

# HIGH LAKE



## 2016 Annual Report Submittal 2BE – HIG1217

Presented  
January 2017

**MINERALS AND METALS GROUP**  
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## **PROJECT DESCRIPTION:**

### **High Lake**

MMG Resources Inc. is an exploration and mining development company focused on base metals. The High Lake deposit is located in the Kitikmeot region of Nunavut, approximately 550km due north of Yellowknife, and 175km to the East Southeast of Kugluktuk. It is roughly 45km from the Coronation Gulf area of the Arctic coast.

The High Lake deposits were first discovered in the mid-1950's, and have been worked on through the years by various companies. MMG obtained the property in 2009 following a series of corporate takeovers and began work in 2010, following up on work done by Texas Gulf, Aber, Wolfden and Zinifex.

The discovery of the "West Zone" in 2003 by Wolfden Resources, located approximately 1.5km to the west of the High Lake camp, caused renewed interest in the property.

In 2008 Zinifex/Oz Minerals took the High Lake property through the initial stages of permitting towards development after the completion of a Pre-Feasibility Study. The property has been the focus of several years of engineering studies and environmental baseline work, which has continued under MMG.

Regional exploration work surrounding the property in 2009 identified a surface showing 45km to the Southeast of the historic High Lake deposit, initially called MOLYMAG and now referred to as High Lake East. This showing was drilled in 2010 and 2011 to some success, identifying mineralization in a greenstone belt hosted within a similar geological setting to High Lake. The extent of this potential resource remains to be completely defined. The High Lake East property has surface showings of copper, zinc, silver and molybdenum and consists of 25 mineral claims that cover approximately 25,975 ha.

The historic HL camp, which is located on the southwest shore of High Lake, now consists of 5 temporary plywood clad structures, following the removal of 10 wood frame tents and one plywood clad structure during the 2015 reclamation. The camp is located on a government of Canada land lease which has been excluded from the IOL CO-29 land package. This site is convenient due to its proximity to the main High Lake deposit and its historic use as a camp location. The frozen lake surface will allow heavy air lift operations in winter which makes it an ideal staging area for annual re-supply to support work in the region. The camp has not been operated at capacity since 2013 when some limited work was carried out. It remained closed for the 2014 season and saw a short period of limited occupancy in 2015 to support reclamation work carried out both at this site and High Lake East. The reclamation work effectively reduced the footprint of the site to the Land Lease that remains in good standing. In late 2015, inspection visits were conducted by AANDC and KIA representatives, and the closure of the associated

permits on the surrounding Crown and Kitikmeot lands (KTL308C008 and N2011C0033) was approved.

## **High Lake East**

The High Lake East property has surface showings of copper, zinc, silver and molybdenum and consists of 25 mineral claims that cover approximately 25,975 ha. The High Lake East property sits approximately 40km south-east of the High Lake deposits and the existing High Lake Camp.

Very little historic work has been completed on or near the existing High Lake East Claims. Two periods of government mapping have occurred since the 1960s. The area was mapped at 1:500,000 scale as part of an extensive regional mapping program in 1962 by Bostock et al. In 1986, the area was re-mapped at 1:50,000 scale by Jackson et al. This mapping extended the known package of volcanic rocks south of the James River.

In 1995, several base metal anomalies were identified by Banshee and Snowpipe Resources, but were not investigated in detail.

Interest in the volcanic rocks mapped by Jackson et al (1986) led Zinifex to complete a MEGATEM survey (Fugro Airborne Surveys) over the area in 2007, and ground follow-up of EM responses led to the discovery of base metal-rich boulders.

The no longer existing High Lake East camp location was located in a flat area near an esker on the south shore of the James River and sits on Inuit Owned Land Parcel BB-68.

Access is by air from Yellowknife in twin otter. Two short esker airstrips allow for ski access in the winter months and wheeled access in the summer with limited payloads. The camp itself no longer exists as the site reclamation carried out in 2015 completed the removal of all structures. What remains on the site is stacked drill core. Following the completion of reclamation, this site was also visited during the inspections associated with the closure of permits. No visits to this site were carried out in 2016.

