

Tanzanian Royalty's recently released Mine Feasibility Study (MFS) defines 1.064 million ounces of open pit minable gold, and initiates discussion on development of the underground Mine potential.

TORONTO, July 13, 2017 /CNW/ - Tanzanian Royalty Exploration ("TRX" or the "Company") (NYSE: TRX) (TSX: TNX) is providing an update to its shareholders, discussing the findings of its recently completed Mining Feasibility Study ("MFS" or the "Study") on its JV-owned Buckreef Gold Mine Project (the "Project"). The Study was led by an external consultant team from MaSS Resources Ltd. of Tanzania, with technical support provided by an internal team and combined previous published Preliminary Economic Assessment study results by Venymn of South Africa, as well as other historical feasibility studies conducted over the years on this historic deposit. The Buckreef project is in the Geita District in Lake Victoria Greenstone Belt in central Tanzania, East Africa. The full study can be found on the home page of the Company's website: [www.tanzanianroyalty.com](http://www.tanzanianroyalty.com)

"We want to take this opportunity to inform our loyal investors of not only the next steps towards mining production but also direct their attention to the discussion of the underground potential of Buckreef.," stated Jeffrey Duval, Acting Chief Executive Officer of TRX. We have included a small portion of the underground discussion in this release and are excited with the potential that our last the deep drilling program uncovered. The results mirrored favorably with the historical records from the old Buckreef underground workings.

"As you can see in the slide, the underground mineralisation extends several hundred meters below the bottom of the open pit mine and the drill hole is open in all directions. It is this feature that has us most excited for the future."

"We are also pleased to have achieved third-party validation of the tremendous economic potential for the open pit portion of the Buckreef Project.

"The Company maintains a 55% economic interest in the Buckreef project, which infers a 55% interest in the 1.064 million ounces of gold reserves at Buckreef, which has been validated by independent consultants. When one compares our current stock price levels to the Company's economic interests at Buckreef, measured at gold prices levels throughout the last several years, our stock price is trading at significantly discounted levels.

"The Study results reflect the continued refinement of pit optimized mining reserves, mine production schedule, process plant ore feed schedule and financial projections & analysis based on comprehensive cost estimations for process plant (design, fabrication, construction and operation) and mining (equipment purchase and mine production) on the Buckreef Project.

The Company has begun active negotiations to complete financing on a straight loan basis. This will ensure that we have the necessary capital to complete the reconditioning and construction of new modules for our modern Gravity/CIL plant. We have brought in a team of experts with decades of experience in building and maintaining these types of plants. We have the utmost confidence in their ability to complete the project under budget and ahead of schedule. Importantly, this Gravity/CIL plant will allow us to run pay dirt at an efficiency rate of 90% or higher in the recovery of gold. We anticipate the plant being built in approximately 8 months.

The Company has successfully operated in Tanzania since 1992. The significant experience of our technical team, as well as the consultants in Tanzania contributes to the integrity of the results. The soon-to-commence grade control drilling will be essential to further refine the mineable reserves during the pre-stripping development plan, and in advance of our process plant construction," concluded Mr. Duval.

## Highlights

- Conventional open pit mining methods selected in pit designs.
- Over LoM, a total of 17.49Mt of ore with a strip ratio of 8.1:1 will be mined.
- Pre-existing stockpile (ROMPAD) ore totaling 119,726t grading 1.89g/t to be used for process plant commissioning.
- 1.064Moz of gold to be mined over the life of the project.
- Recoveries of 89% for primary ore and 93% for saprolite ore, utilizing a simple EDS comminution, flotation and leaching process with gravity recovery circuit for free Au component collection.
- 0.91Moz of gold will be produced over the life of the project.
- Initial capital cost outlay estimated at US \$32.5 Million with a Life of mine cost over the three phases of US \$59.6 million and sustaining capital, excluding closure costs.
- Cash operating costs of US \$696/oz produced equivalent US \$35.95 per tonne milled.
- Generation of a positive NPV of US \$243 million at a 5% discount rate and an IRR of 53.7%

## Major Assumptions

- Gold price of US \$1250/oz
- Effective Tax Rate of 15.25%
- Royalty Rate of 4.3%
- Transport refining cost of \$15.00/oz Au
- Discount rate of 5%

## Mineral Resources and Reserves

The mineral resources and reserves of the Buckreef deposits were classified using logic consistent with the CIM definitions referred to in National Instrument 43-101.

The mineral resource block model, which serves as the basis of the Mineral Resources and Mineral Reserves in the Study, were developed utilizing 3D lithology models. Table 1 summarizes the Mineral Resources for the Buckreef project as of February 14, 2014. The mineral resource is reported at a 0.5 g/t Au cut-off grade.

