

# GO COBALT MINING CORP.

## MONSTER PROJECT

This dataset contains contours, flight paths and images derived from a confidential airborne magnetic and radiometric survey, which is summarised below.

SURVEY NAME	METHODS	JOB #	CONTRACTOR	SURVEY YEAR	FLIGHT LINE SPACING (metres)	MEAN TERRAIN CLEARANCE (metres)	FLIGHT LINE DIRECTION (degrees)	DATA STATUS
Monster	MAG RAD DEM	18126	Precision GeoSurveys	2018	75	42.5	165 – 345	Confidential

Final products are delivered in a MapInfo-compatible format using the WGS84 datum and UTM zone 7N projection.

## Image Files (GeoTIFFs)

These are typically imaged as either greyscale or rainbow spectrum with purple/blue values being low and red/white values being high.

### ELEVATION

- \_DEM\_Xshade\_L Digital Elevation Model (Lin) shaded with 50% X Gradient

### RADIOMETRICS

- \_K\_Xshade\_L Potassium channel (Lin) shaded with 50% X Gradient
- \_KTh\_Xshade\_L Potassium / Thorium ratio (Lin) shaded with 50% X Gradient
- \_TC\_Xshade\_L Total Count channel (Lin) shaded with 50% X Gradient
- \_Tern\_L Ternary Image (Lin, K-red, Th-green, U-blue)
- \_Tern\_NL Ternary Image (NL, K-red, Th-green, U-blue)
- \_Tern\_TC\_Xshade\_L Ternary Image (Lin, K-red, Th-green, U-blue) shaded with 50% X gradient of Total Count
- \_Tern\_TC\_Xshade\_NL Ternary Image (NL, K-red, Th-green, U-blue) shaded with 50% X gradient of Total Count
- \_Th\_Xshade\_L Thorium channel (Lin) shaded with 50% X Gradient
- \_U\_Xshade\_L Uranium channel (Lin) shaded with 50% X Gradient
- \_U100\_Xshade\_L Uranium channel (Lin, no data clip) shaded with 50% X Gradient
- \_UTh\_Xshade\_L Uranium / Thorium channel (Lin) shaded with 50% X Gradient

### MAGNETICS – RTP

- \_RTP\_pseudo\_L Reduced To Pole TMI (Lin) Pseudocolour Image
- \_RTP\_pseudo\_NL Reduced To Pole TMI (NL) Pseudocolour Image
- \_RTP\_X Reduced To Pole TMI (NL) X Gradient Greyscale

▪ _RTP_AGC_NL	AGC Enhanced Reduced to Pole TMI (NL) Greyscale
▪ _RTP_grad_com_NL	Reduced to Pole TMI (NL) Gradient Combination (Red=SE, Green=E, Blue=NE)
▪ _RTP_Xshade_L	Reduced to Pole TMI (Lin) shaded with 50% X Gradient
▪ _RTP_Xshade_NL	Reduced to Pole TMI (NL) shaded with 50% X Gradient
▪ _RTP1VD_NL	First Vertical Derivative of Reduced to Pole TMI (NL) Greyscale
▪ _RTP1VD_Xagcs_L	First Vertical Derivative of Reduced to Pole TMI (Lin) shaded with 50% AGC Enhanced X Gradient
▪ _RTP1VD_Xagcs_NL	First Vertical Derivative of Reduced to Pole TMI (NL) shaded with 50% AGC Enhanced X Gradient
▪ _RTP1VD_Xshade_L	First Vertical Derivative of Reduced to Pole TMI (Lin) shaded with 50% X Gradient
▪ _RTP1VD_Xshade_NL	First Vertical Derivative of Reduced to Pole TMI (NL) shaded with 50% X Gradient
▪ _RTP2VD_NL	Second Vertical Derivative of Reduced to Pole TMI (NL) Greyscale
▪ _RTP2VD_AGC_NL	AGC Enhanced Second Vertical Derivative of Reduced to Pole TMI (NL) Greyscale
▪ _RTP_TILT_Xagcs_L	Tilt Angle of Reduced to Pole TMI (Lin) shaded with 50% AGC Enhanced X Gradient
▪ _RTP_1VDagcs75_L	Reduced To Pole TMI (Lin) shaded with 75% 1VD AGC
▪ _RTP_2VDagcs75_L	Reduced To Pole TMI (Lin) shaded with 75% 2VD AGC

