

## Eastmain Announces Robust Preliminary Economic Assessment and Updated Resource Estimate at the Eau Claire Project

**Toronto, Ontario, May 23, 2018 - Eastmain Resources Inc.** ("Eastmain" or the "Company"- TSX:ER, OTCQX:EANRF) is pleased to announce positive and robust results of a Preliminary Economic Assessment ("PEA") on its 100%-owned Eau Claire Gold Project ("Eau Claire" or "Project") located in James Bay, Québec. All figures are in Canadian dollars, unless stated.

The Company will hold an investor conference call to discuss the PEA at 10:00 a.m. EST on Wednesday, May 23, 2018. Conference dial-in numbers are Canada/USA toll free: 1-800-319-4610, International: 1-604-638-5340. Further conference details are provided at the end of this Press Release.

The PEA demonstrates robust economics for a combined open pit and underground mining operation with a mine life of 12 years.

# **PEA Highlights**

- Pre-tax Net Present Value at 5% discount rate ("NPV<sub>5%</sub>"): \$381 million
- After-tax NPV<sub>5%</sub>: \$260 million
- Pre-tax Internal Rate of Return ("IRR"): 32%
- After-tax IRR: 27%
- After-tax Payback: 3.1 years
- Pre-production Capital Cost, including contingency: \$175 million
- Life of mine ("LOM") Sustaining Capital Cost: \$108 million
- Average LOM Total Cash Cost: \$632 Au per ounce (oz) (US\$486/oz)
- Average LOM All-In Sustaining Costs ("AISC"): \$746/oz Au (US\$574/oz)

# **PEA Key Assumptions and Inputs**

- Assumed gold price: US\$1,250/oz
- Exchange Rate: US\$/C\$ 0.77
- Life of Mine: 12-year mine life (3 years open pit, 10 years underground)
- Years of Full production: 10
- Open Pit Strip Ratio: 9.4:1
- Total Open Pit Dilution: 26%
- Main Underground Mining Method: Captive Longhole
- Total Underground Dilution: 40%
- Average Mining and Processing throughput: 1,500 tonnes per day ("tpd")
- Process Plant Recoveries: 95%
- Average Annual Production (LOM): 79,200 oz gold
- Average Annual Production (yrs 1-10): 86,100 oz gold
- LOM recovered gold production: 951,000 oz;
- Several upside opportunities identified to further improve project economics

Claude Lemasson, President and CEO, states, "The Eau Claire PEA is our biggest accomplishment and represents a critical milestone in Eastmain's history. These results fully support the advancement of this key Project through further pre-development activities on what could become James Bay's next gold mine. The PEA displays robust economics, outlining a stable operating profile of 86,100 ounces of gold per annum at attractive cash costs. We intend to move Eau Claire along a development track and to aggressively pursue nearby exploration targets with potential to provide additional process plant feed and further improve project economics."



## **PEA Key Recommendations**

**Technical -** Initiate basic and detailed engineering for open pit and underground ramp design to improve mining options with a view to minimize capital requirements and to control and minimize dilution. Gathering additional information regarding engineering and mining of the Eau Claire deposit to inform advanced technical studies. A detailed geotechnical study is recommended as part of this exercise.

Develop options to improve advanced technical study outcomes by conducting advanced underground exploration and bulk sampling.

**Permitting -** Initiate baseline studies in support of an Environmental Assessment of the Project with consideration for advanced exploration and full mine development options.

**Community Engagement -** With the PEA as a basis for engagement, proceed to consult with the Eastmain Cree Community and the Grand Council of the Crees (Eeyou Istchee) as the Project's scope, impacts and benefits become better understood at the Advanced Exploration and Feasibility stages.

## **PEA Summary**

The PEA was prepared by P&E Mining Consultants Inc. and is summarized as follows:

Input	Unit	
Physical Parameters		
Total Tonnes Processed (LOM)	Т	6,403,000
Average Annual Throughput (LOM)	tpa	534,000
Open Pit Head Grade (diluted)	Au g/t	3.78
Underground Head Grade (diluted)	Au g/t	5.24
Blended Head Grade (diluted)	Au g∕t	4.87
Gold Recovery	%	95%
Mine Life	years	12
Total Ounces Recovered	ΟZ	951,000
Average Annual Production (LOM)	ΟZ	79,200
Average Annual Production (yrs 1-10)	ΟZ	86,100
Cost Parameters		
Mining Costs (blended)	C\$/t	58.71
Processing Costs	C\$/t	22.59
Site G&A	C\$/t	12.53
Total Costs	C\$/t	93.83
Pre-Production Capital Costs		
Open Pit Development	C\$M	21.8
Equipment & Infrastructure	C\$M	42.9
Tailings	C\$M	4.6
Process Plant Construction	C\$M	67.1
Owner Costs	C\$M	11.1
Contingency (20%)	C\$M	27.3
Total Pre-Production Capital	C\$M	174.7
Sustaining Capital (LOM)	C\$M	108.2
Cost Summary		
LOM Average Cost	C\$/oz	632
	US\$/oz	486
LOM AISC	C\$/oz	746
	US\$/oz	574

