1.0 EXECUTIVE SUMMARY

The 2009 Feasibility Update Study (2009 Study) discusses scope, design features and economic viability of the Mt. Milligan Project (Project) in north-central British Columbia (BC), Canada, and incorporates engineering, procurement and permitting since the 2008 Feasibility Study (2008 Study) was issued in April 2008.

The Project is based on a conventional truck-shovel open pit mine and 60,000 tonnes per day (t/d) copper flotation concentrator to be built over a 30-month period at an initial capital cost of $915 million. Commercial production is scheduled to commence Q1 2013. Mine life is forecast to be 22.1 years. All currencies in the 2009 Study are in Canadian Dollars (C$), unless otherwise stated.

The Mt. Milligan copper-gold porphyry deposits contain Proven and Probable reserves of 482 million tonnes (Mt) averaging 0.20% Cu and 0.39 grams per tonne (g/t) Au totalling 2.1 billion pounds (lb) copper and 6.0 million ounces (oz) gold. The near-surface and tabular configuration of the reserves make them well-suited to low unit cost open pit development with a life-of-mine (LOM) waste/ore ratio of 0.84/1.

A comprehensive and systematic metallurgical test work program on composite samples representative of the mine development plan determined that, on average, 84.1% of the copper and 71.4% of the gold will be recovered into a clean and marketable copper concentrate grading 26.4% Cu and 43.7 g/t Au with a minor silver credit. The process plant will utilize large-scale equipment in a simple and conventional single-line flowsheet.

The first six years of the mine plan have been designed to accelerate the extraction of near-surface and higher-grade gold reserves. Gold production will average 262,100 oz per year and account for 55% of the revenue. Copper production will average 89 million lb per year and account for 45%. Net of a copper credit, the gold production cash cost is negative US$8 per oz.

For the 22.1 year mine life, gold production will average 194,500 oz per year and account for 51% of the revenue. Copper production will average 81 million lb per year and account for 49%. Net of a copper credit, LOM gold production cash cost is US$51 per oz.

The Project has a pre-tax Internal Rate of Return (IRR) of 17.2% and a pre-tax Net Present Value (NPV) at 5.0% discount of $1.05 billion with recovery of initial capital in 4.1 years. The Base Case financial model used metal prices of US$2.00/lb Cu, US$800/oz Au, US$11.00/oz silver (Ag) and an exchange rate of US$0.85 = C$1.0 (0.85 US$/C$).

The Tailing Storage Facility (TSF) has been designed for closure. It minimizes Project footprint, eliminates conventional waste rock storage facilities, achieves zero surface effluent discharge during operations and provides effective and safe reclamation.

The Project is in close proximity to existing infrastructure. A skilled work force, railroad headings and low-cost power are all available near the site. The Project is accessible by road and there are no topographic constraints to mine development. Off-site infrastructure-related costs account for only 4.4% of the initial capital cost.

The Project is in the final stages of regulatory approval. It was reviewed under the British Columbia *Environmental Assessment Act;* provincial Environmental Assessment (EA) approval was received in March 2009. In addition, a provincial *Mines Act* Permit was received in September 2009. The Project is currently being reviewed under the *Canadian Environmental Assessment Act;* federal EA approval is expected in Q4 2009. Certain permits required to proceed to construction are anticipated by Q1 2010.

1.1 KEY 2009 STUDY UPDATES

- Optimized open pit Reserves with updated net smelter return (NSR) cut-off, metal prices and foreign exchange rate (FXR) as shown below:

Base Case	NSR Cut-off (US$/t)	Gold (US$/oz)	Copper (US$/lb)	FXR (US$/C$)
2009 Study	4.10	690	1.60	0.85
2008 Study	4.20	550	1.60	0.89

- Increased gold in reserves by 31% to 6.0 million oz, copper in reserves by 33% to 2.1 billion lb and mine life by 45% to 22.1 years with no significant change in Project footprint or initial capital cost.
- Optimized the design of the open pit, TSF, process plant and site layouts. Completed basic engineering of the open pit and process plant.
- Completed Issue for Construction (IFC) documentation for access road, power line, plant site and initial phase of the TSF.
- Placed purchase orders on long-lead mills, crushers, mill motors and the main transformer, representing 15% of total initial Project capital cost.
- Updated cost estimates to Q3 2009, which confirmed capital cost and reduced operating cost.

