

## Skeena Announces Preliminary Economic Assessment for Spectrum-GJ Copper-Gold Project

Vancouver, BC (April 20, 2017) Skeena Resources Limited (TSX.V: **SKE**) (“**Skeena**” or the “**Company**”) is pleased to announce the results of a Canadian National Instrument 43-101 Preliminary Economic Assessment (“**PEA**”) and Mineral Resource update for the Company’s Spectrum-GJ copper-gold project (“**Spectrum-GJ**”) located in the Golden Triangle of northwest British Columbia.

The PEA and Mineral Resource update focus on two deposits that are approximately 14 km apart: the porphyry copper-gold Donnelly Deposit at GJ (“**Donnelly**”) and the porphyry gold-copper Spectrum Central Zone (“**Spectrum**”). Conventional truck and shovel open pit mining is planned with a staged approach to production output, starting at 10,000 tonnes per day (“**tpd**”) at Donnelly, ramping up to 20,000 tpd in year 6 when Spectrum comes on-line, and reaching 30,000 tpd in year 12. The staged approach was adopted to limit operational, technical and capital risks that are typical of new mine start-ups. Using base case parameters, copper would generate approximately two-thirds of project revenue during the initial five years of production and approximately 58% over the life of the mine.

The overall planned mine life is 25 years with upside potential to increase this beyond 30 years. A centrally located flotation processing plant and a single life-of-mine tailings storage facility are planned, with a conventional Carbon-in-Leach (“**CIL**”) plant added at year 6 for improved gold recovery.

The project has initial capital expenditures of C\$216 million and benefits from the presence of existing infrastructure on or adjacent to the project area, including grid hydro-power, paved Highway No. 37 and an industrial road that extends to within 10 km of the planned processing plant site. The proximity of the deep-water Port of Stewart, B.C., is a further significant project benefit.

### Economic Analysis

Parameter	Base Case	Upside Case 1	Upside Case 2
Copper price (US\$/lb)	2.75	3.00	3.25
Gold (US\$/oz)	1,250	1,300	1,350
Silver (US\$/oz)	17.75	20.00	22.50
Economic Results (Pre-Tax)			
NPV 8% (millions)	C\$ 546.18	C\$ 699.62	C\$ 853.86
IRR	26.6%	31.0%	35.3%
Payback (years)	3.81	3.19	2.71
Economic Results (After-Tax)			
NPV 8% (millions)	C\$ 314.09	C\$ 412.99	C\$ 512.35
IRR	20.6%	23.9%	27.1%
Payback (years)	4.21	3.68	3.26

US\$0.75 = C\$1.00

Walter Coles Jr., President and CEO of Skeena commented: “There are few copper dominant projects in politically stable jurisdictions that have an initial capex of less than US\$200 million, combined with a 25-year mine life and an after-tax, base case IRR of better than 20%. The after-tax net present value (using an 8% discount rate) for the Spectrum-GJ project vastly exceeds Skeena’s current market capitalization. Given that Skeena has three other projects, including the Snip mine, it is evident that the Company’s portfolio of assets is significantly undervalued.”

Skeena’s Chairman, Ron Netolitzky, added: “It is important to note that the PEA production statistics and financial outcomes can still be optimized. Both conceptual pits appear to have the potential for significant expansion, as evidenced by the additional resources available to the south of the planned Spectrum pit and the considerable tonnage available to the immediate north of the Donnelly pit. However, prior to seeing the project to the Pre-Feasibility stage, we needed to be assured that the currently defined in-pit resources, the blended metallurgical characteristics of the run-of-mine material and the proposed production rates from the two deposits would provide an encouraging, stand-alone project with attractive economics – and we have done so, decisively.”