## **EXPLORATION SUMMARY 2007 – 2014**

During the period of MMGs involvement with the High Lake property, continued mapping, sampling and geophysical surveys have resulted in more than 20,000m of diamond drilling conducted in continued work towards creating an economic resource from those known deposits and in the hopes of adding additional ones. The feasibility work undertaken involved not only resource confirmation drilling but also metallurgical testing and geotechnical engineering holes for development planning.

**FIELD PROGRAM 2016:**

There was no field work conducted at or making use of the High Lake site during 2016 and the site (now reduced to the Surface Lease footprint) has been put on long term care and maintenance.

MMG plans to maintain the associated Type 'B' water license (2BE-HIG1217) in good standing until its expiry in May 2017. It is undecided as of yet if a submittal for a new license will be undertaken.

In August 2016, representatives of MMG visually inspected the High Lake site from the air. Scott Trusler and Ian Neill visited the site with Malcolm McLaren of Discovery Mining Services on August 12<sup>th</sup> 2016 using an Air Tindi contracted a twin otter aircraft on wheels.

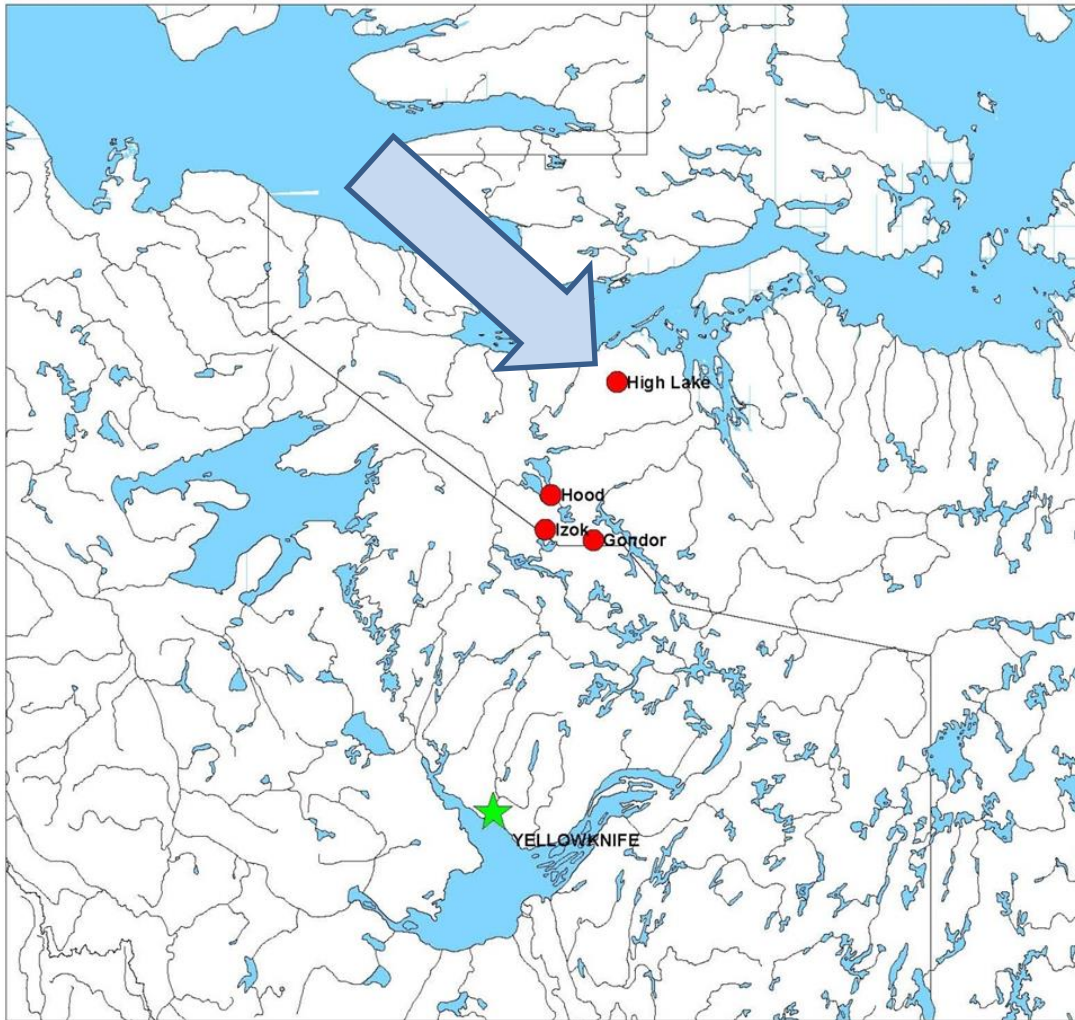
**FEILD PROGRAM 2017:**

No field work will be carried out in 2017 and the site (now reduced to the Surface Lease footprint) has been put on long term care and maintenance. A submittal for renewal of the Type 'B' water license has yet to be decided.

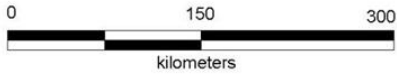
MMG has closed out the Land Use Permits on both Crown and IOL ground surrounding the Surface Leases.

As was the case with this year, an inspection visit to the site is proposed to ensure that the structures are in good condition and clean up any damage from the winter.

Figure 1: Project Location



Legend	
	MMG Project Sites
	Yellowknife
	Rivers




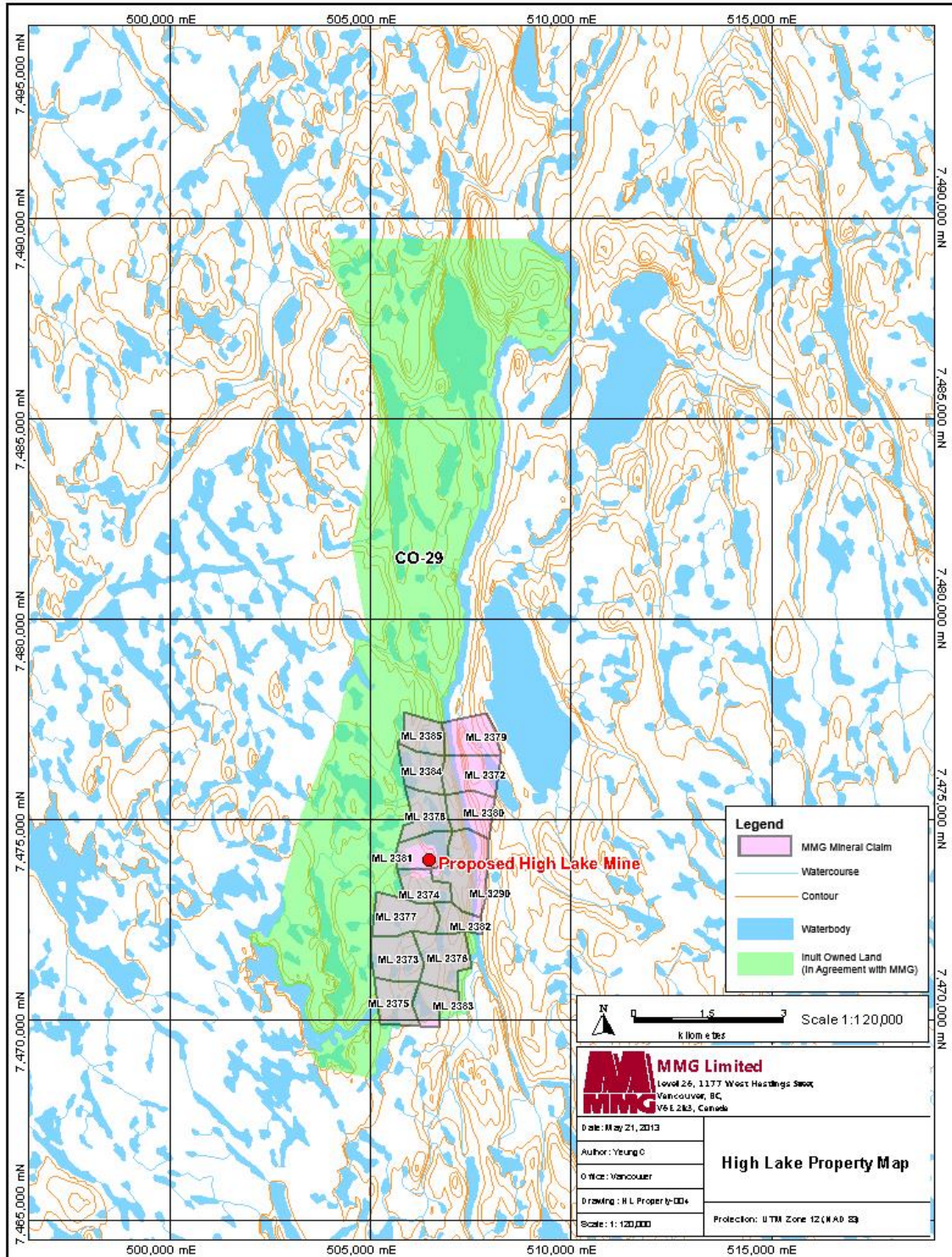
 <b>MMG</b>	
Date: 02-Aug-12	<b>Project Location Map</b>
Author: YeungC	
Office: Vancouver	
Drawing: 001	
Scale: 1 : 7,000,000	
Projection: WGS84	

