

Western Office

34A Laberge Road Whitehorse, Yukon Y1A 5Y9 Phone (867) 668-7672 Fax: (867) 393-3577

# MEMORANDUM

To:	Vincent Li
	Canadian Dehua International
	Mines Group Inc.

Date: 8 Dec 2010

From: Leatina Wood

Re: O Block Property Airborne Magnetic Interpretation

This memorandum summarizes data processing and interpretation of airborne magnetic data collected on the O Block Claims by Precision GeoSurveys Inc. in July and August of 2010. Flight lines were flown at 60°/240° with 100m line separation. Tie lines were flown perpendicular and spaced at 1000 m. Magnetic data as well as radiometric data was collected during the survey. All data was levelled by Precision GeoSurveys Inc.,and all data interpreted herein was based on this final data set.

## 1.0 Data Sets

The following data sets were examined and interpreted:

Туре	Date acquired	Remarks
Airborne magnetics	August 2010	Airborne Geophysical Survey Report - Dehua, O-Block Property by Precision GeoSurveys Inc. (2010)
Airborne radiometrics	August 2010	Airborne Geophysical Survey Report - Dehua, O-Block Property by Precision GeoSurveys Inc. (2010)
Regional stream sediment geochemistry	1985	Regional stream sediment and water geochemical reconnaissance data, Yukon Territory: Geological Survey

O Block Airborne Interpretation Memo - page 1

		of Canada Open File 1220 (1986)
Yukon Bedrock Geology	Released 2003	Yukon bedrock geology: Yukon digital geology, Version 2.0, S.P. Gordey and A.J. Makepeace (comp); Geological Survey of Canada Open File 1749 and Yukon Geological Survey Open File 2003-9(D)

## 2.0 Interpretation Procedures

The data was interpreted using the procedures below:

- 1. All data was plotted in a digital map with each data set on a separate layer. Topographic data, regional bedrock geology and geochemical copper anomalies were used as underlays.
- 2. The total magnetic field (TMF) was gridded using a minimum curvature algorithm with a 25m cell size. Preliminary targets were based on rounded magnetic highs as well as linear magnetic features occurring across the O Block.
- 3. Frequency filtered grids were produced to highlight trends and targets obscured by regional magnetic trends. High pass frequency filtering was used to enhance the response from small-scale features on the order of a few hundred meters (a scale similar to that of the Minto deposit). The first vertical derivative (VD) is sensitive to steeply dipping structures and was used as an edge detector. A high pass filter was created by subtracting upward continued data (UCD an effective low pass filter) from the original TMF. Several different heights were tested but the best results were obtained from upward continuation of 100 m and 1000 m. Another high pass filter was created by subtracting downward continued data (DCD) from original TMF. Downward continuation of 25 m allowed targets below magnetically quiet overburden to be emphasized. A 4-pass Hanning filter was used on the 25 m DCD to smooth the grid file.
- 4. Previous work on the Hi claims, which overlap the northern portion of the O Block, in 1976 by United Keno Hill Mines Ltd. was overlain on the TMF by matching stream locations as the data is not geo-referenced. Soil sampling was completed in 1976 and results showed small regions with anomalous copper across the block.

- 5. Magnetic targets chosen were overlain on the radiometric results and compared with corrected values for potassium, uranium and thorium.
- 6. Final maps were prepared for each data channel showing the anomalies and targets identified during the previous steps.

## 3.0 Target Response

The O Block claims are located approximately 18 km southeast of the Minto Mine Site and 28 km northwest of the Carmacks Copper Mine Site in the Whitehorse Mining District, Yukon Territory. Targets on the O Block were chosen based on similarities to either Minto or Carmacks Copper style deposits.

Minto style copper and gold deposits are hosted in the intermediate to felsic Early Jurassic Minto pluton (Yukon Minfile #115I 021). Minto style magnetic targets tend to be rounded magnetic highs with 200 m to 300 m strike length. Mineralization of the Minto deposit occurs in weakly to strongly foliated granitoids which are hosted in massive undeformed granites (Hood, *et al.* 2008). Post-mineralization faulting may account for discontinuities within the mineralized zones (Hood, *et al.* 2008).

Carmarcks Copper style copper and gold deposits are hosted in the intermediate to felsic Early Jurassic Granite Mountain Batholith (Yukon Minfile #115I 008). Unlike the Minto deposit which is mainly composed of sulphides, the Carmacks Copper mineralization is mainly oxides near surface. Oxidized minerals tend to not have a distinct magnetic high or low. Any associated magnetization can be attributed to large scale structures. The Carmacks Copper zones of interest are long narrow linear structures with minimal associated magnetization.

