



2016 ANNUAL QUARTZ MINING LICENCE REPORT

**Submitted to Yukon Government, Energy Mines and Resources
Yukon Quartz Mining Licence QML-0007**

March 2017

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Submitted to Yukon Government Energy Mines and Resources
Yukon Quartz Mining License QML-0007

Carmacks Copper Project, Yukon Territory

Submitted by:

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Executive Summary

Activities at the mine site during the period 1 January 2016 to 31 December 2016 consisted of:

- the Annual Engineer's Inspection; and,
- an exploration program involving ground-based magnetometer geophysical survey, prospecting, and trenching.

Exploration activities were conducted in accordance with Class 3 Quartz Mining Land Use Approval No. LQ00427.

Copies of the Annual Engineer's Inspection Report, the recently filed 2016 Assessment Report, 2016 Report of Activities, and the October 2016 Preliminary Economic Assessment for the property are appended to this report. No development activities were undertaken in 2016.

Closure and reclamation security in the amount of \$80,300 has been posted with Yukon against the liability incurred as a result of exploration activities.

This report has been formatted to respond to the specific requirements in the QML even though there may be no corresponding project undertakings.

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Appendix B	2016 Assessment Report for the Carmacks Copper Project
Appendix C	October 2016 Preliminary Economic Assessment
Appendix D	2016 Annual Report of Activities under Quartz Mining LUP LQ00247

1.0 INTRODUCTION

This Annual Report has been prepared by Copper North Mining Corp. and covers the period from January 1, 2016 to December 31, 2016 as required by Clauses 16.5 and 16.6 of Quartz Mining License (QML) QML-0007. As of January 19, 2012, the assignment of QML-007 was authorized from Carmacks Copper Limited to Carmacks Mining Corp, a wholly-owned subsidiary of Copper North Mining Corp.

This report provides a summary of activities at the Carmacks Copper Property for the reporting year, including, but not limited to, physical stability inspection.

Few site activities occurred that would normally form a part of this report in future years, once major project permitting is completed. Additional sections and information will be added to the annual reports as necessary to accommodate expanded reporting requirements from future mine development and related plans. The preliminary mine layout (not yet constructed) for the copper heap leach project is illustrated in Figure 1.

The reader should note that, since QML-0007 was issued, Copper North has been working to re-engineer the metallurgical process for the project to recover gold and silver in addition to copper. The results of the re-engineering work to date are detailed in a Preliminary Economic Assessment (PEA) completed in October 2016 (JDS 2016), a copy of which is attached in Appendix C, and represents the general plan for future development of the deposit, subject to regulatory approvals and financing. Nevertheless, QML-0007 applies to the project as planned at the time of issue and therefore dictates the context for this annual report.

