

Probe Metals Reports Gold Recoveries above 95% at the Val d'Or East Project

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Highlights:

- Metallurgical testing has demonstrated above 50% Gravity Recoverable Gold and 95% overall gold recovery on most deposits.
- All deposits are amenable to treatment in a single processing facility.
- Composite samples from all deposits suggest the presence of coarse gold and show negligible amounts of deleterious elements, such as Arsenic, Antimony and Tellurium.
- A grade-recovery curve has been calculated for all deposits, which will be used for the upcoming PEA. Gold recovery is calculated as a function of head grade and includes typical plant losses.
- All deposits responded extremely well to multiple pre-concentration methods, with potential to enhance project value.
- Updated resource estimate is expected in Q2-2021 and PEA is expected in Q3-2021.

TORONTO, April 20, 2021 -- [Probe Metals Inc.](#) (TSX-V: PRB) (OTCQB: PROBF) ("Probe" or the "Company") is pleased to announce positive results of the 2020 metallurgical test work program on its Val-d'Or East Project. The program consisted of mineralogy, physical property characterization, gravity, cyanidation and flotation tests. The main objective of the program was to assess gold recoveries by deposit and/or gold trend and to support the selection and design of the flowsheet for the Preliminary Economic Assessment ("PEA"). The results indicate that all deposits and gold trends are behaving similarly and that they can be treated in a single processing facility. They also indicate that gravity recoverable gold is high in all deposits (above 50% up to 72%) and that the overall gold recovery (gravity + leaching of gravity tails) is above 95% in all cases with the exception of Highway at 91%, which represents only 3% of the 2019 resource estimate. It was demonstrated that the leach gold recoveries can be correlated to head grade and a net gold recovery equation for use in the PEA was established which includes typical plant losses. In addition, the program has demonstrated that all deposits/gold trends are responding very well to other pre-concentration methods like flotation, continuous gravity separation and ore sorting which provides additional opportunities to enhance project value.

The test work program was performed at Corem facilities in Quebec City.

David Palmer, President and CEO of Probe, states: "The metallurgical test work demonstrates once again how the Val-d'Or East project performs beyond expectations and confirms that it is an excellent candidate for development. We have already shown the area's ability to host ounces and now we are building confidence in the development potential of those ounces. We have hit a number of key milestones as we advance the project towards the PEA, which includes strong geotechnical results demonstrating good rock stability; favourable environmental characteristics of host rocks; and now confirmation that all of the mineralized materials not only have high gravity and overall recoveries, but all can be processed together in one mill. These characteristics will provide initial cost savings during construction as well as adding further value downstream during a production scenario."

Yves Dessureault, COO of Probe, states: "These results are a very important milestone for the Val-d'Or East project. We have gone from a concept of multiple deposits feeding a central mill to actually demonstrating it with the metallurgical test work results. All deposits have the same type of response in Gravity and Leaching. The Gravity Recoverable Gold is coarse to very coarse and we have been able to model most of the resource with a single grade-recovery curve/equation, with potential for future enhancements. Lower strip ratios, less costly waste rock storage, more efficient milling and reduced infrastructure costs are just a few of the benefits we are seeing in the development work, and all should contribute to a more robust bottom line for the project. In my experience, it would be difficult to find a mineral resource that was easier to process than what we have at Val-d'Or East."

Metallurgical Test work Program - Objectives

The goal of the 2020 metallurgical test work program was to improve upon the historical recoveries and establish recoveries on the deposits where no information was available. An additional objective was to build the metallurgical knowledge base to support the design of the PEA and the selection of the process plant flowsheet. The program consisted of mineralogy, physical property characterization, gravity amenability tests (GAT), gravity recoverable gold tests (GRG), cyanidation with grind size assessment and flotation.

Eight composites were created, either from drill core intervals or from products generated in the 2018 ore sorting test program. Composite were created from drill core intervals for New Beliveau, Courvan, Monique, Highway and North-Zone (a total of five composites). All composites assembled from drill core intervals were spatially selected to be representative of both the type of mineralization and the average head grade of the resource. In addition, three New Beliveau composites were created from ore sorting products. A complete summary is provided below:

1. New Beliveau, a total of 4 composites
 1. One whole-ore composite from drill core samples
 2. Two composites representing ore sorting concentrates, a high- and a low-grade composite.
 3. One whole-ore composite created from ore sorting products (concentrates and tails)
2. North Zone, one whole-ore composite from drill core samples
3. Highway, one whole-ore composite from drill core samples
4. Courvan, one whole-ore composite from drill core samples
5. Monique, one whole-ore composite from drill core samples

Main Results

Mineralogy

The mineralogical and chemical analyses performed on the eight composites suggest the presence of coarse gold in every composite sample. The analyses of deleterious elements, such as Arsenic, Tellurium and Antimony were near to or under the detection limit for all samples. All samples were mainly composed of quartz, micas, feldspars and carbonates with varying proportions. Pyrite was the main sulfide mineral detected and accounted for 1.6 to 3.8% by weight of all samples. Pyrite was always very well liberated.

