



EMGOLD MINING CORPORATION

TECHNICAL REPORT

1.0 SUMMARY

Emgold Mining Corporation (Emgold) has asked AMEC E&C Services Ltd. (AMEC) to provide an independent Qualified Person's review and evaluation of the Idaho-Maryland Project. The work entailed the preparation of a Technical Report as defined in National Instrument 43-101, *Standards of Disclosure for Mineral Projects*, and in compliance with Form 43-101F1 (the "Technical Reports"). Stephen Juras, P.Geo., an employee of AMEC, served as the Qualified Person responsible for preparing the Technical Report. Information and data for the review and report were obtained from the Idaho-Maryland project site during a visit by AMEC on October 3 to 11, 2002. Additional information was obtained from the Emgold head office in Vancouver, B.C.

The Idaho-Maryland project is a structurally controlled, mesothermal gold deposit situated in the northern portion of the Sierra Nevada Foothills Gold Belt. It is located 2.5 miles (4 km) east of Grass Valley, Nevada County, within the State of California. This property comprises approximately 2,750 acres (1,113 ha) of mineral lands, with 37 acres (14.97 ha) of surface rights centered around the New Brunswick shaft, and 56 acres (22.65 ha) of surface rights west of the Idaho shaft. The mineral rights are defined as subparcels in a Quit Claim Deed. The mineral rights are restricted to a variable depth from surface and in general, are contiguous below 200 ft (60m) from surface. Emgold has an agreement with the mineral rights holders (BET Group) that includes a mining lease and option to purchase the property. The term of the lease agreement is five years commencing on June 1, 2002. During the term of the lease agreement, any production from the property will be subject to a 3% Net Smelter Royalty (NSR).

The shape of the Idaho-Maryland ore deposit is controlled by the regional-scale Weimar Fault (also known as the 6-3 Fault) and the district-scale Spring Hill Tectonic Mélange Zone. The Weimar Fault is a right-lateral wrench fault that transects an accreted terrane along its 50-mile (80 km) course. It truncates all structures of the Idaho-Maryland Mine and forms the blunt eastern termination of the wedge-shaped ore deposit. The varying styles of mineralization present at the Idaho-Maryland Project are typical of those commonly found in mesothermal lode gold deposits worldwide. At least four basic types of mineralization have been recognized to contain significant gold deposits. In order of importance, these include (1) gold-quartz veins, (2) mineralized black slate bodies, (3) mineralized diabasic slabs, and (4) altered, mineralized ultramafic schists. The veins consist primarily of quartz, which is milky white, massive to banded, sheared, and brecciated. Gold occurs as native gold, ranging from very fine grains within the quartz to leaves or sheets along fractures.



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Emgold defined a revised, comprehensive geological model for the project area. Key components to this model are: i) the concept of tectonic fragments or slabs within the Spring Hill Tectonic mélange; ii) a consistent structural interpretation, on both a property and local (stope) level, with specific definition of the Idaho Deformation Corridor and its make-up of a braided network of high-strain zones; and iii) identification of structural features that act as potential hosts to auriferous vein sets.

The late Jurassic Spring Hill Mélange unit comprises a chaotic assemblage of clasts dismembered from the Jurassic Lake Combie Complex and its underlying oceanic crustal basement. It is a district-scale structure that underlies a 4.0 mile² (10 km²) area and dominates the property geology. The mélange unit is 0.80 miles (1,300 m) wide, extends for 4 miles (6,400 m) in a 300° orientation, and crosscuts the regional structural grain. The serpentinite matrix of the mélange is well foliated and highly deformed. Locally it is comprised of a talc schist or talc + chlorite schist assemblage. The serpentinite matrix contains chaotic tectonic clasts or “slabs.” The fragments range from fist-size clasts to megaclasts up to 1.5 x 0.62 miles (2,400 x 1,000 m) in dimension, and are monolithologic to heterolithologic in composition. Slab lithologies vary from meta-volcanic flows and volcanoclastic units, fine grained metasedimentary units (cherts, slates), diabase and gabbro. The large *Brunswick Slab* borders the Idaho Mine to the south and extends eastward for 1.5 miles (2,400 m). All of the significant gold production from the Idaho-Maryland Mine was localized within the matrix and tectonic slabs of Spring Hill Mélange unit.

Idaho Deformation Corridor is a braided zone of high strain that extends along the entire length of the Idaho-Maryland ore deposit. The corridor averages 500 ft (150 m) in width and is traceable for 2.0 miles (3 km) along a 275° to 290° strike. The zone dips 60° to 70° S and extends to the deepest levels of the mine at 0.62 miles (1 km). Within the corridor are less strained blocks of ground, with the high-strain zones occurring in a braided pattern or network throughout. The Brunswick Slab defines the southern boundary of the high-strain zone for nearly its entire length. The L Fault forms the northern boundary. In general, the zone contains both linear and non-linear fault members and exhibits a dominant normal vertical displacement with a much weaker component of right-lateral horizontal displacement. The linear and non-linear fault members have strong deformational fabric, well-developed gouges, and host the large, high-grade oreshoots of the mine.

