



**National Instrument 43-101 Technical Report**

**Koper Lake Project Chromite Deposit  
McFauld's Lake Area, Ontario, Canada  
Porcupine Mining Division  
NTS 43D16**

**Updated Mineral Resource Estimation  
Technical Report  
UTM: Zone 16, 548460m E, 5842511m N, NAD83**

*Prepared For*

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## 1. Summary

The Koper Lake Project property is located in North-western Ontario, approximately 280 kilometres north of the town of Nakina. It consists of about 1,024 hectares covered by 4 unpatented mining claims. KWG Resources Inc. has an option to earn up to 80% in any chromium production and 20% in other minerals, and Bold Ventures Inc. in turn have an option to earn a 100% interest in the property from Fancamp Exploration Limited, with Bold being the operator in the initial option period.

The area is underlain by Archean volcanics and ultramafic rocks intruded by a granodiorite complex. The Koper Lake Project property is underlain by a multi-phase layered ultramafic intrusion consisting of peridotite, olivine cumulates including dunite, chromitite, pyroxenite and gabbro that have been transected by a major deformation zone. The chromitite consists of fine grained disseminated to massive accumulations of chromite grains typically in a peridotite to olivine intercumulate matrix.

Exploration to date has consisted of geophysics followed by diamond drilling designed to look for nickel–copper mineralisation and to trace the chromitite. The chromitite has been traced approximately 0.6 kilometres along strike and 1 kilometre down dip. The current objective is to define a chromite deposit that can be economically extracted using underground mining techniques.

Using the drill hole data available as of May 11, 2014, including new drilling done in early 2014, an updated Ordinary Kriged block model was created for the Koper Lake Project chromite deposit. The volume modelled is 0.6 kilometre long and has a down dip extent of approximately 1.0 kilometre with the top of the mineral zone as high as 350 metres below surface and has been traced down to a depth of approximately 1400 metres below surface. All of the resources present have a low confidence in the estimate such that they can only be classified as Inferred Resources. The following table provides the identified Inferred Resources using a cut-off of 20% Cr<sub>2</sub>O<sub>3</sub>.

<u>Classification</u>	<u>Tonnes (millions)</u>	<u>%Cr<sub>2</sub>O<sub>3</sub></u>
<b>Inferred Resources</b>	77.2	35.1

Notes:

1. CIM Definition Standards were followed for classification of Mineral Resources.
2. The Mineral Resource estimate uses drill hole data available as of May 11, 2014.
3. The cut-off of 20% Cr<sub>2</sub>O<sub>3</sub> is the same cut-off used for the Kemi deposit as reported by Alapieti et al. (1989) and for the nearby Big Daddy chromite deposit (Aubut, 2012).



4. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

Using this 20% cut-off, there are 77.2 million tonnes at a grade of 35.1% Cr<sub>2</sub>O<sub>3</sub> of Inferred Resources which should be easily upgradable through gravity concentration. Currently chromite ore concentrates of 40-42% Cr<sub>2</sub>O<sub>3</sub> sell for approximately US\$150 per tonne. No mineability and dilution studies have been applied to these resources and therefore they may not all be economically recoverable.

The drill hole spacing is 100 to 300 metres with several off-azimuth holes. To date only 8 holes have tested the mineral zone on the property and of these intersections most are very steep and cut the zone at a very oblique angle. As a result there is poor confidence in the lateral continuity of the mineralization to a degree that all of the defined resources can only be classified as Inferred Resources at this time.

It is recommended that further drilling be done to extend the limits of the known chromitite and to infill areas to better define the continuity. The estimated cost of this program is \$14.2 million.

### **1.1. Cautionary Note**

The chromitite found to date has only been tested with relatively sparse drilling. As such the mineralised zone is poorly sampled and can only be classified as Inferred Resources. Further infill and drilling along strike and to depth is required.

This estimate is effective as of May 17, 2014 and is reflective of all data available as of that date.

## **2. Introduction**

The Koper Lake Project property is currently under option agreement between KWG Resources Inc. (KWG) and Bold Ventures Inc. (Bold) with Bold as the current project operator.

The purpose of this report is to document a revised resource estimation utilising new information, to summarise work done to date and to present recommendations for future work.

Sibley Basin Group Geological Consulting Services Ltd. (SBG) was retained by Mr. Maurice Lavigne, Vice President of Exploration and Development for KWG Resources Inc., to prepare this report for KWG detailing work done to date on the Koper Lake Project property.

Bold, as project operator, compiled and supplied the historical and 2013 drill hole data set, and KWG compiled and supplied the 2014 drill hole data set, with final drill hole validation by SBG. Alan Aubut, P.Geo., on behalf of SBG, completed a site visit on April 3, 2014. Digital files with which to generate a drill hole database file, including all assays, were provided by Bold and KWG.

It must be noted that this report supersedes a report prepared by SBG that documented an earlier resource estimate (Aubut, 2013). Two significant changes are a much better understanding of the geological controls for the mineralization and the inclusion of the results of drilling done in early 2014.

## **3. Reliance on Other Experts**

SBG did not rely on any experts that are not considered Qualified Persons under National Instrument 43-101.

## **4. Property Description and Location**

The property is situated approximately at UTM 548460m E, 5842511m N, Zone 16, NAD83, in the Porcupine Mining Division in area BMA 527861 (G-4306) and is located approximately 80 kilometres east of the community of Webequie (see Figure 1). The property consists of 4 unpatented mining claims totalling 64 units covering approximately 1,024 ha (see Figures 2 and 3). The claim locations are “as staked” and are based on GPS-derived locations of claim posts. The current status of all the claims is presented in Table 1. Currently all exploration work is sanctioned under Ontario Ministry of Northern Development and Mines (MNDM) Exploration Permit 13-10145 expiring April 19, 2016. No other permits have been applied for or are in force.

#### 4.1. Property History and Underlying Agreements

- Claims 3012254, 3012255, 3012257 and 3012258 (Koper Lake Project) were staked by J. De Weduwen and recorded in the name of Richard Nemis, on April 22, 2003.

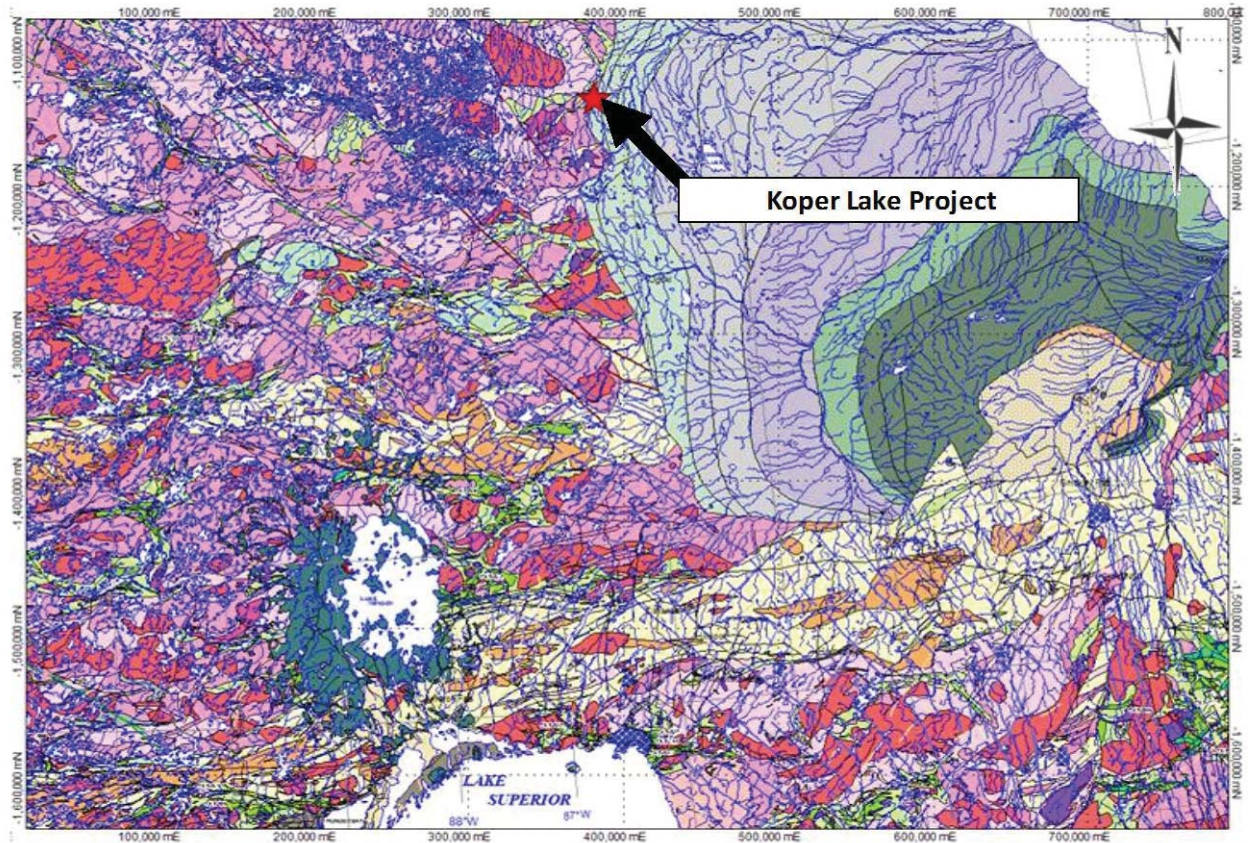


Figure 1 Map showing the location of the Koper Lake Project.

- On June 28, 2003 Richard Nemis agreed to sell a 100% interest in the Koper Lake Project to Fancamp Exploration Ltd. (Fancamp) for \$7,200 with the vendor retaining a 2% net smelter royalty (NSR). Fancamp has the right to purchase half of the NSR, or 1%, prior to commencement of production from the claims, by paying \$1,000,000 to the vendor.
- On January 30, 2005 Probe Mines Limited agreed to option the property from Fancamp. They drilled one hole (FC1) in 2006 to a final depth of 171 metres. No mineralisation of note was intersected and the option was subsequently terminated.