# Table 1. PEA Summary Parameters



## **Mineral Resource Estimate**

An updated NI 43-101 Mineral Resource Estimate, effective February 4<sup>th</sup>, 2018, is included within the PEA and will be filed on SEDAR within 45 days of this press release. The Updated Mineral Resource Estimate reflects the inclusion of an additional 19 drill holes (14,884 m) which were completed from September to November, 2017 which increased Eau Claire's Mineral Resource Estimates by 62,000 oz at a grade of 6.9 g/t Au (Tables 2 & 3).

Category	Tonnes	(g/t Au)	Contained Au (oz)
Measured	906,000	6.63	193,000
Indicated	3,388,000	6.06	660,000
Total M&I	4,294,000	6.18	853,000
Inferred	2,382,000	6.53	500,000

Table 2. Mineral Resource Estimate (effective February 4<sup>th</sup>, 2018)<sup>(1)(2)(3)(4)(5)</sup>

Table 3. O	pen Pit and Underground	Mineral Resources	(effective February	<b>4</b> <sup>th</sup>	<b>, 2018)</b> <sup>(1)(2)(3)(4)(5)</sup>
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	Open Pit (surface to 150 m)			Underground (150 m – 860 m)		
Category	Tonnes	Grade	Contained	Tonnes	Grade	Contained
Measured	574,000	6.66	123,000	332,000	6.56	70,000
Indicated	636,000	5.13	105,000	2,752,000	6.27	555,000
Measured & Indicated	1,210,000	5.86	228,000	3,084,000	6.30	625,000
Inferred	43,000	5.06	7,000	2,339,000	6.56	493,000

1. Mineral resources which are not mineral reserves do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate. Composites have been capped where appropriate.

2. The Mineral Resources in this press release were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM"), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions.

3. Open pit mineral resources are reported at a cut-off grade of 0.5 g/t gold and underground mineral resources are reported at a cut-off grade of 2.5 g/t gold. Cut-off grades are based on a gold price of US\$1,250 per ounce, a foreign exchange rate of US\$0.80, and a gold recovery of 95%.

4. The results from the pit optimization are used solely for the purpose of testing the "reasonable prospects for economic extraction" by an open pit and do not represent an attempt to estimate mineral reserves. There are no mineral reserves on the Property. The results are used as a guide to assist in the preparation of a mineral resource statement and to select an appropriate resource reporting cut-off grade.

5. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, title, socio - political, marketing, or other relevant issues.

## Potentially Extractable Portion of Mineralization for Mine Planning Purposes

The PEA demonstrates that approximately 71% of the 2018 updated Mineral Resources are potentially extracted under the mine plan supported by the PEA. For purposes of mine planning, the Potentially Extractable Portion of Mineralization is comprised of 6.4 million tonnes at a diluted grade of 4.9 g/t Au, containing just over 1 million ounces of gold. The mineralized material modeled to be mined in the PEA contains Mineral Resources classified in the Inferred category (30%) which cannot be considered Mineral Reserves. These Inferred resources will require further exploration and definition to meet the criteria to be classified as Indicated or Measured resources before being considered for conversion to Mineral Reserves at the next level of detailed economic study.





# Table 4. Potentially Extractable Portion of the Mineral Resource Estimate (diluted and extracted)<sup>(1)(2)(3)</sup>

	Tonnes	Grade (g/t Au)	Contained Au(Oz)
Pit Production	1,641,000	3.78	199,000
UG Production	4,762,000	5.24	802,000
Total Production	6,403,000	4.87	1,001,000

 Mineral resources, which are not mineral reserves, do not have demonstrated economic viability. Environmental, permitting, legal, title, taxation, sociopolitical, marketing, or other relevant issues may materially affect the estimate of mineral resources. The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define these Inferred resources as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category.

