MEMBER FINRA, SIPO

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Lion One Metals Limited's permitted highgrade gold Tuvatu Gold Project is located in one of the great gold producing areas of the world, with the potential to match the production of other long-lived gold mines on Fiji. We are initiating research coverage with a Buy rating.

## Tuvatu gold project profile:

Lion One Metals Limited's (TSX VENTURE: LIO, ASX: LLO, OTCQX: LOMOF, "Lion One") 100% owned Tuvatu Gold Project is located only 17 kilometers from the Nadi International Airport, on the main island of Viti Levu, in Fiji. The project is in a caldera setting, along trend with the caldera-situated Vatukoula gold mine, which has over 82 years produced 7 million ounces of gold. The Tuvatu Gold Project has an Indicated resource of 1.1 Mt, grading 8.46 g/t, for 299,500 oz of gold; and an Inferred gold resource of 1.1 Mt, grading 9.7 g/t, for 468,000 ounces of gold, at a 3g/t Au cutoff grade. The PEA assumes modest capital costs and efficient mining of high-grade gold resources, resulting in significant cash flow to rapidly repay capital and fund mine development of open extensions as well as prospective targets in the area.

## Summary of positive characteristics of Tuvatu Gold Project:

- •Gold mined from the existing exploration decline may fully repay capital.
- •Thirty nine (39) "lodes" (mineralized veins) have been identified, commencing at surface and extending laterally and to depth, and may not be fully reflected in the mine plan and current resource estimate.
- •The geometry of the lodes is at an ideal angle for efficient underground mining.
- •The thickness of lodes are attractive (for minimizing mine dilution) by experienced Fijian miners with decades of underground mine experience.
- •The plant is designed to achieve high recoveries, utilizing gravity tables, flotation circuits and separate CIL processing of flotation concentrate and tailings.
- •Mining is recognized by the government of Fiji as critical to economic development.

Lion One has developed Tuvatu with added capacity to reduce bottlenecks and derisk operations, to maximize the continuity of operations, and achieve high recoveries from a modest 600 tpd operation. This is expected to increase cash flow to repay capital and fund mine development and exploration, to potentially extend the project. We are initiating research coverage of Lion One with a Buy rating and price target of C\$1.40 per share.

# LION ONE

Lion One Metals	
Limited	
TSX – V:	LIO
OTCQX:	LOMLF
o rega.	LOWILI
Rating:	Buy
Price Target:	C\$1.40
Price (6/22/16):	C\$0.76
52-Week Range:	C\$0.24-0.84
Ave. volume (3 mos.):	45,700
Cash <sup>(1)</sup> :	C\$0.2M
Debt <sup>(1)</sup> :	CS\$0.0M
Market Cap:	C\$45.7M
Enterprise Value <sup>(2)</sup> :	C\$45.5M
Shares Outstanding:	60.2M
Shares Diluted:	63.2M
3Q16 Rev <sup>(1)</sup> :	C\$0.0M
FY15 Rev:	C\$0.0M
Insider Owners	34.0%
Institutional Owners	4.88%
(1) As of March 31, 2016 (2) CAD:USD 1.3957	
Stock Performance	

#### Stock Performance



Source: Worden

## **Company Description**

Lion One Metals Limited is headquartered In Vancouver, B.C., and its Tuvatu Gold Project is located on the main island of Viti Levu in Fiji.

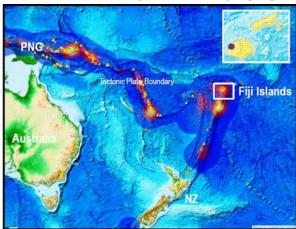
See Page 29 for analyst certification and important disclosures.

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## Investment Thesis: The Tuvatu Gold Project is Possibly Fiji's Next Long-lived Gold Mine

Lion One Metals Limited (TSX VENTURE: LIO, ASX: LLO; OTCQX: LOMOF, "Lion One") is focused on bringing the Tuvatu Gold Project ("Tuvatu") into production with a minimal amount of capital dilution of existing shareholders. In 2000, Emperor Gold Mining Company Limited ("Emperor Gold") completed a (non-compliant) Feasibility Study on Tuvatu, recommending a smaller project viable with a total operating cost of A\$318 per ounce of gold. Emperor Gold had completed about 1,341 meters of underground development, 64,893 meters of diamond core drilling (and 9,265 meters of reverse circulation drilling) and significant metallurgical work. Lion One later completed an additional 13,842 meters of diamond core drilling to confirm and expand upon earlier drill results, with additional metallurgical and engineering studies, to produce an exceptionally high quality Preliminary Economic Assessment (PEA) dated July 14, 2015, sufficient for the government of Fiji to issue a permit for the mine. We believe that the modest scale of the proposed operation by Lion One is well conceived, and at a level matched with its narrow-vein high-grade gold resource, with the potential to eventually surpass Emperor Gold's Vatukoula gold mine ("Vatukoula") in Fiji, which has produced about 7 million ounces of gold since 1935.

Fiji Islands Situated on the Ring of Fire (note location of Australian tectonic plate boundary highlighted in dark blue)



Source: Lion One Metals Limited, Corporate Presentation, dated May, 2016

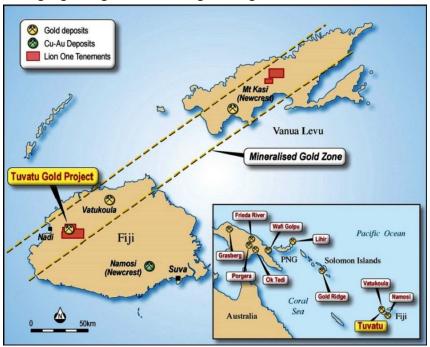
We believe that Vatukoula is an excellent analog to understand both the potential and quality of Tuvatu. Both projects are on trend with other gold mineral occurrences in Fiji, and located regionally near convergence of the Australian Plate and the Pacific Plate, extending from Papua New Guinea to New Zealand. Both gold deposits are a result of epithermal processes in a caldera setting, with high grades contained within swarms of narrow veins (or lodes). Conversely,

- •The gold mineralization at Vatukoula is refractory (and contained in basalts), requiring additional processes including roasting, while compared to Tuvatu (hosted in a monzonite intrusive), which is expected to achieve high recoveries through gravity separation, and flotation with separate CIL leaching of float concentrates and tailings.
- •The mineralized veins at Vatukoula are challenged by being at a shallow angle and may only be mined by breast stoping methods, compared to Tuvatu, where the lodes are at a steeper angle ideal for mechanized or shrinkage stoping methods.
- •The thickness of the mineralized lodes at Vatukoula are thinner than at Tuvatu, typically below the minimum stope width, resulting in a significant amount of waste to be unproductively mined, diluting gold grades. While Tuvatu's lode thickness varies, it averages the minimum stope width and is often quite thicker, minimizing mine dilution.

## Lion One Metals Limited (TSX VENTURE: LIO) - Precious Metals Mining

Also important for future mining at Tuvatu, based on our observations of underground miners working at Vatukoula, in similar but likely more challenging conditions, we anticipate that the underground miners in Fiji may be among the most skilled in the world at mining narrow mineralized veins. Vatukoula continues to be mined, which we suspect is at near break even. On the other hand, we believe that a mine with Tuvatu's positive characteristics starting near surface, and with modern methods, may have the potential to both rapidly repay capital and become Fiji's next long-lived gold mine.

## Viti Levu Lineament of Epithermal Gold Systems in the Fijian Islands (also note inset including regional gold mines along convergence of Australian Plate and the Pacific Plates)



Source: Preliminary Economic Assessment, Lion One Metals – Tuvatu Gold Project, dated July 14, 2015

In our opinion, Lion One has tailored an operation to properly mine Tuvatu's high-grade gold contained within narrow veins. Mine development work completed by Lion One, leading to the publication of the PEA, was sufficient to receive mining project permits and the blessing of the Republic of Fiji's ("Fiji") Prime Minister, Frank Bainimarama, in a public ceremony January 27, 2016 (please click link <a href="https://www.youtube.com/watch?v=ONm0g2Toilw">https://www.youtube.com/watch?v=ONm0g2Toilw</a> or Google YouTube presentation "Fijian Prime Minister hands over Mining Lease to Lion One Ltd."). Lion One has determined that it has sufficient information to make a positive mine decision and commence construction subject to financing, and that further drilling, metallurgy or economic studies may only dilute current shareholders and erode Tuvatu's potentially robust rate of return.

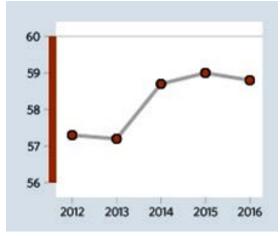
## **Brief Background and History of Gold Mining in Fiji**

Fiji includes over 300 islands in the South Pacific, about a third of which are permanently inhabited. Fiji is among the most economically developed island nations in the Pacific. The two principal islands include Vanua Levu and Viti Levu, the latter of which includes the capital city Suva, as well as Vatukoula and Tuvatu. The islands were first inhabited possibly 5,000 years ago, and were colonized by the British in 1874. The British introduced workers from India to cultivate sugar cane, which remains an important cash crop. The current population is about 830,000, of which about 55% are native Fijians and 38% are Indo-Fijians (Fiji is visited by roughly 750,000 tourists annually). While English is the official language, Fijian and Hindi are taught in the schools. The United Kingdom granted Fiji independence in 1970.

