

## **TOBURN GOLD PROPERTY**

**Teck–Lebel Townships, Larder Lake Mining Division, Ontario**

### **PROJECT DEFINITION / SCOPE OF WORK FOR THE APPLICATION FOR AN EXPLORATORY LICENCE OF OCCUPATION**

Date Submitted: November 23, 2015

Submitted by: Canadian Malartic Corporation  
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Submitted to: Ministry of Northern Development, Mines and Forestry  
Mineral Development and Lands Branch  
Willet Green Centre  
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- Aboriginal Engagement ActivitySummary Report
- March 2015 Update Meeting

# TOBURN GOLD PROJECT

## PROJECT DEFINITION

### 1. INTRODUCTION AND SUMMARY

#### 1.1 Name & Address of Proponent

Exploration Office Address:

CANADIAN MALARTIC CORPORATION  
72 Upper Canada Dr.  
Dobie, ON P0K 1B0

Mailing Address:

CANADIAN MALARTIC CORPORATION  
P.O. Box 996  
Kirkland Lake, ON P2N 3L1

Canadian Malartic Corporation, referred to as “CMC” or “the Company” in this report, is a Canadian resource company, jointly owned by a 50%-50% partnership between Yamana Gold Inc. (“Yamana”) and Agnico Eagle Mines Limited (“Agnico”). CMC’s core business is focused on gold exploration and mining production in Ontario and Quebec. The Company owns a 245 km<sup>2</sup> exploration project in northeastern Ontario called Kirkland Lake Gold Property that surrounds the Toburn Gold Property. CMC is the main partner of Canadian Malartic GP which operates the Canadian Malartic Gold Mine located in Malartic Quebec. The Malartic Mine, currently one of the largest gold mines in Canada, started operations in 2011 with an estimated mine life to 2028. Parent companies, Agnico and Yamana, are senior gold producers with exploration and development projects and mines in the North and South Americas and in Europe.

Agnico is a company incorporated under the Business Corporations Act (Ontario). Agnico's head office and registered office is located at

Agnico Eagle Mines Limited  
145 King Street East, Suite 400,  
Toronto, Ontario, M5C 2Y7.

The common shares of Agnico are listed for trading on the TSX under the symbol "AEM" and on the NYSE under the symbol "AEM".

Yamana is a company existing under the CBCA. Yamana's head office is located at

Yamana Gold Inc.  
200 Bay Street, Royal Bank Plaza, North Tower, Suite 2200,  
Toronto, Ontario, M5J 2J3

With its registered office located at

Yamana Gold Inc.  
2100 Scotia Plaza, 40 King Street West,  
Toronto, Ontario, M5H 3C2.

The common shares of Yamana are listed for trading on the TSX under the symbol "YRI" and on the NYSE under the symbol "AUY".

## 1.2 Co-Proponents

None.

## 1.3 Purpose of the ELO - Exploration, Advanced Exploration, Production

The Toburn Gold Property, a former gold producer located in the Town of Kirkland Lake, is currently an inactive Brownfield Site with over \$2M<sup>1</sup> in identified mine hazard liabilities. The Province of Ontario is the current owner of the mineral rights with property care and maintenance assigned to the Ontario Ministry of Northern Development and Mines, ("MNDM")<sup>2</sup>. In this Exploratory Licence of Occupation ("ELO") application, CMC proposes to undertake a \$12.4M exploration program at Toburn to,

- a) produce, in the event of positive results, a NI 43-101<sup>3</sup> compliant gold resource that would support an advanced exploration decision and possibly mine production, and
- b) commence a progressive remediation program that will continue to safeguard the public from existing mine liabilities and to identify, assess and perform geotechnical evaluations on mine hazards.

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<sup>1</sup> M = million

<sup>2</sup> Ontario Ministry of Northern Development and Mines ("MNDM"); also referred in this report as its previously known acronym MNDMF = Ontario Ministry of Northern Development, Mines and Forestry

<sup>3</sup> National Instrument 43-101 'Standards of Disclosure for Mineral Projects' within Canada is a rule developed by Canadian Securities Administrators ("CSA").



Exploration and remediation activities will be guided by ELO terms and conditions over a 10-year period with the following program highlights:

- a two-phase, surface diamond drill program totalling 51,245 metres from 48 drillholes and 16 wedge off-sets,
- a tailings sampling and metallurgy program involving 19 percussion drillholes each having an anticipated depth less than 10 metres and a pre-feasibility study for possible removal of existing gold tailings to a mill facility for processing,
- to commence a progressive remediation program of existing mine hazards through the development of a monitoring system and through shaft cap assessment with selective cap replacements where needed and prioritized crown pillar testing,
- in the event of positive results, generate an underground NI 43-101 gold resource estimate,
- surface mapping and limited overburden stripping for mapping purposes.

**Advancement of each phase of the proposed program is based on exploratory success and can be terminated at any time.** At the end of phase three and given a positive economic outcome of gold resource returns and that the terms of the ELO are satisfied, CMC would apply for a 21-year lease. Gold resource returns would be measured against future capital, operating, remediation and closure costs. Lease preparation activities would involve an advanced underground exploration proposal and related project closure studies. Baseline studies and assessments, amongst other work, would become part of the lease preparation and would be guided by the MNDM's 'Project Definition Template' for advanced exploration proposals. Year-ten of the ELO would allow for lease application submission, approval and filing.

#### 1.4 Property Background

Since 1953, the Toburn Gold Property, being the first gold producer in the prolific 24 million ounce Kirkland Lake Camp, has sat idle as a derelict Brownfield Site. In April 2000, Toburn lands and mineral rights were withdrawn from prospecting and staking upon the recognition that legacy mine hazards threatened public safety and required attending. Regulatory authorities looked to the owner Toburn Gold Mines Ltd to address the legacy issues. With Toburn Gold Mines Ltd as a de-listed, defunct company, the Province of Ontario took control and secured the site by remediating some of the more pressing safety concerns. After remediating and safeguarding immediate hazards, a government sponsored report by DST Consulting<sup>4</sup> in March 2002 calculated that over \$2M in mine hazard liabilities remained at the site.

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<sup>4</sup> DST Consulting Engineers Inc. "Toburn Geotechnical Study, Toburn Mine Property, Kirkland Lake, Ontario." Prepared for the Ministry of Northern Development and Mines. DST File No: TG01118. March 2002.

In 2007 a junior exploration company, Vault Minerals Inc., ("Vault"), having the third largest land package in the Kirkland Lake Camp initiated discussions with the MNDM to acquire Toburn's mineral rights. Vault cited gold potential below Toburn's deepest development at the 2,475ft level (754m) was conceivably considerable, albeit at significant depths. Of support for this interpretation is the prevalent vertical attenuation of Kirkland Camp deposits at depths beyond 8,000 ft (2,438m) as developed at neighbouring Lakeshore and Wright-Hargreaves Mines. In 2010, Vault was taken over by successor company Queenston Mining Inc. ("Queenston"), who in turn was acquired by Osisko Mining Corporation, ("Osisko") in 2012. With these acquisitions came a 245 km<sup>2</sup> Kirkland Lake Property that surrounds the Toburn Gold Property. In 2014 CMC, through a corporate acquisition of Osisko, became owner of the Kirkland Lake Property and subsequent initiatives by predecessor companies. These initiatives included the Toburn ELO application.

CMC is the main partner of Canadian Malartic GP which operates one of the largest gold mines in Canada, the Canadian Malartic Gold Mine which in turn is favourable for long-term commitment strategies for exploration projects and development in northeastern Ontario and northern Quebec. Moreover, CMC has the capacity and experience to undertake requisite exploration and remediation programs as provided in this Project Definition Application.

#### 1.5 Net Benefits of the Toburn Project

Granting an ELO to CMC for the Toburn Project is a net advantage. The site is currently inactive, and a government liability. Exploration at Toburn will result in:

- \$12.4 million in expenditures with employment opportunities for existing CMC staff and contractors with a focus on local and Aboriginal spending,
- Active remediation of an orphaned site,
- Protection of environmental and cultural values,
- Potential future mine development which could bring large scale employment and expenditures to the region.

#### 1.6 Net Benefits of New Mine Development in Ontario

Mineral production and processing have been and are the prime economic drivers in the Kirkland Lake District. Support for this statement is evidenced in the period between 1990 and 2005 when the last two local mines, Adams and Macassa, shut down in 1990 and 1999 respectively. During this period, the Town of Kirkland Lake ("Kirkland Lake") suffered a significant loss of people, businesses, and support services. Some of these businesses were lost never to return. Kirkland Lake and surrounding communities went to great lengths to diversify their respective economies away from the mineral sector. Results of these efforts are inferior when compared to exploration and mine development economic impacts. As example and using real estate benchmarks as an

economic barometer, prior to 2006 the average home selling price in Kirkland Lake was \$65,000 with a stagnant seller's market. From 2006 to 2014 and with a rejuvenated exploration and mining sector plus increase in gold price, average home prices increased up to \$120,000 in a buyer's market.

To further this point, the Macassa Mine revival (now Kirkland Lake Gold Inc.) was taken from closure status, soon to be Brownfield Site in 2001 to production due to geological research, investment and commitment. Today, Macassa is the second highest gold grade mine in the world forecasted to produce 140,000 to 155,000 gold ounces annually generating over \$200M in revenue. The mine directly employs over 800 people. Since 2006, exploration and mine workers have been drawn from all across the district for mining wages. Workers migrate to Kirkland Lake from communities and cities including Sudbury, Timmins, New Liskeard, Matachewan, Earleton, Englehart, Larder Lake, Dobie, Dane, Virginiatown, Rouyn-Noranda and Matheson. Of note, Michael Sutton, a well-known Kirkland Camp geologist and co-founder of Macassa's South Mine Complex Deposit is providing geologic interpretation and guidance at Toburn for CMC.

To expand on the importance of new gold mines to the Province of Ontario, excerpts from a report by Dungan and Murphy (2014)<sup>5</sup> are provided below;

*"We also consider a new underground gold mine with a construction cost of \$600 million also spread over three years. This mine also generates \$300 million in sales per year over an extended period with on-site employment of 620 and total compensation per worker of \$145,500. The combined direct, indirect and induced impacts of an underground mine are also very large. In the construction phase the mine adds almost \$150 million to Ontario GDP and generates over 1,500 jobs in each of the three years. In production, the mine contributes over \$330 million per year to Ontario GDP and generates 2,200 additional jobs annually, again with a very high average rate of labour compensation.*

*In the construction phase of a new underground gold mine, governments collect just under \$50 million a year from the direct, indirect and induced impacts, with the provincial government receiving \$20 million. In the production phase, all governments receive over \$100 million per year, with over \$40 million going to the provincial government."*

The report goes on to explain that indirect Impacts of a new mine would include,

*"The second level down can be termed the induced economic impacts. These are the economic impacts that result from the spending of wages and salaries by*

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<sup>5</sup> Dungan, Peter and Murphy, Steve. Rotman University of Toronto, Policy and Economic Analysis Program. "An Authentic Opportunity: The Economic Impacts of a New Gold Mine in Ontario". Submitted to the Ontario Mining Association with assistance from the Ministry of Northern Development and Mines. Final Report October 2014.

*workers employed both directly by the mine and indirectly in all of the supplier industries. To the extent that these consumer goods and services are produced in Ontario, there is a further economic impact on the province. Moreover, this level has a backward input chain to it as well, since consumer goods, or services, require their own inputs which may also be produced in Ontario and generate further wage earnings.*

*The third level down is to consider the regional impacts of a new gold mine where 'regional' for a mine in a relatively remote site must be considered as a broad enough area to include the nearest major town or city, as well as all the smaller communities within roughly the same distance.*

*At the fourth level down there are important but unquantifiable economic and social impacts that originate from the new mine. Most notable among these are the economic activity associated with maintaining the local community: Local government workers, teachers, police, fire and health care. Beyond the employment impacts, and the encouragement of local entrepreneurship, there will also be direct monetary benefits to Aboriginal communities through Impact Benefit Agreements (IBAs).*

*Finally, there are the intangible benefits of the provision of key infrastructure, such as access roads and electrical grid connections, that are part of the costs of constructing either open-pit or underground mines in remote locations. As with transferable skills, these remain behind to benefit individuals and the remote community even when the mine eventually closes down."*

Key facts regarding the importance of the mineral sector to the Province of Ontario is also provided in a MNDM Discussion Paper (March 2015)<sup>6</sup> as follows;

*"The value of mineral production in Ontario in 2014 was \$11 billion – the top jurisdiction in Canada.*

*Ontario is home to 43 mines and 10 smelters and refineries which provide direct employment to more than 26,000 people. The mining industry is also a major employer of Aboriginal people.*

*Mine capital investment and expenditures in Ontario climbed from \$453 million in 2002 to \$1.3 billion in 2014.*

*With \$507 million spent on exploration in 2014, Ontario maintained its decade-long status as leader in Canada.*

*Ontario is home to approximately 300 exploration projects and accounted for 26 per cent of Canada's total mineral production in 2014.*

*The Toronto Stock Exchange is the global leader in both mining equity capital raised and the number of mining companies listed on its exchange.*

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<sup>6</sup> Ministry of Northern Development and Mines. "A Discussion Paper on Renewing Ontario's Mineral Development Strategy". March 2015.

*Ontario mining companies spend more than \$1 billion annually on their operations.*

*Ontario's mining supply and services industry includes approximately 900 companies, generating 41,000 direct jobs and an estimated \$6.6 billion in direct total output value."*

## 1.7 Community Consultation Chronology

Although interest in the Kirkland Lake property has changed ownership four times in the past eight years, government, surrounding public and First Nations communities have been informed of the ongoing intention to begin mineral exploration at the Toburn Property.

In 2007 Vault met with Town of Kirkland Lake Mayor Bill Enouy on several occasions to discuss Vault's desire to acquire the Toburn Property.

Prior to acquiring Vault and as early as 2009, Queenston outreached to Beaverhouse ("BHFN") and Wahgoshig ("WFN") First Nation communities to introduce Queenston and to inform them about exploration activities in their traditional areas. In 2010 Queenston met with Town of Kirkland Council to inform them of Queenston's intentions to continue pursuing mineral rights at the Toburn Property for exploration, as planned by their predecessor Vault.

In early 2011, as Queenston was contemplating an advanced development decision at the Upper Beaver Project, the Company began discussions with BHFN, WFN, Matachewan ("MFN") and Timiskaming ("TFN") First Nations as well as Métis Nation of Ontario ("MNO"). At that time Queenston provided the communities information about the Upper Beaver project as well as other exploration projects and initiatives including the Toburn ELO application. Notification of proposed baseline environmental studies, archaeological, social and heritage work was also provided. The Upper Beaver Advanced Exploration Project (also known as the Kirkland East Project) is situated approximately 17 kilometres east of the Toburn Gold Project. Of note, BHFN, WFN, MFN, TFN and MNO are the same communities that have traditional lands or assert rights and claims in respect of the territory where the Toburn Property is located.

In parallel with Upper Beaver Project initiatives, Queenston formally submitted an application for the Toburn ELO dated August 26, 2011. The report format followed the MNDM's Project Definition Template format. Further to the ELO submission, a Public Information Session was advertised and held at the Kirkland Lake Legion Hall on December 5, 2011. A Public Information Session report dated January 19, 2012 was subsequently submitted to the MNDM as a supplement to the Toburn ELO application submission (see Appendix E).

From 2011 to 2012 and as a consequence of the Upper Beaver Advanced Exploration Project, discussions between Queenston and FNs shifted to negotiation of accommodation and benefit arrangements. Regular exploration activity updates were also provided. After receiving appropriate permits and approvals, the Upper Beaver Advanced Exploration program commenced in mid 2012. A 41.5 metre deep shaft was developed with appropriate closure plan monitoring. On December 28, 2012, Osisko acquired Queenston and suspended the program in early 2013.

