DRAFT MEMORANDUM

TO: MR. DALTON B. DUPASQUIER,

PRESIDENT & CEO NEW CANTECH VENTURES INC.

DATE: DEC. 24, 2006

FROM: ANDREW HARA, P. ENG.

SUBJECT: <u>UNDERGROUND MINING SCENARIO – LUCKY SHIP DEPOSIT</u>

GENERAL

Hara Mining Enterprises Inc. has been retained by New Cantech Ventures Inc. to prepare a Preliminary Assessment of the Lucky Ship Molybdenum deposit located in British Columbia for extraction using underground mining methods.

The estimates used in the Preliminary Assessment are order of magnitude level. They intend to provide indication of potential mining costs and rate of production, based on the assumed mining scenario and comparisons with other hard rock mining operations that exploit deposits with similar physical characteristics to the Lucky Ship deposit.

The mine development and construction costs were estimated in comparison with other mining projects being currently under construction in Canada and elsewhere.

The unit costs of production were estimated based on proposed manpower levels, rate of production and size and number of equipment to be used in the development and production cycles of the potential mining scenario.

The project is at a stage that requires more information and sample data before any definitive assessments can be made regarding mining methods and costs. In particular, an in-depth geotechnical assessment is required to validate the proposed mining scenario in terms of mine stability and sustainability of the proposed mining production rate.

DEPOSIT CONFIGURATION

The Lucky Ship deposit is contained within approximately 300 x 200 metres, concentric, annular-oval zone surrounding a 200 x 120 metres porphyry granite plug. The deposit dips almost vertically and its average thickness ranges

from 25-80 m. It is open at depth and the deepest diamond drill hole showed over 350 metres of mineralization. The top of the deposit is approximately at surface elevation and is covered with a relativoly shallow overburden material consisting of sands and gravels. The overburden thickness varies between a few centimetres to a few metres and in many areas the deposit outcrops on surface.

GEOTECHNICAL CONSIDERATIONS

The reviewed RQD values from diamond drilling data show that the host rocks and the deposit itself exhibit very variable physical properties ranging from weak to strong with frequent fractures and different magnitude local faults, sometimes filled with weak gouge material. The strength of the hanging wall, footwall and the deposit itself can be classified as fair to good. In light of this, the development excavations would have to be screened and rock bolted on a regular pattern.

The almost vertical configuration of the deposit, should allow for relatively high open stope geometries, but with narrow back spans due to frequently reported fractures and weak zones in the deposit. HME is of the opinion that the narrow back spans impose constraints in achieving high production rates if any open stope concept is selected. Therefore, the sublevel long hole caving method appears to be the most productive and suitable underground method for the Lucky Ship deposit.

Additional geotechnical Investigation is needed to establish appropriate ground control requirements, sublevel configuration and stope sizes.

MINING METHOD SELECTION

The Lucky Ship deposit appears amenable to application of a fully mechanized underground bulk mining method due to its size and configuration. Three suitable methods for the underground extraction of the Lucky Ship deposit are listed below with brief descriptions.

> <u>Transverse Sublevel Caving method</u>. This method would provide around 80 to 85% mining extraction of mineable resources with 15-20% dilution. The mining extraction would start at the top of the deposit and proceed down dip. The transverse sublevel caving scenario appears to be the most suitable and inexpensive underground mining method for the Lucky Ship deposit configuration and its physical characteristics. In particular, it would cope with potentially weak ground conditions associated with the deposit settings very effectively.