## Project Overview

<b>Planned Life-of-Mine: 25 years</b>		
<b>Production</b>	ROM Material	191.75 Mt
	Marginal Grade Material	<u>21.99 Mt</u>
	Total Plant Throughput	213.74 Mt
<b>Proportion in Indicated Mineral Resource Category</b>	Spectrum Pit	79%
	Donnelly Pit	96%
<b>Average Overall Pit Slope Angles</b>	Spectrum Pit	45°
	Donnelly Pit	
<b>Average Strip Ratios</b>	Spectrum Pit	0.52
	Donnelly Pit	0.86
<b>Average Cut-Off Grades (ROM production)</b>	Spectrum Pit	0.435 g/t AuEq
	Donnelly Pit	0.204% CuEq
<b>Average Grades (Spectrum Pit ROM material)</b>	Gold	0.96 g/t Au
	Silver	3.24 g/t Ag
	Copper	0.13% Cu
<b>Average Grades (Donnelly Pit ROM material)</b>	Gold	0.32 g/t Au
	Silver	1.97 g/t Ag
	Copper	0.28% Cu
<b>Overall Average Grades (ROM material)</b>	Gold	0.35 g/t Au
	Silver	2.04 g/t Ag
	Copper	0.27% Cu
<b>Life of Project, Average Metallurgical Recoveries</b>	Gold	72.3%
	Silver	57.1%
	Copper	89.2%
<b>Payable Metal</b>	Gold	1.61 Moz
	Silver	7.54 Moz
	Copper	998.99 Mlb

The project benefits from several important economic features and possesses compelling upside potential, namely:

- low average strip ratios of 0.52 at the Spectrum pit and 0.86 at the Donnelly pit, with an average of less than 0.5 at Donnelly during years 1 through 5;
- a planned project life of 25 years, which could be extended by means of production optimization, geotechnical analyses and mining trade-off studies;
- good metallurgical recoveries to a clean, bulk Cu-Au-(Ag) concentrate that has no significant concentrations of deleterious elements;
- substantial defined resources available for project expansion, particularly adjacent to the north side of the Donnelly pit and to the south of the planned Spectrum pit (less than 20% of Spectrum drill-inferred tonnage is planned for extraction, pending further diamond drilling and mining trade-off studies); and
- good exploration potential within the property boundaries, as evidenced by numerous, high-grade polymetallic vein, breccia and stockwork occurrences.

### Capital Cost Estimates

Cost Centre (C\$ millions)	Pre-Production	Sustaining	Total
<b>General Infrastructure &amp; Buildings</b>	69.56	34.80	104.36
<b>Tailings Storage Facility</b>	6.72	52.52	59.25
<b>Donnelly Pit</b>	35.13	107.76	142.89
<b>Spectrum Pit</b>	-	26.82	26.82
<b>Processing Plant</b>	66.50	103.31	169.81
<b>Capital Indirects</b>	38.13	36.94	75.07
<b>Totals</b>	<b>216.05</b>	<b>362.15</b>	<b>578.20</b>

**Note:** Capital cost estimates are inclusive of contingencies.

### Operating Cost Estimates

Cost Centre	Average Unit Costs (C\$ / t mined or milled)			
	Stage 1 (10,000 tpd)	Stage 2 (20,000 tpd)	Stage 3 (30,000 tpd)	Post-Production (30,000 tpd)
<b>Spectrum + Donnelly Pits</b>	-	8.85	-	-
<b>Donnelly Pit</b>	8.28	-	6.51	1.42
<b>Processing Plant</b>	5.57	6.07	5.51	5.51
<b>G&amp;A</b>	4.26	2.69	1.79	1.09
<b>Totals</b>	<i>18.11</i>	<i>17.61</i>	<i>13.81</i>	<i>8.02</i>
<b>Head Office Overhead</b>	0.83	0.30	0.26	0.26

**Notes:** The Post-Production stage is when 21.99 Mt of marginal grade material from the Donnelly pit is processed at a rate of 30,000 tpd. Reclamation and closure costs (reporting to G&A) include a 25% contingency.

## Metallurgical Studies

The PEA process design and metallurgical forecast are based on a metallurgical testwork program conducted in late 2016 and Q1, 2017, by Blue Coast Metallurgy Ltd. of Parksville, B.C., supported by test work and mineralogical studies at AuTec Innovative Extractive Solutions of Vancouver, B.C.

Bond Ball Mill Work Index tests indicate an average Work Index for the Spectrum composites of 18.4 kWh/t and 19.8 kWh/t for the Donnelly composites. The results reflect moderately hard material that is quite close to the median hardness levels for the B.C. copper-gold industry.