Throughout 2013, surface exploration activities continued on the Upper Beaver Project as well as other projects located on the Kirkland Lake Property. First Nation discussions continued, including frequent engagement with nearest neighbour community BHFN. Archaeological studies were undertaken at Upper Beaver with active involvement by BHFN. In 2013, Osisko funded two BHFN staff positions, i) Cultural Monitor (Field Support Worker) and ii) Mine Administration Support Worker to improve BHFN's capacity for active participation in exploration activities. These positions remain active with current exploration activities. On June 16, 2014, Osisko was acquired by CMC and continued discussions with all four First Nations and the MNO. A chronology of FN and MNO meetings are provided in Appendix F.

A Working Agreement between CMC and BHFN was signed on December 18, 2014 with a purpose to provide financial and employment opportunities and processes by which CMC consults BHFN to accommodate interests. The Working Agreement also provides a framework for IBA discussions, which started March 2015.

On July 6, 2015 an Exploration Agreement was signed with WFN and MFN. The agreement includes a process for consulting with each individual First Nation and the formation of an Implementation Committee to carry out the terms set out within the agreement. The Exploration Agreement also provides a framework for IBA discussions, which started September 2015.

On November 13, 2015 a Communications Protocol was signed with Timiskaming First Nation (TFN). The agreement outlines basic communication methods and priority topics of interest to TFN, as well as providing a map of their traditional territory.

In 2014, CMC contacted MNDM to express continued interest in pursuing the Toburn ELO application as did successor companies Osisko, Queenston and Vault. On February 23, 2015, MNDM and CMC agreed to meet to discuss CMC's exploratory intentions for Toburn, CMC's capacity to undertake the project and to re-initiate the ELO application process.

On March 3, 2015, CMC hosted approximately 25 individual Chiefs and band members from eight First Nations communities, including MFN and BHFN along with representatives from the MNO at the Agnico Eagle office. The meeting included updated presentations summarizing corporate changes and the recent and planned

activities at our Ontario exploration sites. The presentation also included information about CMC's plans to submit an updated Toburn ELO application to the MNDM for review and approval. Since March, several meetings and project updates have taken place, including Community visits to Wahgoshig, Matachewan and Beaverhouse First Nations (as shown in attached consultation log and presentations provided in Appendix F).

1.8 Governmental Funding, Grants or Other for the Project

None to date. CMC may review the Toburn Property for Brownfield Site Funding.

1.9 Contact Persons

Cathryn Moffett, CMC, Sustainable Development Manager  
cathryn.moffett@canadianmalartic.com  
416-931-2605

Mike Sutton, CMC, Geologist  
[mike.sutton@canadianmalartic.com](mailto:mike.sutton@canadianmalartic.com)  
705-567-4377



## 2. GENERAL SITE INFORMATION

### 2.1 Project Name

Toburn Gold Project

### 2.2 Previous Names

1. Tough-Oakes-Burnside Mine and, 2. Toburn Gold Mines, Limited

### 2.3 Current Status of Proposal

The Proposal herein is an update of a Proposal dated August 26, 2011 as submitted by predecessor company Queenston. The update was necessary as the original Proponent (Queenston) was acquired by Osisko and then by CMC, and because MNDM did not provide a formal response to Queenston's 2011 Proposal.

### 2.4 Ownership of Project

Mineral rights to the Toburn Property were withdrawn from staking in 2000. The Province of Ontario is the current owner of the mineral rights. In this application-proposal, CMC is requesting that MNDM make a discretionary land tenure decision and grant CMC the right to conduct exploration activities on all ten Toburn mining claims through a 10-year ELO.

### 2.5 UTM Coordinates of Property

UTM Zone 17 NAD83 Centre of Property: 573065E, 5334336N

### 2.6 Geographic Information

The Property is situated in northeastern Ontario, District of Timiskaming, Larder Lake Mining Division. Six of the Property's ten mining claims are located in Lebel<sup>7</sup> Township while the remaining four are located in Teck Township, within the Municipality of the Town of Kirkland Lake.

Highway 66, named Government Road within Kirkland Lake, traverses the Property in an approximate west to east direction.

The Toburn Property adjoins CMC's Sylvanite Property to the west, Federal Kirkland to the North, Glenora to the east and staked claim on the southern boundary.

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<sup>7</sup> Lebel is an unorganized township.



## 2.7 Site Address and Site Contact

Site Address: There is no mailing address for the Toburn Property. CMC's mailing address will be used and is provided in Section 1.1.

Site Location:

Toburn Mine Property  
Government Road E.  
Kirkland Lake, Ontario.

Current Mineral Right Owner Contact address:

Province of Ontario

Contact Address of Ministry:

Ministry of Northern Development and Mines ("MNDM")  
Mining Lands Section  
933 Ramsey Lake Rd., 6<sup>th</sup> Floor  
Sudbury, ON P3E 6B5

### 3. LAND TENURE

#### 3.1 MRO/SRO<sup>8</sup> Tenure

Toburn Property Mining Claim (MRO) List as provided in Table 1 and as per Appendix B Toburn Claim Map.

**Table 1. Toburn Property, Mining Claim List**

<b>Mining Claim Number</b>	<b>Township</b>	<b>Owner</b>
HR1442 (L2373)	Lebel	Province of Ontario
HR1443	Lebel	Province of Ontario
HR1444 (L2374)	Lebel	Province of Ontario
L1821	Lebel	Province of Ontario
L2377	Lebel	Province of Ontario
L2378	Lebel	Province of Ontario
HR1440 (L2376)	Teck	Province of Ontario
HR1441 (L2375)	Teck	Province of Ontario
L1822	Teck	Province of Ontario
L1823	Teck	Province of Ontario

SRO's identified on Toburn Property

**Table 2. Toburn Property, Surface Right Owners List**

<b>Township</b>	<b>Claim No.</b>	<b>PIN</b>	<b>Surface Right Owner(s)</b>	<b>Parcel</b>	<b>Block No.</b>	<b>Sheet No.</b>
Teck	HR1440(L2376)	61228-1878 61228-2137	Town of KL	PCL10229 (Beaton)	61228	24
Lebel	L2377	61227-0573	Brian Joseph & Cristina Pernia Barry	PCL13058	61227	1
Lebel	L2378	61227-0597	Glenn & Sharon Carter	PCL13059	61227	1
Teck	HR1441(L2375)	61228-1358 61288-1362 61228-1356 61228-0582	Board of Governors of Northern College, Hydro-Electric Power Commission of Ontario, Thomas Andrew O'Connor	PCL9510, 9710, 10894	62118	28
Teck	L1823	61408-0857	Extendicare Inc.	PCL11040	61408	2
Teck	L1822	61408-0692 61408-0649 61408-0889	Corp. of Township of Teck, Hydro One Networks Inc.	PCL8767, 11194	61408	2

<sup>8</sup> SRO- surface right owner; MRO- mineral right owner

Lebel	HR1442(L2373)	61227-0563	Hydro-Electric Commission of Ontario	PCL3311	61227	
Lebel	HR1444 (L2374)	61227-0565 61227-0566	Rickson Yost, Children's Aid Society	PCL13137, 13488	61227	1
Lebel	L2372	61227-0393 61227-0394	Natasha Lachapelle, McLean Paving K.L. Ltd.	PCL13137, 13488	61227	
Lebel	L1821	61408-0158 61408-0855 61408-0859	Kirkland District Hospital, Town of KL, Town of KL	PCL9878, 13546, 12979	61408	2
Lebel	L1823		Miscellaneous	L1823	61228	

### 3.2 Ownership of Timber

No timber harvesting is planned for the next ten years on the Property. A Timiskaming Forestry Management Plan<sup>9</sup> provides that the Toburn Property consists of mostly non-productive forestry land with some patent lands, see Appendix A. The Town of Kirkland Lake is currently working on a forestry plan with area lumber processing companies to harvest timber on Town of Kirkland owned lands. This plan doesn't appear to have future harvesting activities scheduled for the Toburn Property.

### 3.3 Ownership of Sand and Gravel Resources Used

A review of quaternary maps<sup>10</sup> for the area determined that there are no sand and gravel resources on the Property, see Appendix A. Further, the Company cannot determine if sand and gravel would be exploitable by surface rights holders given the location of the Property in the administrative areas of Teck and Lebel Townships.

<sup>9</sup> Timiskaming Management Unit. 2011-2021 Forestry Management Plan. Mapsheet 17 5700 53300.

<sup>10</sup> Ontario Geological Survey. Sand and Gravel Resources of the Kirkland Lake Area. Map P.2491. Issue date 1982. Ontario Geological Survey. Quaternary Geology. Kirkland Lake Area. NTS Reference 42 A/1. Issue date 2000.

### 3.4 Neighbouring SRO

**Table 3. Toburn Property, Neighbouring Surface Right Owners**

Township	Claim No.	PIN	Surface Right Owner (s)	Parcel
Teck	L2100	61228-0709 61228-1338 61228-1339 61228-1340 61228-1341 61228-1342 61228-1343 61228-1344 61228-1345 61228-1346 61228-1347 61228-1348 61228-1349 61228-1350 61228-1351 61228-1352 61228-1353 61228-1354 61228-1355 61228-2164 61228-2165 61228-2128 61228-2127 61228-1368 61228-1357	CMC The TDL Group Ltd. Hydro One Networks Inc Hydro One Networks Inc Glen & Lisette French Corp. of Township of Teck Denis Joseph & Diane Rollande Dion Governing Council of the Salvation Army in Canada Sandra Vivian Nelson Jasmine Marie Spadetto & MacKenzie William Fox Steven Springer & Jessica Colguhoun Steven Springer & Jessica Colguhoun Elizabeth Martin & John Taisto Savela Jared & Sonja Pratt Clear Future Developments Inc. Clear Future Developments Inc. Hydro One Networks Inc Hydro One Networks Inc. John Anthony & Tina Louise Hammell Corp. of Town of KL Monette & French Funeral Home Limited Board of Governors of Northern College Temiskaming Native Women's Support Group Hydro One Networks Inc Temiskaming Native Women's Support Group	PCL208 PCL6834 PCL4799 PCL9433 PCL9280 PCL9011 PCL9042 PCL9345 PCL9034 PCL9032 PCL9035 PCL11050 PCL9346 PCL10893 PCL9895 PCL9258 PCL10187 PCL9703 PCL9273  PCL8735 PCL9272
Teck	L2226	61228-2164 61228-2165 61228-2128 61228-2127 61228-1399 61228-1357 61228-0589 61228-0587 61228-0576 61228-0575 61228-0574 61228-0573 61228-0572 61228-0571 61228-0570 61228-0569 61228-0567 61228-0566 61228-0710	Corp. of Town of KL Monette & French Funeral Home Limited Board of Governors of Northern College Temiskaming Native Women's Support Group Mary Teresia Madeline Preston Temiskaming Native Women's Support Group District of Timiskaming Social Services Adm. Board Patrick David Hartling Megan Mullins Patrick Arthur Rosko & Mary Martha McSherry Thomas Jan & Dawn Elizabeth Dekker Wayne Archer Susan Louise Lysiwsjy Felix & Martha Giroux Leslie Lavictoire James & Lisa Tessier (MNR on title for two Parts) Lorne John & Brenda Ann Howey Lorne John & Brenda Ann Howey CMC	PCL10945  PCL9272 PCL9748 PCL10952 PCL9023 PCL10776 PCL9041 PCL9029 PCL9275 PCL10635 PCL9455 PCL9276 PCL9573 PCL9010 PCL209
Teck	L2490	61228-0290	Corp. of Town of KL	PCL2617
Lebel	L71904	61227-0401	Helen McKinnon	PCL5123
Lebel	L531754	61227-0388	CMC	PCL5732

Lebel	L2504	61227-0395 61227-0396	Corp. of Town of KL Corp. of Town of KL – Troy Trust Co.	PCL2525 PCL2525
Lebel	L2430	61227-0392	Kirkland Lake Gold Inc	PCL12404
Lebel	L2450	61227-0030	Kirkland Lake Gold Inc	PCL12407
Lebel	L505051	61227-0578	Thundermin Resources Inc.	PCL5623
Teck	TC711	61408-0883 61408-0693	Kirkland Lake Gold Inc Kirkland Lake Gold Inc	PCL104 PCL963
Teck	L1831 & L2100		James Kilroy KCH Middlemiss Tom Woollings Jeff Snow G. Pilon K. Crouse Commercial Building	

### 3.5 Crown Land Involved

Toburn mineral rights are owned by the Crown (Province of Ontario).

### 3.6 Indian Reserves on Property

None.

### 3.7 Other Easements and Reservations on the Property

See Appendix B, Toburn Property SRO Plan.

## 4. SITE PLANS

### 4.1 Regional Scale

See Appendix A for the following plans:

- Regional Plan
- Watershed Plan
- Teck Township Geology Map No. 1945-1
- O.G.S. Teck Township Transect – Geology P3558
- O.G.S. Quaternary Geology Kirkland Lake Area – Map 2649
- Forest Management Plan – Mapsheet 17 5700 53300

### 4.2 Property Scale

See Appendix B for the following plans:

- Toburn Claim Map
- Toburn Property Infrastructure and Mine Features
- Neighbouring MRO Plan
- Toburn Property SRO Plan with easements
- Neighbouring SRO Plan
- Kirkland Lake Zoning Designation Toburn Property

### 4.3 Site Plan

See Appendix C for the following plans and longitudinal sections:

- Plan Section: “Proposed Exploration Plan – Phase One”
- Longitudinal Section: “Main (& Deep North)”
- Longitudinal Section: “North Break (& North A+B)”
- Longitudinal Section: “#4 Shaft”
- Longitudinal Section: “North (& Main North, Incline Veins, Deep South)”
- Longitudinal Section: “Phase Two”

## 5. PROJECT DETAILS – PROPOSED SCOPE OF WORK

The Toburn Property is a currently inactive Brownfield which has a history of mineral development as outlined in Section 1.4 and Section 6.1.

### 5.1 Current Status of Site

Inactive.

On April 27, 2000 Toburn Property mineral rights were withdrawn from staking under Section 35 of the *Mining Act*, R.S.O 1990 Order number W-L-17/00 that include mining claims HR1440 (L2376), L1823, L1822, HR1441 (L2375) and Order number W-L-18/00 that include mining claims HR1442 (L2373), HR1443, HR1444 (L2374), L1821, L2377 and L2378.

Surface right owners occupy portions of the Toburn Property (see Appendix B Toburn Property SRO Plan).

### 5.2 Targeted Minerals, Geology and Mineralogy

Targeted Mineral

Gold.

Regional Geological Setting

A brief description of the regional geological setting and Kirkland Lake Geology is best described in the Ontario Geological Survey Open File Report 6159<sup>11</sup> as follows;

*“The area is part of the southern Abitibi greenstone belt of the Superior Province. The geology and tectonic evolution of the Abitibi belt are discussed in detail in Jackson and Fyon (1991) and Card (1990); only key features of the regional geological framework of the Kirkland Lake–Larder Lake area are briefly summarized here.*

*Supracrustal rocks include submarine komatiitic, tholeiitic and calc-alkaline volcanic sequences of the Blake River (2701-2697 Ma), Kinojevis (2702-2701 Ma) and Tisdale (2710-2703 Ma) assemblages (Figure 1; Ayer et al. 2002). These form a broad east-west-trending synclinorium, the north and south limbs of which are transected by the Destor–Porcupine (north) and Larder Lake (south)*

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<sup>11</sup> Ontario Geological Survey. Open File Report 6159. “Geology, Structure, and Gold Mineralization, Kirkland Lake and Larder Lake Areas (Gauthier and Teck Townships): Discover Abitibi Initiative.” V. Ispolatov, B. Lafrance, B. Dubé, M. Hamilton and R. Creaser 2005.

regional deformation zones. Belts of clastic sedimentary and alkalic to shoshonitic rocks of the Timiskaming assemblage (2687-2675 Ma) unconformably overlie older sequences along the deformation zones. Felsic and alkalic plutons and dikes (2695-2673 Ma, Ayer et al. 2002) intrude stratified units. The rocks are metamorphosed to prehnite-pumpellyite to greenschist grade; upper greenschist and amphibolites facies rocks are found in contact aureoles of granitoid plutons (Jolly 1978). The Kirkland Lake–Larder Lake gold belt broadly corresponds to the east-west-trending, 3-5 km wide belt of Timiskaming rocks bounded in the south by the Larder Lake–Cadillac deformation zone (Thomson 1950). The belt hosts the Kirkland Lake and Kerr Addison–Chesterville world-class gold deposits and several smaller gold deposits and occurrences. Gold mineralization is spatially associated with the Larder Lake–Cadillac deformation zone (e.g., Kerr Addison–Chesterville, Cheminis, Omega, McBean mines), and with smaller faults and shear zones proximal to the Larder Lake–Cadillac deformation zone (e.g., Kirkland Lake and Upper Canada mines). The largest gold deposit of the area, Kirkland Lake, is associated with the brittle to brittle ductile Kirkland Lake fault (“Main Break”, Todd 1928) roughly 2 km north of the Larder Lake–Cadillac deformation zone. In Québec, world-class Sigma-Lamaque, Malartic, Doyon and Bousquet gold systems and a number of smaller gold deposits occur along the Larder Lake–Cadillac deformation zone (Poulsen et al. 2000; Robert 1989); the largest lode gold deposits are associated with second- and third-order shear zones (Robert 1990).”