- <u>Stope and Pillar concept.</u> The mining extraction rate would be in an order of 60-75% of mineable resources with around 10% dilution. The mining extraction would start at the top of the deposit and proceed down dip. Permanent pillars composed of mineralized material would have to be left in place for the stability of the mine. Some parts of the pillars would be amenable to secondary extraction at a later time. The application of this method would allow for a relatively short preproduction time and in turn an early production start up. This method is characteristic for its low operating cost.
- Stopes with temporary pillars and delayed backfill. This method would achieve a high mining extraction level, in the order of 90-95% of mineable resources with around 10% dilution. The mining extraction would have to start from the lowest parts of the deposit and progress upward towards the surface. In this scenario, the preproduction time would be much longer than in the method mentioned above. Additionally, this method due to application of backfill has significantly higher operating cost, \$4-\$5/tonne more, in comparison with the method mentioned above. The mill tailings would be utilized in a form of pastefill for backfilling mined out stopes. As a trade off, the use of tailings as pastefill would allow reducing tailings storage volume on surface by about 50% and in turn, lower the environmental impact of the operation on the surrounding area.

SUBLEVEL CAVING METHOD

MINE ACCESS AND DEVELOPMENT

The deposit would be accessed with the use of one or two short temporary adits, internal ramp and a truck haulage decline. Fresh air would be provided to the mine by two ventilation raises. The adits, internal ramp and the truck haulage decline, in a combination with the ventilation raises, would provide mine access and proper ventilation of the mining areas and development headings. See Fig. 1 and 2 attached in the Appendix.

The internal ramp could be connected with the surface for additional access and delivery of materials and equipment to the mine. The internal ramp's connection with the surface would bring additional benefits for example, a second access-egress to and from the mine and a return airway.

In addition to the above mentioned excavations, the underground infrastructure would comprise of a central ore pass, ore handling facilities,

sublevel drifts with production x-cuts, and a number of auxiliary installations to support the mining operation.

A fleet of development jumbos, bolter, mechanical scaler, production drills, loaders, trucks, and auxiliary equipment would be used to pre-develop the mine and keep the mine's ongoing development and stoping preparation on schedule to meet the production targets.

Major mine infrastructure as internal ramp, sublevel drifts, ventilation raises and ore pass would be located inside of the porphyritic plug, which is surrounded by the deposit. The truck haulage decline would be collared outside of the plug on the downhill (southeast) side of the deposit. A properly sized access pillar would be established around sections 15-50E and 16-50E of the deposit, for the protection of the truck haulage decline. This pillar would be recovered in a retreat fashion at the end of the mine's operation life.

PRODUCTION

Prior to commencing production, the surface area above the top of the deposit would have to be cleared of trees and stripped of overburden cover.

The first 50 metres, or more, of the upper portions of the deposit would be mined as an open cut. Extraction would be done concurrently from surface and underground with the use of underground equipment. The open cut would be prepared and excavated using an open stope concept approach and especially designed draw points for recovery of the broken material. The open cut would not require any waste rock stripping or removal.

The open cut is needed for exposing and initiation of self caving of the hanging wall. As soon as the progression of the open cut extends over the entire strike length allowed for mining, the sublevel caving mining would commenced below and continue down depth till reaching the deposit bottom.

The mine production would start from the higher grade mineral resource located on the nerthwest side of the deposit. This would allow early processing of higher grades and generate additional revenue by the operation.

The stoping areas would be prepared by a series of x-cuts developed from the sublevel drifts through the deposit. The sublevel spacing would be 25 to 30 metres. The x-cuts would be spaced at 17-18 metres apart and driven perpendicularly to the deposit strike line and would terminate on the outer side of the deposit at the contact with the hanging wall. See Fig. 4 and 5 attached in the Appendix.

The x-cuts would be 4.5 m x 5 m in cross section and their length would be from approximately 40 to over 100 m depending on the deposit thickness. The x-cuts would be used for production drilling and blasting, and loading and hauling away blasted mineralized material. See Fig. 3 attached in the Appendix. The production blast holes would be up-drilled in a fan formation spaced at 3.2 to 3.5 m. The blast hole size would be 114 mm diameter. Pumpable emulsion would be used to load the production holes. A single production drill fan would yield from 3,200 to 3,600 tonnes of material per blast. This would require 2 separate single fans to be blasted per day to maintain the scheduled production of 6,000 tonnes per day.

The full production capacity would be reached shortly after the open cut mining commencement.