## Lion One Metals Limited (TSX VENTURE: LIO) - Precious Metals Mining

Fiji has had several coups since gaining independence from Great Britain; the latest coup was in 2006 when Commodore Frank Bainimarama seized power. Sanctions were imposed in 2006 by Fiji's main trading partners, including the European Union and Australia, and membership in the Commonwealth of Nations was suspended in 2009. In order to re-establish friendly relations with trading partners and to retain membership in the Commonwealth of Nations, a new constitution was installed. In 2012, Australia and New Zealand restored diplomatic ties in response to Fiji's preparations for democratic elections. In September of 2014, public elections were held and Frank Bainimarama, of the FijiFirst party, was elected with over 59% of the popular vote, and Fiji's membership in the Commonwealth of Nations was reinstated. It appears to us that Prime Minister Bainimarama has been successful effecting positive economic reforms, including reducing corruption and improving the efficiency of the country's government.

## The Heritage Foundation Index of Economic Freedom



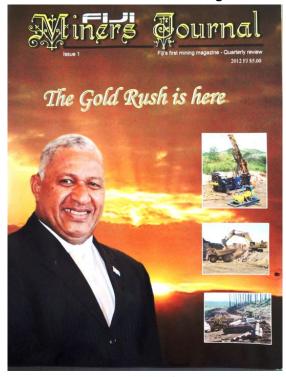
Source: The Heritage Foundation

The 2016 Heritage Foundation Index of Economic Freedom gave Fiji an overall rating of 58.8, 107<sup>th</sup> in the world, between the Philippines (63.1) and India (56.2). The index assigned Fiji a score of 53.7 in 2001. The Heritage Foundation website reports that "the new, democratically elected government holds some promise for increased government accountability. The interim government had made fighting the serious problems of official abuse and corruption a top priority." Also, "despite some progress, procedures for establishing and running a private enterprise are still time-consuming and costly. The recent labor reform consolidated and updated the labor codes, but an efficient labor market has not developed. Despite the new government's ambitious goals for economic reform, its 2015 budget increased infrastructure spending and subsidies to low-income households." We have a favorable view of the political and economic view of Fiji, and a positive view of its people and the direction of its government.

## Fiji Gold Boom and Mining at Vatukoula

Gold was discovered on Viti Levu at the Nasivi River in 1872. Prospecting continued until 1932, when gold was discovered at Vatukoula in commercial quantities recoverable by modern mining methods. This set off a gold rush in Fiji. In 1934, a new Mining Ordinance was passed by the British colonial administration, and Emperor Gold established its operations at Vatukoula. In 1939, Vatukoula produced 107,788 ounces of gold, comparable to the output of New Zealand and the eastern Australian states. This is close to the annual rate of production at Vatukoula; over its 80-year history it has produced a total of 7 million ounces of gold. The community of Vatukoula, which includes about 4,500 people, grew up around the mine. Emperor Gold closed the mine in December of 2006 due to a low gold price and a high level of sustaining capital requirements.

## Fiji Prime Minister Frank Bainimarama on the Cover of Inaugural Issue of the Fiji Miners Journal



Source: Fiji Miners Journal, Issue 1, 2012

## Restart of Vatukoula and the Birth of Tuvatu

In 2007, Emperor Gold sold Vatukoula to Westech Gold Pty Ltd (Westech) and Red Lion Management Ltd. (Red Lion), a Walter Berukoff company. Vatukoula reopened in April of 2008. Red Lion acquired Westech's interest, and mining licenses were reissued to Lion One. Red Lion eventually sold its interest in Vatukoula to River Diamonds Plc (River Diamonds), whose ownership was diluted by Chinese interests, who currently operate the mine. At the time Vatukoula was sold to River Diamonds, Tuvatu was not included in the transfer and eventually went public under the subject Lion One Metals Limited.

**Town of Vatukoula and Vatukoula Mine** 



Source: Analyst, May 31, 2016

## **Tuvatu Gold Project Location and Description**

Tuvatu is located about 20 kilometers northeast of the town of Nadi (with an estimated population of over 50,000), 17 kilometers northeast of the Nadi International Airport (near the Lion One Fiji office) and 35 kilometers southeast of the Port of Lautoka. The project is located at the upper reaches of the Sabeto River Valley, near the center of the Navilawa Caldera. The area leading to Tuvatu generally consists of level grasslands and a network of mostly paved roads. Tuvatu is readily accessed by the Sabeto road, which follows the river past the project. On the way to Tuvatu, the road passes the village of Korobebe and terminates at the village of Navilawa. As the road approaches the caldera, the topography becomes steeper and more rugged up to the caldera rim. The elevation of the caldera varies from 50 to 700 meters. Along the river there is thick rain forest vegetation in lower elevations, which dissipates with elevation and steeper terrain.

# Port of Lautoka Genue 35 km Posca Caldera Tuvatu SML 62 SPL's 1283, 1296, 1485 Nadi town center 20 km

Tuvatu Gold Project Licenses and Permit Areas

(proximal to caldera, offices, international airport and port facilities)

Source: Lion One Metals Limited, Corporate Presentation, dated June, 2016

#### **Tuvatu Gold Project Climate Summary**

The weather in Fiji is a mild tropical South Sea maritime climate. The average temperatures range from 23°C to 30°C (64°F to 86°F) at Nadi and 28°C to 32°C (82°F to 90°F) at Tuvatu. Winds are generally light to moderate from the East-Southeast. The area is frequented by cyclones from November to April, and particularly between January and February. While the cyclones generally bypass the islands, in February Fiji was hit by Cyclone Winston, the worst storm recorded in the southern hemisphere, which left 42 people dead. Mean monthly rainfall in the area varies from 5 centimeters in July to a high of 30 to 32 centimeters during the December to March wet season.

The Tuvatu geology camp and office is located between the Sabeto River and the Sabeto road. Following Cyclone Winston, the Sabeto River failed to breech its banks or disrupt camp activity. The proposed operational facilities at Tuvatu are being sited up stream in a generally level area on the hillside above Sabeto road. This is a good indication that the project is located out of harm's way. In addition, Lion One management has taken the opportunity with Cyclone Winston to collect data for its water management programs and for developing the proposed tailings pond.

## **Tuvatu Gold Project Leases and Permits**

Tuvatu is located on land contained within Special Mining License (SML) SML62, surrounded by Special Prospecting Licenses (SPL) SPL1283, SPL1296 and SPL1465. SML62 was granted on January 22<sup>nd</sup>, 2015 and will expire on January 21, 2025. The SPL's expire June 30, 2016 and December 1, 2016. Lion One management reports that the process of extending the SML and SPLs is relatively straight forward as long as requirements within the permits have been met. This generally means that activity in the licensed areas is being conducted to advance exploration or to become a mine.

Most of the land contained within the leases is native land. The three types of land ownership include native land, crown land and freehold land. Native land is reserved for use by local native groups and administered by the iTaukei Land Trust Board which governs the native land ownership rights in Fiji. To be leased, the land must be "dereserved" by a vote 75% of adult members of the local land owning unit. A lease requires a vote of 50% of the local land owning unit. Lion One management is of the opinion that once granted, in many ways the land position is more secure than in Australia or the United States.

Tuvatu is subject to a 5% royalty to the government of Fiji for the value of gold exported, which is divided amongst the local community and other stakeholders. The project is also subject to a 1.5% royalty to Laimes Global Inc. Lastly, Tuvatu is subject to a general export tax of 3.0% of gold revenues. It appears to us that the government bureaucracy and the people of Fiji understand the importance of foreign investment and specialized expertise to sustain its viability.

## A Brief Discussion of the Geology of Fiji

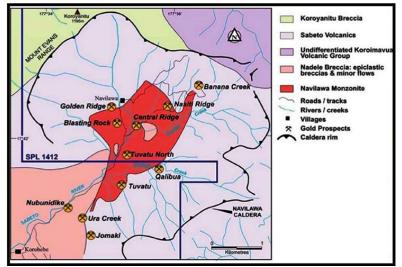
Fiji is near the contact zones of the Indo-Australian and Pacific tectonic plates, known as Tonga Kermadec and New Hebrides convergence zones to the north and to the east (please see regional map on page 2). This zone of tectonic activity is sometimes referred to as the Fiji plate, a fractured area subject to counter-clockwise plate movements. Fiji is separated from these convergence zones by extensional back arc basins, the North Fiji Basin to the west and the Lau Basin to the east, and a series of transform faults including the Fiji Fracture Zone and the Matthew Hunter Ridge. About 4.5 million years ago, this activity lead to depressions and uplifts, resulting in a number of major island-forming shield volcanoes occurring in a northeast-southwest trend. The reoccurring opening and agitation of the earth's crust developed into a "plumbing" system and conduit for mineralized fluids and "heat source" to power these fluids to surface and to precipitate forming deposits. Unsurprisingly, the convergence zone between the Indo-Australian and Pacific tectonic plates includes several of the world's major highest-grade gold producing mines.

#### A Brief Discussion of the Geology of Tuvatu

Both the Vatukoula and Tuvatu deposits are situated in a caldera setting and described as low-sulfidation, epithermal gold telluride mineralization occurring in flat-lying or steeply dipping lodes, as well as in shatter zones, stockworks and hydrothermal breccias. The emplacement of epithermal deposits is characterized by late-stage, multiphase tectonic activity which creates a plumbing system, and volcanic activity which provides a heat source. Vatukoula and Tuvatu are among a number of epithermal gold systems extending over 250 kilometers along the northeast Viti Levu Lineament (please see map on page 3).

