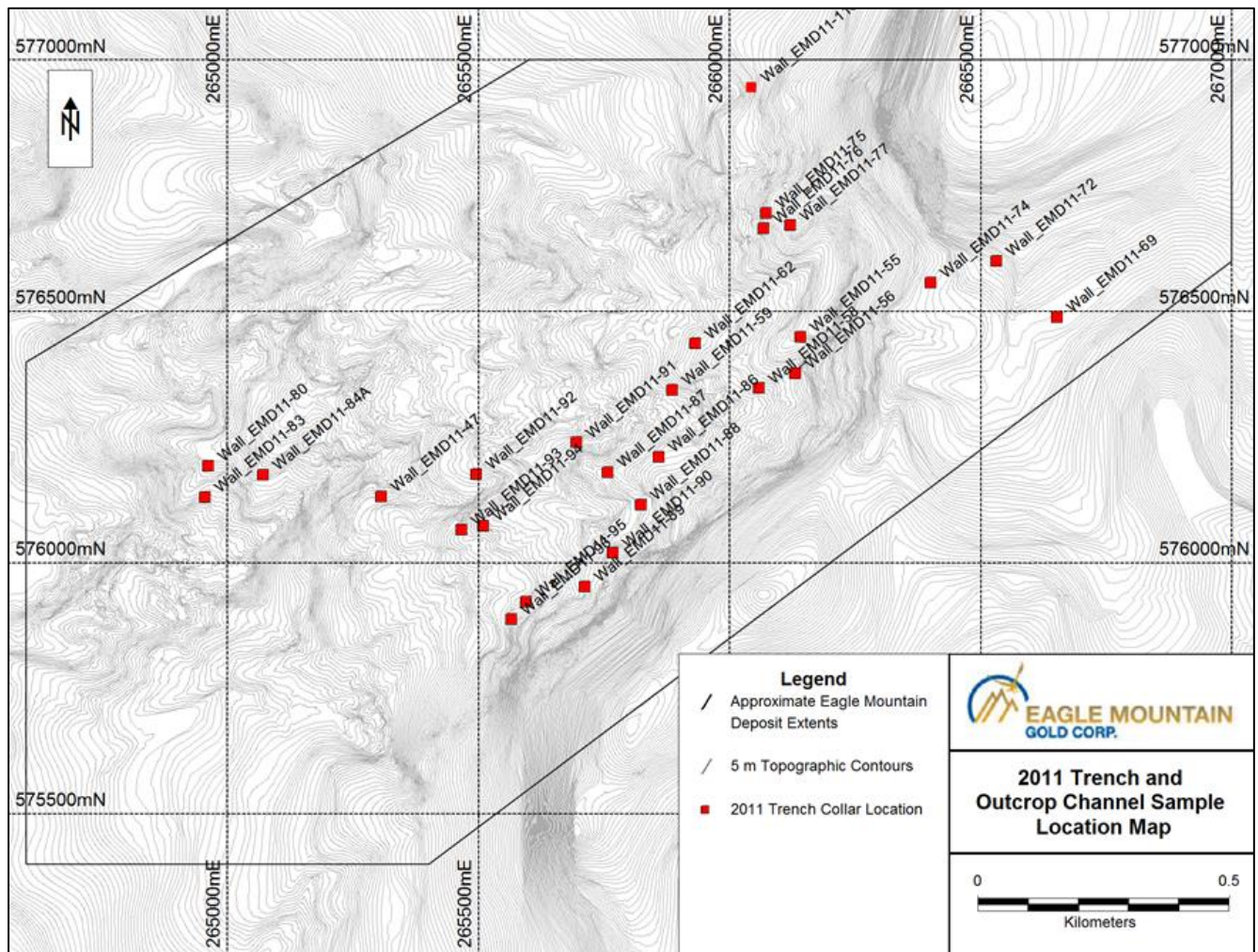


Figure 9-2: Trench and outcrop channel sample location map (2011)

### 9.5.2 Hand Auger Saprolite Sampling Programs (2015 and 2017–2018)

Goldsource completed 275 vertical hand auger holes for 1,062 m during the 2015 construction of the gravity plant.

Between 2016 and 2018, a total of 709 hand drilled auger holes totalling 2,481 m were completed and sampled. The auger program targeted expansion areas such as Friendly and Toucan as well as Salbora and Montgomery.

With the exception of 482 auger holes drilled between March and June 2018 for which quality assurance/quality control (QAQC) data is available, auger holes have not been used in Mineral Resource estimation.

All 2015-2018 auger sampling was completed along cut lines at 25 m or 50 m pre-marked stations. When arriving at the auger station, the hole marker was located and a drill site within 5 m of the station was selected where there were no surface boulders or vegetation.

The ground surface was cleared of leaf and organic matter and holes were bored vertically using a “Dutch” type hand auger. The auger was equipped with 1 m long extensions, each extension rod is used to measure a full 1 m sample while augering. Whilst turning the auger, every 25 cm or quarter of a rod length, the auger head was pulled out, emptied onto a plastic sheet, and cleaned prior to continuing with drilling. At the end of each 1 m sample interval, another 1 m extension rod was added to the auger assembly and augering continued. Sampling was completed at 1 m intervals until each hole was complete (i.e. has reached the designated depth or where



the ground is too hard). Individual hand auger holes were generally completed to a maximum depth of 6 m. If a hole was planned for more than 2 m depth and failed to reach a depth of greater than 2 m, a second hole within a 5 m radius of the first site was attempted, and material from failed hole was discarded if the second hole succeeded in reaching a depth of more than 2 m.

Material from the auger head was emptied onto a plastic sheet every 25 cm. Once four intervals have been emptied, representing 1 m of sample, the plastic sheet was used to mix the sample thoroughly, then the sample was “coned and quartered”, removing a quarter of the piled sample into a sample bag. At least 250 g of material was collected, so if one quarter was not sufficient, a second quarter of the mixed material was added. Once the sample had been collected, an aluminum tag with the sample number was added to the sample bag, along with a tag from the sample book and a piece of flagging tape with the sample number written on. Each sample stub required the hole ID and depth of sample (“To” and “From”). The sample number was written on the bag using black permanent marker and the bag was tied using a piece of flagging tape with the sample number written on. The plastic sheet used to collect the sample was then cleaned to remove any contamination prior to collecting the next sample.

A global positioning system (GPS) position of the actual auger site was recorded with a handheld GPS left on ground within 20 cm of hole and left to stabilize to achieve the lowest GPS error possible. The GPS position was recorded on the collar list sheet (or notebook) as well as in the sample book. The site of the auger hole was marked by a sample crew member with flagging tape labelled with the GPS coordinates, hole ID and the sample series numbers of the samples taken from the hole were recorded. Samples were transported to camp by Goldsource personnel where they were packed in polypropylene sacks for transport to Georgetown for analysis at a commercial laboratory.

The 2015 auger sampling resulted in the discovery of additional mineralized saprolite near Goldsource’s Scrubber plant (“Scrubber”) and north of known resources. Saprolite near the Scrubber area was partially mined and processed through the onsite gravity pilot plant. This processed material is outside of known resources, with an estimated 600 ounces of gold sold in 2016 and an estimated 4,000 ounces of gold delivered to the tailings storage facility for future additional processing. The area north of known resources, including the Scrubber area, is approximately 500 m x 200 m and 5–15 m depth of saprolite.

The 2017 auger drilling defined a continuous northeast-southwest mineralized (greater than 0.5 g/t Au) trend west of the 2015 Scrubber area measuring approximately 600 m x 300 m and 5–15 m thick of saprolite.

### 9.5.3 *Trench and Outcrop Channel Sampling (2018)*

During 2018, Goldsource completed a total of 27 trenches for a total of 1,326 m of continuous horizontal sampling and 106 m of vertical sample channels throughout the Property including the Salbora, Toucan and Montgomery areas. At each site, a start point was designated, and from that point sample intervals were marked out using a tape measure, either at regular 1 m intervals or according to identified geological intervals. Sample channels equivalent to NQ-sized core were collected. Detailed plans and sections were created to illustrate logged geology, structure, and assay results. At Salbora Hill, trench TRSB19-002 followed up on the historical hand auger results and reported continuous horizontal channel sampling returning 123 m at 1.92 g/t Au. This trench was later followed up by Salbora discovery diamond drillhole EMD18-053 which intersected a 69 m downhole core length (40 m true thickness) grading 6.52 g/t Au. Drill pad wall exposures in the Friendly and Kilroy areas were also sampled along continuous horizontal channels and recorded as trenches.



Figure 9-3: *Salbora trench TRSB18-002 – horizontal sampling channel in left-hand wall*  
Source: Goldsource (2018)

## 9.6 Geophysical Surveys

### 9.6.1 Historical Airborne Geophysical Re-interpretation

In 2019 Goldsource retained Geophysics One Inc of Ontario, Canada, to re-process and re-interpret a historical airborne Terraquest airborne (fixed-wing) magnetic and radiometric survey, flown by IAMGOLD in 2007. The survey covers the western half of the EMPL, inclusive of the Salbora target, and was flown at 100 m line spacing. Unfortunately, this historical airborne survey was flown at 350 degrees line direction (almost north-south) and



at that time (2007) the important north-south structural corridor that includes Salbora wasn't known. The survey although limited in defining features parallel to the flight lines, provided significant information on the Salbora structural setting and predominantly the other two crosscutting directions (see Figure 9-4 below).

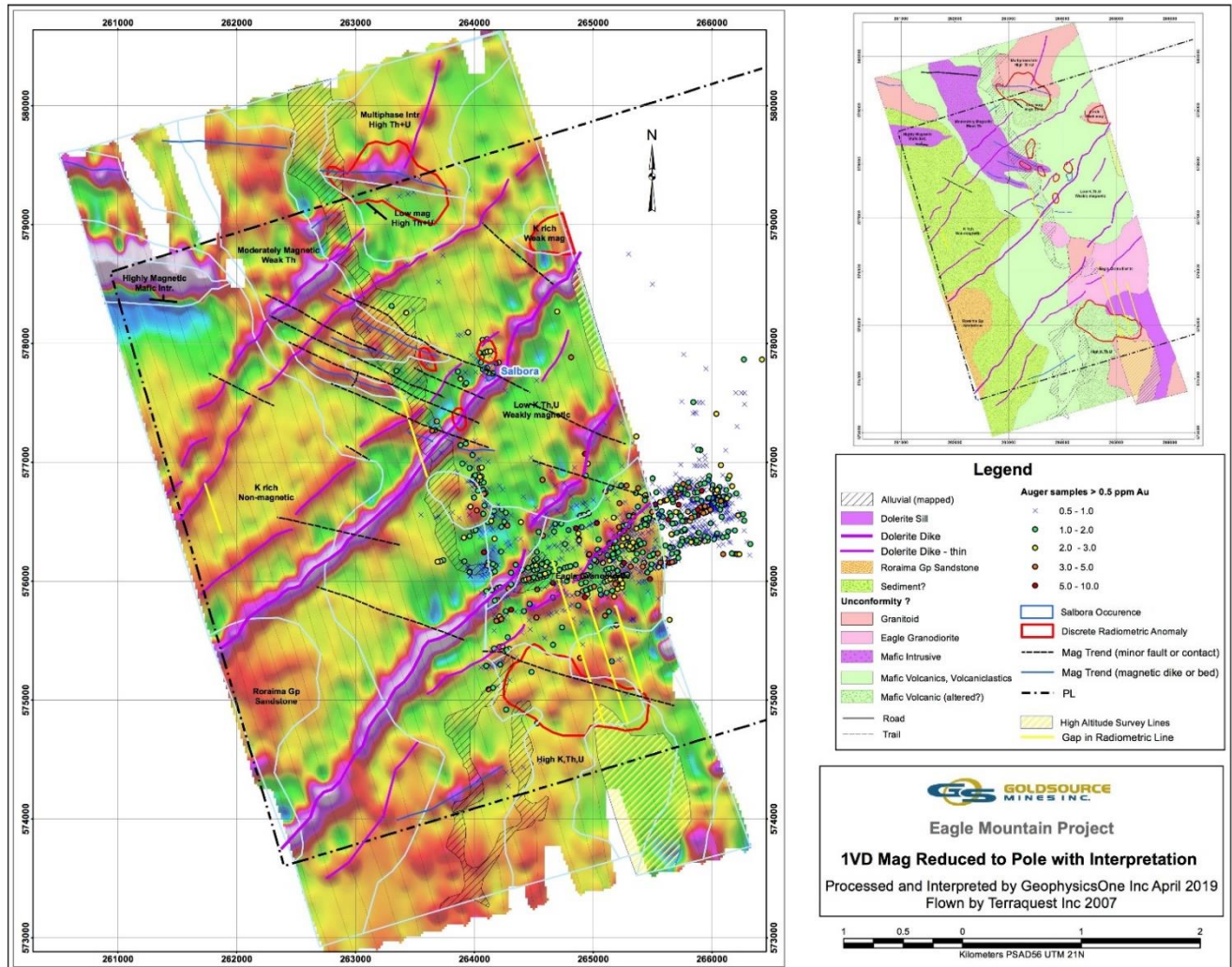


Figure 9-4: Example of reprocessed geophysical data from the 2007 airborne survey. 1VD reduced to pole magnetic image with interpretation.

### 9.6.2 Ground Geophysical Survey (2019 to 2020)

In 2019, Goldsource retained Matrix Geotechnologies Inc. (Matrix) of Ontario, Canada to complete ground geophysical surveys at the Property. The geophysical surveys covered an area of approximately 5 km<sup>2</sup> surrounding the Salbora deposit and consisted of:

- Gradient array IP – a grid of parallel lines spaced at 100 m apart with a total length of 39.5 km
- Pole-dipole IP – eight cross sections with a total length of 10.5 km
- Ground magnetics over the same grid at 25 m spacing.

The 2019 ground geophysical survey defined at least five moderate-to-strong IP targets, with complementary resistivity highs and a cumulative strike length of approximately 4 km. During Q1, 2020, Goldsource successfully completed an additional 62 line-km of gradient array IP, 62 line-km of high-resolution ground magnetic survey, and 10 line-km of pole-dipole IP over selected targets. The total 2019–2020 ground geophysical coverage was

expanded to an area of approximately 7.5 km<sup>2</sup> (Figure 9-5). Additional geophysical anomalies were delineated and merit further exploration. Goldsource interprets the IP targets to represent subvertical sulphide-rich bodies and mineralized shear zones. The Salbora deposit is located within a 600 m long x 100 m wide IP/resistivity geophysical anomaly (Figure 9-5).

Follow-up drilling at the IP/resistivity geophysical targets has expanded the Salbora deposit to the north and has also resulted in the discovery of the Toucan, Powis, Friendly and Montgomery targets. Another target, Apollo is located approximately 700 m northwest of Salbora, which shows a strong IP anomaly parallel to a foliation with intrusions of a rhyolitic feldspar porphyry. Pole-dipole cross sections over the Apollo area suggest multiple sub-vertical and parallel sulphide horizons.

The re-processed historical airborne and ground magnetic surveys, along with the IP results, suggest northwest to north structural trends with structural intersections interpreted for drill targeting. The geophysics confirms geological observations at Salbora including a lithological foliation at 140–150°, with significant shear structures at approximately north-south strike.

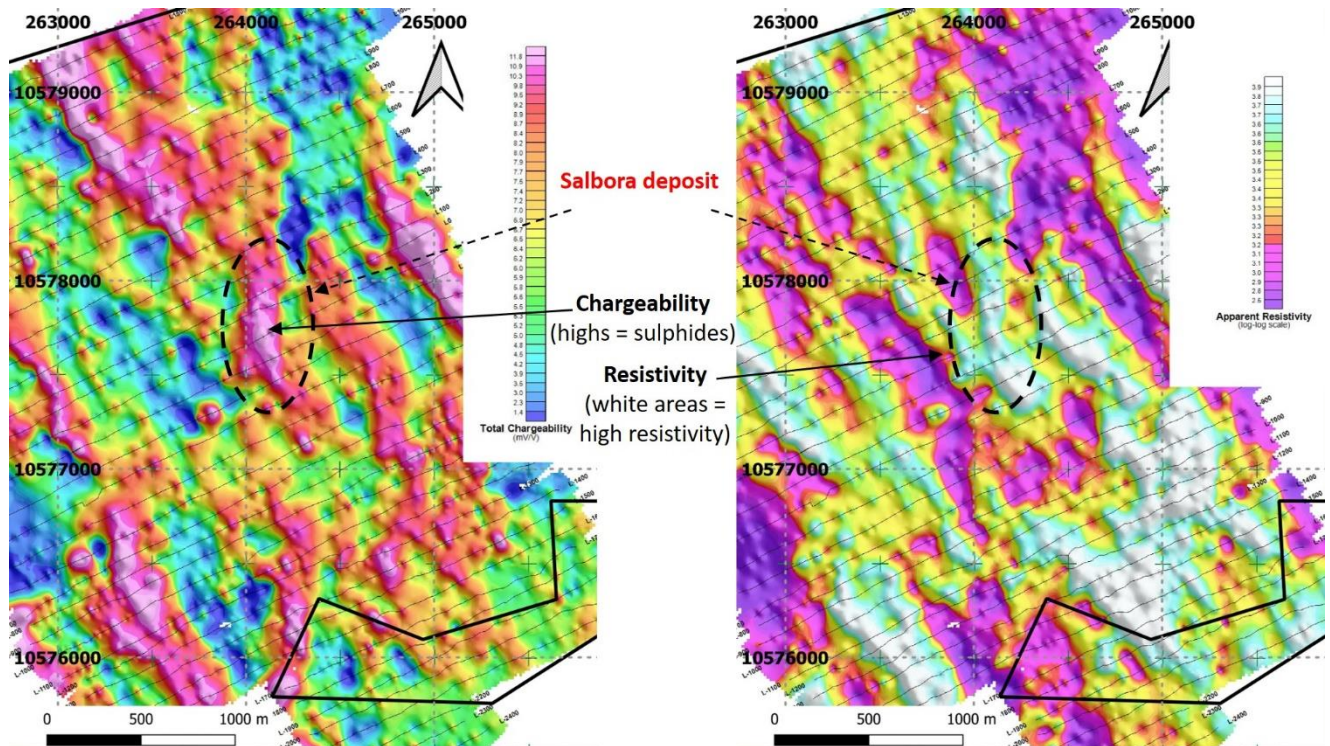


Figure 9-5: Comparison of chargeability and resistivity data from the 2019-2020 surveys, highlighting the Salbora deposit.

# 10 Drilling

## 10.1 Summary of Drilling

Drilling carried out between 1947 and 2009 by Anaconda, Guyana Geological Survey, GSR, and OMGL is described under Section 6. Goldsource drilling considered current in this report includes 2011 diamond core drilling, direct-push saprolite core drilling carried out in 2017 and 2018, and diamond core drilling carried out between 2018 and 2020.

### 10.1.1 Diamond Drilling (2011)

EMGC (now a Goldsource subsidiary) diamond drilling in 2011 was focused primarily on the Eagle Mountain gold deposit area. Between April and December 2011, 73 diamond drillholes totaling 10,715.93 m of HQ/NQ core (63.5/47.6 mm diameter) were drilled with the objectives of expanding the Inferred Mineral Resource by infill and step-out drilling, confirming historical records of gold mineralized horizons by drilling in close proximity to older historical holes (i.e. twinning) and upgrading part of the Inferred Mineral Resource to Indicated Mineral Resource with closely spaced infill drilling. Drilling was carried out by Orbit Garant Drilling Inc. (Orbit) using a Longyear 38 skid-mounted rig.

Three failed holes totalling 97 m required a restart (EMD11-84, EMD11-102, and EMD11-112). The area's incised topography limited accessibility and constrained the locations of drillhole collars.

### 10.1.2 Geoprobe Drilling (2017–2018)

In 2017 and 2018, Goldsource carried out a program of drilling focused on shallow saprolitic material (maximum hole depth was 28 m). For this program, a Geoprobe® 540 direct push drill rig with bi-directional hammer rotation was used together with a Geoprobe® DT22 open tube soil sampling system which collects continuous 1 m core samples of unconsolidated materials (such as saprolite) 31.7 millimetres (1.25 inches) in diameter within a sealed liner casing that is threaded onto the leading end the drill rod. Core enclosed within these plastic liners was collected within core trays. A total of 257 holes (2741.72 m) were drilled.

### 10.1.3 Diamond drilling (2018–2020)

Between 2018 and 2020, Goldsource carried out diamond drilling using several drill rigs, including a custom -built rig (owned by Goldsource, drillholes identified by the prefix "EMD"), a model FMD # SH-07 drill rig, operated by Orbit (identified by the prefix "EME") and an Omni Drill S3 drill rig, operated by Drilcor (identified by the prefix "EMM"). All rigs drill HQ (63.5 mm) and NQ (47.6 mm) diameter core.

The purpose of drilling was for infill and expansion of the Mineral Resource at the Eagle Mountain deposit, as well as identification and delineation of additional deposits within the Project area (e.g. the Salbora deposit).

## 10.2 Drilling Procedures, Core Handling, Logging and Sampling Methods

### 10.2.1 Diamond Drill Core Sampling (2011 and 2017-2020)

Core was retrieved from the drill string using conventional wireline techniques. Core recovery was generally very good.

Sample security and chain of custody started with the removal of core from the core tube and boxing of drill core at each drill rig. Core was removed from the core tube by the drill contractor's personnel, carefully placed in labeled corrugated plastic core boxes and located by inserted depth blocks. When filled with core, a matching corrugated plastic lid was placed on the box and secured with fibre tape. The boxed core remained under the



custody of the drillers until it was transported from the rig to the secure core logging, processing and sampling facility by either the drill contractor or one of the Company's designated personnel.

The core logging and processing facility was located at the Eagle Mountain camp. The facility was used for logging, sawing core, and packing samples for shipment to the assay laboratory. The facility has covered rack storage space for core prior to logging and sampling.

The core was stored securely until it was moved into the core shack for processing. Processing of the core started with the core being laid out on workbenches and cleaned prior to logging and sample interval marking. The core was next photographed with a digital camera, capturing images in JPEG format. Spatial information related to each box of core was checked for accuracy and consistency and remedial actions were undertaken, if necessary, to correct deficiencies in the spatial information prior to entry into a database. A geotechnical log of core recovery and RQD measurements was completed by a Goldsource geologist. The geologist then completed a descriptive log comprising a detailed description of rock type, structure, alteration, and mineralization.

The geologist then selected the sample intervals and input the intervals into the drillhole database. The selected portions of core were marked and measured for sampling and were identified with one part of a three-part assay tag, placed at the downhole end of the sample interval. Samples were collected to a minimum interval of 30 cm and a maximum of 1.5 m in areas that were visually unmineralized. Thick dolerite and gabbro-norite dykes and sections of unmineralized granodiorite below the mineralized zones were not routinely sampled, except at contact zones.

Saprolitic samples were split with a spatula. Most non-saprolitic (fresh – unoxidized) samples were sawn with a 110-volt 1.5 hp water-cooled masonry saw with 14-inch diamond blade and a mounted jig to ensure the core is split equally. The core saw is located in a roofed, open-walled area separate from the core logging facility. Fresh water is used as a cooling/lubricating fluid; recycled water is not used.

The core was cut in half longitudinally using a circular electrical core saw, perpendicular to the foliation (50% split), with one half placed into plastic sample bags along with part two of the three-part assay tag and sealed. The other half-core was returned to the core box for archive and future verification and testing (if required). Each sample bag had the sample number written on the outside of the bag with black permanent marker corresponding to the sample tag placed inside. Information on the third part of the assay tag was entered into the database and the drill log, at which time accuracy and consistency were again reviewed and remedied, if necessary.

Core logging, sawing, sample bagging and sample shipment preparation was completed either by or under the on-site supervision of a Goldsource geologist. After sampling was completed, the archived core boxes were re-covered with a lid, labelled, and stacked on tarpaulin covered racks at the Eagle Mountain Camp.

Following analysis, digital assay files provided by the laboratory were merged with a "from" and "to" interval file created by Goldsource, with the sample number linking the two files. This methodology limits data entry errors to sample numbering, as well as the "from" and "to" specifications.

Overall, core sampling methods were to industry standards for mineralization of this type and the Qualified Person is confident there are no sampling or recovery factors that would negatively impact the sampling procedures.

### 10.2.2 *Geoprobe Drill Core Sampling (2017–2018)*

On delivery of core to the core shed, the boxes were laid out in sequence order and metre marking was checked. The plastic core tubing was removed using the tube cutter and with metre markers showing, photographed for reference. The core was measured with recovered amount noted per metre run as "recovery %". Core recovery was generally very good.

The sample was split by using a knife or putty knife, cutting the sample in half through the hole in the plastic tube. The left half of the core was kept in the remaining plastic tubing and remains in the box as reference, the right half was removed as sample. Each sample was 1 m in length, corresponding to the drill run interval. If the final sample in the hole sample was not 1 m in length, it was added onto previous sample if <0.5 m or treated as a new sample if >0.5 m in length.

Date, and hole interval were recorded in a ticket book, and one side of ticket was placed in the bag with sample, the second part was stapled on the box at the end of the sample interval.

An aluminum tag was also placed in bag with sample number written on it. The sample bag was sealed and placed in a white polypropylene sack. A QAQC sample (either a blank, a CRM, or a duplicate) was inserted every 15 samples. Duplicates were taken by splitting the half-core sample into two, so that the original sample and the duplicate sample each contain one quarter of the total core each, with samples labelled sequentially.

