

NOVA SCOTIA IOCG PROJECT

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SUMMARY

A large number of Iron Oxide Copper Gold (IOCG) targets have been generated through systematic regional surveys and field investigations along the 250 km long Cobequid-Chedabucto Suture of central Nova Scotia.

Twelve targets have been selected for initial drill testing across the province.

The targets are defined by strong gravity+/- magnetic anomalies, situated along structural plumbing and in dilational settings proximal to oxidized, iron-altered igneous intrusives, and record an association with local iron alteration or geochemical anomalism.

The project is currently held 80% by Minotaur Exploration Ltd, through its subsidiary Minotaur Atlantic Exploration Ltd, and 20% by Dundee Precious Metals Ltd. Dundee have advised they wish to cease funding and an opportunity is therefore available for a third party to farm-in to the project and undertake a comprehensive program of drill testing of targets. A successful discovery will ensure a pre-emptive position in this developing IOCG province.

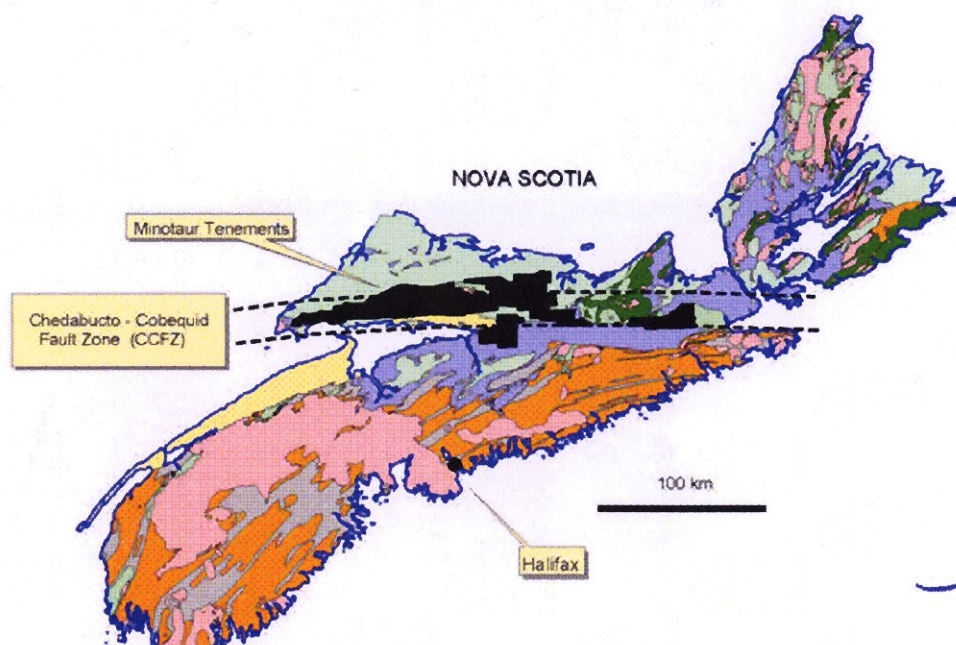


Figure 1. Initial Exploration Licence areas (black), central Nova Scotia, including a number of prospector claims subject to option.

BACKGROUND

The Cobequid–Chedabucto Fault Zone comprises a series of crustal-scale faults along a length of ~250 km and up to 25 km wide that bisects central Nova Scotia into two different terranes (Avalon and Meguma Terranes). The fault zone is host to >100 mineral occurrences and small deposits of Fe-oxide $\pm$ Cu $\pm$ Co $\pm$ Au $\pm$ Ni $\pm$ Ba and consisting of ankerite and siderite with significant amounts of magnetite, specular haematite, pyrite, chalcopyrite and barite. Mineral occurrences range from single veins to breccia systems and are associated with widespread carbonate alteration (ankerite, siderite, calcite) along with silica and sericite alteration. Better known mineralised occurrences are at Londonderry, Copper Lake, Bridgeville, Mt Thom and Bass River (Figure 2). It is only in very recent years that these Fe-oxide deposits have been recognised as representing part of an IOCG-style system (O'Reilly, 2004; Kontak, 2006; Corriveau, 2007).

Mineralisation appears related to oxidised A-type granitic intrusions and numerous small gabbroic–dioritic intrusions associated with Devonian–Carboniferous mafic underplating along with brittle tectonism along the Cobequid–Chedabucto Fault Zone. The region is characterised by thick forests, extensive veneers of glacial till and limited exposure. The historic gravity coverage is poor and has been little used in previous exploration, so that the true potential for IOCG-style mineralisation within the Cobequid–Chedabucto Fault Zone has not been adequately assessed.

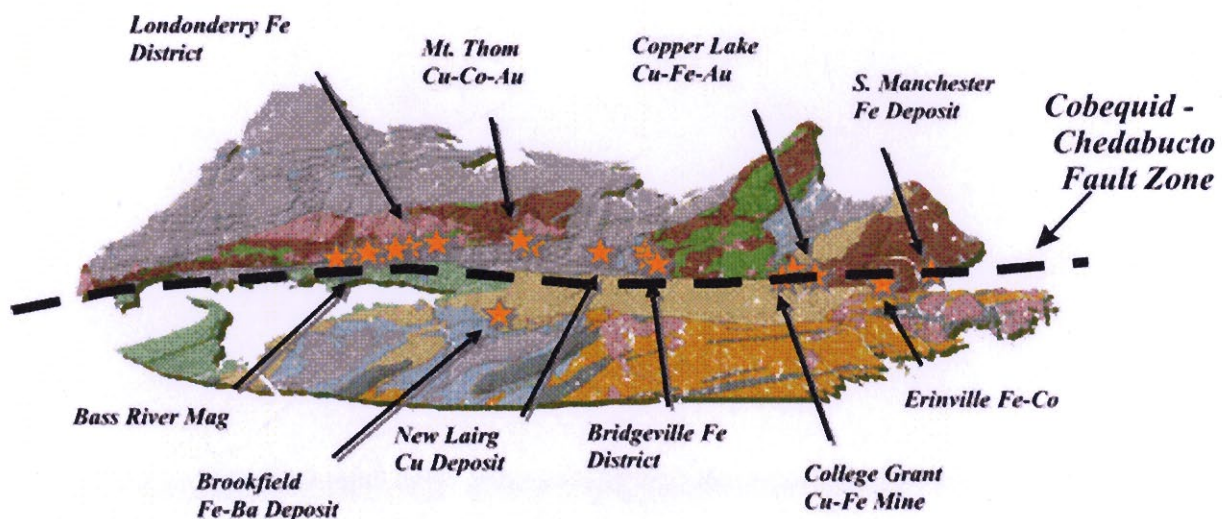


Figure 2: Major IOCG-type mineral occurrences in central Nova Scotia

Upon initiating the project in July 2007, Minotaur secured the majority of the belt through large-scale ground pegging and option agreements with prospectors. The objective of securing the district was to allow large-scale regional gravity surveys to be undertaken unhindered. Subsequently, by integrating the new gravity data with other available geological, geophysical and geochemical data sets, the tenements have been able to be reduced to the area with greatest potential. Targets have now been defined and prioritized for drill testing.

Dundee Precious Metals joined the project in August 2007. To date, Dundee has spent C\$2 million on the project, covering the regional and infill gravity surveying, data processing, integration and target generation and the drill testing of one target. Dundee has advised they wish to exit the project with their 20% earned equity.

MINOTAUR ACTIVITIES SINCE 2007

Regional gravity data collection and selected follow-up of defined areas was undertaken progressively from September 2007 to December 2008 utilizing Nova Scotia contractors Eastern Geophysics. Contractor supervision, quality control, data collation, reduction, merging and processing were undertaken by Minotaur geophysicists Andrew Thompson and John Hart. Prospector options, tenement administration, landowner and land access issues were undertaken by Nova Scotia contract geologist John O'Sullivan. Field investigations were undertaken by Nova Scotia contract geologist Gregg Morris. Minotaur's exploration director Antonio Belperio supervised all aspects of the project and undertook target selection and prioritization.

Target Selection and Prioritization

Following completion of regional and follow-up gravity data collection, data reduction, merging and processing in December 2008, systematic selection and prioritization of potential IOCG targets was undertaken utilizing integrated gravity, magnetic, geological, geochemical and field observation data. An IOCG body in excess of 100 million tons is expected to have a discrete residual gravity signature because of the intimate association with iron alteration. A magnetic anomaly may or may not be present depending on the form of iron (haematite, magnetite, pyrrhotite, siderite, ankerite). That gravity signature, however, will be difficult to discern amongst a sea of other gravity anomalies caused by a variety of other factors - denser mafic intrusives, denser lithological units and palaeo-topographic features masked beneath cover.) *

The target areas are covered with thin glacial till, with sporadic isolated outcrops providing a limited glimpse of rock types, alteration styles and potential mineralization. Initial screening was aimed at eliminating anomalies that can be explained from outcrop geology, such as denser mafic intrusives, stratiform bodies or topographic features. Geological mapping by Murphy et al. (1983), Donohue and Wallace (1983) and Pe-Piper and Piper (2005) as well as independent field checking were utilized. Of a total of 78 potential targets initially identified, 46 were eliminated and 32 were selected for further ground investigation and more detailed gravity infill.