On May 7, 2012 Bold Ventures Inc. (Bold) entered into an earn-in option agreement with Fancamp. Bold had the option to earn-in up to 60% in the Koper Lake Project. The Agreement called for Bold to make option payments totalling \$1,500,000 and to incur exploration expenditures on the property of at least \$8,000,000 over a 3 year period. Upon fulfilling these optional terms, Bold will earn a 50% interest in the property and a



joint venture will be formed. A further 10% interest may be earned by Bold at any time by delivery of a positive feasibility study and by making a payment of \$700,000 in cash

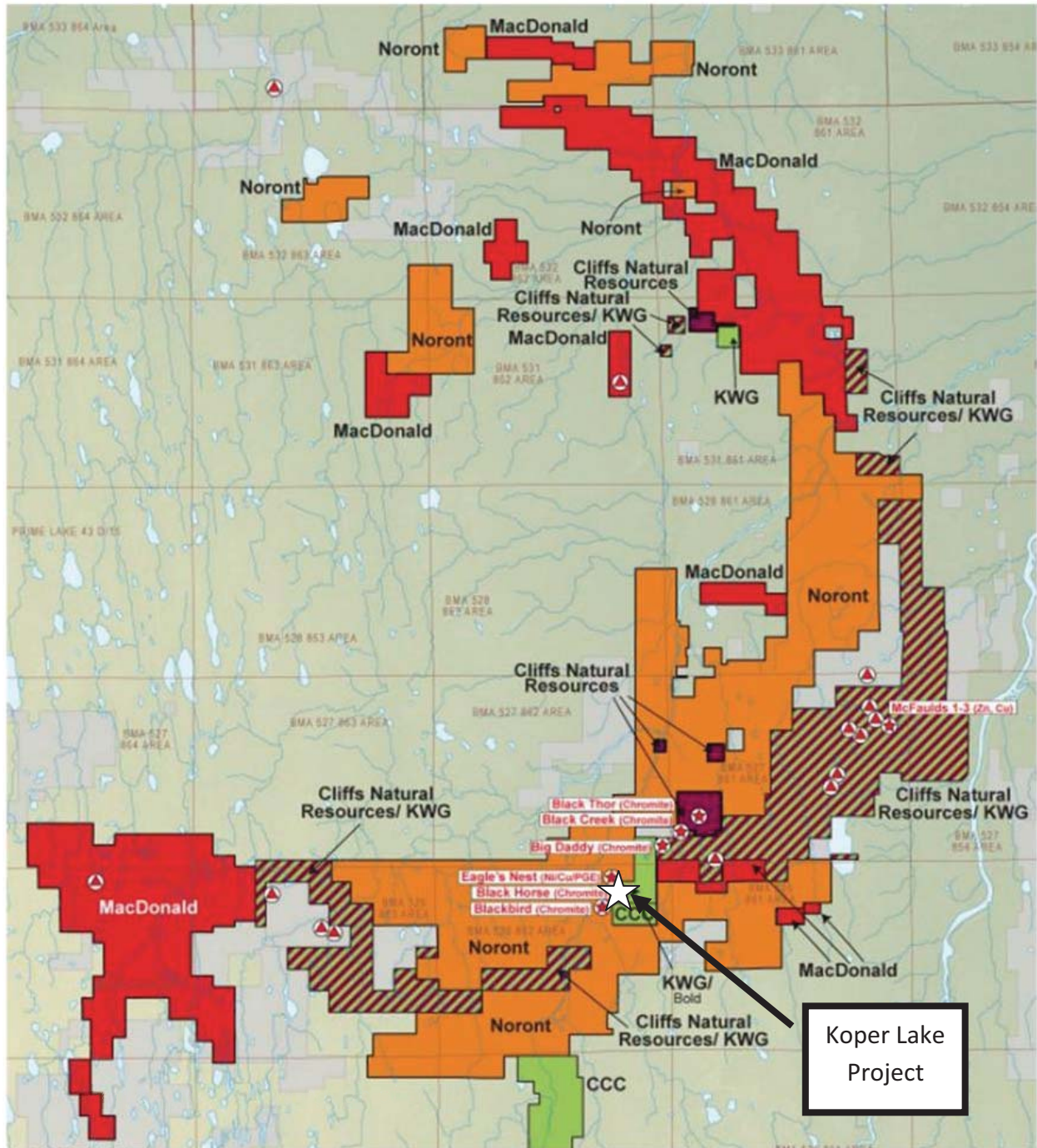


Figure 2 Claim map of the McFaulds's Lake Area (©Intierra Pty Ltd. 2013).

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Claim Number	Area	Recording Date	Claim Due Date	Status	Percent Option	Work Required	Total Applied	Total Reserve	Claim Bank	Claim Units	Area
<a href="#">3012257</a>	BMA 526 862	2003-Apr-22	2015-Apr-22	A	100%	\$6,400	\$64,000	\$23,310	\$0	16	256
<a href="#">3012258</a>	BMA 526 862	2003-Apr-22	2015-Apr-22	A	100%	\$6,400	\$64,000	\$1,890,066	\$0	16	256
<a href="#">3012254</a>	BMA 527 862	2003-Apr-22	2015-Apr-22	A	100%	\$6,400	\$64,000	\$185,463	\$0	16	256
<a href="#">3012255</a>	BMA 527 862	2003-Apr-22	2015-Apr-22	A	100%	\$6,400	\$64,000	\$223,737	\$0	16	256
Total										64	1024

Table 1 Claim status of the Koper Lake Project property (as of July 10, 2013).

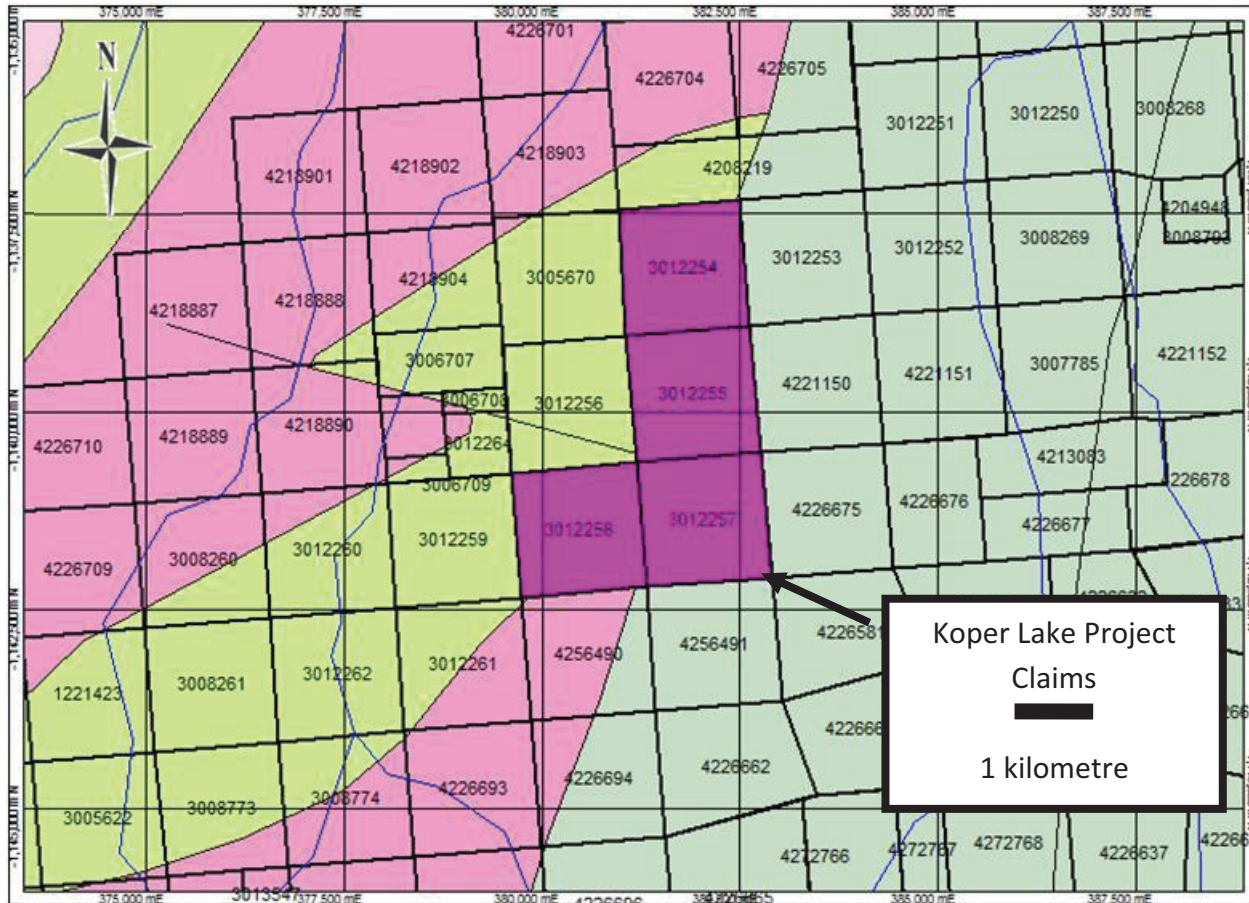


Figure 3 KWG-Bold Option Agreement Property Map (purple) as of August 18, 2013.

- On January 7, 2013, Bold announced it had reached a revised agreement with Fancamp that now gives Bold the option to earn up to a 100% working interest in the property. The Agreement amends the terms of the Earn-In Option Agreement announced in May 7, 2012 to provide that once Bold has earned its 60% interest in the Koper Lake Project, it will then have two options for a period of 90 days following the date it earns its 60% interest. First, it can earn a further 20% interest in the Property by paying Fancamp \$15,000,000 payable in equal installments over three years with half of the amount

payable in cash and the balance payable, at Bold's option, through the issuance of common shares of Bold at the market price at the time the shares are issued with Fancamp retaining a carried interest (the "Carried Interest") in the Koper Lake Project. If the first option is exercised, Bold would then have the additional option to acquire from Fancamp the Carried Interest in exchange for a Gross Metal Royalty ("GMR") payable to Fancamp resulting in Bold holding a 100% interest in the Koper Lake Project. Fancamp would then be entitled to be paid 2% of the total revenue from the sale of all metals and mineral products from the Property from the commencement of Commercial Production. Once all of the capital costs to bring the Koper Lake Project to the production stage have been repaid entirely, the GMR may be scaled up to a maximum of 4% of the total revenue from the sale of all metals and mineral products from the Property depending upon the price of product sold from the Property.

- On February 4, 2013, Bold announced that it had signed an agreement with KWG Resources Inc. (KWG) to option its interests in the Koper Lake Project to KWG. Under the terms of the Agreement, Bold will act as Operator of the initial exploration programs which are to be funded by KWG. KWG can acquire an 80% interest in chromite produced from the Koper Lake Project by funding 100% of the costs to a feasibility study leaving Bold and its co-venturer with a 20% carried interest, pro rata. For nickel and other non-chromite minerals identified during the exploration programs, the parties have agreed to form a joint venture in which KWG would have a 20% participating interest and Bold and its co-venturer would have an 80% participating interest, pro rata. KWG will have a right of first refusal to purchase all ores or concentrates produced by such joint venture whenever its interest in the joint venture exceeds 50%.