Lion One Metals Limited (TSX VENTURE: LIO) - Precious Metals Mining

## Tuvatu Gold Project Regional Geology Map (note that Tuvatu is located in the southern portion of the caldera)



Source: Tuvatu Gold Project Preliminary Economic Assessment, dated July 14, 2015

It is possible that Tuvatu may have been part of a deeper porphyry copper system that was overprinted by epithermal gold mineralization. The PEA indicates "the style of mineralization is thought to have evolved as the local monzonite intrusive cooled and meteoric waters mixed with the magmatic fluids, resulting in the gradational changing of the mineralization and alteration styles." In addition, "Tuvatu appears to have had one to two kilometers of overburden removed since emplacement of the intrusive complex, which may represent the magma source for the overlying volcanism. The gold mineralization therefore represents deep-seated hydrothermal fluids emplaced in the very upper portions of the magma complex during the waning phases of volcanism." Most of the gold mineralization is found in the monzonite intrusive, in cracks occurring in the later stages of cooling, crystallizing in veins.

Epithermal deposits can be quite complex, as mineralization is structurally controlled within cracks as stressed rock is fractured. The mineralization is emplaced within networks or swarms of veins referred to as lodes. These lodes at Tuvatu occur mostly in steeply dipping mineralized zones and contain quartz, pyrite and base metal sulphides. The veins are relatively easy to recognize, as the swarms of veins are altered and appear a different color than the surrounding monzonite (granite-like in appearance), include pyrite crystallization, and are generally significantly less competent (please see photo on page 9). The veins sometime contain minor amounts of deleterious elements such as arsenic, selenium and uranium. The trace amounts of elements are more interesting from a geological perspective than as impacting mining or recovering gold.

The most important characteristic of epithermal deposits is that they may contain very high grades of gold. These high-grades may vary significantly within narrow intercepts, impacted by a "nugget effect," complicating predictability and resource estimation, as well as modeling and potentially production results and cash flow. While epithermal deposits such as Tuvatu may be prohibitively expensive to completely define (relative to more predictably disseminated gold deposits), they have a reputation for the potential to be long-lived, such as with Vatukoula. Tuvatu has a distinct advantage over Vatukoula, as its lodes are steeply dipping and more efficient to mine, opposed to being at a shallow angle. In addition, the PEA suggests that high recoveries of gold are possible at Tuvatu from gravity, flotation and leaching compared to Vatukoula which is refractory, requiring additional expensive processes such as roasting, to recover the gold.

## Tuvatu Gold Project TUDDH–160 (at 332.5 to 336.22 meters) (note "fair" competency of mineralized interval surrounded by more competent rock)



Source: Analyst, June 2, 2016

At least 39 different lodes have been identified at Tuvatu. At least 5 intercepts are required for a vein to be defined as a lode. (please see map on page 12) The main mineralized zone (Upper Ridges) is comprised of 11 steeply dipping lodes with a strike length of 500 meters and a vertical extent of 300 meters. Both the strike length and vertical extend are only limited by the lack of drilling. Another major zone of mineralization (Murau) consists of two major lodes with mapped strike length in excess of 400 meters. The majority of lodes vary from 0.4 meters to over 8.0 meters with an average width of 1.1 to 2.2 meters. (Some individual vein intercepts have been recorded as low as 4 centimeters.) High grades may be encountered as seen, for example, in drill hole TUDDH-160 of 0.5 meters at 1,620 g/t gold.

#### Summary of Exploration and Development Activity at the Tuvatu Gold Project

The earliest documented gold exploration on the Sabeto River near the Navilawa Caldera took place between 1945 and 1952. This included some pitting and underground work, but no records are available. Aquitaine Fiji identified a gold anomaly in the area from sampling between 1977 and 1979. In 1987, Geopacific Ltd. ("Geopacific") obtained SPL1283 and SPL1296 and followed up on Aquitaine Fiji's discovery. Over the following decade, Geopacific invested about \$1.5 million exploring the caldera. This included an association with Noranda Pty Ltd. in December of 1995 and an option agreement with Emperor Gold in June of 1997, who later exercised its option to acquire 100% of Tuvatu.

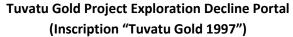
Summary of Tuvatu Surface and Underground Exploration Drilling (note TGM is Tuvatu Gold Mining Co Ltd and was an Emperor Gold subsidiary)

Company	Surface l	RC Drilling	Surface Dian	nond Drilling	Underground Diamond Drilling				
TGM Phase 1	5,225 m (44 holes) TURC101 to 171 42,783 m (193 holes) TUDDH013 to 205		1,108 m (17 holes)	TUG01 to 17					
TGM Phase 2					1,374 m (26 holes)	TUG18 to 43			
TGM Phase 3	4,040 m (37 holes)	TURC172 to 208	8,702 m (24 holes)	TUDDH206 to 229	10,926 m (69 holes)	TUG45 to 113			
TGM 1995-2000 Total	9,265 m (81 holes)		51,484 m (217 holes)		13,408 m (112 holes)				
Lion One 2008			376 m (2 holes)	TUDDH338 & 340					
Lion One 2012- 2013			13,842m (65 holes)	TUDDH341 to 405					

Source: Tuvatu Gold Project Preliminary Economic Assessment, dated July 14, 2015

## Lion One Metals Limited (TSX VENTURE: LIO) - Precious Metals Mining

From 1995 to 2001, Emperor Gold conducted three phases of exploration at Tuvatu. The first phase, commencing April of 1996, included surface drilling as well as regional mapping and geophysical surveys. Most importantly, they commenced underground development in November 1997, completing a total of 572.4 meters of development to a depth of 240 meters, and a modest underground drill program. The second phase, initiated in March of 1999, included exploration and development, including trial mining and metallurgical testing. The decline was extended to access the Upper Ridges lodes in the southern part of the resource. The third phase commenced in 2000. This expanded underground development to a total of 1,341 meters, which included 600 meters of development work. Drilling from underground was designed to expand and infill the Upper Ridges lodes (including the UR2) and test the Murau area. The third phase also included an aggressive surface drill program.





Source: Analyst, May 30, 2016

Emperor Gold produced an "In-House Feasibility Study" on August 1, 2000, which should not be solely relied upon for investment purposes, is referenced in this report, as it was completed by a reasonably competent mine operator in Fiji. The study estimated a resource of 1,844,000 tonnes grading 9.1 g/t gold. The resource was converted to reserves by applying a minimum mining width of 1.5 meters and a dilution factor of 0.1 meters. A probable reserve of 269,000 ounces of gold was calculated, comprising 1,262,000 tonnes of ore grading 6.6 g/t gold. The operation estimated an annual production rate of 400,000 tonnes producing 80,000 ounces of gold. The mining method would involve long-hole drilling at 15 meter vertical development spacing. The processing flow sheet would consist of a jaw crusher, SAG mill, ball mill, gravity circuit, CIL and INCO detoxification. Recoveries were expected to vary by ore body and range from 55.8% to 96.5% with an arithmetic average recovery of 81.7%. The overall costs were estimated to be A\$67.81 per tonne or A\$317.91 per ounce of gold. Total capital costs were estimated to be US\$28.7 million. The study concluded that the project, at current gold prices of US\$277.30 per ounce, would produce a US\$3.5 million NPV<sub>10%</sub> and an IRR of 24%. The project was anticipated to achieve break-even and repay capital in 5 years of a mine life of about nine years. It was estimated that it would require an additional A\$3.69 million to advance the study to "bankable feasibility."

## Lion One Exploration and Mine Development at the Tuvatu Gold Project

Lion One commenced mapping and geochemical testing in 2008, and followed up on prospects including Nubunidike, Ura Creek, Jomaki, Tuvatu South and Qalibua. Lion One also completed two diamond drill holes in Nubunidike which were not followed up. In 2011, Cambria Geosciences was engaged to manage mapping, sampling and resampling/relogging of about 10,000 meters of 60,000 meters of drill core. Lion One completed 58 kilometers of Induced Polarization survey lines, followed by 36 line kilometers of line soil sampling over the survey grid.

## Tuvatu Gold Project Trenching Surfacing of Upper Ridge #2 (UR#2) Lode near the Core Shed Fault (note red paint outlining the extent of a wide-weathered mineralized interval at surface)



Source: Analyst, May 30, 2016

Early in 2012, Stephen Mann was invited to Tuvatu to assess exploration activities. Mr. Mann orchestrated a drill program of about 14,000 meters which recommenced in June of 2012 with infill and step out drill holes. Infill drill holes were tested at the intersection of the east-west trending Murau-Far West Lodes and the north-south trending Upper Ridge Lodes west of the north-south trending Upper Ridge structural corridor and current resource. Step out holes were tested for mineralized extension of the Tuvatu and H Lodes in the northern portion of the resource area.