The 32 unexplained anomalies were then examined in further detail focusing on geology, geophysics and geotectonic settings, and any evidence of alteration and geochemical anomalism. Alteration styles noted include pervasive iron alteration as well as discrete breccias bodies composed of either magnetite, haematite or siderite. The entire district is regionally anomalous in copper, gold and cobalt, and mineralization was noted with breccias at Copper Lake, Mt Thom, East Mines, Londonderry and Bass River (**Figure 3**).

A scoring and ranking system used the following key positive associations:

- Size/shape/model of gravity anomaly
- Proximity to Devonian-Carboniferous igneous intrusives
- Connecting structural plumbing
- Dilational setting
- Local association of magnetic anomalism
- Presence of hydrothermal iron alteration
- Local rock, soil or stream geochemical anomalism
- Historic Fe-Cu workings in the vicinity

Of the 32 sites investigated in detail, 18 were subsequently classified as Very High and High Priority targets (**Figure 4 and Table 1**). A large number of these are spatially associated with major structures tapping oxidized and haematite-altered Devonian-Carboniferous plutons.

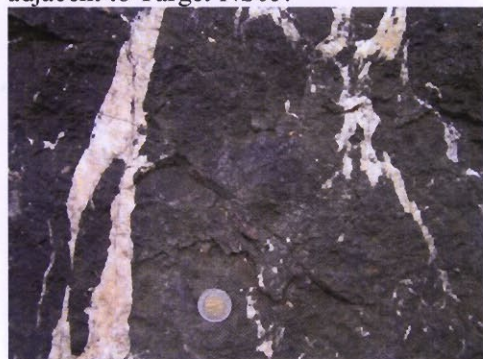
Figure 3. Iron alteration and mineralisation styles:



(A) Haematite veined and altered granite adjacent to Target NS05.



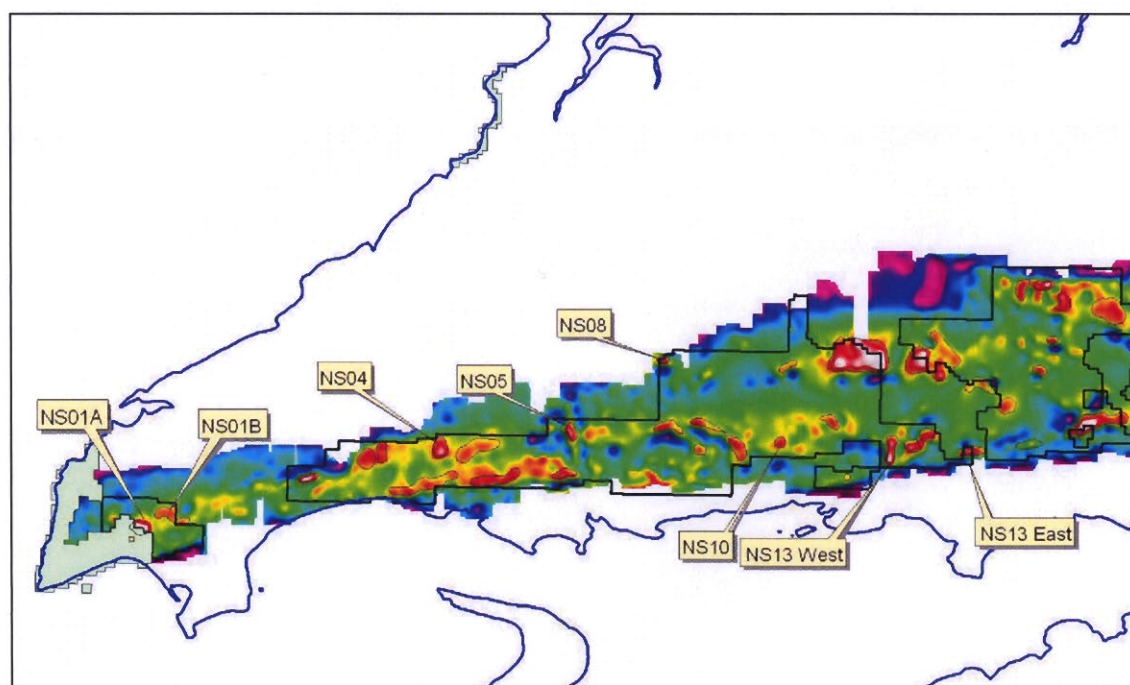
(C) Haematite matrix breccia from east Mines adjacent to Target NS27B.



(B) Carbonate-veined magnetite breccia from Bass River adjacent to Target NS23.



(D) Ankerite-siderite-chalcopyrite breccia from Copper Lake adjacent to Target NS59.



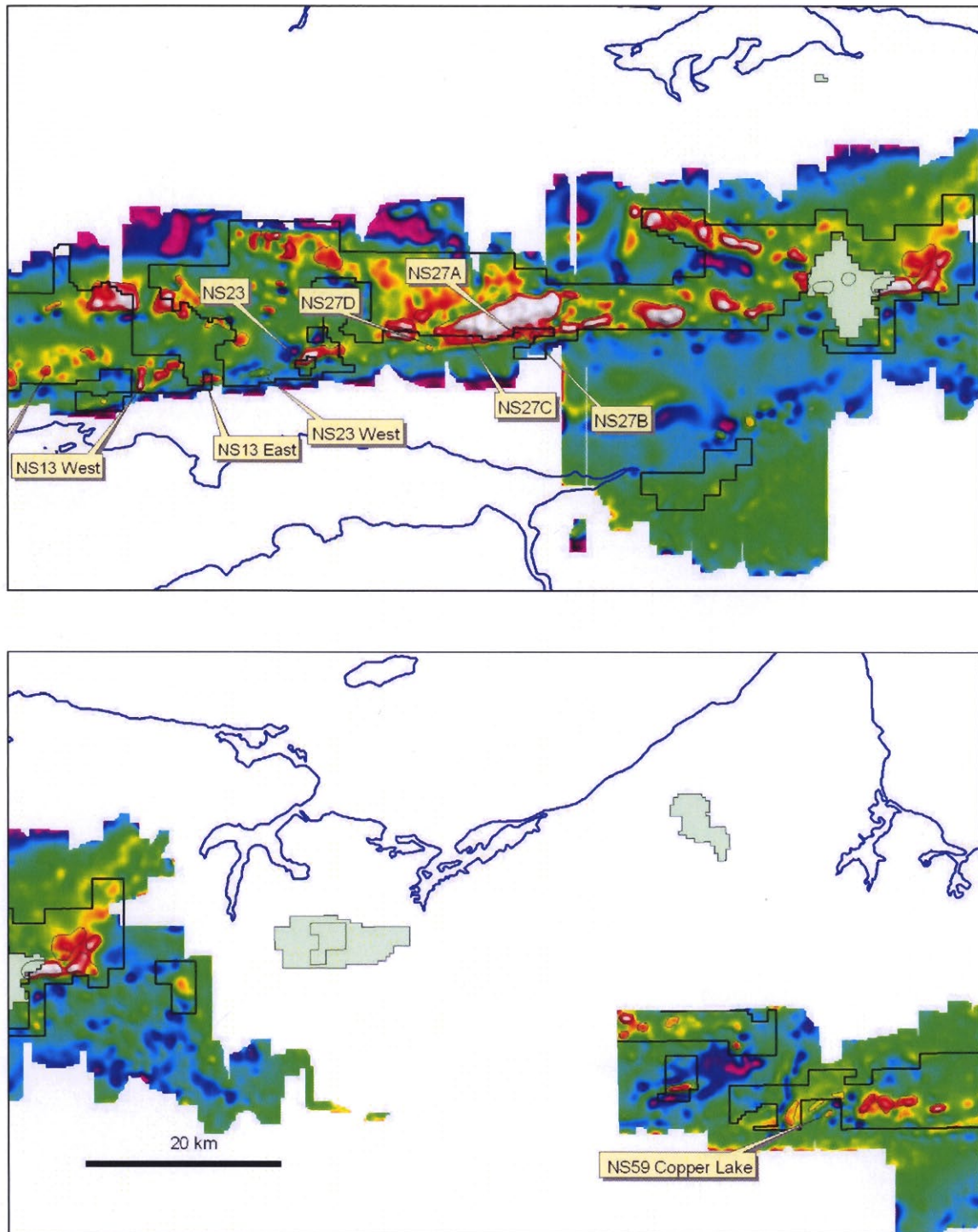


Figure 4. From West to East - High and Very High Priority Targets on Regional 1VD Gravity

Drill Testing NS05

Target NS05 was drill tested in January 2009. The target, a robust 3 mgal unexplained gravity anomaly (Figure 5), occurs adjacent to the Hanna Brook Pluton. This oxidized granite shows evidence of extensive hydrothermal alteration in sporadic outcrops, with abundant haematite, epidote and sericite alteration present at a number of locations. It is one of an extensive series of c. 360Ma bimodal intrusives that occur along the Cobequid-Chedabucto Fault. Gravity modeling indicates an anomalous mass of approximately 1500 Mt, approximately 1km x 1 km x 0.5 km in dimension, and commencing about 50 metres below the surface.