A series of conventional gravity, flotation and cyanidation tests were completed. The results show that the optimum grind size is P<sub>80</sub> 120 microns and that a commercially viable bulk copper-gold-silver concentrate could be produced, along with gold-silver rich doré. Consideration of project economics resulted in the deferment of the CIL plant and doré recovery circuit to year 6.

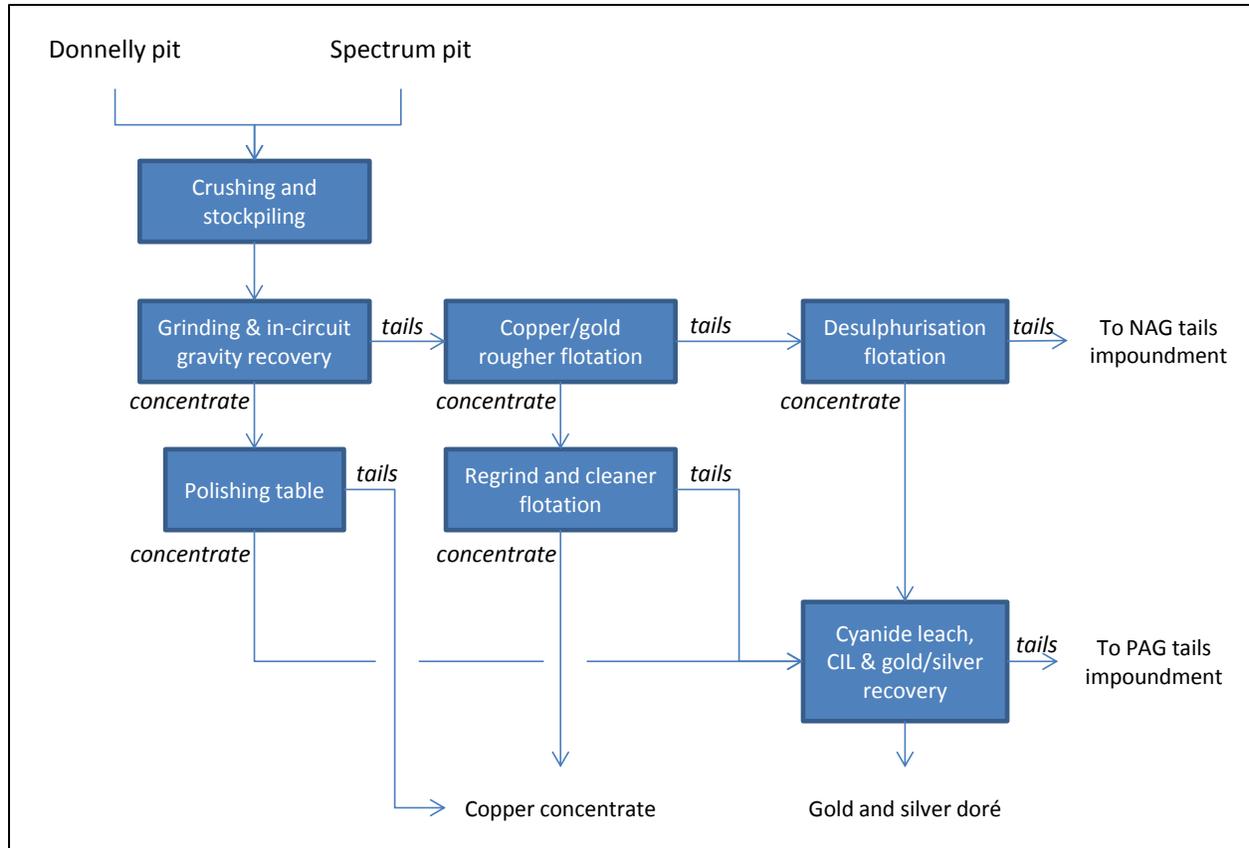
Owing to its far greater tonnage contribution to the plant feed mix, metallurgy is mainly dictated by material from Donnelly. Consequently, to align with the PEA mine production schedule, metallurgical performance was projected for plant feed comprising 100% Donnelly material during Stages 1 and 3, and for co-mingled plant feed containing 75% Donnelly material and 25% Spectrum material during Stage 2. The following table summarizes the metallurgical forecast by production stage. The overall average, life-of-project metallurgical recovery rates are 72.3% Au, 57.1% Ag and 89.2% Cu.

