2009 Diamond Drilling Report
Frederick House Lake Property

DUNDONALD TOWNSHIP
PORCUPINE MINING DIVISION

February, 2010

Prepared By:
Northern Gold Mining Inc.
Kirkland Lake, On.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Illustrations</td>
<td>3</td>
</tr>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Property History</td>
<td>6</td>
</tr>
<tr>
<td>Recent Work</td>
<td>9</td>
</tr>
<tr>
<td>Property Description</td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>10</td>
</tr>
<tr>
<td>Regional Geology</td>
<td>11</td>
</tr>
<tr>
<td>Property Geology</td>
<td>12</td>
</tr>
<tr>
<td>Results</td>
<td>14</td>
</tr>
<tr>
<td>Recommendations</td>
<td>17</td>
</tr>
<tr>
<td>References</td>
<td>18</td>
</tr>
<tr>
<td>Appendices</td>
<td>20</td>
</tr>
</tbody>
</table>
List of Illustrations

Map #1 - Map of Claim Contiguity 5
Map #2 - Map of Claim Access 6
Map #3 – Location of Gold MMI Anomalies 10
Map #4 - Regional Geology 12
Map #5 - Property Geology 13
Map #6 - Location of Diamond Drill Holes 15
Map #7 - Plan View of DDH Trace 16
Introduction

Between March 26 and April 3, 2009 diamond drilling was completed on the Frederick House Lake property for Northern Gold Mining Inc. Drilling was completed by Rosko Mining Equipment and Resources of Kirkland Lake, On. Drilling was done to investigate a large MMI (Mobile Metal Ion) anomaly in the lake bottom sediments of Frederick House Lake. The MMI anomaly was identified during the summer of 2007 by Northern Gold Mining by taking 1617 lake bottom sediment samples. Diamond drilling was completed on unpatented mining claim 4201244 in Dundonald Township. The claims are owned 50% by D. Meunier and 50% by Chris Pegg and are currently under option to Northern Gold Mining Inc. The claims covered by the current work program are listed below: (see Map#1)

4201244 (16 claim units)

The property is located within The Porcupine Mining Division, northeastern Ontario, approximately 31 kilometers north east of the city of Timmins (see Map #2). The property is readily accessible by Highway 610 and Highway 67 (see Map #2) and covers the southeastern portion of Frederick House Lake (see Map #1).

Damming of the Frederick House River in the early part of the past century essentially led to the creation of an artificial lake known today as Frederick House Lake. The operation of the concrete dam controls the level of the water in both the Frederick House Lake and the Night Hawk Lake. The water level can vary as much as 4 meters from mid February to early May.
Map #1, Claim Contiguity Map
Property History

Since 1954 the area covered in the current program has received considerable attention by various Mining & Exploration companies, undertaking a variety of exploration work. This work is outlined chronologically below.

1954 Dominion Gulf Company Ltd.

Completed a ground Magnetometer Survey that revealed several small easterly trending magnetic anomalies.
1964 O. Kangas Property

Completed one diamond drill hole totaling 1455 feet. The hole located in Lot 5, N1/2, Concession 6 intersected numerous quartz carbonate veinlets with 4 – 5 % pyrite mineralization. A section was sampled and was reported to have assayed 0.17 oz / ton over 5 feet.

1963 to 1971 Hollinger Mines Limited

Carried out a major exploration program for nickel. The program was centered around a nickel deposit discovered on an island nicknamed Swiss Cheese Island. This island is located approximately 1.2 km north of the south shore of Frederick House Lake. A total of 73 diamond drill holes totaling 9679 meters were completed in the vicinity of this island. In early 1963, an extensive geophysical program involving magnetic, horizontal loop EM and JEM surveys were carried out. Several conductors were outlined.

In March of 1965 a Turam electromagnetic survey was conducted on three separate areas of the property. Eight conductors were outlined.