#### **MAGNETICS – TMI**

▪ _TMI_X	TMI (NL) X Gradient Greyscale
▪ _TMI_Xshade_L	TMI (Lin) shaded with 50% X Gradient
▪ _TMI_Xshade_NL	TMI (NL) shaded with 50% X Gradient
▪ _TMI1VD_Xagcs_L	First Vertical Derivative of TMI (Lin) shaded with 50% AGC Enhanced X Gradient
▪ _TMI1VD_Xagcs_NL	First Vertical Derivative of TMI (NL) shaded with 50% AGC Enhanced X Gradient
▪ _TMI1VD_Xshade_L	First Vertical Derivative of TMI (Lin) shaded with 50% X Gradient
▪ _TMI1VD_Xshade_NL	First Vertical Derivative of TMI (NL) shaded with 50% X Gradient

#### **MAGNETICS – Analytic Signal**

▪ _AS_Xshade_L	Analytic Signal (Lin) shaded with 50% X Gradient
▪ _AS_Xshade_NL	Analytic Signal (NL) shaded with 50% X Gradient
▪ _ASVI_Xshade_L	ASVI (Lin) shaded with 50% X Gradient
▪ _ASVI_Xshade_NL	ASVI (NL) shaded with 50% X Gradient

*X refers to the sun-shade angle (SE, E, NE or N)  
1-99% data clip used unless otherwise stated*

## Vector Files (MapInfo)

Contours @ 1:20,000

### ELEVATION

- \_DEM\_20k\_cont Digital Elevation Model contours (intervals @ 25, 100, 500 m)

### RADIOMETRICS

- \_TC\_20k\_cont Total Count contours (intervals @ 2.5, 10, 50 nGy/hr)
- \_K\_20k\_cont Potassium contours (intervals @ 0.1, 0.5, 2.5 %)
- \_Th\_20k\_cont Thorium contours (intervals @ 0.5, 2.5, 10 ppm)
- \_U\_20k\_cont Uranium contours (intervals @ 0.1, 0.5, 2.5 ppm)

### MAGNETICS

- \_TMI\_20k\_cont Total Magnetic Intensity contours (intervals @ 5, 25, 100, 500 nT)
- \_TMI1VD\_20k\_cont First Vertical Derivative of TMI contours (intervals @ 0.05, 0.5, 5 nT/m)
- \_RTP\_20k\_cont Reduced to Pole TMI contours (intervals @ 5, 25, 100, 500 nT)
- \_RTP1VD\_20k\_cont First Vertical Derivative of RTP contours (intervals @ 0.05, 0.5, 5 nT/m)

### Flight Path

- \_FlightPath Survey flight path

*Abbreviations:* TMI - Total Magnetic Intensity, RTP - Reduced to Pole, AGC - Automatic Gain Control, AS - Analytic Signal, 1VD - First vertical derivative, 2VD - Second vertical derivative, ASVI – Analytic Signal of Vertical Integral, TC - Total Count, K - Potassium, U - Uranium, Th - Thorium, U/Th - Uranium/Thorium Ratio, K/Th - Potassium/Thorium Ratio. Lin - Linear colour stretch, NL - Non-linear colour stretch