## Metallurgical Forecast

Production			Flotation Recovery				Gravity Conc.			Doré Recovery		
Stage	Rate (tpd)	Donnelly Feed	Conc. Grade	Au (%)	Ag (%)	Cu (%)	Au (%)	Ag (%)	Cu (%)	Au (%)	Ag (%)	Cu (%)
1	10,000	100%	22% Cu	55	49	90	10	-	-	-	-	-
2	20,000	75% av.	22% Cu	49	54	86	-	-	-	24	7	0
3	30,000	100%	22% Cu	55	49	90	-	-	-	18	8	0

## Mineral Processing

The as-designed process flow is essentially the same as many copper-gold circuits currently operating in B.C. The following figure summarizes the Stage 3 process flow. The main product will be a bulk copper concentrate, highly enriched with gold and silver, that PEA planning assumes will be shipped to smelters located in the Far East. Doré will be produced from year 6, prior to which a gravity gold concentrate will be produced and sold. Tailings will be disposed of in an adjacent, life-of-mine tailings storage facility with an estimated maximum capacity of 375 Mt ± 35 Mt.



Two small departures from common convention are included in the process flow. The first is driven by the need to design a processing facility capable of milling at three different throughput rates, defined as Stages 1 through 3. This has led to the use of the larger ball mill to act as a primary mill during Stage 1 (10,000 tpd), receiving feed from two stages of crushing. While currently unusual, such a circuit was widely used in the mining industry throughout most of the last century.

The second departure is the use of CIL processing of pyrite-rich products arising from the flotation circuit, which are amenable to leaching. The CIL process involves: tailings from the copper rougher float being subjected to bulk sulphide flotation; and the bulk sulphide concentrate being combined with the copper cleaner tails, thickened and leached by CIL to recover gold and silver. The carbon is treated at site to extract the gold (and minor silver), which is smelted and sold as doré.

### **Updated Mineral Resource Estimates**

The Donnelly and Spectrum deposits are alkalic porphyry copper-gold deposits associated with Late Triassic to Early Jurassic diorite and monzonite intrusives, with characteristics similar to those of producing B.C. mines, including Red Chris and New Afton. The Spectrum deposit includes an overprint of porphyry-related, higher-grade, gold-vein style mineralization.

The updated Mineral Resource estimates were prepared in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum standards on Mineral Resources and Mineral Reserves (2014). The estimate for Spectrum is based on 164 diamond drill holes (of which 88 were completed by Skeena) totalling 34,598 metres and 22,581 assay intervals. The estimate for Donnelly is based on 176

diamond drill holes (of which eight were completed by Skeena) totalling 48,325 metres and 16,410 assay intervals.

The majority of the historical drill core for both deposits is still available at site. A significant portion of the Spectrum material was re-logged and re-sampled by Skeena staff, as part of Company's on-going Quality Assurance/Quality Control ("QA/QC") program of check assaying. All the available, historical Donnelly core was previously re-logged (and partially re-sampled) by Teck.

The Mineral Resource estimates will be detailed in a NI 43-101 Technical Report on the Spectrum-GJ Preliminary Economic Assessment, with an effective date of March 30, 2017, to be filed on SEDAR within 45 days of this news release.