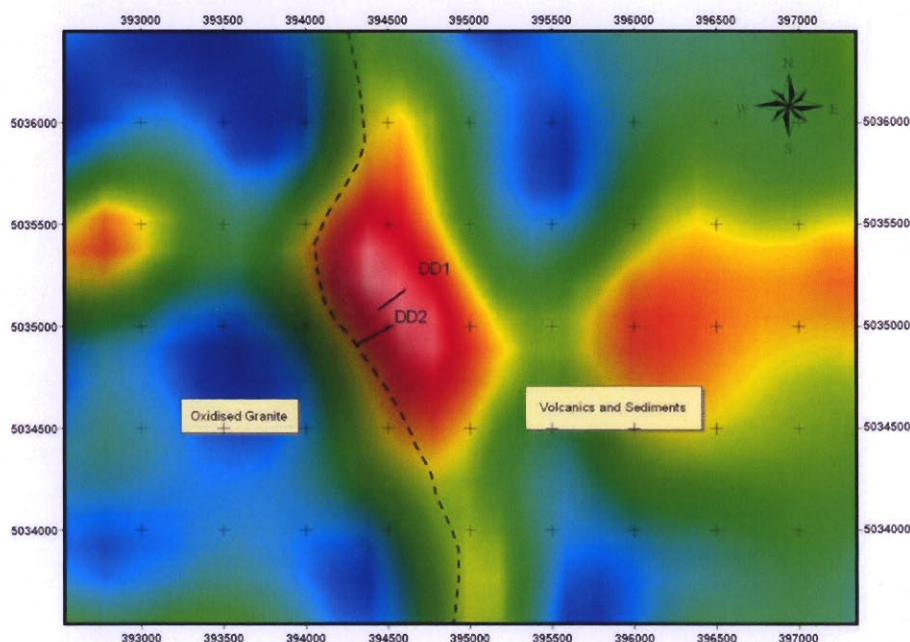


Figure 5. The NS05 gravity target with superimposed drillhole traces (NS05-08-DD1 and -DD2) and the granite – country rock boundary (dashed) as defined from geophysical data and sporadic outcrop.

Drilling of two holes across recorded a transition from volcanics and sediments in the east to orange-brown highly oxidised and haematite-rich granite to the west. The transition is marked by a significant number of brecciated and haematized granite dykes with up to 5% pyrite commonly developed along fracture planes (Figure 6), and interdispersed with massive and epidote-altered gabbro dykes. No significant mineralisation was recorded in the drillholes. The haematite alteration and gabbro dykes together most likely account for the gravity anomalism.



Figure 6. Brecciated and haematized granite with pyrite concentrations along fractures (Drillhole NS05-08-DD1 209m)

Drilling Recommendations

The twelve highest priority targets are proposed for drill testing. They provide targets geographically spread across the province, in a range of geotectonic settings, and subject to final landowner access agreement, the targets (**Table 2**) are essentially “drill ready”.

Initial drill testing should comprise a single diamond drillhole in to the modeled centre of the gravity source at each target. This will ensure a definitive answer on the source and cause of the gravity anomaly. Drill testing of targets across the province will capture any regionally significant changes in alteration and mineralization. This is an identical strategy to that used by Minotaur in its initial regional evaluation of the 4000 sq kilometers of Mt Woods Tenements in 2001 where twenty high priority targets were identified, six were selected for initial drill testing with a single hole in to each as part of a regional evaluation program in which the fourth hole becoming the Prominent Hill discovery hole, four of the six being barren.

Supporting technical information and modeling on each drill target is attached as **Appendix 1**.

NAD 83

DRILL HOLE	ANOMALY	EASTING	NORTHING	PRIORITY	AZIMUTH	DIP	DEPTH(m)
NS13W09-01	NS-13WEST	422460	5032675	1	90	-60	400
NS13E09-01	NS-13E	429450	5033250	2	360	-70	400
NS2309-01	NS-23 Grav Centre	439825	5035900	3	180	-70	500
NS2309-02	NS-23 Mag centre	438970	5035000	4	180	-70	500
NS5909-01	NS-59	580350	5028300	5	180	-60	300
NS1A09-01	NS-1A	356700	5026900	7	180	-70	500
NS0809-01	NS-08	402675	5041340	8	180	-60	200
NS23W09-01	NS-23WEST	435125	5033950	9	360	-70	400
Target	NS-27a	awaiting gravity modeling		10			est 250
Target	NS-27b	awaiting gravity modeling		11			est 250
Target	NS-27c	awaiting gravity modeling		12			est 250
NS27d09-01	NS-27d	453200	5036850	6	180	-60	250

Table 2. Twelve targets recommended for drilling in priority order

REFERENCES

- Corriveau, L., 2007. Iron oxide copper-gold deposits: a Canadian perspective. In: Goodfellow, W. D. (ed.) *Mineral deposits of Canada: a synthesis of major deposit-types, district metallogeny, the evolution of geological provinces, and exploration methods. Geological Association of Canada, Mineral Deposits Division, Special Publication no. 5*, 2007; pages 307-328
- Donohoe, H.V. and Wallace, P.I., 1983. Geological map of the Cobequid Highlands, Colchester, Cumberland and Pictou Counties, Nova Scotia. Sheets 1 to 4. *Nova Scotia Department of Natural Resources. Geological Atlas 1:50 000 Series*, Maps ME 1982-006 to 1982-009.
- Kontak, D.J., 2006. Nature of iron oxide, copper gold mineralisation along the Cobequid-Chedabucto fault system: an update on studies at Mount Thom and Copper Lake. In: Mineral Resources Branch, Report of Activities 2005. *Nova Scotia Department of Natural Resources, Report ME2006-1:67-98*.
- Murphy, J.B., Keppie, J.D. and Hynes, A.J., 1983. Geological map of the northern Antigonish Highlands, Nova Scotia. (sheets 11E/09, 11E/16, 11F/12 and 11F/13). *Nova Scotia Department of Natural Resources. Geological Atlas 1:50 000 Series*. Map ME1982-005.
- O'Reilly, G.A., 2002. Mineral inventory studies in mainland Nova Scotia for 2001. In: Mineral Resources Branch, Report of Activities 2001. *Nova Scotia Department of Natural Resources, Report ME2002-1:105-111*.
- O'Reilly, G. A., 2004. Mafic and felsic intrusions in Carboniferous rocks of central Nova Scotia. *Nova Scotia Department of Natural Resources, Report ME2005-1:73-92*.
- Pe-Piper, G., and Piper, D.J.W., 2005. Bedrock geology maps of the Cape Chignecto, Parrsboro, Wentworth and Earltown Areas, Cobequid Highlands, Nova Scotia. *Nova Scotia Department of Natural Resources, Open File Maps*, ME 2005-114 to 2005-118, scale 1:50,000.
- Wright, J.D., 1975. Iron deposits of Nova Scotia. *Nova Scotia Department of Mines, Economic Geology Series 75-1*.

APPENDIX

TECHNICAL INFORMATION ON PRIORITY TARGETS

- Priority 1 - Drill Target NS13 West**
- Priority 2 - Drill Target NS13East**
- Priority 3 - NS23 Gravity Target**
- Priority 4 - NS23 Mag-Grav Targets**
- Priority 5 - Drill Target NS59**
- Priority 6 - Drill Target NS27D**
- Priority 7 - Drill Targets NS01A**
- Priority 8 - Drill Target NS08**
- Priority 9 - Drill Target NS23 West**
- Priority 10 - Drill Target NS27A**
- Priority 11 - Drill Target NS27B**
- Priority 12 - Drill Target NS27C**

Priority 1 - Drill Target NS13 West

Gravity Target NS13West is an intense North-South anomaly lying on the faulted western margin of the oxidized Late Devonian-Early Carboniferous Pleasant Hills Pluton. It is 4.0 milligals in amplitude, 2 kilometres in length and 0.5 kilometre wide. The gravity anomaly is wholly coincident with a late stage brittle fault that is normal to the main Cobequid Fault.

