

Operational Update on Exploration Activities

Highlights

- **First oriented core for the Dynasty Gold Project successfully being collected to better define vein geometries from the ongoing 12,000m diamond drilling campaign which is now over 50% complete**
- **All core samples for the Iguana Prospect from 21 holes totaling 4,560m drilled are now at the laboratory with results anticipated in late January**
- **Evaluation of diamond drill core from previous drilling programmes that began in 2004 and in-fill drilling from 2019 is nearing completion and integration of those datasets for modelling has commenced**
- **Interpretation datasets received for the aerial geophysical survey completed in November 2020. Field validation work is in progress to review physical properties in the field driving key anomalies and confirm targets for immediate follow-up exploration**

Titan Minerals Limited (ASX: TTM) (“Titan” or the “Company”) is pleased to provide an operational update regarding its exploration activities for the Dynasty Gold Project in Ecuador. The ongoing diamond drilling and re-logging programs are focused on defining a higher resolution geologic model to support 3D modelling and geostatistical estimation of resources at the Dynasty Gold Project, in accordance with principles of the JORC Code.

Drilling activities have resumed on the Company’s Papayal Prospect area following a two-week hiatus during the end of year holiday period. The break in drilling has afforded the opportunity for teams to catch-up on a back log of work cutting core and submitting samples for assay. Final holes drilled on the Iguana Prospect were submitted for analysis in late December, and all Iguana Prospect drill samples are now submitted for analyses. Also, re-sampling to a JORC compliant standard of diamond drill core recovered in 2019, is now complete and all samples from that program have been submitted for assay.

Dynasty Confirmatory Exploration

To better define vein geometries for the project, the first oriented drill core is being collected from the ongoing 12,000m diamond drilling campaign, which is over 50% complete. All drill samples for the Iguana Prospect are now at the laboratory with results anticipated to be received in late January. Diamond drilling on the Papayal Prospect commenced in December and drill activity is ongoing.

Titan is committed to establishing a sustainable working relationship with the communities that comprise our concession area, one based upon mutual respect and trust. We believe it is essential to invest time at the beginning of the project to build a strong working relationship with the community. It is the right thing to do, and the only way to progress development of the Dynasty Gold Project.

It is important that all the communities impacted by our activities receive equal treatment. Benefits generated by our investments need to be distributed across all the communities we impact and shared by as many people as possible.

During previous production activities, trust with the community was broken. To rebuild trust and a long-term relationship with the communities, Titan has been working through legacy issues that have affected timing of access to the prospect areas we need to drill.

Granting of permission to access community and private land has been incremental with drilling commencing initially at the Iguana Prospect followed by the Papayal Prospect. Discussions with the community for access to the Cerro Verde Prospect are progressing but not finalized. Our preference was to drill the Cerro Verde Prospect first, where the bulk of the resource is found, followed by the Papayal Prospect and the Iguana Prospect. Circumstances have required that it be done in reverse.

Results for each prospect will be reported in the sequence drilled, when all assays have been received and evaluated.

Iguana Prospect Drilling – Dynasty Gold Project

Iguana Prospect is a zone of narrow quartz veins with predominantly epithermal style mineralization textures extending over 2.5km northeast from the Cerro Verde Prospect as mapped at surface. Previous resource estimations from the initial 6,521m of historical drilling in 39 holes completed before 2008 cover only 1km strike extent of the vein corridor and have previously inferred up to 375,000 ounces of gold hosted in ten quartz veins (refer to ASX release dated 19 May 2020).

The Iguana vein corridor is historically drilled on approximately 100m spacing within 100m of surface along 1km of strike extent with a principal vein of up to 4 to 5m true width occurring with smaller sub-parallel veins and vein splays.

The Iguana vein corridor is not a highly ranked target for open pit potential; however, the lateral strike extent of the vein zone holds potential for underground development in the future, and confirmatory drilling activity on Iguana is focused on assessing continuity of mineralization, confirming vein orientations, and a proportion of the drilling completed includes some minor step-outs on both the main vein zone, and several of the ancillary veins. An additional 1.2km of strike extension has been mapped and channel sampled, highlighting relatively high-grade mineralization at surface. This high-grade vein zone at Iguana remains un-drilled along strike and below 100m depth.

Evaluation of Historical Diamond Drill Core – Dynasty Gold Project

Evaluation of diamond drill core from previous drilling programs since 2004 are nearing completion and integration of those data sets for modelling has commenced. The 27,700m re-logging campaign and extension sampling of non-vein drill core for the 201 original diamond drill holes is now over 50% complete. 4,600m of re-logging and sampling of 42 diamond drill holes completed during production drilling in 2019-2020 is 100% complete. All samples re-logged to date have been submitted for analysis with results for 2019 drilling anticipated in early February.