Category	Million Tonnes	Average Grades			Metal Content		
		Au (g/t)	Ag (g/t)	Cu (%)	Au (Moz)	Ag (Moz)	Cu (Mlb)
<b>Spectrum Central Zone (0.40 g/t AuEq cut-off)</b>							
<b>Indicated</b>	31.2	0.94	2.6	0.10	0.94	2.64	67.7
<b>Inferred</b>	29.8	0.47	1.4	0.12	0.45	1.34	76.4
<b>GJ Donnelly Deposit (0.15% CuEq cut-off)</b>							
<b>Indicated</b>	215.2	0.31	1.9	0.26	2.14	13.03	1,235.4
<b>Inferred</b>	28.3	0.31	1.8	0.14	0.28	1.64	85.1

#### Grade Equivalence

$$\text{AuEq} = \text{Au grade} + [(\text{Ag grade} \cdot (\text{Ag revenue} / \text{Au revenue})) + (\text{Cu grade} \cdot (\text{Cu revenue} / \text{Au revenue}))]$$

$$\text{CuEq} = (\text{Cu grade} + [(\text{Au grade} \cdot (\text{Au revenue} / \text{Cu revenue})) + (\text{Ag grade} \cdot (\text{Ag revenue} / \text{Cu revenue}))]$$

where:

Au revenue =  $(1 / 31.1046) \cdot \text{Au plant recovery} \cdot \text{Au smelter recovery} \cdot \text{Au refinery recovery} \cdot \text{unit Au price}$

Ag revenue =  $(1 / 31.1046) \cdot \text{Ag plant recovery} \cdot \text{Ag smelter recovery} \cdot \text{Ag refinery recovery} \cdot \text{unit Ag price}$

Cu revenue =  $2,204.62 \cdot 0.01 \cdot \text{Cu plant recovery} \cdot \text{Cu smelter recovery} \cdot \text{Cu refinery recovery} \cdot \text{unit Cu price}$

- Raw drill hole assays were composited to 4 m lengths broken at domain boundaries. Capping of high grades was considered necessary and was completed for each domain on assays prior to compositing.
- Block grades for gold and silver were estimated from the composites using an ordinary kriging interpolation method into 4 m x 4 m x 4 m blocks for Spectrum, and into 10 m x 10 m x 10 m blocks Donnelly.
- Dry bulk densities are based on 858 specific gravity measurements for Spectrum and 1,777 for Donnelly.
- The Mineral Resource estimate is constrained within optimized pits with average slope angles of 45°. Metal prices of US\$1,250/oz Au, US\$2.75/lb Cu and US\$17.75/oz Ag were used along with metallurgical recovery rates of 73% for gold, 90% for copper and 50% for silver and the estimated on-site operating costs.
- Minimum grade cut-offs for the Mineral Resource estimates were determined using the same metal prices, metallurgical recovery rates and operating costs as outlined above, as well as smelter terms and applicable royalties.

This release makes mention of Inferred Mineral Resources. The quantity and grade of reported Inferred Mineral Resources in this estimation are conceptual in nature and there has been insufficient exploration to define these Inferred Mineral Resources as Indicated or Measured Mineral Resources. It is uncertain if further exploration will result in upgrading the Inferred Mineral Resources to either the Indicated or Measured categories of Mineral Resource. Readers are cautioned that Mineral Resources which are not Mineral Reserves have not demonstrated economic viability. The estimate of Mineral

Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing or other relevant issues.

### **First Nations Involvement**

Spectrum-GJ lies within the asserted traditional territory of the Tahltan Nation. The Company has committed to work closely with the Tahltan Central Government, with its agencies and with Tahltan Nation-owned businesses to identify and maximize employment and contracting opportunities arising from its mineral exploration and project development activities. To this end, the Company and the Tahltan Central Government (the “**Parties**”) have signed a Communications Agreement that provides a framework for the sharing of information and for joint participation of the Parties in communications with Tahltan membership and communities regarding Skeena’s activities in Tahltan Territory (see the Company news release dated [January 24, 2017](#)).