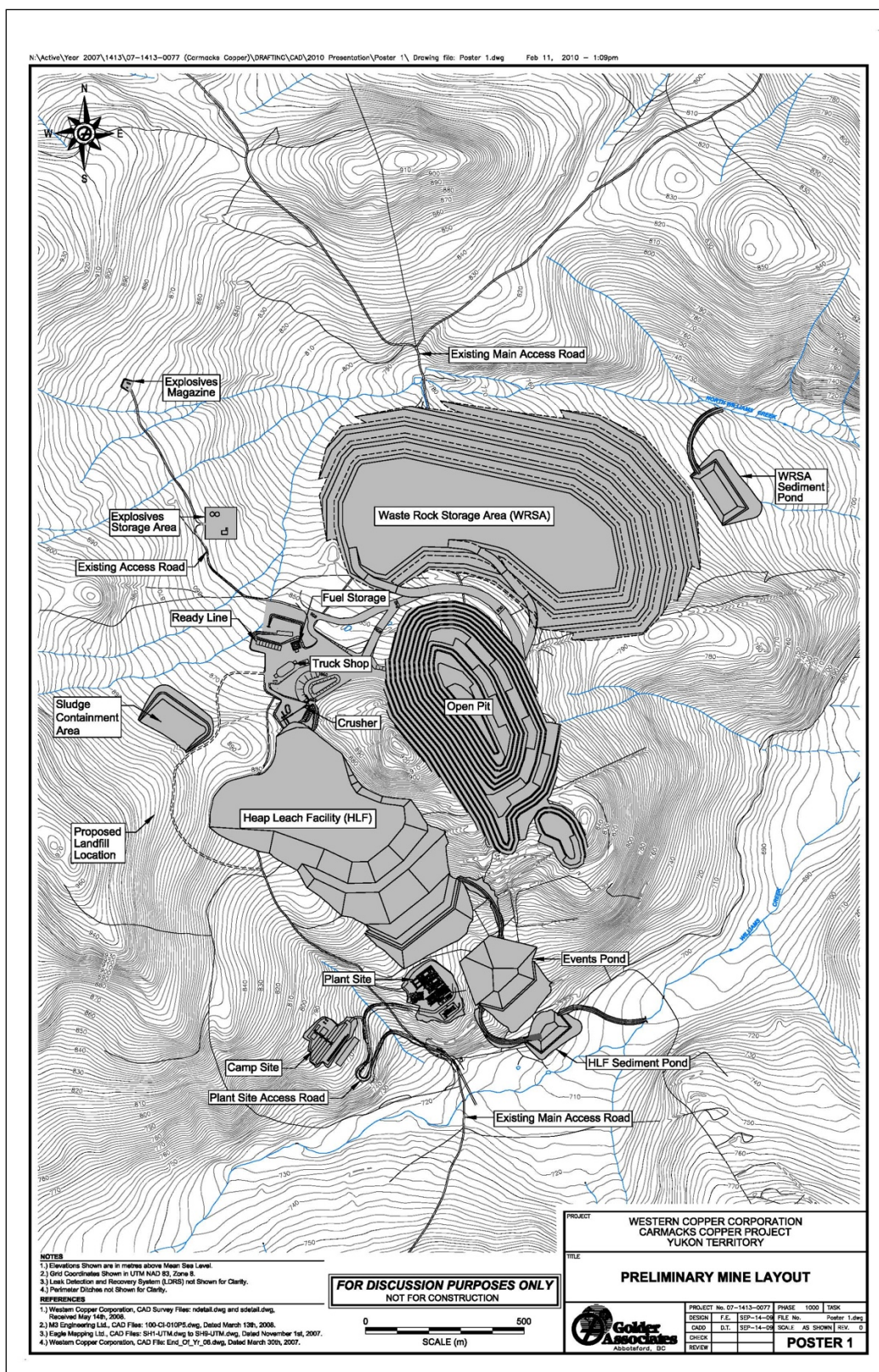


Figure 1. Preliminary Mine Layout (not yet constructed).

2.0 SITE ACTIVITIES

2.1 EXPLORATION

Exploration was conducted in June 2016 in the vicinity of Zones 13 and 14, to the east of Zone 1, and along strike to the southeast from Zone 2. The program involved a ground-based magnetic survey and excavator trenching at the locations listed in Table 1. These exploration activities are detailed in the 2016 Assessment Report, attached as Appendix B, and the 2016 Annual Report of Exploration Activities attached as Appendix D. The WASP and BEE claims were staked to the northeast of the main deposit area, on the west side of the Yukon River, for a total of 114 new claims added to the claim block.

2.2 CONSTRUCTION AND DEVELOPMENT

2.2.1 *Overview of Activities by Quarter*

No construction or development activities occurred on the property in 2016.

2.2.2 *As-built Drawings*

No as-built drawings were produced in 2016.

2.3 MINING ACTIVITIES

2.3.1 *Overview of Activities by Quarter*

No mining activities took place in 2016.

2.3.2 *Production Schedule – Ore and Waste Removal*

Not applicable for this reporting period; no mining activities took place in 2016.

2.3.3 *Average Head Grades*

Not applicable for this reporting period; no mining activities took place in 2016.

2.3.4 *Open Pit Stability*

Not applicable for this reporting period; no mining activities took place in 2016.

2.3.5 *Heap Leach Cells – Status of Leaching (including layout drawing)*

Not applicable for this reporting period; no mining activities took place in 2016.

2.3.6 *Copper Production*

Not applicable for this reporting period; no mining activities took place in 2016.