Crushing and Grinding Testing

For the 2020 metallurgical program, only New Beliveau samples went through a detailed comminution test work program. Work included Bond Crusher Work Index (CWI), Bond Rod Mill Work Index (RWI), Bond Ball Mill Work Index (BWI), Bond Abrasion Index (AI) and finally SAG mill comminution test (SMC).

The composites were considered to be hard to very hard for CWI (between 16.9 and 20.0 kWh/t) and the SMC tests (A x b between 29.3 to 37.2), both are measurements of resistance to impact breakage. Samples tested showed medium hardness for the RWI and BWI with average values of 12.9 kWh/t and 11.6 kWh/t respectively, and non-abrasive with an average Abrasion Index (AI) of 0.131g.

Pre-Concentration Testing

The Company has continued its work on pre-concentration alternatives to the standard free milling flowsheet. In addition to the ore sorting test work done in 2018 (see Press Release of May 20th, 2020 for test results), flotation and continuous gravity separation were tested as part of the 2020 metallurgical test work program.

Gravity Amenability Tests (GAT) were completed on all composites. The GAT test is a standard test to assess the potential of using continuous gravity separation technology for the separation of heavier minerals from the gangue material. The results show that all deposits are highly amenable to gravity separation with a gold recovery ranging from 57% to 73% for whole ore material and approximately 92% for ore sorting concentrate with an 8% mass yield. These recoveries increase to between 87% to 98% when the mass yield is increased to approximately 18%.

Preliminary flotation test work was performed on a New Beliveau composite. The sample was first subjected

to gravity concentration (the GRG test described in next section) and the gravity tails was then floated to recover sulfides and gold. With a coarse grind of 80% passing (P_{80}) = 125 μ m, 99.1% of the gold reported to the flotation concentrate with mass yields of between 6 to 8%.

These pre-concentration alternatives will continue to be evaluated by the Company following the PEA.

Gravity Testing (GRG)

Four whole-ore composites (New Beliveau, Highway, Courvan and Monique) and one ore sorting concentrate composite (New Beliveau OSC) were tested with the Gravity Recoverable Gold (GRG) protocol to determine their amenability to gravity concentration. The results are showing that the GRG is coarse to very coarse, and are also indicating very good gold recoveries. At a grind size of approximately 45-50% passing 75 μ m (equivalent 80% passing 226 μ m), gold recoveries were respectively 50.7%, 54.2%, 69.4%, 71.9% for the New Beliveau, Highway, Monique and Courvan whole ore composites, and was 55.2% for the New Beliveau ore sorting concentrate composite.

The GRG value does not directly predict or correlate gold recovery results from a closed-circuit milling operation. It is indicative of gravity gold amenability and in this scenario all samples would benefit from the inclusion of a gravity circuit.

Leach Testing

Leach test work was performed on the composites' GRG tailings. A first series of bottle roll tests was executed to assess the impact of grind size. The results are shown in the following figure and based on these results, the target grind of 80% passing 80 μ m was selected.

Image 1 Gold Leach Recoveries for all deposits

<https://www.globenewswire.com/NewsRoom/AttachmentNg/c408b2dd-d64e-4cc6-bb8a-2d6fd658ec2b>

The leach and gold dissolution kinetics were then studied by Corem using their proprietary methodology. This methodology facilitates and expedites the finding of the optimal leaching conditions. A first batch of tests were done with cyanide only and then a second series was done with the addition of lead nitrate. As an example, the attached figure shows the changes in the kinetic index over ranges of cyanide concentration for six composites. The methodology shows that the optimum cyanide concentration is around 700 ppm NaCN, above which no further gain can be observed.

Image 2 Changes in the kinetic index over ranges of cyanide concentration for six composites

<https://www.globenewswire.com/NewsRoom/AttachmentNg/f8407934-f88a-473d-89cd-64100fd9f328>

Following the investigation with the Corem proprietary technology, a few stirred tank reactor leaching tests were performed to validate the results and obtain reagents consumptions.

Gold Recoveries

The test work has demonstrated that a PEA flowsheet based on grinding to a target of 80% passing 80 microns followed by gravity and then leach of the gravity tails would give very good performance. The combined gold recoveries obtained in the metallurgical test work program are shown in the table below (Note: The gravity separation concentrate has been assumed in the calculations to be 100% recoverable through intensive leach and tailings recirculation).