Bold also signed an agreement with 2282726 Ontario Limited ("Bold's Co-Venturer"), a subsidiary of Dundee Corporation, who can earn a 33-1/3% interest in Bold's Ring of Fire (ROF) activities around the area of Bold's Ring of Fire claims in Ontario (the "Bold ROF Project") by funding \$2.5 million of exploration work, over \$2.0 million of which has been expended to date. Once Bold's Co-Venturer earns its 33-1/3% interest, a joint venture will be formed between Bold's Co-Venturer and Bold giving Bold's Co-Venturer the right to participate for up to 33-1/3% in Bold's ROF Project by funding its portion of the project's budgets. The Koper Lake Project is within the Bold ROF Project.



## **4.2. Parties to the Agreements**

Fancamp Exploration Ltd. is a junior exploration company listed on the TSX Venture exchange under the trading symbol of “FNC”.

Bold Ventures Inc. is a junior exploration company listed on the TSX Venture exchange under the trading symbol of “BOL”.

2282726 Ontario Limited is a subsidiary of Dundee Corporation, a publicly traded asset management company listed on the Toronto Stock Exchange under the symbol "DC.A".

KWG Resources Inc. is a junior exploration company listed on the TSX Venture exchange under the trading symbol of “KWG”.

## **4.3. Title**

The claim holders have all title granted under the Ontario Mining Act, including “*the right to proceed as is in [the Mining Act] provided to perform the prescribed assessment work or to obtain a lease from the Crown ... [and the right] to enter upon, use and occupy such part or parts thereof as are necessary for the purpose of prospecting and the efficient exploration, development and operation of the mines, minerals and mining rights therein*”(Ontario Mining Act, R.S.O 1990, Chapter M.14).

# **5. Accessibility, Climate, Local Resources, Infrastructure and Physiography**

## **5.1. Accessibility**

Access to the property is by charter air service, available from Nakina, 280 kilometres to the south, or Pickle Lake, 295 kilometres to the west-southwest. Access for surface exploration activities such as diamond drilling is by helicopter in the spring, summer and fall. During the winter access is possible using tracked vehicles, including snowmobiles.

During the summer the majority of rivers and creeks in the area are navigable by canoe and/or small motor boats.

The closest all weather road is at Nakina, however there is a winter road system that services the native communities of Marten Falls, Webequie, Eabametoong Neskantaga, Fort Albany, and Attawapiskat. It is possible that this system can be extended to provide access to the McFauld’s Lake area.

## **5.2.Climate**

The climate of the James Bay Lowlands area is dominantly a typical continental climate with extreme temperature fluctuations from the winter to summer seasons. But during the summer months this can be moderated by the maritime effects of James and Hudson Bays. Environment Canada records ([http://climate.weatheroffice.gc.ca/climateData/canada\\_e.html](http://climate.weatheroffice.gc.ca/climateData/canada_e.html)) show that summer temperatures range between 10°C and 35°C, with a mean temperature of 13°C in July. Winter temperatures usually range between -10°C and -55°C with an average January temperature of -23°C. Lakes typically freeze-up in mid-October and break-up is usually in mid-April. The region usually receives approximately 610 mm of precipitation per year, with about 1/3 originating as snow during the winter months. On a yearly basis the area averages about 160 days of precipitation per year.

## **5.3.Local resources**

Other than stands of timber there are no local resources available on or near the property.

All equipment and supplies have to be air-lifted and directed through the nearby First Nation communities such as Webequie and Marten Falls. The nearest native community is Webequie. It has a well maintained all season runway, a hospital, a public school, mail and telephone service, as well as a community store and a hotel. Webequie is also accessible during the winter months by a winter road.

## **5.4.Infrastructure**

Currently there is no infrastructure in the immediate project area. The closest all weather road is at Nakina, and there is a winter road system that services the nearby First Nation communities of Marten Falls, Webequie, Eabametoong Neskantaga (Lansdowne House), Fort Albany, and Attawapiskat. It is possible that this system can be extended to provide access to the McFauld's Lake area. All of the local First Nation communities are serviced by air and have all weather air strips. Power to these First Nation communities is provided by diesel generators while Nakina is connected to the Ontario hydro-electric power grid. Nakina is also the closest terminal on the Canadian National Railway (CNR) system.

## **5.5.Pysiography**

The project area is located along the western margin of the James Bay Lowlands of Northern Ontario within the Tundra Transition Zone consisting primarily of string bog and muskeg whereby the water table is very near the surface. Average elevation is approximately 170 metres above mean sea level. The property area is predominantly flat muskeg with poor drainage due to the lack of relief. Glacial features are abundant in the area and consist of till deposits, eskers, and drumlins, all of which are typically overlain by marine clays from the Hudson Bay transgression. Currently, the region is still undergoing postglacial uplift at a rate of about 0.4 centimetres per year (Riley, 2003). The project area is located between the drainage



basins of the Attawapiskat and Muketei Rivers. The Muketei River is a tributary of the larger Attawapiskat River that flows eastward into James Bay.

The bog areas consist primarily of sphagnum moss and sedge in various states of decomposition. The southern portion of the property is partially covered by forested areas. Trees are primarily black and white spruce (*Picea glauca* and *mariana*), tamarack (*Larix laricina*), and jack pine (*Pinus banksiana*) with minor amounts of trembling aspen (*Populus tremuloides*), balsam poplar (*Populus balsamifera*) and white birch (*Betula papyrifera*). In the northern portion of the property, trees are restricted to narrow bands along rivers and creeks and on well drained raised beaches. Willows (*Salix*) and alders (*Alnus*) are present along creeks and in poorly drained areas.

## **6. History**

### **6.1. General**

The first geological investigation of the James Bay Lowlands and the McFauld's Lake area was by Robert Bell of the Geological Survey of Canada (GSC). He and his crew traversed and mapped the shores of the Attawapiskat River from James Bay and past the McFauld's Lake area (Bell, 1887). Subsequently, in 1906 and between 1940 and 1965, the GSC and the Ontario Department of Mines (ODM) initiated further regional geological programs aimed at determining the petroleum potential of the Hudson Bay and James Bay sedimentary basins, and determining the potential for hydrocarbons in the Moose River Basin area.

Prior to the 1990's, the James Bay lowlands were sparsely explored. The few companies doing exploration in the area included Consolidated African Selection Trust (Armstrong et al., 2008) and Monopros Ltd., the Canadian exploration division of Anglo-American DeBeers. Most of the active exploration at that time was restricted to the region near Nakina where access is facilitated by road and train.

Modern day exploration in the McFauld's Lake area only began in the early 1990's as a result of diamond exploration. In 1989 Monopros Ltd. began exploration near the Attawapiskat kimberlites, which resulted in the discovery of the Victor pipe. The Spider/KWG joint venture resulted in the discovery of the Good Friday and MacFayden kimberlites in the Attawapiskat cluster, as well as the 5 Kyle kimberlites (Thomas, 2004). This activity led the way for other diamond exploration companies, i.e., Canabrava Diamond Corporation, Condor Diamond Corp., Dumont Nickel Inc., Dia Bras Exploration Inc., Greenstone Exploration Company Ltd., and Navigator Exploration Corp.

In the early 2000's copper mineralization was discovered by DeBeers Canada Inc. in the McFauld's Lake area. This discovery prompted the first staking rush and was subsequently drill defined by Spider/KWG and named the McFauld's No. 1 volcanogenic massive sulphides (VMS) deposit. Further copper mineralization was found at the McFauld's No. 3 VMS deposit (Gowans and Murahwi, 2009).

The discovery of the Eagle One nickel massive sulphide deposit by Noront Resources in 2007 resulted in a second staking rush. Over the next two years the Black Bird, Black Creek, Big Daddy, Black Thor and Black Label chromite deposits were found as well as the Thunderbird vanadium deposit.

Richard Nemis arranged to have claims staked in the McFaulds Lake area, including the ones that make up the Koper Lake Project and then optioned the claims to Fancamp. In 2011 Fancamp intersected massive chromite in holes FN-10-25 and FN-10-26. Fancamp then optioned the claims to Bold Resources in 2012. Bold signed an option agreement with KWG in early 2013.

## **6.2. Discovery history**

In April of 2003 John der Weduwen staked claims 3012254, 3012255, 3012257 and 3012258 and then transferred 100% to Richard Nemis who then optioned the claims to Fancamp Exploration Ltd. (Fancamp). Fancamp completed the following work over the property between 2003 and 2012:

- In 2003 Fancamp participated in a regional Geotem magnetic and EM survey flown by Fugro Airborne Surveys. A total of 102 line kilometers were flown over the property as part of this survey (Hogg, 2003).
- In 2004 several ground magnetic and horizontal loop EM surveys were completed in the area with portions of two of the grids extending onto the Fancamp property. Grid 1 consisting of lines at 200 metre intervals and totalling 11 kilometres on the property; and Grid J consisting of lines at 100 metre intervals with 6.2 kilometres on the property (Hogg, 2005).
- In 2006 Fancamp optioned the property to Probe Mines limited who then drilled one hole, FC-01, to a final depth of 171 metres. No mineralisation of note was encountered and the option was dropped.
- In 2007 a larger, more regional helicopter-borne AeroTEM magnetic and EM survey was flown by Aeroquest. A total of 186 line kilometres were flown over the property (Hogg, 2008).
- During 2008 Fancamp drilled 12 diamond drill holes totalling 3,555 metres. In addition, Noront Resources drilled one hole that extended onto the Fancamp property (NOT-08-40) that

ended in massive chromite. Of these holes 5, including the Noront hole, were surveyed using downhole IP (JVX, 2009).

- During 2010-11 Fancamp drilled an additional 16 holes totalling 8,314 metres including holes FN-10-25 and 26 that intersected significant chromite intervals at depth.
- In early 2013 Geosig completed 48.9 line kilometres of ground magnetic and gravity surveys over portions of the property (Geosig, 2013). Bold Ventures, as operator, drilled 9 holes totalling 6,379 metres testing various targets including the chromite zone discovered in 2010.