#### Kirkland Lake General Geology

“A description of the geology of the Kirkland Lake area can be found in Todd (1928), Thomson (1950), and Lackey (1990), and more detailed discussion of specific stratigraphic assemblages and units are presented by Hyde (1978, 1980), Lackey (1990), Mueller et al. (1994), and Legault and Hattori (1994a,b). The geology of the Kirkland Lake deposit is described by Todd (1928), Thomson et al. (1950), Charlewood (1964), Watson and Kerrich (1983), Watson (1984), Kerrich and Watson (1984), Lackey (1990), and Still (2001).

The Kinojevis assemblage underlies the northern part of the map area and consists of north-facing pillowed basalts and coarser gabbroic or dioritic rocks interpreted as intrusions or coarser flow units (Thomson 1950). North-facing Kinojevis volcanic rocks are unconformably overlain by Timiskaming sedimentary and volcanic rocks that form a 3 km wide northeast-trending band. Thomson (1950) documented the unconformable nature of the lower Timiskaming contact.

There, the north-facing pillow basalts of the Kinojevis assemblage are overlain by a roughly 4-5 m thick layer of basal breccias, consisting largely of angular clasts (1-3 cm to 20-75 cm) of the underlying basalts. Large (20-50 cm) pillow fragments can be unequivocally recognized by well-defined pillow rims. The



*breccias are interlayered with thinly (2-3 mm) laminated siltstones, and further up-section (southward) they are overlain by interlayered sandstone-siltstone.*

*With the exception of a small area west of Gull Lake, the Timiskaming rocks face south and dip steeply to moderately (approximately 50-70°) to the south (Thomson 1950). Alluvial-fluvial (e.g., Hyde 1980; Mueller et al. 1994) sandstones and conglomerates are volumetrically predominant in the Timiskaming assemblage. Corfu et al. (1991) reported a  $<2680 \pm 3$  Ma U-Pb detrital zircon age for Timiskaming sandstone from the central part of the map area. Volcanic rocks include three major alkali pyroclastic units named (from north to south): Grenfell, Goodfish, and Blanche River formations (Hyde 1978; Lackey 1990). The unit in the middle (Goodfish Formation of Lackey 1990) is disrupted and “duplicated” at surface by the Kirkland Lake fault (e.g., Todd 1928; Thomson 1950; Lackey 1990). To the south, Timiskaming rocks are bounded by the mafic-ultramafic volcanic rocks of the Tisdale assemblage. The latter are intruded by the  $2672 \pm 2$  Ma Murdock Creek pluton (Wilkinson et al. 1999). The Larder Lake–Cadillac deformation zone corresponds to the southern margin of the Timiskaming assemblage (Wilkinson et al. 1999). About 2 km to the north, syenitic stocks are cut by the Kirkland Lake fault or Main Break, a brittle to brittle-ductile fault that strikes roughly 65° and dips steeply to the south.*

*Gold mineralization of the Kirkland Lake deposit generally occurs along this fault and its immediate splays. Mineralization comprises relatively sulphide-poor quartz veins, with gold and associated tellurides occurring mostly in the veins rather than in the altered host rocks. In the currently active Macassa Mine at the western end of the camp, the main ore-controlling structure is the ‘04 Break. The ‘04 Break is a northeast-striking fault, which is parallel to and located 120-140 m north of the Main Break (Charlewood 1964; Still 2001). Ore-controlling faults and auriferous quartz veins are offset by major post-ore faults, including the Amikougami Creek, Tegren, Lake Shore, and Sylvanite faults (Thomson et al. 1950). No economic mineralization has been found to date west of the Amikougami Creek fault. Other significant faults include the northeast-trending Amalgamated Kirkland–Blanche River and Murdock Creek faults. The moderately (approximately 045°) north-dipping No. 5 fault exposed in underground workings of the Wright-Hargreaves Mine and apparently corresponding to the Murdock Creek fault at surface offsets the Main Break with a reverse sense of movement (i.e., north side up, about 125 m horizontal and about 150 m vertical components; Thomson et al. 1950; Hopkins 1940).*

*The history of gold discovery and production is discussed in detail in Thomson et al. (1950), Charlewood (1964) and Still (2001). Production commenced in 1915, and through the 20th century, the Macassa, Kirkland Lake Gold (later Kirkland Minerals), Teck-Hughes, Lake Shore, Wright-Hargreaves, Sylvanite and Toburn mines collectively produced 758.3 metric tonnes of gold from 49 862 868 tonnes*

*of ore with an average grade of 15.21 g/t (Gosselin and Dube 2005). Gold was mined from one giant Kirkland Lake gold deposit. In the central part of the camp, underground workings extend to about 2.5 km below the surface, and mineralization remains open to depth (Charlewood 1964). Production-based (1913-1962) gold to silver ratio averages 5.4:1 for the entire camp, with the highest, 9.0:1, at Kirkland Lake Gold (Kirkland Minerals) and the lowest, 4.2:1, at Toburn (Charlewood 1964). At present, Kirkland Lake Gold Inc. owns the Macassa, Kirkland Minerals, Teck-Hughes, Lake Shore, and Wright-Hargreaves properties and produces gold from Macassa number 2 and 3 shafts and Lake Shore ramp ([www.klgold.com](http://www.klgold.com)). Operations at Macassa, where most underground observations were made during this project, presently extend from the 3400-foot to the 5000-foot level. The Amikougami Creek fault constitutes the western limit of presently known economic gold mineralization of the Kirkland Lake gold camp. On the east side of the fault mineralization extends vertically for about 1250 m (2900 to 7050-foot levels, M. Sutton and S. Carmichael, Kirkland Lake Gold Inc., personal communication, 2005) and is open at depth.”*

#### Toburn Property Geology

The Toburn Property is underlain predominantly by Timiskaming interbedded sandstones, conglomerate and coarse boulder conglomerates. Fine grained, thinly bedded tuff occurrences are predominant in the south and south-east areas of the Property in former patents L1821, L2374 and in the south-east portion of L2372. The ‘main’ syenite porphyry stock of the Kirkland Lake Camp extends eastward from the adjacent Sylvanite Mine boundary into the central part of the Toburn Property then ‘fingers’ into numerous narrower dike-like masses into the sediments and tuffs. Another augite syenite mass occurs in former patent L1821 to the south of the ‘main’ syenite stock. The main syenite stock plunges steeply westward with tuffs ‘pitching’ steeply westward beneath the syenite stock. Tuff and sediment assemblages dip moderately to the south.

A fracture-fault system approximately 450 metres in width strikes northeast across the western part of the Property. Fractures and faults in this system have a general southerly dip with splays, individual faults and stress fractures dipping from vertical to horizontal ‘link-style’ patterns. The main syenite porphyry has been deformed by this deformation system striking at approximately 55°NE across the central part of the mine workings.

The most prominent fault is positioned to the south of this wide fracture system and is the east continuation of the Kirkland Main Break from the Wright Hargreaves and Sylvanite Mines. The Main Break in this location has been historically called the ‘South Vein’. It is a thrust fault as provided by the offset of the syenite porphyry-sandstone contact near the Sylvanite property boundary with a predominant vertical displacement of 107 metres. Horizontal movement along the fault appears minimal as provided by post-dyke movement.

A splay of 'North Branch Veins' are situated 61 metres north of the South Vein showing a divergence of 20° E. Vein-fractures are found in both syenite porphyry and sediment host rocks with veins being better defined but generally narrower in the sediments.

### Mineralogy

Native gold is generally found in fractures in a variety of hosts including syenite porphyry, conglomerate, sandstone, and tuff. Fractures are usually composed mostly of quartz with a minor amount of carbonates and minor disseminated sulphides. Tellurides, including altaite, calaverite, petzite, and coloradoite are common occurrences in veins. Milling investigations of two bulk ore samples from the Lakeshore Mine showed that gold-bearing tellurides account on average for 11-19% of the total gold. Relative proportions of native gold versus telluride gold are thought to range broadly across the Kirkland Lake Camp. The most common metallic sulphide is pyrite with minor amounts of chalcopyrite, sphalerite and molybdenite in quartz. Although some gold is associated with pyrite in altered host rocks, economically significant gold mineralization is related to gold and tellurides contained in quartz veins.

### Current Gold Resources

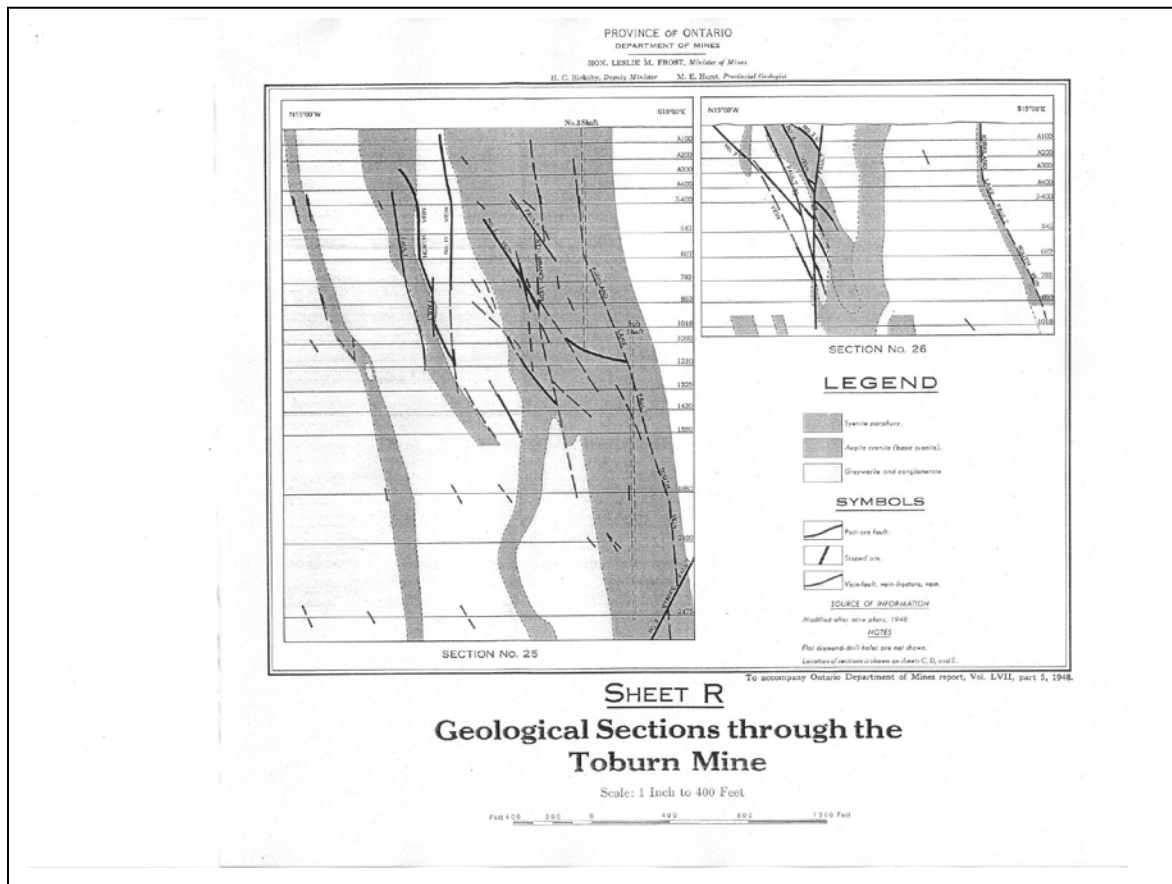
The Toburn Property has no current defined gold resources.

### Geological Target Interpretation

Between 1932 and 1953, the Toburn produced 570,659 ounces of gold from 1,186,316 tons of ore at a recovered grade of 16.5 gAu/t (0.48 ozAu/ton). Renewed exploration of former mine properties in large, mature gold camps have produced new and important gold deposits in the past two decades. Kirkland Lake Gold Inc.'s South Mine Complex deposit (formerly the Macassa Mine) and the rejuvenation of Red Lake Complex (formerly Campbell and Red Lake Mines) can attest to this success and to the importance of these discoveries on the Northern Ontario economy.

The Toburn Gold Mine is considered one of the higher grade gold mines in the Kirkland Camp as well as having the least depth development (2,475 ft) of the seven mines. Gold ore has been mined to depth's of 8,000 ft at the former Lakeshore and Wright-Hargreaves mines which is indicative of the strong vertical extension of the gold deposits on the Main Break. In addition, thrust fault environments such as the Kirkland Lake Main Break generally generate more flat, low angle fracture patterns than vertical. These openings would act as traps for mineralized fluids and possible gold deposition. The recently discovered South Mine Complex at the Macassa Mine (Kirkland Lake Gold) appears to be one of possibly many low angle fracture systems proximal to the Kirkland Main Break. Figure 1 shows a cross section through the Toburn Mine supporting the

existence of these low angle veins adjacent to the Main Break and subsequent stope development.