Core logging, splitting, sample bagging and sample shipment preparation was completed either by or under the onsite supervision of a Goldsource geologist. After sampling was completed, the archived core boxes were re-covered with a lid, labelled, and stacked on tarpaulin covered racks at the Eagle Mountain Camp.

Following analysis, digital assay files provided by the laboratory were merged with a “from” and “to” interval file created by Goldsource, with the sample number linking the two files. This methodology limits data entry errors to sample numbering, as well as the “from” and “to” specifications.

Overall, core sampling methods are to industry standards for mineralization of this type and the Qualified Person is confident there are no sampling or recovery factors that would negatively impact the sampling procedures.

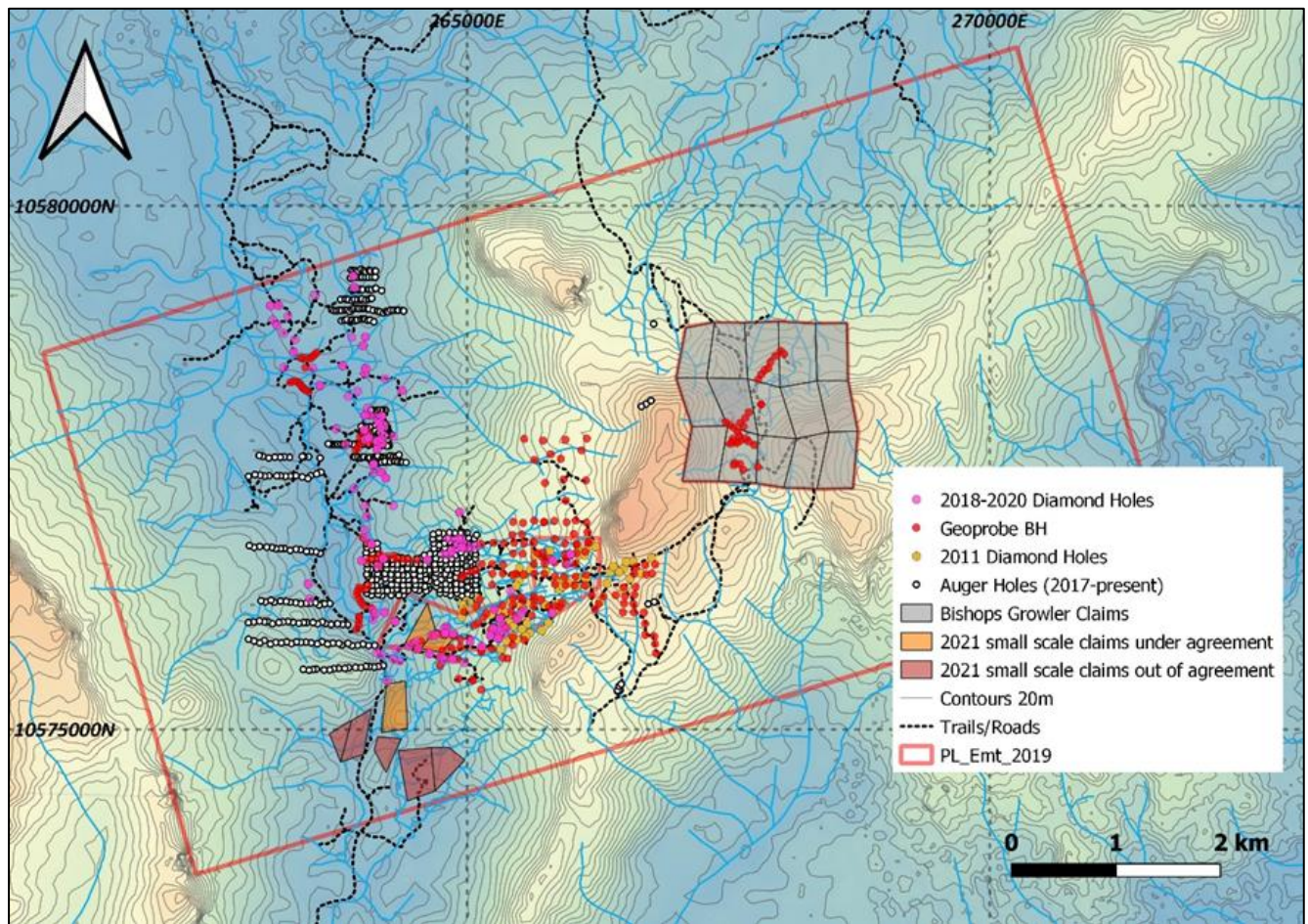


Figure 10-1: Location of diamond drillholes and Geoprobe holes, drilled by Goldsource between 2011 and 2020  
 Note: Goldsource hand auger hole locations also shown.

## 10.3 Surveying

### 10.3.1 Collar Surveying

The drill casing was removed from the drillholes. A short piece of scrap drill steel was left in each hole, capped, and cemented in place with a concrete monument after the drill rig was removed. Upon completion of drillholes, drillhole collar coordinates and elevations were surveyed in Universal Transverse Mercator (UTM) coordinates, Zone 21N (PSAD 56 datum). This was completed between 2011 and 2018 by utilizing a CST/Berger 205 theodolite survey instrument by Mr David Griffith of South Rumsveld, Guyana. The survey has a horizontal and vertical accuracy of approximately 2–3 cm. Between April 2018 and 2020, the collar surveys were completed by Zeneth Spatial Solutions of West Coast Demerara, Guyana, utilizing a Trimble R8s GNSS System, which gives a similar horizontal and vertical accuracy of approximately 2–3 cm.

### 10.3.2 Downhole Surveying

The drill contractor completed downhole directional surveys on all diamond drillholes at approximately 50 m intervals using a Flexit (Orbit) or Trushot (Drilcor) single-shot digital survey tool.

## 10.4 Significant Intervals

Significant intervals for 2011 diamond drillholes, 2017–2018 Geoprobe drilling, and 2017–2020 diamond drillholes are presented in Table 10-1 and Table 10-2 below.

Table 10-1: Significant intervals (>2 m @ >1 g/t Au) drilled using Geoprobe drilling at Eagle Mountain. Actual core length is considered to represent true thickness

Hole	From (m)	To (m)	Core length (m)	Au (g/t)
EMC17-001	4	8	4	1.1
EMC17-009	0	6.7	6.7	7.5
EMC17-010	0	4.6	4.6	1.45
EMC17-033	5	17	12	1.31
EMC17-048	0	15	15	1.05
EMC17-050	0	2.4	2.4	1.82
EMC17-051	0	19	19	3.04
EMC17-101	0	11	11	1.19
EMC17-110	0	7	7	1.97
EMC17-120	0	11	11	1.98
EMC17-145	8	11.46	3.46	1.2
EMC18-057	0	8	8	2.65
EMC18-059	1	4	3	2.01
EMC18-066	4	6	2	87.5
EMC18-077	0	2	2	1.02
EMC18-096	0	8.4	8.4	3.69
EMC18-098	0	2	2	1.6
EMC18-107	0	6	6	2.32

Table 10-2: Significant intervals (>2 m @ >1 g/t Au) drilled using diamond drill core at the Eagle Mountain Gold Project. Actual core length is considered to represent true thickness.

Hole	From (m)	To (m)	Core length (m)	Au (g/t)
EMD18-052	0	44.7	44.7	2.82
EMD18-053	0	69	69	6.52
EMD19-054	0	39	39	2.78
EMD19-055	0	49.5	49.5	2.9
EMD19-056	0	55.5	55.5	1.19
EMD19-057	0	49.5	49.5	2.36
EMD19-058	0	49.5	49.5	2.95
EMD19-059	24	36	12	1.21
EMD19-061	57	60	3	1.03
EMD19-072	16.5	19.5	3	2.36
EMD19-083	145.5	148.5	3	1.8
EMD19-084	22.5	28.5	6	1.27
EMD19-088	18	27	9	1.07
	55.5	60	4.5	2.86
EMD19-096	81	91.5	10.5	9.94
EMD19-098	43.5	48	4.5	1.33
EME19-003	0	2.5	2.5	1.3

Hole	From (m)	To (m)	Core length (m)	Au (g/t)
EME19-012	39	45	6	1.06
	57	61.5	4.5	2.2
EME19-013	48	87	39	1.75
EME19-015	16	96	80	2.07
	124.5	127.5	3	1.13
	142.5	154.5	12	4.93
EME19-016	17.5	75	57.5	2.55
EME19-019	137	213.5	76.5	1.18
EME19-023	121.5	148.5	27	1.72
	121.5	148.5	27	1.72
	225	231	6	1.32
	225	231	6	1.32
EME19-024	22	25	3	1.1
	22	25	3	1.1
	112.5	115.5	3	3.34
	112.5	115.5	3	3.34
EME19-025	207	216	9	1.73
	207	216	9	1.73
EMD20-100	25.5	28.5	3	2.46
EMD20-102	21	24	3	1.17
	79.5	87	7.5	9.19
EMD20-103	73.5	84	10.5	1.16
EMD20-105	46.5	66	19.5	3.76
	46.5	82.5	36	2.1
	79.5	82.5	3	1.76
EMD20-107	103.5	108	4.5	1.53
EMD20-110	67.5	73.5	6	3.81
EMD20-111	7.5	16.5	9	1.48
	48	51	3	1.59
	78	99	21	1.84
EMD20-113	39	42	3	1.24
EMD20-114	13.5	18	4.5	3.2
	96	99	3	1.01
	132	135.5	3.5	1.51
EMD20-115	84	90	6	4.1
EMD20-117	81	85.5	4.5	1.18
EMD20-118	3	7.5	4.5	25.32
EMD20-119	18	39	21	1
EMD20-120	24	43.5	19.5	1.26
EMD20-121	12	25.5	13.5	1.01
EMD20-129	15	39	24	1.03
EMD20-130	0	7.5	7.5	1.34
EMD20-131	0	9	9	2.03
EMD20-132	33	52.5	19.5	1.59



Hole	From (m)	To (m)	Core length (m)	Au (g/t)
EMD20-133	18	55	37	1.11
EMD20-139	42	45	3	9.88
EMD20-140	0	4.5	4.5	1.7
EMD20-141	55.5	66	10.5	1.45
EMD20-149	9	46.5	37.5	1.02
EMD20-150	0	21	21	1.44
	76.5	79.5	3	5.32
EMD20-151	0	19.5	19.5	1.26
EME20-033	88.5	93	4.5	3.18
	123	126	3	1.78
EME20-034	268.5	271.5	3	1.55
EME20-041	114	127.5	13.5	1.13
	142.5	169.5	27	1.01
EME20-043	108	111	3	3.69
EME20-054	84	94.5	10.5	1.49
	115.5	118.5	3	1.46
EME20-057	22	57	35	1.1
EME20-058	0	4	4	1.42
	13	41.5	28.5	2.03
	137	156	19	1.44
EME20-060	99	123	24	1.6
EME20-064	31	34	3	1.08
	64.5	67.5	3	1.34
EME20-066	150	153	3	8.71
EME20-067	189	207	18	1.31
	214.5	217.5	3	1.3
EME20-070	193.5	199.5	6	3.36
EME20-071	50.5	56.5	6	3.06
	139.5	144	4.5	1.98
EME20-072	55	59.5	4.5	1.56
	198	217.5	19.5	1.38
EME20-073	97.5	100.5	3	1.39
EME20-074	48	87	39	1.55
EME20-077	10	28.5	18.5	1.55
	48	55.5	7.5	1.08
EME20-078	10	46.5	36.5	1.83
EME20-079	0	11.5	11.5	3.37
EME20-081	63	66	3	5.4
EMM20-001	10.5	64.5	54	1.72
EMM20-002	19.5	27	7.5	2.2
EMM20-003	4.5	7.5	3	1.52
	54	60	6	1.15

## 10.5 Interpretation

### 10.5.1 Mineralisation Orientation

At the Eagle Mountain deposit, mineralization occurs as several tabular, gently W-dipping zones that may crop out at surface.

At Salbora, mineralization occurs in narrow, subvertical N- to NW-trending structures that coalesce into a broader, sub-horizontal lens of mineralization at surface.

### 10.5.2 Area and True Thickness

At the Eagle Mountain Deposit, tabular mineralized zones vary between 1 m and 80 m in thickness, and these zones extend over an area that extends for approximately 2.2 km in a NE direction and 1.4 km in a SE direction.

Zone 1 ranges in depth between surface (0 m) up to 80 m (for the upper surface), with deeper areas lying below areas of higher elevations such as the Saddle area, and the majority of Zone 1 occurring at depths of <20 m. Zone 1 has a true thickness of between 0.5 m and 70 m.

Zone 2 ranges in depth between 14 m up to 220 m (for the upper surface), with a true thickness between 0.5 m and 17 m.

Zone 3 ranges in depth between 70 m up to 280 m (for the upper surface), with a true thickness between 0.5 m and 40 m.

At the Salbora Deposit, narrow subvertical mineralized zones range in true thickness between 0.5 m and 25 m, and extend along a strike length of approximately 900 m in a N-S direction, to depths of at least 300 m.

The shallow, sub-horizontal lens of mineralization at Salbora is approximately 80 m thick, extending from surface down to 80 m depth (below which mineralization continues as narrow veins), and with a lateral extent of approximately 200 m by 200 m.

# 11 Sample Preparation, Analyses and Security

Samples from the 2011 diamond drilling program were submitted to Acme Analytical Laboratories Ltd (Acme) facility in Georgetown, Guyana (Lot 13 Plantation Non Pariel, East Coast Demerara) for sample preparation and analysis, with QAQC check assays (umpire samples) for this program carried out at Activation Laboratories Ltd (Actlabs) facility in Georgetown, Guyana (27/28 Parcel Beterverwagting Industrial Area, East Coast Demerara).

Samples from the 2017–2018 Geoprobe drilling and the 2018–2020 diamond drilling programs were submitted to the Actlabs facility in Georgetown, Guyana for primary assay. From 2020, umpire QAQC check assays and density measurements were carried out at MS Analytical Guyana (MSA) in Georgetown, Guyana (Lot 14 Coldingen Industrial Estate, East Coast Demerara).

Acme, Actlabs and MSA laboratories and their employees are independent from Goldsource. Goldsource personnel and consultants and contractors are not involved in sample preparation and analysis.

## 11.1 Sample Preparation and Security

### 11.1.1 Acme (2011–2012)

Samples were prepared at the Acme Georgetown facility and sample pulps were forwarded to the Acme Santiago, Chile lab (Av. Claudio Arrau 7152, Pudahuel, Santiago) for gold assay and the main Acme Vancouver, Canada laboratory (1020 Cordova St. East, Vancouver, BC) for multi-element analyses. These Acme facilities were individually certified to standards within ISO 9001:2008. The Vancouver analytical facility had received accreditation to ISO/IEC 17025:2005 from the Standards Council of Canada (SCC) for fire assay gold – gravimetric finish. The Santiago analytical facility had received accreditation to ISO/IEC 17025:2005 from the SCC for fire assay gold – gravimetric and atomic absorption spectrometry (AAS) finish. Sample preparations followed industry best practices and procedures. The analytical methods used are routine and provide robust data associated with a high degree of analytical precision.

Acme used a Laboratory Information Management System (LIMS) to track the flow of every sample through each stage of sample handling and analysis. When received, each sample was barcoded and labelled. This unique barcode was used to build an audit trail that documented the complete history of work performed on each sample.

At the Acme Georgetown facility, each sample was logged into the LIMS, dried then crushed to 80% passing a 10 mesh screen. A split of 150 g was taken using a riffle splitter and pulverized in a grinding mill with a low-chrome steel bowl to better than 85% passing a 75 µm (Tyler 200 mesh) screen (code R150). Compressed air was used to clean the equipment between samples. Barren material was crushed between sample batches. A split of the sample pulp was then forwarded to either the Santiago or Vancouver laboratory for analysis.

### 11.1.2 Actlabs (2011–2020)

Samples were prepared and gold fire assays completed at the Actlabs Georgetown. Sample pulps were forwarded to the Actlabs Ancaster, Canada laboratory (1336 Sandhill Drive Ancaster, Ontario) for multi-element analyses. The Actlabs facilities are individually certified to standards within ISO 9001:2008. The Ancaster analytical facility has received accreditation to ISO/IEC 17025:2005 (CAN-P-4E) and CAN-P-1579 from the SCC. Sample preparations follow industry best practices and procedures. The analytical methods used are routine and provide robust data associated with a high degree of analytical precision.

At the Actlabs Georgetown facility, the rock/core sample was logged into the sample management system, dried then crushed to 80% passing a 10 mesh (1.7 mm) screen. A split of 100 g was taken using a riffle splitter and pulverized in a mild steel grinding mill with a low-chrome steel bowl to better than 95% passing a 105 micron

(Tyler 150 mesh) screen (code RX2). Compressed air was used to clean the equipment between samples. Barren material was crushed between sample batches. A split of the sample pulp was then assayed for gold on site or forwarded to the Ancaster laboratory for multi-element analysis.

### 11.1.3 MSA (2020)

Samples were prepared and gold fire assays completed at the MSA facility in Georgetown. Samples were received and captured into the MSA LIMS. Samples were crushed and then milled using a Rocklabs automated mill with auto-splitter. The crusher was cleaned with barren material at the discretion of the operator or every 20 samples. Sample particle size distribution was checked every 20 samples to ensure that samples were >80% passing 75  $\mu\text{m}$ .

## 11.2 Analytical Method

Samples were analysed as follows:

### 11.2.1 Acme (2011–2020)

Gold fire assay – AA finish (Acme Code G6) – a 30 g prepared sample was fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents as required, inquarted with gold-free silver and then cupelled to yield a precious metal bead. The bead was digested in dilute nitric acid, concentrated hydrochloric acid was then added and the bead was further digested. The digested solution is cooled, diluted with de-mineralized water, and analyzed by AAS against matrix-matched standards.

### 11.2.2 Actlabs (2011–2020)

Gold fire assay – AA finish (Actlabs Code 1A2) – a 30 g prepared sample pulp was mixed with fire assay fluxes (borax, soda ash, silica, litharge) and with silver added as a collector, and the mixture was placed in a fire clay crucible, the mixture preheated at 850° C, intermediate 950° C and finish 1,060° C – the entire fusion process should last 60 minutes. The crucibles were then removed from the assay furnace and the molten slag (lighter material) carefully poured from the crucible into a mould, leaving a lead button at the base of the mould. The lead button was then placed in a preheated cupel which absorbs the lead when cupelled at 950° C to recover the silver (doré bead) + gold. The entire silver doré bead was dissolved in aqua regia and the gold content was determined by AAS. If value exceeds upper limit (3,000 ppb) re-analysis by fire assay-gravimetric (Code 1A3) was completed.

Multi-element (48) instrumental neutron activation analysis (INAA) and inductively coupled plasma with atomic emission spectroscopy (ICP-AES) analysis (Actlabs Code 1H) – for INAA, a 30 g aliquot, if available, was encapsulated in a polyethylene vial and irradiated with flux wires and an internal standard (one for 11 samples) at a thermal neutron flux of  $7 \times 10^{12} \text{ n cm}^{-2} \text{ s}^{-1}$ . After a seven-day decay to allow Na-24 to decay, the samples are counted on a high-purity Ge detector with resolution to better than 1.7 KeV for the 1332 KeV Co-60 photopeak. Using the flux wires, the decay-corrected activities were compared to a calibration developed from multiple certified international reference materials. The standard present was only a check on accuracy and was not used for calibration purposes. From 10% to 30% of the samples were rechecked by re-measurement. For values exceeding the upper limits, assays were recommended. One standard is run for every 11 samples. One blank was analyzed per work order. Selected duplicates were analyzed when enough material was submitted.

For total digestion – ICP portion, a 0.25 g sample was digested with four acids beginning with hydrofluoric, followed by a mixture of nitric and perchloric acids, heated using precise program-controlled heating in several ramping and holding cycles which takes the samples to incipient dryness. After incipient dryness was attained, samples were brought back into solution using aqua regia. With this digestion, certain phases may be only partially solubilized. These phases included zircon, monazite, sphene, gahnite, chromite, cassiterite, rutile, and



barite. Silver greater than 100 ppm and lead greater than 5000 ppm should be assayed, as high levels may not be solubilized. Only sulphide sulphur would be solubilized. The samples were then analyzed using a Varian ICP. Quality control for the digestion is 14% for each batch, five-method reagent blanks, 10 in-house controls, 10 samples duplicates, and eight CRMs. An additional 13% quality control is performed as part of the instrumental analysis to ensure quality in the areas of instrumental drift.

### 11.2.3 MSA (2020)

Gold fire assay – AAS finish (MSA Code FAS-111) – a 30 g prepared sample pulp was mixed with fire assay fluxes (borax, soda ash, silica, litharge) and lead collector and the mixture was placed in a clay crucible and heated in stages to 1,050° C to fuse the sample. The molten slag was poured into a mould, and the lead button at the base of the mould removed and placed in the cupel and heated to ~1,000° C – the remaining precious metal bead was dissolved in aqua regia and the gold content determined by AAS. If value exceeds the upper limit (10 ppm), re-analysis by fire assay-gravimetric (code FAS-418) was completed.

## 11.3 Dry Bulk Density Determinations

### 11.3.1 Methodology

During 2011, bulk density tests were carried out on a variety of fresh and saprolitic, mineralized and non-mineralized rock types from the 2011 diamond drill core. Measurements were carried out in-house using a water displacement method similar to that used by MSA labs in 2020.

In 2020, additional bulk density tests were carried out on a variety of mineralized and unmineralized core samples from the Eagle Mountain and Salbora deposits. Samples were shipped to MSA in Georgetown, Guyana, where densities were determined (MSA method codes SPG-411 and SPG-415). Density measurements were carried out using the following method: A sample receiving vessel was filled to the reference mark with de-ionized water and weighed. Then, approximately one half of the volume of de-ionized water in the sample receiving vessel was discarded and the remainder weighed. Samples were dried and a representative portion of the dried sample was transferred into the sample receiving vessel which was approximately half-filled with de-ionized water. The vessel was then filled to the reference volume with de-ionized water and weighed. This weight was recorded and used for determining the specific gravity of the sample. If samples were porous or absorb >2% water (e.g. saprolite), samples were dried, weighed in air, coated with wax, and weighed again in air. The coated samples were then weighed again in water. Care was taken when transporting and drying saprolitic core to retain solid samples.

### 11.3.2 Results

The 2011 density tests on “Fresh” mineralized zones and saprolitic mineralized zones yielded average bulk densities of approximately 2.60 t/m<sup>3</sup> and 1.60 t/m<sup>3</sup> respectively, and these densities were used for the 2012 and 2014 MREs.

The 2020 density tests show a range of densities between 1.3 t/m<sup>3</sup> and 2.2 t/m<sup>3</sup> for saprolite samples, with an average of 1.7 t/m<sup>3</sup> for samples from the Eagle Mountain deposit and 1.6 t/m<sup>3</sup> for samples from the Salbora deposit. Fresh samples for 2020 showed densities of between 2.31 t/m<sup>3</sup> and 3.18 t/m<sup>3</sup>, and with average densities of 2.74 t/m<sup>3</sup> for granodiorite samples, 2.86 t/m<sup>3</sup> for metavolcanic density and, 3.0t/m<sup>3</sup> for monzonite samples.

## 11.4 Quality Assurance and Quality Control

Several different QAQC programs have been implemented at the Eagle Mountain Property, and the monitoring and assessment of QAQC data is used to provide guidance as to the confidence that sample and assay data obtained from laboratories can be used for resource estimation.

The QAQC programs implemented at the Eagle Mountain Gold Project by the current operators include the following types of QAQC samples:

- CRM samples – prepared from mineral matrices that contain known gold values uniformly distributed throughout the pulverized rock. Submitted to the assay laboratory in foil sachets, CRM samples are used to assess laboratory accuracy and precision.
- Blank samples – prepared from material containing trace amounts of the element under investigation. Blank samples are used in the assessment of contamination from other samples during sample processing and laboratory accuracy.
- Core duplicate samples – quarter-core samples taken from remaining core, used to assess the presence of a “nugget effect”.
- Coarse duplicate samples – duplicate splits of coarsely crushed material, generated during sample preparation, used to check the presence of a nugget effect and to assess laboratory precision.
- Pulp duplicate samples – duplicate splits taken from pulp sample material generated during sample preparation, used to assess laboratory precision.

### 11.4.1 Certified Reference Materials (2011)

Four different Rocklabs oxide standards were used during the 2011 program at an average insertion frequency of 2.3% (i.e. a total of 161 CRMs for 6,913 samples submitted during the 2011 program). CRMs were chosen to test the range of gold grades encountered at the Eagle Mountain Property.

Results for the CRMs used in 2011 are summarised in Table 11-1 below.

Table 11-1: Summary of CRM results for 2011 drill core samples

CRM	Control grade (ppm)	No. of analyses	Mean* of analyses	Minimum*	Maximum*
OxE42	0.611	66	0.616	0.55	0.788
OxH52	1.291	61	1.277	0.99	1.394
OxC88	3.557	26	3.537	3.352	3.88
OxN33	7.378	8	7.535	7.7073	7.843

\*Mean, minimum and maximum exclude outliers mentioned in the text.

Analysis results show no significant negative or positive bias at the CRM grades evaluated.

Across all CRM grades, 67% and 92% of assay values were within  $\pm 1$  and 2 standard deviations, respectively. CRM OxE42 had four samples greater than 2 standard deviations from a mean of 0.616 ppm Au. Two of these were outliers, samples 902326 and 902231 returned grades of 0.788 and 0.713, respectively. CRM OxH52 had seven samples greater than 2 standard deviations from a mean of 1.291 ppm Au. Two of these were outliers, samples S04116 and S05633 returned grades of 0.990 and 1.010, respectively.

