DARNLEY BAY
RESOURCES LIMITED

4 King Street West, Suite 1103
Toronto, Ontario
M5H 1B6
Canada

Tel:(416) 862-7885
Fax:(416) 862-7889
dbr@darnleybay.com
TSX-V: DBL

August 4, 2010

UPDATE
3D Gravity Modelling and Drill Camp

The maps and images provided here were referred to in the news releases issued by Darnley Bay Resources Limited ("Darnley Bay") on July 13, 2010 and August 4, 2010.

Base Metals Target

The exploration and drill targets for base metals, shown in Figure 1, were prepared from analysis and modelling of the recently completed gravity, electromagnetic and magnetic surveys flown over a large portion of its properties near Paulatuk, NT. The analysis was prepared in conjunction with mapped geology, topography, satellite imagery and previously acquired airborne and ground geophysical data.

The following table provides a summary of the 41 separate base metal exploration targets selected as a result of the analysis and modelling:

Primary Type	Number	Total Area
Gravity	22	76 km^2
Magnetic	7	108 km^2
Electromagnetic	12	54 km^2

The "Primary Type" column indicates the data type where the target is most evident, although many targets incorporate coincident or complementary geophysical responses from at least two data types. The base metals targets are broken into several categories, depending on the nature of their responses and their estimated depths. Nine of these targets are designated for assessment by geological prospecting and sampling as they may outcrop.

Not shown on the map are several larger zones of exploration interest delineated by the gravity, magnetic and/or electromagnetic data.

Drill Camp

The location of the current drill camp is shown in Figure 1. The site was chosen for its proximity to a water supply, landing strip for fixed wing aircraft on the tundra (Figure 2) and ice, nearby exploration and drill targets, and minimal environmental impact.

Figure 3 shows the First Air Hercules aircraft on the tarmac in Yellowknife, being loaded with the camp.