**Figure 1. Toburn Mine Cross Section**

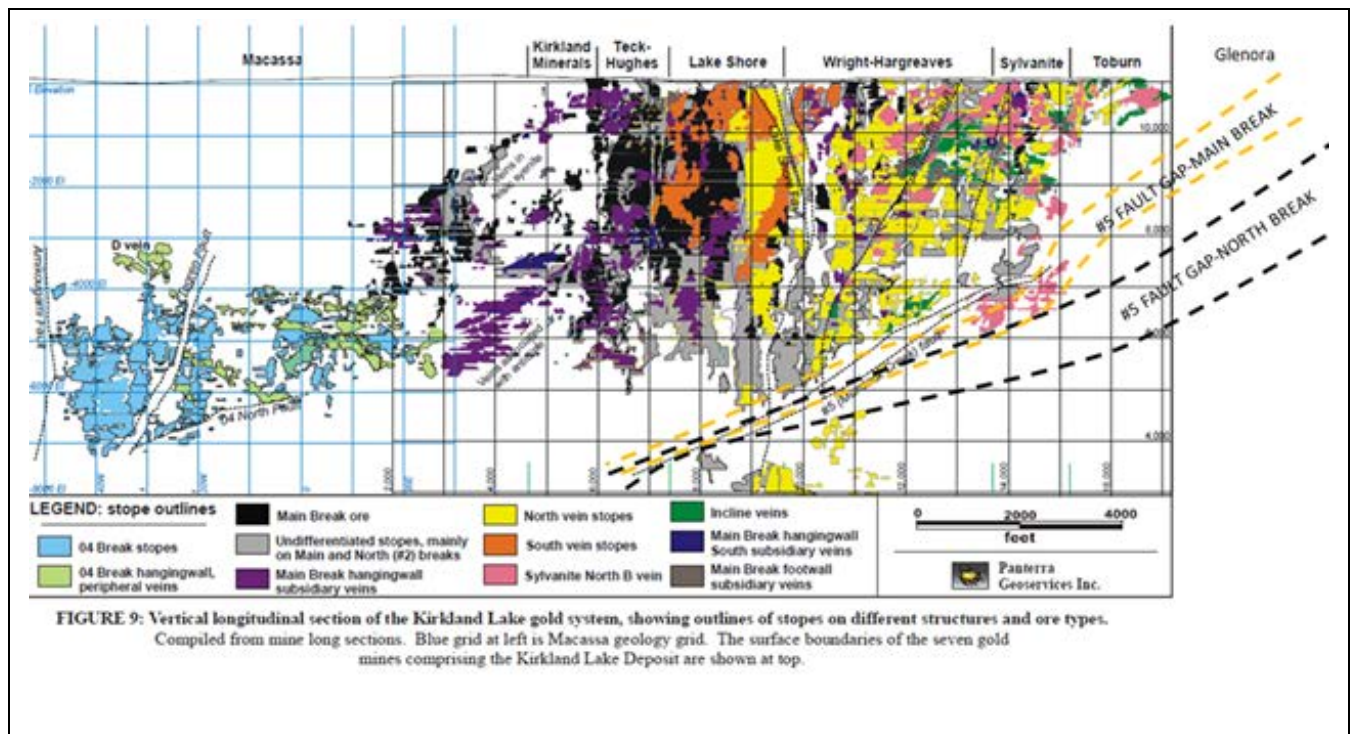
In regards to the 'truncated' ore development at depth at the Toburn Mine, Mike Sutton, CMC Geologist has interpreted that ore veins mined to the 2,475 ft level have been off-set by late lateral displacement of the Murdoch Creek No. 5 Fault<sup>12</sup>. No. 5 Fault displacement is obvious at the former Wright-Hargreaves and Sylvanite Mines, as seen in Figures 2 and 3. The fault dips approximately NW at 35 to 50° at the extreme west end of Sylvanite (bordered to the south by Wright-Hargreaves), increasing in dip to 67° at the last interpreted section near the west border of the three north-south Sylvanite claims. The No.5 Fault at Glenora, situated east of the Toburn, steeply dips 80° north. It has an incline/pitch of approximately 40° to the NE up to the Toburn and Glenora Properties. The offset along the fault increases in a vertical sense from 60 metres to 229 metres across the middle of the 3 east-west Sylvanite claims (215m to 400m along the fault). Figure 4 provides a Camp wide longitudinal section showing the No. 5 Fault offset

<sup>12</sup> Murdoch Creek, No.5 Fault, Murdock Creek are all used interchangeably and mean the same structure.

and subsequent mine development below the offset at Lakeshore, Wright-Hargreaves and Sylvanite Mines. It is also interpreted that previous exploration-development at the Sylvanite may have failed to realize the No. 5 fault displacement. In summary, it is anticipated that gold bearing veins similar to those mined above the 2,475 ft. level at Toburn will be found beneath the No. 5 off-set.







**Figure 4<sup>13</sup> Longitudinal Section Kirkland Lake Camp and Murdoch Creek Fault Projection**

Given geological interpretation of historic data, the following exploration targets have been identified;

- As previously described, the Murdoch Creek No.5 fault offset of the Main Kirkland Lake Break-South Vein, North Vein, No.1 Vein, and North Branch Vein, are important targets. Diamond drilling has been designed to test areas below the 2,475 foot Level where the anticipated Veins continue to depth after the lateral displacement. Both the North Vein and Main Break structures will be targeted separately, as well as one hole further south targeting the faulted offset of the vein system structure located at #4 shaft.
- East strike and plunge extensions of the North Bulak Zone, North Branch, No.6 and No.7 Veins. Exploration is designed along these vein trends as development appears limited below the 542 foot (165 m) Level. Deeper drilling below this development along the North Vein structure will be undertaken.
- Incline veins between South Vein Break and North Branch. Historic cross-sections display limited development on incline veins. A program is designed to test for reiteration of flat to low angle 'cross-over' vein structures.
- The #4 shaft vein system structure will be targeted due to interesting exploration intersections along a Break at the 5500' Level of Sylvanite and Toburn that includes 0.43 ozAu/ton over 0.6 ft., 0.52 ozAu/ton over 0.6 ft. and 0.86 ozAu/ton over 0.2 ft., with no apparent drilling between these intersections and surface.

<sup>13</sup> Reference Panterra Geosciences Inc. as modified by Queenston Geological Staff and Mike Sutton, CMC.

- e) Gold concentrations in tailings. It is anticipated that early milling of gold ores from the Toburn had poor recoveries and therefore elevated gold concentrations in the tailings may exist.

### 5.3 Geochemical and Geotechnical Considerations

Acid rock and metal leachate studies will be undertaken for advanced exploration and closure plan submissions in preparation for lease.

During Phase One exploration, CMC will commence a desktop compilation of mine hazards with follow-up field investigations on all ten mining claims. A progressive remediation program will be developed over the duration of the ELO based on the information collected. An underground 3D model of near surface workings and surface topography will assist in crown pillar assessments.

### 5.4 Proposed Principle Exploration and Remediation Goals

The exploration and operational goals for the Toburn Gold Project include the following:

- a) the design of a surface exploration program to test known mineralized trends derived from historic records and current geological knowledge to produce an economic gold deposit. Drill density and sampling would be sufficient to classify the deposit as a resource through National Instrument 43-101 standards,
- b) in the event of positive results, a Preliminary Economic Analysis (“PEA”) Level or equivalent to determine mining potential, use and impacts on historic workings,
- c) the evaluation of gold concentrations in the tailings impoundment in preparation for classification as a resource through National Instrument 43-101 standards. Sampling and metallurgical testing would be sufficient to outline a mineable resource, and
- d) to maintain safeguarding of existing mine hazards and to up-date mine hazards data and with this information construct a 3D model to assist in evaluating remediation options for future closure plans.

In the 10-year ELO, there are no proposed underground activities. Surface exploration activities are designed to maintain safe distances from remnant crown pillars.



## 5.5 Open Pit / Underground Conceptual Development Plan with Illustrations

Not applicable.

If a resource is developed, then plans for mineral extraction/removal will be developed in preparation for lease. Present knowledge of vein density and based on the location of the Toburn Site, open pit extraction is not considered a viable option at this time.

## 5.6 Proposed Haulage and Handling Operations

### **Diamond Drill Activities**

Surface exploration drilling involves the mobilization / demobilization of the drill unit, sloop, and supplies to various collar locations. The water pump is located adjacent to water body sources, or accesses Town water supplies. Drill equipment is normally mobilized to 'off-take' locations by float. A D6 tractor is normally used for moving drill equipment to collar locations. Diesel fuel is supplied by tanker truck that transfers fuel to a steel, double-walled fuel tank on skids.

Drill core is retrieved by truck, skidder or UTV. Core is delivered to a secure processing area where core logging and sawing will take place. Sample processing and handling will follow normal Quality Assurance & Control and Chain of Custody procedures in preparation for submission to laboratories for assay. Remaining core, for record keeping, is stored at CMC's Upper Canada core storage areas. Pulps and rejects are stored at the Upper Canada Site.

### **Mechanical Stripping**

An excavator is usually floated to an 'off-take' location and proceeds to the proposed stripping area on its own. Water pumps and diamond saws are mobilized to the area by ATV, UTV or by pick-up truck. Samples are transported from the area by the same aforementioned vehicles.

### **Future Mining Activities**

Mining of the Toburn Project is not part of this application. Future mining could utilize methods currently in use in the Abitibi Region. Milling of mined ore could be transported off-site to a CMC mill complex in Ontario or a similar contracted facility. A processing mill near CMC's existing advanced projects, within its Kirkland Lake Property, is part of a proposed plan for a centralized mill complex.

## 5.7 Proposed Project Duration and Anticipated Results

The Project will occur over a nine-year period within the 10-year ELO. Over the course of nine years and after \$12.4M is spent, nine mineralized horizons will be tested from 48 drillholes and 16 wedge off-sets totaling 51,245 metres cored. It is anticipated that positive results will generate an underground NI43-101 resource estimate that would enable CMC to apply for a 21-year lease and to commence development of a closure plan. In addition, a 3D model will have been developed for crown pillar determinations and the current eight shaft openings would be investigated with selective remediation of three shaft caps, if deemed necessary. Geotechnical testing will be undertaken on suspected and prioritized crown pillars.

Year-ten would allow for lease application submission, approval and filing.

## 5.8 Major Operational Phases

Subject to continuous positive results, the Project is planned to take place in three phases over a span of ten years, culminating in a total investment of more than 12 million dollars and an application to take the claims to lease.

**TABLE 4. Proposed Activity Phases One, Two and Three, Estimated Program Costs in 9 years**

<b>Phase</b>	<b>Proposed Activity</b>	<b>Estimated Program Cost</b>
Pre-ELO	Notification and outreach to communities about Project	\$10,000
One	Notification of Activities to Adjacent MRO/SRO's; Plan and Permit Submissions	\$13,000
	Seek existing mine data; desktop evaluation of existing mine hazards	\$25,000
	Develop a GIS database and 3D model of mine hazard infrastructure	\$150,000
	Tailings sampling and metallurgical testing – NI43-101 Resource	\$82,880
	Exploration Surface Mapping and Geophysics	\$20,150
	Mechanical Overburden Stripping – Washing – Channel Sampling - Mapping	\$30,200
	Field investigate and test one of the eight surface concrete shafts for possible replacement and commence monitoring system	\$60,000
	Surface Diamond Drilling Program: 23,245 metres, 40 drillholes, nine horizons including collar location surveying, preparation and clean-up	\$3,546,500
	<b>Total Cost for Phase One</b>	<b>\$3,937,730</b>
Two	Phase One Diamond Drill Reports & Evaluation of Results	\$20,000
	Design Phase Two Diamond Drill Program	\$12,000
	Pending a positive tailings metallurgical report – Pre-Feasibility Study	\$65,000
	Field investigate and test two of the seven surface concrete shafts for possible replacement	\$120,000
	Notification of Activities to Adjacent MRO/SRO's; Plan and Permit Submissions	\$13,000
	Surface Diamond Drilling Program: 28,000 metres, 8 pilot holes and 16 wedge off-sets	\$7,200,000
	Phase Two Diamond Drill Report, Evaluation of Results & Preparation for NI43-101 Resource	\$20,000
	<b>Total Cost for Phase Two</b>	<b>\$7,450,000</b>
Three	NI43-101 Resource for Underground Deposit and PEA	\$250,000
	Geotechnical testing on suspected, prioritized crown pillars	\$250,000
	Apply for 21-Year Lease, Baseline Studies and Develop a Closure Plan for Property	\$500,000
	<b>Total Cost for Phase Three</b>	<b>\$1,000,000</b>
<b>Total (Phase One ,Two and Three)</b>		<b>\$12,387,730</b>

### 5.8.1 Detailed Phase One Activities

#### **A. Notification of Activities**

Notification of Activities will be provided to the Town of Kirkland Lake, adjacent mineral and surface right owners as required and outlined in Section 10. The cost of this activity is estimated at \$13,000.

CMC will seek existing mine and drill data for the Toburn Property. A desktop evaluation and collection of existing drill and mine data will be consolidated with with appropriate quality assurance / quality control screening for the development of a GIS database and 3D model. The cost of this activity is estimated at \$25,000.

#### **B. Development of a GIS database and 3D Model for Geology and Mine Hazards.**

Consolidated drill and mine data will be converted to digital format. Underground infrastructure and geological data will be imported and transferred to a GIS database along with surface topographic elevations. Existing geotechnical drill information of crown pillars will also be incorporated including 670 percussion and 56 diamond drillholes with coordinate conversions from UTM NAD27 to NAD83.

A 3D model of underground workings with crown pillar dimensions will be developed to evaluate remediation options and cost-analysis assessment.

The cost for this program is estimated to be \$150,000.

**TABLE 5. Budget Details, Notification, Data Collection, Desktop Evaluation, Develop Geology and Mine / Mine Hazard database and 3D Model**

<i>Activity</i>	<i>Description</i>	<i>Unit</i>	<i>Qty</i>	<i>Total</i>
Notification and Plans/Permits	Notify MRO/SRO Notify Communities Apply for Plans/Permits	sum	1	\$13,000
Seek Toburn Mine Data Desktop Evaluation of Data	Collect data Research data files Evaluate data in preparation for digital conversion and QCQA	sum	1	\$25,000
Develop GIS Geology and mine database and 3D model	Conversion hard copy data to digital Model underground infrastructure and crown pillars where possible	months	21	\$150,000
<b>TOTAL</b>				<b>\$188,000</b>

The activities above are estimated to occur from Q1, Year 1 to Q4, Year 2 for a total of 21 months.

### C. Former Mine Tailings Evaluation.

The current Toburn Tailings impoundment is situated on three claims with the following area distribution;

**TABLE 6. Existing Gold Tailings Location and Area**

<i>Claim #</i>	<i>m2</i>	<i>ha</i>	<i>acres</i>	<i>% tailings impoundment</i>
HR1440 / 2376	100,700	10.1	24.9	69%
2377	20,150	2.0	4.9	14%
HR1441 / 2375	17,250	1.7	4.3	12%
Outside Toburn Property to north	8,000	0.8	1.9	5%
<b>Total</b>	<b>146,100</b>	<b>14.6</b>	<b>36</b>	<b>100%</b>

All calculations are approximate.

Prior to any surface exploration work, SRO's will be notified of and consulted about activities proposed. In addition, any previous work completed with respect to tailings metallurgy, assaying and drill testing, will be sought out and incorporated.

A 50 metre by 50 metre grid of percussion/sonic holes, using NQ diameter rods, will be designed to collect tailings samples and for determining tailings depth, gold concentration variability and tailings characteristics. Depths of greater than 10 metres are not anticipated. Soil profiles will be logged and samples will be divided into 0.5 to 1m lengths. Once recovered, the samples will be split with one half sent for assay and the other half retained for metallurgical testing and as record for auditing or re-sampling purposes.

Metallurgical tests would include but not be limited to particle size distribution and grade recovery. In addition, testing would also include post-process characteristics such as gangue minerals and possible acid-generation. Only tailings located on claims HR1440/2376, HR1441/2375 and L2377 are proposed to be tested as they represent 95% of the total tailings area.

Assay and metallurgical data will be reviewed in preparation for a NI 43-101 resource calculation.

The tailings program would involve 19 percussion/sonic holes as listed in the following table.

**TABLE 7. Existing Toburn gold tailings, percussion drillhole list**

<b>TAILINGS</b>									
<i>UTM NAD83 Easting</i>	<i>UTM NAD83 Northing</i>	<i>DDH</i>	<i>AZM</i>	<i>DIP</i>	<i>DRILL HOLE LENGTH</i>	<i>LENGTH TO TARGET</i>	<i>VERTICAL DEPTH</i>	<i>TOTAL FOR ZONE</i>	
572700	5334681	T1	n/a	-90	variable		TBD		
572748	5334689	T2	n/a	-90	variable		TBD		
572798	5334696	T3	n/a	-90	variable		TBD		
572848	5334704	T4	n/a	-90	variable		TBD		
572866	5334750	T5	n/a	-90	variable		TBD		
572818	5334746	T6	n/a	-90	variable		TBD		
572768	5334741	T7	n/a	-90	variable		TBD		
572717	5334736	T8	n/a	-90	variable		TBD		
572669	5334730	T9	n/a	-90	variable		TBD		
572692	5334784	T10	n/a	-90	variable		TBD		
572743	5334789	T11	n/a	-90	variable		TBD		
572795	5334793	T12	n/a	-90	variable		TBD		
572846	5334799	T13	n/a	-90	variable		TBD		
572898	5334802	T14	n/a	-90	variable		TBD		
572946	5334804	T15	n/a	-90	variable		TBD		
572902	5334903	T16	n/a	-90	variable		TBD		
572802	5334888	T17	n/a	-90	variable		TBD		
572994	5334964	T18	n/a	-90	variable		TBD		
572844	5334956	T19	n/a	-90	variable		TBD	unknown	

TDB= to be determined, n/a= not applicable

The cost of the tailings program is estimated to be \$82,880.

