Total Magnetic Field Geophysical Survey on the 5 Mile Prospecting Lease
IW00458 in the Mount Nansen area, Yukon

Surveys and Assessment Report prepared for:

**Stefan Ostermaier**

Whitehorse Mining District Prospecting Lease
IW00458 – 5 Mile Lease

NTS MAPSHEET 115I03 (Mount Nansen)
Location (UTM): 379168 6882013

**OWNER:** Stefan Ostermaier
PO Box 31441 RPO Main St, Whitehorse, YT, Y1A 6K8

**CONSULTANT:** Arctic Geophysics Inc.
PO Box 31441 RPO Main St, Whitehorse, YT, Y1A 6K8

**AUTHORS:** Stefan Ostermaier, Arctic Geophysics

**DATE SUBMITTED:** July 20th, 2016
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1. Location and Access

This geophysical investigation, using a magnetometer to measure the Total Magnetic Field, was done at Unnamed Tributary to Lonely Creek for Stefan Ostermaier.

Geophysics work was conducted to prospect the ground for placer mining interests. The program was focused on measuring and interpreting the following subsurface characteristics:

Distribution of magnetite (black sand)

Magnetometer work was carried out on July 7th – 9th 2016.

The survey area is located in the Whitehorse Mining District of Yukon, 55 km west of Carmacks YT.

The survey area was accessed by 4x4 truck on the Mount Nansen Road to the Nansen Creek valley and from there on foot to the actual survey site.

<table>
<thead>
<tr>
<th>Tenure Number</th>
<th>Claim Name</th>
<th>Claim/Lease Owner</th>
<th>Geophysical Method</th>
</tr>
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<tbody>
<tr>
<td>IW00458</td>
<td>-</td>
<td>Stefan Ostermaier</td>
<td>Total Magnetic Field</td>
</tr>
</tbody>
</table>

2. Crew

Magnetometer crew: Stefan Ostermaier and Elijah Istchenko, Arctic Geophysics Inc.

Support, Documentation: Heidi Kulcheski, Arctic Geophysics Inc.

Line planning: Stefan Ostermaier, Arctic Geophysics Inc.

3. Fieldwork – Schedule

Fieldwork: The magnetometer survey was conducted on July 7th - 9th 2016.

Processing, Interpretation of Magnetometer data on July 11th 2016.
4. Geophysical Methods

4.1 Total Magnetic Field

A magnetometer survey measures the total magnetic field anomaly in the area of interest. Geological units with relatively high total field strength are likely to contain higher concentrations of ferrimagnetic minerals. By far the most common of these is magnetite, which has a specific gravity of 5.2 g/cm³. With its high density magnetite settles on stream beds to form black sands. Black sands are expected to be associated with heavy minerals, including gold. Total magnetic field is measured in nanoTesla (nT).

5. Use of Geophysical Method

5.1 Magnetometer Instrumentation

The equipment used includes:

- GEMSYS GSM-19 GW (rover) with Integrated GPS
- GEMSYS GSM-19 (base)

5.2 Magnetometer Data Acquisition

The GEMSYS GSM-19 was used as a base station. It was set in exactly the same location during the survey. The cycling time (time between measurements) for the base station was set to 4s.

The GEMSYS GSM-19 GW with integrated GPS attachment set to walking mode was used as the “rover” magnetometer. Once the integrated GPS acquired satellite coverage, it synced its internal clock with UTC (Coordinated Universal Time). The base and rover stations were connected with a six pin cable to sync the base station to UTC. For the rover unit, a cycling time of 2 seconds was used.

The waypoints for the survey lines were programmed into the integrated GPS. Lines were positioned 25m apart and ran perpendicular to the baseline. The tolerance for lateral movement on these lines was set to 5m. The first lines are 2000ft (aprx. 609m) long. In order to minimize noise, efforts were made to remove all magnetic items from the operator.

5.3 Magnetometer Data Processing

The magnetometer data was processed with GemLink 5.31 to correct for diurnal variation. A datum of 56,000 nT was chosen. Data was then checked for outliers with Microsoft Excel. Spatial interpolation of the data was performed with QGIS. Ordinary kriging was used to produce a map of total field anomaly.

1 Produced by GEM Systems (Canada)
6 Magnetometer Survey Map

Legend
- watercourse
- contour lines
- 1000ft
- 100ft
- placer baseline
- unsurveyed
- surveyed
- placer claims
  - Active
  - Expired
- prospecting leases
  - Active
  - Expired
- magnetic survey point

Total Magnetic Field Survey Map

NTS MAPSHEET 115103 (Mount Nansen)
Universal Transverse Mercator
North American Datum 1983
Map Date July 13th 2016
Scale 1:50,000

Legend:
- Watercourse
- Contour lines
- 1000ft
- 100ft
- Placer baseline
- Unsurveyed
- Surveyed
- Placer claims
  - Active
  - Expired
- Prospectig leases
  - Active
  - Expired
- Magnetic survey point

Map Legend:
- Watercourse
- Contour lines
- 1000ft
- 100ft
- Placer baseline
- Unsurveyed
- Surveyed
- Placer claims
  - Active
  - Expired
- Prospectig leases
  - Active
  - Expired
- Magnetic survey point