1.2 INTRODUCTION

Wardrop Engineering Inc. (Wardrop) prepared the 2009 Study to define the scope, design features and economic viability of the Project. The 2009 Study is based on a conventional truck-shovel open pit mine and 60,000 t/d copper flotation process plant that has been designed to produce on average 81 million lb copper and 194,500 oz gold in 138,500 t of concentrate per year over a 22.1 year mine life.

Principal consultants utilized by Terrane Metals Corp. (Terrane) in the preparation of the 2009 Study are:

- Wardrop – processing, infrastructure and financial analysis
- Knight Piésold Consulting Inc. (KP) – TSF design, geotechnical and water supply
- Independent Mining Consultants Inc. (IMC) – geology and mining
- G & T Metallurgical Services Ltd. (G&T) – metallurgical test work
- AMEC Earth and Environmental Inc. (AMEC) – environmental assessment
- Merit Consultants International Inc. (Merit) – initial capital cost estimate and project execution plan
- Butterfield Minerals Consulting Ltd. (Butterfield) – marketing of copper concentrate
- PriceWaterhouseCoopers (PWC) – taxation
- Allnorth Consultants Ltd. (ACL) – access road design
- LEX Engineering (LEX) – power line design

1.3 PROJECT LOCATION

The Project is 155 kilometres (km) northwest of Prince George (population 72,000) in north-central BC. Forestry–based communities Mackenzie (population 5,200) and Fort St. James (population 1,900) are within daily commuting distance of the Project site. Both communities are serviced by rail. Access to low-cost hydroelectric power is available and will require the construction of a 92 km power line.

1.4 PROJECT HISTORY

Limited exploration activity was first recorded in1937. In 1984, prospector Richard Haslinger and BP Resources Canada Limited (BP Resources) located claims on the site. In 1986, Lincoln Resources Inc. (Lincoln) optioned the claims and in 1987 completed a diamond drilling program that led to the discovery of significant copper-gold mineralization. In the late

1980s, Lincoln reorganized, amalgamated with Continental Gold Corp. (Continental) and continued ongoing drilling in a joint-venture with BP Resources.

In 1991, Placer Dome Inc. (Placer Dome) acquired the Project from the joint-venture partners, resumed exploration drilling and completed a Pre-feasibility Study for the development of a 60,000 t/d open pit mine and flotation process plant. Placer Dome received provincial and federal approvals to develop the Project as proposed in 1993. These approvals expired in 2003.

Barrick Gold Corporation purchased Placer Dome in 2006 and sold its Canadian assets to Goldcorp Inc., who then in turn sold the Project to Atlas Cromwell Ltd. Atlas Cromwell Ltd. changed its name to Terrane Metals Corp. and initiated a comprehensive work program upon which the 2009 Study is based.

1.5 DEPOSIT GEOLOGY

Mt. Milligan is a tabular, near-surface, alkalic copper-gold porphyry deposit that measures some 2,500 metres (m) north-south, 1,500 m east-west and is +400 m thick. It consists of two principal zones, the Main Zone and Southern Star (SS) Zone. The Main Zone includes four contiguous sub-zones: MBX, WBX, DWBX and 66, all of which are spatially associated with the MBX monzonite stock and Rainbow Dyke. The SS Zone is centred on a monzonite stock of the same name and is some 500 m south of the Main Zone.

Main Zone mineralization and associated alteration are primarily hosted in volcanic rocks, whereas in the SS Zone, mineralization is hosted equally in monzonite stock and volcanic rocks. Mineralization in both zones consists of pyrite, chalcopyrite and magnetite with bornite localized along intrusive-volcanic contacts. The pyritic 66 sub-zone is notable in that it is comparatively gold-rich.

Copper-gold mineralization is primarily associated with potassic alteration which decreases in intensity outwards from the monzonite stocks. Pyrite content increases significantly outward from the stocks where it occurs in association with propylitic alteration, which forms a halo around the potassic-altered rocks.

