

## Timberline Announces Positive Conclusions from Metallurgical Test Results at Its Talapoosa Gold Project

Coeur d'Alene, Idaho – September 14, 2017 – **Timberline Resources Corporation (OTCQB: TLRS; TSX-V: TBR)** (“Timberline” or the “Company”) announced today positive final results from metallurgical column leach tests performed on gold and silver mineralized material at the Talapoosa Gold Project that are consistent with the Company’s Preliminary Economic Assessment (“PEA”) issued in May 2015. The Company also reported analysis of assay data on mineralized drill core which indicate that gold grades may be higher than previously reported for the project.

Timberline’s President and CEO Steven Osterberg commented, *“We are very pleased that the metallurgical test program confirmed the gold and silver recoveries as estimated in the PEA, which result in attractive project economics. We are also excited that recent evaluation of drill core assay data from Talapoosa suggests that the deposit gold grade may be higher than modeled when a documented coarse gold component is considered. These results are especially encouraging in light of current gold and silver prices.”*

The positive Talapoosa PEA that was completed and released on April 27, 2015 by WSP Canada envisioned the project as an open-pit, gold-silver, heap-leach operation (*“Preliminary Economic Assessment on the Talapoosa Project, Nevada, effective April 27, 2015*). PEA results included:

- Estimated resources of 1,012,802 ounces (oz) of gold at an average grade of 1.11 grams per tonne (“g/t”) gold and 13,649,358 oz of silver at an average grade of 14.97 g/t silver in the Measured & Indicated Resources (“M&I”) categories, with an additional 233,532 oz of gold at 0.72 g/t gold and 2,172,766 oz of silver at 6.65 g/t silver in the Inferred Resource;
- Weighted average gold and silver recoveries for the deposit (all metallurgical zones) estimated at 66% and 52%, respectively;
- Estimated average annual production of 55,000 oz of gold and 679,000 oz of silver for 11 years;
- Life-of-Mine all-in sustaining costs of \$599/oz gold (net of silver by-product at \$16/oz silver price);
- After-tax NPV<sub>5%</sub> of \$136 million and 39% IRR at \$1,150/oz gold price and \$16/oz silver price; and
- Low initial capital requirement of \$51 million.

### **Metallurgical Testing**

Metallurgical testing was completed on four drill core composite samples duplicating those collected and tested in 2012 by Gunpoint Exploration (“Gunpoint”) from the BCHW and BCFW zones. These zones represent the majority of the Talapoosa gold and silver deposit. Each composite sample was crushed by High Pressure Grinding Roll technology (“HPGR”) to -1.7mm (-10 mesh), and separated by screening into a fine fraction (-75µm or -200 mesh) representing approximately 20% of the material, and a coarse fraction (+75µm or +200 mesh) representing the remaining 80%. This separation ratio is expected to be representative for the Bear Creek Hanging wall( BCHW) and Bear Creek Footwall (BCFW) zones of this deposit using HPGR crushing.

As previously reported (see press release dated January 31, 2017), saturated permeability laboratory testing on each coarse fraction under load pressures simulating 200 feet of leach pad height indicate that the heap leach pad would maintain acceptable levels of permeability at more than 20 times the anticipated application rate of the leachate solution. Initial cement agglomeration strength and stability tests were also completed on the BCHW and BCFW composite samples for coarse material with results indicating good agglomerate stability. Based on these results, we have concluded that permeability of the heap leach pad for the coarse material is very good.

### **Column Leach Testing**

Two column leach tests of agglomerated coarse material were completed with cumulative gold and silver recoveries in the leachate solution closely parallel to those generated in previous column tests by Gunpoint, upon which recoveries in the PEA were predicted. Final gold recoveries for the BCHW and BCFW zones of 63.0% and 57.5%, respectively, were recorded (Table 1) for the coarse material.

A separate column test of agglomerated fine material documented accelerated leaching of gold through the initial 10 days, with final test recovery reaching 77.3% for gold and 76.5% for silver after 103 days (Table 1). These results are consistent with bucket leach tests as previously reported (see press release January 31, 2017) and document enhanced recoveries for the fine material produced by an HPGR crush of the mineralized material.