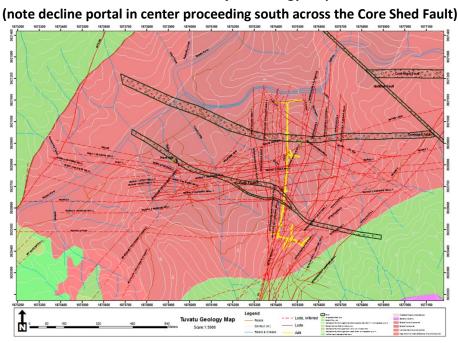
Equally important, Mr. Mann implemented a trenching program in excess of 1,200 meters. Lion One management said this produced about 600 samples taken from "hundreds of trenches" including road cuts in the steep topography, the portal box cut and the underground exploration decline. The program was completed to expose and confirm the presence of gold bearing veins in the north end of the project between the mine portal and the Core Shed Fault (CSF), identifying the Tuvatu (1 and 2) and H Lodes. Extensions of the Murau and Far West Lodes were mapped at surface over 500 meters, confirming the consistent lateral continuity of the veins. Lion One management believes that the "trenching" of exposed veins was a cost effective process to track, correlate and assess the economic contribution of individual lodes.

In June of 2013, Mr. Mann assumed management responsibilities at Tuvatu for resource development, staffing, and advancing economic studies. This included the disciplined task of compiling all available current and historic information into a functional database in order to confirm the quality of the data. A comprehensive review of the data logically

resulted in a more detailed mine plan, higher gold recoveries from processing operations and relocating the tailings dam and consideration of dry stacking and other options. In our opinion, Mr. Mann's most important contribution at Tuvatu for Lion One is his presence in aligning the intent of senior management with government and local communities, Lion One Fijian employees and geologic team, and relationships with third party consultants. These efforts led to the successful completion of a very high quality PEA, which in our opinion, appears to surpass the quality of the historic Emperor Gold "In House Feasibility Study."

## Characterization and Definition of the Gold Resource at the Tuvatu Gold Project

Tuvatu has been well categorized as a low sulphidation epithermal deposit associated with the monzonite intrusion. Stress resulting from intrusions results in local and regional rock fractures, which become conduits for mineralizing fluids until these materials cool and solidify. In this setting, these types of mineralized veins and lodes may form exceptionally high-grade deposits to barely detectible levels depending on a variety of conditions. They are also naturally influenced by the structure of openings, which swell and pinch with various orientations. These types of deposits are characterized as having high grade mineralization contained within swarms of veinlets and veins broadly defined as lodes. Also, because these lodes are obscured by unaltered and unfractured monzonite, or by a shallow soil cover on the surface, they are difficult to locate except for drilling, trenching or channel sampling of the exploration decline and underground development. These factors complicate the building of a resource estimate with a moderate to high level of classification without extensive and expensive exploration programs.



**Tuvatu Gold Project Geology Map** 

Source: Lion One Metals Limited

The composition of these lodes may vary greatly based on structural restraints, chemical and temperature conditions leading to crystallization, and separate pulses of mineralizing fluids. Accordingly, these factors account for the variance in gold grades, potential recoveries and rock competency that are important for defining a resource estimate, developing a safe and productive mine plan and constructing a flexible and efficient processing operation. These varying characteristics are useful for building a complete geological model.

## Lion One Metals Limited (TSX VENTURE: LIO) - Precious Metals Mining

In our opinion, Lion One has effectively built upon exploration and mine development work completed by Emperor Gold. Thirty-nine individual lodes have been identified with varying characteristics including physical dimensions, gold grades and recoveries. These lodes have generally been tracked on a north-south and east-west orientation. Most of these lodes are steeply dipping at a 70° to 80° angle, ideal for underground mining. Individual lodes were formed under unique circumstances. It is possible to identify and track individual lodes over hundreds of meters. In addition to cataloging lodes, two major faults have been identified, the Core Shed Fault and the CABX or South Fault.

## 3921100N TUVATU -PORTAL ZONE CORE SHED FAULT 3920900N SNAKE AND MARAU ZONES SOUTH FAULT **WEST 2 ZONES** DECLINE **UR1 & UR2 ZONES** 3920500N 3920300N

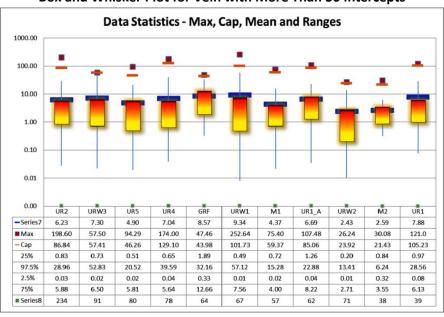
## **Lion One Interpretation of Mineralized Zones**

Source: Tuvatu Gold Project Preliminary Economic Assessment, dated July 14, 2015

Tuvatu's main mineralized zone, referred to as the Upper Ridges, consists of 11 lodes with a north-south strike length of over 500 meters and a vertical extent of more than 300 meters. Lion One management estimates that about 80% of the gold resource is contained within this lode. The Snake/Murau zone is another major zone of mineralization which consists of two main lodes with an east-west strike length of over 400 meters. In addition, they believe that these zones may be accessed through the existing exploration decline sufficiently enough to repay estimated capital costs. Other mineralized zones include the West area with four lodes, the northwest-southeast trending Tuvutu area with two lodes, as well as flat-dipping stockwork veins in the SKL area.

### Tuvatu Gold Resource Estimate Discussion

The Tuvatu project has no Measured Resources or Proven and Probable Reserves. Given the high variability of gold grades within individual lodes, a significant amount of additional drilling would be required to statistically increase the economic classification of resources. For this reason, 55% of the projected mined tonnes and 63% of the projected contained ounces are inferred in the mine plan. We find it interesting that Emperor Gold, early in the process of prospecting the Navilawa Caldera, had the confidence to complete an exploration decline in addition to surface drilling. We surmise that Emperor Gold took this approach, generally reserved for later in the exploration process, due to their first-hand experience mining Vatukoula over six decades.



## Box and Whisker Plot for Vein with More Than 50 Intercepts

Source: Tuvatu Gold Project Preliminary Economic Assessment, dated July 14, 2015

A typical issue of narrow-vein high grade gold resources is that the high grades are not consistently distributed over the mineralized veins. This presents one of the difficulties in the statistical analysis underlying the classification of resources. The options include either additional drilling to the point that statistical tests are met or to cap or cut the outlying grades, both high and low, to intuitively arrive at a more reasonable resource estimate. The process of capping the resource estimate focused on veins with over 50 intercepts and the grade cap was selected at the 97.5<sup>th</sup> percentile, which often only led to one value being capped. In addition, cut-off grades were applied to provide an economic perspective of the range of ounces of gold contained within any number of tonnes. For the purpose of developing a mine plan, the financial model utilizes a 3.0 g/t gold cut-off rate.

Tuvatu Mineral Resource Estimate Based on a June, 2014 Study

Cut off	Indicat	ed Resource (d	Inferred	d Resource	(diluted)				
g/t Au	tonnes	tonnes g/t oz. Au			tonnes g/t oz. Au tonnes				oz. Au
1.0	1,943,000	5.61	350,300	3,022,000	5.8	561,000			
3.0	1,101,000	8.46	299,500	1,506,000	9.7	468,000			
5.0	683,000	11.25	247,000	872,000	13.9	390,000			

Source: Lion One Metals Limited, Corporate Presentation, dated June, 2016

Estimation of resources intended for underground mining is complicated by the selection of cut-off grade and minimum mining width. Lion One has concluded a minimum mining width of 1.2 meters. For estimation purposes, rock with grades below the cutoff grade is considered waste. The inclusion of waste rock when mining high grade intervals reduces the average grade of the material processed through the plant. Mineralized intervals in excess of 1.2 meters are mined to the extent of observed mineralization. With mineralized intervals over 1.2 meters, Lion One has added an additional 20 centimeters (0.2 meters) to the mining width to account for the potential of mining dilution.

Lion One has conservatively applied the criteria of limiting outliers by capping exceptionally high grades, counting material below the cut-off rate as barren waste rock, and diluting mineralized intercepts over the minimum mining width to each of the lodes included in the mine plan in order to define a mineable resource.

## Comments on the Metallurgy of the Tuvatu Gold Deposit

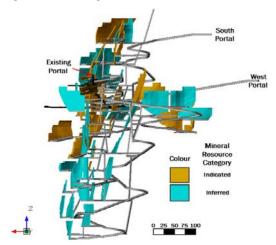
The PEA reported that a total of nine metallurgical testwork campaigns have been undertaken on Tuvatu mineralized lodes. Tuvatu has been well categorized as a low sulphidation epithermal deposit with most veins containing quartz, pyrite, and base metal sulphides. The PEA reports that the Tuvatu resource may achieve average recoveries of 86.3% by gravity, flotation and leaching concentrate and tailings. Lion One management notes that anticipated recoveries vary by lodes; for example, the Upper Ridge #2 (UR2) and Tuvatu lodes have on occasion achieved recoveries of 95% to 98%. Lion One management also reports that the mineralized material at Vatukoula is refractory, which requires additional processes, including roasting, in order to achieve recoveries of about 75%.

## **Tuvatu Gold Project Mine Plan**

The 1,341 meter exploration decline provides an opportunity to expedite development and mining at Tuvatu. The exploration decline crosses the Core Shed Fault at the north end of the decline near the portal. The PEA indicates that the decline in the vicinity of the Core Shed Fault will require rehabilitation. The Core Shed Fault is a significant water bearing fault, and the exploration decline will need to be dewatered. Lion One management said that rehabilitation of the Core Shed Fault in the area of the existing decline would simply include mesh, shotcrete and bolting. Lion One management reports that about 9 to 14 lodes could be accessed from the exploration decline including the UR2, URW1, URW3, Tuvatu and SKL. They anticipate they could drive off the exploration decline and comfortably mine potentially 25,000 to 48,000 ounces and potentially payback capital. While this suggests a low-risk aspect of Tuvatu, it may not be practical in the long term, as it would potentially sterilize other lodes and reduce the mine's potential. In addition, the exploration drive is about 3.5 mW by 3.8 mH, designed for exploration, and not as a fully functional operating decline.