1.6 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

The Mt. Milligan copper-gold porphyry deposits contain a Measured and Indicated Mineral Resource of 706.7 Mt at 0.18% Cu and 0.33 g/t Au, containing 2.84 billion lb copper and 7.50 million oz gold (Table 1.1). The Mineral Resource was tabulated within a conceptual open pit at a US$4.10/t NSR cut-off value using US$2.00/lb Cu and US$800/oz Au.

The Mineral Resource estimate is National Instrument 43-101 (NI 43-101) compliant and is based upon a geologic block model that incorporated over 180,000 individual assays from

220,200 m of core drilling in 969 drill holes. Assay data density is sufficient for feasibility-level estimation with drill hole spacing of 25 m to 50 m within both the Main and SS Zones. The drill hole database is supported by some 35,000 quality assurance/quality control (QA/QC) check assays.

Table 1.1 Mineral Resource Estimate[1] (Inclusive of Mineral Reserve)

Category	Mt	Cu (%)	Au (g/t)	In-Situ Cu lb (Million)	In-Situ Au oz (Million)
Measured	334.6	0.197	0.398	1,453	4.28
Indicated	372.1	0.169	0.269	1,386	3.22
Total Measured + Indicated	**706.7**	**0.182**	**0.330**	**2,840**	**7.50**
Inferred	20.5	0.154	0.205	70	0.14

[1] *Mineral Resources are not Mineral Reserves and do not have economic viability*

The Mineral Reserve estimate was developed through the design of an ultimate open pit within the Mineral Resource model. The Proven and Probable Mineral Reserve totals 482.4 Mt at 0.20% Cu and 0.39 g/t Au, containing 2.12 billion lb Cu and 6.02 million oz gold (Table 1.2). The open pit was optimized at a US$4.10/t NSR cut-off value and incorporates costing for milling, plant services, tailing services and general and administrative (G&A) charges and at US$1.60/lb copper, US$690/oz gold and 0.85 US$/C$ exchange rate.

The Mineral Reserve estimate has been classified as 57% Proven and 43% Probable.

Table 1.2 Mineral Reserve Estimate

Category	Tonnes (M)	Cu (%)	Au (g/t)	In-Situ Cu lb (Million)	In-Situ Au oz (Million)
Proven	274.6	0.210	0.438	1,273	3.87
Probable	207.8	0.187	0.322	851	2.16
Total	**482.4**	**0.200**	**0.388**	**2,124**	**6.02**

Both the Mineral Resource and Mineral Reserve take into consideration metallurgical recoveries, concentrate grades, transportation costs and smelter treatment charges in determining NSR values. In addition, the Mineral Reserve incorporates allowances for grade dilution, mining dilution and ore losses.

1.7 METALLURGY

A comprehensive metallurgical test work program for the 2008 Study was carried out on samples composited to represent process plant feed. These samples were obtained from a systematic 32-hole, 7,960 m core drilling program that was completed in 2007.

The test work program included the following:

- optimization of flowsheet and process conditions
- locked-cycle tests to confirm metallurgical response to the selected flowsheet and optimum process conditions
- variability tests to investigate metallurgical responses of samples over a wide range of grades and rock types to optimum conditions
- pilot plant tests to generate concentrate for smelting, thickening and filtration tests.

The flowsheet and process condition optimization test program consisted of 50 open-circuit flotation tests. Primary areas of investigation included primary grind size, pulp pH, reagents, flotation retention times on rougher/scavenger and cleaner flotation circuits and fine regrinding of rougher/scavenger flotation concentrates.

In addition, 42 locked-cycle tests on 22 composites from various zones were completed to confirm their metallurgical response to optimum process conditions established in open-circuit tests. Most locked-cycle tests were done in duplicate.

Following the locked-cycle tests, individual variability tests using the open-circuit technique were performed on 61 samples over a range of grades and ore types to investigate their metallurgical responses to optimum conditions. This was followed by locked-cycle tests on two composite samples made up of individual variability samples to confirm open-circuit variability test results.

And finally, pilot plant tests on a blended 2.5-t composite sample were completed to obtain sufficient concentrate samples for smelting, thickening and filtration tests, as well as tailing samples for environmental tests.