**Table 8. Budget Details, gold tailings sampling**

<i>Zone Identifier</i>	<i>Activity</i>	<i>Description</i>	<i>Unit</i>	<i>Qty</i>	<i>\$/Unit</i>	<i>\$/Unit x Qty</i>	<i>Comments</i>
Tailings Area	Percussion Sampling	Percussion mobilization and demobilization	lump	1	\$1,000	\$1,000	
		Percussion sample (NQ)	each	190	\$120	\$22,800	nineteen drill holes at an estimated 10m average depth = 190m
		Sample processing & tagging (included in percussion cost)		380			each sample will weigh approx 1.5 to 2.5 kg; avg depth of tailings at 10 m; sample length 0.5 m
		Gold assay	each	380	\$16	\$6,080	
		Supervision/logging	day	20	\$550	\$11,000	
	Bulk Sample Report	Metallurgical testing	sample	5	\$8,000	\$40,000	
			lump	1		\$2,000	
	<b>TOTAL</b>					<b>\$82,880</b>	

The tailings program is estimated to take 314 days to complete.

**Table 9. Estimated Time Components for Tailings Testing**

Tailings Area				
	Percussion Sampling	Drill mobilization / set up and demobilization	day	4
		Percussion drill 19 NQ diameter holes approximately 10m depth per hole + sample processing approx. 380 samples	day	35
		Sample assay results	day	90
		Bulk Sample- metallurgical testing	day	180
		Report	day	5
		<b>TOTAL</b>		<b>314</b>

Program and metallurgical results will dictate the need for a 43-101 Resource estimate to be undertaken in Phase One.

#### **D. Surface mapping and geophysics.**

Prior to any surface exploration work, SRO's will be notified of and consulted about activities proposed.

Surface mapping will be undertaken to identify lithology, structure, alteration and mineralization over the entire property. A walking magnetometer survey may assist in

identifying geological structures and also near-surface cultural infrastructure related to historic mining activity and community infrastructure.

Cost of the program is estimated to be \$20,150 and is estimated to take 2 months to complete.

**TABLE 10. Budget Details, Mapping and Geophysics**

<i>Zone Identifier</i>	<i>Activity</i>	<i>Description</i>	<i>Unit</i>	<i>Qty</i>	<i>\$/Unit</i>	<i>\$/Unit x Qty</i>	<i>Comments</i>
Toburn Gold Property	Mapping	Surface geology mapping – for structures / veins	day	25	\$500	\$12,500	
		Gold assays of surface samples	each	100	\$15	\$1,500	
Toburn Gold Property	Geophysics	Walking magnetometer + GPS point tracking	km	15.5	\$300	\$4,650	
	Report		lump	1	\$1,500	\$1,500	
	<b>TOTAL</b>					<b>\$20,150</b>	

#### **E. Mechanical overburden stripping, washing, mapping and channel sampling.**

Prior to any surface exploration work, SRO's will be notified of and consulted about activities proposed. Appropriate permitting for logging surface disturbance will be obtained.

A mechanical stripping program is proposed for Claim L2378, adjacent and west of post #2 where visible gold is noted in a previously trenched, surface vein. Prior to stripping, timber will be pre-cut in the area where stripping is proposed. An excavator will be used to expose bedrock over a strike length of 150m, with a width of 3m and an expected depth of less than 1.5m. Overburden will be stockpiled on the exposed outcrop edges and sloped to avoid slumping. Outcrops will be power washed using a gas powered pump and hose. Outcrops will be mapped and channel sampled using a gas powered diamond saw. Samples will be ticketed and locations recorded prior to submission for gold assay. Snow fencing and signage will be erected for areas with greater than 1m depths.

All contractors retained by CMC will possess Comprehensive General and Automotive Liability Insurance and if applicable, Workers Safety Insurance Coverage such as WSIB in Ontario.

The cost of the program is estimated at \$30,200 with an estimated two months to complete.



Once assaying and mapping information is complete and verified, trenches will be back-filled and contoured.

**Table 11. Budget Details – Mechanical Overburden Stripping-Washing-Mapping-Sampling**

<i>Zone Identifier</i>	<i>Activity</i>	<i>Description</i>	<i>Unit</i>	<i>Qty</i>	<i>\$/Unit</i>	<i>\$/Unit x Qty</i>	<i>Comments</i>
	Stripping Preparation	Vegetation and tree cutting	days	5	\$350	\$1,750	
	Overburden Stripping	Length:150m Width: 3m Depth: <1.5m	hours	50	\$120	\$6,000	
	Washing	Wash outcrop with high pressure water pump	days	10	\$300	\$3,000	
	Mapping	Surface mapping and sample outline	days	4	\$500	\$2,000	
	Channel Sampling	Rock saw channel samples on outcrop surface, bag and ticket samples, prepare submission to Lab	days	10	\$300	\$3,000	
	Sample Assay	Gold assay	each	250	\$15	\$3,750	
		Supervision	day	15	\$300	\$4,500	
	Cover Trench with soil depending on SRO		hours	35	\$120	\$4,200	
	Report		lump	1		\$2,000	
	<b>TOTAL</b>					<b>\$30,200</b>	

#### **F. Field inspection program, existing shaft caps assessment and geotechnical testing prioritized crown pillars**

Following the completion of the desktop compilation and initial field investigation of existing mine hazards, a monitoring program will be developed to inspect existing safeguards and to assess of shaft caps in priority. Assessments may warrant the remediation or replacement of existing caps. A budget of \$60,000 is allocated for Phase One and \$120,000 for Phase Two.

In Phase Three, a \$250,000 budget is allocated for geotechnical testing of selected crown pillars as determined by priority. Testing results from this program will enhance the progressive remediation program and will benefit the development of a closure plan activities.

## **G. Surface exploration diamond drilling**

Prior to any surface exploration work, SRO's will be notified and consulted of activities proposed.

Surface diamond drilling is proposed at different collar locations throughout the Toburn Property. The collar locations are selected based upon target geometry and in areas having manageable environmental impact, see Appendix C, Proposed Exploration Plan – Phase One. There are no stream or water crossings planned for equipment mobilization - demobilization. Current underground workings will not be impacted or destabilized by proposed surface drill activities. Drill stems remaining in the ground will be capped at a height of less than 50 cm and collars will be cemented if producing water or if an underground opening is encountered. Water bodies such as Gull Lake and the pond located on claims 2377 / 2378 and town water supplies are anticipated water sources for drilling. Toll use of town water will also be considered if applicable. Following the completion of drill activities, all sites will be inspected for refuse and to ensure drill stems are capped and well-marked. Leveling and seeding may be required.

Phase One drill program totaling 23,245 metres from 40 drillholes will target seven target horizons as listed below;

- No. 1 and North Vein Offset – (immediately west of Glenora<sup>14</sup> Boundary)
- North Branch – East Extension
- Deep South Vein and Main Break – Murdoch Creek Offset
- Incline Veins – Located Between North Branch and South Vein
- North Bulak, No. 6 & 7 Veins
- No.7 Surface Vein – (immediately west of Claim 2378 #2 post)
- No. 6 & 7 Veins – Deep Offsets

Total cost for the Phase One drill program is estimated at \$3,546,500<sup>15</sup> over a three year period, Year 2 to the end of Year 4. This cost would include all diamond drilling expenses, labour, facility rentals, utilities, core preparation and sawing, storage, assaying, data and GIS compilation and quarterly reporting.

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<sup>14</sup> Glenora Property is owned by Queenston Mining Inc.

<sup>15</sup> Cost per metre estimated at \$150/metre 0 to 500m, \$200/metre 500 to 1,000m; \$250/metre >1,000m

The distribution of drill holes and metres per target horizon is provided in the following Table 12:

**Table 12. Phase One Diamond Drill Details**

**NORTH VEINS - NO. 6 & 7 VEINS**

<i>UTM NAD83 Easting</i>	<i>UTM NAD83 Northing</i>	<i>DDH</i>	<i>AZM</i>	<i>DIP</i>	<i>DRILL HOLE LENGTH (m)</i>	<i>LENGTH TO TARGET (m)</i>	<i>VERTICAL DEPTH (m)</i>	<i>TOTAL FOR ZONE (m)</i>
572746	5334245	N1	2	-55	500	420	350	
572889	5334301	N2	9	-55	500	420	350	
573124	5334340	N3	311	-55	500	420	350	
573124	5334340	N4	354	-55	500	420	350	
573153	5334404	N5	339	-55	300	210	170	
573153	5334404	N6	2	-55	300	210	170	
								2,600

See North Long Section

**DEEP NORTH VEIN AND NORTH BREAK – MURDOCH CREEK OFFSET**

<i>UTM NAD83 Easting</i>	<i>UTM NAD83 Northing</i>	<i>DDH</i>	<i>AZM</i>	<i>DIP</i>	<i>DRILL HOLE LENGTH (m)</i>	<i>LENGTH TO TARGET (m)</i>	<i>VERTICAL DEPTH (m)</i>	<i>TOTAL FOR ZONE (m)</i>
572784	5334078	NV1	348	-73	1890	1707	1645	
573170	5334136	NV2	346	-73	1890	1707	1645	
								3,780

See Main Break and North Long Sections

**DEEP SOUTH VEIN AND MAIN BREAK – MURDOCH CREEK OFFSET**

<i>UTM NAD83 Easting</i>	<i>UTM NAD83 Northing</i>	<i>DDH</i>	<i>AZM</i>	<i>DIP</i>	<i>DRILL HOLE LENGTH (m)</i>	<i>LENGTH TO TARGET (m)</i>	<i>VERTICAL DEPTH (m)</i>	<i>TOTAL FOR ZONE</i>
572853	5333901	SV-1	344	-73	1555	1350	1303	
573427	5334039	SV-2	10	-55	1160	792	762	
								2,715

See Main Break and North Long Sections

**INCLINE VEINS - BETWEEN NORTH BREAK & SOUTH BREAK**

UTM NAD83 Easting	UTM NAD83 Northing	DDH	AZM	DIP	DRILL HOLE LENGTH (m)	LENGTH TO TARGET (m)	VERTICAL DEPTH (m)	TOTAL FOR ZONE (m)
572786	5334225	IV-1	350	-55	610	variable	variable	
572889	5334184	IV-2	350	-55	610	variable	variable	
572955	5334138	IV-3	350	-55	610	variable	variable	
572818	5334003	IV-4	350	-55	915	variable	variable	
573170	5334136	IV-5	350	-55	915	variable	variable	
								3,660

See Main Break and North Long Sections

**NO. 4 SHAFT VEIN SYSTEM- PLUS MURDOCH CREEK OFFSET**

UTM NAD83 Easting	UTM NAD83 Northing	DDH	AZM	DIP	DRILL HOLE LENGTH (m)	LENGTH TO TARGET (m)	VERTICAL DEPTH (m)	TOTAL FOR ZONE (m)
572808	5333820	4S1	341	-45	330	260	180	
573037	5333785	4S2	341	-45	470	350	250	
572880	5333735	4S3	342	-73	1555	1350	1300	
								2,355

See #4 Shaft Long Section

**MAIN BREAK- EAST EXTENSION**

UTM NAD83 Easting	UTM NAD83 Northing	DDH	AZM	DIP	DRILL HOLE LENGTH (m)	LENGTH TO TARGET (m)	VERTICAL DEPTH (m)	TOTAL FOR ZONE (m)
573907	5334403	ME-1	360	-45	240	70	50	
573832	5334394	ME-2	360	-45	150	70	50	
573363	5334311	ME-3	360	-45	240	70	50	
573425	5334303	ME-4	360	-45	170	115	80	
573516	5334290	ME-5	360	-45	240	130	100	
573514	5334348	ME-6	360	-45	150	70	50	
								1,190

**NORTH BREAK – EAST EXTENSION (NORTH BULAK, NO. 6 & 7 VEINS)**

UTM NAD83 Easting	UTM NAD83 Northing	DDH	AZM	DIP	DRILL HOLE LENGTH (m)	LENGTH TO TARGET (m)	VERTICAL DEPTH (m)	TOTAL FOR ZONE (m)
573280	5334647	NBE-1	341	-57	350	78,110,304	65,95,252	
573452	5334669	NBE-2	341	-45	200	55, 85,180	45, 63,135	
573183	5334635	NBE-3	341	-45	200	55, 85,180	45, 63,135	
573797	5334745	NBE-4	341	-45	100	20, 50, 80	15, 35, 60	
573375	5334663	NBE-5	341	-75	270	110,180,240	110,172,236	
573750	5334691	NBE-6	341	-45	200	55, 85,180	45, 63,135	
573249	5334459	NBE-7	341	-45	400	30, 250, 300	20,180, 230	
								1,720

See North Breccia Long Section

**MAIN NORTH BRANCH– EAST EXTENSION**

UTM NAD83 Easting	UTM NAD83 Northing	DDH	AZM	DIP	DRILL HOLE LENGTH (m)	LENGTH TO TARGET (m)	VERTICAL DEPTH (m)	TOTAL FOR ZONE (m)
573298	5334347	MN-1	350	-45	300	180	130	
573357	5334467	MN-2	350	-45	300	80	58	
573455	5334417	MN-3	350	-45	300	180	130	
573662	5334487	MN-4	350	-45	300	180	130	
								1,200

See North Breccia Long Section

**NORTH A+B**

UTM NAD83 Easting	UTM NAD83 Northing	DDH	AZM	DIP	DRILL HOLE LENGTH (m)	LENGTH TO TARGET (m)	VERTICAL DEPTH (m)	TOTAL FOR ZONE (m)
572703	5334376	NB-1	348	-65	1220	945,1005	858	
572746	5334245	NB-2	349	-45	460	280	200	
572746	5334245	NB-3	349	-45	700	607	398	
572746	5334245	NB-4	349	-50	915	792	701	
573088	5334226	NB-5	334	-55	730	381	457	
								4,025

See North Break Long Section

DDH = diamond drill hole, AZM = azimuth, UTM= Universal Transverse Mercator, m= metres

### 5.8.2 Planned Phase Two Activities

The proposed Phase Two diamond drill program is dependent on where the positive results from Phase One are located. It is impossible to predict where along each Break structure that the follow-up Phase Two program will concentrate. That considered, a deep wedge offset program following up drilling is provided for one target area, the Main Break below the Murdoch Creek No. 5 Fault off-set. Drill pierce point locations will be planned at a density to determine an inferred resource.

A program has been designed for the South Break Veins Deep Offset zone, see Appendix C Longitudinal Section – “Phase 2”. For the Main Break, a total of 8 pilot drill holes and 16 wedge-drill holes are proposed for a total of 28,800 metres. Estimated cost of the program is forecasted to be \$7,200,000. At program completion, a block with dimensions of 700m along strike, having a vertical depth between 1000m and 1700m will be tested with an approximate drill pattern of 100m vertical by 100m horizontal. The program is estimated to take 3 years to complete. The up-dip trend of the block is anticipated to be truncated by the Murdoch Creek No. 5 Fault off-set plunging at 39° to the SW. The zone would be open down dip.

If drilling is 100% successful, a resource of just less than 1.8M<sup>16</sup> tons will be defined. Using the historic recovered grade of 0.48 oz./ton, a target potential of 862,000 ounces would be outlined as an inferred resource. These estimates do not include sub-parallel or inclined veins that may be encountered during drilling. Using a 50% success rate would give approximately 898,000 tons at 0.48 oz./ton for 431,000 ounces with the zone open at depth. In comparison, the former Toburn Mine produced 570,659 oz./ton to a 750 vertical metre depth giving approximately 760 oz. and 1,578 tons per vertical metre.

### 5.8.3 Contractor Work Force Requirements

Field work programs including geophysics survey, tailings testing, diamond drilling, overburden stripping and washing will be undertaken by independent contractors with the estimated breakdown of directly related manpower found in the following table.

**TABLE 13. Program Workforce Requirements**

<i>Work Description</i>	<i>Personnel</i>	<i>Total</i>
Compilation and 3D model development	2 geologists, 1 GIS, 1 engineer, 1 data processing	5
Walking magnetometer survey, interpretation & report	1 technician and 1 geophysicist	2
Tailings Sonic Drilling	3 technicians and 1 supervisor, 1 geologist	5
Remediation Work and Monitoring	1 engineer, 3 contractors	4+
Diamond Drilling (2 shifts per day)	2 Runners, 2 Helpers, 1 Foreman +	5+

<sup>16</sup> Average zone width used: 2.1m.

	undetermined support maintenance and administrative staff	
Overburden Stripping	1 excavator operator	1
Outcrop Washing- Sampling	2 technicians, 1 geologist	3

Independent consultants will be used on occasion for tasks such as resource estimation and crown pillar geotechnical studies. CMC personnel will supervise all work programs as well as undertake the following; surface mapping; compilation of existing underground working, mine features and hazards; all matters relating to diamond drill program including but not limited to all notifications to surface rights owners, all relevant permitting, core logging, sampling, core sawing and sample processing, data entry, map generation, GIS management and environmental care and control.