The PEA anticipated that two 4.5 mW by 4.5 mH declines would be developed, and that the exploration decline would be sealed off. Lion One management anticipates that it will require only one decline (starting at the West Portal in the graphic below), and that the exploration decline will remain open after initial mining for ventilation and to provide an additional escape route. Total development work totals 6,708 meters, of which 5,580 meters are declines. Operating development include level access, footwall drives, cross cuts and draw points totaling 20,747 meters. Altogether, total lateral capital and operating development totals 27,455 meters.

## **Underground Mining Blocks at the Tuvatu Gold Project**



Source: Tuvatu Gold Project Preliminary Economic Assessment, dated July 14, 2015

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The steeply sloping UR2 and URW1 lodes, are the most highly drilled and best defined. These lodes contain roughly 70% of the gold resource. The standard stoping panel is 60 meter level interval and 60 meter strike length. Sill pillars between the stope panels will be at least six meters high. (For this reason the mine plan assumes 95% stope recovery.) Access to the mineralization from the declines will be from 4.0 mW by 4.0 mH lateral declines, and from 3.5 mW by 4.0 mH draw points by medium-sized loaders and trucks.

(note stope neight or about one meter and miners utilizing Jack leg)

Fijian Miners Breast Stoping at Vatukoula Mine (15 Level, ~425 meters below surface) (note stope height of about one meter and miners utilizing jack leg)

Source: Analyst, May 31, 2016

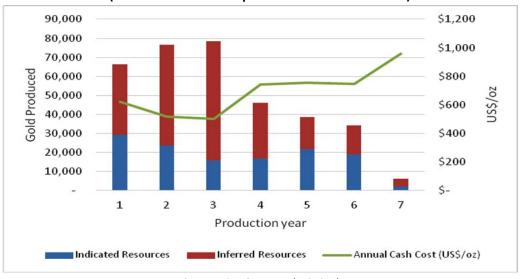
The primary method for mining the panels will be by shrinkage stoping with limited breast stoping for shallow dipping lodes (shallow dipping zones account for only 5% of the resource at Tuvatu). While conventional air-leg methods are proposed for these stoping methods, some panels may be more efficiently drilled by long-hole stoping methods by on-site jumbo drills used for mine development. As panels may not be mucked out until they are completely mined, Lion One management figures they will need to simultaneously work 11 to 12 panels at any one time. This should keep the run-of-mine ore pile adequately stocked, with about 60 days of material, to assure continuous operations of the plant. The PEA assumes mining operations of four shifts of operators, working three 8-hour shifts, 24 hours a day, 320 days per year. This implies a maximum of 40 persons working each shift, four workers to a panel, resulting in about 18 jacklegs running simultaneously. The number of underground workers is scheduled to peak at about 190 employees early in the mine life, as development work is completed.

## Additional Comments on Lion One's Mine Plan at the Tuvatu Gold Project

The PEA anticipates repayment of mine capital within 1.5 years. During this initial phase of mining, the mine schedule anticipates slightly more inferred resources than indicted resources. The rapid payback is expected to result from mining higher grade inferred resources. As inferred resources are more speculative than indicated resources, Lion One management anticipates a worst case scenario where average grades might be equivalent to indicated resources that would otherwise have been mined. In this event, they anticipate a payback of about 2.2 years, which is close to the margin of error generally assumed with a PEA.

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## Estimated Production of Indicated and Inferred Resources (note increase in cost per ounce later in mine life)



Source: Lion One Metals Limited

Management of underground mining activities requires a high level of competence. Supervising geologists will need to be attentive with each blast to identify ore and guide miners to keep them on the ore and minimize dilution. This will also be important to anticipate and recognize the potential of "false floors" or open cavities in the blasted material that pose a safety hazard to workers. Ground conditions are generally considered to be "good" except for faults and fractures, which are prospective targets for mineralized material. These supervisors will be important to recognize undiscovered lodes and avoid inadvertently sterilizing lodes in the mine plan. These activities are important for maintaining a steady flow of material to the run-of-mine stockpile.

The underground mine life of about 7.4 years is based on a mine plan counting only resources identified in the PEA. This plan forecasts declining mine development in the later years as the resource is exhausted. We anticipate that as exploration continues additional resources will be identified extending the life of mine. In addition, Lion One management intends on stockpiling mineralized material below cut-off to backfill any deficiencies in the run-of-ore stockpile to assure continual operation of the plant. We see these events to be likely with the potential to increase production and the life of mine having a positive impact on the financial model.

#### **Tuvatu Gold Project Plant Operations and Processing Flowchart**

Lion One's management is planning to construct a 600 tpd operating facility to process mineralized material at Tuvatu. We believe that the plant operations are very well conceived. The plant has added capacity throughout the flowsheet to reduce bottlenecks and to flexibly adjust to the potential of risks associated with a reduction of throughput from the mine. Lion One management has also built upon Emperor Gold's "In-House Feasibility Study" to improve upon each link in the processing flowsheet and add additional steps to recover as much of the gold as possible. These adjustments are important to increase recoveries and properly match the scale and functionality of the processing plant, with the mine deposit consisting of high grades of gold in narrow veins. These efforts present the image of an expensive and overly complicated plant operation. The opposite is likely the case, where the project capital estimated in the PEA is only US\$31 million (Lion One management says that "most of the capital has hard bids"), and the scale of operations appear to be closer to a pilot plant than a larger operation, consistent to what could be a long-lived mine.

## Summary of Tuvatu Gold Project Plant Operations

The proposed plant operations are designed with a capacity of 219,000tpa at a rate of 600tpd. The plant is designed to operate 24 hours per day and 365 days per year, with overall availability of 91%. The crushing circuit is designed with a mechanical equipment availability of 75%; however, it has been sized to process 1,000 tpd to accommodate potential future expansion. The operation is expected to achieve recoveries of 86.3% from crushing/grinding, gravity, flotation and leaching both reground concentrates and tailings (Please see a flowchart for the proposed operating plant on page 28.).

## Summary of Tuvatu Gold Project Processing Flowchart

The proposed operating plant includes a two-stage crushing and screening circuit (the first stage crusher allowing 80% to pass at 11 centimeters). This is followed by two-stage grinding, using two ball mills and achieving a target size of 80% of the material passing through 75 $\mu$ m. The material passes through a gravity circuit which is expected to recover about 40% of the gold. The separated gold is sent to the gold room for smelting, while the balance of the material proceeds to the flotation circuit. In the flotation stage, sulphides are floated and the concentrate is reground with 80% of the product passing 20 $\mu$ m. At this point, both the reground floated concentrates and the flotation tailings pass through two Carbon-in-Leach (CIL) circuits, and absorption of solution gold onto carbon particles occurs. A gold-rich solution is produced and processed to remove the gold, which is smelted to produce gold doré.

## Discussion of the Proposed Tailings Dam and Environmental Issues

It is important to recognize that Lion One has taken a long-term approach to developing a mine at Tuvatu. It appears that they have taken steps to exceed the environmental standards of Fiji as well as other more developed nations such as Australia, Canada and the United States. Tuvatu benefits as it is not expected to have an issue with mine water runoff or acid generated from the tailings. Lion One has also proposed a project with a small footprint. We suspect that once the project moves into production, it will not easily be identifiable from the road or the air.

Emperor Gold considered mining the mineralized material coming to surface from open cuts. Lion One management concluded that this was not attractive from an operational or an environmental perspective. The number of trucks required to haul waste would have overstressed the local road network. Also, the waste-to-ore strip ratio would be over "fourteen to eighteen" to one. Even though it would be economic at these ratios, open cuts would pockmark an otherwise environmentally competitive project.

Lion One's management's analysis of the open cuts led to relocating the tailings dam two kilometers to the west of the proposed mine site. Emperor Gold had entertained two other locations due to a larger capacity than the currently proposed tailings dam. One of these suggested locations was close to a neighboring community of Korobebe, and another was on the other side of the Sabeto River. The proposed location has a designed capacity of 1.2 million tonnes with an average plant discharge rate of 200,000 tpa.

The proposed tailings dam design was completed in consultation with Knight Piésold Pty. Ltd., one of the world's leaders in tailings dam design. The design took into consideration earthquakes as well as water diversion around the tailings dam. The surface water diversion will reduce the tailings dam upstream the catchment area from 78 ha to

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approximately 12 ha. Lion One has also elected to convey tailings to the dam in a pipe-in-pipe conduit, which is another indication of a high level of care for the environment and government regulators.

Lion One management anticipates that once Tuvatu is fully operating, there may be an opportunity to analyze the potential for dry stack tailings. While this may appear unwise in a tropical climate, they believe that the tailings may be suitable for road construction, which may benefit Fiji by preserving current sources of sand currently mined from environmentally sensitive areas. We find it interesting that Tuvatu will have very little environmental impact relative to current gravel mining just downstream from the Lion One geologic office and proposed mine operation.