The southern part of the gravity target coincides with the western end of the intense Bass River magnetic linear, but is itself entirely non-magnetic. Thus Target NS13West complements Target NS13East in that it represents a dense and non-magnetic body whereas NS13East represents a dense and highly magnetic body. These are interpreted as haematite-related and magnetite-related features respectively. Field investigations have recorded isolated outcrop of reddish-brown, intensely haematite-altered granite with up to 2% pyrite around the margin of the anomaly with no significant outcrop over the target.

A number of hydrothermal magnetite breccia occurrences with high levels of pyrite and cobalt have been discovered by prospectors along the intense Bass River magnetic linear. Breccia clasts include fragments of pink granite identical to the Pleasant Hills Pluton, and magnetite formation is interpreted to be related (O'Reilly, 2002).

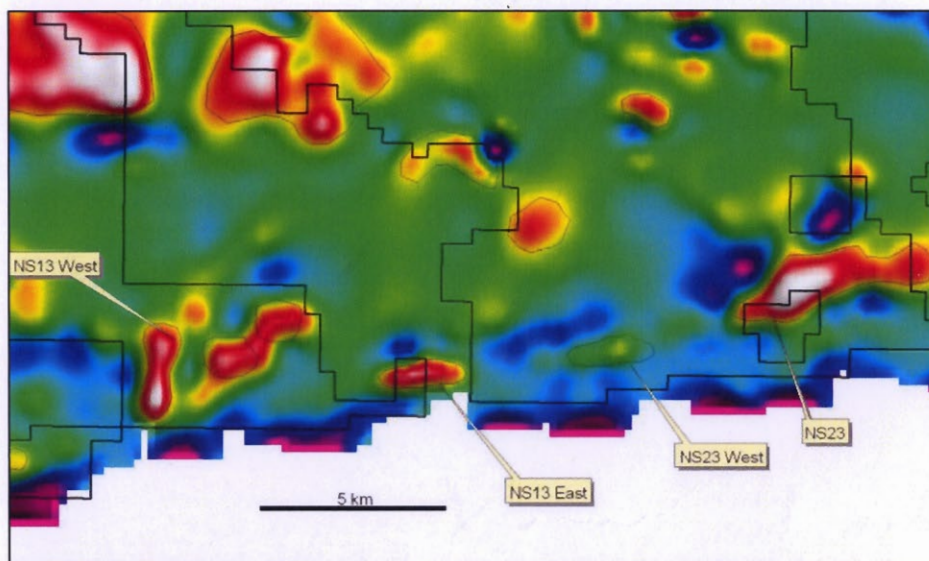
Inversion modeling of Target NS13West gravity data suggests a dense linear body coming close to ground level in the south, and plunging toward the north.

Subject to access, a 400m drillhole at the shallower southern end of the gravity anomaly is recommended.

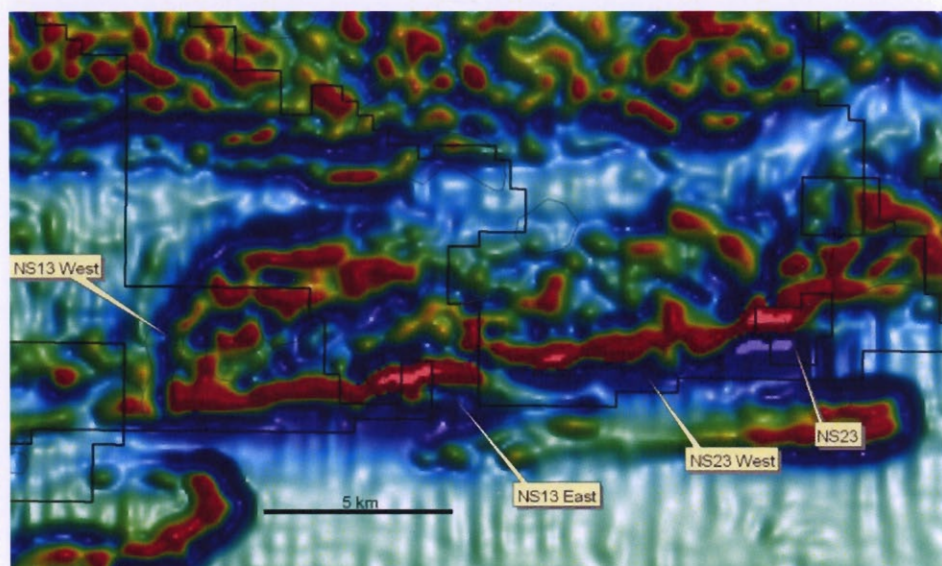
Drill Collar

422460E, 5032675N (NAD83, NUTM20).

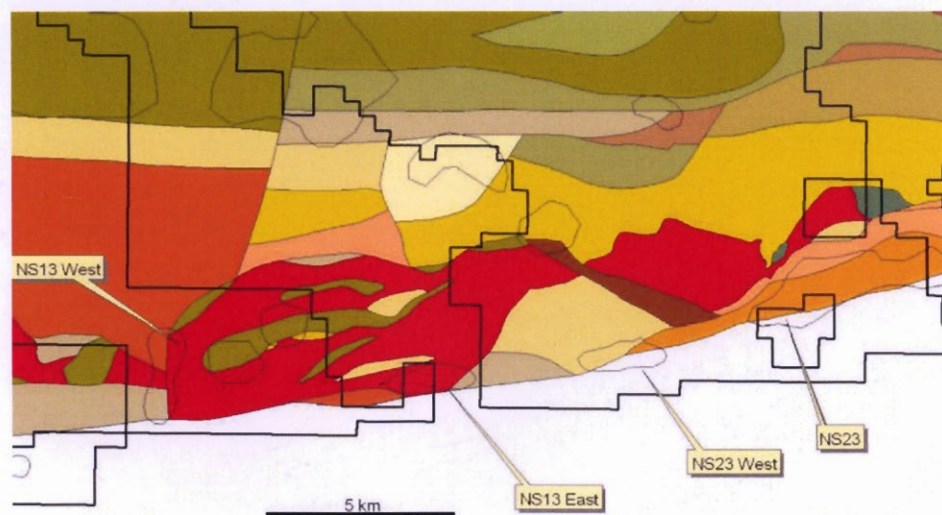
-60 degrees towards 090 degrees T. EOH: 400m