2. The potentially extractable portion of the Mineral Resource Estimate was prepared by Eugene Puritch, P. Eng. and Andrew Bradfield P.Eng. of P&E Mining Consultants Inc. Mineral Resource Estimate reported in this press release was estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions.

3. The potentially extractable portion of the Open pit Mineral Resources are reported at a cut-off grade of 0.66 g/t gold and the potentially extractable portion of the Open pit Mineral Resources underground mineral resources are reported at a cut-off grade of 2.7 g/t gold. Cut-off grades are based on a gold price of US\$1,250 per ounce, a foreign exchange rate of US\$0.80, and a gold recovery of 95%. Table entries are rounded

#### Mine Plan

Proposed mining would commence with open pit mining followed by underground mining.

The PEA proposes a conventional truck and shovel open pit operation, followed by ramp access and captive long-hole open stoping in the underground portion of the mine. The mine plan is to extract the upper portions of the Mineral Resources (top 100 metres) using open pit mining methods. While the open-pit is producing, an underground portal will be established outside of the pit and an underground ramp will be extended below the proposed crown pillar.

The PEA schedule assumes mining of 1,641,000 tonnes of mineralized material at 3.78 g/t Au for 199,000 oz Au contained over three years from the two open pits. The open pit operations consist of production from the Main Pit (650 m x 275 m x 100 m depth) and the smaller West Pit (260 m x 120 m x 40 m depth), to be mined at a bench height of five metres. The open pits have an average strip ratio of 9.4:1.

Underground mining will progress by captive longhole methods in a top-down fashion with major sublevels every 24 metres. The underground operation assumes mining of 4,762,000 tonnes of mineralized material grading 5.24 g/t Au for 801,500 oz over 11 years. The average planned dilution factor was conservatively applied at 40% at zero dilution grade.

The PEA schedule assumes a combined open pit and underground operations of 6,403,000 tonnes of mineralized material at blended grade of 4.87 g/t Au for 1,001,000 contained oz Au over 12 years.

#### **Processing and Recovery**

Gold mineralization will be processed in a 1,500 tpd process plant using conventional crushing, grinding, cyanidation and Carbon In Pulp ("CIP") processes. The conventional cyanidation circuit includes a gravity concentration within the grinding circuit followed by direct cyanidation of gravity tails. The PEA recovery factor relies on metallurgical test work conducted by SGS Lakefield Research Limited which indicates gold recovery of 95% is attainable with gravity and cyanidation processes. A bond ball mill index of 11.0 kWh/t indicates material will not require high energy to be processed.



## Infrastructure & Tailings

Power to the Project will be sourced through an 18 km power line from a substation at the Hydro Québec Eastmain power dam to the project site. Site overall power consumption will average 7 MW.

Tailings will be dewatered in the process plant and transported by truck to a geomembrane-lined Tailings Management Facility (TMF), reducing risk for potential surface and groundwater contamination. The TMF design will incorporate engineered features to manage the chemical and physical stability of the deposited tailings in accordance with current best-in-class practices. This mitigation strategy is similar to those at other operations in the region.

Major surface facilities to support the Eau Claire Project will include an administration and engineering building, security, warehouse, fuel and explosive storage, fire protection, maintenance shops and a mine camp that can accommodate 200 people.

## Capital Costs and Sensitivity

Input (all C\$M)	Pre- Production	Sustaining	LOM
Development	21.8	84.3	106.1
Equipment & Infrastructure	42.9	-	42.9
Tailings	4.6	5.5	10.1
Process Plant	67.1	0.5	67.6
Owner Costs	11.0	-	11.0
Contingency (20%)	27.3	18.0	45.3
Total Capital Costs	174.7	108.2	282.9

# Table 5. Capital Cost Summary

## Table 6. NPV, IRR and Payback Summary

		Gold Price Sensitivities			
	Unit	US\$1,150/oz	US\$1,250/oz Base Case	US\$1,350/oz	
Macro Parameters					
Gold Price	US\$/oz	1,150	1,250	1,350	
Exchange Rate	C\$/US\$	0.77	0.77	0.77	
Pre-Tax					
NPV <sub>5%</sub>	C\$M	297.4	380.9	464.4	
IRR	%	27	32	36	
After-Tax					
NPV <sub>5%</sub>	C\$M	205.4	260.2	315.1	
IRR	%	23	27	31	
Payback	years	3.7	3.1	2.6	



## **Opportunities to Enhance Project Value**

#### Exploration - Deposit Expansion and Property-Scale Satellite Mineral Resource Development

Opportunities exist to expand and build Mineral Resources proximal to the proposed underground mine infrastructure at Eau Claire. In particular, exploration on the 450W zone has indicated that gold mineralization may extend at depth to the southeast.