Scale: 1:50,000

Map Reference:
NTS MAPSHEET 115103 (Mount Nansen)
Universal Transverse Mercator
North American Datum 1983
Map Date July 13th 2016
7. Ground Magnetics

Legend

Total Magnetic Field [nT]  contour lines
55928.8  1000ft
55951.4  100ft
55974.0
55996.6
56019.2

Total Magnetic Field Anomaly Map

Scale 1:4,000

75 0 75 150 225 300 m

NTS MAPSHEET 11S103 (Mount Nansen)
Universal Transverse Mercator
North American Datum 1983
Map Date July 13th 2016
7.1 Interpretation – Ground Magnetics:

The northeastern part of the survey area shows a magnetic low whereas the southwestern part shows a magnetic high. Since these are larger structures it is possible that they are the product of larger scale magnetic anomalies in the bedrock. There are a number of anomalies with magnetic lows trending north to south. The most distinct one in the right hand third of the survey area appears to be coinciding with a sand bar / bench. The other north south trending magnetic lows have no obvious correlation in the observed topography and bear further testing.

8. Recommendations

It is recommended that the north south running anomalies be tested for black sands and gold. Furthermore it is recommended to do more Total Field Magnetics on the prospecting lease to get a more complete picture of the possible channels. 2D Resistivity is also recommended to test for depth to bedrock and thickness of observed sand deposits.

9. Conclusion

The survey found a number of more or less distinct north south running anomalies that are interpreted as sand deposits of sufficient thickness to mask underlying black sand or have replaced the black sand that might have been there. The survey will have to be followed up with intensive testing in the field to correlate with the findings of the Total Field Magnetics survey.
10. Qualifications

Stefan Ostermaier, Geophysical Surveyor, Managing Partner, Arctic Geophysics Inc.

stefan.ostermaier@arctic-geophysics.com

Work Experience

Founded and employed at Arctic Geophysics Inc. since June 2007

Geophysical Surveying for Mining Exploration in the Yukon since 2005

Geological prospecting for precious metals and minerals in the Yukon and Alaska since 2001

Publications:

Numerous Assessment Reports BC & YT including:

- 2008 Dredge Master Gold Ltd. Dawson Mining District Yukon Sixty Mile Area
- 2009 10796 Yukon Ltd. Dawson Mining District Yukon Scroggie Creek
- 2010 Mel Zeiler Mayo Mining District Yukon Duncan Creek
- 2010 YGS Dawson Mining District Yukon White River
- 2011 Gold Miners Group Inc. Whitehorse Mining District Yukon Kluane Lake
- 2011 Al Dendys Atlin Mining Division BC Atlin
- 2012 Stephen Swaim Whitehorse Mining District Yukon Livingston Area
- 2012 Bonnyville Oilfield Service & Supply Ltd Whitehorse Mining District Yukon Carmacks
- 2013 Victor Casavant Atlin Mining Division BC Atlin
- 2014 Bens Contracting & Rental Whitehorse Mining District Yukon Kluane Lake
- 2014 Angel Jade Mines Ltd. Liard Mining Division BC Liard area
- 2014 Ron Berdahl Whitehorse Mining District Yukon Carmacks
- 2014 Zenith Mineral Resources Ltd. Cariboo Mining Division BC Likely

Geophysical survey (45 field days) for Yukon Government: Yukon Geological Survey, 2D Resistivity/IP Data Release for Placer Mining & shallow Quartz Mining-Yukon 2010


Education

Study of Geology, University of Tübingen, Germany

Geophysical field courses, University of Karlsruhe and University of Stuttgart, Germany

Study of Computer Science, University of Stuttgart, Germany
Confirmation

We have interpreted the data and prepared this report entitled Total Magnetic Field Geophysical Survey on the 5 Mile Prospecting Lease IW00458 in the Mount Nansen area, Yukon for assessment credit, the surveys were carried out by Arctic Geophysics Inc. of Whitehorse, Yukon Territory

Stefan Ostermaier
Appendix
GPS Data

(see CD – Data files excessively large to be included with this report)
## Costs – Magnetics Survey – July 2016

### INVOICE

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**Stefan Ostermaier**  
PO Box 31441  
Whitehorse, YT, Y1A 6K8  

**Date:** 2016-07-20  
**Invoice No.:** 2016-O(M)07-0105

### Job:

- Unnamed Tributary
- Mag Survey (5 Mile Lease)

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>3 days</td>
<td>GEM GSM-19 High Precision Over Hauser Magnetometer</td>
<td>$2,835.00</td>
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<tr>
<td>3 days</td>
<td>GPS/Mag Operator (geologist) @ 945.00/day</td>
<td>$1,380.00</td>
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<td>3 days</td>
<td>Field Technician - Line / Brush Cutting/Clearing/Gridding</td>
<td>$110.00</td>
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<tr>
<td>1 day</td>
<td>Data Analysis, Interpretation/Processing (75% of Survey Rate)</td>
<td>$945.00</td>
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*for Assessment Reporting*

### Total Survey Cost  

$5,270.00

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<table>
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<tr>
<th>Description</th>
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<tbody>
<tr>
<td>Subtotal</td>
<td>$5,270.00</td>
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<tr>
<td>G.S.T. (5%) #846363216RT0001</td>
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<td><strong>TOTAL</strong></td>
<td><strong>$5,533.50</strong></td>
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