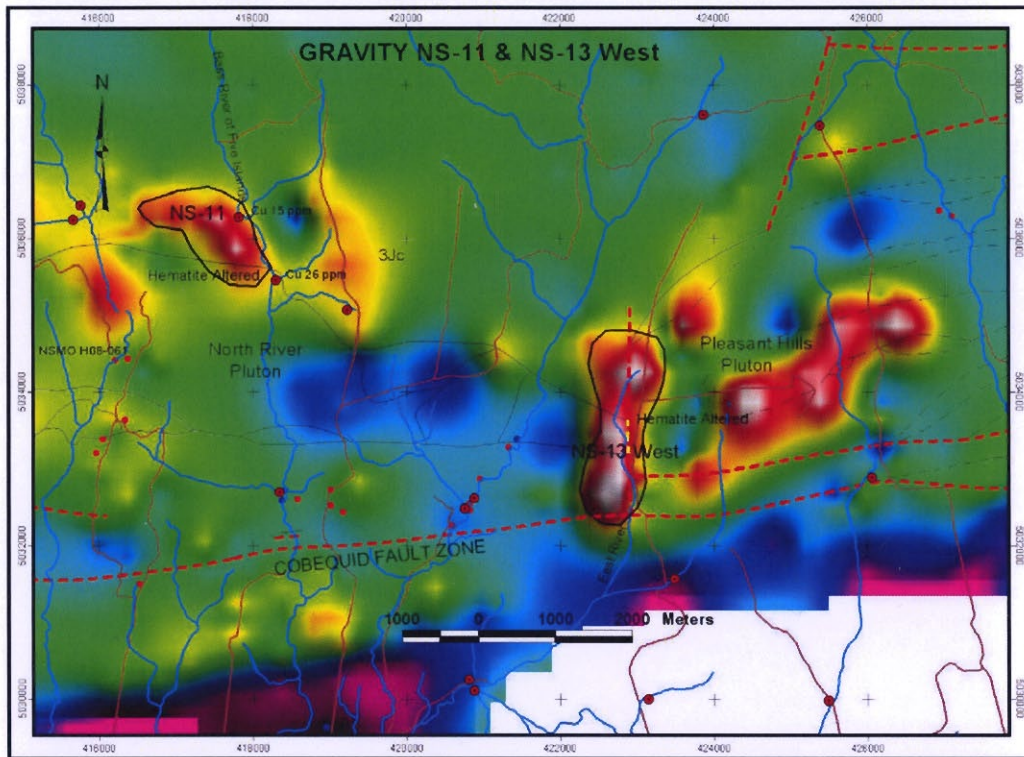
Regional 1VD Gravity



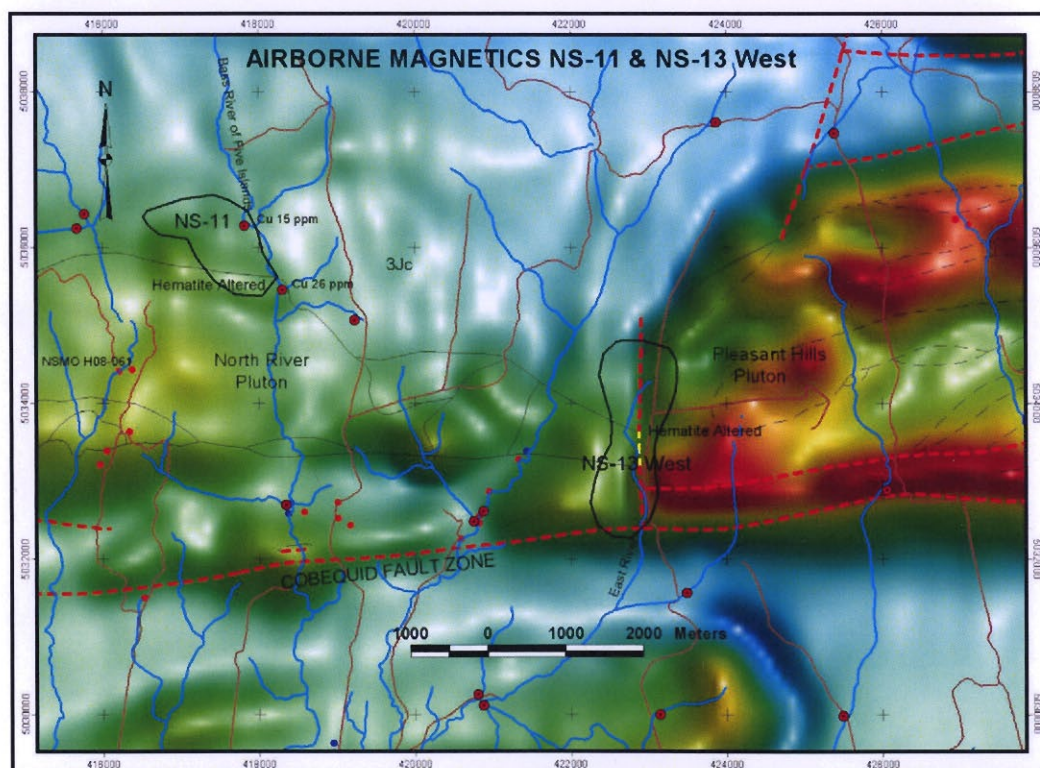
Regional RTP TMI



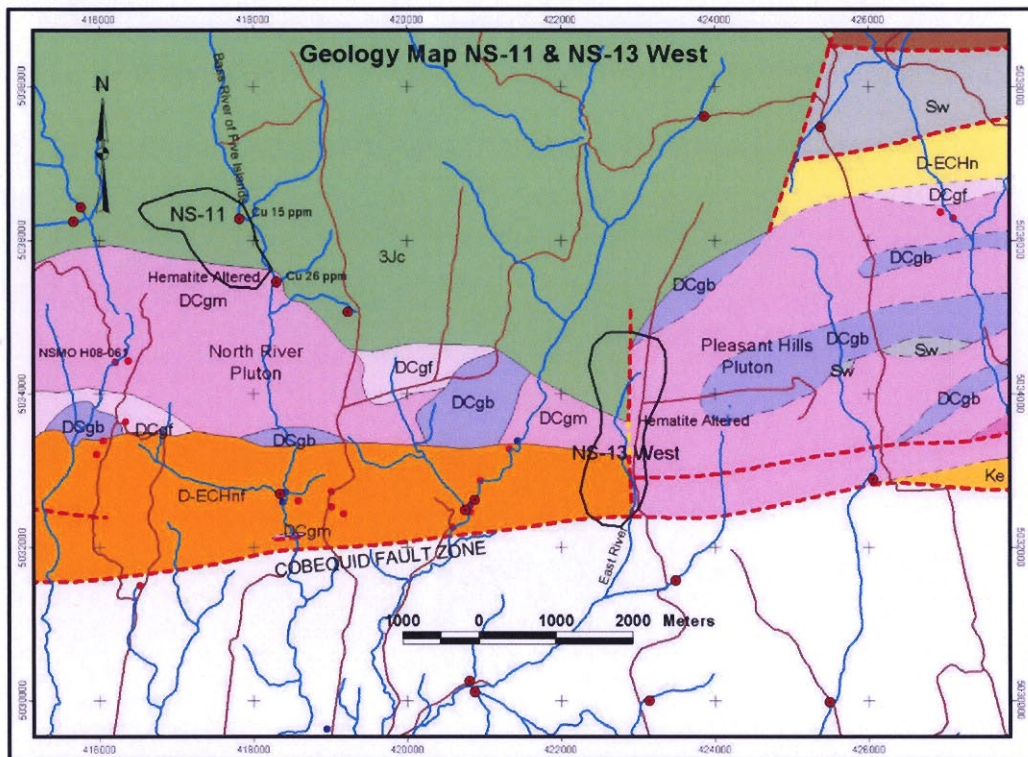
Regional Geology – (Red is Pleasant Hills Pluton)