### **Environmental Design Principles**

At this preliminary design stage, significant effort has been expended to integrate environmental design principles into the project layout and operating concept. This approach aims to limit adverse impacts to biophysical, economic, pre-existing land use and heritage & cultural environments within the project area. The principles applied within the scope of the PEA include:

- to the extent that is possible and practicable, locating infrastructure in one drainage basin (the only exceptions include portions of the site access road and powerline, a security gate at the Highway No. 37 turn-off and a take-off sub-station from the Northwest Transmission Powerline);
- viewscape values - to the extent that is practicable and sustainable, infrastructure planning minimizes the visibility of major infrastructure;
- footprint values - to the extent that is possible, safe and practicable, planning utilized existing infrastructure within the project area to minimize the project’s footprint;
- wildlife conservation - planning off-pit muck handling systems that are consistent with limiting potentially adverse wildlife interactions, especially on Klastline Plateau on which Donnelly is located;
- project consolidation - identifying and utilizing a single, consolidated, life-of-of mine tailings storage facility, the maximum capacity of which could accommodate additional tailings generated from expanded Spectrum and Donnelly open pits;
- archaeology & heritage - infrastructure planning includes considerations of identified archaeological and heritage resources, future project planning includes continued evaluations and modifications to infrastructure that might reasonably be required; and
- design for closure - to the extent that is practicable, the project has been designed for closure and to minimize the risk of post-closure active management to ensure environmental protection.

### **PEA Review**

Roscoe Postle Associates Inc. (“**RPA**”) was engaged by the Company to review the parameters used in the PEA economic analysis, and to make recommendations based on their review. RPA’s review is in progress, and will focus on the Mineral Resource block model, mining method, mineral processing and metallurgical testing, process flowsheet, capital and operating costs and economic analysis.

The reader is referred to the Company’s website at [www.skeenaresources.com](http://www.skeenaresources.com) for prior news releases documenting the acquisition details of both the Spectrum and GJ projects and for prior Mineral

Resource estimations on both deposits, as well as on SEDAR for the Company's continuous disclosure.

The PEA is preliminary in nature, it includes Inferred Mineral Resources that are considered to be speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves, and there is no certainty that the PEA will be realized.

### **Qualified Persons**

The following are Qualified Persons, as defined in National Instrument 43-101 - Standards of Disclosure for Mineral Projects, for the PEA and Technical Report relating to the Spectrum-GJ Cu-Au project: Mr. Stephen J. Godden, C.Eng. - Independent Mining Consultant of North Vancouver, B.C., Project Manager for the PEA and Principal Author of the Technical Report. Mr. David T. Mehner, P.Geo. - Independent Geological Consultant of Coldstream, B.C., Geological Setting and Mineralization, Deposit Types, Exploration and Sample Preparation, Analysis and Security. Mr. Scott A. Britton, C.Eng. - Principal Consultant and Director of SAB Mining Consultants Ltd, of Hamilton, United Kingdom, co-responsible, with the Principal Author, for the Mining Methods, Project Infrastructure and Economic Analysis with particular focus on mine planning, production scheduling and equipment specification. Mr. David G. Thomas, P.Geo. - Geological Consultant and President of DKT Geosolutions, Inc. of Vancouver, B.C., Data Verification and Mineral Resource Estimates. Mr. Christopher J. Martin, C.Eng. - Principal Metallurgist and President of Blue Coast Metallurgy Ltd. of Parksville, B.C., Mineral Processing and Metallurgical Testing, Recovery methods (process flow) and related capital and operating cost estimations. Mr. M. John Brodie, P.Eng. - Principal Consultant and Director of Brodie Consulting Ltd. of West Vancouver, B.C., Environmental Studies, Permitting and Social or Community Impact, with particular focus on the waste and tailings disposal, and water management elements.

The scientific and technical information in this news release has been reviewed and approved by Mr. Michael S. Cathro, P.Geo., Skeena's Vice President, Operations and Mr. Rupert Allan, P.Geol., Skeena's Vice President, Exploration, who are both qualified persons as defined by Canada's National Instrument 43-101.

### **About Skeena**

Skeena Resources Limited is a junior Canadian mining exploration company focused on developing prospective base and precious metal properties in the Golden Triangle region of northwest British Columbia, Canada. The Company's primary activities are the evaluation and development of the Spectrum-GJ copper-gold project as well as exploration on the past-producing Snip gold mine, acquired from Barrick Gold, and the past-producing Porter Idaho silver mine. Skeena's management includes a highly experienced team of mine-finders, including Ron Netolitzky, Chairman of the Board.

On behalf of the Board of Directors of Skeena Resources Limited,



Walt Coles Jr.  
President & CEO

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