The sublevel caving method has been successfully used in many operations around the world. The most famous and highly mechanized and automated are the Kiruna and Malmberger mines in Sweden. Others as Norita, Stobie, Frood and Murray mines used sublevel caving methods quite successfully in Cenada

In case of the Lucky Ship deposit additional geotechnical investigation is required to determine the final parameters for the successful sublevel caving. It is important that the hanging wall is caved predictably, as the mining progresses with depth. The open cut idea is to expose the hanging wall over 50 metres high and allow its gradual collapse as the mining progresses with depth below. The caving material, from the hanging wall, would create a so called "Blanket" of lower grade material and waste over the top of blasted mineralized material.

The caving material must provide a sufficient cover on the top of the blasted ore and not occur as large infrequent events, whose shock waves could endanger personnal and would damage the mine workings.

OPEN STOPE CONCEPT WITH PERMANENT PILLARS

MINE ACCESS AND DEVELOPMENT

The primary mine access development and sublevel arrangement would be the same as for the sublevel caving method. See Fig. 1 and 2 attached in the Appendix.

The stope sublevel development would be spaced at approximately 25 m vertical intervals. The sublevels would be located inside the porphyry plug on the footwall side and at a relatively close distance, 10-15 m, from the deposit. The x-cut's horizontal spacing would be from 20 to 25 metres.

PRODUCTION

Vertical individual stope rib pillars would be formed between the stopes during mining extraction. Most of these pillars would be left permanently in place for providing stability of the mine and the hanging wall. Based on an average 25-80 metres thickness of the deposit it appears that stopes 10-15 metres wide and 25 metres high, separated by 8-10 metres wide vertical rib pillars, would be extracted using sublevel open stoping method. In the thick parts of the deposit, over 25 metres, two to three transverse stopes would be excavated in the same mining panel each separated from the other by cross pillars aligned along the strike line. Some of the pillars or their parts would be recovered at some time later.

On average a stope would yield approximately 20,000 to 25,000 tonnes of mineralized material. The stopes after completion of the extraction process would be left open.

The above assumptions have to be validated by geotechnical investigations and modeling of the stope-pillars configuration and stability performance for the safety of mining extraction and maintaining relative stability of the hanging and foot walls.

The pre-production period would take about one year before production could commence.

The full production capacity would be reached in approximately four to six months from the start of production.

OPEN STOPE WITH PILLARS AND DELAYED BACKFILL

MINE ACCESS AND DEVELOPMENT

The primary mine access development would be the same, as the sublevel caving method. See Fig. 1 and 2 attached in the Appendix.

The stope sublevel development would be spaced at approximately 25 m vertical intervals. The sublevels would be located inside the porphyry plug on the footwall side and at a relatively close distance, 15-20 m, from the deposit. The x-cut's horizontal spacing on average would be at 12-15 metres.

PRODUCTION

The stopes would be divided into primary and secondary. The primary stopes would be excavated in a sequence and subsequently backfilled with paste fill generated from the mill tailings using around 4.5% Portland cement or a mixture of Portland cement with flay ash. After 7 to 8 weeks of backfill curing time the secondary stopes, forming temporary pillars, would be excavated in the same fashion as the primary stopes.

The secondary stopes would require around 2 to 2.5% cementation material since their high walls will no longer require exposure to mining. The 2 to 2.5% cementation mixture is needed to consolidate the paste and prevent it from potential liquefaction.

An average stope would yield from 20,000 to 25,000 tonnes of mineralized material.

The pre-production time with this method would be the longest of the two described earlier. It would take from one and half year to two years before production could commence. The full production capacity would be reached in half a year from the production commencement.

MINE CAPITAL COSTS

The capital costs for underground mines can vary widely, depending upon the nature of the deposit and the production rate. In the case of the Lucky Ship deposit, HME would expect the pre-production capital cost, including 20% contingency, for the development of the underground mine using sublevel method scenario described above, to be in an order of \$38.14 million and when is fully developed it could reach about \$62.5 million.