Test work results were used to determine the relationship between mill feed grade, recovery and concentrate grade and to calculate the following 22.1 year average metallurgical parameters:

- copper recovery – 84.1%
- gold recovery – 71.4%
- concentrate grades – 26.4% Cu, 43.7 g/t Au, 80 g/t Ag

Silver production into concentrate has been estimated from a well-documented correlation between silver and gold in the final concentrate and is carried in the financial evaluation.

Grinding characteristics of the Project ore are well understood. Test work programs were undertaken by various laboratories between1989 and 2007. Test work included bench scale standard Bond work and abrasion index determinations, JKTech pendulum tests for the

JKSimMet grinding circuit simulations and a SAG-ball mill pilot-plant scale grinding test. Based on these studies, the grinding circuit has been designed with a power requirement of 48 MW.

1.8 MINING OPERATIONS

Large-scale open pit mining will provide process plant feed at a nominal rate of 60,000 t/d or 21.9 Mt/a. Annual mine production of ore and waste will peak at 44 Mt/a with a LOM waste/ore stripping ratio of 0.84/1. The production schedule summarized in Table 1.3 was developed through eight mining pushbacks and provides early delivery of higher grade Main Zone material to the process plant.

Table 1.3 Production Schedule

Period	Head		Recovery (%)		Average Annual Metal in Concentrate		
	Cu (%)	Au (g/t)	Cu	Au	Cu (million lb)	Au (k oz)	Ag (k oz)
Year 1 – 6	0.215	0.514	87.3	73.6	89.4	262.1	365.3
Year 7 – 22	0.194	0.343	82.8	70.1	77.5	169.3	354.3
LOM	0.200	0.388	84.1	71.4	80.8	194.5	357.3

Key design factors in the mine operations plan include:

- a no-stockpile blending strategy to deliver consistent copper grades to optimize process plant performance
- a smooth waste/ore ratio as mining progresses to ultimate depth
- use of overburden and non acid-generating (NAG) waste rock for downstream TSF embankment construction, eliminating the need for conventional waste rock dumps
- delivery of potentially acid-generating (PAG) and oxide/weathered waste rock to the TSF and Main Zone pit, once depleted, for secure underwater disposal.

Mining operations will be carried out with an initial equipment fleet comprising two 311 mm electric blast hole drills, two 40 m^3 electric cable shovels, one 16 m^3 front end loader and eight 236 t trucks. These will be supplemented with back-up graders, track and rubber-tired dozers. A 15 m bench height has been selected for mining both ore and waste.

1.9 MINERAL PROCESSING

The 60,000 t/d process plant will utilize conventional crushing, grinding, rougher and cleaner flotation to produce a marketable gold-rich copper concentrate. The overall design philosophy was to select large equipment in order to maintain a simple and conventional single line flowsheet.

Key process equipment will consist of:

- primary crushing plant with a 153 x 287 mm (60" x 109") gyratory crusher
- SAG/ball mill/crusher grinding circuit:
  - one 12.20 m diameter x 6.71 m (40' x 22') EGL 22 MW SAG mill
  - two 7.32 m diameter x 12.50 m (24' x 41') EGL 13 MW ball mills
  - two 600 kW pebble crushers
- flotation circuits:
  - rougher flotation: two parallel trains of five 200 m^3 tank cells
  - first cleaner flotation: seven 100 m^3 tank cells
  - second and third cleaner flotation: six 30 m^3 tank cells
- regrinding and gravity concentration circuits:
  - five 1.1 MW Tower regrind mills
  - one centrifugal gold concentrator

Run-of-mine ore will be crushed to 80% passing 150 mm and then ground to 80% passing 220 microns prior to flotation. The rougher/scavenger flotation circuit will produce a high-grade rougher concentrate and a lower-grade rougher/scavenger concentrate. These concentrates will be separately re-ground in a tower mill circuit and then upgraded by three cleaner flotation stages to produce a final flotation concentrate grading on average 26.4% Cu, 43.7 g/t Au and 80 g/t Ag. LOM copper recovery will average 84.1% and gold recovery 71.4%. A gravity circuit will recover coarse metallic gold. The gravity concentrate will be combined with the thickened final flotation concentrate, pressure-filtered to 9% moisture, stockpiled and then trucked to the railhead load-out facility at Fort St. James.