Composite	Final grind size (P_{80} , μ m)	Head calc'd (g/t)	Final tails (g/t)	Gold distribution (%)			
				GRG	Gold leached	Gold tail	Overall recovery
New Beliveau OSC	72	7.06	0.196	55.2	42.0	2.8	97.2
New Beliveau	79	3.40	0.159	50.7	44.6	4.7	95.3

Highway	80	1.85	0.154	54.2	37.5	8.3	91.7
Courvan	71	2.91	0.064	71.9	25.9	2.2	97.8
Monique	70	1.87	0.048	69.4	28.0	2.6	97.4

Leach results above are based on 48 hours and a slurry density of 40% solids. Sodium cyanide consumption was between 0.41 and 0.73 kg/t while lime consumption varied from 0.60 to 2.57 kg/t. Recoveries represent maximum metal extractions and do not include typical plant losses or scale up of gravity recoverable gold for plant operating conditions.

PEA recoveries

For the PEA, further analysis was performed to assess the differences between deposits, the impact of grind and head grade. It can be concluded that all deposits are behaving similarly and can be grouped together, with some adjustments for the Highway deposit, which is a small percentage of the overall resource.

Due to the coarse to very coarse nature of the GRG, the process design criteria will be based on treating 90% of the grinding mill recirculating load through the gravity circuit, with modeling indicating an average of 55% gravity gold recovery under those conditions. This result aligns well with the 50% gravity recovery achieved by Cambior when they mined the Beliveau deposit from 1989 to 1993. The PEA will conservatively assume 50% gravity recovery.

In addition, the leach test results were analyzed and reviewed to establish leach gold recoveries. It was identified that the New Beliveau, North Zone, Courvan and Monique deposits have similar responses and that their leach gold recoveries can be correlated to head grade. The following relationship has been established from the test results:

$$\text{Leach gold recovery (in \%)} = 95.07 - 3.74/\text{Head grade (in g/t)}$$

For Highway, the equation is adjusted to:

$$\text{Leach gold recovery (in \%)} = 95.07 - 8.74/\text{Head grade (in g/t)}$$

When the gravity and the leach gold recoveries are combined, and then reduced with the typical plant losses or impact of scale up of gravity recoverable gold for plant operating conditions (typically about 0.8%), the following net recoveries are obtained:

Head grade (g/t Gold)	New Beliveau (whole ore and ore sorting concentrate), Courvan, Monique & North Zone deposits Recovery %
0.4	87%
0.7	91%
1.0	93%
1.5	95%
2.0	95%
2.5	95%
3.0	95%

Next steps

Following the PEA, a new metallurgical program will be defined to further investigate the selected process route(s) and improve upon the current knowledge base developed through the 2020 metallurgical program and potentially further improve reagent costs and gold recoveries.

Qualified Persons

The scientific and technical content of this press release has been reviewed, prepared and approved by Mr.

Yves Dessureault, P.Eng., COO and was reviewed and approved by Tommaso Roberto Raponi, P.Eng. each of whom is a "Qualified Person" as defined by *National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101")*. Mr. Raponi is a consultant of Ausenco Engineering Canada Inc. ("Ausenco") and is considered to be "independent" of Probe for purposes of section 1.5 of NI 43-101.

About Corem:

Corem is a center of expertise and innovation in mineral processing with the largest concentration of resources dedicated to R&D in this field in Canada. Corem is a not-profit organization that works closely with its members, its clients and its partners to improve competitiveness and to reduce environmental impact through the industrialization of innovative solutions. Corem has extensive equipment and infrastructure, including a pilot plant and laboratories for mineralogy, mineralogy and hydrometallurgy, that allow for innovation. For more information, please visit: corem.qc.ca

About Ausenco:

Ausenco is a global diversified engineering, construction and project management company providing consulting, project delivery and asset management solutions to the resources, energy and infrastructure sectors. Ausenco's experience in gold projects ranges from conceptual, pre-feasibility and feasibility studies for new project developments to project execution with EPCM and EPC delivery. Ausenco is currently engaged on a number of global projects with similar characteristics and opportunities to the Val-d'Or East Project.

About Probe Metals:

[Probe Metals Inc.](http://ProbeMetals.com) is a leading Canadian gold exploration company focused on the acquisition, exploration and development of highly prospective gold properties. The Company is committed to discovering and developing high-quality gold projects, including its key asset the Val-d'Or East Gold Project, Quebec. The Company is well-funded and controls a strategic land package of approximately 1,000-square-kilometres of exploration ground within some of the most prolific gold belts in Quebec. The Company was formed as a result of the sale of Probe Mines Limited to Goldcorp in March 2015. Newmont currently owns approximately 11.6% of the Company.

On behalf of [Probe Metals Inc.](http://ProbeMetals.com),

Dr. David Palmer,
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