

AIM: MARL  
TSX-V: MARL

Granite House, La Grande Rue,  
St. Martin, Guernsey, GY1 3RS  
Channel Islands

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## Hot Maden High Grade Gold-Copper Project- PEA Results with a Positive IRR of 153%

[Mariana Resources Ltd.](#) ('Mariana' or 'the Company'), the TSX.V and AIM (MARL) listed exploration and development company with projects in Turkey, South America, and Ivory Coast, is pleased to announce a highly favourable outcome for a Preliminary Economic Assessment ("PEA" or the "Study") of the high grade Hot Maden gold-copper project in NE Turkey. The PEA was prepared in accordance with Canadian National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") by independent mining consultant firm RungePincockMinarco Limited ("RPM").

### Highlights of the Study (100% Project Basis)

- Conceptual development for Hot Maden assumes an all underground mining operation from a decline and utilizing mechanized transverse and longitudinal long hole open stoping with engineered fill mining methods. Mining and processing rates of 0.8 million tonnes per annum ("Mtpa"), 1.0 Mtpa, and 1.2 Mtpa were considered, with the base case mining scenario being established at 1.0 Mtpa.
- Total metal production of 2.6 Million ounces ("Moz") of gold and 142,000 tonnes ("t") of copper over a total project life of 9 years for the base case mining scenario. Metallurgical testwork, through flotation and concentration, completed to date on the high grade Main Zone mineralisation has indicated high recoveries of both gold and copper. A variable processing recovery, dependant on grade, has been applied in the PEA resulting in a project weighted average recovery of 88% Au and 90% Cu. The current Hot Maden plant flow sheet assumes the production of two concentrates on site - one standard copper-gold concentrate, and a second gold-bearing pyrite concentrate.
- Post-tax discounted NPV for the base case mining scenario (1.0 Mtpa) of US\$1.37 billion ("B") excluding pre-development exploration costs (8% discount rate).
- Post-tax IRR for the base case mining scenario of 153% excluding acquisition costs.
- Total Capex (Initial + Sustaining) of US\$261M

Note that the PEA is preliminary in nature as it includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. Mineral resources that are not mineral reserves do not have demonstrated economic viability, and as such there is no certainty that the preliminary assessment and economics will be realized. A NI-43-101- technical report for the Hot Maden PEA will be filed on SEDAR ([www.sedar.com](http://www.sedar.com)) within 45 days and also be posted on Mariana's website ([www.marianaresources.com](http://www.marianaresources.com)).

The Hot Maden project is 70:30 Joint Venture between Turkish partner Lidya Madencilik Sanayi ve Ticaret A.S. ("Lidya") and [Mariana Resources Ltd.](#)

Chief Executive Officer Glen Parsons today commented:

"The potential value is finally revealed from the high grade Au-Cu Hot Maden project with these PEA results from RPM. We have always believed Hot Maden to be a world class deposit and, with a potential post-tax NPV for the base case mining scenario of \$1.37B and post-tax IRR of 153%, this is certainly proven correct. The high grade nature of this resource and relatively low capital (CAPEX) and operating (OPEX) costs should result in the delivery of considerable cashflow and a short payback period (around 2.1 years, including underground mine development) on initial investment.

Despite Hot Maden's rapid advancement from discovery to PEA in just 20 months, the decision by the Lidya/Mariana (70/30) joint venture to rapidly move to development is justified with the value of the project for shareholders reflected in the significant cash flow generative ability through the life of this initial current resource. The result is expected to be a low cost, low environmental footprint, but highly profitable mine.

A further 20,000m of drilling is budgeted and planned for this new year and we must remember that exploration drilling continues to focus on the discovery of new gold-copper resources at Hot Maden, especially to the south of the Main Zone within the old "Russian Mining Area.

The Joint Venture will also continue to work on the technical studies and optimisations required to underpin the Preliminary Feasibility Study ("PFS"), which is anticipated to be completed during Q3, 2017. The PFS will provide higher confidence level mine designs, mineral processing scenarios, and costings for the Hot Maden Project. Therefore this result could change over time based on the updated prices, resource and assumptions.

I look forward to updating the market on developments, as 2017 will continue to be a busy period for Mariana."