2.3.7 *Spills*

No spills occurred during the reporting period.

2.3.8 *On-going Reclamation*

All trenches developed in 2016 were reclaimed as listed in Table 1. Typical before and after trench reclamation is shown in Figures 2a and 2b.

2.3.9 *Actions Undertaken in Response to Annual Engineer's Inspection*

The 2012 Annual Engineer's Inspection recommended resetting of the Merrice Creek bridge span. This work was completed on 10 July 2013 and was inspected as part of the Annual Engineer's Inspection on July 16, 2013, as reported in the 2013 Annual QML Report. The 2014 inspection found that some bridge decking had failed and the bridge again required re-setting. The bridge was taken out of service immediately, with barricades and flagging placed on both approaches to the bridge. The Engineer recommended replacement of the failed decking and either armouring of the stream banks and resetting of the bridge, or lengthening of the bridge span and resetting to ensure the bridge was supported by competent material. The bridge span was lengthened by approximately 2 m, failed decking replaced, and the bridge was re-set in August-September 2015. Additional decking failure occurred in fall 2015 and the bridge was again taken out of service. The remainder of the failed decking was replaced in June 2016 and the bridge was returned to service. The bridge repairs were inspected as part of the 2016 Annual Engineer's Inspection and no further work was identified.

2.3.10 *Access Road*

The access road to the site has not been constructed.

Table 1. Carmacks Project – 2016 Trench Locations, Dimensions, and Reclamation History as of 31 December 2016.

Trench	Start		End		Location		Title	Average (m)			Volume (m ³)	Surface Area (m ²)	Reclaimed ?
	Easting	Northing	Easting	Northing	Claim 1	Claim 2		Length	Depth	Width			
A1	413,051	6,913,920	413,103	6,913,900	BOY 52 (60%)	BOY 51 (40%)	Claim	55	2	3	330	165	Yes
A2	413,066	6,913,971	413,112	6,913,949	BOY 52		Claim	50	2	3	300	150	Yes
A3	412,995	6,914,058	413,077	6,914,065	BOY 52		Claim	82	2.5	3	615	246	Yes
B1	413,211	6,912,862	413,323	6,912,894	W 42		Claim	115	1.5	4	690	460	Yes
B2	413,179	6,912,992	413,276	6,913,005	W 42		Claim	98	1.5	4	588	392	Yes
C1	413,031	6,915,516	413,040	6,915,534	W 4		Claim	20	1	4	80	80	Yes
D1	413,061	6,915,226	413,116	6,915,196	GAP 4 (80%)	W 17 (20%)	Claim	63	1	3.5	220.5	220.5	Yes
D2	413,051	6,915,163	413,063	6,915,170	W 17		Claim	13	1	2	26	26	Yes
D3	413,134	6,915,208	413,155	6,915,222	GAP 4 (60%)	W 17 (40%)	Claim	24	2	3	144	72	Yes
										TOTAL	2993.5	1811.5	



Figure 2. Typical trench conditions before (a. Trench TR-15-32A) and after (b. Trench TR16-26) reclamation.

2.4 RESOURCES AND RESERVES

The current resource estimate for the property is shown in Table 2. This estimate is as stated in the October 2016 Preliminary Economic Assessment (PEA) (JDS 2016) in Appendix C. This PEA supersedes the January 2016 Independent Technical Report (ACS 2016). No reserve is currently stated for the property.

Table 2. Carmacks Project Mineral Resource Statement, October 12, 2016.

Mineralized Zone	Resource Class	Tonnes (000)	Total Cu (%)	Soluble Cu (%)	Au (g/t)	Ag (g/t)	Sulphide Cu (%)
Oxide and Transition mineralization	Measured	6,484	0.86	0.69	0.41	4.24	0.17
	Indicated	9,206	0.97	0.77	0.36	3.80	0.20
	Measured + Indicated	15,690	0.94	0.74	0.38	3.97	0.20
	Inferred	913	0.45	0.30	0.12	1.90	0.15
Sulphide mineralization	Measured	1,381	0.64	0.05	0.19	2.17	0.59
	Indicated	6,687	0.69	0.04	0.17	2.34	0.65
	Measured + Indicated	8,068	0.68	0.05	0.18	2.33	0.65
	Inferred	8,407	0.63	0.03	0.15	1.99	0.61

2.5 CARE AND MAINTENANCE

No activities to report.