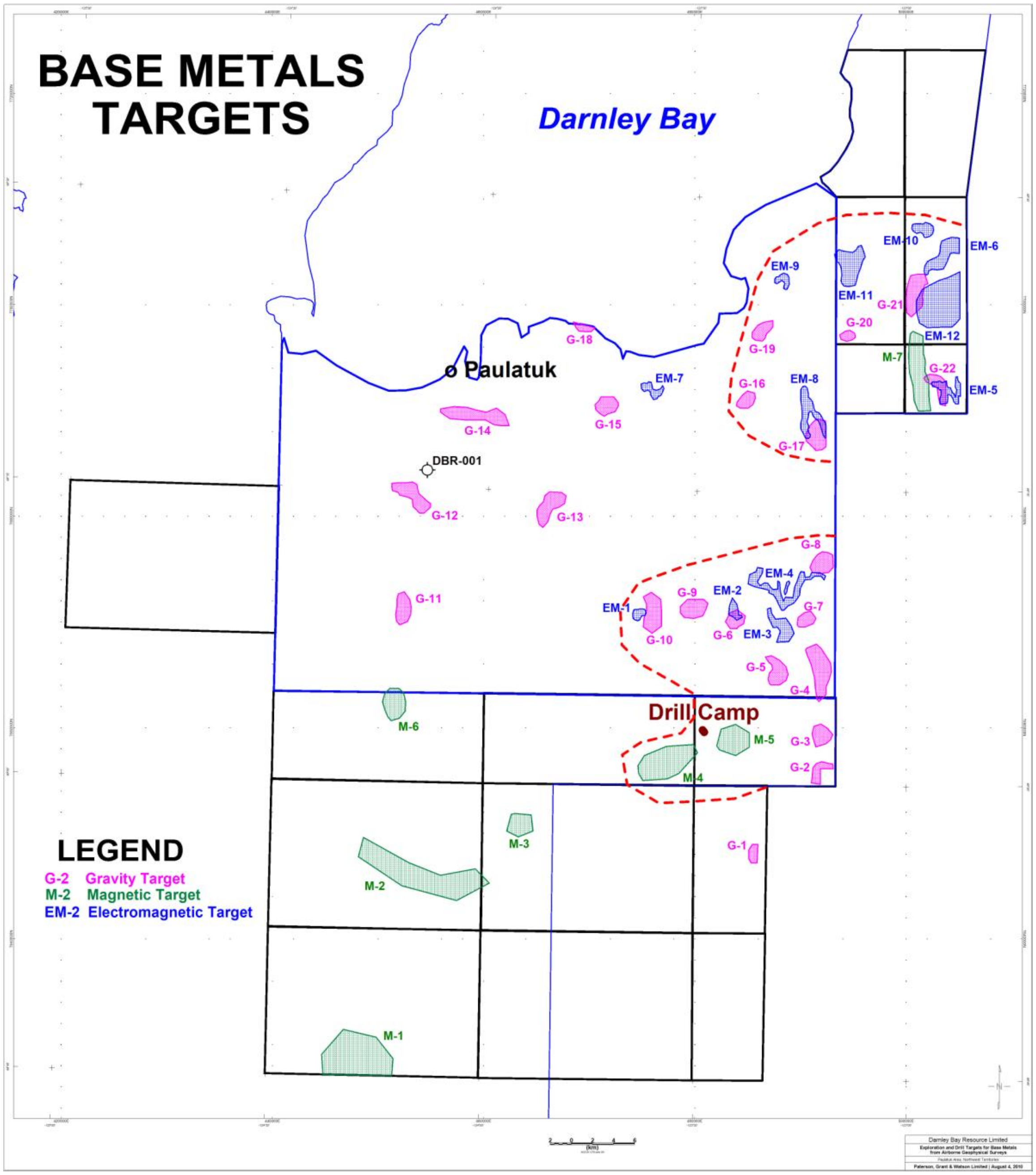

Figure 1. Location map showing the 41 base metals targets on the 100%-owned properties of Darnley Bay Resources Limited. The red dashed outlines indicate the two areas of highest priority for follow-up.

Figure 2. View looking north at the drill camp site landing strip.

Figure 3. First Air Hercules aircraft being loaded with the drill camp in Yellowknife.

3D Gravity Modelling

Geoscientists study the earth's gravity field to determine the density of the rocks in the subsurface. Changes in density from surface to tens of kilometers in depth affect the gravity field that we measure. The more basic (mafic) classes of igneous and metamorphic rocks, and most metallic minerals, have higher densities and produce stronger gravity responses. The 132 mGal Darnley Bay gravity anomaly is perhaps the strongest of its kind in the world, reflecting an isolated intrusion.
Wikipedia - An ***intrusion*** *is liquid rock that forms under the surface of the earth. Magma from under the surface slowly moves its way up from deep within the earth and moves into any cracks or spaces it can find, sometimes pushing existing country rock out of the way, a process that can take millions of years or more to form. As the rock slowly cools into a solid, the different parts of the magma slowly crystallize into minerals.*

In 2007, Darnley Bay contracted Mira Geoscience (www.mirageoscience.com), through its Vancouver office, to apply 3D modelling to the ground gravity and airborne magnetic data available over the Darnley Bay anomaly and surrounding region. A 3D model of a large, deep-seated mafic/ultramafic intrusion was developed to explain the anomaly on a regional scale. The effect of this model was subtracted from the gravity and a more detailed model of the upper 10 km of the earth's crust was prepared from the residual gravity field, to ascertain the shape of the anomaly source at depths of economic interest. The modelling in 2007 resulted in the reassessment of the geological models to explain the anomaly source and its mineral potential. Darnley Bay realized that it required gravity data in much greater detail before embarking on a drill program.

The airborne gravity survey completed in April 2010 confirmed the size, shape and amplitude of the Darnley Bay anomaly and greatly improved the resolution and detail. Mira Geoscience was once again contracted to prepare a 3D model. Mira utilized the same regional model for the intrusive body and prepared a new model of the upper 10 km of the earth's crust from the airborne survey's residual gravity field. It utilized the free-air gravity field and incorporated a correction for the surface topography. Since the surface rocks incorporate a range of gravels and sediments with different densities, their effects cannot be fully corrected for and as a result, some topography is visible in the model.