Based on a 30 million tonnes deposit the capital cost would equate to about \$1.27/tonne of material in the pre-production stage and \$2.08/tonne, when the mine is fully developed.

The following table summarizes the capital cost estimate for the Lucky Ship deposit. The cost estimates are preliminary and reflect an order of magnitude approach at this stage of the project development.

TABLE No. 1 CAPITAL COST ESTIMATE

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DESCRIPTION	UNIT	ESTIMATED COST CD\$	
		PRE-PROD	TOTAL
Site Mobilization	LS	500,000	500,000
Portals (upper temporary Adit and main Decline)	3	200,000	600,000
Upper temporary Adit and Top Sublevel Drift (northwest side only)	300	1,050,000	1,050,000
Maine Haulage Decline down to 970 m level	500	2,000,000	2,000,000
Ventilation Raises (4 m diametre x 250 m length)	500	2,000,000	2,000,000
Sublevel 1050	300	1,050,000	1,050,000
Sublevel 1025 and Ore Pass Access System	400		1,400,000
Sublevel 1000 and Ore Pass Access System	400		1,400,000
Sublevel 975 and Ore Pass Access System	400		1,400,000
Sublevel 950 and Ore Pass Access System	400		1,400,000
Sublevel 925 and Ore Pass Access System	400		1,400,000
Sublevel 900 and Ore Pass Access System	400		1,400,000
Ore Pass	170	510,000	510,000
Truck Loading Arrangement on Level 850	LS		700,000
Internal Ramp from level 1050 down to 850 level	3000	2,500,000	10,500,000
Miscellaneous Development	LS	2,000,000	2,000,000
Ventilation Fans and Air Heating Systems	LS	1,000,000	1,500,000
Electrical Distribution System	LS	1,000,000	1,500,000
Mine Dewatering System including Settling Pond	LS	1,000,000	1,000,000
Compressors and Compressed Air Distribution System	LS	1,200,000	2,000,000
Mine Services	LS	1,000,000	2,000,000
Mobile Equipment Fleet	LS	14,780,000	14,780,000
SUBTOTAL		\$31,790,000	\$52,090,000
Contingency (+20%)		\$6,358,000	\$10,418,000
TOTAL		\$38,148,000	\$62,508,000

MINE MANPOWER

The estimates for the manpower assume the operation would be working 365 days per year on two 10 hour shifts per day. Four crews would be needed to cover the site rotation requirements based on two weeks on and two weeks off. The mine would initially be developed by a contractor and quickly transitioned to own crew operating facility.

In the cost estimates, there is no provision for a site camp to accommodate employees or for the employee's transportation costs to the site.

TABLE No. 2 MANPOWER ESTIMATE BASED ON FOUR CREWS SCHEDULE

ITEM NO.	POSITION	NUMBER OF EMPLOYEES PER 10 HOURS SHIFT ON SITE	TOTAL NUMBER OF EMPLOYEES
1	Development Miners	4	16
2	Production Miners	7	28
3	Helpers	2	8
4	Truck Drivers	4	16
5	Maintenance Department	8	32
6	Electrical Department	2	8
7	Construction and Service Crews	4	16
8	Supervision, Safety and Training	5	18
9	Surface Support Crew	2	8
10	Engineering and Surveying	3	6
11	Geology and grade control	3	6
	TOTAL	44	162

MINE EQUIPMENT

The mine equipment requirement estimates were based on the assumed development and production targets and using first principle rule for productivities assumptions. The capital costs estimates are based on purchasing and commissioning of brand new equipment. The allowance for spare parts and major overhauls is covered by the 20% contingency included in the total capital costs estimates for the project.