**Table 1. Summary of Column Leach Test Results on Talapoosa HPGR Product Composites**

Composite Sample	Size Fraction	Leach Time (days)	Gold % Recovery	Silver % Recovery
BCHW	Coarse + 75µm	147	63.0	45.1
BCFW	Coarse +75 µm	147	57.5	41.9
BCFW + BCHW	Fine -75 µm	103	77.3	76.5

On an integrated basis, considering relative proportions of all metallurgical domains in the deposit and the fraction of fine material in the BCFW and BCHW, the weighted average recovery rates across the deposit are estimated to be 67% for gold and 50% for silver. These results are consistent with the PEA estimates.

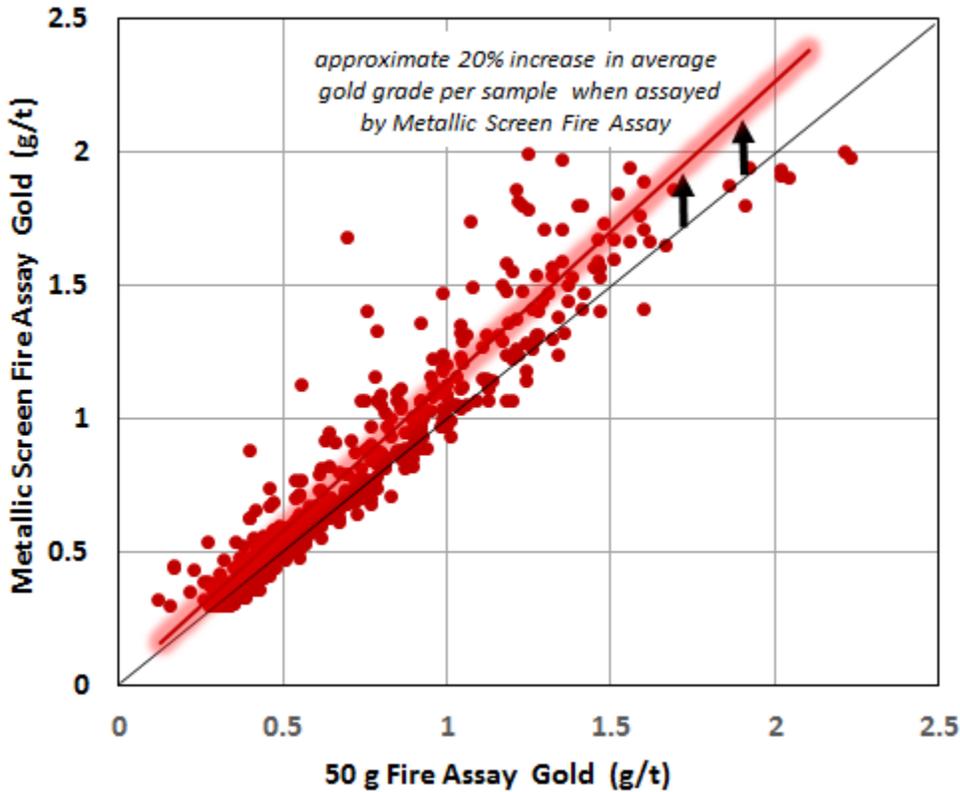
### **Metallic Screen Fire Assay Analysis**

The Company also announced a positive review of drill core sample assay data completed by the metallic screen fire assay (FA) methodology from seven drill hole intercepts of inclined, oriented core through the Talapoosa deposit, which were collected by Gunpoint in 2011. Metallic screen FA methodology is based on preparation of larger sample sizes than conventional FA analysis and is particularly applicable to mineralization which may contain a component of coarse gold that is not

consistently recognized in standard 30g or 50g FA methodologies. Results of this historic data were first reported in a Gunpoint press release dated February 15, 2012 and filed on SEDAR.

Direct comparison of the data (Figure 1) from 1,017 mineralized samples collected by Gunpoint indicated an overall increased gold grade based on the metallic screen FA analysis. As the majority (97%) of the historic assays at Talapoosa were done using conventional 30g or 50g FA, the overall grade of the deposit may be underestimated.

**Figure 1. Gold Assays from Metallic Screen Fire Assay Analysis and Conventional 50 g Fire Assays on Gunpoint 2011 Drill Core Samples.**



This data suggesting the occurrence of coarse gold at Talapoosa is consistent with historic gravity recovery tests which showed the presence of free milling electrum and gold-bearing sulfides (see *Preliminary Economic Assessment on the Talapoosa Project, Nevada*, effective April 27, 2015).