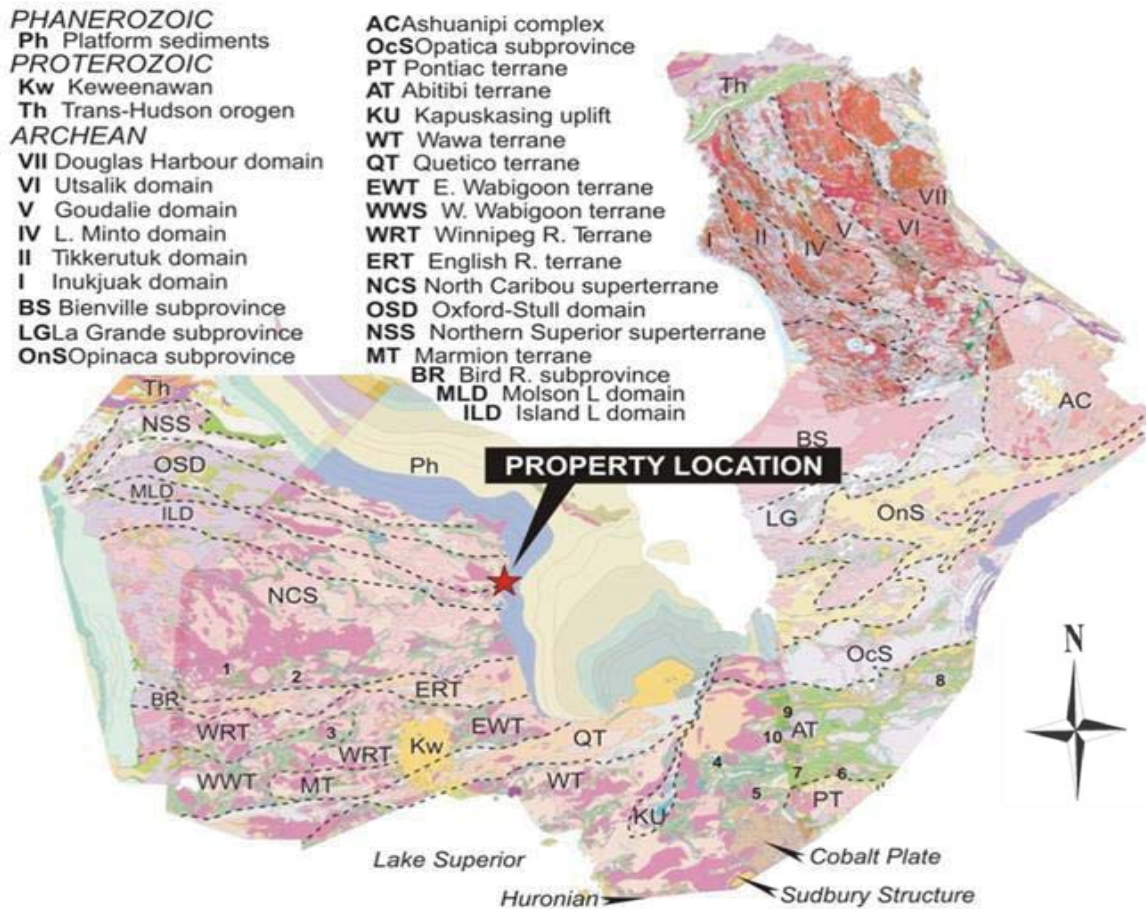


Figure 4 Geological map of the Superior Province showing tectonic domains (from Percival, 2007).

## **7. Geological Setting and Mineralization**

### **7.1. Regional geology**

The James Bay Lowlands regional geology can be subdivided into the following domains: Precambrian Basement Complex, Paleozoic platform rocks, and Quaternary cover.

#### **7.1.1. Precambrian Basement Complex**

The Koper Lake Project property is located within the eastern portion of the Molson Lake Domain (MLD) of the Western Superior Province of the Canadian Shield (see Figure 4). Age dating has shown that there are two distinct assemblages: the Hayes River assemblage with an age of about 2.8 Ga, and the Oxford Lake assemblage with dates of about 2.7 Ga. Numerous mafic intrusions have been documented in the domain, such as the Big Trout Lake intrusion (Percival, 2007).

The domain is also intruded by numerous plutons of tonalitic, granodioritic, and granitic compositions.

In the McFauld's Lake area of the James Bay lowlands there is very poor outcrop exposure. As a result an aeromagnetic compilation and geological interpretation map was completed by Stott in 2007. Important geological features observed by Stott (2007) are:

- West- and northwest-trending faults show evidence of right-lateral transcurrent displacement.
- Northeast-trending faults show left-lateral displacement.
- In the northern half of the Hudson Bay lowlands area Archean rocks are overprinted by the Trans-Hudson Orogen (ca. 2.0 – 1.8 Ga).
- Greenstone belts of the Uchi domain and Oxford-Stull domain merge under the James Bay Lowlands.
- The Sachigo subprovince contains a core terrain, i.e., the North Caribou Terrain and “linear granite-greenstone” domains on the south and north flanks, that record outward growth throughout the Neoproterozoic.
- Major dextral transcurrent faults mark the boundary between the Island Lake and Molson Lake domains.
- Proterozoic (1.822 and 1.100 Ga) carbonatitic complexes intruded and reactivated these faults.
- The area has undergone a doming event. Uplifted lithologies include a regional scale granodioritic gneissic complex to the NW of the property.

### **7.1.2. Paleozoic Platform Rocks**

The Paleozoic Platform rocks of the James Bay Lowlands consist primarily of upper Ordovician age (450 Ma to 438 Ma) sedimentary rocks. The sedimentary pile thickens significantly to greater than 100 metres to the east and north of the property but is only intermittently present in the immediate property area. It is comprised mainly of poorly consolidated basal sandstone and mudstone overlain by muddy dolomites and limestones.

### **7.1.3. Quaternary Cover**

The area is mantled by a thin, but persistent, layer of glacial and periglacial till and clay deposits.

## **7.2. Local Geology**

Because of the limited bedrock exposure not much can be directly inferred about the geology of the Koper Lake Project property. The overburden varies in thickness from about 3m to 10m. It consists of a mixture of glacial outwash with abundant gravel to cobble sized pieces of unconsolidated tan coloured fossiliferous limestone, granitic rocks, as well as minor ultramafic rocks.

Most of the property geology can be indirectly inferred from the recent diamond drilling campaign and geophysical surveys. From these sources, it is interpreted that the property is underlain by: volcanics, mafic-ultramafic intrusives and late felsic intrusives.

### **7.2.1. Volcanics**

Volcanic lithologies present are typical of most greenstone belts of the Superior Province. They consist of foliated mafic to felsic volcanic flows and pyroclastic units, with intercalated schist, gabbro, iron-formation, and greywacke.

### **7.2.2. Mafic-Ultramafic Intrusives**

The volcanics are intruded by a mafic-ultramafic complex consisting primarily of dunite, peridotite, chromitite, pyroxenite, gabbro, leucogabbro, and gabbronorite. These lithologies are variably altered, primarily in the form of serpentinization of olivine with talc, tremolite, chlorite, kammererite, stichtite, and magnetite also being present.

The geological package is vertical or dips very steeply towards the SE. In part it is fully overturned and dips steeply to the NW.

The Koper Lake Project property hosts the southwestern extension of the ultramafic suite that is best defined on the Cliffs Chromite North property to the northeast. There we have a lower cycle consisting dominantly of peridotite with minor accumulations of olivine adcumulate and chromite. The next cycle stratigraphically higher in the sequence shows more differentiation with appreciable enrichment of chromite. The third cycle has a basal zone of significant

chromite enrichment. Overlaying the chromite-rich portions of the complex is a pyroxenite unit that drilling indicates has eroded away portions of the upper chromite horizon. The pyroxenite horizon is overlain by olivine adcumulates, peridotite and gabbro. The ultramafic complex host to the chromite mineralisation is up to 500 metres thick and has been traced for over 15 kilometres along strike.

### **7.2.3. Felsic Intrusives**

Felsic intrusives, intersected in drilling on the north side of the Koper Lake property, are comprised mostly of granite and quartz-diorite. The granite is grey-white, coarse-grained, hypidiomorphic and granular, consisting of quartz, feldspar, and biotite crystals. The granite is typically gradational into a quartz-diorite. The contact with the ultramafic and volcanic rocks is sharp and irregular at times with significant alteration of the ultramafics and volcanics.

### **7.2.4. Faulting**

Drilling has intersected faults identified by slickensides, mylonitization, and intense brecciation of the host lithologies. Magnetic and gravity surveys indicate that there are major fault displacements to the northeast and southwest.

On the adjacent Noront property a major deformation zone has previously been identified that also carries anomalous gold mineralisation. The zone has been called the “Triple J” and is described by Murahwi et. al.(2012): *“The sheared zone consists of biotite-chlorite-actinolite schist which contains or is flanked by brecciated quartz-rich fragments. The thickness of the zone ranges from several centimetres to tens of metres with a strike length currently defined at 1 kilometre and to a depth of 300 m. The zone is interpreted as a large, low grade gold occurrence flanking the Blackbird and Eagle Two deposits, with a consistent strike of 065° and a dip of 50°.”*

The Triple J Deformation Zone crosses onto the Koper Lake property and cuts off the upper portion of the Black Horse chromite mineral zone (see Figure 11). The strike and dip of the zone is essentially the same as noted on the Noront property.

## **7.3 Mineralisation**

To date the only mineralisation of significance found on the property is chromite although some anomalous gold assays have been returned from portions of the Triple J Deformation Zone. The chromite mineralization is potentially economic.

### **7.3.1 Chromite Mineralization**

The chromite mineralisation on the Koper Lake Project is the eastern extension of the Black Bird chromite deposits and all are on strike with the Big Daddy, Black Creek and Black Thor deposits beginning 3 kilometres to the northeast. The chromite mineralisation does not come to surface on the property as drilling indicates that it has been cut off by the Triple J Deformation Zone (see Figures 11 and 17). The chromite mineralisation is stratiform and is hosted by ultramafics.



Various types of chromite mineralization have been observed including disseminated chromite (1 to 20% chromite), semi-massive chromite and massive chromite (chromitite). The main chromitite layer, the eastern extension of the Black Bird chromite horizon on the adjacent Noront property (Murahwi et. al., 2012) is up to about 40 metres thick although significant chromite mineralisation is present over a true thickness of up to about 100 metres (see Figure 11). The chromite mineralisation has been traced on the Koper Lake Project property about 0.6 kilometres along strike and is open along strike to the east and to depth. The chromite is present as small grains typically 100 to 200 microns and hosted by peridotite and, in the higher grade portions, by dunite.

## **8. Deposit Types**

Various economic mineral deposit types are known to exist in the James Bay lowlands of Northern Ontario. These include: magmatic Ni-Cu-PGE, magmatic chromite mineralization, volcanogenic massive Cu-Zn sulphide mineralization and diamonds hosted by kimberlite.