All CRMs show a degree of cyclical analytical drift. It is particularly apparent in the Standard OxE42CRM plot, where there is a gradual decrease in the mean of returned CRM grades over the observation period, expressed as linear trend line from 0.645 to 0.584 ppm Au.

Analytical drift does not appear to correlate with outlying values. There is only one occasion where successive CRM assay values are greater than 2 standard deviations the expected value, (OxH52 samples S04116 and S05481).

#### 11.4.2 Certified Reference Materials (2017–2020)

Six different Rocklabs oxide standards were used during the 2017–2020 programs at an average insertion frequency of 1.5% (i.e. a total of 318 CRMs for 21,328 samples submitted during this period). The reference grades and standard deviation for the CRMs are shown in Table 11-2.

Table 11-2: CRM results for 2017–2020

CRM	Control grade (ppm)	No. of analyses	Mean* of analyses	Minimum*	Maximum*	% within 1 standard deviation	% within 2 standard deviations
OxD108	0.414	54	0.418	0.244	0.489	85	94
OxC152	0.216	96	0.212	0.178	0.245	72	99
OxE150	0.658	96	0.651	0.502	0.745	81	91
OxG098	1.017	57	1.033	0.864	1.158	65	95
OxA26	0.0798	11	0.0779	0.071	0.085	64	82
OxA147	0.082	4	0.077	0.075	0.078	N/A	N/A

\*Mean, minimum, maximum and standard deviations exclude outliers mentioned in the text.

Between 64% and 85% of assay values were within  $\pm 1$  standard deviation and between 82% and 99% were within 2 standard deviations. OXD108 had three outliers at 0.025 ppm, 0.045 ppm and 0.873 ppm. OXC152 had a single outlier at 0.66 ppm. OXE150 had two outliers with grades of 0.205 ppm and 0.213 ppm. OxG098 had no outliers. OxA26 had a single outlier at 0.032 ppm. OxA147 has a single outlier at 0.023 ppm. Blanks (2011)

A total of 169 blank samples were assayed during the 2011 program (2.4% of submitted samples). Blank samples of Linden bauxite were inserted with saprolitic drill and auger samples and Omai dolerite core were inserted with fresh rock drill samples. Blanks were placed within the sample stream at a frequency of one blank per 50 samples. Blanks were inserted within zones considered to be mineralized or immediately after a sample containing visible gold.

Of the blanks, 79% returned a gold grade below 0.01 ppm Au (> 95% upper tail confidence interval after removal of spurious values); 21% of samples returned assays of greater than 0.01 ppm Au with values ranging up to 0.036 ppm Au. One sample returned a spurious value of 0.079 ppm Au and may be the result of erroneous labelling.

#### 11.4.3 Blanks (2017–2020)

A total of 410 blank samples (1.9% of all samples) were submitted for analysis. Blank samples were barren dolerite from intrusion from near to the project site and quartz sand, which is used by the assay laboratories for blank material. Of all the blank material sampled, majority had below detection or very low values reported; thus, the blank values indicate there is very little contamination overall. However, it should be noted that only a small proportion of the whole database comprise blanks, and usually a greater number (~5% of all samples) would be expected.

Table 11-3: Blank assay results

Element	Minimum (ppm)	Maximum (ppm)	Mean (ppm)	Median	No. of results
Au (ppm)	<0.002	0.144	0.004	0.0025	410

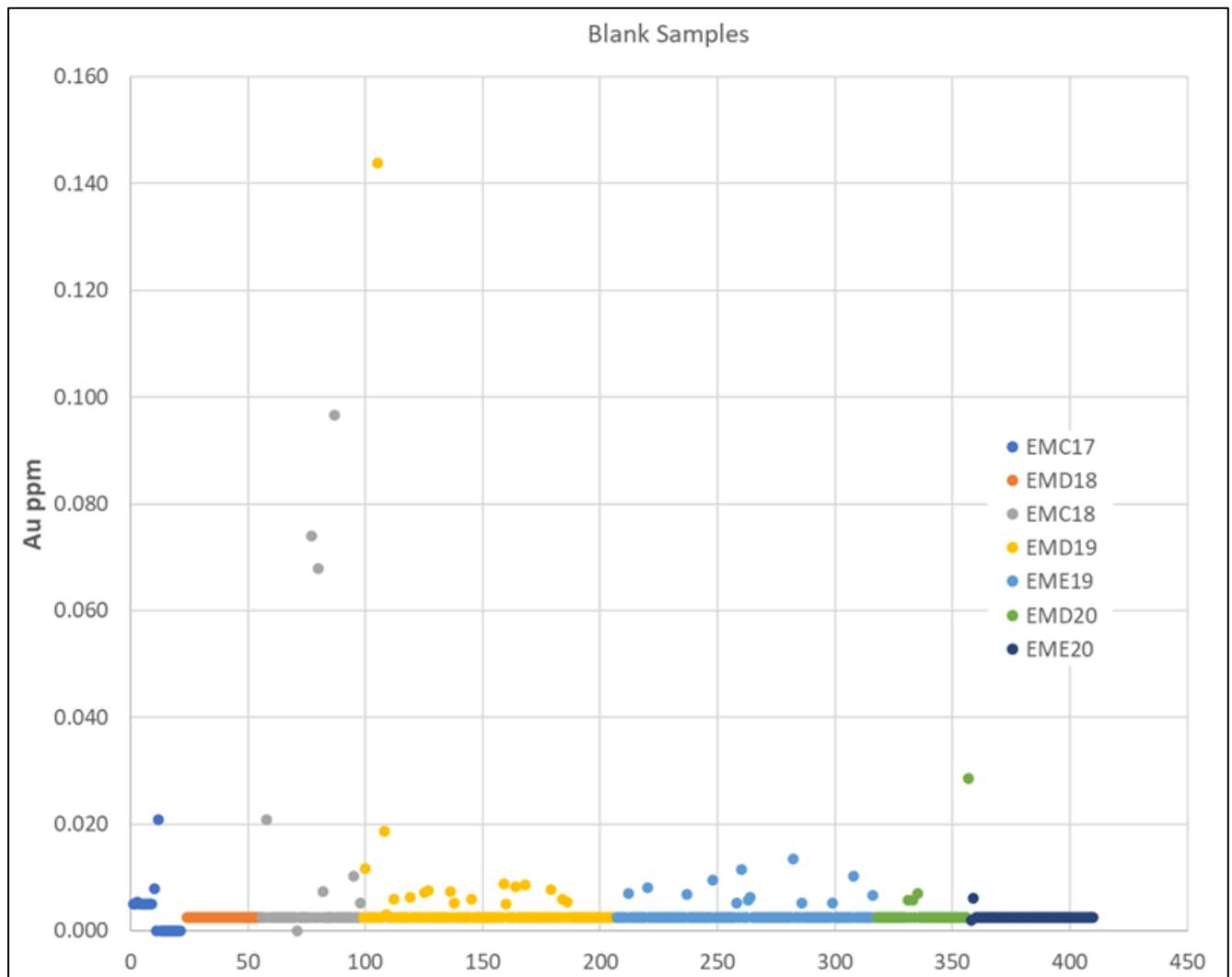


Figure 11-1: Results of blank samples taken during the 2017–2020 program (legend refers to different drill rigs and years)

#### 11.4.4 Field Duplicates (2011)

Field duplicates from the 2011 program comprised a mixture of coarse duplicates and pulp duplicates. A total of 283 duplicates were submitted (4.1% of all samples).

For coarse duplicates, data is available for 215 samples. Duplicates were selected from five holes, namely EMD11\_052 (three samples), EMD11\_053 (98 samples), EMD11\_054 (46 samples), EMD11\_067 (58 samples), EMD11\_099 (10 samples), and were submitted for re-analysis at Actlabs in three batches over the course of the drill program. Good repeatability of original assay values is indicated by a Pearson correlation coefficient of 0.90, and 64% of repeat assays pairs had a half absolute relative difference (HARD) value within  $\pm 20\%$ . Variability decreases as mean grade increases and there was no relative bias between original and repeat assay values. Large relative differences between assays at the lower limit of detection can result in an inaccurate analysis of sample repeatability. Because duplicate samples were not selected from mineralized zones, only 20 pairs had a mean gold grade above a cut-off of 0.2 ppm Au and tested repeatability at economically significant grades. Above this nominal cut-off repeatability appears to improve with 90% of pairs having HARD value within  $\pm 20\%$ .



For pulp duplicates, data is available for 68 samples. Duplicates were selected from two holes, EMD11\_054 (36 samples) and EMD11\_055 (34 samples) and were submitted for re-analysis at Actlabs in a single batch. Good repeatability of original assay values is indicated by a Pearson correlation coefficient of 0.99 and 70% repeat assays pairs had a HARD value within  $\pm 20\%$ . There was no relative bias between original and repeat assay values. Pulp duplicates were not selected from samples with economically significant grades. Only six pairs had a mean gold grade above 0.2 ppm, all returned values within 20% of the mean of the sample pair.

#### 11.4.5 Field Duplicates (2017–2020)

A total of 342 duplicates were submitted between 2017 and 2020 (1.6% of all samples). Following recommendations in the previous NI 43-101 report (Roy et al., 2014), quarter-core duplicates were submitted during this time to assess the nugget effect. However, no pulp duplicates or coarse duplicates were submitted. Good repeatability of original assay values is indicated by a Pearson correlation coefficient of 0.92, and 65% of repeat assays pairs had a HARD value within  $\pm 20\%$ . There was no relative bias between original and repeat assay values. However, because duplicate samples were not selected from mineralized zones, only 30 pairs had a mean gold grade above 0.2 g/t Au, and 60% of repeat assays above this threshold had a HARD value within  $\pm 20\%$  (Figure 11-2).

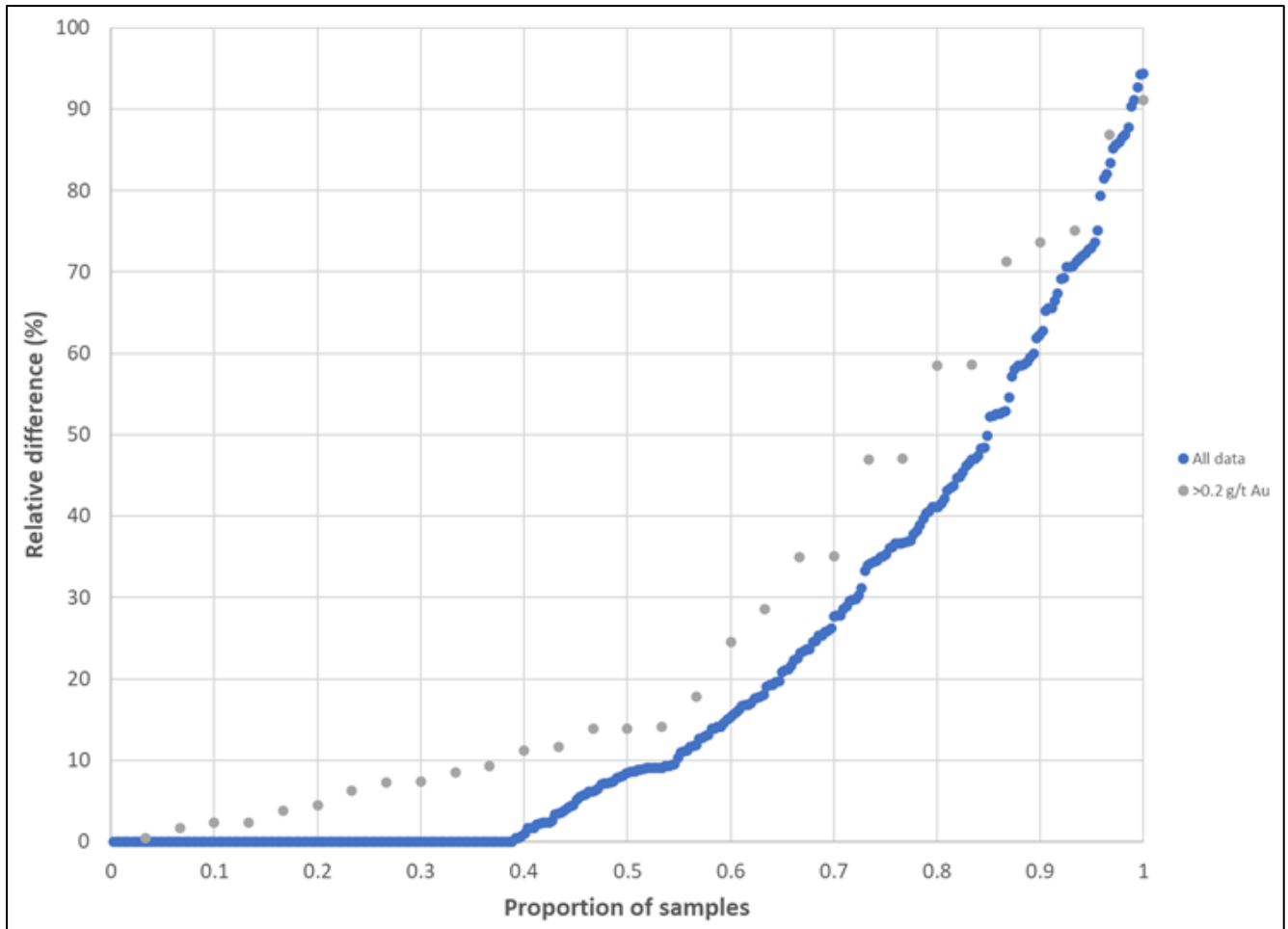


Figure 11-2: Cumulative probability of relative difference plot for 2017–2020 field duplicates

#### 11.4.6 Laboratory Umpire Analysis

In addition to duplicate analysis, quarter-core duplicates were also submitted to MSA laboratories, who acted as the umpire laboratory. A total of 262 duplicates were submitted between 2017 and 2020 (1.2% of all samples). No pulp duplicates or coarse duplicates were submitted. Reasonable repeatability of original assay values was indicated by a Pearson correlation coefficient of 0.75, and 62% of repeat assays pairs had a HARD value within  $\pm 20\%$ . There was no relative bias between original and repeat assay values. Umpire samples were from mineralized zones but not based on previous gold assays. A larger number (213 pairs) had a mean gold grade above 0.2 g/t Au, with 62% of repeat assays above this threshold had a HARD value within  $\pm 20\%$ .

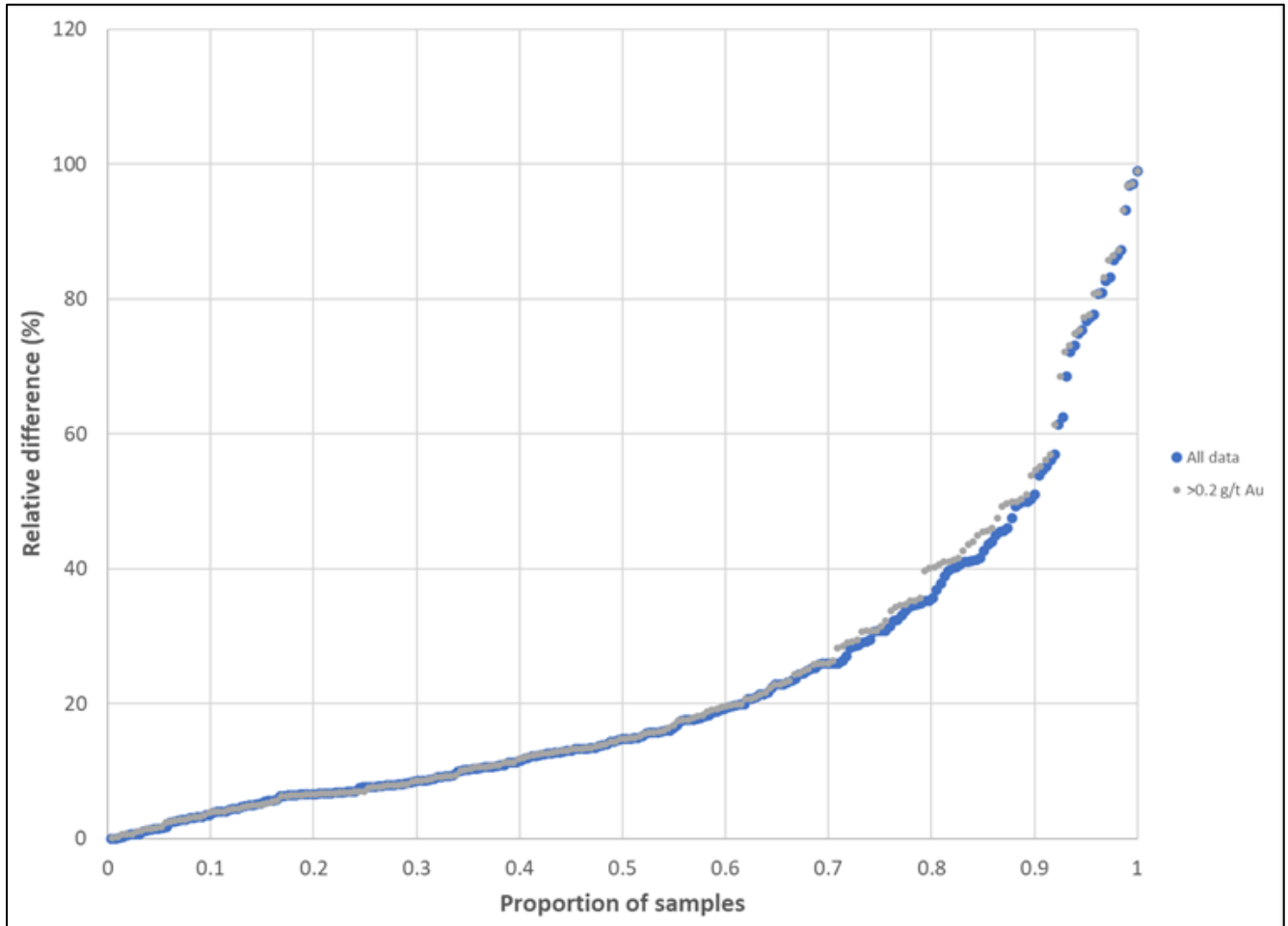


Figure 11-3: Cumulative probability of relative difference plot for 2017–2020 umpire samples

#### 11.5 Qualified Person’s Opinion on Sample Preparation, Security and Analytical Procedures

It is the Qualified Person’s opinion that sample preparation and analyses were done in line with industry standards and are satisfactory. Although the number of CRM, duplicate and blank samples are lower than what is considered standard, the quality of assays is considered robust and reliable, and suitable to be used for the MRE.

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## 12 Data Verification

### 12.1 Site Visit

Dr Luke Longridge, Qualified Person and author, carried out a four-day site visit to the Eagle Mountain Gold Project on 22–25 November 2020. During this time, the Qualified Person visited the property site, validated drillhole and auger collar positions using a handheld GPS, reviewed drill core at the Eagle Mountain core logging facility and inspected the geology of the Project site.

### 12.2 Database Verification and Validation

During the site visit, Dr Longridge observed core logging and sampling procedures, reviewed sampling preparation facilities and procedures, and inspected documentation related to drilling, sampling, and assaying. Analytical facilities at both Actlabs and MSA in Georgetown, Guyana, were inspected. No samples were collected for additional laboratory verification; however, mineralized intervals were inspected and compared with assay values for confirmation of mineralization.

It is the Qualified Person’s opinion that the data available are a reasonable and accurate representation of the Eagle Mountain Gold Project and are of sufficient quality to provide the basis for the conclusions and recommendations reached in this report.

# 13 Mineral Processing and Metallurgical Testing

## 13.1 Introduction

Metallurgical testwork for the Eagle Mountain Project has been conducted by various groups, including Goldsource. Preliminary testwork was completed by GSR and OGML. More detailed gold recovery analysis of the Eagle Mountain saprolite material was completed in 2018 by SGS Canada for Goldsource. The results were used to generate a preliminary flowsheet design (TetraTech 2019). Results of each metallurgical testwork program are summarized below.

## 13.2 GSR Metallurgical Testwork (1989–1991)

Metallurgical studies completed by GSR in 1989 and 1991 were limited to desliming and gravity gold recovery testwork. During the first quarter of 1989, two samples of saprolite were collected and treated to evaluate the free gold content and the feasibility of gold extraction by gravity. The preliminary results indicated that the majority of the gold does not appear to be amenable to the gravity recovery method.

Additional testwork on the saprolite material completed later in 1989 testing showed that desliming achieves feed volume reduction of up to 81% with a high gold recovery to the sands fraction (+90%). It was anticipated that desliming ore could be an important pre-concentration step prior to processing. Gold recovered by gravity reached only 24 % of the total gold content.

In 1991, GSR carried out additional gold gravity testwork at Lakefield Research using a Falcon concentrator. Nine gravity tests were completed and average gold recovery was between 33% and 42% of the total gold content. The gravity gold recovery increased using the more advanced gold recovery technology, but not significantly enough to be retained as a single processing route for the recovery of gold from the Eagle Mountain deposit.

## 13.3 OMGL Metallurgical Testwork (2009–2010)

OGML submitted samples of saprolite and fresh rock mineralization from the Eagle Mountain deposit to SGS Canada Inc. in Lakefield, Ontario (SGS Lakefield) for testwork to establish the nature of the gold occurrence. The testwork involved sample characterization using head analyses, mineralogy and grindability studies and an investigation of the amenability of the samples to gold recovery/extraction utilizing gravity separation and cyanide leaching.

SGS Lakefield received the shipment of Eagle Mountain samples on 11 September 2009 containing four fresh rock mineralization samples (Kilroy, Millionaire, Zion, and Saddle) and four saprolite mineralization samples (Kilroy Sap, Millionaire Sap, Zion Sap, and Saddle Sap). The Saddle mineralization samples were not used in this test program and were retained in storage.

The following description of testwork and results has been extracted from the Executive Summary of SGS Canada's final report (SGS Canada Inc., 2010).

The individual saprolite mineralization samples underwent head analyses and cyanidation testing. A composite test sample generated from the three individual samples was used for mineralogical studies and gravity separation testwork.

The individual fresh rock mineralization samples underwent grindability testing, head analyses and cyanidation testing. A composite test sample generated from the three individual samples was used for mineralogical studies and gravity separation testwork.



The head analyses of the saprolite mineralization samples are summarized in Table 13-1. The first column gives the gold grade by screened metallica protocol and the second column reports the mean gold grade based on fire assay of duplicate cuts. The screened metallica gold values are likely to be more reliable due to the larger sample mass used.

Table 13-1: Head analysis summary: Eagle Mountain saprolite mineralization samples

Sample ID	Au <sup>1</sup> (g/t)	Au <sup>2</sup> (g/t)	Ag (g/t)	S %	Fe %	Cu (g/t)	Zn (g/t)
Kilroy Sap	2.79	1.62	3.0	<0.01	0.28	25	65
Millionaire Sap	0.68	0.45	1.1	0.05	0.44	37	67
Zion Sap	0.68	0.70	3.3	0.02	0.35	71	49

Au<sup>1</sup> gold by screened metallica protocol. Au<sup>2</sup> gold by fire assay – duplicate cuts.

The significant difference in gold grade seen between the screened metallica and fire assay data for the Kilroy Sap sample indicated the presence of “nugget” gold in the sample. The Kilroy Sap sample was found to contain a significant quantity of coarse gold with 34.4% of the gold reporting to the +106 µm fraction (0.8% of the mass) of the screened metallica. The Millionaire and Zion samples contained little coarse gold with the screened metallica +106 µm fraction containing only 3.1% (in 2.5% mass) and 0.3% (in 2.2% mass) of the gold, respectively.

Examination of the bulk mineralogy of the saprolite composite showed that the sample was mainly composed of quartz, with moderate amounts of plagioclase and kaolinite and minor to trace amounts of gibbsite, illite, potassium feldspar, goethite and magnetite.

The gold deportment study identified and measured 253 gold grains. Approximately 40% (accounting by total surface area) of the gold particles occurred as liberated grains with an average size of 10 µm, with a further 39% occurring as locked grains (mainly with goethite) averaging 6 µm in size. The remaining 21% were seen to occur as attached grains, predominantly to goethite and hematite, with an average size of 7 µm. The largest gold grains observed were approximately 40 µm.

A significant proportion of attached and locked gold occurred either partially or completely rimmed by a complex oxide/chloride phase which is mainly composed of variable amounts of copper, silver, iron, (silicon, aluminium, nickel, tin, chromium), chlorine, and oxygen. Further testwork was suggested to determine the effect on leaching kinetics and on gold recoveries.

The gold in the sample was found to be present mostly as native gold, hosting trace amounts of silver, copper, and iron. The average composition was approximately 97.4% Au, 1.9% Ag, 0.4% Cu, and 0.3% Fe.

Approximately 25% of the gold reported to the float fraction. Super-panning of a 60 g subsample of the floats revealed no visible gold, indicating that it is possibly present as fine inclusions in silicate minerals.

The head analyses of the fresh rock mineralization samples are summarized in Table 13-2. The Kilroy “fresh rock sample (1.18 g/t Au) was higher grade than the Millionaire and Zion fresh rock samples at 0.58 g/t Au and 0.57 g/t Au, respectively. The silver head grades for the three fresh rock mineralization types were all below the detection limit (<0.5 g/t).