Figure 2: High Lake Detailed Property Map



## **ENVIRONMENTAL:**

No weather station data was collected during the 2016 season.

No field work was carried out in 2016. Water usage volumes for industrial purposes, sampling records and laboratory analysis of those samples normally provided with this annual report are therefor, absent.

2016 saw no reclamation work carried out, as the remaining camp appeared from the air to be in good shape with little evidence of damage.

There is no storage of fuel and/or lubricants on site.

## **WATER USAGE:**

Water usage is divided into Industrial and Domestic applications, and is monitored. Water usage reporting is normally included in the appendices. The project is presently permitted for 100m<sup>3</sup> per day total volume for both applications.

Domestic usage at the camp during capacity occupancy is roughly 4m<sup>3</sup> per day. The camp was un-occupied during the 2016 season, and therefor there is no usage documentation associated with this report. When in operation, the High Lake camp draws its water from High Lake by means of a submersible electric pump. The intake on the pump is screened.

Industrial usage is limited to those activities associated with drilling. There was no drilling carried out in the 2016 season and so the usage volume information normally provided is absent from this report.

## **WILDLIFE:**

Wildlife encounters and sightings during operations are normally documented by field personnel. A copy of the log is usually included in the appendices. As specified in our permit, low level flying is avoided unless absolutely necessary for operations and special care is taken during sensitive periods of animal life cycles.

As the site was un-occupied during the 2016 season, the “wildlife sightings log” that is normally provided is absent from this report.



## **COMMUNITY:**

MMG's stakeholder relations officer in Kugluktuk, Mr. Donald Haviyoyak, acts as our community liaison. His primary job is to keep local community members informed of our exploration activities, and address concerns and questions they may have on behalf of the company. He has also been instrumental in the hiring of local staff over the years, aiding applicants in resume preparation and conducting initial interviews. Due to the absence of field activity, there was no local employment offered to surrounding Communities in the 2016 season.

## **FLIGHT LOGS / AIR OPERATIONS:**

The High Lake site was not active during the 2016 season. Therefore the information summarizing air operations of both fixed and rotary wing aircraft normally provided in this report are absent.

It can be noted that a single flight was conducted during the month of September in order to conduct a visual assessment of the camps condition from the air. Several low level passes were made over the site but the aircraft did not land at the site.

During regular operations, low level flight is normally avoided in order to minimize noise impacts on local wildlife. When operational areas coincide with migration paths or calving grounds, activity is suspended during the corresponding seasons.

## **RECLAMATION WORK:**

There was no reclamation work carried out at the High Lake site in 2016.

The reclamation work completed in 2015 reduced the site to the Surface Land Leases in compliance with the closure requirements of the surrounding AANDC and KIA Land Use Permits. All fuel was purchased by a 3<sup>rd</sup> party and removed from site. Reclamation work carried out also included the complete removal of all remaining presence at the High Lake East site.

