

# Thesis Gold Announces 2023/24 Work Plan for Toodoggone District Optimization and Expansion

Vancouver, British Columbia--(Newsfile Corp. - September 19, 2023) - Thesis Gold Inc. (TSXV: TAU) (WKN: A3EP87) (OTCQX: THSGF) ("**Thesis**" or the "**Company**") is pleased to announce its strategic initiative to further optimize the 2022 Lawyer's Project PEA with effective date: Sept 30, 2022 ("2022 Lawyers PEA"), which was originally limited to an open-pit scenario at Lawyers Project within the Toodoggone mining district of north-central British Columbia, Canada. This initiative will evaluate the inclusion of underground resources at the Lawyers Project and the expected integration of the Ranch Project's maiden resource.

In the upcoming 2023/2024 activities, Thesis Gold's strategic focus will remain on completion of its comprehensive 50,000-metre drilling program, with 30,000 metres dedicated to Ranch resource drilling and 20,000 metres targeting the expansion of Lawyers' underground resources. Concurrently, geotechnical logging will be conducted at the Ranch Project to support PEA level designs. An extensive program of metallurgical testing is scheduled to begin shortly, combining a total of 40 samples from Lawyers potential open-pit material, Lawyers potential underground material, and a number of the advanced Ranch Project targets. This test work, set for completion in Q2 - 2024, aims to optimize gold recovery and evaluate byproduct potential, laying the groundwork for an updated comprehensive PEA in Q3-2024. The updated PEA will assess opportunities to further optimize and unlock the combined potential of the two projects.

Ewan Webster, CEO of Thesis Gold, commented, "Our team at Thesis is intently focused on advancing activities that deliver substantial value to the Company. We have developed key strategies, and our 2023 activities are tailored to achieve those goals. Leveraging insights from the 2022 Lawyers PEA, combined with significant optimization work, we aim to dramatically enhance and expand our projects, capitalizing on the potential of a unified Toodoggone district."

Key activities of 2023 and early 2024 activities are listed below, an overall strategy summarized in Figure 1, and a video update from site can be accessed here - [Site Update](#).

## Key 2023/2024 Activities

- 50,000 metre drilling program - field season 2023
  - 30,000 metres primarily focused on Ranch resource drilling.
  - Geotechnical logging of multiple drill holes at the Ranch Project to support PEA level pit design criteria.
  - 20,000 metres primarily focused on Lawyers underground resource expansion.
- Metallurgical test work - completion Q2 -2024
  - Metallurgical laboratory program for a combined Lawyers and Ranch Gold Project, totaling 40 samples is being awarded to SGS Canada for the metallurgical testing, including characterization, gravity and flotation, cyanidation, and support studies, aiming to optimize gold recovery and assess byproduct potential.
- Resource Estimation - completion Q2-2024
  - Updated resource estimate for Lawyers Project for both surface and underground.

- Maiden resource estimate for the Ranch Project.
- Updated PEA - completion Q3-2024
  - Update of the 2022 Lawyers PEA, through assessing the potential of incorporating underground mining methods to complement the existing surface operations, as well as exploring the integration of the Ranch Project to enhance overall project optimization and expansion.

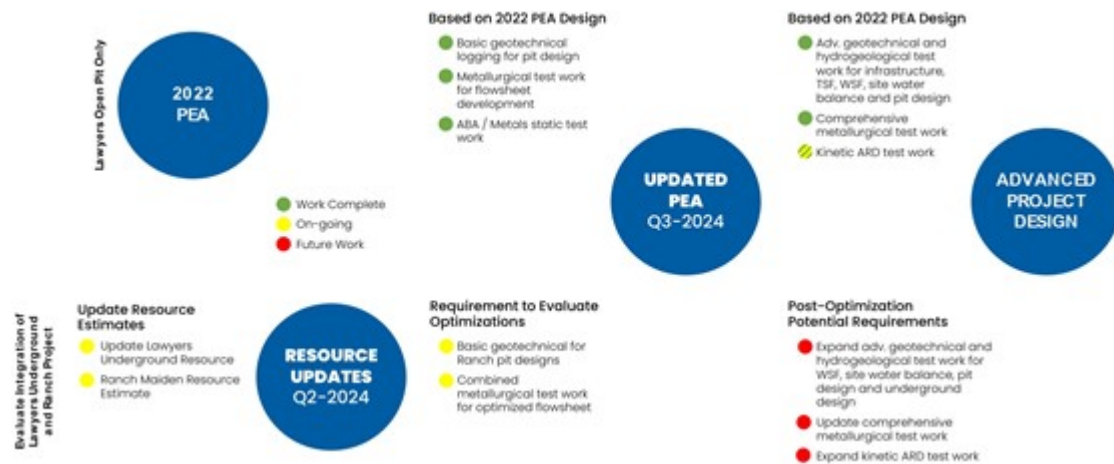


Figure 1 - Work Requirements for Optimization and Expansion

To view an enhanced version of this graphic, please visit:

[https://images.newsfilecorp.com/files/6169/181087\\_7b1d15c8a4fb4bca\\_0001full.jpg](https://images.newsfilecorp.com/files/6169/181087_7b1d15c8a4fb4bca_0001full.jpg)

## Optimization Studies Subsequent to the 2022 Lawyers PEA

The 2022 Lawyers PEA identified several opportunities to potentially improve the project economics. These opportunities include the combination of underground and open pit mining, as well as other mine design, planning, and scheduling optimizations.

Since October 2022 Thesis Gold has been working with JDS Energy & Mining Inc. ("JDS"), who led the 2022 Lawyers PEA, in optimization studies that focus on Capex optimizations and conceptual underground opportunities.

The 2022 Lawyers PEA highlighted that higher-grade material was located in the base of the Cliffs Creek and Dukes Ridge pit shells. An underground option is being considered in these optimization studies to access this material earlier in the mine life, aiming to maintain higher production outputs in the initial years of operation. This option is also likely to reduce the volume of generated waste material. For the optimization study, JDS incorporated resources external to the open pit into their internal studies, which were included in the project's resource statement but were not part of the mine plan for the PEA. In addition, a cross-over analysis was completed for optimizing the ultimate pit depth. The integration of underground resources was reviewed to complement open pit operations. The main goals of the work were to increase higher grade ounces earlier in the mine schedule, reduce the open-pit strip ratio, and expand the total mineable resource of the project without increasing its footprint. The overarching intent is to develop strategies to enhance the project and financial results in future study stages, and guide exploration drilling which is seen as the most effective pathway to creating value.

## Metallurgical Test Work

Metallurgical studies for the Lawyers and Ranch projects were supervised by Mr. Frank Wright from F. Wright Consulting Inc., with support from renowned global laboratories, to understand the processing

potential of each project's resource material. The Lawyers Project's preliminary testing for support of the 2022 Lawyers PEA began in Spring 2020 and concluded in mid-2021, revealing favorable responses to both flotation and cyanide leaching processes. The 2022 Lawyers PEA flowsheet design leaned towards whole rock cyanide leaching, achieving gold recoveries between 91% to 97% and silver recoveries ranging from 50% to 92%.

### Planned 2023 Mineral Processing Study

For 2023, Thesis Gold together with F. Wright Consulting Inc., under the direction of Frank Wright, P. Eng., an independent metallurgical consultant, have developed a metallurgical program designed to gain an understanding of the potential mineral processing attributes for the combined Lawyers and Ranch Gold Projects. Its primary goal is to formulate a flowsheet for gold recovery, considering byproduct credits of silver and potentially copper from specific zones.

In total, 40 samples will be shipped to SGS Canada, in Burnaby, BC. The 40 samples included, 10 from the Lawyers open-pit resource areas, 8 from the Lawyers underground resource area, and 22 samples from the Ranch Project containing multiple mineralization types. The mineral processing study looks to evaluate the potential of an integrated Lawyers and Ranch Gold Project including a wide range of metallurgical tests, including:

- Characterization
  - QEMSCAN PMA Mineralogy
  - X-Ray Diffraction (XRD) and Chemical Analyses
  - Gold Deportment Study - Microscopic Gold Deportment Study
  - Bond Ball Mill Work Index Testing
- Gravity and Flotation
  - Gravity Pre-Treatment (One Stage)
  - Master Composite Bulk Kinetic Rougher Flotation
  - Master Composite Bulk Cleaner Flotation
  - Differential Composite Kinetic Rougher Flotation
  - Variability Composite Bulk Cleaning Flotation
  - Variability Composite Differential Cleaner Flotation
  - Locked Cycle (LC) Bulk Cleaning
  - Locked Cycle Differential Cleaning
  - Final Concentrates Characterization and Blending
- Cyanidation
  - Gravity Pretreatment
  - Whole Ore Leaching Evaluation
  - Float Tailing Leaching Evaluation

- Intensive Leaching (on concentrate)
- Support Studies
  - ARD Tailing Studies (ABA)
  - Tailing Settling / Effluent & Solids analyses
  - Concentrate Settling / Effluent Analyses
  - Vacuum Filtration
  - Pressure Filtration (on concentrate)

### Lawyers Metallurgical Test Work subsequent to the 2022 Lawyers PEA

Additional progress has been made in the metallurgical test work for the Lawyers Project, confirming the 2022 Lawyers PEA flowsheet and recoveries, and supporting the inclusion of the Ranch Project resource, in addition to advancing mineral processing design for higher level studies for the Lawyers Project.