## PEA Parameters

Key parameters utilized in the Hot Maden PEA are indicated in the table below:

### Hot Maden - PEA Mining Base Case

Mining Method	Underground: underhand, mechanised transverse and longitudinal long hole open stoping
Underground Minable Quantities	7Mt at 11 g/t gold and 1.9% Cu
Annual Throughput	0.8 Mtpa, 1.0 Mtpa, and 1.2 Mtpa were evaluated. Base case established at 1.0 Mtpa
Project Life of Mine	9 years
Gold Metal Price	USD 1,250/tr. oz
Copper Metal Price	USD 2.75/lb
Gold Recoveries	Variable recovery based on the grade (project weighted average recovery of 88%)
Copper Recoveries	Variable recovery based on the grade (project weighted average recovery of 90%)
Total Gold Ounces Produced	2.6M tr. oz
Total Copper Tonnes Produced	142kt
Upfront CAPEX	USD 169M
LOM Project CAPEX	USD 261M
Mining Operating Costs	USD 31.05/t
Processing Operating Costs	USD 15.13/t
G+A Operating Costs	USD 10.18/t
Net Smelter Return Cut-off Grades (NSR)	The project was evaluated at a range of NSR COG's from USD50/t to USD200/t. The base case was identified at an NSR of USD 100/ in situ tonnes (this equates to an approximate Resource of 7.5 Mt). Copper concentrate - TC:USD 101/dmt, Cu RC:USD 0.101/lb payable Cu, 1% copper grade deduction, 97.5% gold payability; transport: USD 10/wmt and shipping:USD 55/wmt. Pyrite concentrate - TC :USD 30/dmt, Payment : USD100/dmt and 50% of gold content; transport: USD 10/wmt
Smelting / Refining & Transport Charges	
Royalties	2.6% State Royalties, 2% NSR Sandstorm
Corporate Tax Rate	20

## Geology and Mineral Resources

The high grade gold-copper mineralisation at Hot Maden occurs within a N-NE-trending fault zone (the "Hot Maden Fault Zone") and is sub-vertical in nature. At least two styles of gold-copper mineralisation are evident within the Main Zone: i) the predominant, multiphase quartz-sulphide (pyrite-chalcopyrite) +/- hematite/jasperoid breccia bodies, and ii) semi-massive to massive sulphides (pyrite-chalcopyrite). Host rocks are dominantly andesites and andesitic breccias. Overall, the highest-grade gold mineralisation (typically >15 g/t Au but locally >100 g/t Au) at Hot Maden lies along the eastern margin of the Main Zone. Drilling is ongoing but the current dimensions of the Main Zone are a strike extent of 300 m from north to south, a true width of between 50m and 70m, and a vertical extension from near surface to >300m depth. Stratabound Zn(-Pb) (sphalerite-galena) mineralisation also flanks the Main Zone to the east and locally to the west. In the new Southern Vein Field discovery, host rocks are dominantly dacitic breccias and gold-copper mineralisation is associated with quartz-sulphide-bearing veins and vein breccias.

On July 25, 2016, Mariana reported an updated Mineral Resource for the Hot Maden project. This Resource Estimate was prepared by independent mining consultants RungePincockMinarco, and was based on assay results received for holes up to, and including, HTD-62. The Mineral Resource Estimate for Hot Maden included contributions from both the Main Zone and a new Southern Discovery, and comprises (on a 100% basis):

### Hot Maden Mineral Resource Estimate - Main Gold-Copper Zone (2 g/t AuEq Cut-off)

#### Indicated Mineral Resource

Domain	Tonnes t	Indicated Mineral Resource				Indicated Mineral Resource		
		Au g/t	Cu %	Zn %	AuEq g/t*	Au Ounces	Cu Tonnes	AuEq Ounces**
Main Zone LG	463,000	1.1	1.1	0.3	2.4	17,000	5,000	36,000
Main Zone HG	4,501,000	3.9	1.9	0.2	6.3	570,000	87,000	908,000
Main Zone UHG	2,086,000	32.7	3.5	0.1	36.9	2,195,000	73,000	2,476,000
Mixed Gold-Zinc	17,000	7.5	3.1	3.6	11.2	4,000	1,000	6,000
Peripheral Lodes	60,000	2.1	0.4	0.4	2.5	4,000		5,000
<b>Total</b>	<b>7,127,000</b>	<b>12.2</b>	<b>2.3</b>	<b>0.2</b>	<b>15.0</b>	<b>2,790,000</b>	<b>166,000</b>	<b>3,431,000</b>