## **WASTE REMOVAL:**

There was no waste removed from the High Lake site in 2016 as the site was un-occupied and no field program was carried out.

## **ABANDONMENT AND RESTORATION:**

The Abandonment and Restoration Plans were updated in February of 2013. The Plan has been included with this annual report in digital format along with other supporting documents. The plan normally undergoes annual review in accordance with the activities anticipated every December, and if necessary modifications are made.

However as the remaining fuel and lubricants have now all been removed from site, and the plan is for long term care and maintenance without occupancy, the plan remains unchanged.

## **SITE INSPECTIONS BY REGULATORY BODIES:**

Site inspections of the High Lake and surrounding operational areas associated with permit closure were conducted in July of 2015 by Eva Paul of Aboriginal Affairs and Northern Development Canada (AANDC), her inspection reports are provided in the appendices. The Kitikmeot Inuit Association also visited both the High Lake and High Lake East sites last year, and their subsequent reports are also included.

MMG is unaware of any further inspection visits from regulatory agencies following the closure of Land Use Permits in 2015 and no further inspection reports have been received.

## **PERMITTING:**

Land Use Permits associated with exploration activity for the High Lake project were closed out in 2015 following compliance inspections conducted by the KIA and AANDC. The site footprint is now confined to the Surface Lease.

The Water License (Nunavut Water Board) remains in good standing until May of 2017. At this time it is still undecided if MMG will choose to submit a new Water License application.

### **Water License # 2BE – HIG1217**

A copy of the Water License is supplied in the appendices.

# Appendix I : 2015 Site Inspections



Aboriginal Affairs and  
Northern Development Canada

Affaires autochtones et  
Développement du Nord Canada

## WATER LICENCE INSPECTION FORM

Original  
 Follow-Up Report

Licensee <b>MMG</b>	Licensee Representative <b>Peter Cullinane</b>
Licence No. / Expiry <b>2BE-IZO1217</b>	Representative's Title <b>Field Program Manager</b>
Licence No. / Expiry <b>2BE-HIG1217</b>	Land / Other Authorizations
Date of Inspection <b>July 14 and 15, 2015</b>	Inspector <b>Eva Paul</b>
Activities Inspected <input checked="" type="checkbox"/> Camp <input type="checkbox"/> Drilling <input type="checkbox"/> Mining <input type="checkbox"/> Construction <input checked="" type="checkbox"/> Reclamation <input checked="" type="checkbox"/> Fuel Storage <input type="checkbox"/> Roads/Hauling <input type="checkbox"/> Other:	

Conditions:    **A - Acceptable**      **C - Concern**      **U - Unacceptable**      **NA - Not Applicable**      **NI - Not Inspected**

Water Use	Condition	Comment	Site Conditions	Condition	Comment	Haz/Mat Management	Condition	Comment
Intake/Screen	A		Water Management Structures	A		Storage	A	4
Flow Measure. Device	A		Culverts / Bridges	N/A		Spills	A	
Source: Ham Lake	A		Drainage	A		Spill Plan	A	
Water Use:	A		Erosion / Sediment	A				
Recirculation ( y /n)	A		Mitigation Measures	A		Administrative		
			Reclamation Activities	A	3	Records	A	
			Materials Storage	A		Reports	NI	
<b>Waste Disposal</b>			Signage	A		Plans	NI	
Waste Water	A					Notifications	A	
Solid Waste	A	1	<b>Monitoring</b>			<b>Other</b>		
Hazardous Waste	A	2	Sample Collection / Analysis	NA		Future closure	A	5

\*The number in the comments field will correspond with specific comments provided below.

Samples taken by Inspector: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Location(s):
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SECTION 1     Comments (s.1 and 2)     Non-Compliance with Act or Licence (N/A)     Action Required (N/A)

MMG is preparing its two Nunavut projects for longer-term closure. An inspection was conducted on July 14 and 15 of camps and reclamation activities pertaining to MMG's 2BE-IZO1217 and 2BE-HIG1217 licences.