1.10 TAILING STORAGE FACILITY

The TSF has been designed to contain 439 million m^3 of material and will require 70 million m^3 of construction material, of which 96% will be waste rock and overburden from the open pit. Use of open pit materials is fully integrated into the mine plan and will eliminate the need for a conventional waste rock storage facility. Design and location of the TSF adjacent to the open pit will minimize the Project footprint and allow for simple and effective water management at closure.

Design of the TSF is supported by extensive geotechnical site investigations. The embankment will be constructed by the centreline method using a zoned earthfill/rockfill structure with a compacted till core and filter zones.

NAG final rougher/scavenger tailing will account for 89% of tailing material delivered to and stored in the TSF. PAG cleaner tailing will account for 11% of the material and will be stored underwater in a separate cell within the TSF. In the last four years of mill operations, PAG cleaner tailing will be stored in the depleted Main Zone pit.

1.11 ENVIRONMENT & PERMITTING

The Project design includes a comprehensive water management plan for construction and operations and a simple and effective water management plan at closure. No surface water will be discharged from the mine site to local streams during operations. The closure plan employs proven practices and is not dependent on long-term active treatment. All Project components will be decommissioned and reclaimed according to best industry practices and provincial and federal regulations.

The Project was reviewable under both the British Columbia *Environmental Assessment Act* and the *Canadian Environmental Assessment Act.* An EA Application (or Environmental Impact Statement) was filed in July 2008. Provincial and federal agencies, First Nations and stakeholders participated in a harmonized review of the EA Application. Provincial EA approval was received in March 2009 and federal EA approval is anticipated in Q4 2009. The federal responsible authorities state in their EA report, which is currently in final public review, that the Project is not likely to cause significant adverse environmental effects.

The provincial Mines Act Permit was received in September 2009, and the balance of the approvals required to proceed to construction are anticipated in Q1 2010. All regulatory applications and approvals have been based on the 2008 Study with a 15 year mine life. Terrane will seek appropriate regulatory amendments if required for additional mine life, but this is not expected to impact commencement of construction.

1.12 COMMUNITY SUSTAINABILITY

In 2006, Terrane initiated a consultation program with local communities and First Nations. In May 2008 the Company convened a Community Sustainability Committee of community stakeholders and First Nations as the primary mechanism for ongoing engagement and to maximize regional benefits from the Project.

Approximately 400 permanent jobs will be created at the Project. The construction workforce will average 400 workers and peak at 700 workers. Terrane is committed to maximizing local employment and contracting opportunities and will work with community partners on training programs to prepare local residents for employment.

1.13 INITIAL CAPITAL COST

The initial capital cost as described within this 2009 Study is $915 million, as shown in Table 1.4 at an exchange rate of 0.85 (US$/C$).

The 2009 Study incorporates additional mine planning, engineering, detailed design, updated cost estimation and purchase orders of $137 million for long-lead equipment. The initial capital cost includes requirements of regulatory approvals. Final designs of several critical path components including access road, plant site, power line and initial phase of the TSF are now construction-ready.

Table 1.4 Initial Capital Costs

Description	Cost (Million $)
DIRECT	
Plant Site Infrastructure	26
Mining & Pre-Production Development	169
Process	276
Ancillaries	22
Power Supply and Distribution	70
Tailing and Water Reclaim	77
Subtotal	**640**
INDIRECT	
Owner's Costs	26
EPCM	52
Other Indirects	101
Subtotal	**179**
TOTAL DIRECT + INDIRECT	819
Contingency (11.8%)	96
TOTAL INITIAL CAPITAL	**915**

1.14 OPERATING COST

On-site operating costs were estimated at $6.96/t of ore milled as shown in Table 1.5. The 2009 Study incorporates additional mine planning, engineering, detailed design and updated cost estimation. The operating cost includes requirements of regulatory approvals.