Commenting on the final metallurgical test results and the analysis of assay data, Mr. Osterberg, added, "The leach test results from this metallurgical program demonstrate that, with the proven and cost-effective capability of HPGR crushing and industry standard particle separation technologies, the separate leaching of agglomerated fine and coarse fractions should result in combined gold and silver recovery levels at least as high as estimated in the Talapoosa PEA, while ensuring leach pad permeability. In addition, the assay data confirms the presence of coarse gold in the deposit that has not been accounted for in previous estimates of the project's gold grade. Historic gravity tests suggest that a component of the coarse gold may be collected by incorporating a gravity recovery circuit, thereby

*enhancing overall gold recoveries. Additional drilling is planned for collection of samples to allow comprehensive testing of these potential benefits.”*

## **PEA Disclaimer**

The PEA is preliminary in nature, and the economic analysis it presents is based, in part, on Inferred Resources that are considered too speculative geologically to have mining and economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Estimates of Inferred Resources may not form the basis of feasibility or pre-feasibility studies, except in rare cases. There is no certainty that the economic forecasts contained within the PEA will be realized. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

## **About Timberline Resources**

Timberline Resources Corporation is focused on advancing district-scale gold exploration and development projects in Nevada, including its Talapoosa project in Lyon County where the Company has completed and disclosed a positive preliminary economic assessment. Timberline also controls the 23 square-mile Eureka project lying on the Battle Mountain-Eureka gold trend. At Eureka, the Company continues to advance its Lookout Mountain and Windfall project areas. Exploration potential occurs within three separate structural-stratigraphic trends defined by distinct geochemical gold anomalies. Timberline also owns the Seven Troughs property in northern Nevada, known to be one of the state's highest grade former producers.

Timberline is listed on the OTCQB where it trades under the symbol "TLRS" and on the TSX Venture Exchange where it trades under the symbol "TBR".

Steven Osterberg, Ph.D., P.G., Timberline's President and Chief Executive Officer, is a Qualified Person as defined by National Instrument 43-101 and has reviewed and approved the technical contents of this release.

## **Forward-looking Statements**

Statements contained herein that are not based upon current or historical fact are forward-looking in nature and constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Such forward-looking statements reflect the Company's expectations about its future operating results, performance and opportunities that involve substantial risks and uncertainties. These statements include but are not limited to statements regarding gold grades being higher than previously reported for the Talapoosa project, the predicted gold and silver recoveries and leaching efficiency estimated in the PEA; planning for additional testing; any future engineering designs, if any; PEA estimates and results, including estimated annual production rates for gold and silver, metals prices, all-in-sustaining costs, NPV and IRR of the Talapoosa project, and project capital expenditures; attractiveness of project economics; whether the samples represent the majority of the Talapoosa deposit; the separation ratio being representative for the BCHW and BCFW zones of this deposit using HPGR crushing; the heap leach pad maintaining acceptable levels of permeability at more than 20 times the anticipated application rate of the leachate solution; good agglomerate stability; permeability of the heap leach pad for the coarse material being very good; the weighted average recoveries across the deposit being 67% for gold and 50% for silver; an overall increased gold grade as recognized in the metallic screen FA analysis; the overall grade of the deposit being underestimated; the separate leaching of agglomerated fine and coarse fractions resulting in combined gold and silver recovery levels at least as high as estimated in the Talapoosa PEA, while

ensuring leach pad permeability; whether a component of the coarse gold may be collected by incorporating a gravity recovery circuit, thereby enhancing the overall gold recoveries; potential benefits; the potential to establish mineral reserves; advancement of projects; and exploration potential. When used herein, the words "anticipate," "believe," "estimate," "upcoming," "plan," "target", "intend" and "expect" and similar expressions, as they relate to Timberline Resources Corporation, its subsidiaries, or its management, are intended to identify such forward-looking statements. These forward-looking statements are based on information currently available to the Company and are subject to a number of risks, uncertainties, and other factors that could cause the Company's actual results, performance, prospects, and opportunities to differ materially from those expressed in, or implied by, these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, risks related to changes in the Company's business resulting in changes in the use of proceeds, and other such factors, including risk factors discussed in the Company's Annual Report on Form 10-K for the year ended September 30, 2016. Except as required by law, the Company does not undertake any obligation to release publicly any revisions to any forward-looking statements.

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.

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