### 5.8.3 Activities

#### **Diamond Drill Activities**

Diamond drilling equipment comprises a unitized drill on skids, water pump where necessary, D6 tractors with low ground pressure tracks or skidder to mobilize equipment, NQ sized drill rods & casing, and ancillary supplies as required. Mobilization of drill units will be conducted under normal procedures with attention to minimizing impact to vegetation and ground cover.

The drill is anticipated to operate 24 hours per day, seven days per week. The drill will be operated by one runner and one helper per shift. A field foreman will be in charge of overall drill operations. CMC will manage the drill program to ensure drill activities meet regulatory requirements.

Drill operations may have time restrictions imposed due to location in the community. Restrictions will extend proposed time-lines.

Emissions and anticipated discharge rates from drilling include the following,

Noise: Typical noise emitted from a unitized drill model BBS56<sup>17</sup>;

Inside the drill unit: 102dB

5 ft. (1.52m) away from drill unit: 91dB

20 ft. (6.1m) away from drill unit: 89dB

**Noise Mitigation Plans:** Drill units can be fitted with a housing enclosure to reduce noise emissions if necessary.

**Air Emissions:** Drill units are self-powered equipped with a diesel engine and would have typical diesel combustion emissions similar to a D6 tractor or excavator.

<sup>17</sup> Noise emissions provided by Cabo Drilling (Ontario) Corp. dB is decibels.

Drill-water effluent: Fine rock cuttings or sludge are associated with drill-water effluent.

**Effluent Mitigation Plans:** Where necessary cuttings/sludge will be captured by a filtration system prior to discharge onto soils or into sump-holes. Silt barriers will be used where necessary. Sludge will be disposed according to appropriate municipal by-laws.

#### 5.8.4 Facilities and Infrastructure

##### **A Transportation**

###### Roads and Railways

There are no planned expansions and/or improvements to existing public or private roads.

There are no new roads planned on crown lands or any new encroachments, entrances from existing roads. Diamond drill moves will use, as much as possible, existing hydro corridors, existing trails or open spaces.

There are no new rail lines proposed.

There are no inland water transportation routes.

There are no port or dock facilities.

There are no airfields required for the operation.

##### **B Power Supply and Fuel**

Drill units are self-powered. Equipment for overburden stripping, washing and channel sampling are self-powered. Core sawing will use electrical power that is available through existing power infrastructure.

No additional fuel, natural gas or other pipelines are anticipated.

All fuels, oils and lubricants will be contained and will follow normal handling procedures. Diamond drill units are self-equipped with mobile, double-walled steel fuel tanks. Spill kits are carried on all diamond drill rigs and personnel are trained to use kits in the event of a fuel spill. There will be no requirements for storage of hazardous and toxic substances or explosives.

##### **C Additional Infrastructure**

No anticipated dams, dikes or diversions of water bodies are anticipated. Diamond drill will use town water or water from existing water bodies for its operations.

Major buildings and large equipment will not be needed.



A camp is not required. Local rental buildings or facilities owned by CMC will be used for core logging and core sawing/sample processing activities. Facilities have washrooms, utilities and potable water. A 'Dry' and portable washrooms are used for diamond drilling personnel.

There will be no aggregate requirements unless advisable for drill trail improvements. This aggregate will not be borrowed from site.

#### 5.8.5 Tailings, Waste Rock and Other Mine Stockpiles

- A There are no anticipated production rates during Phase One exploration. Possible tailings production will involve bringing the Property to lease.

Access and drill activities on tailings will be managed for erosion care and stability of existing berms.

- B All milling of any future production ores if any, will be transported off-site to a CMC future central mill complex.

- C There are no anticipated waste stockpiles until ore extraction commences whereby an advanced exploration application and closure plan will be submitted. Existing waste stockpiles will be examined as part of the hazard assessment.

- D CMC is a mineral exploration company and is joint owned by Yamana and Agnico having considerable development and production experience. In the event mineral production is contemplated, the Company will rely on its in-depth experience, consultants and contractors and adjust human resources to meet new operations.

- E Acid rock and metal leachate studies will be undertaken for advanced exploration and closure plan submissions in preparation for lease.

#### 5.8.6 Water Management

##### **A Water Taking Requirements**

With respect to water consumption, a diamond drill typically uses 45 to 54 litres per minute<sup>18</sup> when in operation. A drill operating continuously for the entire 24 hours at this rate could consume 65,462 to 78,555 litres per day, (66 to 79 m<sup>3</sup> per day). CMC is evaluating a water recirculation system to reduce water consumption and to re-use filtered drill water. Of note, diamond drill activities by nature are transitory without a fixed, permanent location. Therefore, drill programs usually rely on different water sources depending on the drill collar location.

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<sup>18</sup> Estimated water consumption rate of 10 to 12 imperial gallons per minute.

The Toburn drill program will rely to a certain extent on the Town of Kirkland Lake water supply. In this case water consumption is metered and paid for per volume consumed. Gull Lake serves as the source of potable water for the Town of Kirkland Lake. Daily water flow from the Town's Class 3 Water Treatment Plant in 2010<sup>19</sup> was 8,728 m<sup>3</sup> which has a design capacity of 22,500 m<sup>3</sup>/day. If drill activities solely used the Town of Kirkland Lake water supply, it would represent 0.8% to 0.9% of the Town's daily average flow based on 2010 flow rates or 0.3% to 0.4% of the design capacity.

Other possible water sources for drilling and outcrop washing include drawing water directly from Gull Lake as well as the elongate pond situate on the common claim boundary L2377 and L2378.

Previous drill campaigns have used town water supply without incident.

## **B Water Treatment and Disposal Requirements**

In regards to diamond drill-water effluent, a poly-filter system will be used to filter 'rock-cuttings' from effluent waters. Depending on the collar location, filtered water effluent discharge will percolate into soil strata and follow natural landscape contours, ditch and drainage courses. It is anticipated that filtered effluent be discharged into Town of Kirkland Lake storm sewers. A poly-filter system was used during a 2005 drill campaign within the Town of Kirkland Lake where discharge was returned to town storm sewers without complications or incident. Town storm sewers directly discharge into Murdoch Creek.

Gull Lake, Kirkland Lake's potable water source, may possibly act as an end-receiver of drill discharge waters through surface ditches. It is anticipated that discharge will be minimal and will contain insignificant suspended solids. However, this discharge will be monitored and silt barriers will be used if necessary at discharge points. Of note, Kirkland Lake has an existing Class 3 Water Treatment facility licensed under the Safe Drinking Water Act, 2002. Similarly, sampling and analysis of waters are regulated as per Drinking-Water Systems Regulation 170/3.

Drill cuttings/sludge will be disposed according to municipal by-laws.

### **5.8.7 Waste Disposal and Management Systems**

Solid wastes are disposed through municipal collection systems.

Sample pulp and rejects will be transported to CMC's Upper Canada site for storage or disposal at the Kirkland Lake municipal landfill site.

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<sup>19</sup> Corporation of the Town of Kirkland Lake. "2010 Annual and Summary Report, Drinking Water System #220000308, Reporting Period January 1, 2010 to December 31, 2010".

Diamond drill activities will use portable washroom facilities which are leased and handled by an approved waste contractor.

Activities involving core logging and sample processing will be undertaken at facilities that will use existing municipal potable water and sewer infrastructure.

#### 5.8.8 Closure and Rehabilitation

Closure or rehabilitation matters will be considered when bringing the Toburn Property to lease.

Clean-up of drill sites and trenching areas will be managed based on requirements for re-use or re-entry over the life of the ELO. Trail improvements or access restrictions, to prevent accidents or unwanted movement of third parties, will be managed as required.

## **6. LAND USE**

### **6.1. Historic Land Use**

#### Development History

##### **1906:**

The railway reached what is now known as Swastika, Ontario and opened access to the Kirkland Lake area.

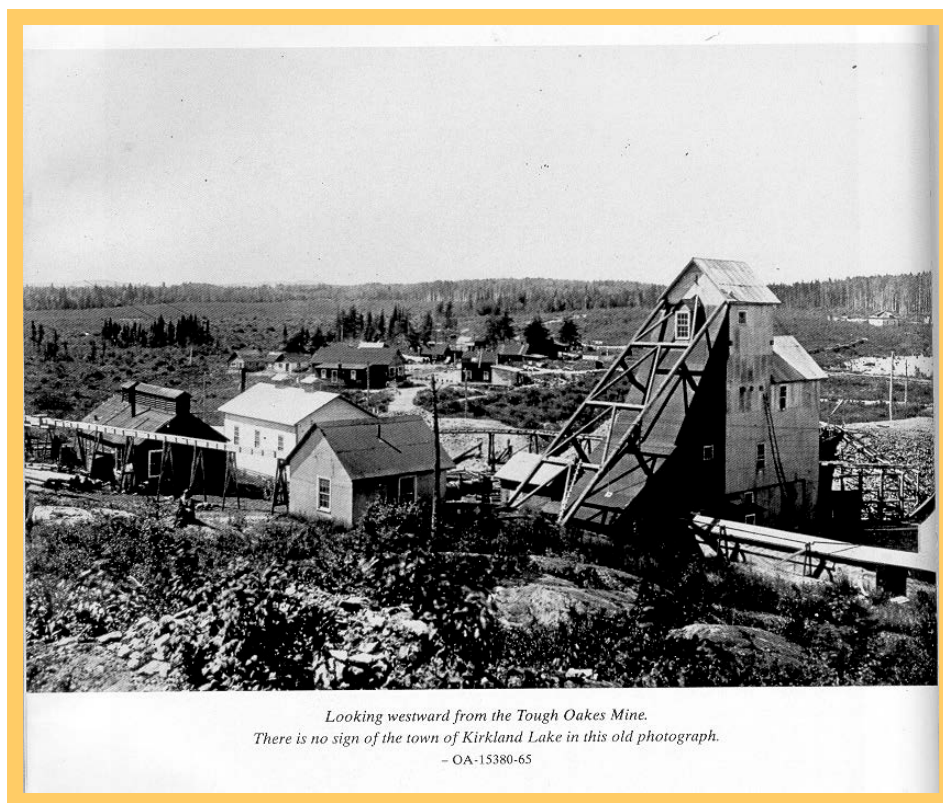
##### **1911:**

In July, 1911 “Swift” Burnside staked three of the original Toburn claims at the east end of what is now the Town of Kirkland Lake.

##### **1912:**

Harry Oakes and the Tough brothers staked the other Toburn claims that came open on January 8. Oakes and his partners had snow-shoed six miles through the dark from Swastika and started staking when the claims came open at midnight. The temperature was -40F and Oakes is said to have worn five pairs of pants to keep out the bitter cold. The men had used a candle in a tin can as a source of light to read their compasses as they staked in the dark.

Oakes and the Toughs joined up with “Swift” Burnside and his three claims to the north. Enough gold vein discoveries were found during this year to secure financial support from C.A. Foster, then mayor of Haileybury and a Cobalt mine owner. By September the first ore was processed providing capital to purchase a stamp mill on what was then known as the Tough-Oakes-Burnside Property. This was the first ore processed on the prolific ‘Kirkland Lake Break’.



**Figure 5. Tough-Oakes Mine, early Toburn Property**

### **1913 to 1953:**

Between 1913 and 1931, the Tough-Oakes-Burnside mine, prior to being acquired by Toburn Gold Mines, Limited, generated revenues amounting to \$2,909,597 from 290,477 tons milled.

Toburn Gold Mines, Limited incorporated in 1931 as a subsidiary of the Premier Gold Mining Company, Limited and in that year acquired the Tough-Oakes-Burnside mine property. The Property consisted of 10 claims covering approximately 138 hectares (343 acres) in Teck and Lebel Townships and represented the eastern most extent of the 'Kirkland Lake Break'.

By 1932, the Toburn mine commenced production with a 100-ton per day mill which later was increased to 170 tons per day. The mine was in operation until 1953 producing 570,659 ounces of gold from 1,186,316 tons of ore at a recovered grade of 16.5 gAu/t (0.48 oz/ton).

Mine workings were developed to a depth of 2,475 feet (754 m) with 21 levels. Seven shafts exist on the Property with five of these developed to no greater than 155 ft (47m).

**1985:**

On March 25, 1985 a report entitled 'Mine Openings in Teck and Lebel Townships District of Temiskaming' authored by L.J. Cunningham & Associated Ltd. was published. The report was designed to identify, evaluate and rank mine hazards and recommend remedial activities. The report identified areas, located on the Toburn Property, having the potential for ground subsidence or collapse, having fencing around a mine opening that required inspection and that require designation for restricted mine use only.

**1987-1991:**

According to the 1987-88 Canadian Mines Handbook, Toburn Gold Mines Ltd was re-listed on the Alberta Stock Exchange in that period. From 1987 to 1989, a brief evaluation of the Property ensued. Toburn Gold Mines Ltd was de-listed in October 1991.

**2000:**

In 2000, the hazard potential existing on the Toburn Property was brought to the forefront with an emergency call to the Kirkland Lake Fire Department that a youth had entered the Toburn 'A' shaft. The call was later proven a hoax.

On April 27, 2000 and as per Order No. W-L-18/00 under Section 35 of the Mining Act R.S.O. 1990, the surface and mining rights for mining claims HR1442/(L2373), HR1443, HR1444/(L2374), L1821, L2377 and L2378 all located in Lebel Township were withdrawn from prospecting and staking. Also, and as per Order No. W-L-17/00 under Section 35 of the Mining Act R.S.O. 1990, the surface and mining rights for mining claims HR1440/(L2376), L 1823, L 1822, and HR1441/(L 2375), all located in Teck Township were withdrawn from prospecting and staking.

**March 2002:**

DST Consulting Engineers Inc. published a report in March entitled 'Toburn Geotechnical Study, Toburn Mine Property, Kirkland Lake, Ontario'. Between July 8 and December 2, 2001 DST identified the locations and evaluated the crown pillars of 18 stopes by conducting 7,772 m of drilling in 726 drill holes (670 percussion drill holes and 56 diamond drill holes). Rehabilitation options and costs of certain mine hazards were provided.

**July to December 2002:**

In July 2002, the MNDM issued a request for tender to locate and cap Toburn #1 shaft and to fill the 101 & 103 stopes with sand and concrete. Three separate final work

reports for these three areas were provided by Alex McIntyre and Associates, Limited in November and December 2002.

During this period (possibly in 2002) residential trailers situated on a particular area of the Toburn Property were removed for safety considerations.

### **2005 to Present:**

Vault Minerals Inc. ("Vault") evaluates the exploration potential for gold discovery at Toburn and on January 17, 2007 submits a letter to the MNDM proposing terms to acquire the mineral rights to the Toburn Property. Over the course of three years, Vault submits an exploration program and also discusses with the MNDM issues regarding Property acquisition. In 2010, Vault merges with Queenston and the Company notifies the MNDMF of its intention to pursue the acquisition of the Toburn.

In 2008, the Northern Prospectors Association secured surface rights title to the parcel of land on the corner of Burnside Drive and Highway 66 which includes the Toburn headframe, office, hoistroom, shop and garage. The Property surface rights were transferred to the Corporation Town of Kirkland Lake and the site is maintained by a volunteer committee called the Toburn Operating Authority.

The MNDMF issues a letter to Queenston dated November 16, 2010 explaining that it is prepared to consider an application for an ELO pursuant to certain conditions as outlined in the *Mining Act*.

On May 7, 2011 a person falls from the former Toburn mill ruins and injures herself. In the few weeks following, concrete foundation walls are 'leveled' and the area partially filled with sand to avoid further incidents. This remedial work was ordered by the MNDMF.