Table 1 Buckreef Mineral Resources

Prospect	MEASURED			INDICATED			INFERRED		
	Tonnes (Mt)	Grade (g/t)	Contained Gold (oz Au)	Tonnes (Mt)	Grade (g/t)	Contained Gold (oz Au)	Tonnes (Mt)	Grade (g/t)	Contained Gold (oz Au)
Buckreef	8.902	1.72	491,529	13.100	1.41	594,456	7.528	1.33	322,900
Eastern Porphyry	0.087	1.20	3,366	1.016	1.17	38,355	1.239	1.39	55,476
Tembo	0.017	0.99	531	0.185	1.77	10,518	0.267	1.29	16,521
Bingwa	0.906	2.83	82,387	0.569	1.38	25,274	0.312	1.36	12,922
<b>TOTAL</b>	<b>9.912</b>	<b>1.81</b>	<b>577,813</b>	<b>14.870</b>	<b>1.40</b>	<b>668,603</b>	<b>9.346</b>	<b>1.36</b>	<b>407,823</b>

The pit optimization was produced using NPV Scheduler software which utilizes the industry standard Lerchs Grossman algorithm for analysis. Updated cost and recovery inputs in conjunction with new geotechnical parameters and ramp design from the preliminary economic assessment study were incorporated in the final pit design process.

The base case US \$1,100 gold shell was selected for the ultimate pit design. The final pit contains approximately 17.5Mt of ore (saprolite and primary), with 142Mt of waste resulting in an overall strip ratio of 8:1.

Table 2 summarizes the Project Mineral Reserves effective as of April 27, 2017. Reserves were calculated using a US \$1,100 per oz gold price and the corresponding cut-off grade of 0.59 g/t for all ore categories.

Table 2 Buckreef Mineral Reserves

Mineral Reserve Category	Tonnes (T)	Grade (g/t)	In-Situ Gold (Ozs)
Measured	12,249,856	1.78	702,169
Indicated	4,256,531	2.17	297,619
Measured + Indicated	16,506,387	1.88	999,788
Inferred	984,710	1.99	63,064

The deposit is projected to be mined utilizing owner-operated conventional open pit mining methods. Mining will be completed using 5 meter benches in the saprolite zone and 10 meter benches in the primary sulphide zone. Updated pit wall angle designs and Tanzanian mining regulations were incorporated into the mine plan.

The mine is estimated to produce sufficient ore to maintain an initial process plant feed scheduled at 60tph (Yr1-Yr4) with upgrades to 120tph (Yr5-Yr9) and 180tph (Yr10 onwards). Targeted ore production during commercial production is 1,500,000 tonnes per year LOM. Stockpiling of ore over LOM will result in surplus ore to be processed up to Year 17.

### Mineral Processing

The process design for the Buckreef Project is based on extensive metallurgical test-work. Results from the work have established that high gold recoveries can be achieved with a conventional process of comminution (using the latest EDS system as a replacement for the conventional ball & roller mill circuit), gravity concentrate, flotation and flotation concentrate leaching circuit.

Buckreef project ores are projected to be treated at a rate of 1.5Mt per annum with process plant capacity upgrades in Yr-5 and Yr-10. Overall recoveries from the flotation and cyanide leach circuits are expected to be 89% and 93% for primary ore and saprolite ore, respectively. Over the life of the mine an average of 53,534 oz Au per annum will be produced as doré.

### Project Economics

Cost estimates were developed to a feasibility level of accuracy. Budget quotations for mobile and plant equipment were obtained from international suppliers. Unit rates for material commodities (earthworks, concrete, and steel) in Tanzania were verified from contractor and supplier quotations and based on current practice in Tanzania.

Construction and labor costs applicable for the region were built up from first principles for salaries, burdens and overhead. Contingency was applied to each item based on the source and accuracy of the estimate data, resulting in an overall initial contingency of 10%. The Project Capital Cost Summary is included in Table 3.

Table 3 &#8211; Project Capital Cost Summary

Item	Description	Initial (US\$)
A	Mining	12,649,184
B	Process Plant	35,384,625
C	HR & Community	3,795,000
D	HSE	100,000
E	Finance & IT	2,241,519
Total Direct Costs		54,170,328
Indirect Costs		
Owner's Costs		
Contingency (10%)		5,417,033
Total Installed Cost		59,587,361

Operating costs were also developed from first principles, inclusive of labor, consumables, fleet maintenance and repair, and general and administration costs, and data from current operations in Tanzania. The estimated Operating Cost is summarized in Table 4.