Four general structural features identified at the Idaho-Maryland property have been considered favorable configurations for developing gold mineralized vein sets. These are: 1) mine-scale boudinage neck features developed within the serpentinite matrix of the Spring Hill Mélange unit; 2) the occurrence of tectonic slabs within the serpentinite matrix of the Mélange unit; 3) local flexures and irregularities in the plane of the



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Weimar Fault Zone that create shattered quartz stockwork zones; and 4) high-grade vein arrays localized underneath prominent, shallowly dipping link fault/veins of fault duplexes.

The database to support the Idaho-Maryland mineral resource estimate contains over 36,000 gold assays, the majority of which were taken from underground samples (mostly channel samples). Those from diamond drill holes comprise only a minor portion of the assay database. The assay data reside as handwritten entries on assay plans (1" to 50 ft) for all mine levels. Drill hole assay data accompany the intercepts on these plan maps, and copies of assay certificates also are present for the final 10 years of production.

The samples were fire-assayed at former mine site laboratories. No records exist of any QA/QC program. Sample quality was inferred by the reconciliation of historic production records to underground sample data. These studies, as well as a recent investigation on mill-to-resource prediction show that the resource or reserve estimates consistently underestimated the amount of gold produced by milling, a discrepancy most likely reflective of sample size influence rather than laboratory technique. High nugget value deposits with coarse gold areas are best sampled with large sizes, which was not common practice at the time. Therefore, any estimates made using this historic data should include comparisons with values unadjusted and adjusted for the regular underreporting of grade (i.e., call factor).

AMEC believes that the comprehensive set of assay plans, supported by records of muck car stope samples and mapped geology data, as well as the detailed historical production records, all support the integrity of the assay data for the Idaho-Maryland project. These data are deemed suitable for use in mineral resource estimation. AMEC also checked data transcription onto assay plans from copies of original assay certificates and from assay plan to mineral resource worksheets and concluded that the data are sufficiently free of error to be adequate for resource estimation.

AMEC reviewed the mill operating statistics for 1934, 1936, 1937, 1938, 1941, and 1947. Results indicate stable overall gold recoveries and metallurgical response to gravity, flotation, and cyanidation:

- Overall gold recoveries ranged from 93.8% to 97.2%.
- Gold production using gravity recovery methods ranged from 61% to 69%, averaging approximately 65.4%.
- The ore contains approximately 1.5% to 2% sulfides. Gold produced via flotation of the sulfides ranged from 30.3% to 36.9% with an average of 33.4%.



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AMEC believes that the use of modern technology will result in gold recoveries that are consistent — and likely higher — than those achieved in the early milling circuits at the Idaho-Maryland mill in the 1930s and 1940s.

AMEC conducted a reconnaissance review of the distribution of gold mineralization at Idaho-Maryland. The observed distribution on cumulative probability plots shows typical lognormal trends. Each vein system does appear to have a unique grade distribution and that the higher-grade distributions (greater than 1 oz/ton (34 g/t) Au values) are an integral part of a system's population. AMEC recommends that Emgold conduct a more detailed statistical review of the gold assay data. The review, by vein system and mineralization type, would assist in future grade interpolation and in the selection of appropriate gold capping levels. Until such an analysis is undertaken, the resource estimates should be reported using uncapped grades. Exposure to extreme grades was evaluated by resource block and dealt with through classification protocol.

The 2002 mineral resource for the Idaho-Maryland property was estimated under the direction of Emgold's Qualified Person, Mark Payne (Registered Geologist 7067, State of California), using traditional longitudinal sections and 3-D geologic models by commercial mine planning software (Vulcan®). AMEC validated the evidence for the pertinent vein/structural interpretation data support and consistency. All examples based on the underground data demonstrated good data back-up and sound projection limits. The interpretations covering the drill hole intercepts also were sound and reasonably projected. However, the latter is hampered by the uncertainty in spatial location of the drill hole intercept due to the holes not having been down hole surveyed. AMEC also checked numerous resource blocks for correct tabulation of sample values, reasonable projection limits, and volumetric and trigonometric calculations. The checked blocks were properly constructed and calculated.