In 1963, 1964, 1965 and briefly in 1967 a winter diamond drill program totaling 18000 feet was completed. This program failed to give economic values from a base metal perspective, however interesting gold values were encountered in two diamond drill holes. In 1965 Hole D-35 totaling 922 ft. intersected a section of dacite with quartz carbonate stringers and specks of sphalerite and pyrrhotite. This zone returned an assay of 1.39 oz / ton gold over a 1 foot interval. The hole drilled, to intersect a Turam EM conductor also intersected rhyolite, peridotite, brecciated dacite and gabbro. A section from 535 – 540 feet intersected 25 – 40% sulfides with quartz stringers and graphite present in a dacite breccia. The core was not assayed for gold.

1964 Hole D-27 totaling 896 feet intersected a serpentized dacite which reported the following assay of 0.14 oz/ton over a 5 foot width between 845-850 feet downhole.

1964 Hole D-14 totaling 808.5 feet intersected a 40 – 80% quartz carbonate stringer zone in a dacite – rhyolite breccia. The following assays were reported 0.01 oz/ton over 3 ft., 0.04 oz/ton over 5 ft., 0.04 oz/ton over 2 ft.
In 1967 three diamond drill holes on the northeast side of Swiss Cheese Island yielded some significant nickel values.

In 1968, 8000 feet of FH series holes were drilled, yielding up to 1% nickel due to pentlandite in the core. Swiss Cheese Island was mapped at a scale of 1” = 50’

In 1969 three diamond drill holes totaling 1600 feet were completed near Swiss Cheese Island. Magnetometer, HEM and VLEM surveys were completed.

1971 Falconbridge Nickel Ltd.

Completed an IP and EM survey. Ten diamond drill holes totaling 3211 feet were drilled in the vicinity of Swiss Cheese Island. The drill core was not assayed for gold. The historical open pit reserve of nickel mineralization on Swiss Cheese Island was calculated at 185,000 tons at a grade of 0.46% nickel. This was found to be contained in altered volcanics and intrusive ultramafic rocks and extended to a depth of 300 feet.

1985 Angela Developments Ltd.

An airborne Magnetic and VLF Survey was flown over the Kangeld Resources Property in Evelyn, Dundonald and German Townships. The survey was carried out in conjunction with several companies. Six northwest trending anomalies were interpreted to be due to magnetite in ultramafic rocks. A roughly northwest trending fault was postulated to cross through the southwestern portion of Frederick House Lake. This was believed to be the western extension of the Pipestone Fault.

1986 to 1988 Kangeld Resources Ltd.

In February three diamond drill holes were drilled to test a northwest trending VLF anomaly to the northeast of Swiss Cheese Island. A total of 1840 feet were drilled. The holes intersected rhyolite, tuff, diorite, gabbro and peridotite. Hole K-3 was abandoned in 356 feet of overburden. Hole K-2 was abandoned at 471 feet in peridotite. Hole K-1 reached a total depth of
1087 feet and intersected a 17 foot section of massive sulfides. Gold values reported were nil. This hole was drilled in the vicinity of the Hollinger Hole D-35 which intersected 1.39 oz/ ton Au over a 1 foot interval. In April a limited exploration program of line cutting, vertical loop EM and a magnetometer survey were carried out for Kangeld Resources Ltd. The purpose of the survey was to provide more detail over certain magnetic features on Frederick House Lake. The results of the survey indicated that there was a recognizable contact with more magnetic ultamafics to the north, as outlined by the airborne survey (Kangeld Resources Ltd., 1985). A weak vertical loop EM anomaly was also located coincident with this magnetic contact. In January / February 1987 a 9 hole diamond drill program was completed on Frederick House Lake. Metasediments, ultramafic rocks and carbonate alteration were encountered, however no anomalous gold was found. In 1988 a reconnaissance reverse circulation drill program was planned. Poor ice conditions restricted the drilling mainly to the shoreline as the majority of the property was covered by Frederick House Lake.