#### Inferred Mineral Resource

Domain	Tonnes t	Inferred Mineral Resource				Inferred Mineral Resource		
		Au g/t	Cu %	Zn %	AuEq g/t*	Au Ounces	Cu Tonnes	AuEq Ounces**
Main Zone LG	395,000	1.7	0.9	0.03	2.8	21,000	4,000	35,000
Main Zone HG	31,000	3.9	1.6	0.1	5.8	4,000		6,000
Main Zone UHG	6,000	39.1	2.1	0.01	41.6	7,000		8,000
Mixed Gold-Zinc	4,000	1.7	0.4	2.4	2.2			
Peripheral Lodes	282,000	3.2	0.9	0.1	4.3	29,000	2,000	38,000

Total	718,000	2.7	0.9	0.1	3.8	62,000	7,000	88,000
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Hot Maden - Southern Gold-Copper Zone (2 g/t AuEq Cut-off)

Inferred Mineral Resource

Domain	Tonnes t	Au g/t	Cu %	Zn %	AuEq g/t*	Au Ounces	Cu Tonnes	AuEq Ounces**
South Zone LG	396,000	2.8	0.7	0.0	3.6	35,000	3,000	46,000
South Zone HG	583,000	5.3	0.7	0.0	6.1	98,000	4,000	114,000
Main Zone UHG	224,000	22.2	1.0	0.0	23.4	160,000	2,000	169,000
Mixed Gold-Zinc	44,000	9.0	1.0	3.2	10.2	13,000		15,000
Peripheral Lodes	104,000	1.9	0.3	0.0	2.2	6,000		7,000
Total	1,352,000	7.2	0.7	0.1	8.1	313,000	10,000	351,000

\*Au Equivalence (AuEq) calculated using a 100 day moving average of \$US1,215/ounce for Au and \$US2.13/pound for Cu as of May 29, 2016. No adjustment has been made for metallurgical recovery or net smelter return as these remain uncertain at this time. Based on grades and contained metal for Au and Cu, it is assumed that both commodities have reasonable potential to be economically extractable.

- \*-The formula used for Au equivalent grade is:  $AuEq\ g/t = Au + [(Cu\ \% \times 22.0462 \times 2.13)/(1215/31.1035)]$  and assumes 100 % metallurgical recovery.
- \*\* -Au equivalent ounces are calculated by multiplying Mineral Resource tonnage by Au equivalent grade and converting for ounces. The formula used for Au equivalent ounces is:  $AuEq\ Oz = [Tonnage \times AuEq\ grade\ (g/t)]/31.1035$

In addition, a maiden Inferred Mineral Resource for the hanging wall zinc zone of 2.8MT @ 4.0% Zn (2% Zn cut-off) was reported. However, this zinc resource has not been considered in the current PEA, although future technical studies will consider the potential economics of mining this mineralised zone.

#### Mining Method and Mineral Processing

Mining of the wide, near vertical gold-copper mineralisation in the Hot Maden Main Zone is expected to be undertaken through underground mining using underhand, mechanised transverse and longitudinal long hole open stoping (LHOS) with engineered fill mining techniques. The Stopes are mined using an underhand extraction sequence (Top Down) utilising a primary/secondary stope extraction methodology to exploit the grade profile, which diminishes with depth.

The Hot Maden project is divided into two main areas, North and South. The northern area consists of the wider portion of the ore body and as a result is modelled predominantly transverse LHOS to maintain the production rate. Some stopes less than 20m long and/or wide have been developed longitudinally.

The southern portion of the mineralisation is thinner and has been modelled in a longitudinal LHOS layout. This has been carried out so as to reduce the amount of capital development required for access to this mineralisation.

Access to the north and south areas are by independent declines. The northern decline is accessed by a box cut portal whereas the southern portal is an adit into the hill.

The PEA reviewed 0.8 Mtpa, 1.0 Mtpa and 1.2 Mtpa production profiles at a range of NSR COG's from USD50/t to USD200/t. NSR was used instead of the gold equivalent used in the Mineral Resource to capture the full value of all mining blocks due to the relationship and variability in grade, processing recoveries, concentrate recoveries and post gate costs. The base case mining scenario was identified as 1.0 Mtpa, however, an achievable optimum economic outcome was identified at a production rate of 1.2Mtpa and NSR cut-off-grade of USD 100/ in situ tonnes (this NSR cut-off equates to an approximate 3.3g/t AuEq cut-off grade).