The mineral resource classification of the Idaho-Maryland deposits used logic consistent with the CIM definitions referred to National Instrument 43-101. AMEC assessed the criteria used by Emgold for this classification and generally agreed with them. Emgold's classification protocol was amended to classify mineral resources outlined by single drill hole intercepts as "inferred" and to downgrade any resource blocks that demonstrate a degree of uncertainty in the grade estimate due to the presence of numerous +1 oz/ton Au assayed samples (mostly originally measured resources downgraded to indicated resources). In the case of the latter condition, those blocks will remain in the downgraded resource category until such time that a proper investigation is carried out to set appropriate grade capping levels at Idaho-Maryland.



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The mineralization of the Idaho-Maryland project as of October 25, 2002, is classified as measured, indicated and inferred mineral resources. The classified mineral resources are shown in Table 1-1. The Idaho-Maryland mineral resource was reported at a 0.10 oz/ton Au cut-off grade. All estimated resource blocks equal to or greater than 0.10 oz/ton Au were tabulated in the summary.

The revised geologic model for the Idaho-Maryland site should be tested for new areas of mineralization throughout the project area. AMEC strongly recommends that Emgold test their deposit model by a surface-based diamond drill program on three to five priority targets. Each target will require several drill holes, approximately 600 ft (200 m) to 1,400 ft (425 m) in length. Eventually the exploration work will need to continue from underground stations. Plans for this phase are currently being evaluated in a preliminary assessment study. Best areas for relatively shallow, higher-grade gold mineralization occur around the Idaho shaft, in and around the Idaho Structural Corridor. Drilling access would be from an exploration decline. AMEC supports this exploration concept and planning efforts.

Permitting will be an important part of any future work. Two aspects of the project that need to be addressed in the permitting process are: 1) requirements for a surface-based exploratory phase, and 2) requirements for underground development. The exploratory phase may be exempt from certain regulatory requirements required for underground development. Such an alternative may allow surface-based exploration activities to proceed while work is in progress to permit the mining operations within six months of project initiation. Together, these processes indicate a schedule of between 12 and 24 months to meet the necessary environmental and permit requirements.



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Table 1-1: Idaho-Maryland Project Mineral Resource Summary, October 25, 2002

	True Thickness (ft)	Tonnage (tons)	Gold Grade (opt)	Gold (oz)	Gold Grade (opt) 1.44 MCF	Gold (oz) 1.44 MCF ¹
<i>Eureka Group</i>						
Measured Mineral Resource	6.5	17,000	0.18	3,000	0.29	5,000
Indicated Mineral Resource	5.7	41,000	0.27	11,000	0.37	15,000
Measured + Indicated Mineral Resources	5.9	58,000	0.24	14,000	0.34	20,000
Inferred Mineral Resources	9.5	393,000	0.21	81,000	0.30	117,000
<i>Idaho Group</i>						
Measured Mineral Resource	17.5	129,000	0.24	31,000	0.34	44,000
Indicated Mineral Resource	13.4	151,000	0.41	62,000	0.60	90,000
Measured + Indicated Mineral Resources	15.3	280,000	0.33	93,000	0.48	134,000
Inferred Mineral Resources	10.4	791,000	0.24	190,000	0.35	274,000
<i>Dorsey Group</i>						
Measured Mineral Resource	11.9	59,000	0.22	13,000	0.32	19,000
Indicated Mineral Resource	7.2	102,000	0.32	33,000	0.47	47,000
Measured + Indicated Mineral Resources	8.9	161,000	0.29	46,000	0.42	66,000
Inferred Mineral Resources	9.6	941,000	0.30	285,000	0.46	410,000
<i>Brunswick Group</i>						
Measured Mineral Resource	8.0	63,000	0.17	11,000	0.25	16,000
Indicated Mineral Resource	6.2	107,000	0.28	30,000	0.40	43,000
Measured + Indicated Mineral Resources	6.9	170,000	0.24	41,000	0.34	59,000
Inferred Mineral Resources	7.3	288,000	0.23	67,000	0.34	96,000
<i>Waterman Group</i>						
Measured Mineral Resource	70.7	831,000	0.15	127,000		
Indicated Mineral Resource	30.5	75,000	0.21	16,000		
Measured + Indicated Mineral Resources	67.3	906,000	0.16	144,000		
<i>Idaho-Maryland Project²</i>						
Measured Mineral Resource 1	13.2	268,000	0.22	58,000	0.31	84,000
Measured Mineral Resource 2	70.7	831,000	0.15	127,000	0.15	127,000
Indicated Mineral Resource	12.5	476,000	0.32	152,000	0.44	211,000
Measured + Indicated Mineral Resources	43.3	1,575,000	0.21	337,000	0.27	423,000
Inferred Mineral Resources	9.6	2,413,000	0.26	623,000	0.37	898,000

1. MCF = Mine Call Factor (not applicable to Waterman Group resources). 2. Idaho-Maryland measured resources are split into two categories: 1. the Eureka, Idaho, Dorsey, and Brunswick Groups, and 2. the Waterman Group (stockwork/slate type ore).