An ELO Project Definition Application for the Toburn Property was submitted by Queenston on August 26, 2011 to the MNDMF. Queenston receives a letter dated September 13, 2011 from the MNDM acknowledging receipt of \$765.00 application processing fee as paid by Queenston. On December 5, 2011 a Public Information Session was undertaken at the Kirkland Lake Legion Hall at two time slots from 2 to 4 pm and 7 to 9 pm. The session was designed to provide an update on the proposed advanced exploration program at the Upper Beaver Project and on the proposed Toburn ELO proposed application. A total of 85 attendees 'signed-in' including local residents and representatives of the following organizations: MNR, MOE, MNDM, Timiskaming First Nation, Timiskaming Child and Family Services, BDI Canada, Kirkland Lake Gold, Cabo Drilling, Promec Mining, Majic, Vale, Wahgoshig First Nation, Northern News, CJKL, West Kirkland Mining, Northern Prospectors Association (NPA), Mistango River Resources and the Dublin Bay Lodge. Of the 85 attendees, 38 people (45%) were at the meeting for the Toburn ELO update. A Public Information Session report dated



January 19, 2012 was also submitted to the MNM as a supplement to the application submission.

After the August 26, 2011 submission Queenston occasionally contacted the MNM for application status updates. On December 28, 2012, Toburn ELO Application proponent Queenston is acquired by Osisko. In December 2012, Queenston emails MNM representatives to inform Osisko is interested in pursuing the ELO application. On June 16, 2014, Osisko is acquired by Agnico Eagle and Yamana 50-50 partnership and forms CMC. A letter is submitted to the MNM dated July 27, 2014 informing that CMC is still interested in pursuing an ELO at Toburn. On January 12, 2015, the MNM responds to CMC outlining steps for the engagement and re-initiation of the ELO process application.

On February 23, 2015, MNM and CMC meet to discuss the CMC's exploratory intentions for Toburn, capacity to undertake the project and information anticipated to be included in the ELO application.

### Existing Mine Features and Hazards

**Table 14. Toburn Property Existing Mine Features - Shafts**

SHAFT	STATUS	DATE	CLAIM LOCATION	REFERENCE
A	concrete capped	1972	HR1441/2375	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.
B	concrete capped, fenced	?	HR1441/2375	
C	concrete capped; test existing cap	1953	HR1441/2375	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.
1	concrete capped, filled	2002	L1823	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985. DST Consulting Engineers Inc. 'Toburn Geotechnical Study, Toburn Mine Property, Kirkland Lake, Ontario'. March 2002.
	2002 Remediation  8 cubic metres of 30 Mpa concrete to the site and the 2 ft thick cap	2002		Alex McIntyre & Associates Limited. W.A. Bill Glover, P.Eng. "Final Report by Contractor – December 2, 2002. MNM Tender SSB-031858. Toburn Mine Site Rehabilitation, Project #4, Toburn No.1 Shaft Cap." November 2, 2002.
2	concrete capped; test existing cap	1953	L1823	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985. DST Consulting Engineers Inc. 'Toburn Geotechnical Study, Toburn Mine Property, Kirkland Lake, Ontario'. March 2002.
3	concrete capped	?	L1823	Current headframe.
4	filled	?	L1823	L.J. Cunningham & Associates. 'Mine Openings in



				Teck and Lebel Townships District of Temiskaming'. March 25, 1985. DST Consulting Engineers Inc. 'Toburn Geotechnical Study, Toburn Mine Property, Kirkland Lake, Ontario'. March 2002.
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**Table 15. Toburn Property Existing Mine Features – Crown Pillars, Stopes and Raises**

<b>FEATURE DESCRIPTION</b>	<b>STATUS – Previous Recommendations</b>	<b>DATE</b>	<b>CLAIM LOCATION</b>	<b>REFERENCE</b>
No.7 Vein	hazardous –condition of crown pillar and concrete cap unknown- investigate concrete cap; drill test crown pillar east of No. 7 raise	1985	HR1441/2375	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.
No. 9 Raise	capped; test existing cap	1953	HR1442/2373	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.
No. 6 Vein (106 stope)	hazardous- condition of crown pillar and concrete cap unknown – investigate concrete cap; drill test crown pillar north of B shaft	1985	HR1441/2375, HR1442/2373	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.
No. 3 Vein (109 stope)	hazardous- condition of crown pillar and concrete cap unknown – investigate concrete cap; drill test crown pillar east and west of B shaft	1985	HR1441/2375	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.
No. 11 Vein (103 stope)	hazardous- condition of crown pillar and concrete cap unknown- investigate concrete cap; drill test crown pillars NE and SW portions	1985	HR1441/2375	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.
	Year 2002 Remediation –  Total sand introduced to fill 103 Stope in preparation for a concrete cap was 4,072 cubic metres.	2002		Alex McIntyre & Associates Limited. W.A. Bill Glover, P.Eng. "Final Report by Contractor – December 2, 2002. MNM Tender SSB-031858. Toburn Mine Site Rehabilitation, Project #3, Toburn 103 Stope." December, 2002.

	Total concrete poured for the concrete cap was 1,676 cubic metres.			
No. 2 Vein	caution; drill test at 25 ft. intervals for 150 ft west from B shaft for possible unrecorded stoping	1985	HR1441/2375	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.
No. 218 Vein	hazardous- condition of crown pillar and concrete cap unknown- investigate concrete cap; drill test crown pillar immediately north of college and east of 218 raise	1985	HR1441/2375	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.
No. 1 Vein (101 stope)	caution & hazardous – drill test crown pillar east of C shaft	1985	HR1441/2375	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.
	Year 2002 Remediation – Total sand introduced to fill 101 Stope in preparation for a concrete cap was 2,817 cubic metres. A concrete cap was poured and 1,109 cubic metres concrete was used.	2002		Alex McIntyre & Associates Limited. W.A. Bill Glover, P.Eng. "Final Report by Contractor – December 2, 2002. MNM Tender SSB-031858. Toburn Mine Site Rehabilitation, Project #1, Toburn 101 Stope." December 2, 2002.
No. 2 Vein	caution	1985	HR1441/2375	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.
Areas on maps 2-4-A and 3-4-A	restrict these areas for mining use only	1985	HR1441/2375, HR1442/2373	L.J. Cunningham & Associates. 'Mine Openings in Teck and Lebel Townships District of Temiskaming'. March 25, 1985.

## Existing Mine Infrastructure

The former Toburn Mine No.3 headframe and other buildings that include the 'dry', compressor and maintenance rooms, storage building and office are located on a 1.9 hectare sized parcel on mining claim L1823. The parcel has been zone designated as Light Industrial Special 'M1-02'<sup>20</sup> and is now informally known as the Toburn Mine Greenspace Site. The Toburn Operating Authority, a volunteer organization, is refurbishing and maintains the Site for the Town of Kirkland Lake. The Site is intended as a tourist attraction and to raise awareness of the importance of mining to the community and region. Two of the buildings were rented by Queenston and Osisko for core logging/core cutting activities from 2010 to 2014. Rent revenue pays for Site refurbishing and maintenance. CMC has not renewed the lease of these two buildings.

### 6.2 Current Land Use(s)

The Toburn Property consists of ten claims representing approximately 138 hectares. Four claims<sup>21</sup> representing 54 ha. (39% of the total hectares) are situated in the Town of Kirkland Lake, Teck Township. Six claims<sup>22</sup> representing 84 ha. (70% of the total hectares) are located within the unorganized Township of Lebel.

Current land usages are provided in the following table.

**Table 16. Toburn Property Land Use**

<i>Land Use</i>	<i>Mining Claims</i>	<i>ha.</i>	<i>% of Total ha.</i>
Tailings	HR1440/L2376, HR1441/L2375, L2377	14.6	10.6%
Industrial – Construction	HR1442/L2373	2.6	1.9%
Municipal – Institutional Education	HR1441/L2375, L1823	6.7	4.9%
Municipal – Institutional Health Care	L1821, L1822, L1823, HR1444/L2374	24.2	17.5%
Municipal – Residential Lots	HR1441/L2375, HR1440/L2376, HR1442/L2373	2.3	1.7%
Wood Lot + Resident – Surface Right Owner	L2372	8.7	6.3%
Vacant Wood Lot – Surface Right Owner	L2377, L2378	22.0	15.9%
Green Space – Toburn Mine Site	L1823	0.9	0.7%
Utility Lots –Hydro Electric Commission or Hydro One Networks	HR1441/L2375, HR1442/L2373, HR1444/L2374	4.9	3.6%
Easements - Corridors– highway, railway, hydro	HR1441/L2375, HR1442/L2373, HR1444/L2374, L2372,	13.2	9.5%

<sup>20</sup> The Corporation of the Town of Kirkland Lake. By-Law No. 88-49. Amending Restricted Area By-Law No. 77-45.

<sup>21</sup> Claims L1822, L1823, HR1440/L2376, HR1441/L2375

<sup>22</sup> Claims L1821, L2372, HR1442/L2373, HR1444/L2374, L2377, L2378

	L1821, L1822, L1823		
Gull Lake	HR1444/L2374	5.8	4.2%
Other (Town of Kirkland Lake Vacant Land, Crown Land, Town streets)		32.1	23.2%
<b>Total</b>		<b>138</b>	<b>100%</b>

ha. = hectares

### 6.3 Neighbouring Land Uses and Occupants

Neighbouring lands, immediately west of the Toburn Property, consist of residential lots with houses plus vacant lots within the Town of Kirkland Lake. Vacant woodlots dominate the landscape to the east, south and north of the Property. Utility and highway corridors are found to the east, west and south. A narrow wedge of the Toburn tailings impoundment extends over the northern claims boundary of HR1440/L2376 and L2377.

Gull Lake is located east of the claims. The Lake has limited access for recreational activity being reserved as a water source. In the past, the Town of Kirkland Lake has considered opening the Lake to boaters, swimmers, other recreational uses as well as shoreline development. These initiatives have not been officially endorsed or approved.

### 6.4 Proximity of Property to Aboriginal Communities

The list of potentially affected Aboriginal communities provided to Queenston by MNM for the Upper Beaver Advanced Exploration project included:

- Wahgoshig First Nation
- Matachewan First Nation
- Timiskaming First Nation
- Metis Nation of Ontario Region 3

In addition to these four Aboriginal groups, the Beaverhouse First Nation has also been included in consultation activities because of their proximity and their asserted rights in the area. We understand that the same communities will have an interest in the Toburn Property, and our intention is to continue to keep them informed of our planned activities at Toburn and within the Kirkland Lake Property. There are no known land claims in proximity to this Property.

### 6.5 Proximity to Designated Environmental or Cultural Sites

An area surrounding the historic Toburn Mine headframe, owned by the Town of Kirkland Lake and adjacent to O'Connor and Northern College is used as a monument to Kirkland Lake's mining history. The Toburn Operating Authority ("TOA"), a not-for-profit

corporation that promotes the historic value of mining in Kirkland Lake uses the site for education, recreation and tourism. There are no other known neighbouring environmental or cultural sites.

#### 6.6 Proximity to Recreational, Residential or Urban Areas

Thirty-nine percent of the total Toburn Property is situated within the Town of Kirkland Lake with residential development immediately adjacent to the west Property boundary. Residential lots account for 9.4% of the total Property area.

#### 6.7 Municipal Zoning Designation on Property

The current Town of Kirkland Lake zoning designation of the Toburn Property is provided in Table 17 and is provided in Kirkland Lake Zoning Designation Plan found in Appendix B.

**Table 17. Toburn Property, Town Zoning**

<i>Zone Identifier</i>	<i>Ha.</i>
Rural	21.0
Residential Single Family	4.0
Residential Multiple family	3.7
Residential Mobile Home	1.7
Toburn Site Green Space	1.9
Institutional Open Space	18.6
Rural Unorganized Township	25.2
Unorganized Township Lebel, not in Kirkland Lake Zoning Plan	62.0
<b>Total</b>	<b>138</b>

## 7 MNDM's CLASS ENVIRONMENTAL ASSESSMENT

Mineral rights to the Toburn Property were withdrawn from staking in 2000. The Province of Ontario is the current owner of the mineral rights with property care and maintenance assigned to the MNDM. As such, the Property falls under Section 176. (3) of the Mining Act: Issuance or validation of mining lease(s) license(s) of occupation, patents, etc. under and Order-in-Council. MNDM must evaluate this ELO application and make a discretionary decision on land tenure of the property.

On March 27, 2015 CMC received a letter from the MNDM requesting that relevant information be provided to inform MNDM's Class Environmental Assessment process with respect to social and environmental impacts and appropriate mitigation measures. The following information is intended to inform MNDM's Class EA as per the tools and process outlined in *A Class Environmental Assessment for Activities of the Ministry of Northern Development and Mines under the Mining Act* (2012),

### 7.1 Part 1 Screening Criteria

**Table 18. Part 1 Screening Criteria**

Question	Yes No	Comments
Is the decision related to a section of the Mining Act listed in Table 4 (Pre-screened Discretionary Activities)?	No	If yes, no further screening is required – Category A (see Section 3.2.1); if no, proceed to question 2.
Is the decision related to emergency measures being undertaken by MNDM?	No	If yes, no further screening is required – Category A (see Section 3.2.1); if no, proceed to question 4.
Is the decision related to the <i>maintenance</i> of a <i>mine hazard(s)</i> on Crown land?	No	If yes, no further screening is required – Category A (see Section 7.4); if no, proceed to question 3.
Is the decision related to an issuance of a surface rights only lease (Section 84. (1) of the Mining Act)?	No	If yes, proceed to question 5; if no, proceed to Part 2 screening criteria (Section 3.1.1.3).
Is the proposed surface rights only lease located within the applicant's existing mining rights lease?	No	If yes, no further screening is required – Category A (Section 3.2.1); if no, proceed to Part 2 screening criteria (Section 3.1.1.3).

## 7.2 Part 2 Screening Criteria

**Table 19. Part 2 Screening Criteria**

Part 2 Screening Criteria	Potential Environmental Effects								Description of Effect	Description of Mitigation Measures
	Is there an effect?			Is the known effect positive or negative?			Can the effect be mitigated?			
	Yes	No	Unk	Pos	Neg	Unk	Yes	No		
Physical Environment										
Protected areas / Areas of Natural and Scientific Interest (ANSIs) (overlapping or adjacent)		X		-	-	-	-	-	None	n/a
Proximate First Nation Reserves / Aboriginal communities		X		-	-	-	-	-	None	n/a
Noise impacts	X				X		X		Potential for noise disturbance to residential area	Monitor noise levels and implement shields and/or barriers around equipment if required
Vibration impacts		X		-	-	-	-	-	None	n/a
Views or aesthetics		X		-	-	-	-	-	None	n/a
Other		X		-	-	-	-	-	None	n/a
Biological Environment										
Aquatic species or habitat	X								Potential change to water quality	Erosion control measures will be put in place
Terrestrial species or habitat		X							None	n/a
Endangered species / species at risk or habitat		X							None	Preliminary assessment of bat habitat determined that

Part 2 Screening Criteria	Potential Environmental Effects								Description of Effect	Description of Mitigation Measures
	Is there an effect?			Is the known effect positive or negative?			Can the effect be mitigated?			
	Yes	No	Unk	Pos	Neg	Unk	Yes	No		
										it will not be effected by exploration activities
Migratory bird species		X							None	n/a
Ground water quality or quantity		X							None	n/a
Surface water quality / quantity	X								Potential change to water quality from drilling discharge	Erosion control measures
Soils - contaminants, sedimentation, erosion	X								Potential erosion from minor overburden stripping	Erosion control measures
Wells or drinking water sources		X							None	n/a
Air quality		X							None	n/a
Other (specify)		X							None	
Built/Structural Environment										
Infrastructure (roads, power lines, pipelines, etc.)		X							None	n/a
Navigation routes		X							None	n/a
Seasonal or permanent residences	X								Potential disturbance from noise	Monitoring of noise levels and installation of shields and/or barriers if required
Natural or human-made hazards	X			X					Benefit to public from remediation of existing hazards	n/a



Part 2 Screening Criteria	Potential Environmental Effects								Description of Effect	Description of Mitigation Measures
	Is there an effect?			Is the known effect positive or negative?			Can the effect be migitated?			
	Yes	No	Unk	Pos	Neg	Unk	Yes	No		
Other projects or activities (adjacent)		X							None	n/a
Other (specify)		X							None	n/a
Social/Economic/Cultural Environment										
Archaeological resources		X							None	n/a
Built heritage resources / cultural heritage landscapes	X				X				Historic head frame on site currently preserved as monument and used for education	Create partnership with local historic society to maintain use of built heritage resource on site
Site(s) of Aboriginal cultural significance		X							None	n/a
Aboriginal interest in project area		X							None	n/a
Land claims or claims in litigation against Ontario		X							None	n/a
Recreational uses		X							None	n/a
Agricultural or forestry uses Tourism uses		X							None	n/a
Industrial uses		X							None	n/a
Local / regional economies or businesses		X							None	n/a
Public health	X			X					Remediation of	n/a

Part 2 Screening Criteria	Potential Environmental Effects								Description of Effect	Description of Mitigation Measures
	Is there an effect?			Is the known effect positive or negative?			Can the effect be migitated?			
	Yes	No	Unk	Pos	Neg	Unk	Yes	No		
and safety									existing mine hazards	
Other (specify)		X							None	n/a

### 7.3 Anticipated Level of Public Interest

The Project is anticipated to generate little or no public interest or response due to the nature of the activities proposed on site (early exploration).