2.6 PROPOSED DEVELOPMENT AND PRODUCTION FOR UPCOMING YEAR

There are presently no development or production plans for the 2017 year.

3.0 MONITORING PROGRAMS AND STUDIES

The QML contains several requirements for studies and monitoring programs. The following sections outline work done with respect to these studies and programs.

3.1 ON-GOING METALLURGICAL STUDIES

3.1.1 *Field Tests*

No metallurgical field tests were in progress as of 2016.

3.1.2 *Laboratory Tests*

Metallurgical laboratory tests were initiated in September 2014 and continued to February 2016 to quantify the potential gold and silver recovery in addition to recovery of copper and to examine metallurgical process alternatives. The results of the test work have been incorporated in the 2016 PEA (JDS 2016; Appendix C), which describes the resulting two-stage agitated tank leach process and dry stack tailings management area (TMA) plan that CNMC is working to take forward to pre-feasibility engineering and environmental permitting. Additional test work is planned to optimize the metallurgical recovery process, identify water treatment requirements, and further develop the dry stack tailings TMA design.

3.2 HEAP LEACH PAD LINER PERFORMANCE MONITORING

No liner has been placed and no performance monitoring is in progress.

3.3 WATER QUALITY SURVEILLANCE PROGRAM

No water quality surveillance was conducted in 2016.

The locations established to date for the monitoring of surface water quality are listed in Table 3 and shown on Figure 3. Additional locations will be added as the mine is brought into production.

Table 3. Water Quality Surveillance Program Site Descriptions and Locations.

Station	Description	Northing	Easting
W2	Williams Creek Upstream of North Williams Creek Confluence	6914145	413499
W3	Lower North Williams Creek Upstream of Confluence with Williams Creek	6914379	413640
W4	Williams Creek Downstream of Confluence with North Williams Creek	6914653	413888
W5	South East Tributary to Williams Creek	6912947	412978
W6	Williams Creek Downstream of South East Tributary	6913373	413042
W7	Upper North Williams Creek Tributary Upstream of Road Crossing	6914810	411778
W9	Williams Creek Upstream of Access Road Crossing	6912511	411907
W10	Williams Creek Upstream of Yukon River	6919033	416606
W11	Nancy Lee Creek (Tributary of Williams Creek)	6918096	415803
W12	Williams Creek Downstream of Confluence with Nancy Lee Creek	6918000	416102
W13	Williams Creek Upstream of Confluence with Nancy Lee Creek	6917984	415912
Y1	Yukon River Upstream of Williams Creek	6918974	416752
Y2	Yukon River Downstream of Williams Creek	6919308	416249