Izok Lake Project: Ham Lake Camp (N65°41'08", W112°52'49") and Hood Core Facility (N66°05'04", W112°43'06")

High Lake Project: High Lake Camp (N67°22'44", W110°50'40") and High Lake East/Moly Mag Camp (N67°08'36", W109°52'03")

I was accompanied by Peter Cullinane, Field Program Manager for the projects. MMG graciously hosted me for several days at Izok to conduct work in the area, allowing for a fulsome understanding of the work that has been undertaken at these sites. It is clear from the state of the camps that MMG's focus this season has been to eliminate any environmental liability from the closure of the projects. Work was completed at High Lake in the spring, and three people were on-site at Izok to carry out the camp closure.

1. An impressive amount of waste has been backhauled. Nothing but neatly stacked drill rod was in evidence at High Lake. Several more loads were anticipated from Izok following my inspection. Backhaul records were available for inspection.
2. Peter indicated that hazardous waste is all anticipated to be removed from site at Izok, and has been removed from High Lake. The few waste barrels that remain at Izok are currently in use, labelled, and contained within a berm.





<b>SECTION 2</b>	<input checked="" type="checkbox"/> <b>Comments</b>	<input type="checkbox"/> <b>Non-Compliance with Act or Licence</b>	<input type="checkbox"/> <b>Action Required</b>
<p>3. The footprint of the facilities has been greatly reduced, and areas no longer in use have been contoured and are restricted from access to promote re-vegetation. Several tents were removed from High Lake, as well as the core/cutting shacks. High Lake East (Moly Mag) has been completely removed with only core racks remaining. Drilling equipment that remains at Izok is ready for backhaul</p> <p>4. MMG is working with a nearby project to re-distribute consumables such as fuel, drill lubricants, and drill salt. All fuel and drill supplies were removed from High Lake. Peter indicated that all the remaining fuel at Izok would be consumed or removed from site prior to closure. Bulk fuel tanks have been emptied and swabbed out to prevent any potential for leakage. Vents and hoses are sealed. Only minimal hazardous materials will remain on-site, and those are in containment and within structures. The majority of the vehicles and equipment have been drained of fluids to eliminate leaks.</p> <p>5. I am impressed with the measures that have been taken to all-but-eliminate potential future environmental liability from this site. Occasional monitoring of the remaining facilities will be required, and if permanent closure of the sites are sought, or cancellation of the water licences, then all of the requirements of the Abandonment and Restoration Plan, as well as of the Licence (Part I) must be met.</p> <p>It has been a pleasure to inspect and work out of MMG's sites since I came to AANDC. MMG's excellent standing in compliance and environmental stewardship has made a mark in the region (as well as removing many) under Peter's leadership.</p>			
<b>SECTION 3</b>	<input type="checkbox"/> <b>Comments</b>	<input type="checkbox"/> <b>Non-Compliance with Act or Licence</b>	<input type="checkbox"/> <b>Action Required</b>
N/A			

Licensee or Representative <b>PETER CULLINANE</b>	Inspector's Name <b>Eva Paul</b>
Signature 	Signature 
Date <b>JULY 16 2015</b>	Date <b>16-7-15</b>

Office Use Only: Follow-up report to be issued by Inspector	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Kugluktuk, NU X0B 0E0  
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[www.kitia.ca](http://www.kitia.ca)

**September 1, 2015**

Peter Cullinane  
Field Program Manager  
MMG Resources Inc.

Via Email: [peter.cullinane@mmg.com](mailto:peter.cullinane@mmg.com)

**Re: 2015 Inspection Report Summary for Inuit Owned License KTL308C008 for  
MMG Resources Inc.'s High Lake East Property**

Dear Peter:

Pursuant to the issued terms and conditions, the Kitikmeot Inuit Association (KitIA) Department of Lands, Environment and Resources is responsible to monitor compliance of the project in accordance with Inuit Owned Land Use License KTL308C008. As part of the monitoring, the objective of the 2015 site inspection was to determine the current condition of the site and to identify issues of concern and what should be focused upon future inspections.

The inspection of the High Lake East property was conducted on July 24, 2015. The attached site inspection report identifies the conditions of the inspected project site components.