## Disturbed Water from Local Mining Gravels Downstream and West of the Tuvatu Gold Project (note orientation to brow of "Sleeping Giant" upper center)



Source: Analyst, June 2, 2016

## Discussion of the Water, Power and other Infrastructure Issues

Water derived from the mine and recycled from the tailings pond is expected to be sufficient for the proposed operating facility. The Core Shed Fault is a significant water bearing fault and can supply water during the dry season. It is useful to recall that Cyclone Winston provided real data for Lion One and its consultants to stress test assumptions which have been taken into account in laying out plant operations and the tailings dam. Cyclone Winston was also an opportunity to assess ground stability throughout Tuvatu.

Tuvatu is expected to have a load of approximately 4.0MW. The power will be provided on site from a containerized diesel power station, including switchgear and transformers, with 1,500kVA generator units. Lion One management has determined the configuration of power redundancy will be necessary to assure continuous operations and reserve capacity to start larger ball mill motors. Power supply costs are estimated to be USD\$0.90/L for diesel fuel, for a cost of USD\$0.24/kWh. There is a 133kV transmission line crossing Tuvatu (which could provide 2 MW of power) from a nearby Fijian Electricity Authority hydroelectric plant, but the available grid power is not sufficient to provide for continuous operations. The Fiji Electricity Authority is the Fijian power utility. While the PEA notes a supply capacity of 80 MW, Lion One management has said that due to the variability of rainfall, impacting hydropower necessitates onsite power generation. In addition, the operation at Vatukoula has a load of 14 MW with 19 MW of power generation.

We believe that Fiji has all of the necessary support for the construction and operation of a mine at Tuvatu. The project is relatively close to a significant port at Lautoka and the Nadi International Airport. The town of Nadi is equipped with modern technology for domestic and international communications. The workforce may be sourced from local communities, eliminating the need to provide employee accommodations. One may consider the quality of health care in Fiji to be limited compared to some developed nations, but the close proximity to the Nadi International Airport mitigates the concerns for urgent care.

## **The Tuvatu Gold Project Economics**

The PEA's model estimates mining 1,125,548 tonnes, grading 11.3 g/t gold, over 6.2 years, producing a total of 352,931 ounces of gold, or about 57,320 ounces per year. The life of mine capital cost is estimated at \$74.6 million, with preproduction and peak capital expenditures of \$48.6 million and \$55.8 million, respectively. Including royalties, total cash costs are estimated to be US\$200.2 million, or US\$177.86 per tonne of ore, and US\$567.21 per ounce (an all-in cost of about US\$779 per ounce). These cost calculations do not include corporate head office general and administrative costs during operations. At a gold price of US\$1,200 per ounce, on an equity-only basis, the project is expected to have a pretax IRR of 67.1%, and pre-tax NPV<sub>5%</sub> of US\$116.99 million, and have a pay-back period of 1.25 years after the production of the first gold. On an after-tax basis, the project is forecast to have an IRR of 52.3%, an after-tax NPV<sub>5%</sub> of US\$86.5, and a payback period of 1.5 years.

#### **Gold Price Sensitivities**

Gold Price US\$ per oz.	<b>Margin</b> US\$ Per oz.	IRR After tax	Months Payback After tax	After-tax NPV5% US\$M	Free cash flow US\$M (6.16 Yr.)
1,000	433	33%	24	45.22	62.37
1,100	533	43%	21	65.50	87.05
1,200	633	52%	18	86.64	112.66
1,300	733	62%	16	107.79	138.26
1,400	833	71%	15	128.93	163.87

Source: Tuvatu Gold Project Preliminary Economic Assessment, dated July 14, 2015

The PEA concludes that Tuvatu is most sensitive to the price of gold. A 10% increase, to US\$1,320, would increase the project pre-tax IRR to 80%, the discounted pre-tax NPV to \$149 million, and decrease the payback to 1.1 years. A 10% reduction in the gold price, to US\$1,080 per ounce, would reduce the project pre-tax IRR to 53%, discounted pre-tax NPV to US\$85 million, and increase the payback to 1.6 years.

### Other Prospects in the Navilawa Caldera on SML62 Near the Tuvatu Gold Project

Lion One's most advanced exploration targets are located on SML62 within about one kilometer from Tuvatu. This includes the Nubunidike, Ura Creek and Jomaki Ridge prospects (please see map on page 8). Lion One drilled two holes at Nubunidike totaling 375.90 meters in 2008. These holes, along with channel sampling, identified three veins including high grades extending over several hundred meters. Lion One has only mapped and taken channel samples at Ura Creek and Jomaki Ridge. Despite these being very early prospects, Lion One management appears optimistic regarding their potential. As these prospects are located on SML62, they provide the potential to add ounces to the Tuvatu mine plan without further permitting.

We believe investors interested in Lion One should be attentive to other developments in the Navilawa Caldera. Golden Rim Resources lost its Special Prospecting License 1412, a block covering an area of about  $110 \, \mathrm{km}^2$ , covering a majority of the under-explored Navilawa Caldera, directly north of Tuvatu. As seen in the Tuvatu Gold Project Geology Map above, there are several similar high-grade epithermal gold prospects hosted in monzonite. We believe that Lion One has earned a reputation as a good corporate citizen in Fiji, and we suspect that they would be best suited to acquire the SPL1412 and consolidate activities in the caldera. Lion One's potential ownership is still speculative, but we believe that it is important for the company to realize the potential of our investment thesis as the next great long-lived mine in Fiji.

## Lion One Metals Limited's Management Review and Discussion

Walter H. Berukoff is the founder, Chairman and Chief Executive Officer of Lion One Metals Limited. Mr. Berukoff was also the founder and Chief Executive Officer of Miramar Mining Corporation, Northern Orion Resources, and La Mancha Resources, and has operated or commissioned gold mines in seven countries. Over the last 40 years, Mr. Berukoff has built a solid reputation as a successful mining entrepreneur, merchant banker, real estate developer, organic agriculture enthusiast and financier. Mr. Berukoff founded Leisure Canada, the leading developer of luxury resorts in Cuba, with multiple properties currently under development, including five-star hotels and championship golf courses. Mr. Berukoff is also Managing Director of Red Lion Management, a merchant banking company, and has raised over \$1 billion for global mining and real estate projects. He has amassed considerable holdings in real estate and manufacturing facilities, and has taken an active role in developing and turning-around business enterprises throughout the Americas, Europe, Africa and Asia.

Stephen Mann is Lion One's Managing Director and Exploration Manager. Mr. Mann was appointed the Managing Director of Lion One in December 2013, having been appointed to the board of directors in October 2012. Mr. Mann is a geologist with over thirty years industry experience in mineral exploration and development. Previous to joining Lion One, Mr. Mann was also managing director of Perth, WA-based Avocet Resources Limited, focused on gold, uranium, and iron ore exploration in Australia and Argentina from 2006 until its merger with Lion One in June 2013. From 1994 until 2006, Mr. Mann worked as an Exploration Manager and later Managing Director of Cogema Australia Pty Ltd/AREVA, focused on exploration and mining for gold and uranium. While at Cogema/AREVA, Mr. Mann was credited with the discovery, development, and initiation of mining on the White Foil and Frogs Leg gold deposits. He previously worked in mineral exploration for companies such as Utah Development Company, BHP Minerals Ltd., and Newcrest Mining Limited. Mr. Mann graduated from Adelaide University with Honours.

We were fortunate to have five days with Mr. Berukoff and Mr. Mann in Fiji, with the opportunity to spend two days at Tuvatu, one day at Vatukoula, and several visits to the Lion One office in Nadi, with intermittent exposure to Fiji from Nadi to Vatukoula. This provided us with a significant amount of time with Lion One management, as well as with Lion One personnel in their office in Nadi and geology office and core shed at Tuvatu. On our visit to Vatukoula, we had several opportunities to meet with the mine's management team, and tour the Vatukoula operations and mine down to the 15 Level to observe miners breast stoping (Please see photo on page 16).

We observed a high degree of professionalism with both the team of geologists and support personnel at Tuvatu and the Lion office in Nadi, plus the underground miners at Vatukoula. We also noted the cultural challenges between management and workers at Vatukoula. It was an interesting opportunity to join Mr. Berukoff on his first tour of Vatukoula since he sold it to River Diamonds, and we were particularly impressed with the warm greeting he received

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from old acquaintances throughout the visit. In addition, the opportunity to observe Mr. Mann with his geologic team leads us to believe that Lion One's upper management is well aligned with employees on Fiji, which we view as critical for their success.



Lion One Geology Team at Tuvatu With Stephen Mann at Center

Source: Analyst, June 2, 2016

It is also important to note the professional background of the dozen Lion One employees we met on our visit. Nearly all of the employees had worked at Vatukoula, five with over ten years of experience, and one with over 40 years. Half of the employees had worked at Lion One for eight years. Some of these Lion One employees had worked for the mining ministry or Geopacific. We believe that the number of years a team has worked together, often through difficult challenges, is a primary indicator of success, often more important than individual experience or length of service.