## 4.0 Results

Figure 1A.	O Block Base Map featuring Total Magnetic Field
Figure 1B.	O Block Base Map featuring Total Magnetic Field and Approximate Location of Hi claims
Figure 2.	O Block Base Map featuring First Vertical Derivative
Figure 3.	O Block Base Map featuring 100 m Upward Continuation
Figure 4.	O Block Base Map featuring 1000 m Upward Continuation
Figure 5.	O Block Base Map featuring 25 m Downward Continuation

The following figures are attached to this report:

Figure 6.	O Block Base Map featuring Corrected Potassium
Figure 7.	O Block Base Map featuring Corrected Uranium
Figure 8.	O Block Base Map featuring Corrected Thorium

All geographical locations in this report are expressed in UTM Zone 8N (metric) coordinates relative to the WGS84 datum. General features of note are described below.

## 4.1 Bedrock Geology

The bedrock geology is accurate at the 1:250000 scale. Contact relationships between units (ie; faults and folds) were not used in this investigation. Here is brief summary of major lithologies appearing on the map.

Unit ID	Age	Description
EJgA	Early Jurassic	Intermediate to felsic pluton - diorite, granodiorite, monzodiorite
uKC1	Cretaceous	Felsic volcanics - basalt, breccias, andesite, porhyry, dacite, trachyte
uTrP	Triassic or older	Mafic volcanics - argillite, sandstone, basalt, flows, breccia, tuff, schist, amphibolite, gneiss
DMgPW	Devonian to Mississippian	Felsic metamorphic orthogneiss
EJyL	Early Jurassic	Felsic pluton - syenite
LKdP	Late Cretaceous to Tertiary	Mafic pluton - gabbro/diorite
mKqW	Mid Cretaceous	Felsic pluton - quartz monzonite/granite/monzonite/syenite

## 4.2 Total Magnetic Field

The TMF has background values similar to those expected from the International Geomagnetic Reference Field (IGRF). Only magnetic highs will be targeted as potential copper sources.

## 4.3 Previous Work

In 1976 United Keno Hill Mines Ltd. completed a soil sampling program on their Hi claims located in the current O Block. Results showed small elongate regions with anomalous copper across the Hi block.

## 5.0 Targets

Four target groups were identified in the interpretation. Each consists of a set of targets with complementary geophysical responses which are consistent with expected responses from the target model and which in some cases are associated with known geochemical anomalies. The targets are ranked and described in order of decreasing certainty and potential.

## 5.1 Target Group A: Minto Style with Geochem Anomalies

Targets 6, 8, 10, 16, 17, 22, 23, 26, 27, 30 and 31 form group A. They are all located up drainage from a stream sample copper anomaly ranging from 10 ppm to 15 ppm. The targets are rounded magnetic highs with 200 m to 300 m strike length. Targets 6 may be related to a magnetic lineament. Target 16 may be related to offset faulting. Figures 1A and 3 show this target group the best. The targets are described below:

Target Number	Easting	Northing	Orientation Strike	Length (m)	Width (m)	Magnetic High (nT)
6	389700	6927885	0/180	140	140	90
8	390950	6929030	120/300	300	220	170
10	389490	6929775	0/180	300	285	200
16	389830	6929000	90/270	260	240	240
17	390385	6928500	30/210	290	200	250
22	391900	6928300	90/270	335	290	340
23	390000	6930000	90/270	300	270	340
26	395650	6924650	90/270	310	220	190
27	395610	6926135	90/270	230	200	245
30	395570	6924210	45/225	300	225	230
31	394920	6924770	45/225	185	160	105

## 5.2 Target Group B: Large targets with Geochem

Targets **1**, 9, 14, 15, 20, 21, and 33 form Group B. Targets in group B are larger than the ideal Minto magnetic target however they are located up drainage of notable stream geochemical anomalies. Target 1, although not located in the target geology, is located up drainage of 475 ppb gold anomaly. Target 14 is up drainage of a 45 ppm copper

anomaly. The remainder of the targets are up drainage of 10 ppm to 15 ppm copper anomalies. Target 21 and 33 occur near intersections of magnetic lineaments. Figures 1A, 2 and 3 show the magnetic responses of these targets. The targets are described below:

Target Number	Easting	Northing	Orientation Strike	Length (m)	Width (m)	Magnetic High (nT)
1	382875	6923900	45/225	850	220	30
9	391700	6928725	0/180	500	250	300
14	395700	6928850	135/315	1300	900	310
15	392430	6932150	90/270	480	370	170
20	390675	6926600	45/225	600	230	240
21	388600	6929200	160/340	900	200	290
33	393930	6929300	135/315	480	250	260