Notes: Coordinates are UTM Zone 8 NAD83

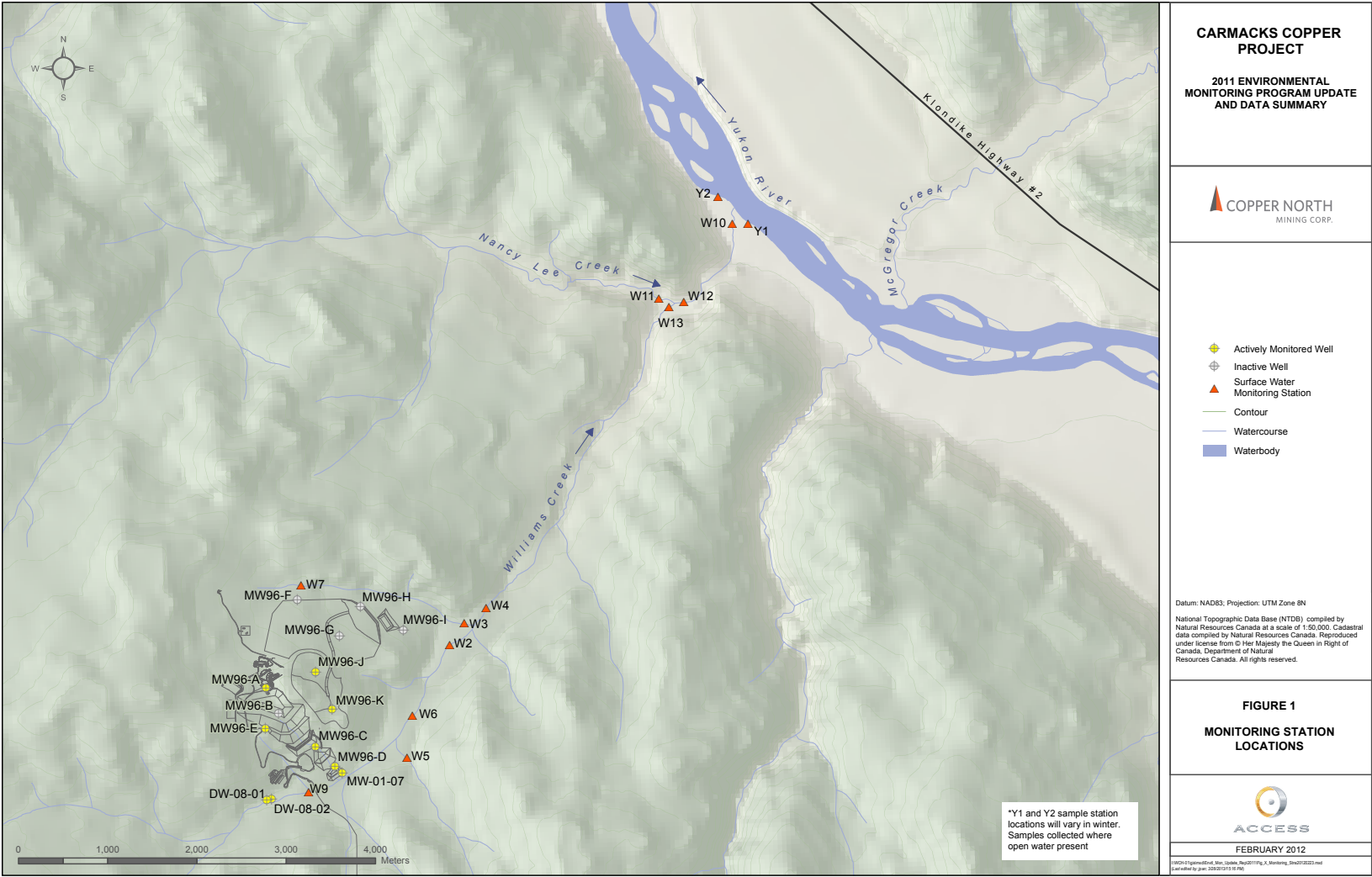


Figure 3. Water Quality Monitoring Station Locations.

3.3.1 Surface Water Quality

No surface water quality sampling was required or conducted in 2016.

3.3.2 Groundwater Quality

No groundwater monitoring was required or conducted in 2016.

3.4 HYDROGEOLOGY STUDIES

No hydrogeological studies were required or conducted in 2016.

3.5 WATER TREATMENT AND MANAGEMENT

No water treatment studies or water management studies were required or conducted in 2016.

3.6 CLIMATE DATA AND SNOW SURVEY MONITORING PROGRAM

Copper North did not conduct any meteorological monitoring on site in 2016.

3.7 GEOCHEMICAL STUDIES AND ACID-BASE ACCOUNTING

Tailings residue from locked cycle metallurgical tests conducted in 2015 have been submitted for geochemical analysis and humidity cell testing, which is on-going.

3.8 PHYSICAL MONITORING PROGRAM

Physical monitoring of structures and facilities in 2016 was limited to the Annual Engineer's Inspection (Appendix A).

3.9 ENGINEER'S ANNUAL PHYSICAL INSPECTION REPORTS

Copper North Mining Corp. engaged Golder Associates Ltd. to perform the Annual Physical Inspection of the site required under Sections 16.1 and 16.2 of the QML. The inspection was carried out on July 12, 2016. The complete report is contained in Appendix A and a copy of this report was previously submitted to Government of Yukon, Department of Energy, Mines and Resources, Mineral Resources Branch.