Gold mineralization has been historically identified and recently confirmed at numerous surface prospects within several kilometres of Eau Claire. Additional Mineral Resources which may be defined at these prospects could support larger scale production and extend mine life.

## Advanced Exploration Ahead of Advanced Technical and Feasibility Studies

Underground exploration via a ramp, combined with underground bulk sampling, will provide enhanced understanding of the high-grade vein systems and detailed geotechnical information which could optimize the mining and financial considerations used in future advanced technical studies for Eau Claire.

#### About the Eau Claire Deposit

The Eau Claire Deposit is located in the province of Québec, approximately 800 kilometres north of Montreal and 350 kilometres north of Chibougamau. The Deposit is readily accessible by road along the Route du Nord extending from Chibougamau onto the village of Nemiscau and via Hydro Québec's Eastmain-1 road network. The centre of the Property is located at approximately 75.69 degrees longitude west and 52.23 degrees latitude north.

The Project is located north of the 52<sup>nd</sup> parallel (52<sup>o</sup>N) and as such is subject to the provisions of the James Bay and Northern Québec Agreement (1975) ("JBNQA"), and the Paix des Braves Agreement (2002). The Project falls within the Eeyou Istchee Territory of the Eastmain Cree First Nation, including the trap lines held by Dr. Ted Moses (tallyman), and on Category II and III lands, as established under the JBNQA.

The Eau Claire Deposit is a structurally-controlled gold deposit. Mineralization occurs primarily in a series of sheeted en-echelon quartz-tourmaline veins; subordinate mineralization occurs as dissemination in the host rock. The en-echelon pattern is hosted within a structural corridor and trends from northwest to the southeast. Individual veins range from less than a metre to several metres thick and extend for at least 100 metres along strike.

Gold mineralization at the Eau Claire Gold Deposit is generally located within approximately EW trending structurally-controlled, high-grade en-echelon quartz-tourmaline QT veins (formerly named HGV) and adjacent altered wall rocks, as well as variable width ESE trending sheared and foliated schist zones, HGS veins, of altered gold-bearing rock. HGS zones are aligned parallel to the host rock foliation and interpreted to parallel to the southern, or hanging wall, side of the Deposit. The vein systems are predominantly hosted within a thick sequence of massive and locally pillowed mafic volcanic flows, interbedded with narrow intervals of volcaniclastic meta-sedimentary rocks. Both flows and sediments have been intruded by multiple phases of felsic and porphyry dykes. Host rocks have been folded and deformed (sheared) through several deformation events. Both gold bearing vein sets may occur with as narrow intervals with tourmaline and develop into thick quartz-tourmaline veins with zoned tourmaline+/-actinolite+/-biotite+/-carbonate alteration halos which can measure up to several metres in thickness. Carbonate occurs to varying degrees in the vein mineralization.

The two major QT vein areas discovered to date (the 450 West and 850 West zones) form a crescent-shaped, mineralized body 1.8 kilometres long by more than 100 metres wide, which has been traced to date to a vertical depth of 900 metres. Veins within the 450 West zone typically strike 85 degrees and dip 45 to 60 degrees to the south. Mineralization within the veins plunges steeply to the southeast, sub-parallel to an F2 fold axis. Veins



within the 850 West zone typically strike 60 degrees and dip sub vertically. Mineralization within this vein set plunges gently to the southwest.

## **QA/QC** Statement

Eastmain conducts quality control under the supervision of Qualified Persons at all its exploration projects to ensure best practices from sample preparation to data collection and analysis. Drill core is logged and split with half-core samples packaged and delivered to ALS Minerals laboratories. Samples are dried and subsequently crushed to 70% passing a 2 mm mesh screen. A 1,000 gram sub-sample is pulverized to a nominal 85% passing 75 micron mesh screen. The remaining core and selected crushed sample (reject) and pulverized sample (pulp) are retained for further analysis and quality control. All samples are analyzed for gold by Fire Assay with an Atomic Absorption (AA) finish using a 50 gram aliquot of pulverized material. Assays exceeding 5 g/t Au are reassayed by Fire Assay with a Gravimetric Finish. Eastmain regularly inserts 3<sup>rd</sup> party reference control samples and blank samples in the sample stream to monitor assay performance and performs duplicate sampling of pulps and rejects at a second certified laboratory. For recent programs at Eau Claire approximately 10% of samples submitted are part of the Company's laboratory sample control protocols.