Table 13-2: Head analysis summary: Eagle Mountain fresh rock mineralization samples

Sample ID	Au (g/t)	Ag (g/t)	S %	Fe %	Cu (g/t)	Zn (g/t)
Kilroy Fresh	1.18	< 0.5	0.53	0.20	11	44
Millionaire Fresh	0.58	< 0.5	0.30	0.24	15	43
Zion Fresh	0.57	< 0.5	0.37	0.17	11	43

Examination of the mineralogy of the fresh rock composite by bulk modal analysis conducted using QEM ARMS (Automated Rapid Mineral Scan) showed that 47.5% of the mineralization was composed of plagioclase and 28.3% was quartz. Potassium feldspar, micas and amphibole accounted for a further 15% of the sample. Pyrite

was the main sulphide mineral present. The mineralogical analysis identified 72.7% of the pyrite as free and 4.1% liberated. Iron/titanium oxides in the sample were identified as being 30.9% free and 26.5% liberated.

The Eagle Mountain deposit fresh rock samples underwent a standard Bond Ball Mill grindability test with a closing screen size of 150  $\mu\text{m}$ . The mineralization types were found to be medium (Millionaire) to moderately hard (Kilroy) based on the SGS database. The Bond Ball Mill grindability test results are presented in Table 13-3.

Table 13-3: Bond Ball Mill grindability test results (metric)

Sample	Work Index (kWh/t)	Hardness percentile	Relative hardness
Millionaire	15.2	57	medium
Zion	16.2	67	↓
Kilroy	17.0	74	mod hard

Estimated gravity recoverable gold (GRG) tests were carried out on saprolite composite and fresh rock composite samples to determine the GRG value (theoretical maximum amount of gravity gold recoverable) as a function of the size distribution.

The saprolite composite had a GRG number of 70.2, indicating that approximately 70% of the gold in the sample was recoverable by gravity separation. This data is supported by the results of the heavy liquid separation (HLS) at specific gravity 3.1  $\text{g}/\text{cm}^3$  conducted during mineralogy sample preparation which showed 75% gold distribution to the HLS sink fraction.

The calculated head grade from the GRG test for the saprolite composite was 1.78  $\text{g}/\text{t}$  Au. This correlated well with the expected head grade based on the individual head analyses of approximately 1.4  $\text{g}/\text{t}$  Au. The estimated GRG value is likely to be more reliable due to the larger sample size and assay methodology used.

The fresh rock composite had a GRG number of 47.5, indicating approximately 45% of the gold in the sample was recoverable by gravity separation. Most of the gold was recovered at the progressively finer grind sizes. This result indicated that there is a low free gold component in the fresh rock composite sample.

The calculated head grade from the GRG test for the fresh rock composite was 0.87  $\text{g}/\text{t}$  Au. This correlated well with the expected head grade based on the individual head analyses of approximately 0.8  $\text{g}/\text{t}$  Au. The estimated GRG value is likely to be more reliable due to the larger sample size and assay methodology used.

Standard “rolling bottle” leach tests were completed on each of the Eagle Mountain saprolite and fresh rock mineralization samples to examine response to cyanide leaching. There was no preliminary gravity separation stage employed prior to cyanidation to remove any free gold. The cyanidation conditions applied were as follows:

- Target grind size = 74  $\mu\text{m}$
- Pulp density = 40% solids (w/w)
- Pulp pH = 10.5–11 (maintained with lime)
- Cyanide concentration = 1.0  $\text{g}/\text{L}$  as NaCN
- Retention time = 24 hours.

The cyanidation test results are summarized in Table 13-4. The Kilroy and Millionaire saprolite samples showed good response to cyanidation with gold recoveries over 90%. The Zion saprolite sample showed slower leach kinetics with an initial gold recovery of 64.9%. A further “rolling bottle” leach test was conducted maintaining the same leach conditions but with a 72-hour retention time. Gold recovery increased to 95.5%. The complex rims observed during the gold deportment study may be influencing the leach kinetics. Further study is recommended to confirm this.

Table 13-4: Cyanidation test results summary

Feed	Grind actual (P80 µm)	Extraction (%)		Residue (g/t)	
		Au	Ag	Au	Ag
Kilroy Sap	83	96.7	81.9	0.09	0.5
Millionaire Sap	99	91.0	69.2	0.10	0.5
Zion Sap	91	64.9	80.9	0.31	0.5
Kilroy Fresh	72	92.7	30.5	0.07	0.5
Millionaire Fresh	75	95.5	20.8	0.03	0.5
Zion Fresh	79	94.2	29.1	0.03	0.5

Silver extraction in the saprolite mineralization showed a relationship to feed grade. The Millionaire saprolite sample assayed at 1.1 g/t Ag and showed approximately 69% silver recovery. The Kilroy saprolite showed almost 82% silver recovery with a 3 g/t Ag head grade.

All the fresh rock mineralization types showed a good response to cyanidation with gold recoveries from 92.7% to 95.5%. Silver recovery was low showing a relationship to low head grade.

The metallurgical tests demonstrated that the Kilroy and Millionaire saprolite mineralization types are amenable to gold extraction by cyanidation. Cyanidation was also effective for gold extraction from the Zion saprolite mineralization. However, the rate of leaching appeared to be much slower. The saprolite composite tested was amenable to gold recovery by gravity separation.

The metallurgical tests demonstrated that the fresh rock mineralization types are amenable to gold extraction by cyanidation. Gravity separation techniques were not of significant value for recovering gold from the fresh rock composite sample tested.

### 13.4 Goldsource Preliminary Metallurgical Testing (2013–2014)

#### 13.4.1 Introduction

In September 2013, Goldsource collected 17 representative mineralized samples (trenching, adit, and core) of saprolite (Table 13-5 and Figure 13-1) to complete preliminary metallurgical testwork as part of its due diligence for potential amalgamation with EMGC. These samples were initially provided to McClellan Laboratories in Reno, Nevada, USA. After size analysis of gold particles, 12 of the samples were sent to Met-Solve Laboratories Inc. for scoping level metallurgical testwork to evaluate the response of the material to gravity concentration and flotation.

Table 13-5: Saprolite sample intervals for metallurgical testwork

Sample no.	Location	Length (m)	Type	Rec'd weight (kg)	Description	Au average (g/t)
EM001	Coolie Adit	3	Horizontal Channel	5.50	Granitoid Saprolite near contact with metavolcanics, 95% sandy clay Fe, orange colour, 5% cobbles, sap is estimated 5 m thick, average grade 0.5 g/t Au.	0.5
EM002	Coolie Wall	10	Horizontal Channel	10.65	Granitoid Saprolite, sandy clay Fe, red to orange colour, no cobbles/boulders, wall is 4 m high, average grade 5.0 g/t Au.	5.0
EM003	Zion Wall 11-059	3	Vertical Channel	10.31	Granitoid Saprolite, sandy clay Fe, red colour to orange at btm, 5% cobbles/boulders, wall is 4 m high, average grade 0.5 g/t Au.	0.5

Sample no.	Location	Length (m)	Type	Rec'd weight (kg)	Description	Au average (g/t)
EM004	Zion Wall 11-076	3	Vertical Channel	14.64	Granitoid Saprolite, sandy clay Fe, high silica – resistant to cut, orange and yellow colour, 10% cobbles/boulders (large topple blocks of dolerite), wall is 5 m high, average grade 1.0 g/t Au. Hole 076 intercepted 21 m @ 9 g/t Au.	1.0
EM005	Zion Wall 11-075	3	Vertical Channel	22.55	Granitoid Saprolite, sandy clay Fe, red to orange colour, no cobbles/boulders, wall is 6 m high, average grade 0.3 g/t Au. Hole 075 intercepted 22 m @ 2.28 g/t Au from surface.	0.3
EM006	Zion Adit	1	Channel Cuts Bedding	14.59	Granitoid Saprolite with 20% rock, sandy clay Fe, orange to yellow colour with chlorite infill fractures/Mn staining just above mylonite zone (bottom of Zion mineralization), average grade 4.8 g/t Au in sample # 526019 – 17 m from portal.	4.8
EM007-A+B	Zion Adit	13.7	Horizontal Channel	30.57	Granitoid Saprolite, coarser grained sandy clay Fe, red-yellow colour with chlorite infill fractures, average grade 3.5 g/t Au in samples # 526001 to 14. Channel to contact with 1-ft wide dolerite dyke (footwall). Estimated 15 kg sample collected and best rep of Zion saprolite.	3.5
EM008	Zion - Baccus Pit	2	Horizontal Channel	8.45	Sample collect by Kevin – Granitoid Saprolite, coarser grained sandy clay Fe, average grade 2.5 g/t Au in samples # 525515-16. No boulders.	2.5
EM009	Zion-Kilroy Dead Stop Point	3	Horizontal Channel	8.86	Granitoid Saprolite, fine-grained clayey (clay-rich rep sample for met testing) sand Fe with 1 inch q. Vein (high grade), Large dolerite topple boulders, average grade 1.5 g/t Au with select up to 13.2 g/t.	1.5
EM010	Zion-Kilroy Dead Stop Point	2	Horizontal Channel	10.30	Granitoid Saprolite, quartz-rich sandy clay, average grade 1.5 g/t Au with select up to 13.2 g/t. Sample a continuation of EM009, good met test for quartz-rich material.	1.5
EM011	Kilroy Bottle Bank	0.5	Horizontal Channel	7.10	Sample collected by Marcio – Granitoid Saprolite, clayey sand with rock frags, sample #519521.	
EM012	EMD11-077	0 to 3	DH Core Quarter-Split	1.54	Granitoid Saprolite, clay-rich sandy Fe, fine grained, red colour, average 1 g/t Au from sample #s 502101-02.	1.0
EM013	EMD11-077	3 to 6	DH Core Quarter-Split	2.38	Granitoid Saprolite, sandy clay Fe, coarser grained, mid-brown colour, average 1.0 g/t Au.	1.0
EM014	Zion EMD11-077	6 to 9.5	DH Core Quarter-Split	2.62	Granitoid Saprolite, clay-rich sandy Fe, fine grained with coarser grained near rock contact at 9.5 m, dark red colour to orange at 9 m, average 2.0 g/t Au.	2.0
EM015	Zion EMD11-075	0 to 7.5	DH Core Quarter-Split	3.70	Granitoid Saprolite, sandy clay Fe, fine to mid grained, mixed red-brown colour, average 0.5 g/t Au, start of 25 m mineralized saprolite intercept (pocket).	0.5
EM016	Zion EMD11-075	7.5 to 14.5	DH Core Quarter-Split	3.90	Granitoid Saprolite, sandy Si-rich clay Fe, coarse grained, red to brown to yellow colour, average 3.0 g/t Au, 1 m differential weathering (mineralized) boulder at 14.5 m depth (not sampled).	3.0
EM017	Zion EMD11-075	15.5 to 25	DH Core Quarter-Split	5.07	Granitoid Saprolite, sandy Si-rich clay Fe, coarse grained, brown to yellow colour, average 1.3 g/t Au, dolerite dike contact at 25 m then hard rock.	1.3



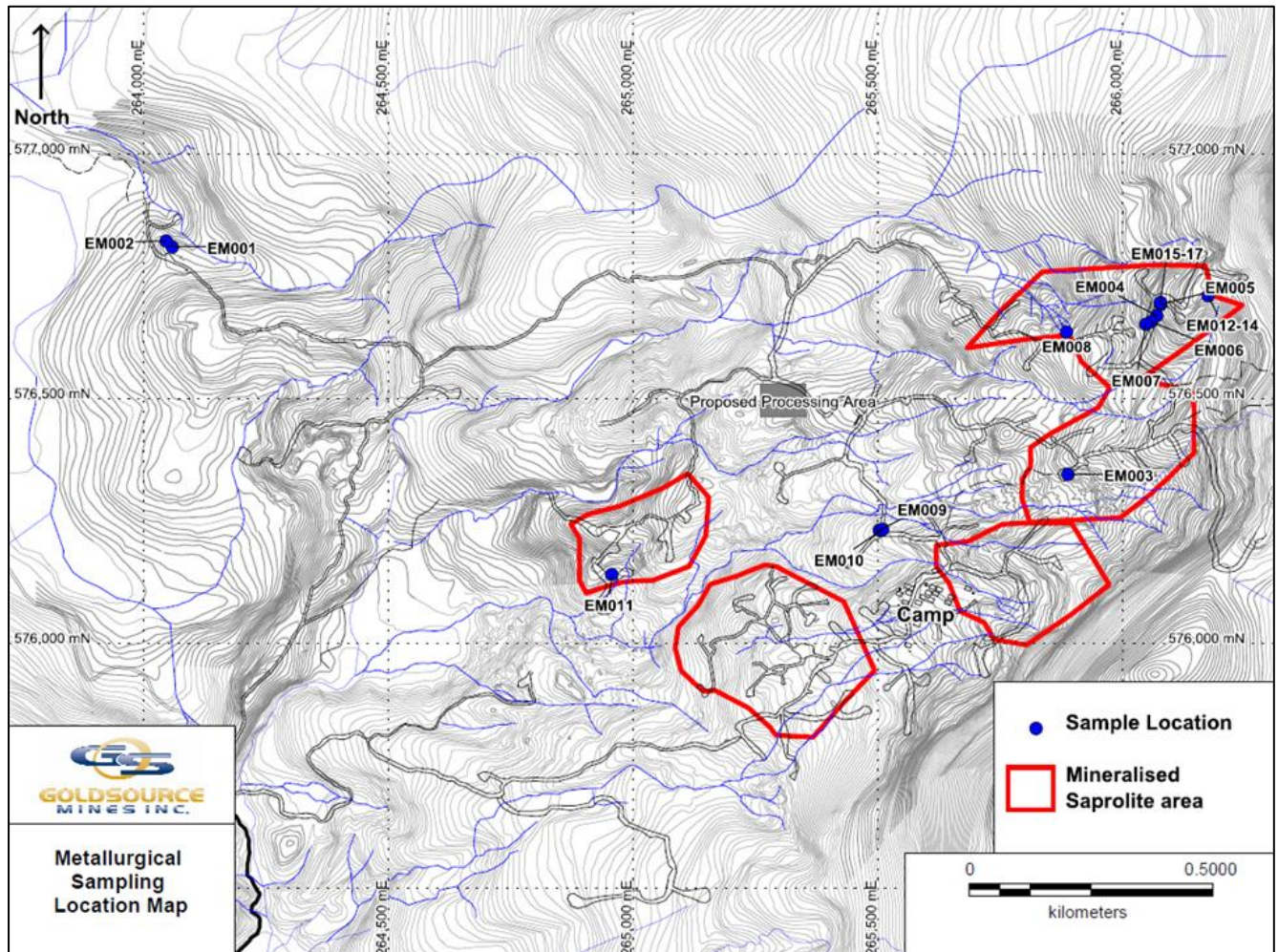


Figure 13-1: Goldsource metallurgical sample location map

The samples were shipped from the Eagle Mountain Property to McClellan Laboratories in sealed bags and barrels where they were dried and approximately 2–3 kg of material were split out for screen analysis (ASTM wet screening procedures, ASTM E-276 13). Each of the size fractions was then submitted for assay of gold and silver by fire assay. Total weight of all samples received was 163 kg.

The screen analysis showed that samples described as having boulders or cobble present did include material on the coarsest screens (+3/4"). Additionally, the gold and silver distribution for each size fraction was calculated (Figure 13-2). Most gold is contained within -325 mesh, averaging between 51% and 80% of the distribution.

Calculated head assays based on size fractional analyses were generally within expectations based on described grade ranges in the sample descriptions, with the exception of EM010 (Zion-Kilroy Dead Stop Point-Horizontal Channel) which evidently contained a significant amount of free gold, scattered across the 35 mesh and finer sizes, and caused the calculated head to rise to 23 g/t Au.

The gold distribution data showed that a few samples have a different gold distribution profile than the greater percentage of samples (Figure 13-2). EM017 (EMD11-075 15.5–25 m) and EM007 (Zion Adit, Horizontal Channel) have a sharp spike in gold contained in the mid-range screen sizes (-1/4" x 10 m; -10 m x 35 m; -35 m x 65 m). Two additional samples have a medium spike in the mid-range sizes; EM010 (Zion-Kilroy Dead Stop Point-Horizontal Channel) and EM011 (Kilroy Bottle Bank – Horizontal Channel). There does not appear to be a grade relationship to the distribution characterization, higher grades do not mean higher gold concentration in mid sizes or in the fines.

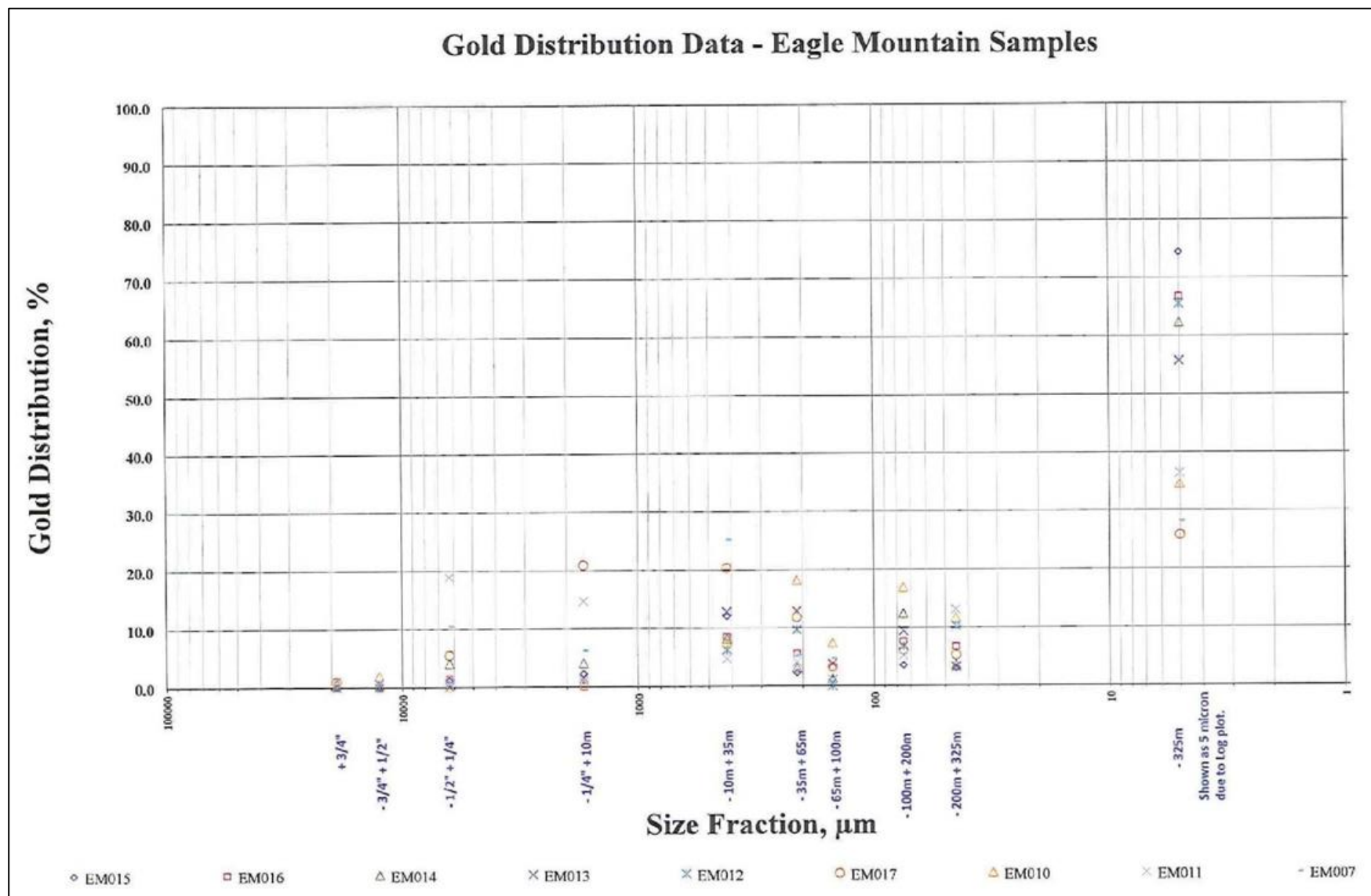


Figure 13-2: Gold distribution for each size fraction of samples submitted to McClellan Labs

McClellan Laboratories was equipped only with Knelson Concentrators which are for coarse gold recovery, therefore 12 of the samples were sent to Met-Solve Labs in Langley, BC in November 2013 to test using Falcon Concentrators which are designed for fine gold recovery. The remaining five samples were either consumed in the McClellan testwork or were considered too low grade (one sample, EM005). Total weight of samples sent to Met-Solve was 73 kg.

Goldsources selected four of the samples to form one composite for testwork (Table 13-6). Descriptive details are presented in Table 13-5. The remaining eight samples were not used in this test program and were retained in storage by Met-Solve.

Table 13-6: Saprolite sample intervals selected for metallurgical testwork composite

Sample ID	Type	Location	Weight (kg)	Au average (g/t)
EM003	REJECT	Zion	5.33	0.5
EM004	REJECT	Zion	9.34	1.0
EM006	REJECT	Zion	8.48	4.8
EM007	REJECT	Zion	15.17	3.5

#### 13.4.2 Met-Solve Testwork and Results

A screen fraction assay was done on the composite to determine the distribution of gold by particle size class; the results are presented in Table 13-7. While gold grades varied across all size fractions, the grades were noticeably higher in the range of 37–150 microns.

Table 13-7: Screen fraction assay of Head Composite

Particle size				Au		
Mesh	Microns	Weight (%)	Cumulative weight (%)	(g/t)	Distribution (%)	Cumulative distribution (%)
4	4,750	5.1	5.1	1.24	3.5	3.5
8	2,360	11.7	16.9	0.91	5.8	9.3
12	1,700	3.8	20.7	0.62	1.3	10.6
16	1,180	11.6	32.3	0.78	5.0	15.6
20	850	5.3	37.6	1.77	5.1	20.7
30	600	5.3	42.9	2.45	7.1	27.9
40	425	4.9	47.8	0.76	2.1	29.9
50	300	4.4	52.2	0.92	2.2	32.1
70	212	3.8	56.0	2.98	6.2	38.3
100	150	3.3	59.3	1.46	2.7	40.9
140	106	2.9	62.2	4.03	6.3	47.3
200	75	2.6	64.8	5.73	8.1	55.4
270	53	3.3	68.1	4.97	9.1	64.4
400	37	2.1	70.2	3.35	3.9	68.3
-400	-37	29.8	100.0	1.94	31.7	100.0
	<b>NET:</b>	<b>100.0</b>		<b>1.82</b>	<b>100.0</b>	

The composite was screened at 150 µm (100 mesh) and the oversize and undersize were each tested separately on a Falcon L40 to compare the response of the two fractions to gravity concentration. This approach provided a relatively equal distribution of mass and gold between the two parts and presented an opportunity to evaluate how each responded to gravity with and without grinding. The combined tails were then processed by flotation for additional gold recovery.

The overall grade determined by averaging the calculated grades from the metallurgical tests and was determined to be 2.1 g/t Au.

The gravity concentration test results from both fractions are presented in Table 13-8.

Table 13-8: Results for the gravity concentration testwork

Fraction	Grinding	Final PSA (P80, $\mu\text{m}$ )	GRG (%)	Gold grade (g/t)	
				Head	Tails
+150 $\mu\text{m}$	Int. Grind	91	72.8	1.40	0.39
-150 $\mu\text{m}$	No Grind	47	73.6	2.82	0.76
-150 $\mu\text{m}$	Single Grind	41	79.5	2.82	0.60
Overall	No grind on -150 $\mu\text{m}$	69	73.4	2.13	0.59
Overall	With Grind on -150 $\mu\text{m}$	65	77.3	2.13	0.50

The -150  $\mu\text{m}$  fraction was tested using the Falcon concentrator in three stages without grinding followed by a grind prior to a fourth stage. The results showed that grinding provided some benefit even on this finer (-150  $\mu\text{m}$ ) fraction. Gold recovery with and without the extra stage of grinding was 79.5% and 73.6%, respectively.

The grade of the finer fraction was higher at 2.82 g/t vs 1.40 g/t for the +150  $\mu\text{m}$  fraction. This is consistent with the head screen fraction assay presented in Table 13-7.

The +150  $\mu\text{m}$  fraction was treated directly, without grinding in the first stage followed by grinds for the second and third stage. The overall gravity gold recovery from the coarser fraction was 72.8% after grinding to a final particle size of 91  $\mu\text{m}$  (P80).

The gravity concentrates were panned to understand upgradability; the concentrates upgraded readily indicating that a high-grade concentrate could be produced from this material.

A flotation test done on the combined gravity tails recovered an additional 25.3% of the gold into a concentrate grading 6.5 g/t.

The gravity and flotation test were integrated into the following overall flowsheet (Figure 13-3) to show the recoveries from multi-step operation. Overall, 83.1% gold was recovered resulting in final tail grade of 0.38 g/t. The gravity only approach, without flotation, provided an overall gold recovery of 77.3% resulting in a final tail grade of 0.50 g/t.

The flowsheet shows that screening the composite at 150  $\mu\text{m}$  resulted in 48.9% of the mass in the oversize with 32.3% of the gold at 1.40 g/t. The undersize contained 51.1% of the mass with 67.7% of the gold at 2.82 g/t.

The expected gold recovery using only gravity concentration without grinding on the -1.3 mm material was estimated to be 60.3% based on an interpolation of the mass balance presented in the flowsheet.