## Coordinate System

WGS84 Datum  
UTM Zone 7N  
Northern Hemisphere



SOUTHERN GEOSCIENCE  
CONSULTANTS

## FILTER AND IMAGE DESCRIPTIONS

Abbreviation	Name	Definition and Use
TMI	Total Magnetic Intensity	'Raw' data as measured in field, at a specific time and location (including height), in the presence of the Earth's local magnetic field. Provides an overview of the magnetic signature of a particular area before any enhancement filtering.
RTP	Reduced to Pole	The reduction-to-the-pole process recalculates the observed magnetic field to what it would look like at the north or south magnetic pole, where the Earth's magnetic inclination is vertical. It theoretically removes the asymmetry of the TMI anomaly and places the peak response directly over the magnetic bodies. In practice it can result in artefacts, particularly if remanence is present. It can also be misleading / unstable for N-S striking bodies in low-latitude environments.
N,NE,E,SE	Direction of Horizontal Gradient	Ratio of magnetic response to horizontal distance. Used to emphasize the change in amplitude of an anomaly, which can be useful for detecting edges, faults and/or contacts. Maximum values are recorded over the largest changes in amplitude relative to distance, while a zero response is recorded directly over anomaly highs or lows. North(N) will tend to highlight E-W trending features, East(E) will tend to highlight N-S trending features.
1VD	1st Vertical Derivative	Enhances shallower anomalies and improves the resolution of closely spaced sources by sharpening and separating magnetic anomalies. Equivalent to measuring the magnetic field simultaneously at two points vertically above each other and dividing the result by the distance between the points.
2VD	2nd Vertical Derivative	Enhances shallow anomalies even further but needs high quality data as noise levels are also amplified. Equivalent to the rate of change of the 1st vertical derivative relative to height.
N,NE,E,SE SHADE	Shadowing direction, or direction of sun-angle illumination	A mixture of a colour image (eg. TMI) with a greyscale horizontal gradient, normally 50:50. Typical colour/sun-angle illumination image.
AGC	Automatic Gain Control	Process whereby anomalies or features in an image are all reduced to similar amplitudes. This is very useful for extracting fine detail from images that are otherwise dominated by one or two high amplitude features. The amplitude of the original response is lost during the process so the relative amplitudes of anomalies from an AGC image cannot be compared directly.
AS or ANSIG	Analytic Signal	A combination of the vertical and horizontal derivatives. Generates a maximum directly over a discrete body, or alternatively maxima over the edges of wider bodies, regardless of the presence of any remanent magnetisation or the Earth's local magnetic inclination. It can therefore be a useful tool in reducing the difficulties associated with interpreting the location of bodies with remanent magnetisation and/or in low-latitude environments where the RTP is unstable. However, contrary to popular belief, the ANSIG is <u>NOT</u> totally independent of the inclination field or remanent magnetisation, with the size, shape and location of the calculated anomalies still affected by both of these factors.

TILT	Tilt Angle	Uses a ratio of the vertical and total horizontal derivatives to enhance magnetic bodies and their edges. Maximum values are detected directly over the centre of the magnetic body, while the zero value corresponds to the edge of the source. Provides a sharper indication of magnetic contacts than the ANSIG. It is independent of the magnitude of the magnetic response, and is therefore useful for mapping stratigraphy in low amplitude areas. Like the AGC filter, the TILT cannot be used to directly compare anomaly amplitudes.
ASVI	Analytic Signal of Vertical Integral	Process aimed at reducing the effects of remanent magnetisation, but done more for the purposes of 3D modelling than imaging. Smoother version of ANSIG.
LIN or L	Linear	Refers to the colour scaling of the image being an even (linear) distribution from the lowest through to the highest response. Useful for comparing strength/amplitude of anomalies directly, but can sometimes show little information other than the very high or very low anomalies.
NL	Non Linear	Colour scaling which gives more detail to low amplitude, background areas. A Non Linear colour stretch modifies the image so that there is an equal amount of all colours. Useful for datasets with a large dynamic range, but the relative amplitudes of anomalies cannot be compared directly.
<b>RADIOMETRICS</b>		
TC	Total Count Radiometric	Surface mapping - combination of all radiometric channels. Useful as a general overview image of the total radiometric spectrum, but does not discriminate individual elements.
K	Potassium	Surface mapping - highlights K-feldspar granitoids, clays, alteration, pegmatite, siltstones, etc.
U	Uranium	Surface mapping and uranium anomaly detection. Uranium mineralisation is not normally associated with coincident potassium or thorium highs.
Th	Thorium	Surface mapping - highlights granitoids, laterite and monazite.
K/Th or KTh	Potassium to Thorium ratio	Useful for discriminating sericite alteration from radioactive granites with mixed uranium-thorium-potassium content.
U/Th or UTh	Uranium to Thorium ratio	Highlights uranium anomalies in the absence of a response in the thorium channel and discriminates pure uranium sources from radioactive granites with mixed uranium-thorium-potassium content.
TERN	Ternary	Combination of all 3 radiometric channels (K, U & Th) and coloured by red, blue & green respectively. Colours are additive and zero in any channel is black (e.g. high in potassium and uranium and low in thorium = red+blue+black = purple). High in all channels is white.