A variable processing recovery, dependant on grade, has been applied in the PEA resulting in a project weighted average recovery of 88% Au and 90% Cu. The current Hot Maden plant flowsheet has been demonstrated on Life of Mine (LOM) composites with the production of two concentrates - a typical copper gold rich concentrate (~25% Cu and 85 g/t Au) and a gold-bearing pyrite concentrate. The flowsheet is currently being tested on 'Ultra High Grade' (UHG) composites. The incorporation of a gravity concentrator has been included for gold ores in excess of 100 g/t Au.

#### Economics Summary- Throughput Analysis at cut-off NSR US\$100/t

Mining Scenario	Throughput	Total CAPEX	After-tax NPV At 8% Discount	After-tax IRR	Payback (Incl. Development - Yrs)	Mine Life
Conservative	0.8 Mtpa	USD 251M	USD 1.28 B	130 %	2.2	11
Base Case	1.0 Mtpa	USD 261M	USD 1.37 B	153 %	2.1	9
Upside	1.2 Mtpa	USD 271M	USD 1.42 B	173 %	2.0	8

#### Processing and Infrastructure Capital Costs

The processing plant and associated site infrastructure is estimated to cost USD 80.1 million including contingency and owner's costs. Off-site infrastructure is estimated to cost USD 45.2 million including contingency.

Overall, the processing and infrastructure costs are estimated at USD 125.3 million.

#### Project Economics and Sensitivities

The project is most sensitive to changes in Metal price (namely combined Copper and Gold prices), most significantly Gold price, processing recovery and mining recovery.

**\*\*ENDS\*\***

#### Qualified Persons

The independent qualified persons responsible for preparing the Hot Maden PEA are Mr Joe McDiarmid, MAusIMM(CPMin) of RungePincockMinarco Limited, and Dr Andrew James Haigh Newell, MAusIMM(CPMet), MIEA (CP) of RungePincockMinarco Limited. All of the aforementioned qualified persons have reviewed and approved the contents of this news release.

The technical and scientific information contained in this news release has been reviewed and approved for release by Eric Roth, the Company's Qualified Person as defined by National Instrument 43-101 and for the purposes of AIM rules. Mr Roth is the Company's Chief Operating Officer and Executive Director and holds a Ph.D. in Economic Geology from the University of Western Australia, is a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM), and is a Fellow of the Society of Economic Geologists (SEG). Dr Roth has 25 years of experience in international minerals exploration and mining project evaluation.

**Forward Looking Statements:** Some statements in this news release contain forward-looking information or forward-looking statements for the purposes of applicable securities laws. These statements include, among others, statements with respect to proposed exploration and development activities and their timing, resource estimates and potential mineralisation, the PEA, including estimates of capital and sustaining costs, anticipated internal rates of return, mine production, estimated recoveries, mine life, estimated payback period and net present values, opportunities to enhance the value of the Hot Maden and other plans and objectives of [Mariana Resources Ltd.](#) These statements address future events and conditions and, as such, involve known and unknown risks, uncertainties and other factors, which may cause the actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the statements. Such factors include, among others and in addition to those described elsewhere in this release, delays in obtaining or inability to obtain required government or other regulatory approvals, permits or financing, the risk of unexpected variations in mineral resources, grade or recovery rates, of failure of plant, equipment or processes to operate as anticipated, of accidents, labour disputes, and unanticipated delays in completing other development activities, the risk that estimated costs will be higher than anticipated and the risk that the proposed mine plan and recoveries will not be achieved, equipment breakdowns and bad weather, the timing and success of future exploration and development activities, exploration and development risks, mineral resources are not as estimated, title matters, third party consents, operating hazards, metal prices, political and economic factors, competitive factors and general economic conditions. In making the forward-looking statements, the Company has applied several material assumptions including, but not limited to, the assumptions that: required approvals, permits and financing will be obtained; the proposed exploration and development will proceed as planned; with respect to mineral resource estimates, the key assumptions and parameters on which such estimates are based; that the proposed mine plan and recoveries will be achieved, that capital costs and sustaining costs will be as estimated, and that no unforeseen accident, fire, ground instability, flooding, labour disruption, equipment failure, metallurgical, environmental or other events that could delay or increase the cost of development will occur, and market fundamentals will result in sustained metals and minerals prices. The Company expressly disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise except as otherwise required by applicable securities legislation.