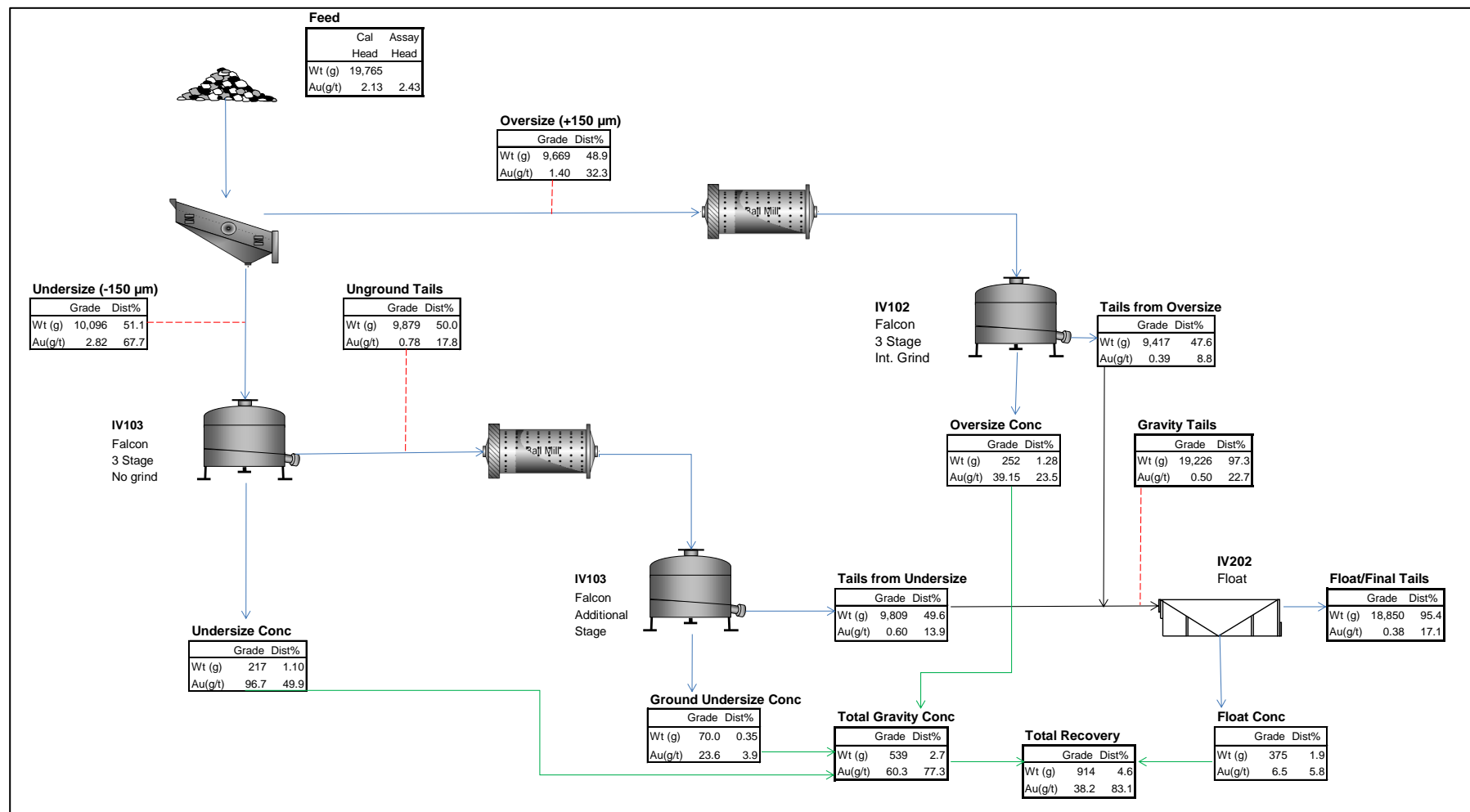


Figure 13-3: Goldsource 2013–2014 saprolite gold metallurgical testwork flowsheet and mass balance

### 13.4.3 Further Metallurgical Testwork

The testing done by Met-Solve was preliminary in nature and carried out on a relatively small sample. Met-Solve noted that future testwork should be on a much larger and more representative sample. The objectives of future testwork were recommended to include the following:

- Scrubber testwork to determine scrubber sizing.
- Since the first phase of processing is expected to be done only on material screened at 2 mm via gravity concentration, a large sample should be screened to remove oversize with undersize being subject to gravity concentration testwork using a centrifugal gravity concentrator.
- Upgrading of gravity concentrates using secondary units, such as a shaking table, should be evaluated.
- Determine the extent of gold recovery improvement by floating the gravity tails.
- Since not all the gold will be recovered into a high-grade product as a result of upgrading (i.e. tabling), cyanide leaching of table tails should be evaluated.
- The +2 mm material will require attrition and the following approaches have been indicated for size:
  - Hammer mill
  - Vertical shaft impactor
  - Lab jaw crush followed by a rod mill.

Met-Solve recommended all three milling approaches should be tested to determine the effect on product particle size and gold recovery via gravity concentration.

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## 13.5 Goldsource Gravity Pilot Plant (2016-2017)

A gravity pilot plant was constructed between October 2015 and December 2015 and operated intermittently from 28 January 2016 to 28 February 2017. An estimated 148,844 tonnes of mineralized saprolite from the Eagle Mountain deposit grading 0.74 g/t Au (3,541 ounces gold contained) were processed through the gravity plant with 643.2 ounces gold reporting to doré, giving an estimated 18% recovery. Approximately 2,898 ounces gold (very fine size) went into tailings storage for potential recovery by cyanidation in future.

A summary of the gravity pilot plant operations follows:

- Q1 2016:
  - On 28 January, Goldsource commenced commissioning Phase I of Eagle Mountain gravity pilot plant. During February and March, Goldsource re-designed and re-fabricated the mine grizzly and processing gold room. The first gold was poured at the end of March.
- Q2 2016:
  - Goldsource completed its first gold sale to the Guyana Gold Board in early April.
  - On 20 June, Goldsource completed commissioning on Phase I of its processing plant, which was defined as an average minimum of 80% of the 1,000 tpd name plate capacity and 45% recovery in gold concentrate, over a continuous 30-day period. Completion of commissioning or commercial production does not imply economic viability.
- Q3 2016:
  - At the end of July, Goldsource suspended operations due to low feed grades and a delay in the shipment of a 40-tonne truck to the Eagle Mountain site.

- Goldsource recommenced mining, stockpiling, and processing of the higher-grade feed material towards the end of August.
- Sepro Mineral Systems Corp., the manufacturer of the Eagle Mountain gravity pilot plant, completed a process audit on 18 September and provided recommendations to improve the process plant performance and recovery. While the head-grade improved substantially, the gold recovery from the Falcon concentrators dropped to an average of approximately 15% in September, short of the targeted minimum recovery rate of an estimated 30% for economic viability. As a result, Goldsource deferred Phase II capital purchases in order to focus on the processing plant and recovery optimization rather than expansion.
- Q4 2016:
  - In October, Goldsource hired a process engineer to optimize the plant at Eagle Mountain to improve throughput and recovery for the gravity-only operation.
  - Production was also materially impacted by equipment related downtime and water shortages due to the dry season.
  - During November, the pilot plant process was altered to bypass the recirculation of +2 mm oversize material and to stockpile it in inventory. This significantly decreased plant maintenance requirements with less downtime and improved throughput.
  - Plant operations ran continuously at near capacity in the first three weeks of December and gravity gold recovery to concentrate in Q4 increased to 27% (up from 25% in Q3 2016). However, as this recovery rate remained below the design of 35–40% for a gravity-only operation, the process plant was shut down on 23 December and one-half of the workforce at Eagle Mountain was released to reduce in-country costs while Goldsource completed further plant modifications intended to improve throughput and recovery.
- Q1 2017:
  - As part of optimization efforts at the gravity-only processing plant and given the ultra-fine nature of most of the gold grains in the saprolite deposit, the Krebs cyclone was installed on 12 February in an effort to improve gold recovery. Initial assay results suggested gold recoveries of 15–50%, depending on cyclone parameters and processing feed rates. Work continued through the quarter to define the optimal operating parameters for both short-term and long-term planning.
  - Operations for the pilot gravity plant consisted of a feed mix of dry (truck-excavator) and wet mining (Marok pumping).
  - Gold recovered during testing was 34.90 ounces.
- Q2 2017:
  - Goldsource intermittently operated the plant at a reduced average rate (less than 300 tpd) with the purpose of:
    - testing the wet mining system for potential large-scale mining
    - cyclone optimization
    - mining and metallurgical testwork.
  - A high-density polyethylene (HDPE) slurry pipeline, to reduce operating downtime, was installed by mid-May. Successful testing of the HDPE piping took place following the mobilization of the Marok system to Pit 6.
  - Gold recovered was 29.17 ounces.

## 13.6 Metallurgical Testwork and Grinding Cost-Benefit Analysis Studies (2018)

Goldsource retained SGS Lakefield to conduct metallurgical testwork on saprolite mineralization under the supervision of independent Vancouver-based Tetra Tech Inc. (Tetra Tech). Twenty-two saprolite samples representing the different mineralized zones of the Eagle Mountain deposits were collected (trench and core) with additional samples representing the existing pilot gravity plant tailings and the +2 mm stockpile from the same operation. The samples, totalling approximately 500 kg, were shipped to SGS Lakefield in Q1 2018 for testing.

The test program consisted of sample characterization (assaying, sizing, mineralogy, and gold deportment), grindability testing, followed by gravity separation and cyanidation. The received samples were grouped into seven composites designated as VC1 through VC7 for the purposes of the test program (see Table 13-11 below). The Master Composite is a blend of the composite samples (VC1 to VC4 and VC7). The composite sample, VC5 is representative of the existing pilot gravity plant tailings from the 2016 operation. The composite sample, VC6 is representative of the +2 mm stockpile from the same pilot plant operation.

### 13.6.1 Sample Characterization Studies (2018)

The master composite, referred to as “MC”, was submitted to the Advanced Mineralogy Facility at SGS Lakefield and was prepared for bulk mineralogy and gold deportment studies. The objectives of this investigation were to determine (1) the bulk mineralogy of the sample, (2) the gold mineral speciation, grain size, liberation, and association, and (3) the overall gold distribution by a comprehensive mineralogical analysis, including a cyanide leach test and chemical analysis. A summary of the testwork results is presented below (SGS, 2018).

#### *Chemical Analysis*

Chemical analyses were completed on the MC sample. The sample consists of major amounts (in wt %) of SiO<sub>2</sub> (57.8%), moderate amounts of Al<sub>2</sub>O<sub>3</sub> (21.3%), minor amounts of Fe<sub>2</sub>O<sub>3</sub> (7.71%), and trace amounts (<2%) of K<sub>2</sub>O, TiO<sub>2</sub> as well as other elements.

The gold grade for the MC sample is 0.96 g/t and for tellurium is <4 g/t. The sulphur grade (as sulphide) is <0.05% and the grade of arsenic is <0.001%.

#### *Bulk Mineralogy*

The bulk mineralogy of the sample was determined with QEMSCAN Rapid Mineral Scan (QEM-RMS) analysis and x-ray diffraction (XRD) bulk analysis, including clay mineral speciation. The MC sample contains major amounts of quartz (52.6%), moderate amounts of gibbsite (19.2%) and kaolinite (11.1%), minor amounts of iron-oxide (7.3%), iron-aluminium-silicate (5.6%), sericite/muscovite (2.1%), and trace amounts (<2%) of titanium-oxides and other minerals.

#### *Gold Deportment Study*

The sample procedure for the gold deportment study included preconcentration by gravity separation with HLS and super-panning. Chemical assays were used to determine the mass balance and main elemental distribution in the preconcentration products. Optical microscopy and scanning electron microscopy (SEM), equipped with Energy Dispersive Spectrometers (EDS), was conducted on the polished sections prepared from representative preconcentrated products for gold mineral scanning, identification, grain size measurement, and association characteristics. To aid the mineralogy deportment characterization of gold in the HLS Float products, a representative HLS Float subsample was submitted for a cyanide leach test.

The mineralogical gold deportment study method used by SGS is based on the assay distribution and target mineral (gold) occurrence in the preconcentration fractions. This method was accredited by the SCC to conform



to the requirements of ISO/IEC 17025: The General Requirements for the Competence of Testing and Calibration Laboratories.

The main findings for the microscopic gold mineral grains (>0.5 µm) of HLS Sink fraction are summarized in Table 13-9.

Table 13-9: Characteristics of microscopic gold

Sample ID	Association	No. of gold grains	Size range (µm)	Average size (µm)	Au-mineral abundance	Minerals associated with exposed and locked Au-minerals
MC	Liberated	207	0.6–89.9	11.8	Native gold (100%)	Silicate (61.1%), iron-oxide (32.2%), arsenopyrite (6.7%), ilmenite (<1%), pyrite (<1%)
	Exposed	20	1.6–19.5	6.5		
	Locked	22	0.8–20.1	4.7		

A total of 249 gold grains were found in the MC sample, including liberated, exposed, and locked gold, with average grain size of 11.8 µm, 6.5 µm, and 4.5 µm, respectively. Gold minerals identified are mainly native gold (gold/silver alloy with gold >75%) with trace occurrences of electrum (gold/silver alloy with 50% to 75% gold). The exposed and locked gold grains were associated mainly with silicates (61.1%), iron-oxide (32.2%), arsenopyrite (6.7%), and trace amounts (<1%) with silicates.

The results of chemical assays, the mass balance, and a cyanide leach test for the HLS Float were combined with those of the mineralogical microscopic gold from HLS Sink fraction to estimate the potential of gold extraction for the entire sample. The results are summarized in Table 13-10.

Table 13-10: Overall gold department

Sample ID	Mass (wt%)	Assays Au (g/t)	Distribution Au (%)	Exposed and leachable gold (%)	Locked and unleachable gold (%)
MC	100	0.96	100	96	4
MC HLS Sink	2.47	22.3(3)	57.3	55.5(1)	1.82
MC HLS Float	97.5	0.42	42.7	40.5(2)	2.18

Notes:

- Liberated and exposed gold distribution in HLS Sink.
- Extracted gold in HLS Float by leach test.
- Back-calculated assay.

The gold grade of the head sample is 0.96 g/t, of which 57.3% occurs in the HLS Sink fraction (including 46.4% liberated, 9.1% exposed, and 1.8% locked gold) and 42.7% in the HLS Float fraction (including 40.5% leach extracted gold and 2.2% unleachable gold). Therefore, the exposed (including liberated and exposed gold grains) and leachable gold accounts for 96% overall, and the locked and unleachable gold accounts for 4% of the total gold in the sample.

Only the contribution of microscopic (visible, >0.5 µm) gold is considered in the calculation of the gold grade distribution. Submicroscopic gold (<0.5 µm), possible carbon-related surface gold, and other possible non-observed forms of gold are not taken into consideration, and therefore, their contribution to overall head grade is unknown.

### 13.6.2 Summary of 2018 Metallurgical Testwork

The results of the detailed metallurgical testwork are summarized as follows and in the table below:

- The Bond Ball Mill Work Index is 8.1 kWh/t for the overall sample (including fines) and 16.3 kWh/t for the coarse fractions of the MC (with fines removed).
- The Bond Abrasion Index is 0.004 and indicates low abrasiveness in the mineralization.

- The gold grade for the MC sample was 0.98 g/t. The sulphur (as pyrite) content is <0.05%. No deleterious elements were noted in assays results.
- For the MC sample, approximately 50% of the gold occurs within the finer fraction of -25 micron.
- The gravity concentration tests, excluding pilot plant tails, resulted in a gold recovery between 18.9% and 29.5% (averaging 24.4%).
- For the Master Composite samples, cyanide leach test results of gravity tailings showed an average gold recovery of 96.7%.
- Test results show a conceptual grind size of 200 micron (P80) for processing comprised of gravity concentration followed by leaching. The applied standard condition for cyanide concentration was 0.5 g/L.
- The cyanide detoxification results indicated that the  $CN_{WAD}$ , present in the carbon-in-pulp barren pulp could be destroyed to levels below the typical effluent discharge requirement of 1 mg/L.

Table 13-11: Summary of gravity and cyanide leach results

Sample no.	Sample description	Head Au grade (g/t)	Feed size P80 ( $\mu\text{m}$ )	Gravity Au extraction recovery (%)	Gravity + CN ** Au extraction recovery (%)
VC1	Zion 01-07	0.90	173	27.6	97.6
VC2	Zion 08-10	1.29	175	25.4	96.0
VC3	Kilroy 01-06	1.13	132	18.9	97.4
VC4	Kilroy 07-08	0.39	162	29.5	94.8
VC5	Pilot Gravity Plant Tails	0.77	761 *	N/A	87.4
VC6	Stock +2mm	1.99	195	13.7	93.6
VC7	Saprolite Drill Core	1.17	179	20.7	97.7
Average	VC1 to VC4 and VC7	0.98	164	24.4	96.7

\*VC5 sample (Pilot Gravity Plant Tailings) without prior grinding or additional gravity separation; already passed through the FALCON Gravity Concentrators at the pilot plant.

\*\*48-hour leach residency times.

Table 13-12: Summary of gravity and cyanide leach results from coarser grinding

Sample no.	Sample description	Head Au grade (g/t)	Feed size P80 ( $\mu\text{m}$ )	Gravity Au extraction/recovery (%)	Gravity + CN ** Au extraction/recovery (%)
CN5	Master Composite	0.98	563	26.0	97.6
CN6			186		97.0
CN7			124		97.3

\*\*48-hour leach residency times.

The recommended proposed design rate for mineralized saprolite volume to bypass the grinding circuit was 45%. No additional metallurgical testwork is recommended at this stage. However, further metallurgical testwork may be justified depending on the success of expansion drilling on newly defined targets.

Based on the above detailed metallurgical results, the general flowsheet conceptually suggested an open-pit mining operation followed by a standard gravity-grind-leach (carbon-in-pulp) processing facility at a throughput rate of 4,000–5,000 tpd.

## 14 Mineral Resource Estimates

### 14.1 Introduction

This MRE was prepared by Dr Adrian Martínez Vargas, P.Geo. and Principal Resource Geologist. The MRE was internally peer reviewed by Mr David Williams, Principal Resource Consultant. Dr Luke Longridge, P.Geo. and Senior Structural Geologist, worked with Goldsource to complete the interpretation of estimation domains (Zones 1, 2 and 3 at the Eagle Mountain deposit, and vertical and horizontal mineralized domains at the Salbora deposit) based on geological parameters. Dr Martínez, Dr Longridge, and Mr Williams are full-time employees of CSA Global.

Goldsource provided CSA Global with wireframes representing the interpretation of mineralized zones (Eagle Mountain Zone 1, Zone 2, Zone 3, and Salbora mineralized bodies), the contact of the saprolite with the fresh rock, a digital elevation model of the actual topography, drillhole collars, survey, assay results, density measurements, and geological logging including the oxidation state of the rock into saprolite (or fresh). An additional auger drilling database containing assays with QAQC was provided and used for interpolation. Another auger drilling database, with assays completed without a proper QAQC program, was provided but not used for interpolation. Similarly, historical drillholes from the Anaconda campaign were used for geological interpretation but excluded from the interpolation. A cut-off date of November 6, 2020 was used for drilling data informing the MRE.

The Qualified Person reviewed all informing data and considered that the quality and quantity of the information is appropriate for Mineral Resource estimation. The interpretation of the mineralization provided by Goldsource was reviewed. These wireframes were revised for the Salbora deposit and slightly modified for the Eagle Mountain deposit.

The MRE workflow was as follows:

- Data validation and preparation
- Reinterpretation of the mineralization and estimation domains
- Coding, compositing, and capping
- Exploratory data analysis and statistical analysis
- Variogram analysis
- Block modelling
- Derivation of interpolation plan, interpolation, and validation
- Classification and Mineral Resource reporting.

### 14.2 Informing Data and Database Validation

The drillhole data was provided as a set of ASCII CSV files containing collar, survey, assays, lithology, density, and oxidation state. Drillhole auger data was provided in separate collar, survey, and assays tables. A table containing only drillhole auger with assays that were subject to QAQC procedures was provided and used to exclude auger data without QAQC. All auger drillholes are vertical. The drillhole data was reviewed, formatted, and validated for table relation issues such as assay without collars and collar without survey. The interval tables were validated for overlaps and gaps and consistency of the assay data values. Collar elevations were compared with the digital elevation model, and the sample distribution was reviewed to make sure they represent the mineralization and are appropriate for spatial interpolation.

The main issue observed was discrepancies between the elevation of some drillhole collars and the topography wireframe, mainly around the deposit boundaries. This issue was resolved by projecting the collars to the topography. Goldsource recognises that the current topographic surface is inadequate in detail considering the steep and incised topography and has planned a LiDAR survey for 2021 to address this. It was also observed that density samples were not collected systematically along the saprolite profile's vertical direction. That makes it difficult to evaluate any transitional change in density.

The auger drilling and drillholes do not cut all the mineralized zones, especially the deepest mineralized area of the Eagle Mountain. This issue was solved during the interpolation by restricting sample search in the vertical direction and unfolding the estimation domains.

All data was provided in metric units. All assays are only for gold and are expressed in ppm (or g/t).

A working dataset was prepared before interpolation. The drillholes and auger drillholes within a bounding box around the mineralized areas were extracted and separated into two separated datasets, one for Salbora and one for Eagle Mountain. Auger holes and drillholes were maintained as separate databases but were combined for interpolation. The drillhole data and the bounding boxes used to split the datasets are shown in Figure 14-1. Table 14-1 shows a summary of the drillholes used for interpolation for each zone.

The number of density samples is not large enough for interpolation. Thus, average densities were applied to fresh rocks (based on lithology) and saprolite. There are 165 measurements of density in saprolite from a total of 394 density measurements.

Table 14-1: Working dataset used for interpolation.

Dataset	No. of drillholes	Total length (m)
Auger drillhole Salbora	104	410
Auger drillhole Eagle Mountain	158	533
Drillhole Salbora	64	9,748
Drillhole Eagle Mountain	426	33,098



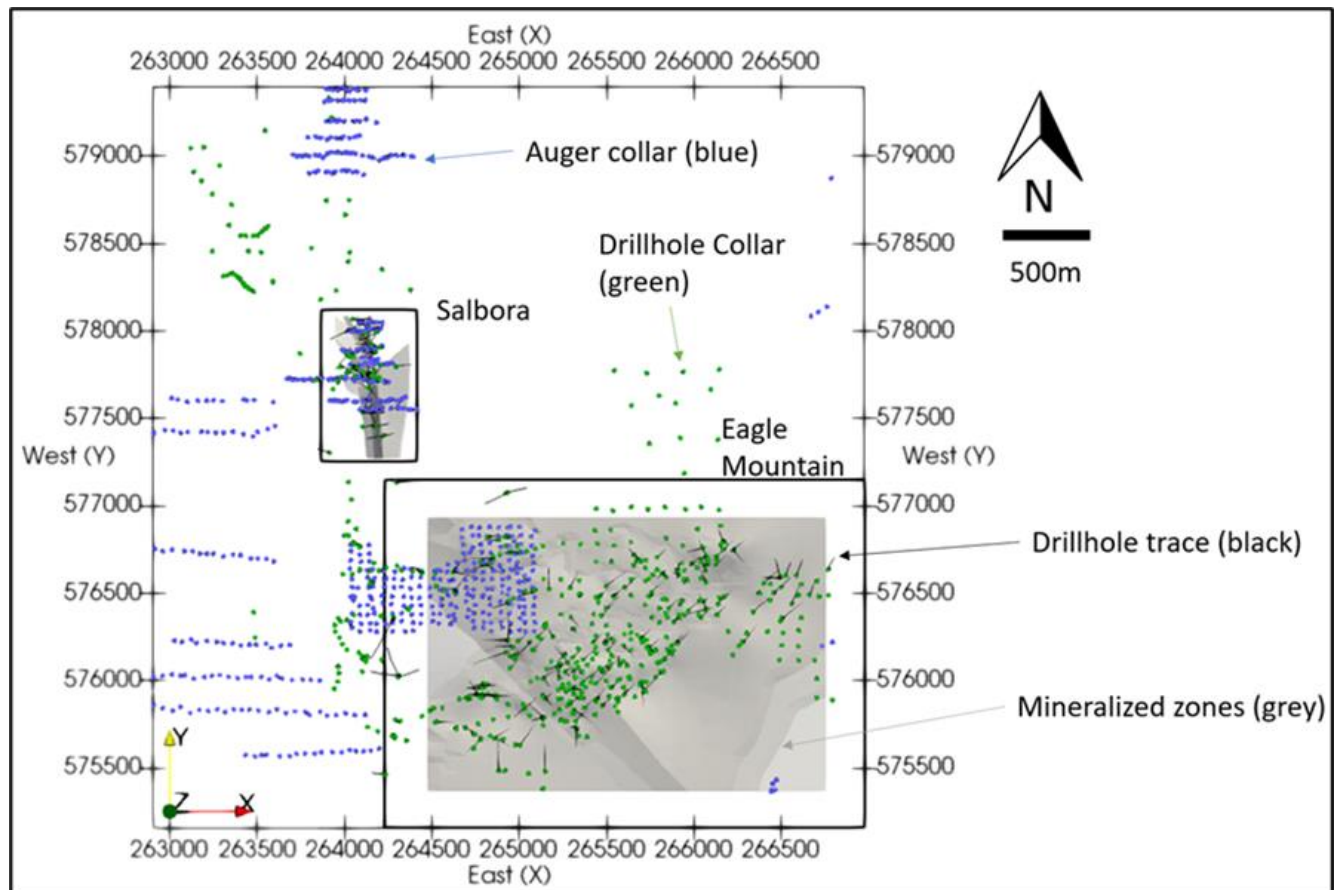


Figure 14-1: Drillhole collar and traces, mineralized areas, and bounding polygons used to build the working datasets

### 14.3 Geological Interpretation and Estimation Domains

The Eagle Mountain and Salbora deposits are structurally controlled gold deposits and are considered part of the same mineralizing system. At the Eagle Mountain deposit, gold mineralization is associated with a series of tabular to gently undulating, shallow northwest-dipping shear zones developed within a granodioritic host rock. These discrete shear zones are generally narrow (centimetre-scale) but are surrounded by broader zones with millimetre-scale second-order fractures and pervasive silicification and chloritic alteration. Three discrete zones of alteration and mineralization have been delineated at the Eagle Mountain deposit using drillhole logging data. Three zones were modelled. Zone 1 is shallowest and crops out at the surface across much of the Eagle Mountain area, while Zone 2 and Zone 3 lie at depth below Zone 1.