Should you have any questions or would like any clarifications I can be contacted by phone at (867) 982-3310 or by email at [landsofficekia@qiniq.com](mailto:landsofficekia@qiniq.com).

Sincerely,

Tannis Bolt  
Project Officer

**Enclosed:** 150901-KTL308C008-2015 Inspection Report



**Kitikmeot Inuit Association**

**Department of Lands & Environment**

**2015 Inspection Report**

**For**

**MMG Resources Inc.'s**

**High Lake East Property KTL308C008**



**Project:** High Lake East

**License:** KTL308C008

**Project Owner:** MMG Resources Inc.  
1177 West Hastings Street  
Vancouver, BC V6E 2K3

**Site Location:** High Lake East

**Date of Inspection:** July 24<sup>th</sup>, 2015

**Contact:** Peter Cullinane, Field Program Manager

**Conducted By:** Tannis Bolt, Project Officer  
Keisha Westwood, Summer Student

**Site History and Brief Introduction of the High Lake East Property:**

The High Lake East campsite is located on Inuit Owned Land (IOL); in the Kitikmeot region of Nunavut, approximately 200km east of Kugluktuk, Nunavut.

On February 25<sup>th</sup>, 2015 the Kitikmeot Inuit Association (KitIA) Department of Lands and Environment renewed and issued License Number KTL308C008 to MMG Resources Inc. The current license allows for the following types of operation for the High Lake East Project for IOL parcels CO-23, CO-24, CO-25, CO-27, and CO-29; staking, prospecting, geological surveying (geophys grid/air), drilling (diamond/ice etc.), and fuel caching.

**Objectives and Purpose of the 2015 Site Inspection:**

Pursuant to the issued Terms and Conditions, the KitIA is responsible to monitor compliance of the Project in accordance with Inuit Owned Land Use License KTL308C008. As part of the monitoring, the objective of the KitIA's 2015 site inspection was to determine the current condition of the site and to identify issues of concern and what should be focused upon future inspections.

**2015 Inspection Comments:**

Prior to the site inspection, the 2013 KitIA Inspection Report for KTL308C008 for the High Lake Property (September 2013) was reviewed.

The 2015 site inspection of the High Lake East Project was accompanied by Jeff Campeau of MMG Resources Inc.

The KitIA is very satisfied with the demobilization of the High Lake East site and the efforts by MMG Resources Inc. to restore the area to conditions prior to any activities. The KitIA would desire to see all companies in the exploration industry strive to achieve the same high standard and level of detail as demonstrated by MMG Resources Inc.

**Prepared by:** Tannis Bolt  
**Title:** Project Officer

**Signature:** 



## Appendix II : Permitting



### NUNAVUT WATER BOARD WATER LICENCE RENEWAL

Licence No. 2BE-HIG1217

Pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

MMG RESOURCES INC.

(Licensee)

LEVEL 16, 1177 WEST HASTINGS STREET, VANCOUVER, BC, V6E 2K3

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water or dispose of waste for a period subject to restrictions and conditions contained within this Licence renewal:

Licence Number/Type: 2BE-HIG1217 TYPE "B"

Water Management Area: NUNAVUT 07

Location: HIGH LAKE PROJECT, KITIKMEOT REGION, NUNAVUT

Classification: MINING AND MILLING UNDERTAKING

Purpose: DIRECT WATER USE AND DEPOSIT OF WASTE

Quantity of Water use not to Exceed: ONE HUNDRED (100) CUBIC METRES PER DAY

Date of Licence Issuance: MAY 30, 2012

Expiry of Licence: MAY 31, 2017

This Licence renewal and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

Thomas Kabloona,  
**Nunavut Water Board**  
**Chair**

..../1

### **Appendix III : Waste Management Plan**

The Waste Management Plan remains unchanged from that which was provided in previous reports. A copy in digital form can be found on the CD that accompanies this report.

### **Appendix IV : Spill Contingency Plan**

The Spill Contingency Plan remains unchanged from that which was provided in previous reports. A copy in digital form can be found on the CD that accompanies this report.