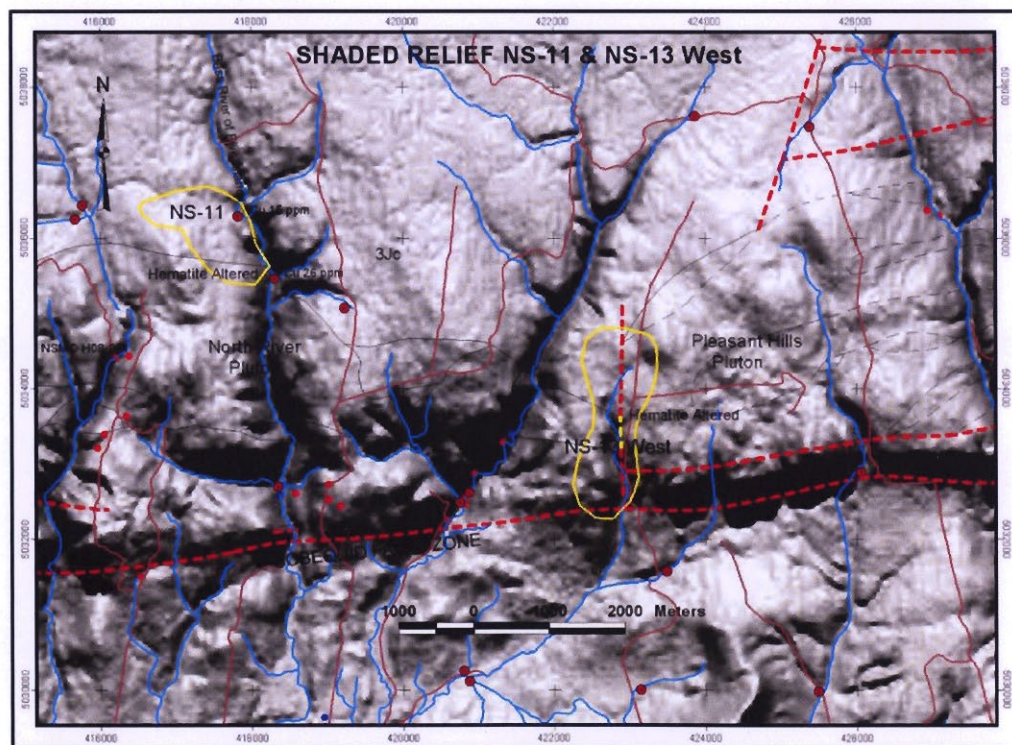
NS13West 1VD Gravity



NS13West RTP TMI

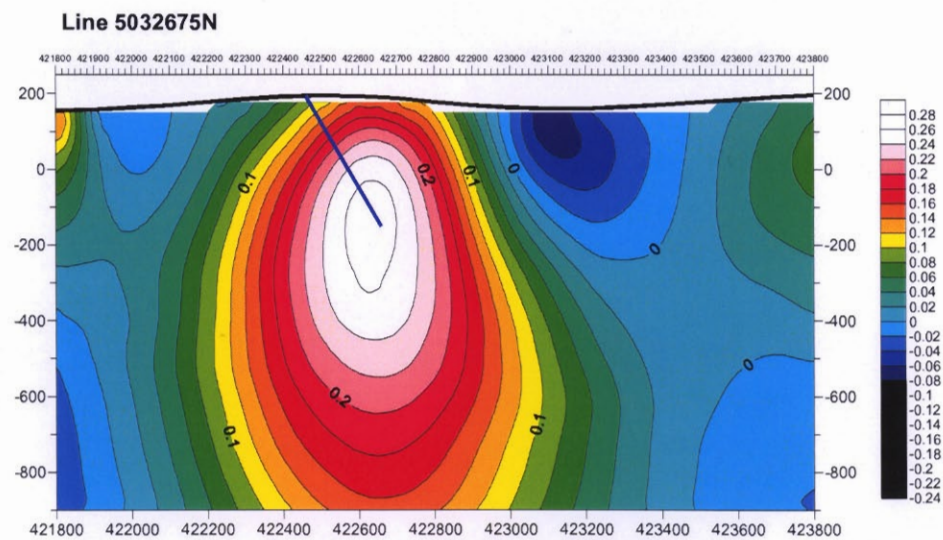
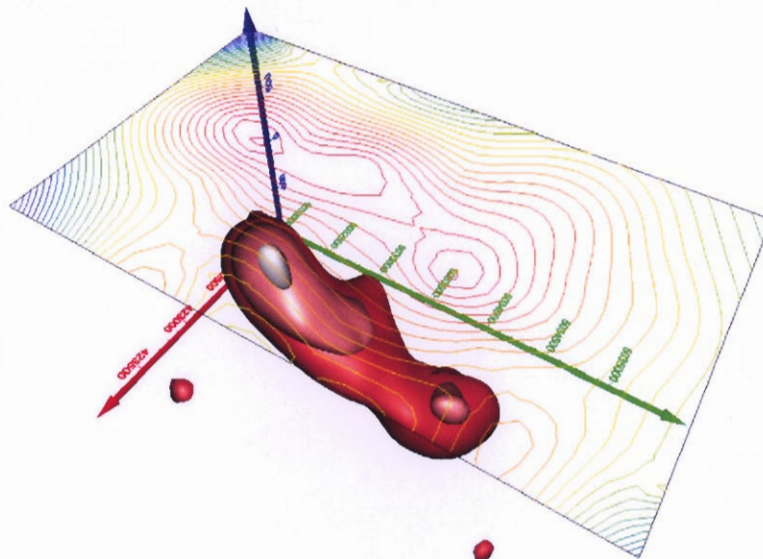
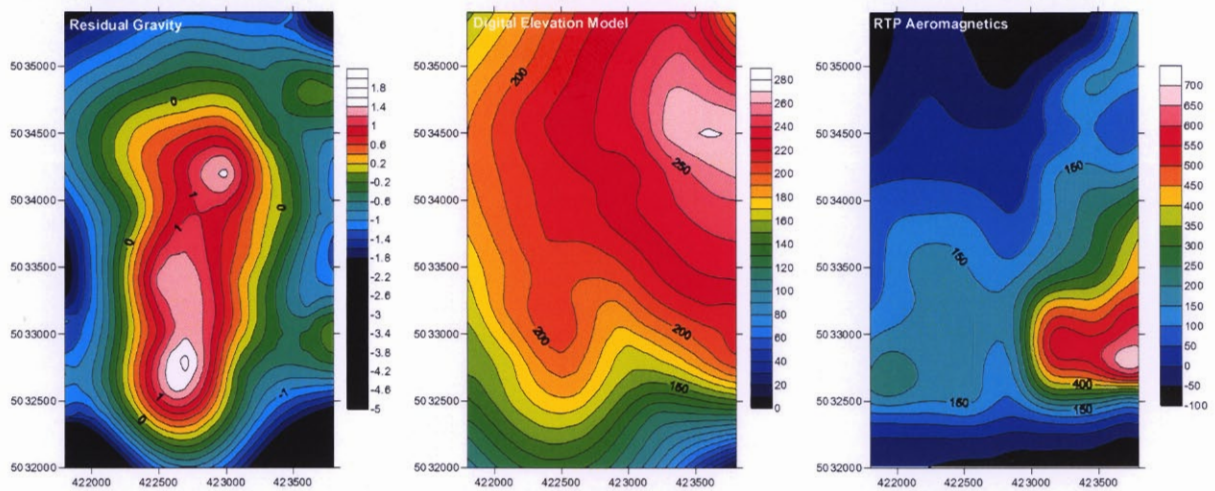


NS13West Geology Pe-Piper & Piper

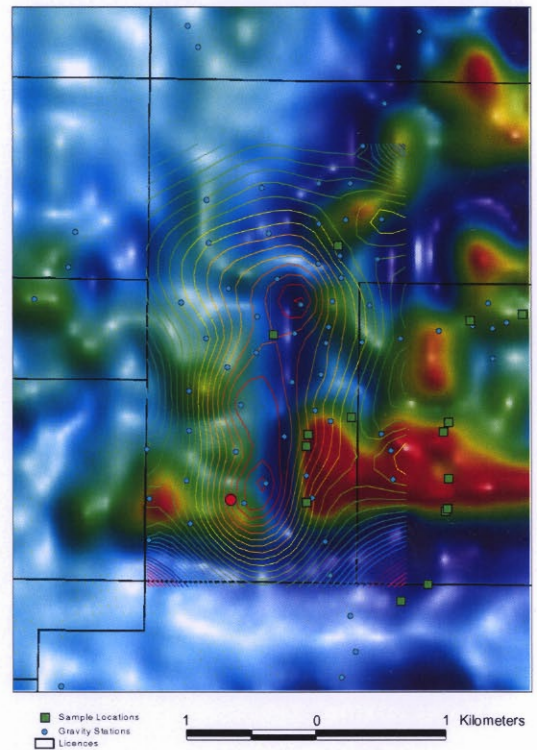
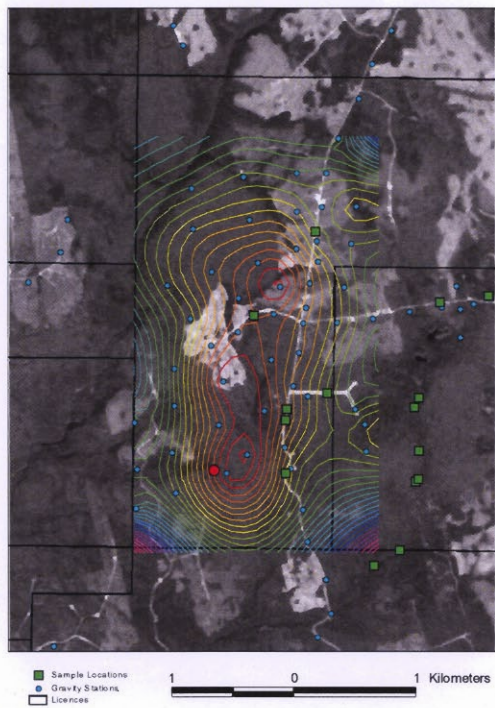


NS13West – Shaded Relief

Gravity-Mag 3D Modeling Outputs – NS13West



Proposed Drill Collar at 422460E, 5032675N (NAD83, NUTM20)
-60 degrees towards 090 degrees T. EOH: 400m.



NS13 West Proposed Drillhole Collar (red) and gravity contours on satellite and magnetic images

Priority 2 - Drill Target NS13East

Gravity Target NS13East is a discrete elongate gravity anomaly lying on the Cobequid Fault. It is 4.0 milligals in amplitude, 2 kilometres in length and 0.75 kilometre wide. The gravity anomaly is wholly coincident with the intense linear magnetic anomaly that comprises the Bass River magnetic linear. Elsewhere along the Cobequid Fault, this 23 km long intense magnetic linear is associated with sporadic outcrop of magnetite-sulphide breccia. Breccia clasts include fragments of pink granite identical to the Pleasant Hills Pluton, and magnetite formation is interpreted to be related (O'Reilly, 2002).

The target is constrained on three sides, but is largely outside of, the Economy River Wilderness Area.

Geological mapping suggests the gravity anomaly coincides with the southern faulted and mylonitised margin of the oxidized Late Devonian-Early Carboniferous Pleasant Hills granite pluton, though outcrop has not been located in the vicinity of the target. Five kilometers to the west, haematite-rich granite with 1-2% chalcopyrite plus pyrite is present at location AN13-10 and strongly foliated granite is recorded elsewhere along this section of the Cobequid Fault indicating syn- and post- intrusive movement along the structure. The target also coincides with the divergence point of the Londonderry, Rockland Brook and Cobequid Faults.