The Company has concluded it has a reasonable basis for providing the forward-looking statements included in this announcement. The detailed reasons for that conclusion are outlined throughout this announcement. The Company confirms that it is not aware of any new information or data that materially affects the information included in the announcements and that all material assumptions and technical parameters underpinning the resource estimates continue to apply and have not materially changed.

Glen Parsons (CEO)	<a href="#">Mariana Resources Ltd.</a>	+61 2 9437 4588
Eric Roth (COO)	<a href="#">Mariana Resources Ltd.</a>	+56 9 8818 1243
Karen Davies (IR)	<a href="#">Mariana Resources Ltd.</a> (Canada)	+1 604 314 6270
Rob Adamson	RFC Ambrian Limited (Nomad)	+61 2 9250 0041
Will Souter	RFC Ambrian Limited (Nomad)	+61 2 9250 0050
In U.K.		
Oliver Stansfield	Brandon Hill Capital (UK Broker)	+44 20 3463 5061
Jonathan Evans	Brandon Hill Capital (UK Broker)	+44 20 3463 5016
Camilla Horsfall	Blytheweigh (Financial PR)	+44 20 7138 3224
Megan Ray	Blytheweigh (Financial PR)	+44 20 7138 3203

## About Mariana Resources

[Mariana Resources Ltd.](#) is an AIM (MARL) and TSXV (MRA) quoted exploration and development company with an extensive portfolio of gold, silver and copper projects in South America and Turkey.

Mariana's most advanced asset is the Hot Maden gold-copper project in north east Turkey, which is a joint venture with its Turkish JV partner Lidya (30% Mariana and 70% Lidya) and rapidly advancing to development. An updated mineral resource estimate (detailed table below) of 3.43 Moz gold Equivalent (Indicated Category) and 0.09 Moz gold Equivalent (Inferred Category) (100% basis) in the main resource zone as well as a maiden 351,000 Moz gold Equivalent (Inferred Category) (100% basis) in the new southern discovery zone was reported for Hot Maden on July 25, 2015. Elsewhere in Turkey, Mariana holds a 100% interest in the Ergama gold-copper project.

In southern Argentina, the Company's core gold-silver projects are Las Calandrias (100%), Sierra Blanca (100%), Los Cisnes (100%), Bozal (100%). These projects are part of a 160,000+ Ha land package in the Deseado Massif epithermal gold-silver district in mining-friendly Santa Cruz Province.

In Suriname, Mariana has a direct holding of 10.2% of the Nassau Gold project. The Nassau Gold Project is a 28,000 Ha exploration concession located approximately 125 km south east of the capital Paramaribo and immediately adjacent to Newmont Mining's 4.2Moz gold Merian project.

In Peru and Chile, Mariana is focusing on acquiring new opportunities which complement its current portfolio.

## Safe Harbour

This press release contains certain statements which may be deemed to be forward-looking statements. These forward-looking statements are made as at the date of this press release and include, without limitation, statements regarding discussions of future plans, the realization, cost, timing and extent of mineral resource estimates, estimated future exploration expenditures, costs and timing of the development of new deposits, success of exploration activities, permitting time lines, and requirements for additional capital. The words "plans", "expects", "budget", "scheduled", "estimate", "forecasts", "intend", "anticipate", "believe", "may", "will", or similar expressions or variations of such words are intended to identify forward-looking statements. Forward-looking statements are subject to known and unknown risks, uncertainties, assumptions and other factors that may cause actual results to vary materially from those expressed or implied by such forward-looking statements, including, but not limited to: the effects of general economic conditions; the price of gold, silver and copper; misjudgements in the course of preparing forward-looking statements; risks associated with international operations; the need for additional financing; risks inherent in exploration results; conclusions of economic evaluations; changes in project parameters; currency and commodity price fluctuations; title matters; environmental liability claims; unanticipated operational risks; accidents, labour disputes and other risks of the mining industry; delays in obtaining governmental approvals or in the completion of development or construction activities; political risk; and other risks and uncertainties described in the Company's annual financial statements for the most recently completed financial year which is available on the Company's website at [www.marianaresources.com](http://www.marianaresources.com). Although we believe that the expectations reflected in such forward-looking statements are based upon reasonable assumptions and have attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such forward-looking statements. Accordingly, readers are cautioned not to place undue reliance on forward-looking statements. We do not undertake to update any forward-looking statements, except in accordance with applicable securities laws.

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

Attachments:

<http://www.globenewswire.com/NewsRoom/AttachmentNg/8a6033f7-8d3b-4587-8ab9-b2acc9c6bf25>