Bureau Veritas Minerals' Metallurgical Division ("BV") undertook a comprehensive mineralogical assessment of samples from the 2021 drilling program. The program was conducted on sixty-four variability composites, including five composites representing the yearly production schedule from the 2022 Lawyers PEA for the first five years, and one multi-year composite. Bottle roll cyanidation tests were carried out on sixty-four variability samples with or without gravity scalping. Bond Ball mill work index testing was also conducted on five variability samples and one bi-yearly sample.

Gravity separation work was also done at FLSmidth (Knelson). The data suggests that coarse gold and electrum would still respond enough to justify the current 2022 Lawyers PEA circuit design of retaining centrifugal concentration on the ball mill recycle stream.

ALS Metallurgical Labs performed confirmation leaching studies, as well as comprehensive comminution studies including crushing, abrasion, and data used for design of the semi-autogenous (SAG) and ball mill grinding circuit.

### Ranch Project 2022 Metallurgical Test Work

In 2022, the individual core sample intervals from the 2021 drill program were blended into 14 composites. The samples originated from the Bonanza, Ridge, Thesis II, and Thesis III Zones at the Ranch Project. The selection of these samples was based on geological considerations, core logging, and geochemical data to best represent a conceptual resource.

These samples were sent to BV for testing, with the study designed and supervised by F. Wright Consulting Inc. The results indicated variability in response to grade and mineralogy, with gold recovery from the samples ranging between 90% to 98%, using flotation. Leaching tests on the Ranch Project samples have shown varying results based on the sulphide content and other mineralogical factors. Notably, samples with less than 1% sulfur demonstrated gold recovery exceeding 90%.

### **Geochemistry Characterization**

In November 2021, Thesis Gold engaged pHase Geochemistry Inc., under the supervision of Shannon Shaw, P.Geo., for the geochemical characterization program in support of environmental baseline studies, permitting, and design for the Lawyers Project. The initiative involved the collection and analysis of 400 waste rock samples sourced from the proposed Cliff Creek, Dukes Ridge, and AGB deposits. These samples were derived from the 2021/22 exploration program's diamond drill core and the historic AGB waste rock dump. In addition, a single tailing sample from the metallurgical program was also

characterized. The sample was the residue from whole ore cyanidation, counter-current decantation washing, and Merrill-Crowe zinc precipitation, followed by cyanide destruction conducted on the Lawyers Project Year 1-2 composite sample at SGS facilities in Lakefield, Ontario.

The primary aim was to evaluate the acid rock drainage and metal leaching potential of waste rock and tailings associated with the project.

*Waste Rock - Static Test Work:* Samples for this segment were sourced from the Cliff Creek (CC), Dukes Ridge (DR), and AGB deposits. Static tests, conducted at SGS Canada Inc. in Burnaby, B.C., encompassed modified acid-base accounting (ABA), total sulphur and total inorganic carbon (TIC) tests, trace elemental analyses by ICP-MS, shake flask extraction (SFE) leach tests and mineralogical examinations. Preliminary results from the ABA tests indicated variable total sulphur content, with 25% of the waste rock samples tested being classified as potentially acid-generating (PAG).

*Waste Rock - Kinetic Test Work:* The kinetic study aimed to simulate the behavior of waste rock samples under lab-induced aerobic weathering conditions. The program comprised 19 humidity cell (HC) tests, split into two phases. Phase 1 began in September 2022 and partially terminated after 40 weeks in July 2023 for 8 of 10 samples. Phase 2 began in June 2023 and is expected to terminate in March 2024.

*Tailings - Static Test Work:* The single residue sample, derived from a metallurgical process at SGS facilities in Lakefield, Ontario, was subjected to tailings characterization. The static tests included modified acid-base accounting (ABA), trace elemental analyses, and mineralogical examinations. The ABA results for the tailings sample revealed low sulphur content and moderate neutralization potential, classifying it as non-PAG.

*Tailings - Kinetic Test Work:* The kinetic test work for tailings commenced in February 2022 and concluded in November 2022 after 40 weeks. The leachate pH remained neutral throughout the testing period, suggesting that the tailings sample is expected to remain non-PAG. Metal leaching from the residue was determined to be low, highlighting the environmental compatibility of the tailings.