Table 1.5 Operating Cost

Area	Unit Cost ($/t milled)
Mining	2.35
Processing	3.89
General and Administrative	0.57
Plant Services	0.15
Total Operating Cost	**6.96**

Offsite costs contemplate delivery of copper concentrate to Pacific Rim Asian smelters. Concentrate from the Project site will be trucked 82 km to a storage and loadout facility at Fort St. James and transferred onto railcars for transport to port storage facilities at Vancouver Wharves in North Vancouver. The concentrate is expected to be highly marketable and below penalty levels for deleterious elements.

1.15 FINANCIAL EVALUATION

An economic evaluation was prepared for the Project based on a pre-tax financial model. For the 22.1 year mine life and 482 Mt Mineral Reserve, the following Base Case financial parameters were calculated:

- 17.2% IRR
- 4.1 year payback on $915 million initial capital cost
- $1.05 billion NPV at 5.0% discount.

Three metal price scenarios and a constant FXR of 0.85 (US$/C$) were used in the pre-tax model to evaluate sensitivity of NPV, IRR and payback. Base Case, Base Case minus 10% and Current Case metal prices are shown in Table 1.6. Project NPV, IRR and payback for all three metal price scenarios are presented in Table 1.7.

Table 1.6 Metal Price Scenarios

Case	Copper (US$/lb)	Gold (US$/oz)	Silver (US$/oz)
Base	**2.00**	**800**	**11.00**
Base -10%	1.80	720	9.90
Current	2.80	1000	16.50

Note: *Current prices are as of September 15, 2009*

Table 1.7 Pre-Tax NPV, IRR and Payback by Metal Price Scenario

Case	NPV at Selected Discount Rates (Million $)			IRR (%)	Payback (Years)
	8%	5%	0%		
Base	**619**	**1,047**	**2,392**	**17.2**	**4.1**
Base -10%	313	632	1,644	13.0	5.1
Current	1,630	2,415	4,877	28.6	2.4

The financial models include working capital of $42 million, sustaining capital of $264 million, reclamation and closure costs of $32 million, a residual salvage value of $38 million, and a 2% NSR royalty.

A matrix illustrating the sensitivity of the Project economics over a range of metal prices is shown in Table 1.8. All other parameters including exchange rate, capital cost, and operating costs were fixed.

Table 1.8 Pre-tax Matrix

		Copper Price (US$/lb)			
		$1.50	**$2.00**	**$2.50**	**$3.00**
Gold Price (US$/oz)	**700**	1,025	1,911	2,798	3,783
		295	773	1,250	1,781
		9.1%	14.4%	18.8%	23.3%
		6.3	4.7	3.7	3.0
	800	1,505	**2,392**	3,279	4,264
		570	**1,047**	1,525	2,055
		12.5%	**17.2%**	21.4%	25.6%
		5.2	**4.1**	3.3	2.7
	900	1,986	2,873	3,760	4,745
		844	1,322	1,799	2,329
		15.5%	19.8%	23.8%	27.8%
		4.4	3.6	2.9	2.4
	1000	2,467	3,354	4,241	5,226
		1,119	1,596	2,073	2,604
		18.2%	22.3%	26.1%	30.0%
		3.9	3.2	2.7	2.2

Legend
NPV 0% (million C$)
NPV 5% (million C$)
IRR (%)
Payback (Years)

1.16 PROJECT EXECUTION SCHEDULE

The Project execution schedule includes the following key milestones:

- Receipt of remaining environmental approvals and permits:
  - Federal EA approval – Q4 2009
  - Construction permits – Q1 2010
- Procurement of long-lead equipment:
  - Confirm existing purchase orders for grinding mills, crusher, mill motors and main transformers – Q1 2010
  - Order major mining equipment – Q2 2010
  - BC Hydro substation upgrade payment – Q2 2010
- Construction Activities:
  - Mobilize to site – Q2 2010
  - Complete power line to site – Q4 2011
  - Commence pre-production stripping – Q2 2012
  - Complete construction for initial stage of TSF – Q4 2012
  - Commission process plant – Q4 2012
  - Commercial production – Q1 2013.

1.17 RECOMMENDATIONS

Based on the findings of the 2009 Study, it has been concluded that the Project is economically viable. It is recommended that Terrane proceed with detailed engineering, procurement, construction, and commissioning to target commercial production in Q1 2013.