1988 to Present

The immediate Project area has seen little to no work since, other than that currently being carried out by current mining claim holders. Recent work is outlined below.

Recent Work

Northern Gold Mining Inc. optioned the claims in this property package from D. Meunier and C. Pegg in 2006. Since that time they have completed an airborne VTEM survey as well as an extensive MMI lake bottom sediment survey. The MMI survey showed encouraging results; it was able to delineate two large gold (Au) MMI anomalies in the lake bottom sediments (see Map #3). The anomalies are referred to as the western and the eastern anomaly. Diamond drilling in 2008 failed to reach the bedrock source of the MMI anomalies. Diamond drilling in 2009 was an attempt to again try and reach the bedrock source of the MMI Au anomaly.
Property Description

Geography:

Physiography: The project area lies within the central Canadian Shield in the western Abitibi subprovince and is primarily covered by forest, swamps and lakes with relatively little relief. Except for rock exposures on the islands within Frederick House Lake, outcrops are scarce; the western portion of the claim group is covered by glacial till. Drill holes within Frederick House Lake suggest the till cover is locally greater than 60 metres in thickness.

It should be noted that Frederick House lake is an artificial lake, created due to the damming of the Frederick House River in the
early part of the past century. Located approximately 10 kilometres downstream, the dam is controlled by Ontario Power Generation and the water level can vary as much as 4 metres from mid February to early May.

Climate: The climatic conditions are typical for the central Canadian Shield with short, mild summers and long, cold winters. Mean temperatures range from \(-17^\circ C (0^\circ F)\) in January, to \(18^\circ C (64^\circ F)\) in July, and mean annual precipitation throughout the region ranges from 812 to 876 mm (32-35 inches).

Geology:

Regional Geology: The Frederick House Lake property of Northern Gold is located within the Abitibi subprovince, an 800 by 300 kilometre area underlain by granite greenstone stratigraphy of Archean age (Map #4). In the Archean of northern Ontario, the supracrustal rocks are divided into rock packages based on their composition, morphology and geographic distribution. Individual “assemblages” consist of stratified volcanic and/or sedimentary rock units built during a discrete interval of time in a common depositional or volcanic setting. In the project area, the geology is dominated by 2 such assemblages, the Kidd-Munro volcanic assemblage in the north and east and the clastic and metasedimentary rocks of the Porcupine assemblage to the south and west.

The Kidd-Munro assemblage is a 180 x 2 to 12 kilometre belt of ultramafic, mafic and felsic rocks that extend from the Kidd Creek area north of Timmins to the Ontario–Quebec border. The Porcupine assemblage is a 100 x 5 to 120 kilometre belt of greywackes, siltstones, mudstones and intermediate to felsic volcanics that extend from an area west of Timmins to approximately 15 kilometres east of Matheson, Ontario.

Structural features are common controls on mineralization with many of the prolific gold camps in the area spatially related to the Destor–Porcupine fault zone, a regional structure extending from Timmins in the west to the Destor area of Quebec in the
east, a distance of approximately 200 kilometres. In the area of Frederick House lake, the Pipestone fault, a regional gold bearing splay of the Destor–Porcupine fault zone, is present in the southern portion of the claim group and postulated, after years of geophysical work by many parties, to trend northwest through Frederick House lake.

**Property Geology:** The project area is underlain by the Kidd-Munro volcanic assemblage in the north and east and the clastic and metasedimentary rocks of the Porcupine assemblage to the south and west. The contact between the groups is the proposed extension of the Pipestone fault, a structural feature that extends some 50 kilometers east (Map #5). Gold mineralization in the area is related to zones of intense quartz veining, carbonate alteration and sulphide mineralization found in close proximity to this faulted, altered contact. Massive sulphide mineralization
is also common within the Kidd–Munro assemblage, the Kidd Creek deposit located approximately 40 kilometers west along strike. On the Frederick House lake property, the historic Nickel Island property is located in the southeast portion of the claim group.
Results

Diamond drilling was commenced on March 24, 2009 from the ice on Frederick House Lake. A plan view of the drill hole locations is shown in Map#6. A plan view of drill hole projections is shown in Map #7. A total of two holes were attempted, both holes were testing the western MMI anomaly. However, due to the depth of overburden under the lake, drilling conditions were harsh. Both holes failed to reach bedrock encountering overburden problems, noting that “sand lock” inhibited the drill from penetrating the overburden.