## **Geotechnical and Hydrogeological Site Investigations**

Subsequent to the 2022 Lawyers PEA, the Company successfully completed four site investigation programs to support future feasibility-level design work for the Lawyers Project. The site investigations included:

- Geotechnical/hydrogeology site investigation to support pit designs;
- Geotechnical/hydrogeology site investigation to support tailings storage facility and waste rock storage facility locations and designs;
- Hydrogeology site investigation to support development of a site-wide water balance, and
- Geotechnical site investigation to support plant infrastructure locations.

All of the investigation further confirmed design criteria used in the 2022 Lawyers PEA, and in many cases identified opportunities to reduce Capex requirement in future design updates. The 2023 geotechnical and hydrogeological site investigation will focus primarily on basic design criteria for evaluation of the inclusion of the Ranch Project into an updated PEA scheduled of Q2-2024.

### **Planned 2023 Geotechnical and Hydrogeological Site Investigations**

- Geotechnical logging of multiple drill holes at the Ranch Project to support PEA level pit design criteria,
- And an additional 3 groundwater monitoring wells have been installed in 2023 at the Lawyers

Project, and 7 planned for the Ranch Project.

The major focus of 2023 planned work is for basic design criteria for evaluation of the inclusion of the Ranch Project in an updated PEA. The results of that evaluation will guide future geotechnical and hydrogeological site investigation to support feasibility level future design that incorporate the Ranch Project. The Company estimates that work will focus primarily on inputs for pit design, waste rock storage facilities, and site-wide water balance.

#### Geotechnical/Hydrogeology Site Investigation for Pit Designs

A preliminary geotechnical program was carried out in 2020 to characterize rock mass conditions in support of open pit slope designs at the Lawyers Project. Four exploration drill holes (one drill hole at AGB and three at Cliff Creek) were geotechnically logged in November 2020 to support the PEA pit design.

Subsequently, a dedicated geotechnical/hydrogeological program was completed in 2021 to a feasibility-level in preparation for future phases of the Lawyers Project design. This program included seven additional geotechnical drill holes (three at AGB and four at Cliff Creek). Phase 2 consisted of the following:

- Drilling seven geotechnical drillholes designed to target the open pit slopes;
- Detailed geotechnical core logging;
- Measurement of discontinuity orientation data recovered from drill core;
- Collection of field point load test data;
- Sampling and laboratory analysis of rock properties;
- Downhole Optical and Acoustical Televiewing;
- Completing twenty-eight packer tests over six of geotechnical drillholes; and
- Install three (3) multi-point vibrating wire piezometers (VWP) in drillholes

Drilling and logging of core was overseen by APEX Geoscience. Geotechnical data collection and lab testwork was overseen by JDS with the Optical & Acoustic Televiewing provided by DGI Geoscience. Packer testing and installation of multi-point VWP were completed by Knight Piésold Ltd.

Due to the overall good rock mass quality and high intact rock strength, an inter-ramp slope angle of 52° was recommended for mine planning at the Lawyers Project. Results of packer testing in the Cliff Creek deposit area suggest the permeability of the rock is low to elevated in the upper 100 to 150 m from surface. All other testing (Cliffs Creek & AGB) resulted in moderate to very low permeabilities and continued to decrease below 200 m. All results are positive in terms of mine design parameters, pit wall stability and dewatering requirements for the Lawyers Project.

All 2023 investigation pit designs will focus on initial geotechnical logging at the Ranch Project for PEA level design criteria for pit designs.

#### Geotechnical/Hydrogeology Site Investigation for the Lawyers Project TSF and WRSF

Knight Piésold Ltd. was retained to complete a geotechnical site investigation for the proposed locations for the Tailings Storage Facility (TSF) and Waste Rock Storage Facility (WRSF). The geotechnical and hydrogeology investigations were conducted concurrently, resulting in net cost savings by streamlining drilling activities and avoiding duplication of drillholes.

The key objectives of this investigation were to evaluate, at a feasibility level, the geotechnical and

hydrogeological conditions of the foundations locations for the TSF and WRSF options. The results of the investigation and laboratory test work will be used to develop design parameters for the TSF and WRSF in future phases of Project design.

A total of 25 drillholes and 112 test pits were completed for this program and included the following analyses:

- Detailed geotechnical logging of all core;
- Standard Penetration Testing (SPT) of overburden materials;
- Unconfined Compressive Strength testwork on bedrock core;
- In situ hydraulic conductivity packer testing of bedrock;
- Installation of 18 vibrating wire piezometers (VWP) in four drillholes;
- Installation of 17 standpipe piezometers, and
- Excavation and logging of surficial geology for 112 Test Pits.