### **Appendix V : Abandonment and Restoration Plan**

The Abandonment and Restoration Plan remains unchanged from that which was provided in previous reports. A copy in digital form can be found on the CD that accompanies this report.

### **Appendix VI : 2016 Photos – High Lake**



View of High Lake camp looking NE. Buildings all appear to be in good condition.



View of High Lake camp looking W. Buildings all appear to be in good condition with the exception of the Coldstore tent which has one side panel that has popped off. The panel will be repaired during the planned 2017 visit.



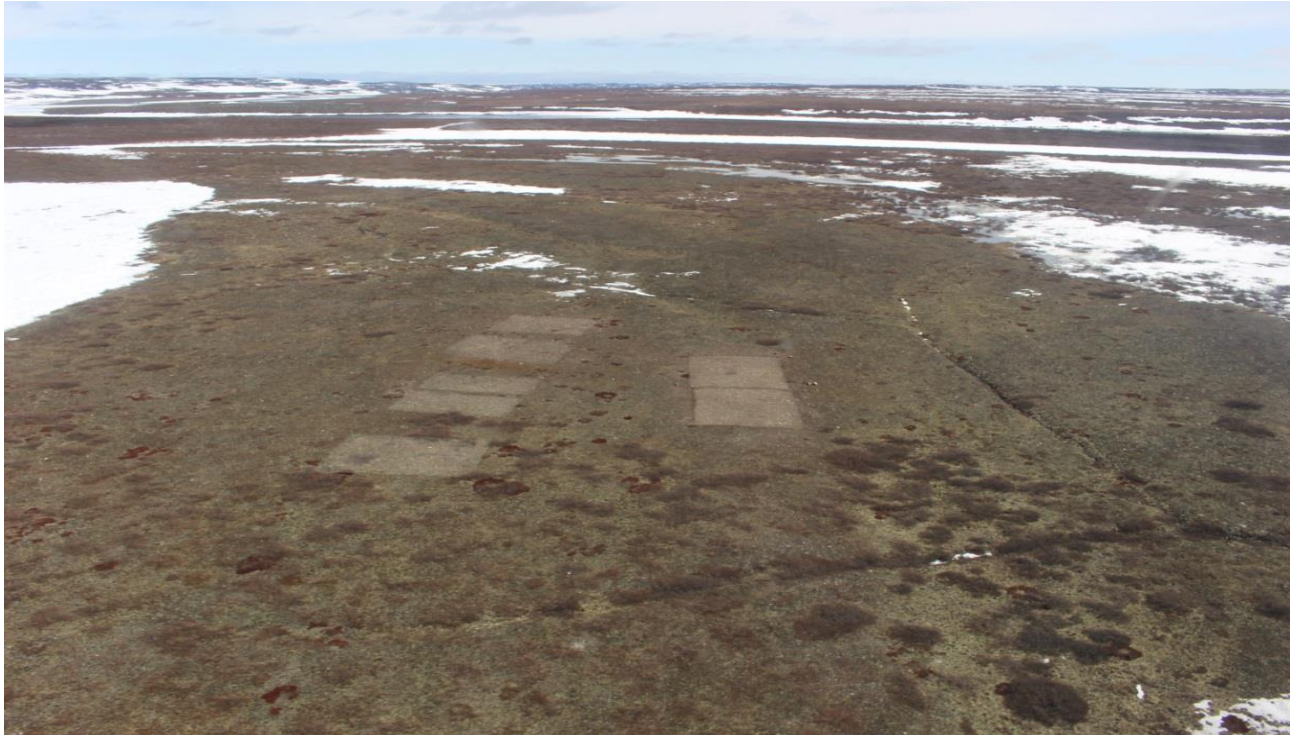
View of "New" core storage area looking E. Racks and core all appear to be in good condition. Core shack building completely removed.



View of "Old" core storage area looking W. Racks and core all appear to be in good condition although some of the older racks are leaning. Core shack building completely removed.



High Lake East - Post reclamation with only drill core remaining on site. Photo July 2015.



High Lake East site – Photo September 2015



High Lake East Airstrip – Photo September 2015

Figure 3 : Current High Lake Camp Layout