The first hole, FH09-01 was drilled at a dip of -65 degrees with an azimuth of 040 degrees. The hole reached a depth of 33 metres at which point the driller believed he was in soft rock, (4.6m of consistent material) this was later determined to be clay when the rods were put down. The hole was then abandoned because the rods cemented to the casing and they had to be pulled together.

The second hole FH09-02 was drilled near vertical at a dip of -87 degrees with an azimuth of 040 degrees. The hole jammed in fine sand at 56 metres down the hole.

<table>
<thead>
<tr>
<th>Hole #</th>
<th>Easting</th>
<th>Northing</th>
<th>Target</th>
<th>Length</th>
<th>Dip</th>
<th>Azimuth</th>
<th>Claim #</th>
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<td>FH09-01</td>
<td>505700</td>
<td>5388580</td>
<td>Western MMI Anomaly</td>
<td>33m*</td>
<td>-65°</td>
<td>040°</td>
<td>4201244</td>
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<tr>
<td>FH09-02</td>
<td>505700</td>
<td>538580</td>
<td>Western MMI Anomaly</td>
<td>56m*</td>
<td>-87°</td>
<td>040°</td>
<td>4201244</td>
</tr>
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</table>

* Holes did not reach bedrock NAD83

Two samples of the bugger sand seam encountered in FH09-01 and two samples of the sand and clay encountered at the bottom of FH09-02 were taken and sent in for assay. The results are shown in the table below

<table>
<thead>
<tr>
<th>Sample #</th>
<th>Description</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>28826</td>
<td>Bugger Sand Seam-fine grained, siliceous, minor tourmaline</td>
<td>10 ppb Au</td>
</tr>
<tr>
<td>28827</td>
<td>Bugger Sand Seam-fine grained, siliceous, minor tourmaline</td>
<td>Nil</td>
</tr>
<tr>
<td>28829</td>
<td>Sand / Clay-fine to medium grained sand, siliceous, minor clay</td>
<td>10 ppb Au</td>
</tr>
<tr>
<td>28830</td>
<td>Clay-medium grey, several metal pieces (part of drill string?)</td>
<td>Nil</td>
</tr>
</tbody>
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Map #6. Drill Hole Locations on Frederick House Lake
Map #7, Plan View of Drill Hole Traces
Geochemical Analysis Certificate

Company: NORTHERN GOLD MINING INC.
Project: 9W-1621-SG1
Attn: G. MATHESON

We hereby certify the following Geochemical Analysis of 2 SOIL samples submitted JUN-15-09 by.

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<th>Au</th>
<th>Au Check</th>
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<td>10</td>
<td>-</td>
</tr>
<tr>
<td>28830</td>
<td>NIL</td>
<td>NIL</td>
</tr>
<tr>
<td>BLANK</td>
<td>NIL</td>
<td>-</td>
</tr>
<tr>
<td>STD OxK69</td>
<td>3600</td>
<td>-</td>
</tr>
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</table>
Geochemical Analysis Certificate

Company: NORTHERN GOLD MINING INC.
Project:  
Attn: G. MATHESON

We hereby certify the following Geochemical Analysis of 8 ROCK samples submitted APR-29-09 by.