EQUIPMENT TYPE	Units	Unit cost	lotal Cost
Development Jumbos	2	750,000	1,500,000
Bolter	1	500,000	500,000
Cable Bolter	1	750,000	750,000
Block Holing Rig	1	350,000	350,000
Longhole Production Drill	3	600,000	180,0000
Grader	1	280,000	280,000
Scaler	1	250,000	250,000
Loaders 16.5 tone	4	750,000	3,000,000
Loaders 11 tone	2	550,000	1,100,000
Trucks 50 tonne	4	650,000	2,600,000
Trucks 22 tonne	1	400,000	400,000
Scissor Lift	1	200,000	200,000
Fuel-lube truck	1	250,000	250,000
Crane Truck	1	150,000	150,000
Fork Lift	1	200,000	200,000
Explosives Carrier-Charger	1	450,000	450,000
Shotcrete Applicator Truck	1	250,000	250,000
Shotcrete Mixer Truck	1	150,000	150,000
Diamond Drill	1	150,000	150,000
Auxiliary Vehicles and Man Carriers	10	45,000	450,000
TOTAL	39		14,780,000

FABLE No. 3 MOBILE EQUIPMENT LIST AND ACQUIRING COST ESTIMATE

MINE VENTILATION AND HEATING REQUREMENTS

Mine ventilation volumes were estimated against the planned underground diesel fleet. HME factored down the power of some of the support units since they will not be operating continuously. A standard industry factor of 100 cubic feet/min/BHP was used to estimate the total ventilation requirement to dilute diesel exhaust. Based on this estimate the mine will need approximately 800,000 cfm of ventilation flow.

The cost of ventilating the mine is included in the energy cost item provided in Table No. 6.

HME estimated the annual propane consumption that would be required to heat the mine's air in the winter to prevent underground freezing. An estimated 4.6 million liters of propane per year would be needed to heat the mine air.

The heating cost estimate was made by comparison with other northern Canadian mines and the cost of the propane is included in the energy cost estimates for the project.

OPERATING COST

The operating cost estimate is based on a seven days per week, 365 day operation using two 10 hour shifts per day at a nominal production rate of 6,000 tonnes per day of mineralized material and 750 tonnes of development waste rock.

In HME's opinion, the operating cost based on the above production schedule and utilizing transverse sublevel caving method would be approximately \$15.77/tonne. The estimates are provided in the following tables:

FUNCTION	UNIT DESCRIPTION	NUMBER	OP. H/Y	\$/0P.HOUR	OP. COST/Y
Man Transportation	Tractors/Jeeps	10	9,000	10	900,000
Support	Forklift	1	1,400	28	39,200
	Crane Truck	1	1,000	16	16,000
	Scissor Lift	1	1,000	25	25,000
Development	2 Boom Jumbo	2	4,700	64	601,600
	11 Tone LHD	2	5,000	40	400,000
	22 Tone Truck	1	3,500	35	122,500
	Bolter	1	2,000	50	100,000
	Cable Bolter	1	1,000	50	50,000
	Shotcrete Applicator	1	800	50	40,000
	Shotcrete Truck mixer	1	800	25	20,000
					0
Production	16,5 Tone LHD	4	12,000	70	3,360,000
	Long Hole Drill	3	12,000	95	3,420,000
	Explosives Truck	1	1,500	28	42,000
	Haulage Truck	4	14,000	50	2,800,000
	Blockholer	1	700	50	35,000
					0
Miscellaneous	Grader	1	2,000	30	60,000
	Diamond Drill	1	3,000	50	150,000
	Fuel Lub Truck	1	3,000	17	51,000
	Scaler	1	500	25	12,500
TOTAL		39			12,244,800
Cost/Tonne Milled					5.59