### 7.4 Project Category

As outlined in Part 2 Screening Criteria Table 19, there is a low potential for environmental effects as a result of the Project. The Project is anticipated to fall under Category B due to the minor nature of potential effects to the environment from exploration activities and the net benefit to the environment and public of carrying out remediation at a Brownfield site.

### 7.5 Advantages and Disadvantages of the Project

Granting an ELO to CMC for the Toburn Project is a net advantage. The site is currently inactive, and a government liability. Subject to continuous positive results, exploration at Toburn will result in:

- \$12.4 million in expenditures
- Active remediation of historic mining hazards on site
- Employment of 15 of staff and approximately 10+ contractors
- Potential future mine development which could bring large scale employment and expenditures to the region

Disadvantages of the Project could include potential for some minor environmental effects from water use and overburden stripping as well as potential noise disturbance and disruption to the historic head frame on the property.

## 7.6 Mitigation Measures

Planned mitigation measures for potential environmental and social effects of the project include:

- Water management plan, including protection against erosion and siltation
- Water quality monitoring program
- Noise studies
- Installation of shields and/or barriers around equipment to reduce noise if necessary
- Direct involvement of local First Nations in environmental and cultural monitoring of exploration activities
- Partnership with the local historical society to protect and maintain programs relating to the historic head frame on site

## 7.7 Project Alternatives

The alternative to the project is to do nothing, and for the site to remain exclusively under Crown control. This would decrease the value of the site and increase the liability.

## 7.8 Ongoing Monitoring

CMC will work with government agencies to develop and implement water quality and noise monitoring at the site as deemed appropriate. Environmental and cultural monitoring will take place in partnership with Beaverhouse First Nation who currently have two full time staff members supported by their existing agreement with CMC dedicated to this type of work. Wahgoshig and Matachewan First Nations will also be included in environmental and cultural work as per the signed Exploration Agreement.

## 8. PROJECT SCHEDULE

The following Gantt Charts provide the proposed schedule for Phase One, Two and Three work programs distributed over a nine-year period and costing for each activity. Phase One would commence upon receiving the ELO.

Year-ten would allow for lease application submission, approval and filing.

Quarterly and annual reports will be provided to the MNDM four weeks following the end of the quarter and four weeks following the end of the year. Quarterly reports will provide the following information;

### Quarterly Report

- Health and safety statistics
- Community matters
- Environmental matters
- Field Investigations and mine hazard remediation progression and modeling updates
- Activity updates such as number of drillholes and metres cored, drillhole collar locations, overburden stripping locations

### Annual Reports

- Summary of quarterly health and safety statistics, environment and community matters, mine hazard remediation updates and a summary of activities
- A summary of expenditures allocated to various activities
- Observations, recommendations and forecasted plans for upcoming year.

PHASE	Activity Description		Time																				
ONE		Pre-Yr 1	Year 1 Q1 to 4				Year 2 Q1 to 4				Year 3 Q1 to 4				Year 4 Q1 to 4				Year 5 to 9 Years				
			Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	5	6	7	8	9
	Pre-ELO: Public Consultation of Activities, Town of Kirkland Lake																						
	Notification of Activities to Adjacent MRO/SRO's; Plan and Permit Submissions																						
	Seek existing mine data; desktop evaluation of existing mine hazards																						
	Develop a GIS database and 3D model of mine hazard infrastructure																						
	Tailings sampling and metallurgical testing – NI43-101 Resource																						
	Exploration Surface Mapping and Geophysics																						
	Mechanical Overburden Stripping – Washing – Channel Sampling - Mapping																						
	Field investigate and test one of the eight surface concrete shafts for possible replacement																						
Surface Diamond Drilling Program: 23,245metres, 40 drillholes, nine horizons including collar location surveying, preparation and clean-up																							
PHASE	Activity Description		Time																				
TWO			Year 1 Q1 to 4				Year 2 Q1 to 4				Year 3 Q1 to 4				Year 4 Q1 to 4				Year 5 to 9 Years				
			Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	5	6	7	8	9
	Phase One Diamond Drill Reports & Evaluation of Results																						
	Design Phase Two Diamond Drill Program																						
	Pending a positive tailings metallurgical report – commence NI43-101 Resource Report																						
	Field investigate and test two of the seven surface concrete shafts for possible replacement																						
	Notification of Activities to Adjacent MRO/SRO's; Plan and Permit Submissions																						
	Surface Diamond Drilling Program: 28,000 metres, 8 pilot holes and 16 wedge off-sets																						
	Phase Two Diamond Drill Report, Evaluation of Results & Preparation for NI43-101 Resource																						
PHASE	Activity Description		Time																				
THREE			Year 1 Q1 to 4				Year 2 Q1 to 4				Year 3 Q1 to 4				Year 4 Q1 to 4				Year 5 to 9 Years				
			Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	5	6	7	8	9
	NI43-101 Resource for Underground Deposit and PEA																						
	Geotechnical testing on suspected, prioritized crown pillars																						
	Apply for 21-Year Lease and Develop a Closure Plan for Property																						

Figure 6 Proposed Program and Timeline

PHASE	Activity Description		Time																					
ONE		Pre-Yr 1	Year 1 Q1 to 4				Year 2 Q1 to 4				Year 3 Q1 to 4				Year 4 Q1 to 4				Year 5 to 9 Years					
	Pre-ELO: Public Consultation of Activities, Town of Kirkland Lake																							
	Notification of Activities to Adjacent MRO/SRO's; Plan and Permit Submissions			\$13,000																				
	Seek existing mine data; desktop evaluation of existing mine hazards			\$25,000																				
	Develop a GIS database and 3D model of mine hazard infrastructure		\$150,000																					
	Tailings sampling and metallurgical testing – NI43-101 Resource				\$82,880																			
	Exploration Surface Mapping and Geophysics					\$20,150																		
	Mechanical Overburden Stripping – Washing – Channel Sampling - Mapping					\$30,200																		
	Field investigate and test one of the eight surface concrete shafts for possible replacement											\$60,000												
Surface Diamond Drilling Program: 23,245metres, 40 drillholes, nine horizons including collar location surveying, preparation and clean-up						\$3,546,500																		
PHASE	Activity Description		Time																					
TWO			Year 1 Q1 to 4				Year 2 Q1 to 4				Year 3 Q1 to 4				Year 4 Q1 to 4				Year 5 to 9 Years					
			Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	5	6	7	8	9	
	Phase One Diamond Drill Reports & Evaluation of Results																		\$20,000					
	Design Phase Two Diamond Drill Program																			\$12,000				
	Pending a positive tailings metallurgical report – Pre-Feasibility Study																			\$65,000				
	Test two of the seven surface concrete shafts for possible replacement																		\$120,000					
	Notification of Activities to Adjacent MRO/SRO's; Plan and Permit Submissions																			\$13,000				
	Surface Diamond Drilling Program: 28,000 metres, 8 pilot holes and 16 wedge off-sets																			\$7,200,000				
Phase Two Diamond Drill Report, Evaluation of Results & Preparation for NI43-101 Resource																			\$20,000					
PHASE	Activity Description		Time																					
THREE			Year 1 Q1 to 4				Year 2 Q1 to 4				Year 3 Q1 to 4				Year 4 Q1 to 4				Year 5 to 9 Years					
			Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	5	6	7	8	9	
	NI43-101 Resource for Underground Deposit and PEA																		\$250,000					
	Geotechnical testing on suspected, prioritized crown pillars																			\$250,000				
	Apply for 21-Year Lease and Commence Closure Plan Activities for Property																			\$500,000				

**Figure 7 Proposed Program, Timeline and Expenditures**

## 9 REGULATORY PROCESS

### 9.1 Exploratory License of Occupation

By way of this Application CMC is seeking to acquire Toburn Property mineral rights in order to explore for gold with the ultimate goal of gold production. This ELO Application and the contents herein, have been guided by the 'Project Definition Template for Advanced Exploration and Mine Development Projects'.

The MNDM has notified<sup>23</sup> CMC that it is prepared to consider the application for an ELO. In this application the Company has set out to provide general & detailed project information, environmental setting, and mitigation plans of possible impact by activities. If this submission successfully satisfies regulatory screening and review, the MNDM may support and recommend issuance of an ELO pursuant to Section 176(3) of *the Mining Act*.

The process of granting an ELO would proceed as follows;

- CMC's submits an ELO application with the necessary documentation for the MNDM to prepare a recommendation that Cabinet issue an Order in Council (OIC) under subsection 176(3) of the *Mining Act* to approve the Minister's issue of the ELO
- Secure Minister's approval to proceed with seeking an OIC,
- If the OIC is granted, the ELO would be drafted and incorporate all applicable obligations, terms, conditions and limitations in consultation with CMC for the Minister's review and approval,
- Upon approval, the ELO would be issued to CMC.

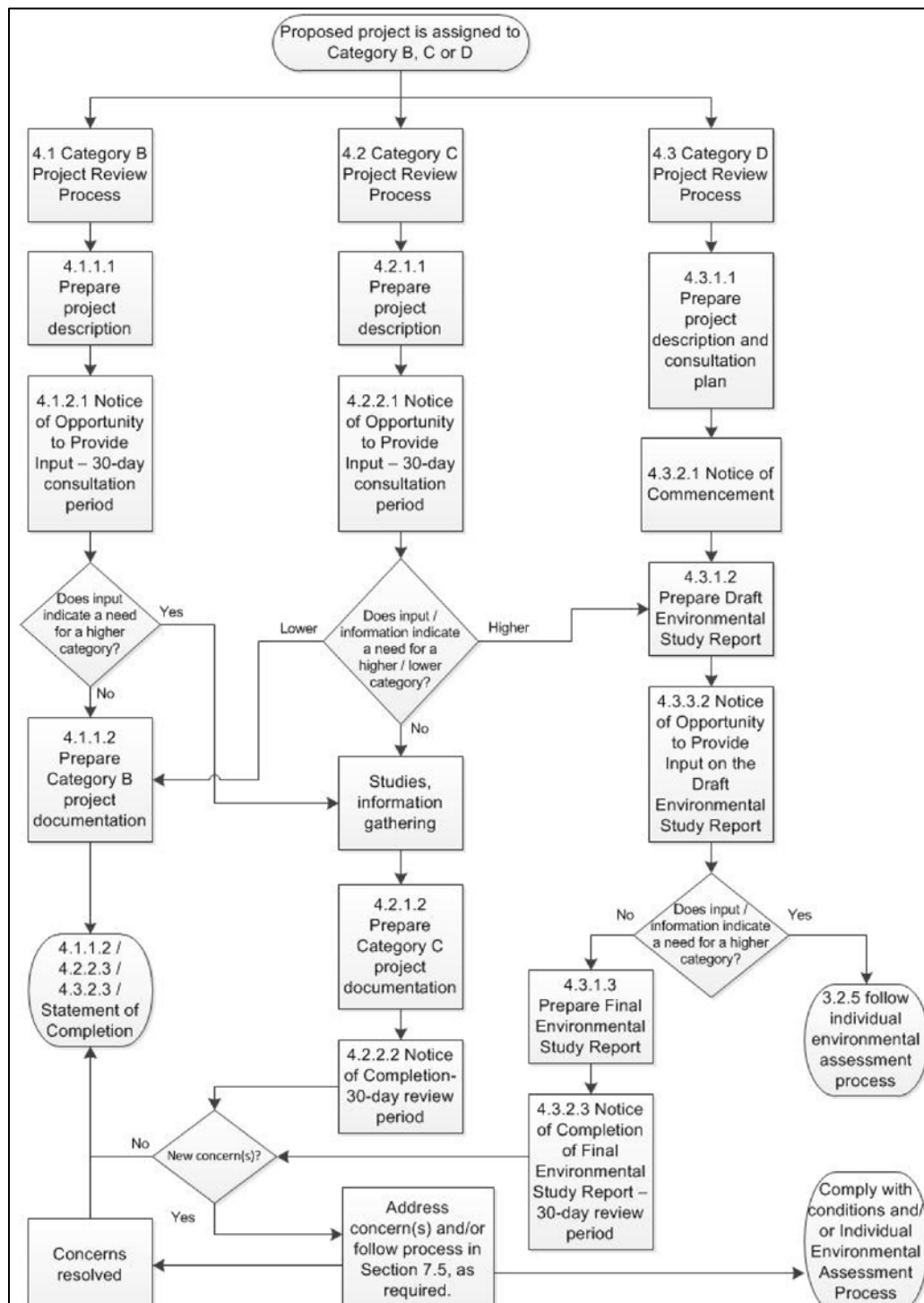
Under the ELO and subject to continuous positive results, CMC intends to define a gold resource to NI 43-101 standards that will be feasible for development and gold production. Remediation costs of existing Property liabilities will be scrutinized in determining the economic feasibility of the defined resource and resource potential. In the event that economic viability is validated, CMC intends to undertake activities in preparation of an application for a 21-year lease.

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<sup>23</sup> MNDM. Gordon MacKay, Director, Mineral Development and Lands Branch. "Toburn Property Exploratory Licence of Occupation ELO". January 28, 2015.

## 9.2 Category B Project Review and Planning Process

Review and planning of the Toburn Project will follow the process outlined below for a Category B Project.



**Figure 8: Project Review and Planning**



### 9.3 Planned Site and Regional Assessment Work

In preparing for lease, advanced exploration and closure plan studies will be undertaken.

## **10. PUBLIC CONSULTATION AND ABORIGINAL ENGAGEMENT**

Public and Aboriginal consultation to date has been inclusive of all exploration activities on the Kirkland Property and is outlined in Section 1.6 and Appendices E and F. Ongoing engagement and consultation will take place on a broad basis throughout CMC's presence in the area. Focussed consultation for the planned Toburn Project has been limited and has included one Aboriginal information session in March 2015 and a public information session on December 5, 2011. A Draft Notice of Opportunity to Provide Input has been prepared and is planned for circulation upon MNDM review and approval (attached in Appendix E).

Formal consultation on the Toburn Project ELO Application will follow MNDM's prescribed process as outlined below:

### **Notice of Opportunity to Provide Input**

A Notice Opportunity to Provide Input will be prepared by CMC and circulated to government, public and Aboriginal communities upon MNDM review and approval.

The notice includes:

- the title of the project;
- a summary of the project description, including potential environmental effects and *mitigation measures*;
- a map indicating the location and boundary
- an invitation to comment on the proposed project, including the end date of the comment period;
- a description of the next steps in the process;
- contact information for the person who will provide additional information, answer questions and receive comments; and
- a statement regarding the collection, use and disclosure of information collected during the comment period as governed by the *Freedom of Information and Protection of Privacy Act*.

## **Statement of Completion**

A Statement of Completion will be prepared by MNDM, added to the project file, and posted on MNDM's Class EA web page after the 30-day review. The Statement of Completion will include:

- a brief summary of the project description, including a map of the location and boundary of the project,
- a description of how Category B requirements were met; and
- a hard copy or electronic approval of the Statement of Completion by the responsible manager, including the date.

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