# Qualified Persons and NI 43-101 Disclosure – Preliminary Economic Assessment ("PEA")

This PEA is preliminary in nature and includes Inferred Mineral Resources that are too speculative geologically to have economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that PEA results will be realized. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

The PEA was prepared under the supervision of Mr. Eugene J. Puritch, P. Eng. FEC, CET, President of P&E. Mr. Puritch is an independent Qualified Person as defined by NI 43 - 101 and has reviewed and approved the contents of this news release related to the Preliminary Economic Assessment. A NI 43 - 101 Technical Report is currently being prepared by P&E and will be filed on SEDAR within 45 days of this news release.

# Qualified Persons and NI 43-101 Disclosure – 2018 updated Mineral Resource Estimate

The updated Mineral Resource Estimate for the Eau Claire Gold Deposit described herein was prepared by SGS Canada Inc. ("SGS") and complies with all current disclosure requirements for Mineral Resources set out in the NI 43-101 Standards of Disclosure for Mineral Projects. The classifications described in the 2018 updated Mineral Resource Estimate are consistent with current CIM Definition Standards - For Mineral Resources and Mineral Reserves. The 2018 updated Mineral Resource Estimate was prepared by Allan Armitage, Ph.D., P. Geo, ("Armitage") of SGS. Mr. Armitage is an independent Qualified Person as defined by NI 43-101.

The 2018 updated Mineral Resource Estimate and supporting information will be included within the technical report for the Eau Claire Preliminary Economic Assessment

## Conference Call

The Company will hold an investor conference call to discuss the PEA.

## DETAILS

DATE: Wednesday, May 23, 2018 TIME: 10:00 am Eastern time Kindly call in 5 – 10 min ahead of scheduled start time. PHONE NUMBERS Canada/USA toll free: 1-800-319-4610 International: 1-604-638-5340

**CONFERENCE CALL REPLAY** Canada/USA toll free: 1-855-669-9658 International: 1-604-638-9010 Access Code: 2342



A replay of the call will be available on May 23 until June 6, 2018.

A live webcast of the conference call, along with supporting presentation slides, will be available via the following link: <u>http://www.eastmain.com/investors/events/</u>. A replay of the webcast will be available from May 23 until August 23, 2018.

## About Eastmain Resources Inc. (TSX:ER, OTCQX:EANRF)

Eastmain is a Canadian exploration company advancing three high-grade gold assets in the emerging James Bay gold camp in Québec. The company holds a 100% interest in the Eau Claire and Eastmain Mine gold deposits where the Company has prepared NI 43-101 Mineral Resource Estimates in 2018. Eastmain is also a partner in the Éléonore South joint venture located immediately south of Goldcorp Inc.'s Éléonore Mine which hosts a new high-grade gold discovery found in 2017. In addition, the company has a pipeline of exploration projects in this favourable mining jurisdiction with nearby infrastructure.

## For more information:

Claude Lemasson, President and CEO +1 647-347-3765 lemasson@eastmain.com

Laurenn Russell, Investor Relations Consultant +1 647-347-3735 Irussell@eastmain.com

Forward- Looking Statements – Certain information set forth in this news release may contain forward-looking statements that involve substantial known and unknown risks and uncertainties. Forward-looking statements consist of statements that are not purely historical, including statements regarding beliefs, plans, expectations or timing of future plans, and include, but not limited to, statements with respect to the potential success of the Company's future exploration and development strategies. These forward-looking statements are subject to numerous risks and uncertainties, certain of which are beyond the control of Eastmain, including, but not limited to the impact of general economic conditions, industry conditions, dependence upon regulatory approvals, the availability of financing, timely completion of proposed studies and technical reports, and risks associated with the exploration, development and mining industry generally such as economic factors as they affect exploration, future commodity prices, changes in interest rates, safety and security, political, social or economic developments, environmental risks, insurance risks, capital expenditures, operating or technical difficulties in connection with development activities, personnel relations, the speculative nature of gold exploration and development, including the risks of diminishing quantities of grades of Mineral Resources, contests over property title, and changes in project parameters as plans continue to be refined. Readers are cautioned that the assumptions used in the preparation of such information, although considered reasonable at the time of preparation, may prove to be imprecise and, as such, undue reliance should not be placed on forward-looking statements. The Company assumes no obligation to update such information, except as may be required by law.