TABLE NO. 4 EQUIPMENT OPERATING COST ESTIMATE

		Ι	SALARY			COST \$/YEAR
EUNCTION	POSITION	NO. OF	OR	BONUS	ALL-IN RATE \$/H	(INCL. FRING
Function	POSITION	EMPLOTELS	WAGES	\$/100K		
Supervision	Cupatintendent		125.000			156 250
			125,000			156,250
	Wine Captain		90,000			225,000
			90,000			112,500
	Eoromon	10	30,000			937 500
	Foreman Sefety/Training		75,000			281 250
	Mino Clork	3	40,000			100,000
		20	40,000			\$1 925 000
Boudenment		20		-		\$1,920,000
Development	Drift Minor	12	25	10	25	1 050 000
			25	10	30	1,050,000
	Boller Operator	4	24	10		\$1 200 000
SUBTUTAL		10				\$1,390,000
Production		10		10	24	1 020 000
	Production Drill	12	24	10	34	1,020,000
	Operator	12	24	10	34	1,020,000
	Blaster	4	25	10	35	350,000
	Haulage Truck	16	24	10	34	1,360,000
	Helper	8	18	5	23	460,000
SUBTOTAL		52				\$4,210,000
Maintenance						
	Mechanics	30	24	5	29	2,175,000
	Electricians	8	24	5	29	58,0000
	Maintenance Planer	2	24	5	29	145000
SUBTOTAL		40				\$2,900,000
Mine Services						
	Construction Miner	16	24	5	29	1,160000
SUBTOTAL		16				\$1,160,000
Surface						
Support Crew	Onorman	0	10	F	22	460.000
		0	10	5	23	\$460,000
Technical		0				\$400,000
Services						
	Chief Engineer	1	90,000			112,500
	Mine Engineer	2	80,000			200,000
	Surveyor/Technician	4	50,000			250,000
	Environmental	1	70.000			87 500
	Senior Geologist	1	80,000			100,000
	Geologist	3	70 000			262,500
SUBTOTAL		10	. 0,000		To	1 012 500
TOTAL		12				\$12 0E7 E00
PER TONNE		164	<u> </u>			\$13,007,500
MILLED						\$5.96

TABLE No. 5 MINE LABOUR COSTS ESTIMATE

MINE COST ITEM	COST \$/TONNE
Labour Cost	5.9
Equipment Cost	5.5
Energy and Ventilation	2,7
Supplies	2.7
SUBTOTAL	14.3
Contingency at 20%	1.4
TOTAL PER TONNE MILLED	15.7

TABLE No. 6 DIRECT OPERATING COST ESTIMATE PER TONNE MILLED

EXCLUSIONS

The costs of tree clearing and overburden removal from the deposit surface expression are not included in the estimate.

The general and administration cost estimates cover only the mine supervision and engineering. These costs do not include site general and processing administration costs.

In the cost estimates, there is no provision for site camp to accommodate employees or for the employee's transportation costs to the site.

The Mine Offices would to be located in the General Administration Building.

The mine equipment would be served and repaired in the General Shop located at the Processing Facility.

The cost of Feasibility Study, permitting and EPCM are omitted in the above estimates.

CONCLUSIONS AND RECOMMENDATIONS

HME believes that the most suitable, safe and lowest operating cost underground method for the Lucky Ship deposit is the sublevel caving method. The size and configuration of the Lucky Ship deposit would allow a production rate in an order of 6,000 tonnes per day.

HME prepared and assessed the presented mining scenario by using an order of magnitude approach. The resulting cost estimates are in the range of 20-30% accuracy level.

It is important to note that in the past few years, the cost of materials, fuel, energy and skilled labour has risen significantly. This situation was to a great extent, accounted for during the process of the Preliminary Assessment.

The mining industry is currently faced with unprecedented shortages of skilled workers and high costs for materials and equipment. The skilled labour shortage is an acute problem facing the mining industry and may continue for some unforeseeable time.

In conclusion, HME balieves the operating costs for the Lucky Ship deposit are likely to be in the range of \$15 to \$16 per tonne milled and the preproduction capital costs at \$38.14 million and \$62.5 million, when the mine is fully developed.

The capital and operating cost estimates include 20% contingency. There are no separate items to cover for major equipment overhaul and potential future project costs in the operating cost estimates. Instead, these costs are included, along with others, in the contingency allowance of 20%.

HME recommends that NCV review the mine costs in more detail in the next phase of work.

Andrew Hara, P. Eng

Principle Hara-Mining Enterprises Inc.

See Appendixes on the next pages.

Appendixes:

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