The Salbora deposit is formed by a series of north to northwest trending, upright to steeply dipping shear structures developed in a basaltic host rock on the margin of a monzonite body. These vertical structures (shear zones and breccia bodies) coalesce into a broader zone of brecciation that forms a sub-horizontal lens up to 100 m thick and approximately 200 m x 200 m in area, where higher-grade gold mineralization occurs (Figure 14-2). The mineralized bodies at the Salbora deposit were modelled in Leapfrog Geo, exported in the form of wireframes, and used directly for interpolation.

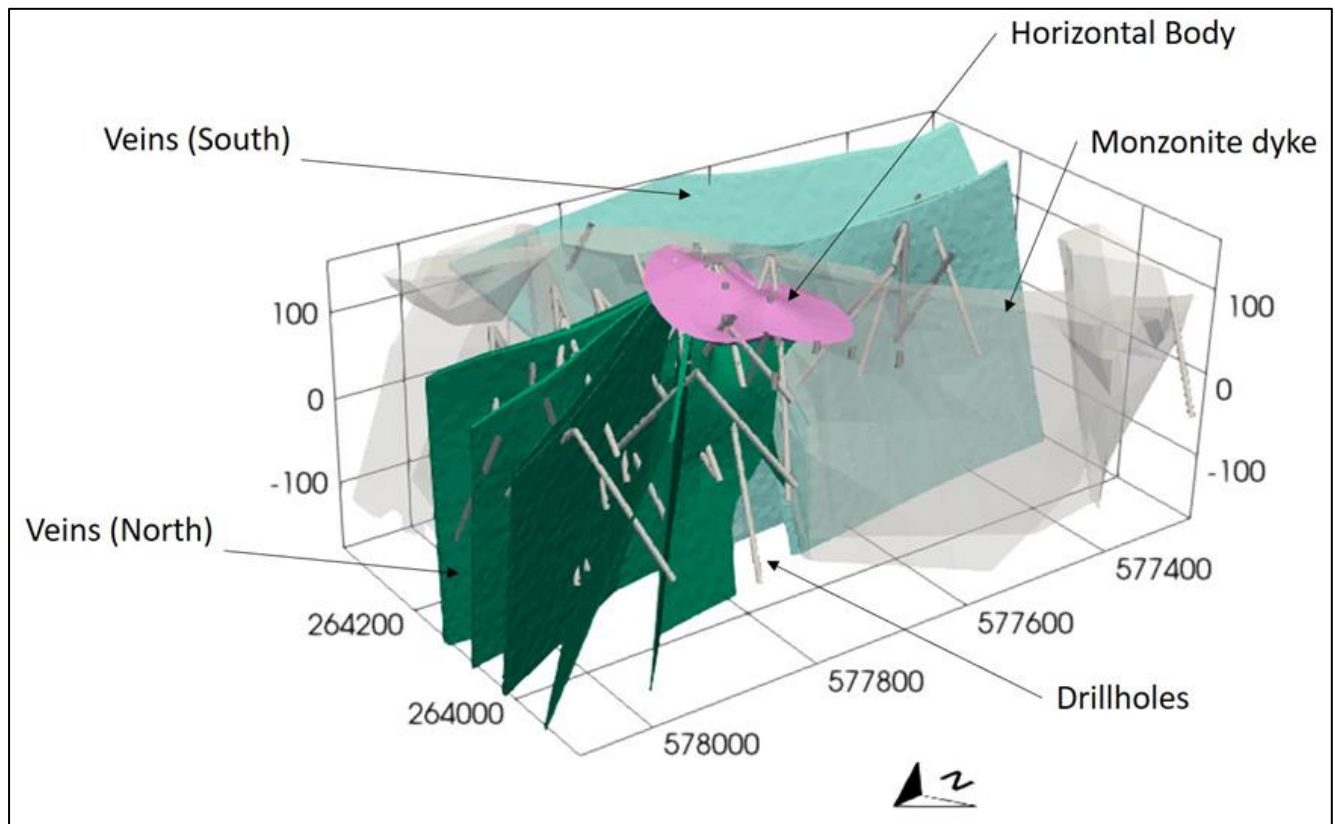


Figure 14-2: Interpretation of the mineralized and geology domains of Salbora

At the Eagle Mountain deposit, it was observed that the modelled alteration and structural zones are not always mineralized and may locally have very low grades. For that reason, Zone 1 and Zone 2 were further sub-domained into mineralized and unmineralized areas. This was done by modelling the probability of having a gold grade over 0.1 g/t. The probability of mineralization over 0.1 g/t was estimated using categorical indicator kriging on a fine grid of 5 m x 5 m x 1.5 m. The mineralized domain within Zone 1 and Zone 2 was defined by the envelope representing over 50% probability of having mineralization over 0.1 g/t Au. Zone 3 was not sub-domained due to the lack of data required for indicator interpolation within this domain. This envelope defines the interpolation domain used to estimate Mineral Resources with linear interpolators. The wider Zone 1 and Zone 2 interpretations (i.e. without sub-domaining) were used to creating an alternative estimate with a nonlinear interpolation, which was used for validation purposes.

A zone of saprolitic weathering is present at both the Eagle Mountain and Salbora deposits. This saprolite zone is up to 50 m thick and overprints earlier-formed mineralization in both the granodiorite and basalt but has not resulted in enrichment of gold in the saprolite horizon. This saprolite zone was modelled using logging information and was used to assign densities.

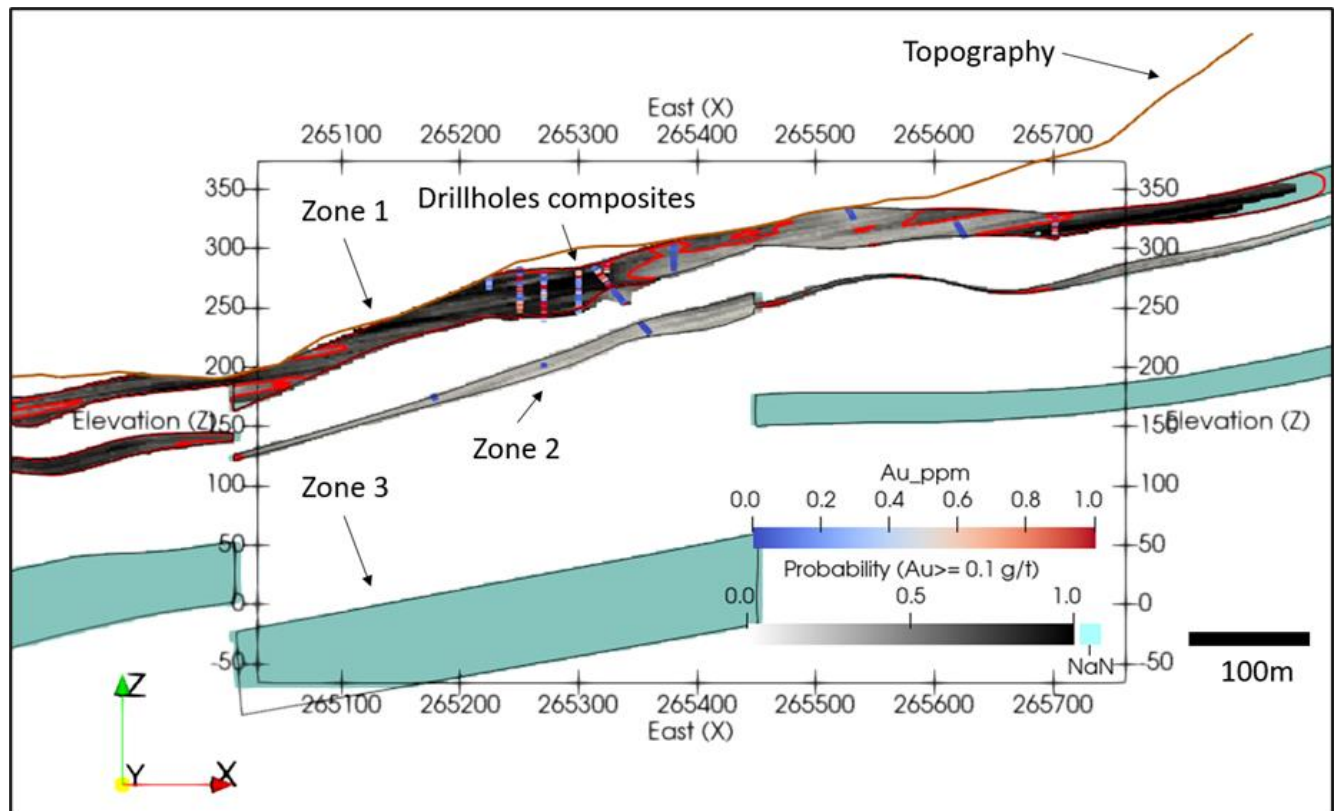


Figure 14-3: Vertical section along north 575953 showing the geological domains of Eagle Mountain, mineralized domain outline (in red), and probability of Au  $\geq$  0.1 g/t

#### 14.4 Sample Coding, Compositing and Capping

Drillhole data and auger data were flagged with mineralized domains and saprolite domains. In the case of Salbora, drillholes and auger drillhole sampling intervals were split into 0.5 m intervals before flagging to ensure the correct selection of the intervals within very narrow veins shown in Figure 14-2.

The most frequent sampling interval is 1.5 m for drillholes and 1 m for auger drilling. These intervals were used to composite each corresponding drilling type. The two composite datasets were then combined into a single dataset for Eagle Mountain. Auger data was not used to interpolate at Salbora. It is important to note that the auger data has a restricted spatial distribution (Figure 14-1) and has only been used to estimate a small portion on the northwestern margin of the Eagle Mountain deposit where there is a low density of diamond drilling. Also, given the search strategy used for interpolation, the union of two datasets with different composite lengths has no impact on the estimate.

Capping was applied after compositing. In the Eagle Mountain, gold grade values over 20 g/t were truncated. In total, eight samples were capped. In Salbora, a capping of 40 g/t Au was applied for the horizontal domain (Figure 14-2). Only two samples were over this threshold. In the veins at Salbora, the capping was 10 g/t, and only six sample composites were over this value. These capping values were defined using cumulative distribution functions (CDFs) generated during the statistical analysis.

#### 14.5 Statistical Analysis and Variography

Composites samples were used to complete a basic statistical analysis consisting of delustering analysis, calculation of basic statistics, construction of histograms and CDF, and variography.

De-clustering was completed, as required, using de-clustering cells. De-clustering was also completed using the nearest neighbour estimate. All the statistics were with de-clustering using cells of 100 m x 100 m x 6 m with no capped data and capped data. All the coefficients of variation are high, and interpolation parameters required fine-tuning to avoid over-smoothing, as shown in Figure 14-4.

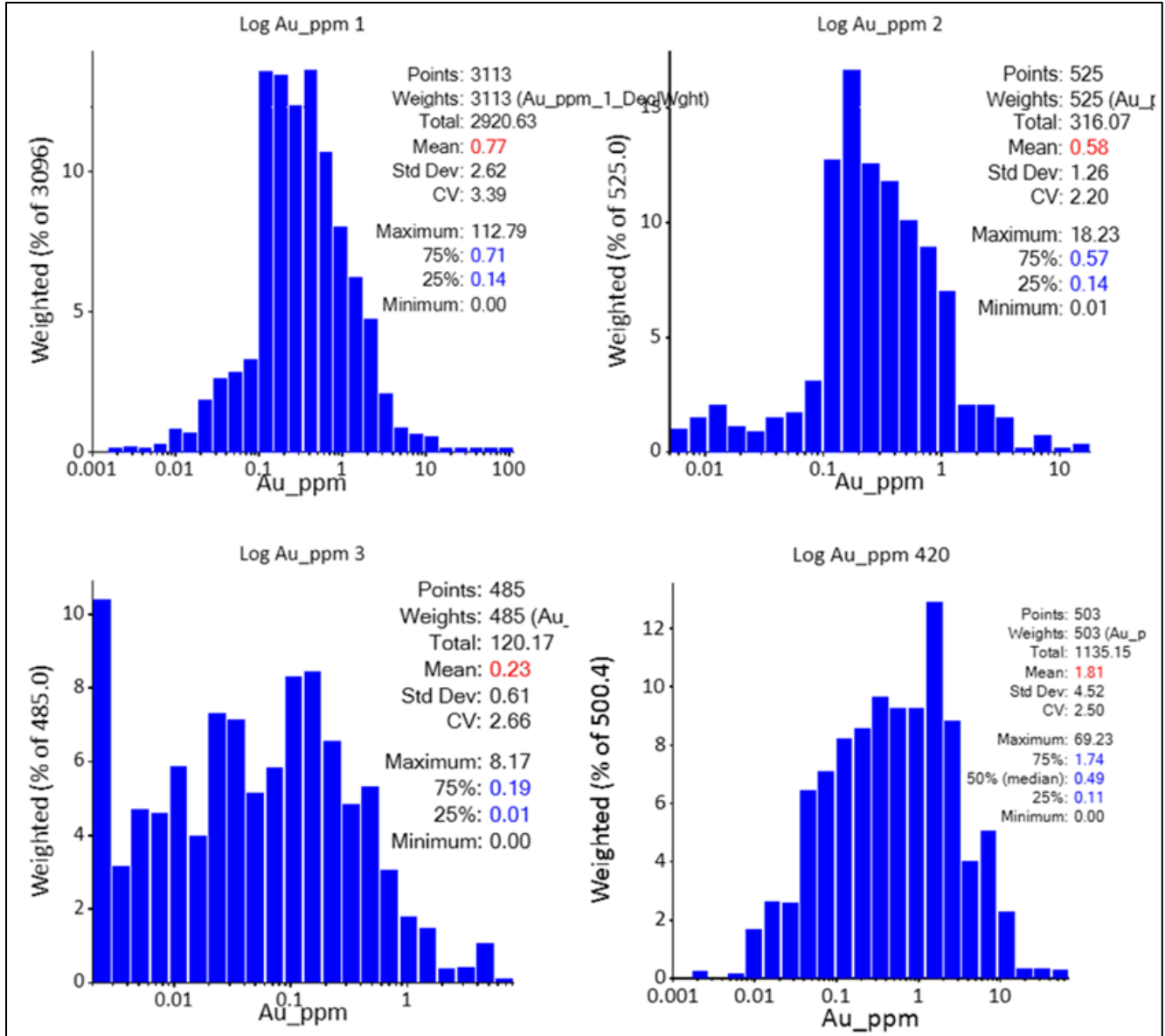


Figure 14-4: Histogram of Au grades in the interpolation domains of Eagle Mountain (domains 1, 2, 3) and Salbora (domain 420)

Variograms for Eagle Mountain were calculated initially using all the data within the geological domains and subsequently using data only within the mineralized sub-domains, using normal score transformed data and correlograms (Figure 14-5). At Salbora, the variogram was only calculated for the horizontal domain, using normal score transformed data. The normalized variogram models used for interpolation are shown in Table 14-2. Normalized variogram models were back-scaled to actual variance to complete estimation validations with a global change of support with a discrete Gaussian model. Note that the same variogram model was used for all the estimation domains at Eagle Mountain, since it was observed that the same model correctly fits the spatial correlation of all the domains. At Salbora, there was not sufficient data to construct an



experimental variogram and fit to a model for the vein domains. The same variogram fitted for the horizontal domain was used for model validation.

The estimation domains for Zone 2 and Zone 3 of the Eagle Mountain deposit were flattened to reconstruct the original continuity of the domain and remove the displacement of the post mineralization faults. The variogram model directions were corrected before interpolating in these domains.

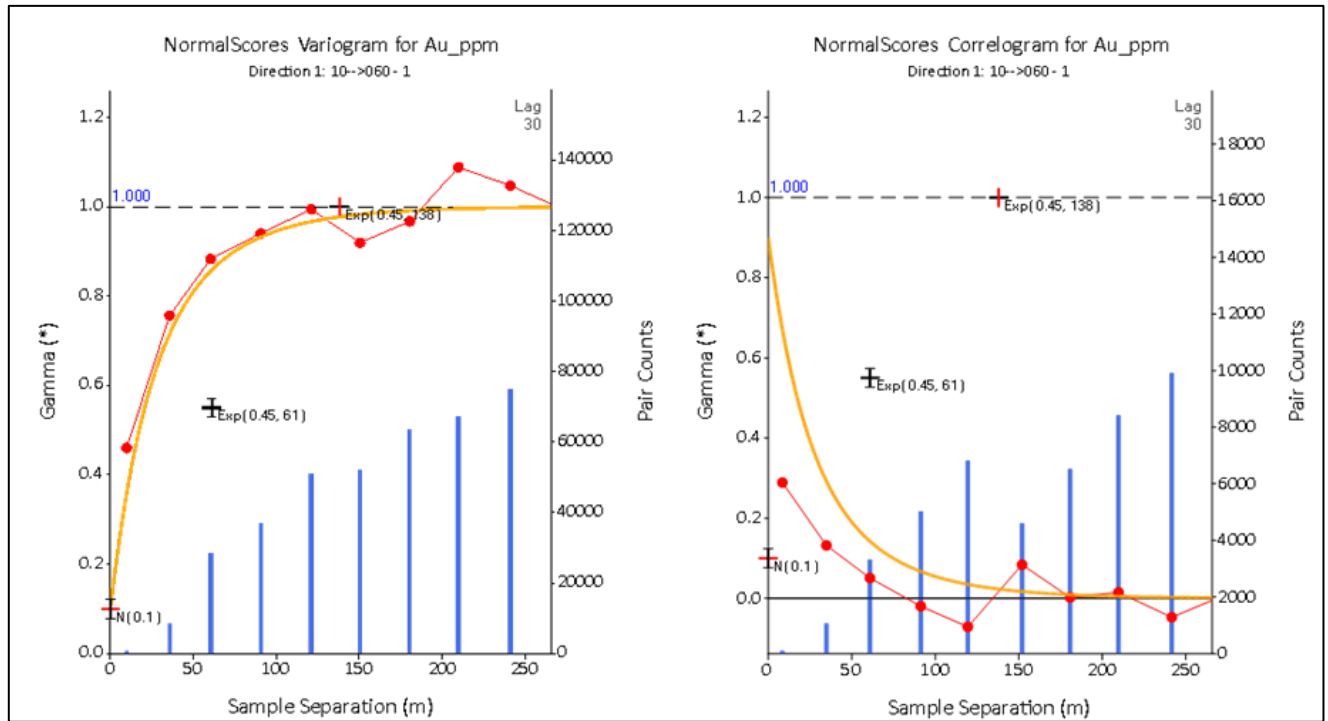


Figure 14-5: Example of directional variogram calculated for Eagle Mountain for the geological domain Zone 1 (left) and within the mineralized domain Zone 1 (right)

Table 14-2: Variograms models used for interpolation and model validation

Deposit	Mineralized domain	Nugget	Rotation angles 1, 2, 3 (GSLIB)	Structure 1 (Exponential)		Structure 2 (Exponential)	
				Sill	Ranges	Sill	Ranges
Eagle Mountain	All	0.3	60, 10, -2	0.6	60, 60, 10	0.1	140, 140, 140
Salbora	All	0.4	0, 90, 100	0.6	60, 60, 40	-	-

## 14.6 Block Models and Density

Block models were built assuming that selective mining within an open pit will be completed. It was also considered that saprolites at the Eagle Mountain deposit could be mined in small benches to follow the mineralization direction, which is more continuous in the horizontal plane than in the vertical. The Salbora deposit has higher continuity in the vertical direction and in the north-south plane.

The models were built with full blocks (without sub-cells) and the proportion of the blocks below the topography was calculated. At Eagle Mountain, where the mineralized zones are wider than the block size, the interpolation domains were assigned to the blocks with higher proportion within each domain. At Salbora, the proportion of each domain was calculated in the blocks. Then, the blocks were regularized after interpolation. At Salbora, the non-mineralized domain of the monzonites was also coded to assign density. All the blocks above the base of the saprolite surface were assigned to the saprolite domain. The block models were visually validated after flagged.

A buffer zone of non-mineralized material around mineralized areas was populated with blocks around the models for pit optimization purposes. The block model definitions are shown in Table 14-3.

Table 14-3: Definition of the block models of Salbora and Eagle Mountain

Block model parameter	Salbora	Eagle Mountain
Origin of coordinates (east)	263800	264000
Origin of coordinates (north)	577100	575350
Origin of coordinates (elevation)	-190	-70
Block size (east)	5	10
Block size (north)	10	10
Block size (elevation)	5	3
Number of blocks (east)	120	300
Number of blocks (north)	120	165
Number of blocks (elevation)	72	263

Density was assigned as 2.7 t/m<sup>3</sup> for all fresh rock, except for the monzonites, which were set with a density of 3.0 t/m<sup>3</sup>. Blocks within the Eagle Mountain saprolite were assigned with a density of 1.7 t/m<sup>3</sup> and 1.6 t/m<sup>3</sup> in Salbora saprolite. These densities assigned are based on average values of density samples collected in the deposit.

## 14.7 Interpolation and Model Validation

Gold grades were interpolated using ordinary kriging, inverse of the squared distance, and nearest neighbour, using datasets with capped gold values. The interpolation was completed first in a set of single testing blocks to validate interpolation weights, search ellipses and sample selected. These parameters were visualized in 3D to ensure the interpolation parameters were working as expected and that there were no artifacts in the interpolation weights, such as severe string effects. The interpolation in all the blocks was completed once the interpolation parameters were selected. Interpolation was completed using two search passes at Salbora and three passes at Eagle Mountain. Subsequent search passes were used to estimate when the number of samples was insufficient to interpolate in the first pass. All the interpolations were carried out per estimation domain.

In Zone 2 and Zone 3 of Eagle Mountain, the block model and composites samples were flattened to a planar surface defined using as reference the upper surface of the domain. The objective of this transformation, usually referred to as unfolding, was to remove the effect of folding and vertical displacement by post-mineralization faults. Search ellipses were applied in the same direction as the variogram model rotations. However, variograms and search ellipse directions were corrected to interpolate in flattened (unfolded) domains. The interpolation parameters are shown in Table 14-4.

Table 14-4: Interpolation parameters

Parameter	Salbora veins	Salbora "horizontal domain"	Eagle Mountain
Number of discretization points	3 x 3 x 3		
<b>Pass 1</b>			
Search ellipse radius 1	60	20	110
Search ellipse radius 2	60	30	110
Search ellipse radius 3	60	30	4
Number of samples maximum	9	6	6
Number of samples minimum	5	3	5
Samples (maximum) per drillhole	3	2	2

Parameter	Salbora veins	Salbora “horizontal domain”	Eagle Mountain
<b>Pass 2</b>			
Search ellipse radius 1	100	40	160
Search ellipse radius 2	100	100	160
Search ellipse radius 3	100	100	4
Number of samples maximum	9	6	6
Number of samples minimum	5	3	5
Samples (maximum) per drillhole	3	2	2
<b>Pass 3</b>			
Search ellipse radius 1	-	-	160
Search ellipse radius 2	-	-	160
Search ellipse radius 3	-	-	20
Number of samples maximum	-	-	6
Number of samples minimum	-	-	5
Samples (maximum) per drillhole	-	-	2

Validations were completed using comparison of average grades, swath plots (Figure 14-6), global change of support (Figure 14-7), comparison of the estimate and drillholes in sections (Figure 14-8 and Figure 14-9), and using alternative estimates. A global change of support validation was complete using de-clustered composites and nearest neighbour estimate and used a discrete Gaussian model (Figure 14-7). Statistical validations were completed using Supervisor software and PyGSLIB and most validations were repeated in both softwares. Visual validations were per domain, in individual sections (Figure 14-8) and using a set of parallel sections in 3D to better visualize trends along with local interpolation issues.