Table 4 &#8211; Operating Cost Summary

Operating Costs	Units	LOM Average (US\$)
Mining Cost (mined)	\$/t mined	1.94
Mining Cost (ore)	\$/t ore	17.67
Processing Cost	\$/t milled ore	16.89
G&A	\$/t ore	7.89
Direct Operating Cost	\$/t ore	42.44
Direct Operating Cost	\$/t ounce	696

The Project economic analysis has been carried out for a range of gold prices with \$1,250 per ounce selected as the base case. The analysis demonstrates that the Project is expected to generate a positive NPV at a 5% discount rate of US \$243 million and a positive IRR of 53.7%. Sensitivity of the Project NPV and IRR to changing metallurgical recovery or operating costs to fluctuations in gold price are illustrated in Figure 1 below.

Figure 1: Sensitivity Analysis

Gold price is very sensitive to project NPV. An increase in gold prices by 20% will result in double the project NPV. Though a decrease in gold price has a negative impact on project NPV, the project remains viable with a 30% decrease in Gold price

Metallurgical recovery follows the same trend as gold price variations. A decrease in recovery results into low project NPV. This is an important parameter to be monitored as slight negative change in recovery has big impact on project profitability

The project is sensitive to OPEX. A decrease in operating cost result into cash-flow saving and hence increase in project NPV. While the base case demonstrates a positive return at the Feasibility capital and operating costs, the chart demonstrates further opportunities for improving the economics of the Project by investigating Capital and Operating cost savings. TRX is confident that the capital and operating costs can be further optimized, improving the value of the project.

## Permitting

The SML renewal permitting process for the Buckreef Project continues to advance with positive support of the local communities and government authorities of Geita Municipality and Republic of Tanzania. The preparation of documents for the renewed 10-year permit was completed in October 2016 and the offer letter confirming approval and granting renewal of the SML was received in February 2017. The Environmental Management Plan (EMP) was approved in October 2016. The original Environmental Impact Assessment (EIA) certification was granted in October 2014, and encompassed the mining, ore processing and support infrastructure.

## Underground Mining Potential

Mining of the Buckreef open pit will commence in year 0 (pre-stripping). Production from the underground can commence towards the end of current LOM of the open pit via development of an access decline/ramp without leaving a crown pillar below the pit floor. An accurate cutover point between open pit and underground can be calculated by comparing the cost to mine one tonne of mineralized material considering waste movement and development costs by both methods.

## Underground Mineralization

The main Buckreef prospects are near surface deposits that are amenable to be mined by open pit methods which in this project are assumed to extend to a depth of 150-200 meters below surface. This is an arbitrary cutoff point and it is most likely that further optimization of the mineralization through grade control drilling would result in either deeper or wider pits given the grades and vein thickness (Figure 13.15). The two vein systems being considered are assumed to be robust in terms of continuity and thickness. The extents of the zone are 300m long and 15m wide at depths below 150m. The dip is assumed to be sub-vertical to vertical.

## Figure 0.1a Schematic Section of Mineralisation at Buckreef

One of the veins has already been mined in the past and openings extend down to 150m from surface. Considerable caution would need to be exercised if mining near the old workings as voids may not have been surveyed correctly and ground conditions around old workings are often unstable.

## Figure 13.15b: Section view - West East Buckreef Main Pit

## Figure 12.15c: Section View - North South Buckreef Main Pit

## Materials Inventory

No materials inventory (reserves) has been estimated for this study. From initial ore-body modelling, an assumption that the bulk of the inferred resource for the Buckreef Main deposit estimated to contain about 35.54Mt grading 1.50g/t Au will constitute the bulk of the underground resource inventory.

The geological continuity and grade distribution of the Buckreef mineralisation is well constrained and the upside potential to define additional Mineral Resources in extensions of the known ore body has been confirmed through drilling.

Exploration should concentrate on laterally expanding open pit mineralization down to say 100m and on deeper high grade underground targets. Further detailed drilling will ensure that the project economics would improve accordingly. Accordingly, drilling should be concentrated in this target to firm up a resource estimate.

## Project Development

A conventional approach to mining and processing provides a solid platform on which to develop this well-defined gold deposit. Opportunities to improve the economics and value of the project have been identified in the study. These areas will continue to be investigated as development of the project continues.

Thank you for your continued support of the Company as we move forward toward commercial gold production.

The Company's Qualified Person, Mr. Peter Zizhou, has reviewed and approved the contents of this news release. Mr. Zizhou is the COO of Tanzam2000, a subsidiary of [Tanzanian Royalty Exploration Corp.](#) Limited. He has a Master of Science (Exploration Geology) degree from the University of Zimbabwe (2000) and is a registered scientist with SACNASP (Reg. No.400028/08).