The ultramafic/mafic rocks found on the Koper Lake Project property have been explored primarily for nickel-copper sulphide mineralisation although magmatic chromite mineralization has been found instead and work has continued on the exploration of chromite by KWG. The chromite mineralization occurs as stratiform bands within a large layered intrusion and shows major similarities with the Kemi intrusion of Finland.

At Kemi, chromite is hosted by a layered intrusion composed of peridotite and pyroxenite cumulates with chromite layers. The intrusion is interpreted to be funnel-shaped with the cumulate sequence thickest at the centre. There is a continuous chromite layer that has been traced 15 kilometres along strike and varies in thickness from a few millimetres to as much as 90 metres in the central portion of the intrusion. Using a cut-off of 20% there were 40 million tonnes of open pit reserves grading 26.6% Cr<sub>2</sub>O<sub>3</sub> with a Cr/Fe ration of 1.53 (Alapieti, et al., 1989).

The Kemi deposit has many similarities to the style of mineralisation on the Koper Lake property. It can therefore be used as an analogue when trying to establish a reasonable baseline with which to demonstrate that the Koper Lake deposit is potentially economic.

## **9. Exploration**

In 2003 Fancamp participated in a regional GeoTEM magnetic (see Figure 5) and EM survey flown by Fugro Airborne Surveys. A total of 102 line kilometers were flown over the property as part of this survey (Hogg, 2003).

In 2004 several ground magnetic and horizontal loop EM surveys were completed in the area with portions of two of the grids extending onto the Fancamp property. Grid 1 consisting of lines at 200 metre intervals and totalling 11 kilometres on the property; and Grid J consisting of lines at 100 metre intervals with 6.2 kilometres on the property (Hogg, 2005).

In 2006 Fancamp optioned the property to Probe Mines limited who then drilled one hole, FC-01, to a final depth of 171 metres. No mineralisation of note was encountered and the option was dropped.

In 2007 a larger, more regional helicopter-borne AeroTEM EM and magnetic surveys were flown by AeroQuest (see Figures 6 and 7). A total of 186 line kilometres were flown over the property (Hogg, 2008).

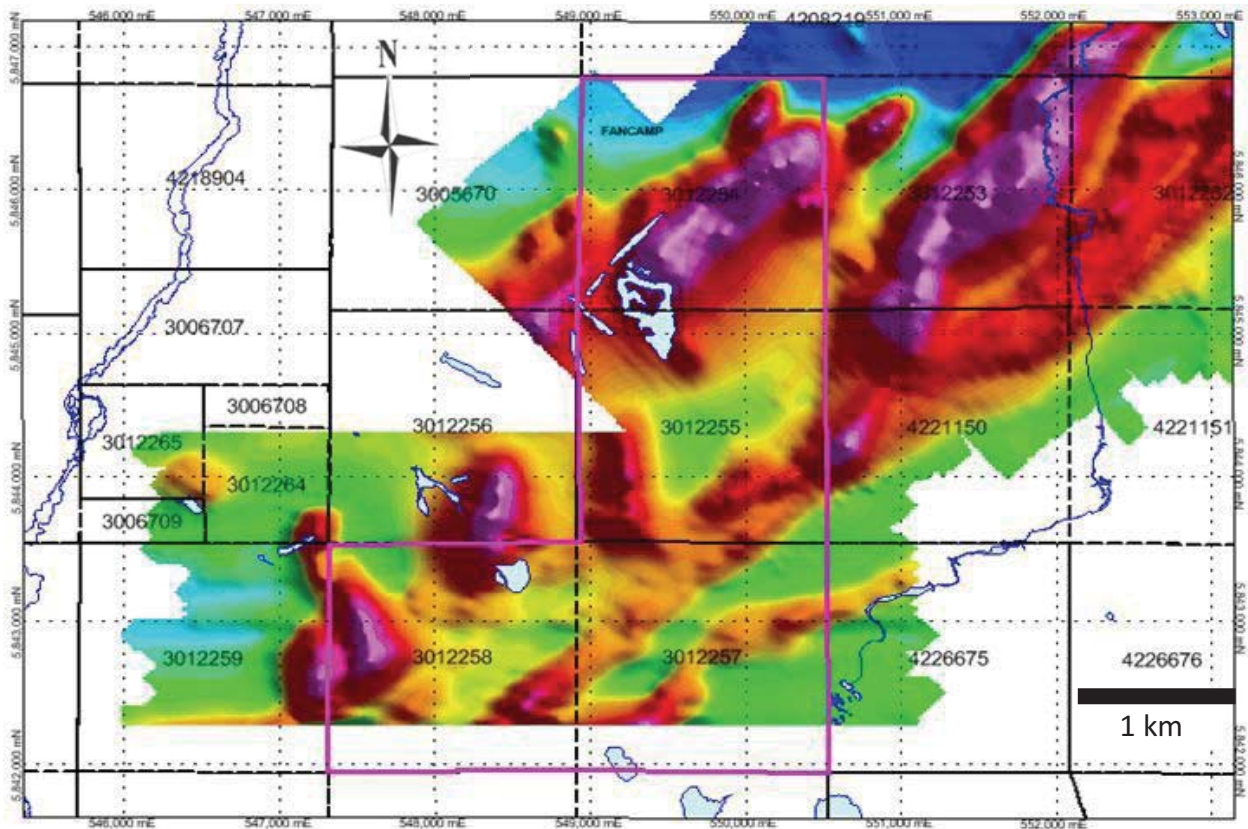


Figure 5 Map showing the Total Field Magnetic survey flown by Fugro in 2003.



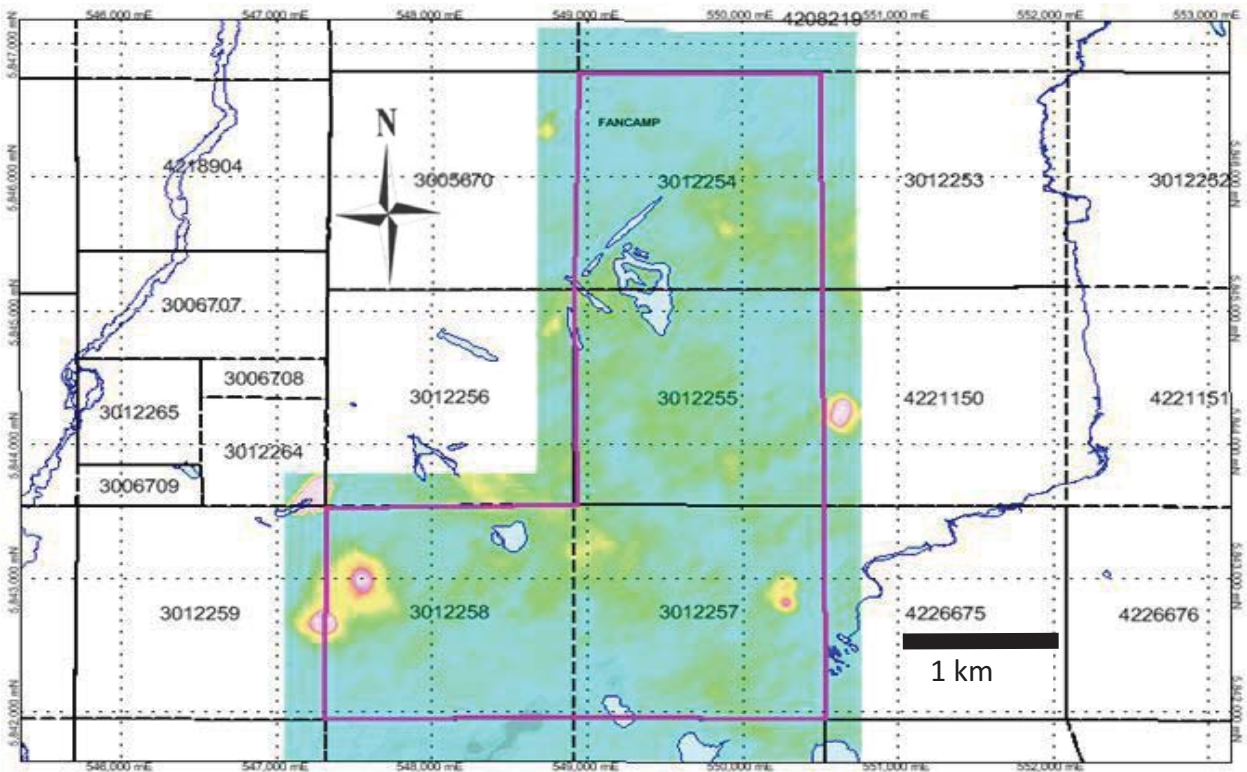


Figure 6 Map showing Channel 3 – Z off – AEM survey flown by AeroQuest in 2007.

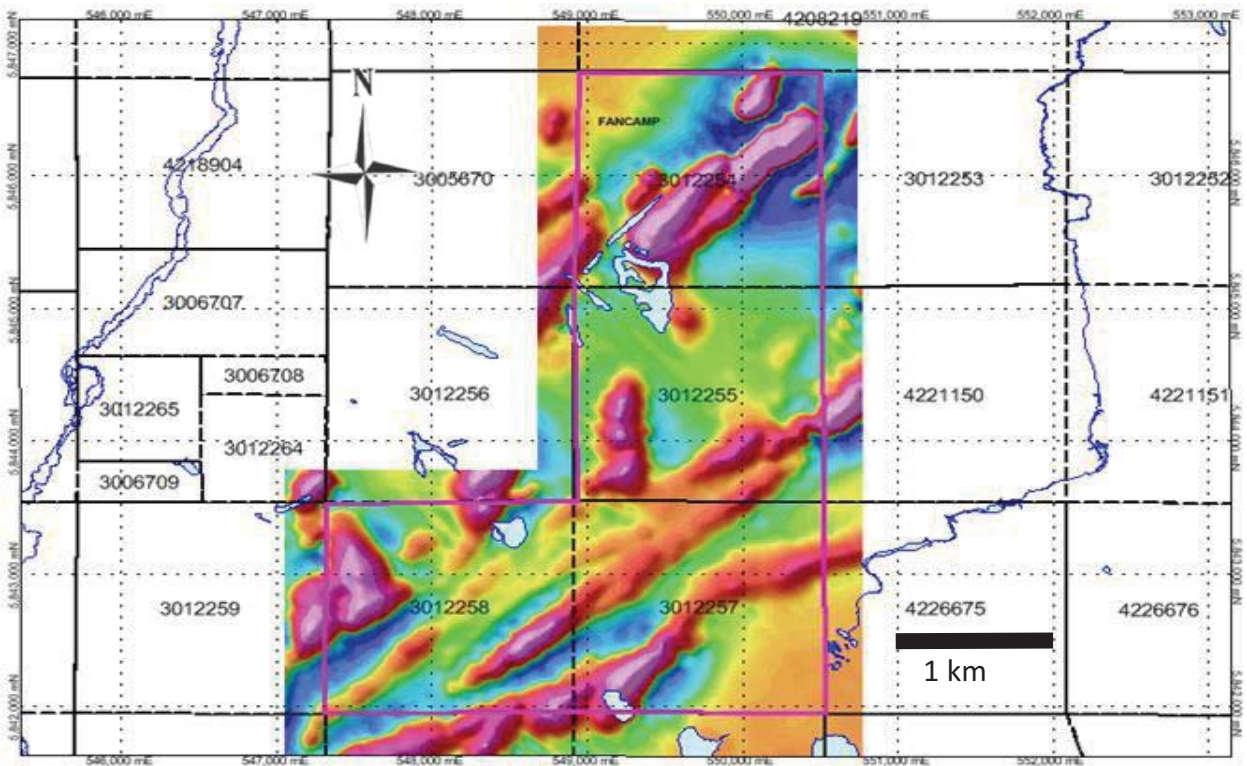


Figure 7 Map showing the Total Field Magnetic survey flown by AeroQuest in 2007.