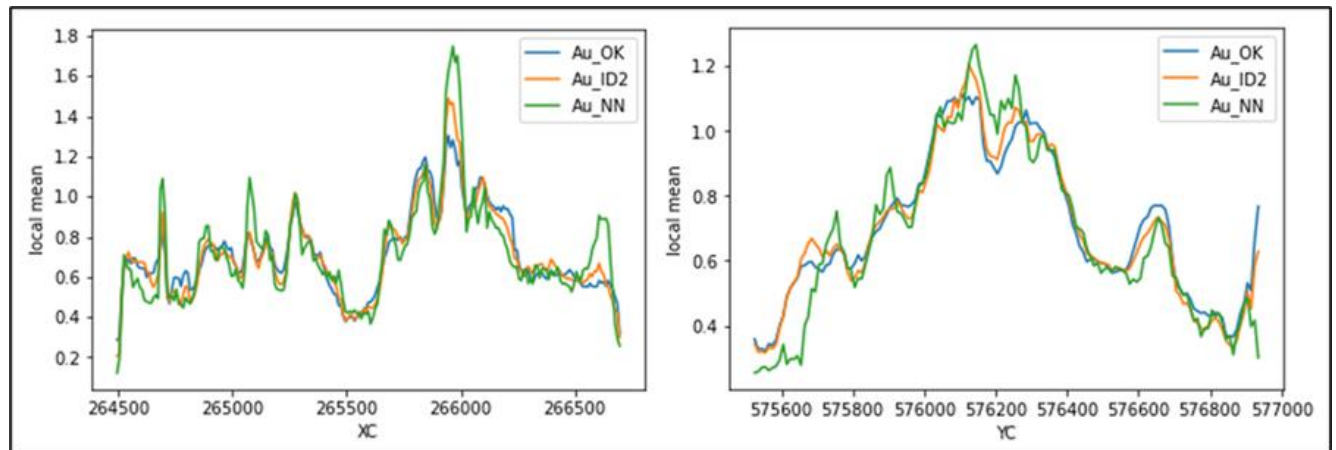


Figure 14-6: Swath plots of the Au estimate in the estimation domain 1 of Eagle Mountain

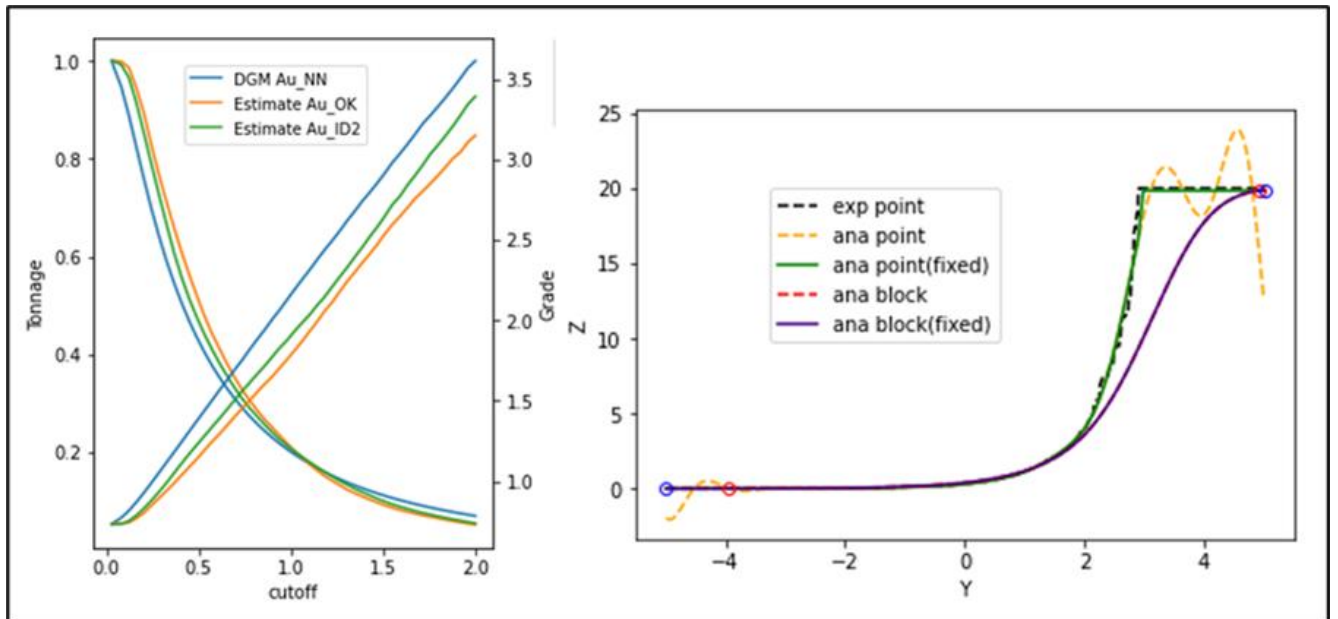


Figure 14-7: Global change of support validation (left) and gaussian anamorphosis fitting (right) of the Au estimate in the estimation domain 1 of Eagle Mountain

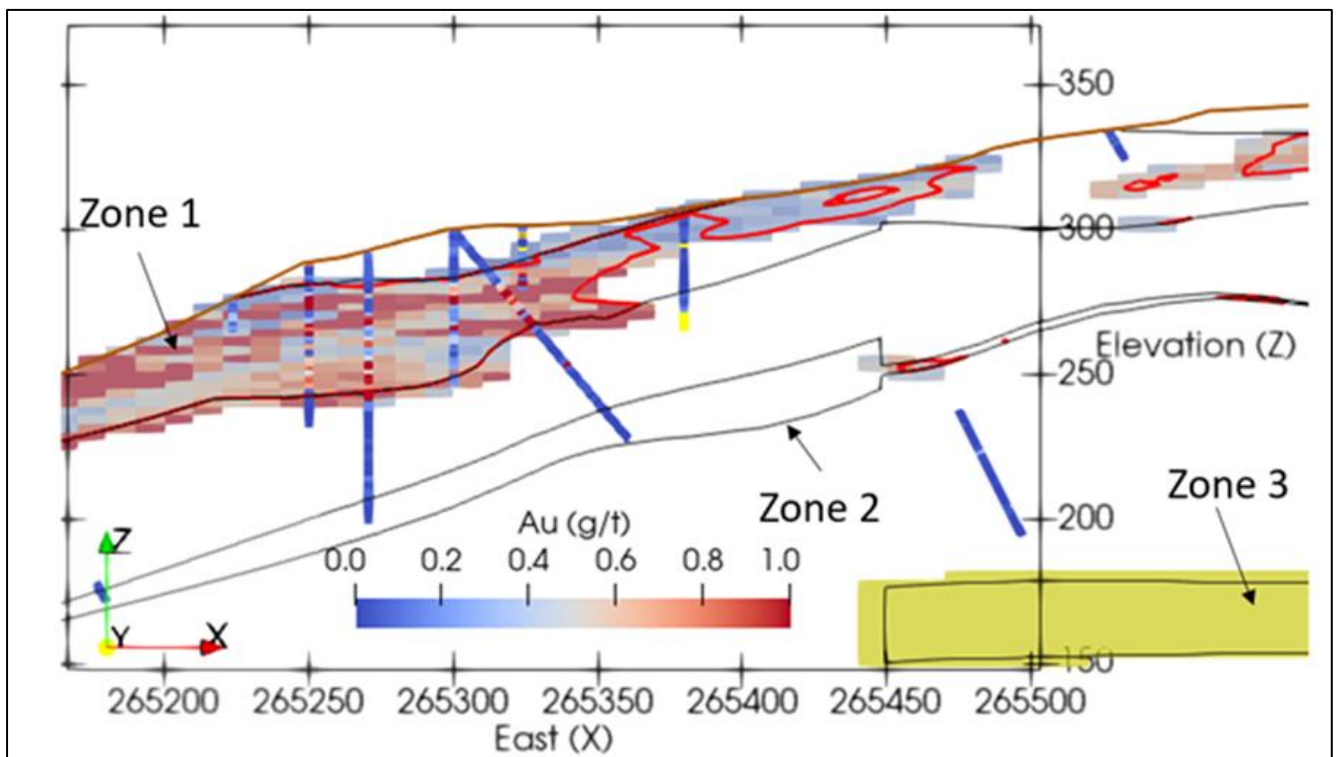


Figure 14-8: Vertical section along North 575953 showing the geological domains of Eagle Mountain, mineralized domain outline (in red), gold grade in drillhole intervals, and gold grade interpolation



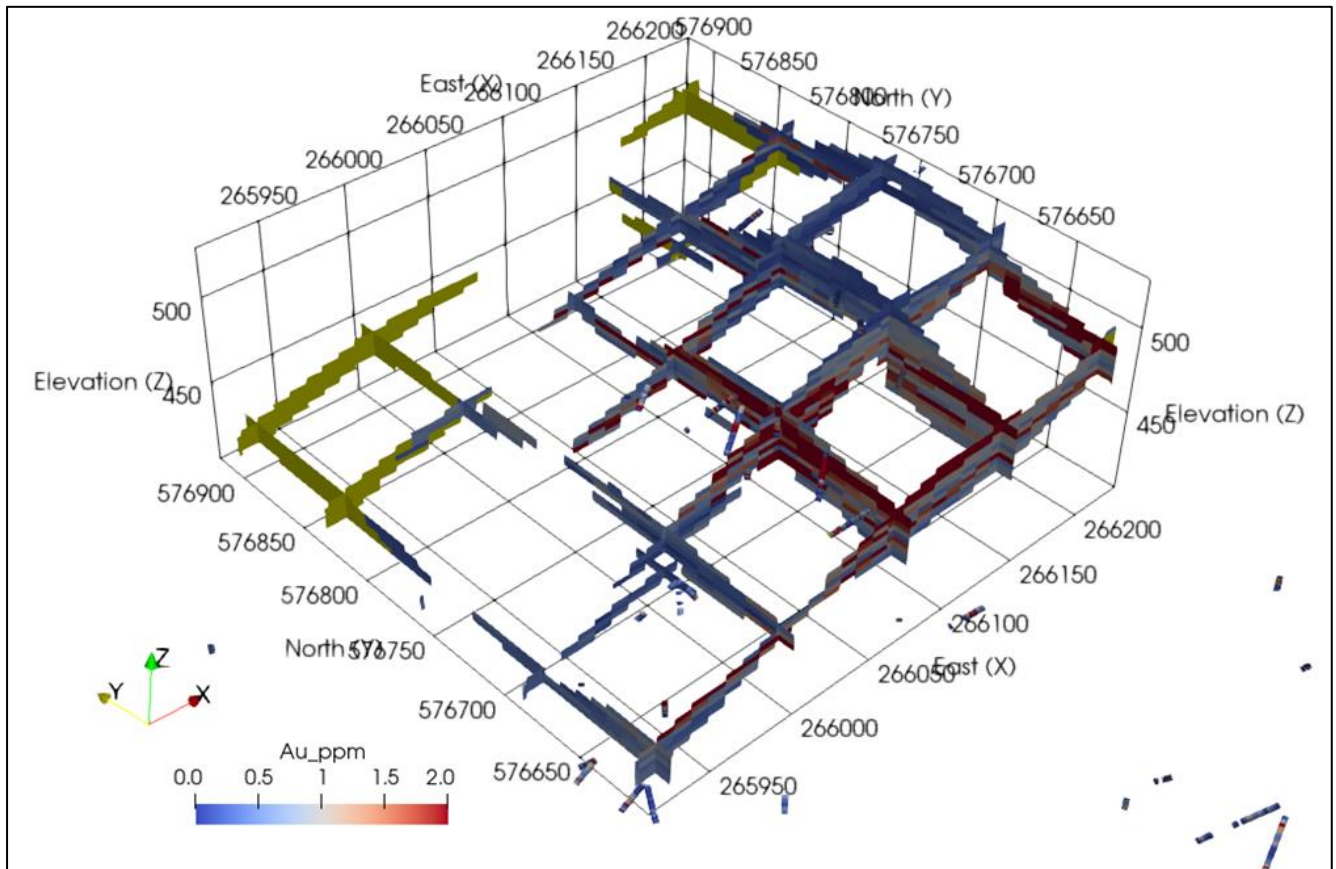


Figure 14-9: 3D view showing parallel sections of Eagle Mountain (clipped to view region) with gold grade in drillholes and block model sections

An additional interpolation with uniform conditioning was completed domains Zone 1 and Zone 2 at Eagle Mountain, instead of using the mineralized sub-domains defined by the probability of Au >0.1. The interpolation only used drillhole data and was completed in 30 m x 30 m x 6 m blocks. The conditioning was in selective mining units of 10 m x 10 m x 3 m. No information effect was applied. This interpolation was used to validate global resources and complete semi-local visual comparisons with the traditional ordinary kriging estimation. The validation consisted of comparing the resources not classified and not constrained by the pit. The results are shown in Figure 14-10.

The Qualified Person is of the opinion that Mineral Resources validate reasonably well, and the models can be used for Mineral Resource reporting.

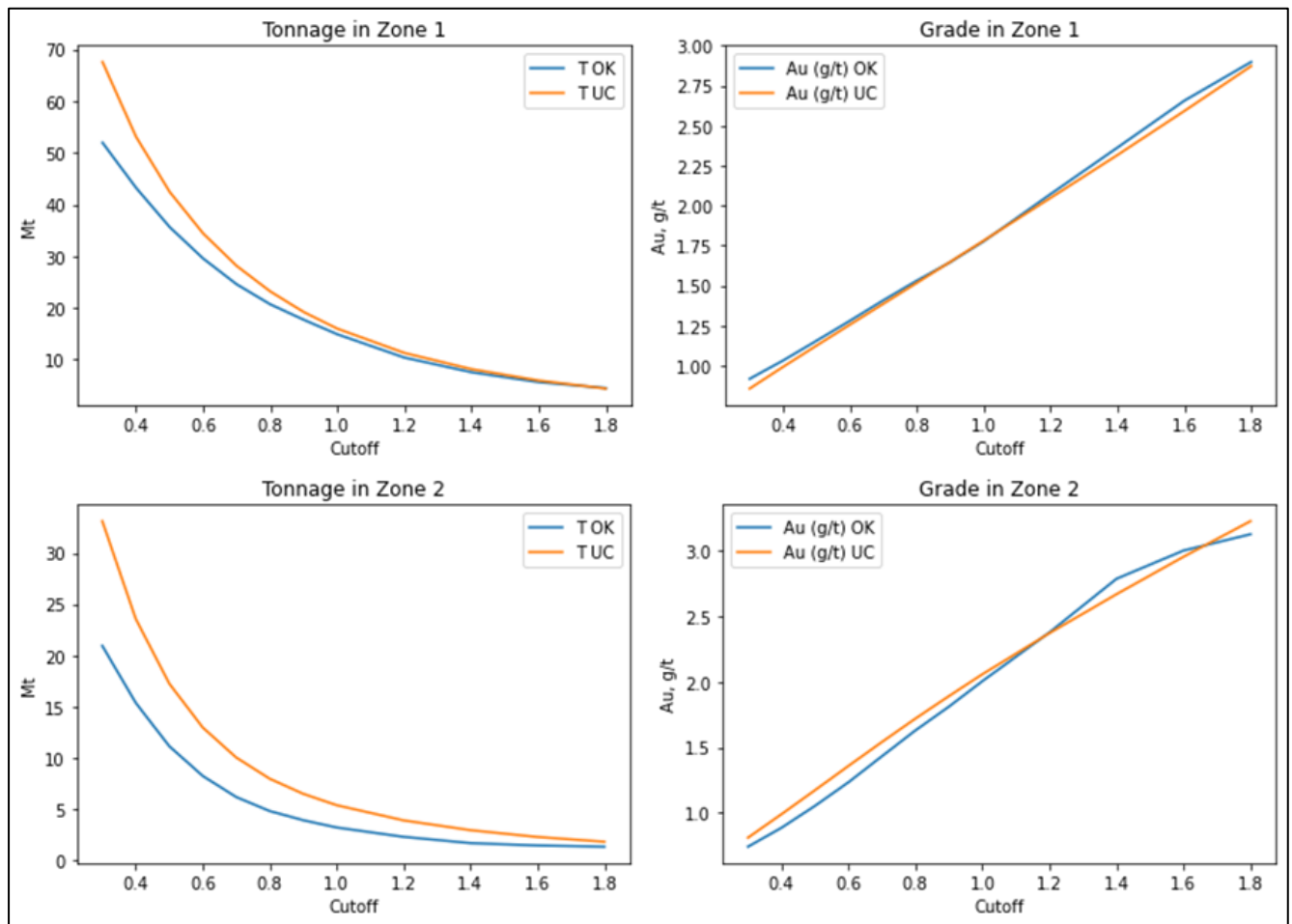


Figure 14-10: Validation by comparing tonnage and grade estimated with ordinary kriging and uniform conditioning

## 14.8 Mineral Resource Classification and Reporting

The Mineral Resources were classified as Indicated and Inferred in accordance with the CIM “Standards on Mineral Resources and Reserves, Definitions and Guidelines” as per the requirements of NI 43-101.

The classification was completed based on the understanding of the geology and the mineralization, its continuity, and the level of certainty obtained in the estimate. At the Eagle Mountain deposit, the classification was completed by a dummy interpolation that allowed identification of blocks with at least three drillholes within 90 m x 90 m x 10 m search radius. Blocks matching this criterion were classified as Indicated Resources, except for the blocks in domain Zone 3, which were downgraded to Inferred Resources. Blocks within 160 m x 160 m x 20 m not classified as Indicated Resources were classified as Inferred Resources. It was observed that the blocks in Eagle Mountain classified as Indicated are agglomerated and thus using classification polygons to define mineable shapes was considered not necessary. At Salbora, the classification criterion was the search pass used for interpolation of gold grades. However, only blocks in the horizontal domain, and estimated in the first search pass were classified as Indicated Resources.

The prospect for eventual economic extraction was investigated assuming open pit mining, with a mining cost of US\$1.5/t for saprolites and US\$2.0/t for fresh rock. Metallurgical recovery was assumed 95%. Processing cost was US\$6/t for saprolites and US\$12/t for fresh rock, and General and Administrative was set to US\$3/t. The gold price was set to US\$1,500/oz. These parameters were used to optimize a pit with a maximum slope of 45°. Only resources above the pit were reported.

The blocks above the pit and its classification are shown in Figure 14-11 for Eagle Mountain and Figure 14-12 for Salbora. At Salbora, most resources are contained within the horizontal domain and, in general, the mineralization starts at the surface, producing a low vertical strip ratio (that ignores lateral blocks). As shown in Figure 14-13, the strip ratio increases for the blocks below the hills around the Eagle Mountain deposit.

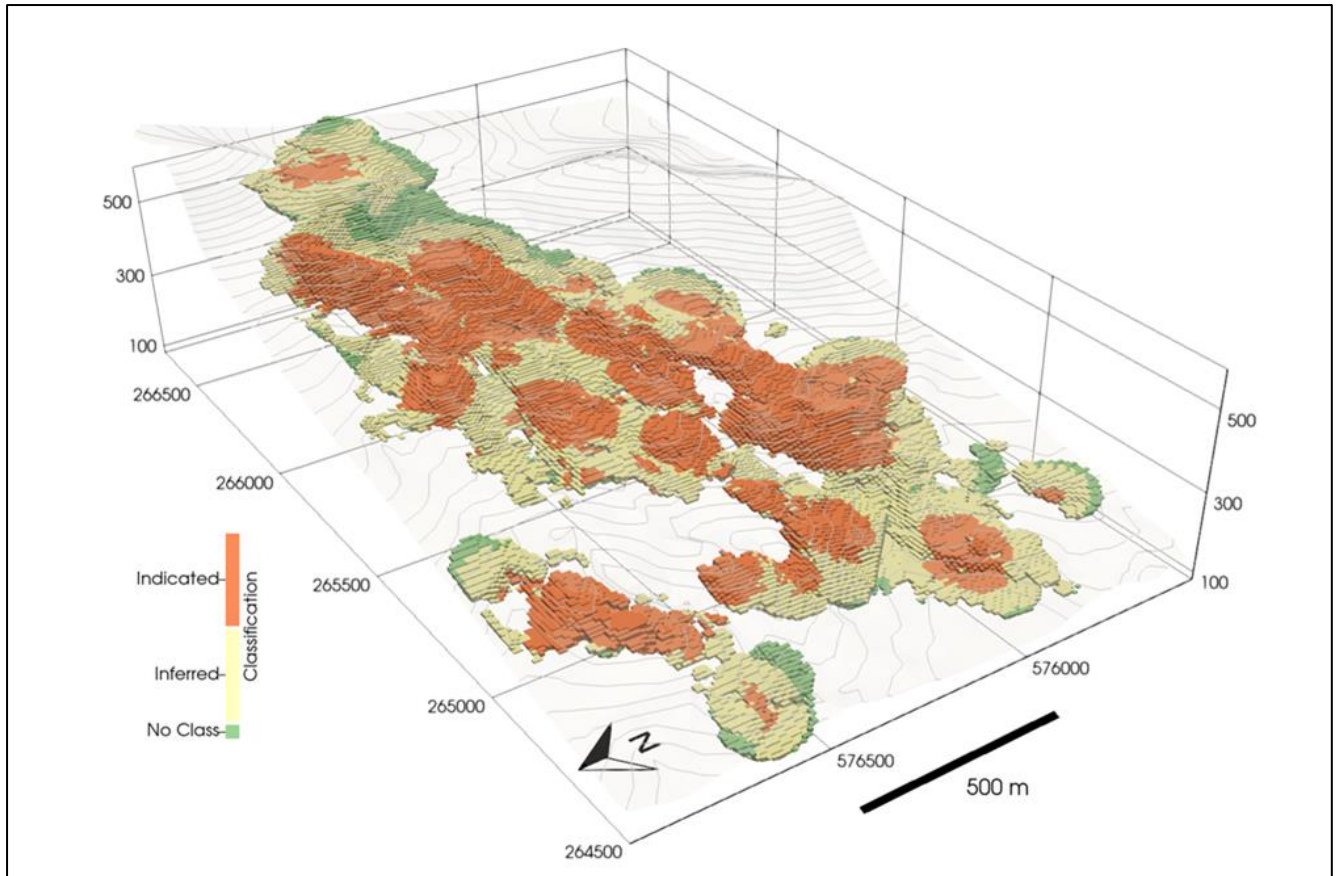


Figure 14-11: Mineral Resource classification on blocks constrained by the reporting pit and current topography surface at the Eagle Mountain deposit

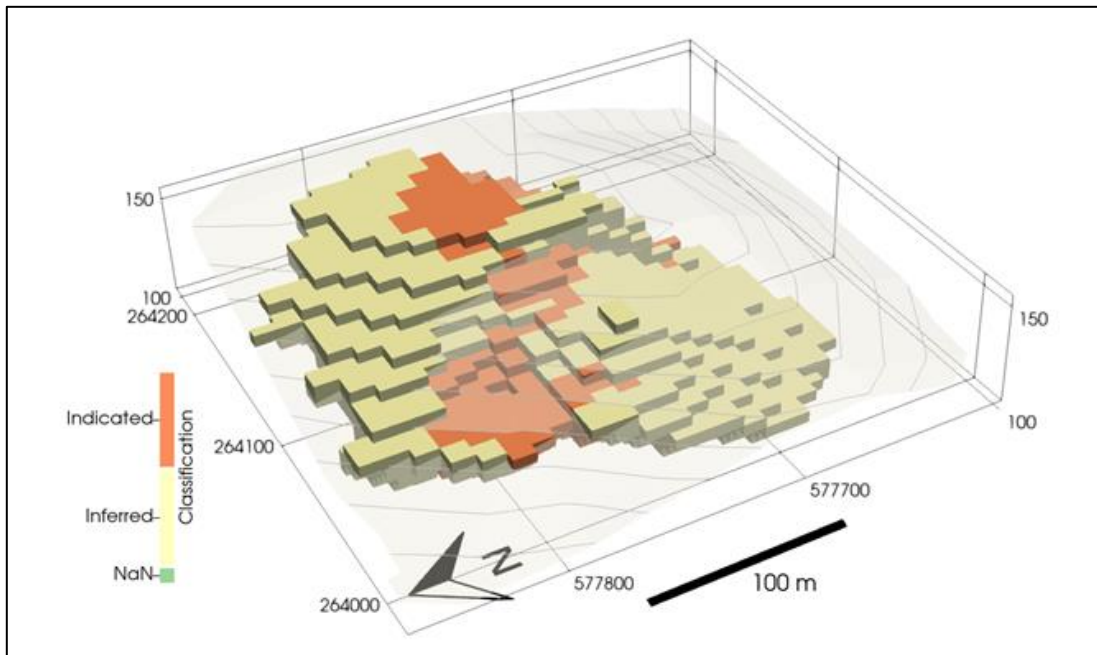


Figure 14-12: Mineral Resource classification on blocks constrained by the reporting pit and current topography surface at the Salbora deposit

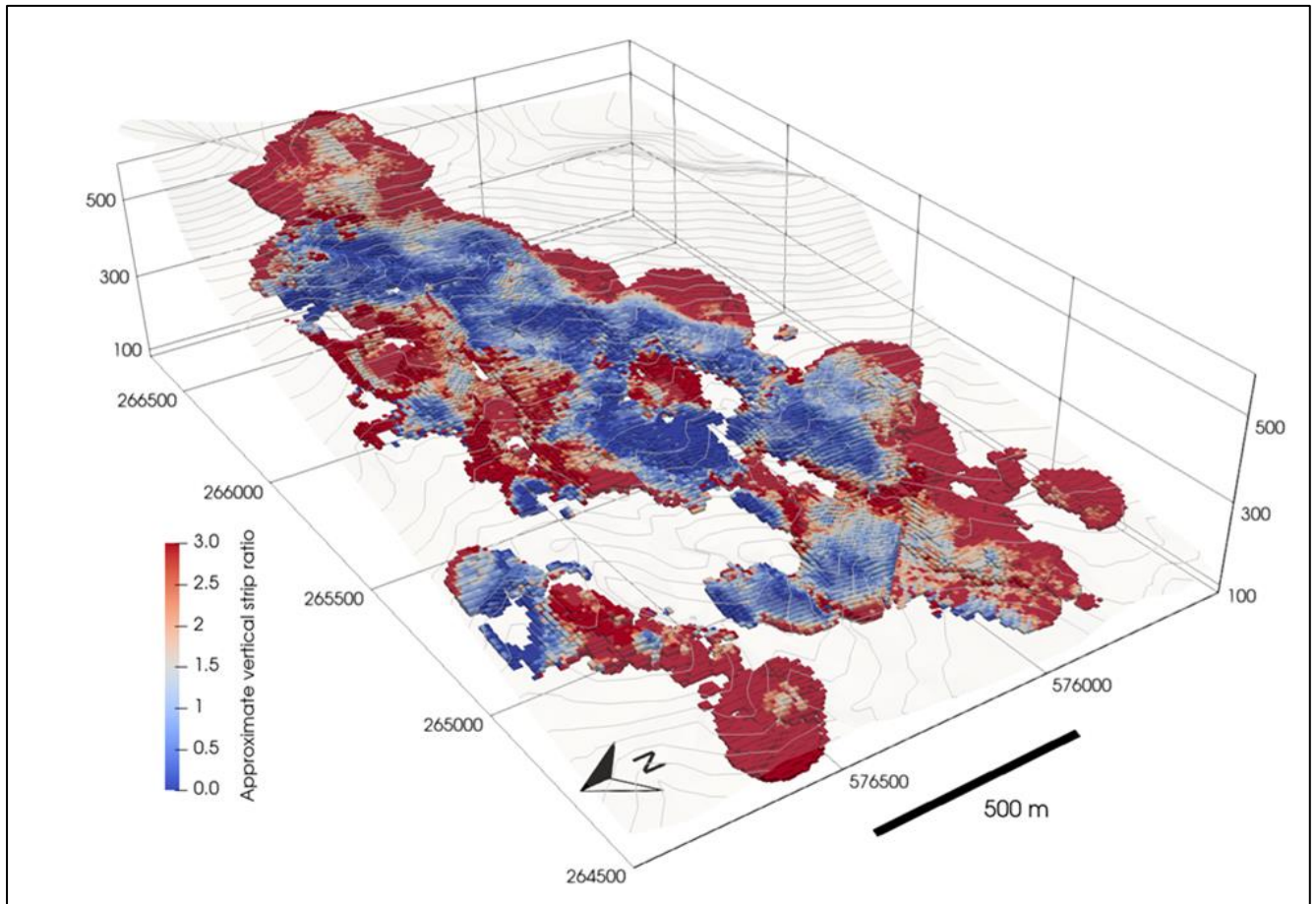


Figure 14-13: Vertical strip ratio (i.e. excluding the removal of lateral waste blocks) at the Eagle Mountain deposit



The reference cut-off grade was 0.3 g/t Au for saprolite and 0.5 g/t Au for fresh rock. The Mineral Resources reported at these cut-offs are shown in Table 14-5. Figure 14-14 shows the sensitivity analysis of the resources to changes in the cut-off grade.