#### 5.3 Target Group C: Minto Style without Geochem

Targets 2, 3, 4, 5, 7, 11, 12, 13, 18, 19, 24, 25, 28, 29, 35, 36, 37, and 38 form group C. These targets are Minto style magnetic highs without any associated geochemical anomalies. Targets 37 and 38 may be related to one another by disjointed lineaments. The target is described below:

Target	Easting	Northing	Orientation	Lenght (m)	Width	Magnetic
Number		_	Stike		(m)	High (nT)
2	384275	6924250	0/180	240	180	345
3	384075	6924900	90/270	160	100	95
4	388125	6925225	0/180	200	180	230
5	387335	6925265	60/240	350	200	310
7	387335	6932530	0/180	300	225	1910
11	393090	6930550	0/180	200	200	160
12	394485	6929750	0/180	200	200	170
13	387270	6928630	90/270	300	170	155
18	384400	6925600	30/210	180	130	230
19	383800	6925415	0/180	250	250	275
24	392700	6930200	135/315	190	170	240
25	390230	6930900	135/315	225	180	245
28	394175	6926025	90/270	300	200	190
29	392350	6927655	90/270	325	300	440
35	389050	6930470	150/330	280	260	190
36	389310	6931090	90/270	250	150	165
37	387740	6931380	170/350	250	200	280
38	387950	6932115	0/180	350	250	330

O Block Airborne Interpretation Memo - page 6

## 5.4 Target Group D: Large targets without Geochem

Targets 32, 34, and 39 form group D. These targets are larger than ideal Minto style magnetic targets and are not related to any geochemical anomalies. Targets Figures 1A and 3 show these targets most clearly. The targets are described below:

Target Number	Easting	Northing	Orientation Strike	Length (m)	Width (m)	Magnetic High (nT)
32	395780	6926940	0/180	430	300	270
34	393435	6931700	90/270	450	300	210
39	389010	6933070	90/270	480	210	75

## 5.5 Linear magnetic features

Linear magnetic features should be considered as potential targets or bounds on targets. Most of the lineaments strike either 120/300 or 170/350. These features may be related to faulting or shear zones. Some of the lineaments show offset faulting or jointing of the rocks.

## 6.0 Products

The following products are attached to this report:

## 6.1 Geotiff Grids

The following images in GeoTIFF format are included as zipped files:

From Figure 1A	Total Magnetic Field with linear colorbar from 57065.3 nT to 57602.6 nT in a separate file.
From Figure 1B	Total Magnetic Field with Hi claims overlain. Note: Hi locations are approximate.
From Figure 2	First Vertical Derivative with linear colorbar from -1.6 nT/m to 2.0 nT/m in a separate file.
From Figure 3	100 m Upward Continuation with linear colorbar from -102.8nT to 126.4 nT in a separate file.

From Figure 4	1000 m Upward Continuation with linear colorbar from -241.7 nT to 247.7 nT in a separate file.
From Figure 5	25 m Downward Continuation with linear colorbar from -61.3 nT to 49.5 nT in a separate file.
From Figure 6	Corrected Potassium with linear colorbar from 17.7 cps to 63.0 cps in a separate file.
From Figure 7	Corrected Uranium with linear colorbar from 2.5 cps to 10.4 cps in a separate file.
From Figure 8	Corrected Thorium with linear colorbar from 3.3 cps to 13.9 cps in a separate file.

## 6.2 ArcView Shape File

A georegistered ArcView Shape file (.shp) is included of the targets shown on all maps. All vector base map data is also included in Shape file format.

#### 6.3 PDF Maps

PDF versions of all 9 figures are included. As well as a PDF copy of this report.

Respectfully submitted, Aurora Geosciences Ltd.

Leatina Wood, *B.Sc., Geoph.I.T. (Alberta)* Geophysicist

#### References

Hood, S., Hickey, K., Colpron, M. and Mercer, B. (2009) High-grade hydrothermal copper-gold mineralization in foliated granitoids at the Minto mine, central Yukon. *In:* Yukon Exploration and Geology 2008, L.H. Weston, L.R. Blackburn and L.L. Lewis (eds), Yukon Geological Survey, p. 137 - 146.

Geological Survey of Canada (1986). Regional stream sediment and water geochemical reconnaissance data, Yukon Territory. Geological Survey of Canada, Open File 1220.

Geological Survey of Canada Open File 1749 and Yukon Geological Survey Open File 2003-9(D) (2003). Yukon digital geology, Version 2.0, S.P. Gordey and A.J. Makepeace (comp.).

Precision GeoSurveys Inc. (2010). Airborne Geophysical Survey Report K-Block Property.