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<td>28825</td>
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</tr>
<tr>
<td>28826</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>28827</td>
<td>NIL</td>
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<tr>
<td>STD OxK69</td>
<td>3531</td>
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</table>

Date: MAY-05-09

Certified by

1 Cameron Ave., P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 Fax (705) 642-3300
**Hole ID**
FH09-01

**Project**
Frederick House Lake

**Drill Company**
Rosko Mining

<table>
<thead>
<tr>
<th>Overburden Depth</th>
<th>End of Hole (m)</th>
<th>Date (yyyy/mm/dd)</th>
<th>Logged By</th>
<th>Core Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undetermined</td>
<td>33.0</td>
<td>2009/03/26</td>
<td>G. Matheson</td>
<td>NQ</td>
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<th>Location (NAD 83)</th>
<th>Location (Grid)</th>
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<td>E- 505700 E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N- 5388580 N</td>
<td></td>
<td></td>
</tr>
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</table>

**Comments** - Hole was abandoned at 33 metres because the rods cemented to the casing. Both casing and rods had to be pulled together

<table>
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<tr>
<th>Footage</th>
<th>Description</th>
<th>Sample #</th>
<th>Sample Footage</th>
<th>Sample Length</th>
<th>Assays Au ppb</th>
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<tbody>
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<td>Collar</td>
<td>33.0 m</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-fine grained sand, mostly siliceous with minor amounts of dark minerals-tourmaline</td>
<td>28826</td>
<td>at 33.0m</td>
<td>N/A</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>-Bugger sand seam</td>
<td>28827</td>
<td>at 33.0m</td>
<td>N/A</td>
<td>Nil</td>
</tr>
</tbody>
</table>
**Hole ID**
FH09-02

**Project**
Frederick House Lake

**Drill Company**
Rosko Mining

**Equipment**

**Hole ID**
FH09-02

**Overburden Depth**
Undetermined

**End of Hole (m)**
56.0

**Date (yyy/mm/dd)**
2009 / 03 / 28

**Logged By**
G. Matheson

**Core Size**
NQ

**Location (NAD 83)**
E- 505700 E
N- 5388580 N

**Location (Grid)**

**Elevation**

**Comments**
Hole was abandoned at 56 metres because the hole jammed in fine sand and clay

**Footage**
<table>
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<th>To</th>
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<th>Sample #</th>
<th>Sample Footage</th>
<th>Sample Length</th>
<th>Assays Au ppb</th>
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<tbody>
<tr>
<td>Collar</td>
<td>56.0 m</td>
<td>-fine to medium grained sand, mostly siliceous with minor amounts of clay</td>
<td>28829</td>
<td>at 56.0m</td>
<td>N/A</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-fine to medium grained sand and clay, mainly silica</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>-medium gray clay, several pieces of metal (part of drill string?)</td>
<td>28830</td>
<td>at 56.0m</td>
<td>N/A</td>
<td>Nil</td>
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</table>
Appendix

#1 Drill Log for FH09-01
#2 Drill Log for FH09-02
#3 Assay Certificates
CERTIFICATE OF AUTHOR

I, Brian Madill, 142 Carter Avenue of the town of Kirkland lake, Ontario hereby certify that:

1) I am a Prospector/Geological/Geophysical Technician and have been practicing my profession for the past 31 years.

2) I am a graduate of Cambrian College, Sudbury, Ontario having received a Geological Engineering Technician Diploma in 1979.

3) My knowledge of the property described herein was obtained by field work and documentation.

4) I do not have or expect to receive any interest in the property that forms the basis of this report.

5) I am qualified to author this report.

Dated February 01, 2010

[Signature]

Brian Madill
References


St. Andrew Goldfields Ltd., 2008. Information on Website.
Recommendations

The 2009 Diamond Drilling Program was unable to locate the bedrock source of the high gold MMI lake bottom sediments. Complications with drilling through the overburden limited the success of the drilling. This problem could be overcome by utilizing a more powerful drill setup; also by contracting drilling crews who have experience with drilling through deep overburden. Since neither FH09-01 or FH09-02 tested the main West anomaly it is recommended that drilling recommence in the winter of 2010 in order that this MMI Gold Anomaly is tested.