The report focused on inspection of existing site conditions and of the limited infrastructure on site, since no development has yet taken place on site. No areas were identified as requiring immediate attention. Recommendations were limited to identifying areas of minor maintenance to be addressed, as required, in relation to road maintenance to prevent erosion and washouts and ongoing minor maintenance of silt fences and sediment traps.

3.10 RECLAMATION AND REVEGETATION STUDIES

In 2007, a test patch of seeding was completed on an approximately 500 m x 12 m area located adjacent to the west side the access road and south of the Williams Creek crossing and the helicopter pad area. The seeding and resulting vegetation was intended to help stabilize sediments in this area and has been observed in the past six years to be performing well.

3.11 SUBMISSION AND APPROVAL OF PLANS

No development plans were submitted during 2016.

4.0 OUTSTANDING FINANCIAL LIABILITY

4.1 HEAP LEACH

There has been no update to the assessment of the liability associated with the Heap Leach Facility, which was presented in the May 2009 revision of the Preliminary Detailed Closure and Reclamation Plan.

4.2 WASTE ROCK STORAGE

There has also been no update to the assessment of the liability associated with the Waste Rock Storage Facility, which was presented in the May 2009 revision of the Preliminary Detailed Closure and Reclamation Plan.

4.3 OVERALL LIABILITY

The estimated maximum overall liability associated with the development and operation of the mine remains as set out in the May 2009 revision of the Preliminary Detailed Closure and Reclamation Plan is detailed in Table 4.

Table 4. Estimated closure liability for the planned heap leach project.

Facility or Area Description	Cost
Open Pit	\$ 23,000
Heap Leach Facility	\$ 17,295,000
HLF Events and Sediment Ponds	\$ 296,000
Waste Rock Storage Area	\$ 740,000
Plant and Ancillary Facilities	\$ 467,000
Camp	\$ 103,000
Truck Shop Service Complex	\$ 70,000
Miscellaneous Facilities	\$ 95,000
Access and Haul Roads	\$ 248,000
Site Management	\$ 1,103,000
Total	\$ 20,440,000

An additional \$2.675 million in addition to the above total has been estimated to cover costs associated with rinsing and neutralization of the heap leach facility, should the rinsing period extend to 9 years instead of the initially estimated 4.5-year period.

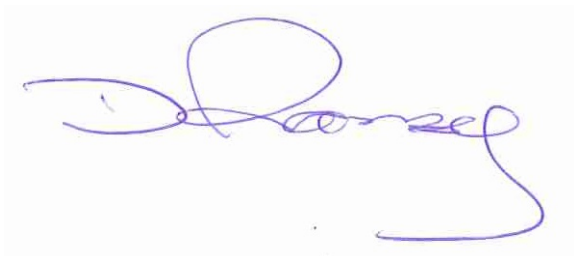
To date, security in the amount of \$80,300 has been posted with Yukon Government. This represents the accrued liability due to exploration activities on the site.

4.4 ENGINEERING CONTINGENCIES

In accordance with Section 11.0 of the QML, Copper North Mining Corp. prepared a Contingency Plan based on a workshop held in October 2009. The plan was submitted to the Chief of Mining Land Use in January 2010. The main purpose of the Contingency Plan was to identify possible alternative approaches to decommissioning the Heap Leach Facility, however, other facilities were also examined. The plan identified several possible failure modes and contingency measures for each of the facilities and recommended further work that should be undertaken. The report was issued in draft format pending comments from government. No comment from government has been received to date. No further work has been undertaken to develop any of the contingency plans identified.

COPPER NORTH MINING CORP.

(On behalf of CARMACKS COPPER LTD.)



Doug Ramsey

Vice-President, Sustainability and Environmental Affairs

Appendix A. Annual Engineer's Inspection Report

Appendix B. 2016 Technical Assessment Report

Appendix C. Preliminary Economic Assessment, October 2016

See copy on included CD.

Appendix D. 2016 Annual Report of Activities under Quartz Mining LUP LQ00247