Respectfully Submitted,

"James E. Sinclair"

James E. Sinclair  
Executive Chairman

## Cautionary Note Regarding Forward-looking Statements

Certain of the statements made herein may contain forward-looking statements or information within the meaning of the United States Private Securities Litigation Reform Act of 1995 and applicable Canadian securities laws. Often, but not always, forward-looking statements and forward-looking information can be identified using words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or "believes" or the negatives thereof or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved. Forward-looking statements or information herein include, but are not limited to the Positive Feasibility Study on Buckreef.

Forward-looking statements and forward-looking information by their nature are based on assumptions and involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. We have made certain assumptions about the forward-looking statements and information and even though our management believes that the assumptions made and the expectations represented by such statements or information are reasonable, there can be no assurance that the forward-looking statement or information will

prove to be accurate. Furthermore, should one or more of the risks, uncertainties or other factors materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in forward-looking statements or information. These risks, uncertainties and other factors include, among others, the following: gold price volatility; discrepancies between actual and estimated production, mineral reserves and resources and metallurgical recoveries; mining operational and development risk; litigation risks; regulatory restrictions, including environmental regulatory restrictions and liability; risks of sovereign investment; currency fluctuations; speculative nature of gold exploration; global economic climate; dilution; share price volatility; competition; loss of key employees; additional funding requirements; and defective title to mineral claims or property, as well as those factors discussed in the sections entitled "Forward-Looking Statements" and "Risk Factors" in the Company's Form 20-F Annual Report dated November 25, 2016.

There can be no assurance that forward-looking statements or information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, you should not place undue reliance on the forward-looking statements or information contained herein. Except as required by law, we do not expect to update forward-looking statements and information continually as conditions change and you are referred to the full discussion of the Company's business contained in the Company's reports filed with the securities regulatory authorities in Canada and the U.S.

#### Cautionary Note Regarding Mineral Reserves and Mineral Resources

The terms "Mineral Reserve", "Proven Mineral Reserve" and "Probable Mineral Reserve" used in this release are Canadian mining terms as defined in accordance with National Instrument 43-101 &#8211; Standards of Disclosure for Mineral Projects under the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM") Standards on Mineral Resources and Mineral Reserves, adopted by the CIM Council on August 20, 2000 as may be amended from time to time by the CIM. These definitions differ from the definitions in the United States Securities Exchange Commission ("SEC") Guide 7. In the United States, a mineral reserve is defined as a part of a mineral deposit which could be economically and legally extracted or produced at the time the mineral reserve determination is made.

The terms "Mineral Resource", "Measured Mineral Resource", "Indicated Mineral Resource", "Inferred Mineral Resource" used in this release are Canadian mining terms as defined in accordance with National Instruction 43-101 &#8211; Standards of Disclosure for Mineral Projects under the guidelines set out in the CIM Standards. Mineral Resources which are not Mineral Reserves do not have demonstrated economic viability.

For a detailed discussion of Buckreef resource and reserve estimates and related matters see the Company's reports, including the Form 20-F Annual Report dated November 25, 2016 and technical reports filed under the Company's name at our website at: [www.TanzanianRoyalty.com](http://www.TanzanianRoyalty.com).

#### Cautionary Note to US Investors Concerning Estimates of Measured, Indicated and Inferred Resources

Note to U.S. Investors. While the terms "mineral resource", "measured mineral resource," "indicated mineral resource", and "inferred mineral resource" are recognized and required by Canadian regulations, they are not defined terms under standards in the United States and normally are not permitted to be used in reports and registration statements filed with the SEC. As such, information contained in this report concerning descriptions of mineralization and resources under Canadian standards may not be comparable to similar information made public by U.S companies in SEC filings. With respect to "indicated mineral resource" and "inferred mineral resource" there is a great amount of uncertainty as to their existence and a great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an "indicated mineral resource" or "inferred mineral resource" will ever be upgraded to a higher category. Investors are cautioned not to assume that any part or all mineral deposits in these categories will ever be converted into reserves.

There can be no assurance that forward-looking statements or information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, you should not place undue reliance on the forward-looking statements or information contained herein. Except as required by law, we do not expect to update forward-looking statements and information continually as conditions change and you are referred to the full discussion of the Company's business contained in the Company's reports filed with the securities regulatory authorities in Canada and the U.S.

SOURCE [Tanzanian Royalty Exploration Corp.](http://www.TanzanianRoyalty.com)

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