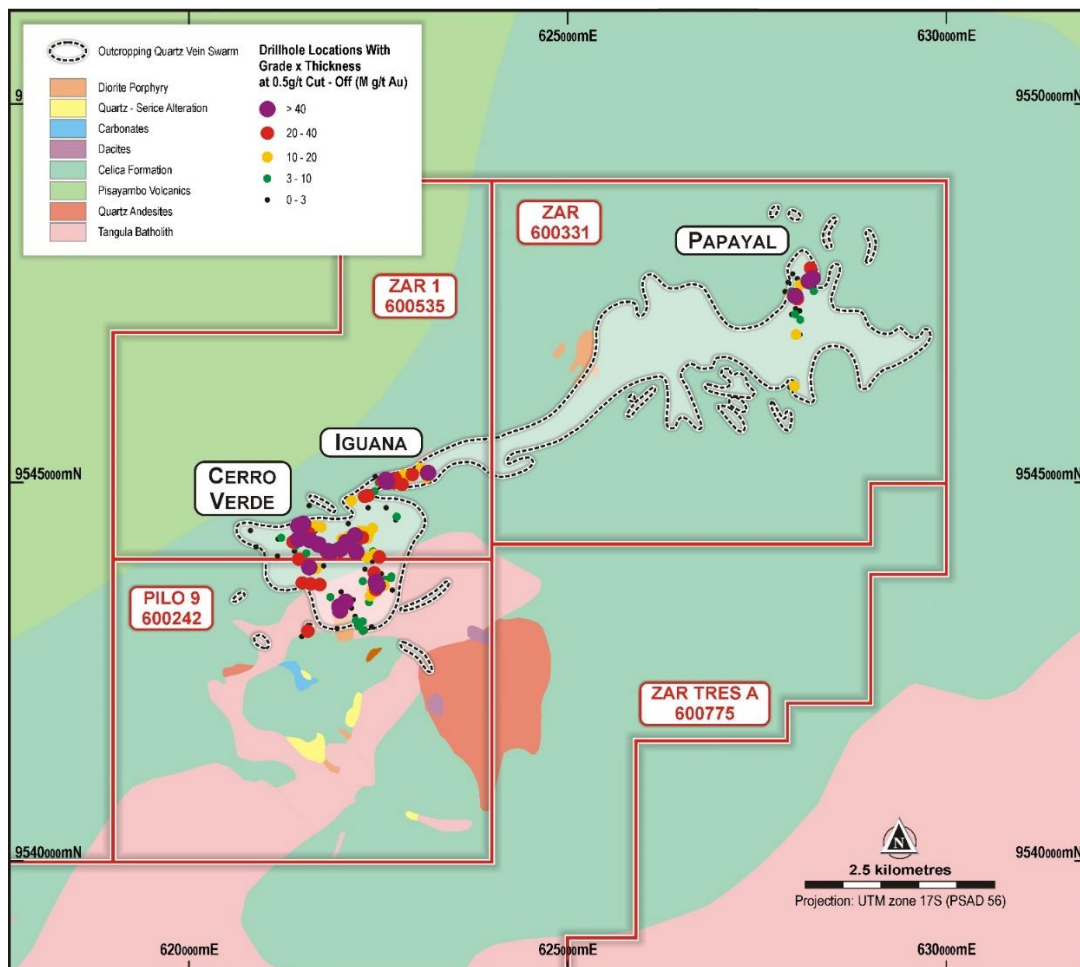


Figure 1 | Prospect locations within the Dynasty Gold Project with drill locations for reported assay results (refer to ASX releases dated 19 May and 14 July 2020)

Geophysics

The aerial geophysical survey flown on 100m line spacing over Dynasty and Copper Duke completed through October and November 2020, has delivered high resolution magnetic and radiometric data sets for both project areas, over an aggregate 195km² area. Terra Geophysics, based in Perth, Western Australia, who completed quality control reviews of the data sets during acquisition, has been engaged to complete additional data processing and assist in generating initial geology interpretations for targeting and exploration program planning across both projects.

Initial interpretation data sets have been delivered and field check work to underpin an iterative process of field checking the physical property of targeted anomalies for mapping and sampling targets, has commenced, and additional data along with the refined geological interpretation will be used to rate and rank targets for maiden drill testing at Copper Duke in 2021.

At Dynasty, Titan believes the geophysical results will enhance the regional geological interpretation of the district, by identifying multiple anomalies associated with major structural features in the 9km long corridor of outcropping vein hosted mineralisation. At Copper Duke, the results are anticipated to unlock its large-scale potential and identify areas of mineralisation.

COVID-19 Update

Titan is pleased to report maintaining a COVID free work environment for over a 90-day period. The Company's daily monitoring activities, quarantine and testing policies are demonstrating to be effective in maintaining a good health record for both the Company's team, and the local communities we engage with on a regular basis. The Company continues to engage with key stakeholders in the region and has provided a number of health checks and educational forums to local communities in regard to good hygiene and social distancing requirements.

Other than the substantial delay to commencing drilling activities in 2020 prior to defining and implementing new COVID-19 related policy and procedures for infectious disease for the project areas, there have been no material direct COVID-19 related delays to operations or activities in the current quarter.

COVID-19 related issues continue to impact receipt of exploration results in a number of other ways, including, reliance on upstream and downstream vendors, shipping and delivery delays, COVID-19 related curfews impacting assay laboratory operating hours resulting in extended turn-around times for assay results, an industry wide problem.

-ENDS-

Released with the authority of the Board.

For further information on the Company and our projects, please visit: www.titanminerals.com.au

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Notes to Mineral Resource

The information in this document relating to Mineral Resource Estimates for the Dynasty Gold Project have been extracted from the ASX announcement dated 30 April 2020 (Initial Announcement).

Titan confirms that it is not in possession of any new information or data that materially impacts on the reliability of the Mineral Resource Estimates for the Dynasty Gold Project and included in the Initial Announcement. Titan confirms that the supporting information provided in the Initial Announcement continues to apply and has not materially changed.

The information in this announcement relating to Mineral Resource Estimates for the Dynasty Gold Project is a foreign estimate and is not reported in accordance with the JORC Code. A competent person has not done sufficient work to classify this foreign estimate as a mineral resource in accordance with the JORC Code and it is uncertain that following further exploration work that this foreign estimate will be able to be reported as a mineral resource in accordance with the JORC Code.

Competent Person's Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Travis Schwertfeger, who is a Member of The Australian Institute of Geoscientists. Mr Schwertfeger is the Chief Geologist for the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Schwertfeger consents to their inclusion in the report of the matters based on his information in the form and context in which it appears.