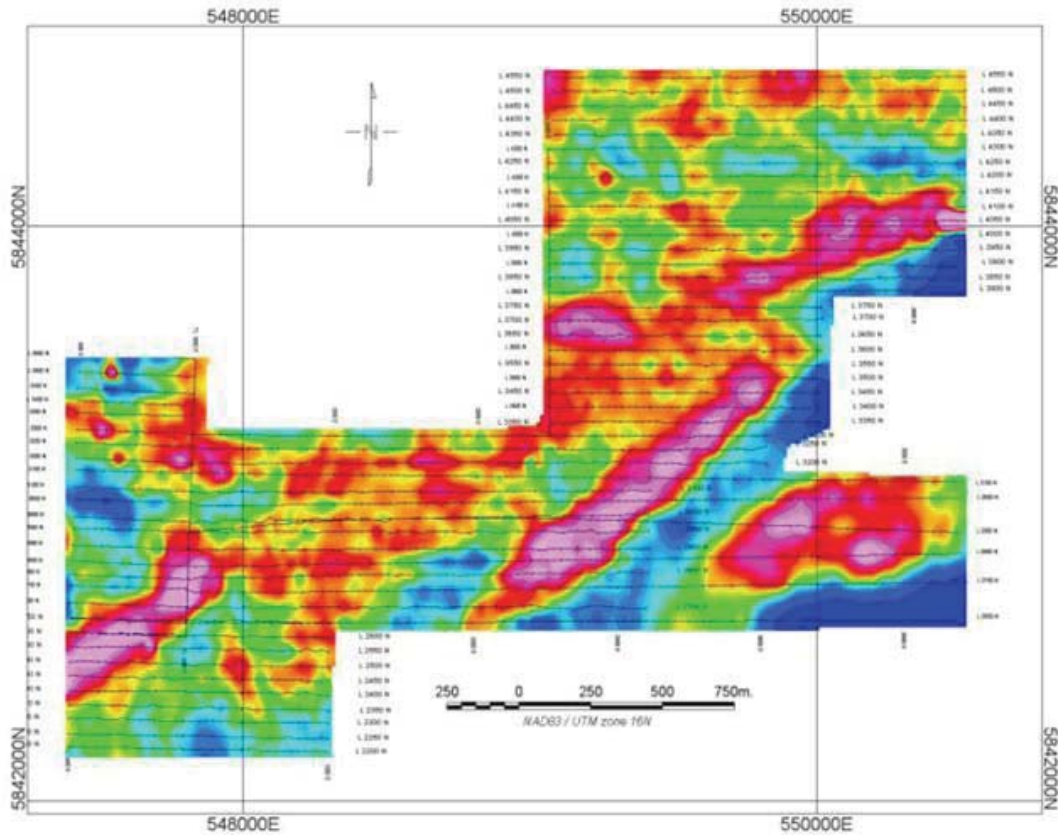


Figure 8 Map showing the Residual Bouguer Gravity survey completed in 2013 by Geosig.

During 2008 Fancamp drilled 12 diamond drill holes totalling 3,555 metres. In addition, Noront Resources drilled one hole that extended onto the Fancamp property (NOT-08-40) that ended in massive chromite. Of these holes, 5 including the Noront hole, were surveyed using downhole IP (JVX, 2009).

During 2010-11 Fancamp drilled an additional 16 holes totalling 8,314 metres including holes FN-10-25 and 26 that intersected significant chromite intervals at depth.

In early 2013 Geosig completed 48.9 line kilometres of ground magnetic and gravity surveys over portions of the property (Geosig, 2013). Figure 8 shows the results of the gravity survey.

Bold Ventures, as operator, drilled 9 holes totalling 6,379 metres testing various targets including the chromite zone discovered in 2011.

In early 2014 an additional 6 holes totalling 4,090 metres were drilled. Three holes tested a gravity high in the west-central portion of claim 3012255. And the other three continued with testing the limits of the chromite zone discovered in 2011.

## **10. Drilling**

To date 56 BQ and NQ-sized holes totalling 22,377.2 metres have been drilled on the property, including the last 223 metres of hole NOT-08-40 that was drilled by Noront but crossed the property boundary. Of these holes only 8 have tested the Koper Lake Project chromite zone. Down-hole orientation surveys were completed on all holes. Unfortunately the 2008 downhole surveys were done using magnetic methods which result in incorrect azimuth values when in magnetic rocks such as ultramafic. See Figures 9, 10 and 11 plus Table 2 for details on the holes that have been drilled on the property.

### **10.1 2008 and 2010-11 Drilling**

Fancamp conducted drilling campaigns in 2008 and 2010-11. These campaigns mostly tested geophysical anomalies that were believed to represent near surface nickel-copper sulphide mineralization. A few holes also tested deep nickel-copper targets based on geological modelling. Three of these holes, NOT-08-40, FN-10-25 and FN-10-26, intersected massive chromite mineralization. As chromite was not Fancamp's primary target, they only analyzed 1 metre long samples every 6 metres for hole FN-10-25 and 0.5 metre long samples every 4.5 metres for hole FN-10-26. All of the samples collected were cut in half with a core saw. The samples were sent to the Activation Laboratories (ActLabs) facility in Thunder Bay for analysis. The core from these holes is stored in racks at Koper Lake. Core from hole NOT-08-40 was sampled and analysed using a less accurate method than the current method. As part of the 2013 program the stored pulps were reassayed. As all downhole orientation surveys in 2008 were done using magnetic instrumentation their azimuth determinations are considered suspect where the holes were within magnetic rocks such as ultramafics. Downhole orientation surveys in 2010-11 were conducted using instruments that surveyed the holes independently of the magnetic field producing more reliable results.

### **10.2 2013 Drilling**

In March 2013, a drilling campaign funded by KWG and operated by Bold was initiated. Bold's objective is the search for nickel-copper sulphides, while KWG's objective is to further drill the chromite horizon discovered during the 2010-11 campaign. This was done using three drills, with Bold and KWG having separate core processing facilities staffed by employees of each company. The hole collars were established by GPS, the azimuth and plunge by Reflex APS, a collar orientation instrument, and the hole trajectory surveyed by Reflex Gyro. Excessive downhole deviation of the initial holes was corrected by changing to stabilized core barrels and long reaming shells for subsequent holes.

The chromite bearing core was logged and sampled in sufficient detail to enable the estimate of “waste-ore” separation of coarsely crushed feed using heavy media and/or gravity beneficiation. In addition, the core was subjected to analysis by a handheld XRF. The core was marked, tagged and cut longitudinally in half with a diamond saw. The bagged samples were flown to Nakina Airport, loaded into a trailer and delivered to Actlabs, Thunder Bay by KWG staff. 6 holes targeting chromite were completed. One of these holes, FN13-031 deviated onto the neighbouring claim owned by Noront Resources. The core from that portion of this hole that is on Noront property was delivered to Noront. Two additional holes were initiated but not completed due to the termination of the drilling program due to a forest fire.

During this campaign, core from the 2010-11 drilling campaign was extracted from storage. As both holes FN-10-25 and FN-10-26 intersected the chromite horizon at an angle of approximately 20 degrees, this produced long intercepts of massive chromite with volumes sufficient for a furnace melt test. Hole FN-10-25 has a continuous massive chromite intercept of 210 metres, and hole FN-10-26 has a continuous massive chromite intercept of 57 metres and 4 additional shorter massive chromite intercepts. Only 9 to 16% of this core had been sampled and assayed. The two longer intercepts were chosen for the furnace melt test, while the core with the remaining massive chromite intercepts was re-logged, and the unsampled intervals submitted for assay. The entire core was photographed and analysed by handheld XRF, including previously assayed intervals. The core was delivered to Xstrata Process Support in Falconbridge, Ontario for the furnace melt test.

### **10.3 2014 Drilling**

Between January and March 2014, another drilling campaign funded by KWG and operated by Bold was initiated. This drill program focused on evaluating a gravity target to the north and east, on strike with the known chromite mineralisation (3 holes) and to further drill the chromite horizon discovered during the 2010 campaign (3 holes). This was done using two drills. The hole collars were established by GPS, the azimuth and plunge by Reflex APS, a collar orientation instrument, and the hole trajectory surveyed by Reflex Gyro.

## **11. Sample Preparation, Analyses and Security**

All samples were submitted in batches to Activation Laboratories (ActLabs) in Thunder Bay except for one batch that was submitted instead to Accurassay Laboratories (Accurassay), also in Thunder Bay, for sample preparation and analysis. Both labs are fully certified; ActLabs is accredited with the Standards Council of Canada, Health Canada, as well as the National Environmental Accreditation Conference, and Accurassay is an accredited laboratory with the Standards Council of Canada. Both ActLabs and Accurassay are independent of KWG.