## **Discussion of Lion One's Financial Condition**

On December 21, 2010, Lion One (formerly X-Tal Minerals Corp.) shareholders approved a reverse takeover with American Eagle Resources, Inc. (the holding company for Tuvatu). On December 22, 2010, a C\$11.5 million private placement was completed for working capital and development of Tuvatu. On June 19, 2013, Lion One merged with Avocet Resources Limited, which included a number of assets including a 22% participating interest and 25% free carried interest in the 520 mt Olary Creek Iron Ore Project in South Australia. Lion One is a resource development company and does not generate revenues in its normal course of business. Lion One has accordingly drawn down cash balances, and completed exploration and resource/project development work. Relative to other resource companies in the recent mining cycle, Lion One appears to have managed its capital structure, while maintaining a competitive outstanding and diluted share count compared to other resource companies. At this stage of development, Lion One has depleted most of its capital resources. As of March 31, 2016, Lion One had cash and cash equivalents of C\$241,150, and a negative net working capital position of C\$397,541. Red Lion Management stands ready to provide ongoing working capital, but the company is likely to seek to raise equity or debt for working capital and development/construction purposes.

## **Our Valuation Approach and Discussion**

We believe that the best approach to complete a valuation analysis on Lion One is to utilize the PEA and build upon it. The PEA was completed on an equity-only basis, which implies the potential to increase returns by increasing leverage by adding debt. This would increase financial risk by actually delaying the repayment of capital. The PEA was completed at a gold price of US\$1,200, and we suspect costs have not varied beyond the PEA's level of confidence of about 35%. We believe that the PEA's NPV is a good starting point for assigning value to Lion One, though investors would be right to assign a discount or premium to this based on their perspective of future gold prices and the relative risks of constructing and operating a mine in Fiji. We also believe a premium is warranted for the potential of acquiring SPL1412 to the north of Tuvatu, their interest in an iron ore project in Australia, and the quality of their employees in Fiji.

Tuvatu is a narrow-vein, high-grade epithermal gold deposit. It is challenging and expensive to fully delineate gold resources in these types of deposits. They have a favorable reputation for additional discoveries, and long lives which are only later curtailed by lower gold prices relative to the cost of increasing development costs. Clearly, this is the reason for our referring to Vatukoula as an analog, due to its 80-year history, 7 million ounces of gold production and remaining resources. For many reasons, as discussed in this report, we believe that Tuvatu is a more attractive gold deposit. While Vatukoula has not fully been explored in its host caldera, Tuvatu's Navilawa caldera is early in its exploration, with at least three documented prospects at surface on SML62, with potential on the balance of its special prospecting licenses. There is also potential for Lion One to add SPL1412, which has a larger area within Navilawa caldera, including areas with a monzonite intrusive. As resource at Tuvatu is open laterally and at depth, and Lion One management is optimistic for establishing resources on the balance of its leases and the potential of SPL1412, we believe looking to Vatukoula as an analog is valid.

The PEA's assessment of Tuvatu is based on a modest size gold resource proposing a modest scale operation. The PEA notes the potential to operate and expand to higher levels of production and cites several opportunities to improve economics by reducing power, reducing costs, and improving metallurgical results with experience. We have accepted the PEA's assumptions, but speculated on a potential NPV at a discount rate of 5% if the mine life doubled, maintaining ongoing exploration, mine development and costs related to the tailings dam and closure. Based on our calculations, this would imply an NPV at a discount rate of 5% of about US\$304.2 million, or C\$424.6 million (adjusted for a Canadian/U.S. exchange rate of 1.3957:1). This speculative assessment is useful to recognize the potential of Tuvatu if the mine life could be doubled.

We believe that Tuvatu could be reasonably valued, upon financing, at a premium of at least 1.5 times the PEA's after-tax NPV $_{5\%}$  of US\$86.5 million, to be US\$130.0 million, or C\$181.1 million. Assuming Lion One raised required capital of US\$48.6 million, or C\$67.8 million, at C\$1.00 per share, we speculate that Lion One would have outstanding shares following equity financing of about 128.0 million. Valuing Tuvatu at C\$181.1 million, with 128.0 million shares, suggests a target price of about C\$1.40 per share once financing is secured and construction commences. While the actual course of financing is subjective, we believe our methodology is reasonable, and that the prospects for Lion One securing financing at the current level of development under present market conditions is good.

## **Highlighted Risks and Mitigations for an Investment in Lion One**

Market experience over the last five to ten years has clearly demonstrated the variety of difficult or impossible to predict risks that may negatively influence the viability and potential operations of resource companies and their common stock valuations. In our opinion, though Lion One management has mitigated risks and enhanced its opportunities, there are a few specific risks examined in this report that are important to highlight.

Risk:

Fiji appears to have a higher level of political risk compared to developing nations, having experienced several coups since gaining independence from the United Kingdom. This may impact the perception of investors regarding Fiji's political jurisdiction as well as materially impact actual operations and future development and exploration.

Mitigation:

Fiji has successfully put into effect a new constitution and completed elections maintaining the current administration. This has been viewed favorably by neighboring nations and by political rights sentinels. Fiji has awarded mine permits for Tuvatu and has received a warm blessing from the Prime Minister for the project and their relationship with Lion One. The government of Fiji recognizes the importance of Tuvatu for the nation to increase employment and as a source of revenues. Tuvatu has a small environmental footprint, and we expect it to be more environmentally favorable than current operations at Vatukoula or the mining of gravels in the Sabeto River downstream from the project.

Risk:

Tuvatu is a narrow-vein high-grade epithermal gold resource at an Inferred and Indicated level of classification, indicating an above average level of uncertainty or risk for locating, defining and mining gold resources.

Mitigation:

Vatukoula has been mined successfully for over 80 years. Tuvatu has many more attractive characteristics which have been detailed in this report. Lion One management has identified a large number of veins increasing the consistency of throughput from the mine and has built-in excess capacity to increase the flexibility of operations. We believe Fiji may have among the world's most experienced underground miners. Lion One management has good access to expat talent, and is well aligned with its workers, to supervise and develop talent in Fiji to operate a safe and productive underground mine.

Risk:

Lion One has decided to proceed with construction/production based on a PEA level economic study.

Mitigation:

Lion One has an experienced management team which has updated and expanded upon an "In-House Feasibility Study" completed by Emperor Gold. Lion One management has confirmed the earlier drill results and test work for earlier studies to arrive at the proposed mine and processing operation. Lion One management reports to have firm bids on most of the hard capital costs in the PEA's budget. Lion One management has experience planning, as well as an experienced team.

Risk:

The PEA has identified that Tuvatu's financial model is mostly sensitive to the price of gold.

Mitigation:

The Tuvatu PEA indicates relatively low cash cost and all-in cash cost of operations. The PEA was completed at a gold price of US\$1,200 per ounce, which is slightly below current market prices. The PEA suggests a variety of potential opportunities for reducing costs, and we suspect that many of these will be identified during commissioning and early in the mine life. Also, we believe that gold still retains its allure as a store of value and has recently achieved renewed interest given world monetary, economic and political anxiety.

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Risk: Lion One has modest levels of cash and a negative net working capital position, and is depending on

raising equity capital or financing in order to realize its potential discussed in our investment thesis.

Mitigation: We believe that since January of 2016, there is a renewed interest in resource companies, particularly

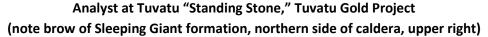
with underlying gold assets, and that this is providing Lion One with a number of opportunities for financing that were not available over the last several years. We believe that locating financing will not

be an issue due to the quality of Tuvatu.

## **Investment Conclusion**

In our opinion, we believe that Lion One has the potential to enjoy the success of other well-managed, modest-scale, high-grade precious metals projects. Despite the low level of classification of gold resources, we believe that the level of exploration, underground development, metallurgical studies, and engineering is appropriately sized with the recommended scale of operation to protect and reward existing shareholders. In our opinion, the scale of capital costs and operations appears to have the risk profile reminiscent of a pilot plant, while Lion One's diligence and study resembles work at much higher levels than suggested by the PEA. For these reasons, and others detailed in this report, we believe that Lion One has a good chance to succeed at Tuvatu.

Lion One is at a good stage to initiate research coverage, but at a challenging time to assign a target price. The market for resource stocks appears to have recovered following a "capitulation" in January of 2016, and with apparent growing interest in gold as a store of value, we believe it is still a good time to seek out good quality undiscovered companies. Lion One has also completed a very high level PEA and has received their mining permit. This is a good time for Lion One to pursue financing, despite moving into the somewhat lackluster summer months. For this reason, we believe that Lion One will secure financing, which could lead immediately to a higher share price, but that its price may experience volatility through the summer and over the following year as it proceeds with construction. This should provide a near-term trading and longer-term investment opportunity for investors. We are initiating coverage of Lion One with a Buy rating and price target of C\$1.40 per share.