The software used to prepare the new 3D model is Mira's implementation of the GRAV3D module developed by the Geophysical Inversion Facility at the University of British Columbia (www.eos.ubc.ca/ubcgif). The 3D inversion was constructed as follows:

1. Preparing a representation of the earth as a volume measuring 63.5 km E-W by 66.0 km N-S by 10.25 km vertically. The cells within the volume measure 500 m x 500 m x 250 m.
2. Implementing geological constraints, incorporating the sediments mapped on surface and their densities, and the log of Darnley Bay's 2000 drillhole.
3. Applying the GRAV3D inversion, which determines a geologically reasonable density to each cell in the model while best-fitting the observed gravity data. This process takes several days of continuous iteration on a massively parallel computer.

The result is a 3D volume model where the density varies between each cell. For display purposes, a series of density surfaces are extracted from the model to better appreciate the geometry and concentrations of higher density material. Figures 4 to 7 show the 3D gravity model from different perspectives, with the gravity targets from Figure 1 superimposed. Care was taken in the target selection process to separate the topographic effects from targets that penetrate deeper into the earth.

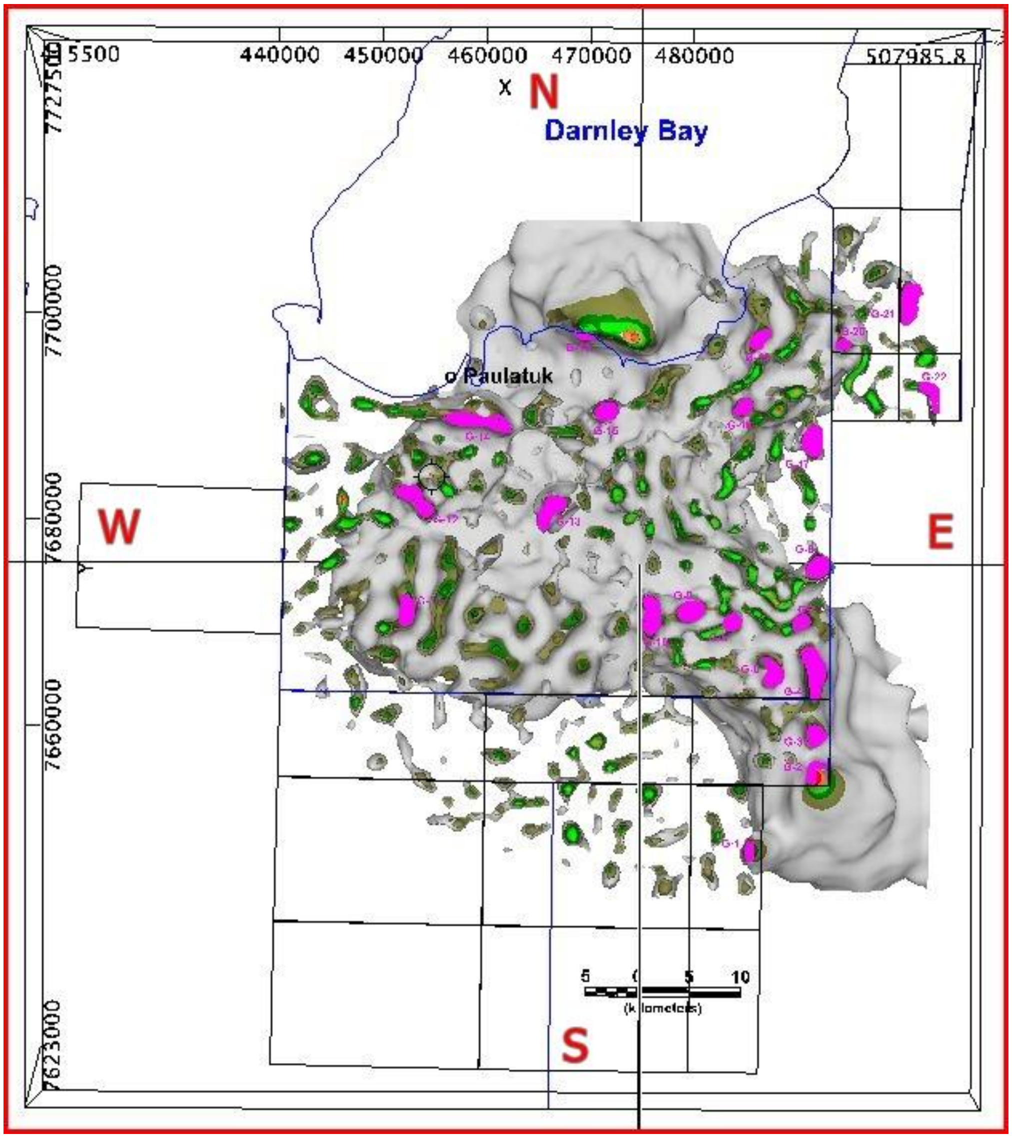

Figure 4. View of the 3D gravity model looking from above (north is up, east is to the right). The gravity targets are shown in purple. Density surfaces are in the orange (higher density) to gray (lower density) colours.

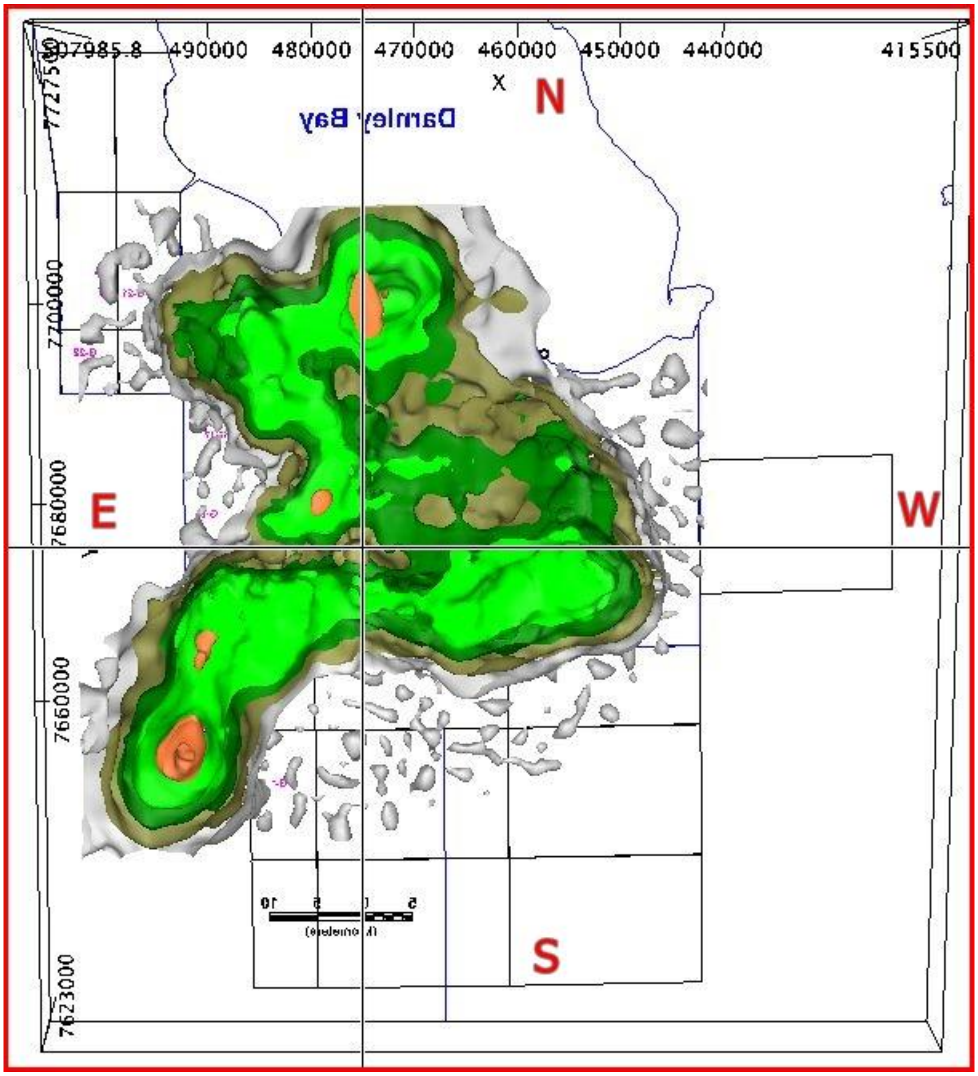

Figure 5. View of the 3D gravity model looking from below (north is up, east is to the left). Density surfaces are in the orange (higher density) to gray (lower density) colours.