The results of the test work show that WRSF Location 1 and TSF Location 3 (the Project's preferred locations) are suitable. Moreover, the shallow bedrock will help to reduce overburden stripping costs resulting in an overall reduction in Project CAPEX in future design phases.

#### Hydrogeology Site Investigation for the Lawyers Project Site-Wide Water Balance

Palmer Environmental Consulting Group was retained to lead a Lawyers Project-scale hydrogeology site investigation program. The results of the program will be used to inform the development of a site-wide water balance; an accounting of all water inputs, outputs, and changes in storage over the Lawyers Project's duration. The site-wide water balance is a critical tool for the Lawyers Project's technical design work as well as the Environmental Assessment.

In 2022, Palmer installed 10 groundwater monitoring wells around the Lawyers site in locations key to understanding the Lawyers Project's groundwater regime; particular attention was given to the TSF and WRSF locations. An additional 3 groundwater monitoring wells have been installed in 2023.

For the remainder of 2023 there are 7 groundwater monitoring wells planned for the Ranch Project.

#### Geotechnical Site Investigation for the Lawyers Plant Site

Knight Piésold Ltd. was retained to complete a geotechnical site investigation program to support process plant foundation designs in future studies. A total of 296m of drilling across 10 drillholes was completed in early 2022. All drillholes were cored at HQ3 size and included the following analyses:

- Detailed geotechnical logging of all core;
- Standard Penetration testing of overburden material;
- Point Load testing every 1.5m run length;
- Material index testing testing (moisture content, particle size, and plasticity) of SPT soil samples, and
- UCS and elastic modulus testing of rock core.

The results of this site investigation program confirmed that the ground conditions are suitable for all plant infrastructure locations including the mill facilities and camp. Moreover, shallow bedrock depth

(averaging 1.98m) at the proposed plant site will reduce overburden pre-stripping requirements, resulting in an overall reduction in Project CAPEX in future design phases.

The technical content of this news release has been reviewed and approved by Michael Dufresne, M.Sc, P.Geol., P.Geo., Shannon Shaw, P.Geo., Frank Wright, P. Eng., and Carly Church, P.Eng., PMP., qualified persons as defined by National Instrument 43-101.

On behalf of the Board of Directors  
**Thesis Gold Inc.**

*"Ewan Webster"*

Ewan Webster Ph.D., P.Geo.  
President, CEO, and Director

### **About Thesis Gold Inc.**

Thesis Gold, following its strategic merger with Benchmark Metals, is unlocking the combined potential of the Ranch and Lawyers Gold-Silver Projects in the Toadoggone mining district of north-central British Columbia, Canada. The 2022 Preliminary Economic Assessment for the Lawyers Project alone projected an open-pit mining operation that would yield 163,000 gold equivalent ounces annually over a 12-year span. The Company is now evaluating the integration of the Ranch project, aiming to enhance these figures and bolster the overall potential. Central to this ambition is the 50,000-metre drill program, designed to define the high-grade underground resource at Lawyers and augment the near-surface high-grade deposits at Ranch. The Company's roadmap includes the release of a global Company resource estimate by Q2 2024, followed by an updated Preliminary Economic Assessment in Q3 2024. Through these strategic initiatives, Thesis Gold aspires to rise to the forefront of global precious metals ventures.

**For further information or investor relations inquiries, please contact:**

#### **Dave Burwell**

Vice President Corporate Development

Email: [daveb@thesisgold.com](mailto:daveb@thesisgold.com)

Tel: 403-410-7907

Toll Free: 1-888-221-0915

**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 press release.**

### **Cautionary Statement Regarding Forward-Looking Information**

*This press release contains "forward-looking information" within the meaning of applicable Canadian securities legislation. Forward-looking information includes, without limitation, statements regarding the use of proceeds from the Company's recently completed financings and the future plans or prospects of the Company. Generally, forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved". Forward-looking statements are necessarily based upon a number of assumptions that, while considered reasonable by management, are inherently subject to business, market, and economic risks, uncertainties, and contingencies that may cause actual results, performance, or achievements to be materially different from those expressed or implied by forward-looking statements. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated, or intended. There can be no assurance that such information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking information. Other factors which could materially affect such forward-looking information are described in the risk factors in the Company's most recent annual management's discussion and analysis, which is available on the Company's profile on SEDAR at [www.sedarplus.ca](http://www.sedarplus.ca). The Company does not undertake to update any forward-looking information,*



*except in accordance with applicable securities laws.*



To view the source version of this press release, please visit  
<https://www.newsfilecorp.com/release/181087>