Table 14-5: Mineral Resources of the Eagle Mountain Gold Project with the effective date of 17 February 2021

Classification	Material	Cut-off (g/t)	Tonnes ('000 t)	Gold (g/t)	Ounces Au (oz)
<b>Eagle Mountain</b>					
Indicated	Saprolite	0.3	11,000	0.95	346,000
	Fresh rock	0.5	11,000	1.23	436,000
	<b>Total</b>		<b>22,000</b>	<b>1.09</b>	<b>782,000</b>
Inferred	Saprolite	0.3	5,000	0.81	134,000
	Fresh rock	0.5	19,000	1.15	701,000
	<b>Total</b>		<b>24,000</b>	<b>1.08</b>	<b>835,000</b>
<b>Salbora</b>					
Indicated	Saprolite	0.3	150	1.45	7,000
	Fresh rock	0.5	660	2.82	60,000
	<b>Total</b>		<b>810</b>	<b>2.57</b>	<b>67,000</b>
Inferred	Saprolite	0.3	200	0.99	6,000
	Fresh rock	0.5	500	1.74	27,000
	<b>Total</b>		<b>700</b>	<b>1.52</b>	<b>33,000</b>

Notes:

- Numbers have been rounded to reflect the precision of an MRE. Totals may vary due to rounding.
- The gold cut-off has been calculated based on a gold price of US\$1,500/oz, mining costs of US\$1.5/t for saprolite and US\$2.0/t for fresh rock, processing costs of US\$6/t for saprolite and US\$12/t for fresh rock, and mine-site administration costs of US\$3/t. Metallurgical recoveries of 95% are based on prior testwork.
- Mineral Resources conform to NI 43-101, and the 2019 CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines and 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves.
- Mineral Resources are not Mineral Reserves as they do not have demonstrated economic viability. The quantity and grade of reported Inferred Resources are uncertain in nature and there has been insufficient exploration to define these Inferred Resources as Indicated or Measured Resources; however, it is reasonably expected that majority of the Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

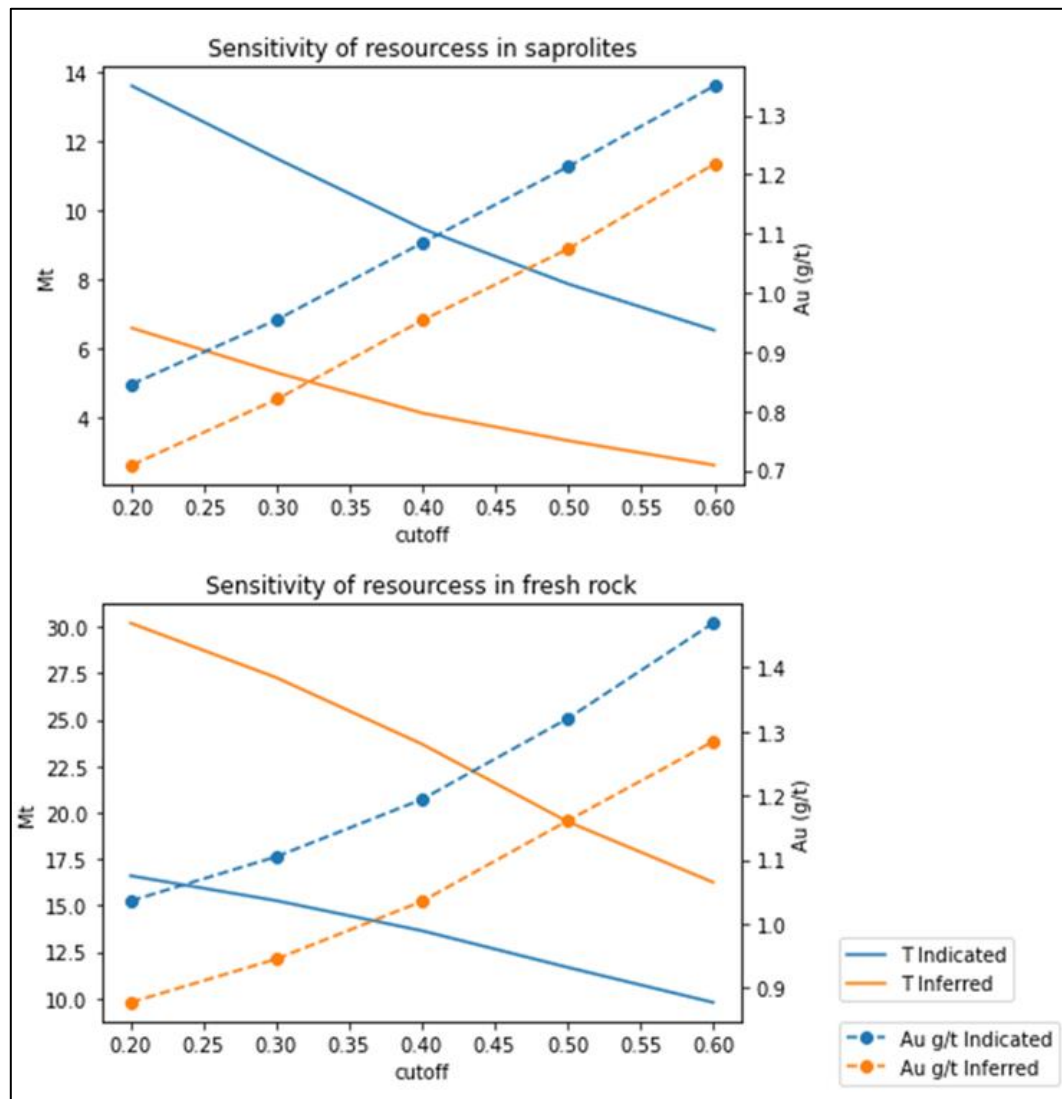


Figure 14-14: Sensitivity analysis of the resources to changes in the cut-off grade

## 14.9 Recommendations

The following recommendations for additional work are made with respect to the MRE:

- A more comprehensive set of density measurements needs to be taken for saprolitic material at Eagle Mountain. Density should be quantified in small increments down drillholes to assess if there is a gradual increase in density with depth. Any higher density areas within the saprolite (i.e. areas where weathering is less complete) should be identified and modelled.
- Infill drilling at the Eagle Mountain deposit to increase the confidence level of Inferred Resources to the Indicated category (particularly in Zone 1).
- Refined modelling of mineralized domains at Eagle Mountain to assess if several smaller sub-domains exist, and if these can be identified geologically.
- LiDAR topography survey to address the current inadequate resolution of the topographic surface and constraint on the MRE.

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## 15 Mineral Reserve Estimate

This section is not applicable to the current report.

## 16 Mining Methods

This section is not applicable to the current report.



## 17 Recovery Methods

This section is not applicable to the current report.

## 18 Project Infrastructure

This section is not applicable to the current report.

## 19 Market Studies and Contracts

This section is not applicable to the current report.

## 20 Environmental Studies, Permitting and Social or Community Impact

### 20.1 Summary of Environment Work to Date

In 2012, Stronghold commenced Biodiversity Baseline Assessment and Water Quality Sampling studies over the Eagle Mountain project. Environmental Management Consultants (“EMC”), a reputable local Guyanese environmental consulting group, was contracted to perform these studies. The main benefits of the studies at this phase of development have been:

- an understanding of the local biodiversity environment,
- the potential de-risking by proving non-existence of endangered species over the area covered by the Prospecting License, and
- the preparation of the studies to be used as the basis of any future application for operations.

The following study descriptions are from the 2014 Preliminary Economic Assessment report (Roy et al., 2014) and are still current.

### 20.2 Biodiversity Baseline Assessment

As it relates to the Biodiversity Baseline Assessment, EMC commissioned a multi-disciplinary team with experience in each task and conducted a biodiversity survey within the project area (Prospecting License). This was done in accordance with national and international regulations and guidelines which require an assessment of the baseline environmental conditions as well as the protection and conservation of biodiversity, including endangered species and sensitive ecosystems, and identification of legally protected areas. Since the project area is relatively small the biodiversity surveys covered the entire area.

EMC surveyed plants and animals at selected sites throughout the project area and tried to identify endangered, rare and threatened species. There were two biodiversity surveys. One survey was conducted for the wet season and the other for the dry season to capture any seasonal variation in the presence and distribution of species. Areas covered are assessment of the vegetation, the Lepidoptera (butterflies) and other invertebrates, assessment of the fish, fauna and associated water quality, amphibians and reptiles, mammals and avifauna (birds). No endemic, rare and threatened plants or habitats were found to occur in the project area. One fish species is noted that is known in only one other locality in Guyana. The vulnerable yellow/red-footed tortoise (*Chelonoidis denticulata*) was noted. Vulnerable and near-threatened mammals in the area are the lowland tapir *Tapirus terrestris*, black spider-monkey *Ateles paniscus*, and giant anteater *Myrmecophaga tridactyla*. No Endangered, Rare or Threatened birds were found to occur.

### 20.3 Surface Water Sampling

In addition to the Biodiversity Baseline Assessment, a surface water survey was conducted in both the wet and dry seasons, which included the streams within and around the project area. Surface water quality assessment was conducted in May and September 2013 and analyses were conducted in the fields and at a laboratory.

Baseline data on water quality prior to mining will be beneficial for monitoring impacts during mining. Once mining commences, the Company will implement a Water Quality Monitoring Program and the baseline data will be useful in comparing the water quality for impacts and potential remediation.

Generally, the water quality within the project area is representative of water quality of similar environments in Guyana. Most of the streams exhibited characteristics of the natural environment. Only streams which have been

directly affected by historical mining show elevated levels of contamination in the form of high sediment loads. From the two sampling exercises conducted, water quality shows that streams recover well and improve once mining has ceased in an area. Seasonal variation also seems to influence the water quality in the streams with parameters such as Dissolved Oxygen (“DO”), Conductivity and Total Dissolved Solids (“TDS”) pH, Turbidity, etc., fluctuating between the wet and dry seasons. Variations are mainly a result of the dilution from rainfall water and the flow rate of streams.

#### **20.4 Social and Community Impact**

Environmental, permitting, legal, title, taxation, socio-economic, marketing, and political or other relevant issues could potentially materially affect the Mineral Resource estimate and the Eagle Mountain Property. However at the time of this Report, the QP is unaware of any such potential issues affecting the Mineral Resource and Property.



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## 21 Capital and Operating Costs

This section is not applicable to the current report.

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## 22 Economic Analysis

This section is not applicable to the current report.

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## 23 Adjacent Properties

There are no significant mineral properties adjacent to the EMPL other than tenements owned by small-scale miners. The 24 small scale mining claims located inside the EMPL have been verified by the GGMC as valid.

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## 24 Other Relevant Data and Information

There is no other relevant information known to the QPs that would make this Report more understandable or that if undisclosed would make this Report misleading.

## 25 Interpretation and Conclusions

The Eagle Mountain Gold Project is a 11,982 acre property comprising the 100% owned 11,728 acre EMPL 03/2019 and the 254 acre MSMP K-60/MP/000/2014, underlain by a package of metavolcanic and metasedimentary rocks and granodioritic intrusions, part of the Paleoproterozoic greenstone-TTG belts of the Guiana Shield that share close similarities with the Birimian of West Africa. The greenstone-TTG belts were deformed in the Trans-Amazonian orogeny and are affected by both upright, north-south trending and shallow, west-dipping structures that host gold mineralization. The belt has been intruded by younger intrusions, notably and extensive mafic sill and dyke complex of the Avanavero Large Igneous Province.

Two discrete gold deposits have been identified on the Property – the Eagle Mountain deposit and the Salbora deposit. The Eagle Mountain deposit comprises three tabular, shallow west-dipping zones in granodioritic host rocks, 1 m to 40 m in thickness and separated by 10–100 m of unmineralized granite, that are formed by a series of east-verging thrusts, where gold occurs with silicification, chloritic alteration and pyrite mineralization within and adjacent to these structures. The Salbora deposit comprises a series of subvertical, north-south trending breccia zones developed in a tholeiitic mafic volcanic and altered granitoid units, adjacent to a monzonite intrusion. These structures are generally a few centimetres to 1 m in thickness, and appear to coalesce into a broad, sub-horizontal zone of brecciation with mineralization near the surface. Gold mineralization is associated with silicification, chloritic alteration and pyrite within and adjacent to these structures.

Structural mapping and logging of oriented drill core has been limited and additional structural evaluation integrated with alteration studies will improve understanding of the overall mineralized system and the relationship between Eagle Mountain and Salbora. An improved understanding of mineralization controls is expected to guide successful future resource extension and discovery at the Project. Alteration characterization incorporating focused acquisition of lithogeochemical and hyperspectral mineralogical data may provide important additional vectors to support structural targeting.

The upper portions of both Eagle Mountain and Salbora have been affected by saprolitic weathering to depths up to 50 m. The vertical saprolite profile and lateral variability is not well defined and additional characterization will support modelling and definition of density and metallurgical domains.

Both the Eagle Mountain and Salbora deposits are structurally controlled, and the similarity of the alteration assemblages suggests that both deposits formed as part of a single mineralizing system. Both are considered to be orogenic-type gold deposits formed in greenstone belts analogous to the prolific Birimian gold belts of West Africa.

The Property has a long history (>50 years) of exploration prior to the acquisition by Goldsource in 2010. Exploration-related work carried out by Goldsource between 2011 and 2020 includes infrastructure improvements, environmental data collection, topographic surveys, line cutting, trench and outcrop sampling, hand auger sampling, ground geophysical surveys and reprocessing of existing geophysical data. In addition to drilling by previous operators, several phases of drilling have been carried out since 2011 including 73 diamond drillholes in 2011, 257 Geoprobe direct push drillholes in 2017–2018, and 216 diamond drillholes between 2018 and 2020. In addition, hand augering has been carried extensively over the property on shallow saprolitic material.

Samples from the 2011 program were submitted to Acme in Georgetown, Guyana, and samples from the 2017–2018 Geoprobe drilling and the 2018–2020 diamond drilling programs were submitted to the Actlabs facility in Georgetown, Guyana. All samples were analysed for gold by fire assay with AA finish. QAQC procedures and results are considered satisfactory, although in future programs, a higher frequency of blanks should be inserted, more mineralized samples should be submitted for duplicate analysis, and a higher frequency of CRM, duplicate



and blank samples should be inserted. The quality of assays and other data inputs is considered suitable to be used for the MRE.

Goldsource has conducted metallurgical testwork on the Eagle Mountain saprolite hosted (oxide) gold mineralization and on fresh mineralization. A gravity pilot plant was operated intermittently from January 2016 to February 2017. Gold mineralization does not appear to be amenable to the gravity-only recovery method, but both hard rock and saprolite mineralization does appear amenable to gold extraction by cyanidation. A preliminary processing flowsheet has been developed based on the most recent testwork in 2018 conceptually suggesting a standard gravity-grind-leach (carbon-in-pulp) processing facility at a throughput rate of 4,000–5,000 tpd.

A MRE has been prepared by Dr Adrian Martínez Vargas, for tabular mineralization at the Eagle Mountain deposit (Zone 1, Zone 2, Zone 3) and for Salbora deposit mineralized bodies. This was carried out considering topography, drillhole collars, survey, assay results, density measurements, and contact of the saprolites with the fresh rock. The MRE uses assay results from diamond drilling and Geoprobe drilling carried out since 2011, in addition to auger drilling where assays were subject to QAQC procedures. A cut-off date of November 6, 2020 applied to data used in the MRE. Mineral Resources were classified as Indicated or Inferred based on the continuity of geological features and mineralization and the level of certainty obtained in the estimate. The deposit is assumed to have the potential for extraction via open pit mining.

Possible risks to the MRE include the following:

- Density variability (e.g. a possible gradational change in density) for mineralization within saprolitic zones in not fully understood;
- The number of QAQC samples could be increased to provide additional verification of analysis quality;
- Lack of pulp duplicates (extensive use of quarter-core duplicates) has limited the investigation of laboratory accuracy;
- Inadequate detail of the topographic surface in the steep and deeply incised terrain.

Potential opportunities at the project include the following:

- Comprehensive density measurements within saprolite may allow for modelling of higher-density saprolite areas, potentially increasing the tonnage of saprolite mineralization;
- The alignment of targets along an apparent N-S structure (the Montgomery, Salbora, Toucan, Powis, Ann targets) suggest a large-scale structure that has not been fully understood and may hold high exploration potential;
- Ongoing step-out exploration drilling at the Eagle Mountain deposit continues to discover lateral extensions to this deposit, suggesting scope for further resource expansion;
- Recent drilling suggests the possibility of higher-grade pockets of mineralization at the Eagle Mountain deposit that may be delineated during infill drilling;
- The possibility to discover additional gently-dipping mineralised thrust zones at the Eagle Mountain deposit;
- The similarity of alteration styles in structures with different orientations between the Eagle Mountain deposit and Salbora deposit suggests an extensive system with several mineralized structures, and it may be possible to identify additional mineralized structures;
- Improved structural understanding of the project and integrated evaluation of structure and alteration across targets should allow for a more robust targeting and deposit model that is expected to result in new discoveries and Mineral Resource opportunities;
- Shallow depths of mineralization, particularly at Zone 1 of the Eagle Mountain deposit, may allow for low strip ratios during open pit mining.

## 26 Recommendations

The Eagle Mountain Project hosts a significant gold Mineral Resource that merits additional exploration and evaluation as an economic development opportunity. The property has been subject to a previous Preliminary Economic Assessment in 2014 and warrants an updated evaluation at Preliminary Economic Assessment or Prefeasibility Study level.

To advance the project towards this next stage, the authors recommend that the initial additional work program by Goldsource on the Project should include:

- A comprehensive density testing program for saprolitic material to confirm the density value used in the MRE.
- Submission of additional QAQC samples (~5% pulp duplicates and 5% umpire samples), together with CRMs in order to improve the QAQC data.
- Completion of a LIDAR or other similar technique for high-resolution definition of the project topography.
- Infill drilling to extend and upgrade Mineral Resources from Inferred to Indicated classification and to test priority exploration targets.
- Geotechnical drilling and other geotechnical studies to confirm appropriate slope angles for future open pit design work.
- Commencement of all permitting processes.
- Completion of a Gap Analysis on previous development studies and data acquired to support detailed planning and prioritisation of a work program to bring the Project to the next stage of study, including assessment of infrastructure requirements, hydrology, metallurgy etc.

These items should be carried out concurrently as a single phase of work.

Table 26-1: Recommended additional work program

Item	Number	Unit cost (US\$)	Total cost (US\$)
Density sampling	500 samples	\$20/sample	\$10,000
Additional QAQC samples	1,500 samples	\$50/sample	\$75,000
Lidar survey	N/A	N/A	\$100,000
Infill drilling	20,000 m	\$100/m	\$2,000,000
Geotechnical investigation	N/A	N/A	\$150,000
Gap analysis for development studies	N/A	N/A	\$150,000
<b>Total cost</b>			<b>\$2,485,000</b>

The authors estimate that the total cost of the next phase work program is approximately US\$2.5 million.

Additional geological studies that should form part of this and subsequent work programs should include evaluation of structure and alteration to underpin a robust targeting and deposit model and additional evaluation and modelling of the saprolite profile, including initial development of a geometallurgical model to guide further composite selection and testwork.

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## 28 Abbreviations and Units of Measurement

°	degrees
°C	degrees Celsius
3D	three-dimensional
AAS	atomic absorption spectrometry
ACA Howe	ACA Howe International Limited
Acme	Acme Analytical Laboratories Ltd
Actlabs	Activation Laboratories Limited
Ag	silver
Al <sub>2</sub> O <sub>3</sub>	aluminium oxide
amsl	above mean sea level
Anaconda	Anaconda British Guiana Mines Ltd
ARMS	Automated Rapid Mineral Scan
Au	gold
BC	British Columbia
CAD	Canadian dollar(s)
Cambior	Cambior Inc.
CDF	cumulative distribution function
CIM	Canadian Institute of Mining, Metallurgy and Petroleum
cm	centimetre(s)
CRM	certified reference material
CSA Global	CSA Global Consultants Canada Limited
Cu	copper
EEP	Exclusive Exploration Permission
EMC	Environmental Management Consultants
EMGC	Eagle Mountain Gold Corp.
EMGI	Eagle Mountain Gold Inc.
EMPL	Eagle Mountain Prospecting Licence
Fe	iron
Fe <sub>2</sub> O <sub>3</sub>	iron(III) oxide (or ferric oxide)
ft	feet (or foot)
g	gram(s)
G&A	general and administration
g/cm <sup>3</sup>	grams per cubic centimetre
g/L	grams per litre
g/t	grams per tonne
GGMC	Guyana Geology Mines Commission
Goldsource	Goldsource Mines Inc.
GRG	gravity recoverable gold
GSR	Golden Star Resources Ltd
ha	hectare(s)

HARD	half absolute relative difference
HDPE	high-density polyethylene
HLS	heavy liquid separation
IAMGOLD	IAMGOLD Corporation
IASZ	Issano-Appaparu Shear Zone
ICP-AES	inductively coupled plasma with optical emission spectroscopy
INAA	instrumental neutron activation analysis
IP	induced polarisation
ITS	IAMGOLD Technical Services and Exploration Guyana Group
K <sub>2</sub> O	potassium oxide
kg	kilogram(s)
Kilroy	Kilroy Mining Inc.
km, km <sup>2</sup>	kilometres, square kilometres
kW	kilowatts
LiDAR	light detection and ranging (survey)
LIMS	Laboratory Information Management System
m	metre(s)
Matrix	Matrix Geotechnologies Inc.
mg/L	milligrams per litre
MKSZ	Makapa-Kuribrong Shear Zone
ML	mining licence
mm	millimetres
Mn	manganese
Moz	million ounces
MSMP	medium-scale mining permit
MRE	Mineral Resource estimate
MSA	MS Analytical Guyana
Mt	million tonnes
NI 43-101	National Instrument 43-101 – Standards for Disclosure for Mineral Projects
NSR	net smelter return
OGML	Omai Gold Mines Ltd
Orbit	Orbit Garant Drilling Inc.
oz	ounce(s)
PL	prospecting licence
ppb	parts per billion
ppm	parts per million
PPMS	prospecting permit medium-scale permit
PSB	Pakaraima Sedimentary Block
RQD	rock quality designation
S	sulphur
SCC	Standards Council of Canada
SEM	scanning electron microscopy
SGS Lakefield	SGS Canada Inc. at Lakefield, Ontario



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Si	silicon
SiO <sub>2</sub>	silicon dioxide
SSMP	small-scale mining permit
Stronghold	Stronghold Guyana Inc.
t	tonne(s)
t/m <sup>3</sup>	tonnes per cubic metre
Tetra Tech	Tetra Tech Inc.
TiO <sub>2</sub>	titanium dioxide
tpd	tonnes per day
TSV-V	TSX Venture Exchange
TTG	tonalite-trondhjemite-granodiorite
US\$	United States of America dollar(s)
UTM	Universal Transverse Mercator
VLF-EM	very-low frequency electromagnetic
VWAP	volume weighted average price
XRD	x-ray diffraction
Zn	zinc



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