Source: Analyst, May 30, 2016

Lion One Metals Limited								
Balance Sheet								
March 31, 2016								
(in Canadian dollars)								
	4Q11	4Q12	4Q13	4Q14	4Q15	1Q16	2Q16	3Q16
	<u>6/30/11</u>	6/30/12	6/30/13	6/30/14	6/30/15	9/30/15	<u>12/31/15</u>	<u>3/31/16</u>
ASSETS								
Current								
Cash	\$ 20,829,922	\$ 15,971,997	\$ 13,576,266	\$ 8,040,357	\$ 4,144,571	\$ 1,556,777	\$ 553,580	\$ 241,150
HST and VAT recoverable	349,362	429,418						
Due from related parties	112,528	-						
Receivables	97,626	29,410	283,864	130,793	34,767	46,491	96,642	81,124
Prepaid expenses	13,612	16,256	32,610	35,894	12,615	21,929	9,823	7,914
Deposits	58,426	31,093						
Current Assets	21,461,476	16,478,174	13,892,740	8,206,544	4,191,953	1,625,197	660,045	330,188
Restricted cash	75,000	75,000	103,908	105,189	103,911	103,206	105,249	29,868
Exploration advances and deposits	23,193	-	111,250	91,193	62,854	1,710,557	1,806,715	1,932,501
Exploraton and evaluation assets	135,528	681,237	31,686,823	33,142,838	36,069,453	37,167,657	39,468,218	38,835,612
Property and equipment	21,667,700	24,861,722	728,104	718,972	670,905	646,048	643,093	588,463
Total Assets	\$ 43,362,897	\$ 42,096,133	\$ 46,522,825	\$ 42,264,736	\$ 41,099,076	\$ 41,252,665	\$ 42,683,320	\$ 41,716,632
LIABILITIES								
Current								
Accounts payable and accrued liabilities	\$ 209,646	\$ 129,324	\$ 803,383	\$ 373,657	\$ 258,569	\$ 375,249	\$ 325,408	\$ 206,065
Accounts payable, due to related parties	-	14,358			54,920			521,664
Current Liabilities	209,646	143,682	803,383	373,657	313,489	375,249	325,408	727,729
Long-term provisions			33,748	41,234	29,259	29,359	32,353	32,802
	209,646	143,682	837,131	414,891	342,747	404,608	357,761	760,531
Shareholder equity	43,153,251	41,952,451	45,685,694	41,849,845	40,756,329	40,848,057	42,325,559	40,956,101
Total Liabilities and Equity	\$ 43,362,897	\$ 42,096,133	\$ 46,522,825	\$ 42,264,736	\$ 41,099,076	\$ 41,252,665	\$ 42,683,320	\$ 41,716,632
Source: Lion One Metals Limited								

Lion One Metals Limited															
Income Statement															
March 31, 2016															
(in Canadian dollars)															
		2011		2012		2013		2014		2015	1Q16		2Q16		3Q16
		6/30/11		6/30/12		6/30/13		6/30/14		6/30/15	9/30/15		12/31/15		3/31/16
EXPENSES															
Consulting fees	\$	187,462	\$	234,800	\$	188,861	\$	129,375	\$	135,103	\$ 33,750	\$	32,000	\$	27,875
Depreciation						350		10,516		4,618	352		257		253
Directors fees						-		14,125		24,000	6,000		6,000		4,000
Foreign exchange (gain) loss		(74,586)		38,649		(2,272)		5,377		(2,511)	(126)		658		869
Licenses, dues and fees		8,447		39,509		87,367		39,761		37,600	13,085		5,230		7,020
Investor relations		269,857		366,636		364,872		221,516		197,182	102,254		42,542		33,303
Management fees		455,622		993,177		244,186		246,258		155,284	20,966		30,730		29,116
Office and admnistrative		33,975		63,562		341,979		390,409		408,777	82,112		89,891		94,754
Professional fees		111,809		109,044		368,258		218,509		295,959	92,964		35,598		44,979
Property costs						-		23,173		60,695	1,985		13		25
Rent		72,829		180,063		180,000		250,595		286,606	47,367		47,969		46,641
Shareholder communication		35,645		59,883		213,452		178,206		148,767	38,351		59,423		25,328
Share-based payments		1,176,120		1,228,042		403,622		185,700		228,403	8,754		23,400		18,897
Travel		216,661	_	141,283	_	52,797		45,213	_	78,043	 1,333	_	2,429	_	22,307
Operating loss		(2,493,841)		(3,454,648)		(2,443,472)		(1,958,733)		(2,058,526)	(449,147)		(376,140)		(355,367)
OTHER INCOME															
Listing fee		(6,104,347)													
Interest income		90,702		233,956		182,074		153,401		72,041	4,552		2,356		51,242
Write down								(3,138,387)							
Settlement								(283,394)							
Net loss for the period		(8,507,486)		(3,220,692)	_	(2,261,398)	_	(5,227,113)	_	(1,986,485)	 (444,595)	_	(373,784)	_	(304,125)
OTHER COMPREHENSIVE INCOME (LOSS)															
Foreign exchange gain (loss)		616,214		316,044		(76,892)		1,220,167		608,904	520,858		1,821,607		(1,090,510)
Comprehensive income (loss)	\$	(7,891,272)	\$	(2,904,648)	\$	(2,338,290)	\$	(4,006,946)	\$	(1,377,581)	\$ 76,263	\$	1,447,823	\$	(1,394,635)
Basic and diluted loss per common share		(0.28)		(0.07)		(0.05)		(0.09)		(0.03)	(0.01)		(0.01)		(0.01)
Weighted average numbe of common sha	i	30,331,755		48,663,656		49,307,202		60,173,408		60,175,608	60,175,608		60,175,608		60,175,608
Source: Lion One Metals Limited															



## **Disclosure Appendix**

## **AUTHOR CERTIFICATION**

R. Michael Niehuser, the author primarily responsible for this report certifies, with respect to each security or issuer in this report, that: (1) all of the views expressed in this report accurately reflect his own personal views about the subject companies and their securities; (2) part of the author's compensation may be, directly or indirectly, related to a portion of the commissions generated by Scarsdale Equities LLC ["SE"] in transactions in this or other securities designated for the author's credit; (3) the author does not receive compensation based on investment banking or advisory services SE might provide to this or any other issuer.

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Scarsdale Equities LLC Fundamental Analysis Coverage Universe

(as of 6/22/2016)	Count	Percent	Investment Banking Relationships	Count	Percent	
Buy	5	100%	Buy	5	100%	
Neutral Sell	o o	o% o%	Neutral Sell	0 0	o% o%	

Buy:Expected to outperform broad market averages by at least 15%. Neutral: Expected to perform in line with broad market averages. Sell:Expected to underperform broad market averages by at least 15%.

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- 1 Scarsdale Equities LLC, at the time of publication, does not make a market in any security.
- 2 The author does not have a financial interest Lion One Metals Limited (LIO.V) covered in this report.
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## PRICE TARGET METHODOLOGY AND RISKS

We believe that the best approach to complete a valuation analysis on Lion One is to utilize the PEA and build upon it. The PEA was completed on an equity-only basis, which implies the potential to increase returns by increasing leverage by adding debt. This would increase financial risk by actually delaying the repayment of capital. The PEA was completed at a gold price of US\$1,200, and we suspect costs have not varied beyond the PEA's level of confidence of about 35%. We believe that the PEA's NPV is a good starting point for assigning value to Lion One, though investors would be right

to assign a discount or premium to this based on their perspective of future gold prices and the relative risks of constructing and operating a mine in Fiji. We also believe a premium is warranted for the potential of acquiring SPL1412 to the north of Tuvatu, their interest in an iron ore project in Australia, and the quality of their employees in Fiji.

Tuvatu is a narrow-vein, high-grade epithermal gold deposit. It is challenging and expensive to fully delineate gold resources in these types of deposits. They have a favorable reputation for additional discoveries, and long lives which are only later curtailed by lower gold prices relative to the cost of increasing development costs. Clearly, this is the reason for our referring to Vatukoula as an analog, due to its 80-year history, 7 million ounces of gold production and remaining resources. For many reasons, as discussed in this report, we believe that Tuvatu is a more attractive gold deposit. While Vatukoula has not fully been explored in its host caldera, Tuvatu's Navilawa caldera is early in its exploration, with at least three documented prospects at surface on SML62, with potential on the balance of its special prospecting licenses. There is also potential for Lion One to add SPL1412, which has a larger area within Navilawa caldera, including areas with a monzonite intrusive. As resource at Tuvatu is open laterally and at depth, and Lion One management is optimistic for establishing resources on the balance of its leases and the potential of SPL1412, we believe looking to Vatukoula as an analog is valid.

The PEA's assessment of Tuvatu is based on a modest size gold resource proposing a modest scale operation. The PEA notes the potential to operate and expand to higher levels of production and cites several opportunities to improve economics by reducing power, reducing costs, and improving metallurgical results with experience. We have accepted the PEA's assumptions, but speculated on a potential NPV at a discount rate of 5% if the mine life doubled, maintaining ongoing exploration, mine development and costs related to the tailings dam and closure. Based on our calculations, this would imply an NPV at a discount rate of 5% of about U\$\$304.2 million, or C\$424.6 million (adjusted for a Canadian/U.S. exchange rate of 1.3957:1). This speculative assessment is useful to recognize the potential of Tuvatu if the mine life could be doubled.

We believe that Tuvatu could be reasonably valued, upon financing, at a premium of at least 1.5 times the PEA's after-tax NPV $_{5\%}$  of US\$86.5 million, to be US\$130.0 million, or C\$181.1 million. Assuming Lion One raised required capital of US\$48.6 million, or C\$67.8 million, at C\$1.00 per share, we speculate that Lion One would have outstanding shares following equity financing of about 128.0 million. Valuing Tuvatu at C\$181.1 million, with 128.0 million shares, suggests a target price of about C\$1.40 per share once financing is secured and construction commences. While the actual course of financing is subjective, we believe our methodology is reasonable, and the prospects for Lion One securing financing at the current level of development under present market conditions, is good.

There are a large number of easily identifiable and unforeseen risks encountered with investing in resource companies. We have addressed many of the risks which might be identified in the text of this report and highlighted a number of risks specific to Lion One and Tuvatu in the "Risks and Mitigations" section of this report. These include political, geological, economic, commodity prices and financial risk.

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