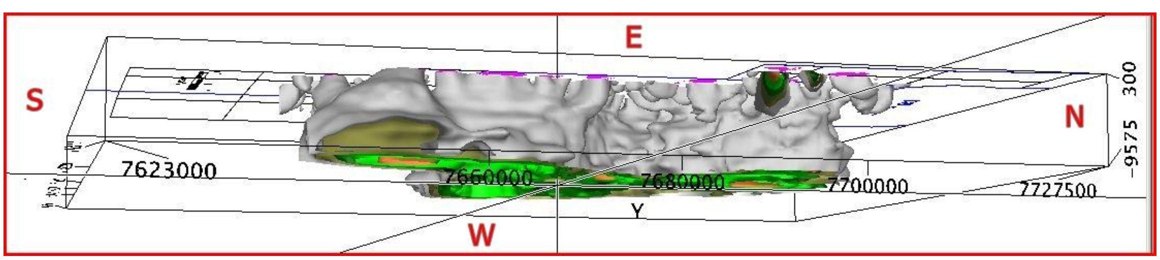

Figure 6. View of the 3D gravity model from looking the east-southeast and slightly below the horizon. Density surfaces are in the orange (higher density) to gray (lower density) colours.

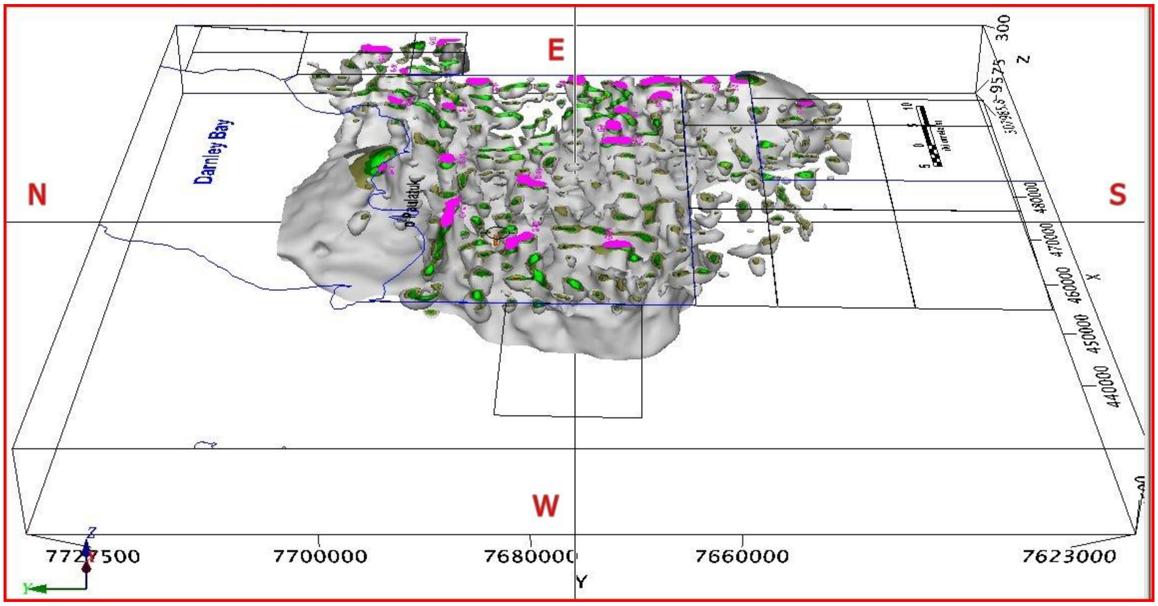

Figure 7. View of the 3D gravity model looking from the west and above the horizon. Density surfaces are in the bright green (higher density) to gray (lower density) colours.

Darnley Bay Resources Limited

Stephen Reford, B.A.Sc., P.Eng.
President and Chief Executive Officer