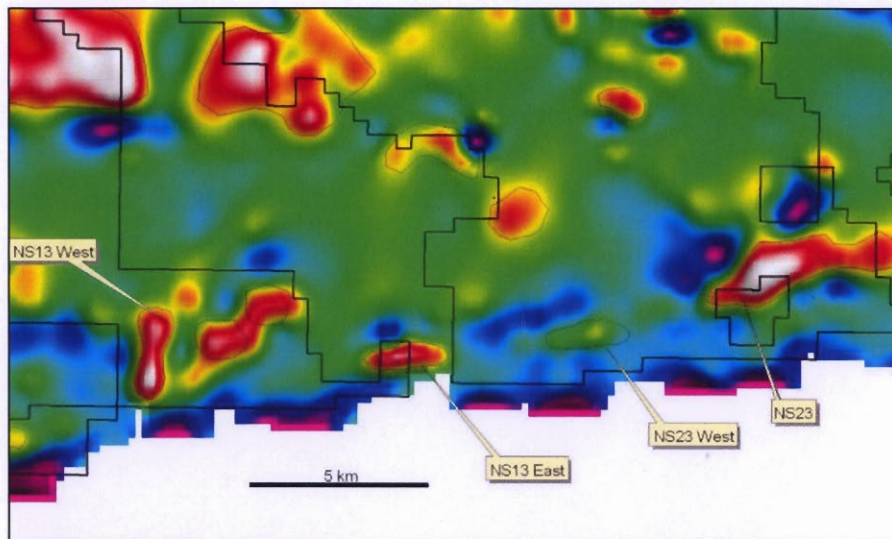
Inversion modeling of Target NS13E gravity data suggests a dense source from near surface to 1000m below ground level.

A 400m drillhole in to the centre of the gravity anomaly is recommended.

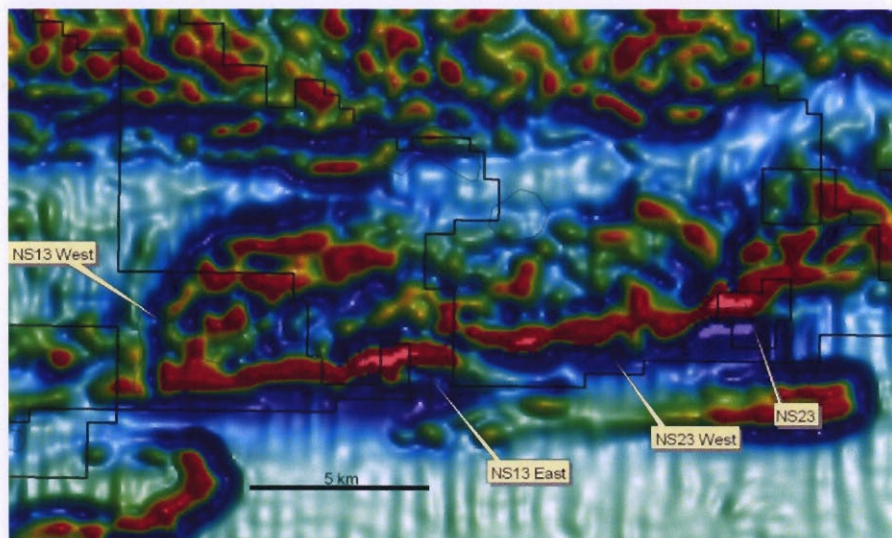
Gravity Target Drill Collar

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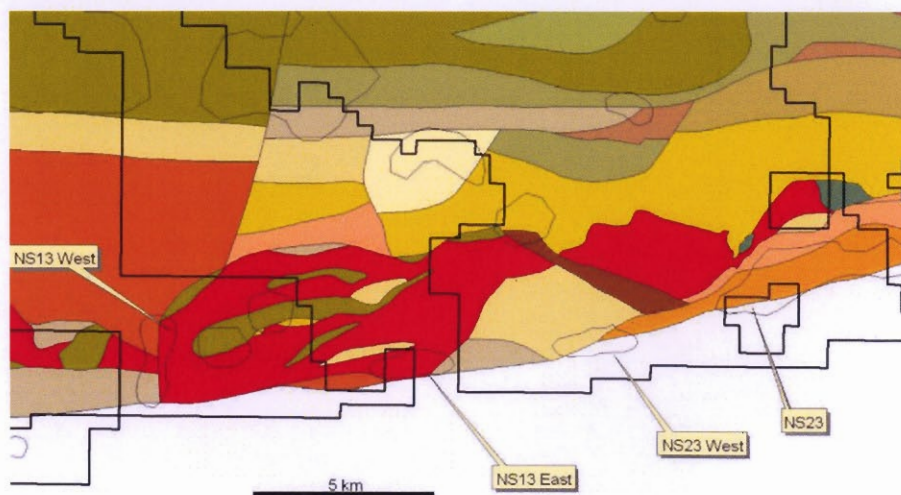
-70 degrees towards 000 degrees T. EOH: 400m