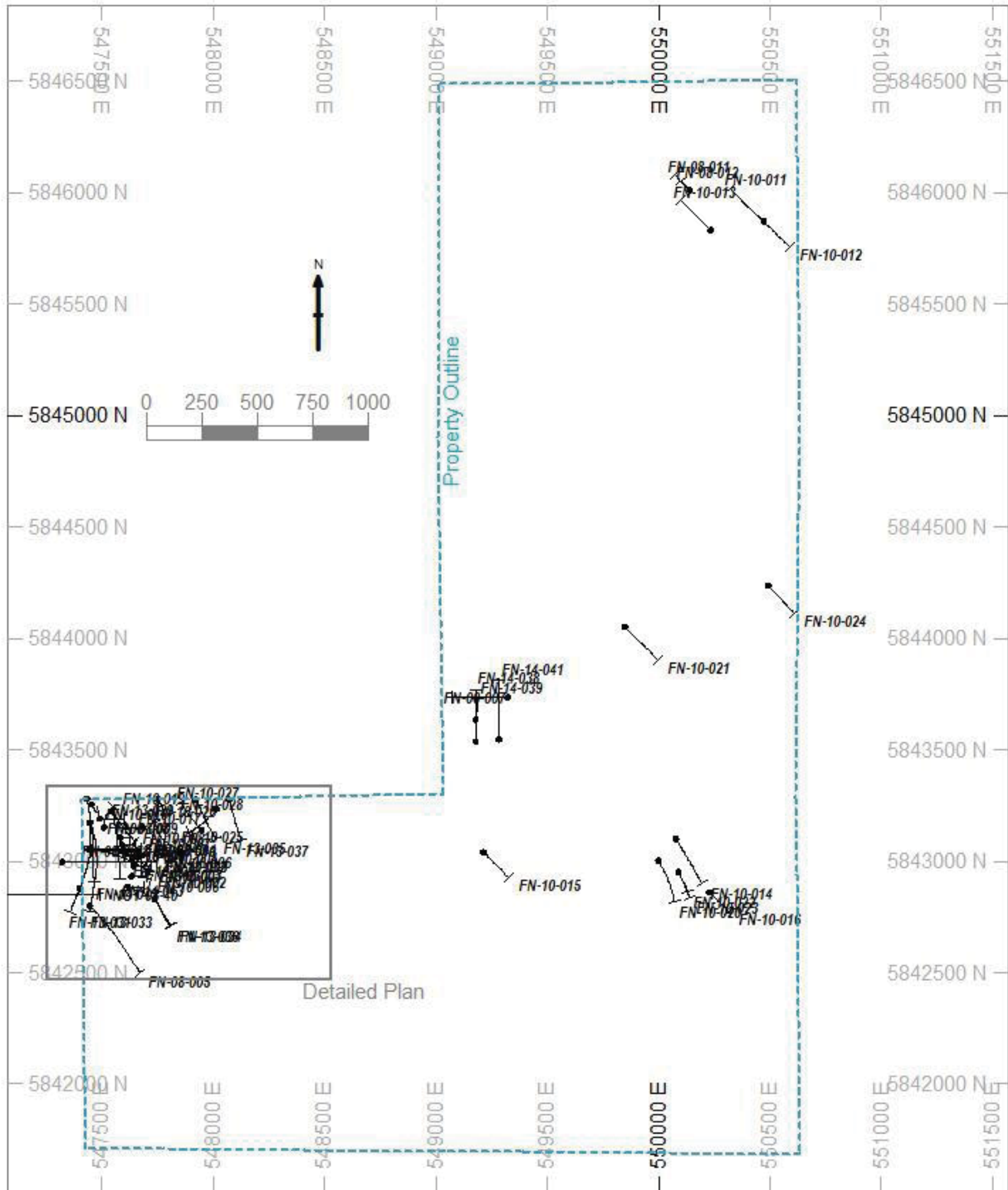


Figure 9 Plan of Koper Lake Project Diamond Drilling.

### 11.1. QA/QC Procedure

As standard procedure each batch of samples typically included certified reference materials, a blank sample, a pulp duplicate, one coarse reject duplicate and one field (1/4 core) duplicate.

The assay reports were then reviewed by Tracy Armstrong, an independent consultant and Qualified Person under NI43-101, who specialises in completing data quality control checks.

Three certified reference materials provided by CDN Resource Laboratories of Langley B.C. have been used for this program: BD1 which is certified for Pd, Pt and Cr<sub>2</sub>O<sub>3</sub>; BD2, certified for V and Cr<sub>2</sub>O<sub>3</sub>; and BD3, certified for Pd, Pt and Cr<sub>2</sub>O<sub>3</sub>. In all cases there were no failures in that the assay labs always reported results compatible with the known standard analyses (Armstrong, 2013, 2014).

The sample blanks used are a locally sourced granodiorite with no mineralisation. These are used to monitor contamination. All blank results higher than the above indicated tolerance limits were considered to have no impact due to the blank result being too low to impact the deposit value (Armstrong, 2013, 2014).

There were too few duplicates submitted to get a good handle on precision for the data although there does appear to be an increase in precision with a decrease in grain size for Cr<sub>2</sub>O<sub>3</sub> (Armstrong, 2013, 2014).

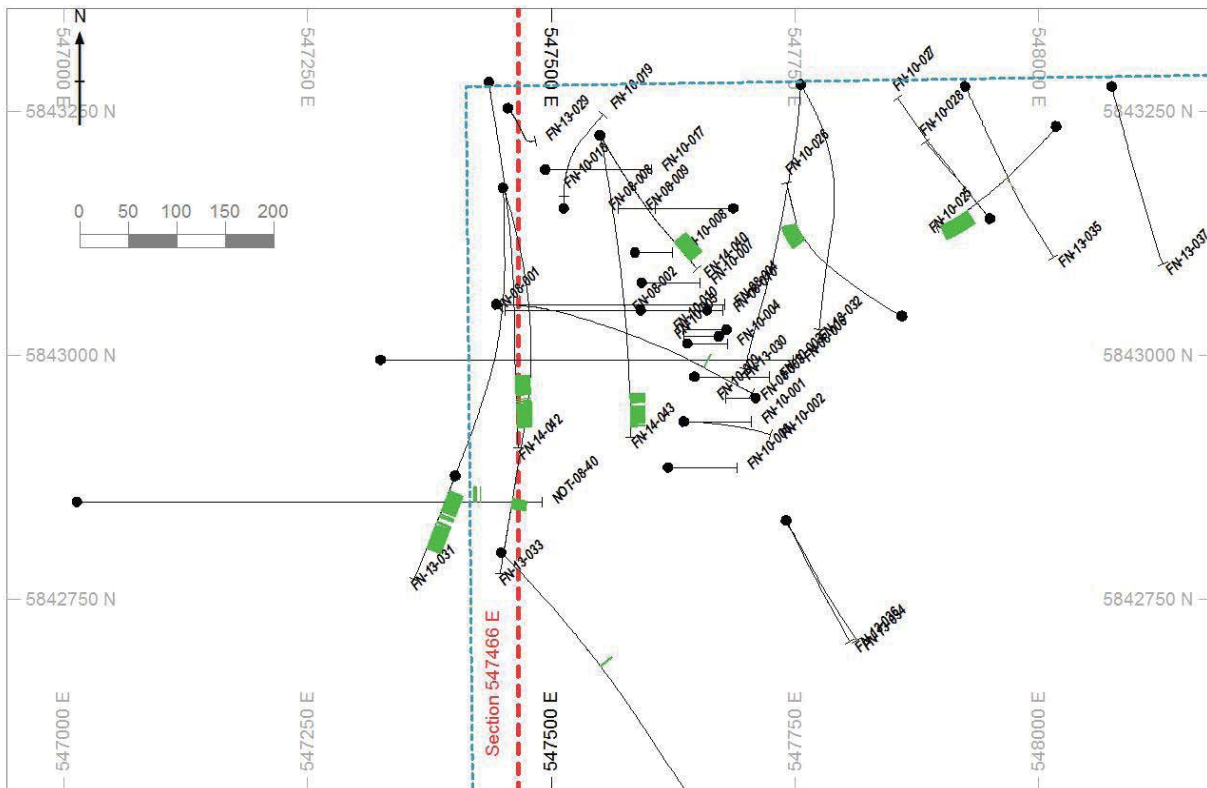


Figure 10 Detailed Plan of Koper Lake Project Diamond Drilling showing location of example section 547466 E. Green bars are chromite intersections.

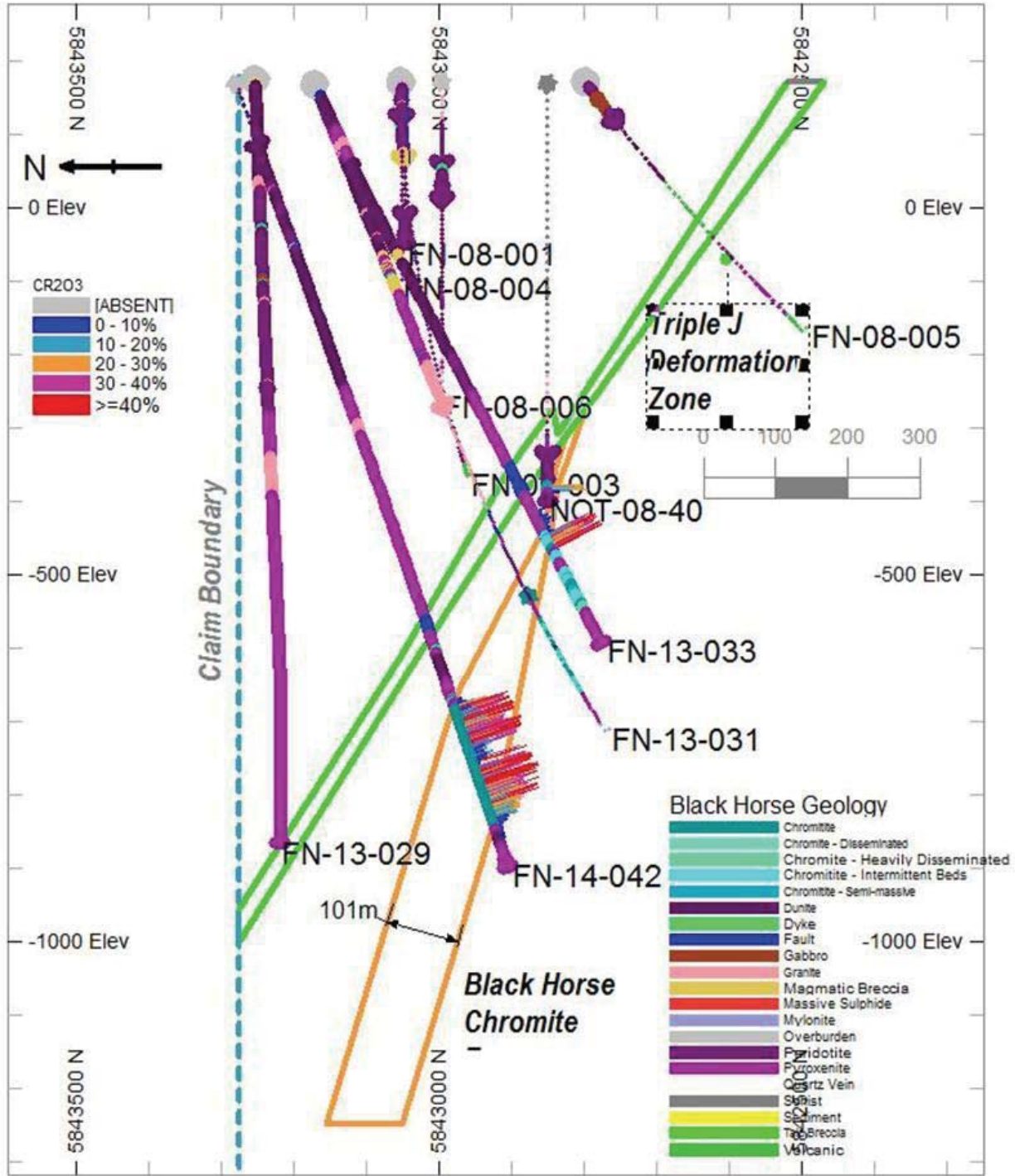


Figure 11 Sample cross section (547466E) for the Koper Lake Project. The orange line is a slice through the mineral envelope used to select samples. The green line is the Triple J Deformation Zone.