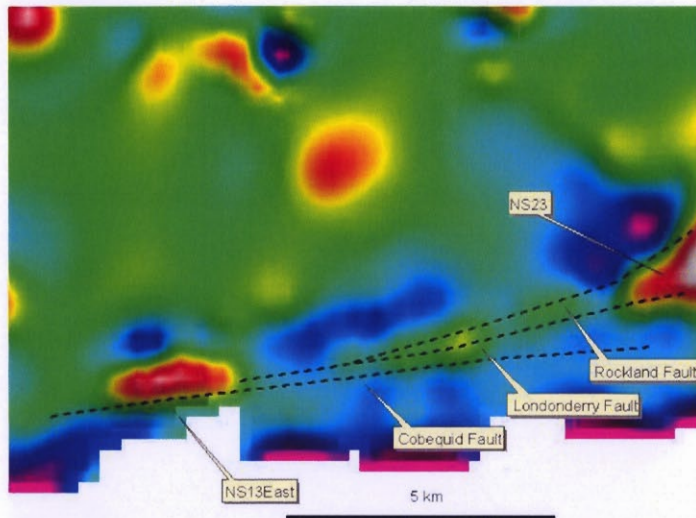
Regional 1VD Gravity



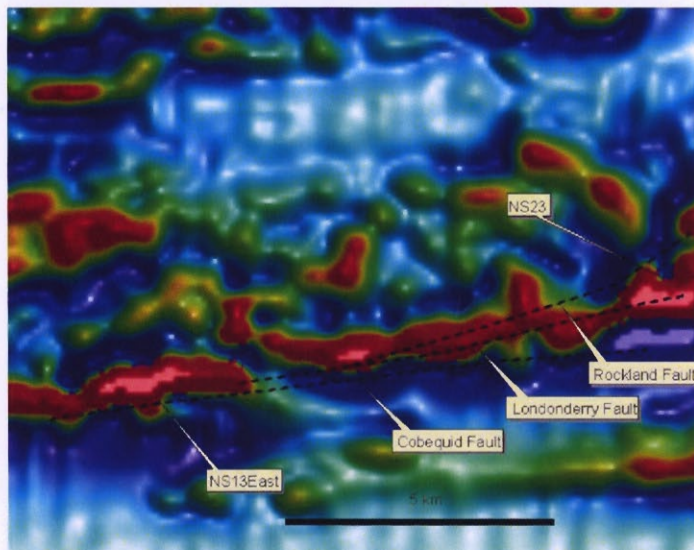
Regional RTP TMI



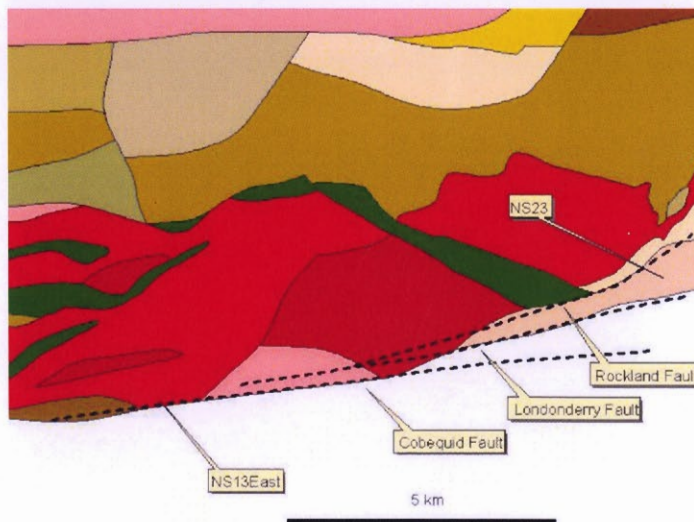
Regional Geology – Pe-Piper and Piper



NS13East 1VD Gravity with major mapped fault structures

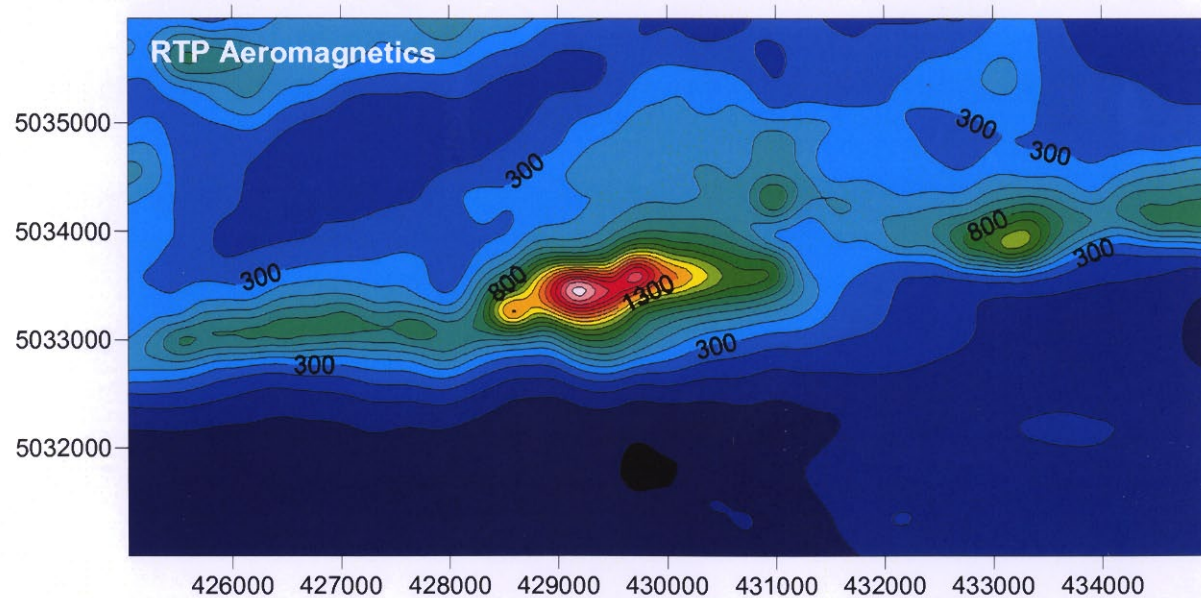
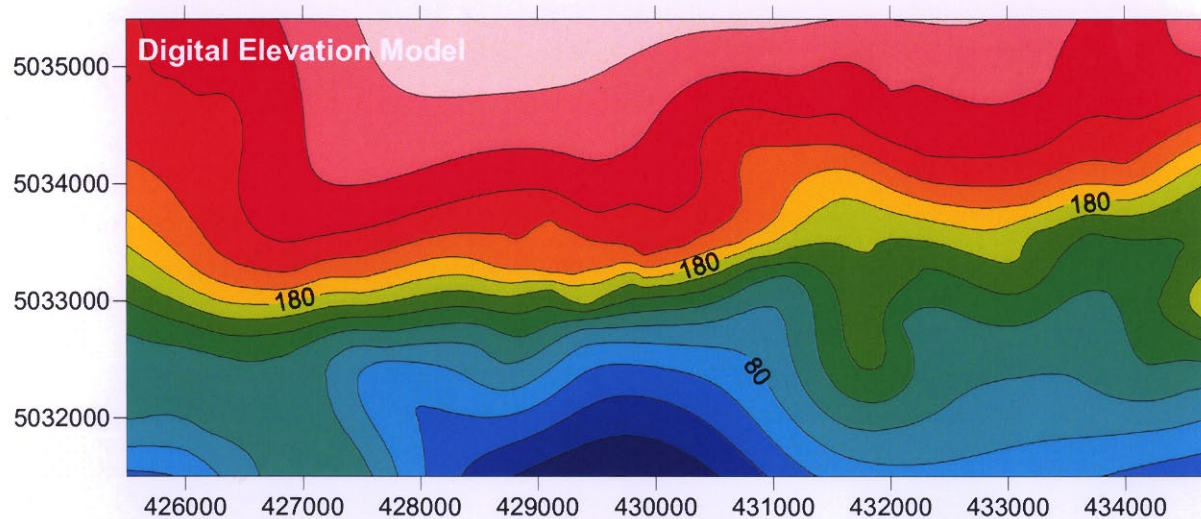
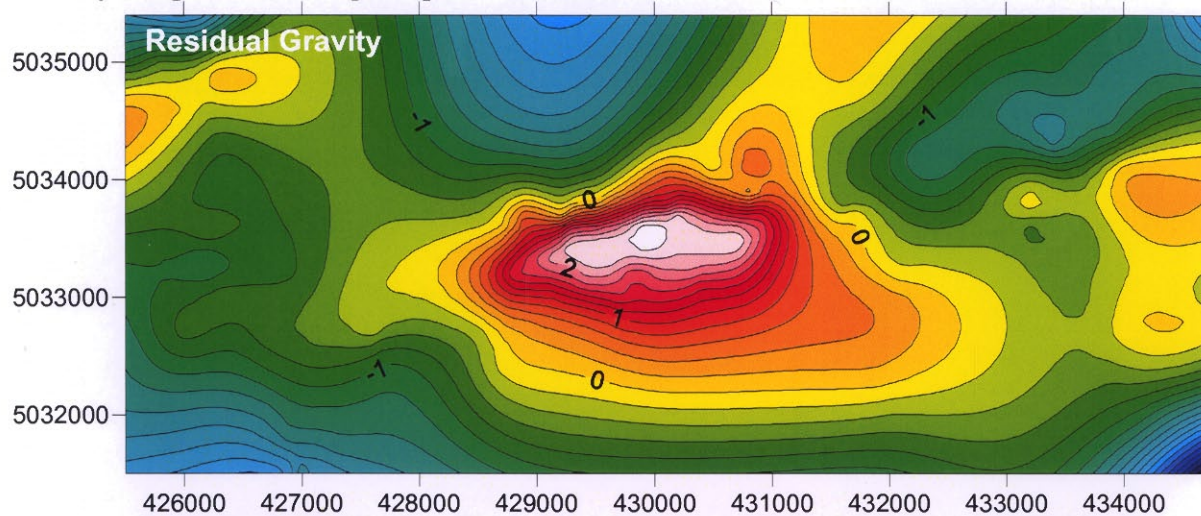


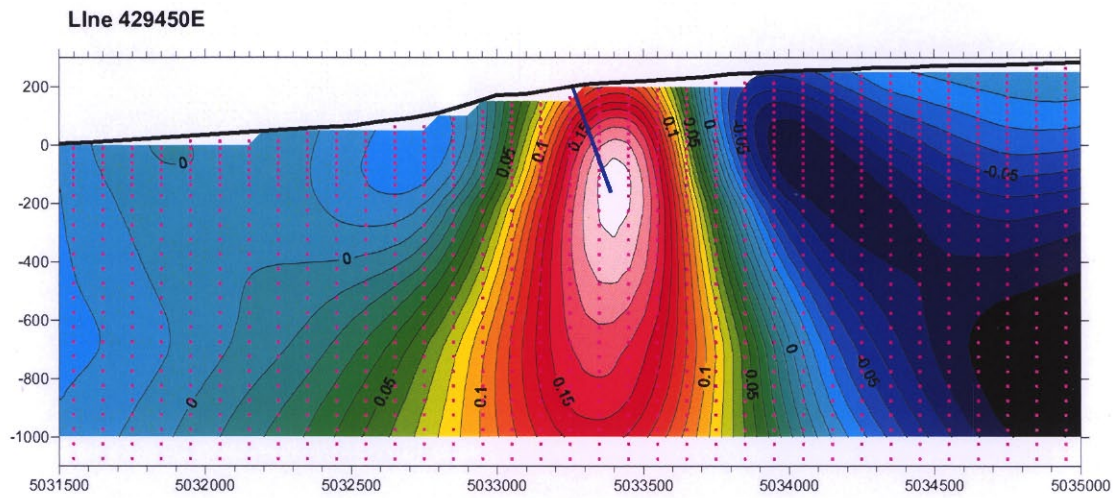
NS13East RTP TMI



NS13East Geology

Gravity-Mag 3D Modeling Outputs – NS13East





Proposed Drill Collar at 429450E, 5033250N (NAD83, NUTM20).
-70 degrees towards 000 degrees T. EOH: 400m.