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<b>BHID</b>	<b>UTM-X</b>	<b>UTM-Y</b>	<b>Elevation</b>	<b>Length</b>	<b>Azimuth</b>	<b>Dip</b>
FN-08-001	547660	5843046	172	303.35	270	-50
FN-08-002	547660	5843046	172	181.2	270	-70
FN-08-003	547444	5843052	171	486.2	90	-70
FN-08-004	547444	5843052	172	356.6	90	-50
FN-08-005	547449	5842798	172	506.1	135	-45
FN-08-006	547325	5842995	172	603.5	90	-45
FN-08-007	549325	5843733	172	381	270	-50
FN-08-008	547687	5843150	172	165	270	-45
FN-08-009	547687	5843150	172	134	270	-50
FN-08-010	547592	5843046	170	122	90	-45
FN-08-011	550140	5846010	172	150	315	-50
FN-08-012	550140	5846010	172	165.85	315	-70
FN-10-001	547636	5842932	172	108	90	-50
FN-10-002	547636	5842932	171	213	90	-70
FN-10-003	547647	5842978	171	120	90	-50
FN-10-004	547640	5843012	171	63	90	-50
FN-10-005	547672	5843019	171	105	270	-70
FN-10-006	547620	5842885	171	100	90	-45
FN-10-007	547593	5843074	171	93.1	90	-50
FN-10-008	547586	5843105	171	60	90	-50
FN-10-009	547710	5842956	171	90	270	-70
FN-10-010	547680	5843026	171	90	270	-60
FN-10-011	550473	5845870	170	300	315	-45
FN-10-012	550473	5845870	170	255	135	-50
FN-10-013	550235	5845830	176	303	315	-50
FN-10-014	550080	5843100	177	360.2	150	-50
FN-10-015	549215	5843040	177	249	135	-50
FN-10-016	550230	5842860	177	183	135	-50
FN-10-017	547494	5843190	172	170	90	-50
FN-10-018	547513	5843150	172	147	360	-85
FN-10-019	547513	5843150	172	1009	360	-85
FN-10-020	550000	5843000	174	303	150	-50
FN-10-021	549850	5844050	174	324	135	-50
FN-10-022	550090	5842950	170	264	150	-70
FN-10-023	550090	5842950	170	192	150	-50
FN-10-024	550493	5844236	270	264	140	-50
FN-10-025	548018	5843234	172	1082.3	220	-80
FN-10-026	547860	5843040	174	1086	297	-80
FN-10-027	547950	5843140	173	237	320	-48.5
FN-10-028	547950	5843140	173	396	320	-75
FN-13-029	547456	5843253	175	1041.8	135	-87.63
FN-13-030	547756	5843277	173	774	180	-70
FN-13-031	547451	5843171	169	978	180	-70
FN-13-032	547756	5843277	173	861	152	-73
FN-13-033	547451	5843171	169	861	160	-64
FN-13-034	547741	5842831	175	363	151.31	-70
FN-13-035	547925	5843275	175	738	154.2	-77
FN-13-036	547741	5842831	175	201	151.31	-45
FN-13-037	548075	5843275	175	525	165	-70
FN-14-038	549180	5843635	169	223	0	-55
FN-14-039	549179.8	5843534.4	169	312	0	-55
FN-14-040	547550	5843225	169	1233	148	-82
FN-14-041	549285	5843545	169	363	0	-45
FN-14-042	547436.3	5843279.2	169	1131	172	-71
FN-14-043	547550	5843225	169	828	170	-67.5
NOT-08-40	547660	5843046	172	742	90	-55

Table 2 Drill Hole Collar Locations.



<b>BHID</b>	<b>UTM-X</b>	<b>UTM-Y</b>	<b>Elevation</b>	<b>Length</b>	<b>Azimuth</b>	<b>Dip</b>
FN-10-025	548018	5843234	172	1082.3	220	-80
FN-10-026	547860	5843040	174	1086	297	-80
FN-13-031	547451	5843171	169	978	180	-70
FN-13-033	547451	5843171	169	861	160	-64
FN-14-040	547550	5843225	169	1233	148	-82
FN-14-042	547436.3	5843279.2	169	1131	172	-71
FN-14-043	547550	5843225	169	828	170	-67.5
NOT-08-40	547660	5843046	172	742	90	-55

Table 3 Drill Holes used for resource estimation.

## 11.2. Security

All core was measured, marked and tagged in duplicate for sampling by the project geologist in the core logging tent. The core boxes were then transferred to the core cutting tent where the samples were cut in half longitudinally along a prescribed line with a circular diamond saw by a technician who then bagged each sample with one tag, sealed the marked bag shut, with the other tag stapled to the core box at the beginning of the sample interval with the remaining half of the core. The bagged samples were then transferred to a tent where the project geologist assembled the samples into batches according to a prescribed QA/QC protocol. This protocol requires the insertion of blank samples, duplicates and standards within each batch. Each batch was then placed into rice bags along with inscriptions, including a list of the samples and lab instructions, and then sealed with nylon ties. The sample batches were then transferred to Koper Lake where they were then transferred by plane to the Nakina airport. The samples remained in storage in a secure hanger at the Nakina airport until the project geologist loaded them onto a trailer and delivered the samples directly to Actlabs in Thunder Bay.

## 12. Data Verification

Cr2O3 does not have any spurious values with a maximum value of 48.9%. The histogram for Cr2O3 (Figure 15) is a negatively skewed distribution with relatively equal representation of all fractions from approximately 12% Cr2O3 to about 34% Cr2O3 and with a peak at around 45%. A review of the data by the author showed no issues. The data is considered valid, representative and suitable to be used for resource estimation.

## 13. Mineral Processing and Metallurgical Testing

A DC pilot smelting test has been completed on core from holes FN-10-25 and FN-10-26 by Xtrata Process Support (Barnes, 2013). The purpose of this test work was to gauge its response to smelting.

A total of 11 sub-samples were created with each being a composite of whole and half core from continuous sections of two holes. These were then combined to create 4 batch blends. To each batch was added anthracite to act as a reductant as well as limestone and silica flux. The

proportions used were 100 units of chromitite, 24 units of anthracite, 20 units of limestone and 9 units of silica. The material was introduced into an already heated and stabilised DC arc furnace to ensure maximum efficiencies. A total of 1184 kg of chromite core was used to produce 1500 kg of blended feed.

The report by Barnes (2013) has no other details on either the equipment used or the methodology applied.

The results (Barnes, 2013) showed that the high grade of the ore results in a very high alloy grade. The Cr recovery, at 95.5%, is excellent by chromite smelting standards.

Based on the results Barnes (2013) concluded:

- The Koper Lake Project chromite ore smelts easily and produces both high grade alloy and low Cr values in the discard slag.
- A chrome recovery of 95.5% was achieved for the test period.
- An alloy grade of > 60% Cr can be obtained even with the high C contents associated with operating the furnace at elevated temperatures.
- In spite of the relatively small amount of material available, this brief campaign successfully provided a glimpse of the likely response of the Koper Lake Project chromite to typical high carbon ferrochrome smelting in a DC arc furnace.
- It can be inferred from the results that the Koper Lake Project chromite material demonstrates high reducibility making it amenable to possible alternative extraction processes involving solid state pre-reduction.

## **14. Mineral Resource and Mineral Reserve Estimates**

### **14.1. Mineral Resource Estimation**

#### **14.1.1. Resource Estimation Methodology**

##### ***14.1.1.1. Software Used and Data Validation***

The software used in the modelling process, including data preparation is CAE Studio, Release 3.22.173.0.

Core-drilling data was imported from a Microsoft Access database that includes collar information, assays, lithology information and down hole survey information. The data has been validated by the author. Once validated this information was imported into CAE Studio as four tables: a collar file, an assay file, a lithology file, and a survey file. Using the CAE Studio HOLES3D a desurveyed drill hole file, *bhru\_holes.dm*, in UTM coordinate space, was created. The drill hole file was last updated on May 11, 2014.

The CAE Studio desurveying routine, HOLES3D, does a rigorous set of validation checks including checking for duplicate borehole numbers, missing survey data and overlapping sample intervals. If present, it generates a summary report with a list of all errors encountered. These files were checked to determine if any errors occurred. Once it had been confirmed that no errors were present the drill hole file was then used for subsequent steps.

As there are no density data available, and due to the similarity of the mineralization with the nearby Big Daddy chromite deposit a polynomial regression for that data set was used to populate a Specific Gravity (SG) field, based on Cr<sub>2</sub>O<sub>3</sub> values (Aubut, 2012). The formula used is:

$$SG = 0.0003x^2 + 0.0192x + 2.6629 \quad \text{Eq. 14.1}$$

If no Cr<sub>2</sub>O<sub>3</sub> assay was available SG was set to a default value of 2.6629. Specific Gravity is dependent on temperature and pressure but is a close analogue to Density, or mass per unit volume.

The Big Daddy data set consists of 2216 specific gravity measurements taken using the water immersion method (the weight of a sample when suspended in air is divided by the weight of the same sample when fully immersed in water).

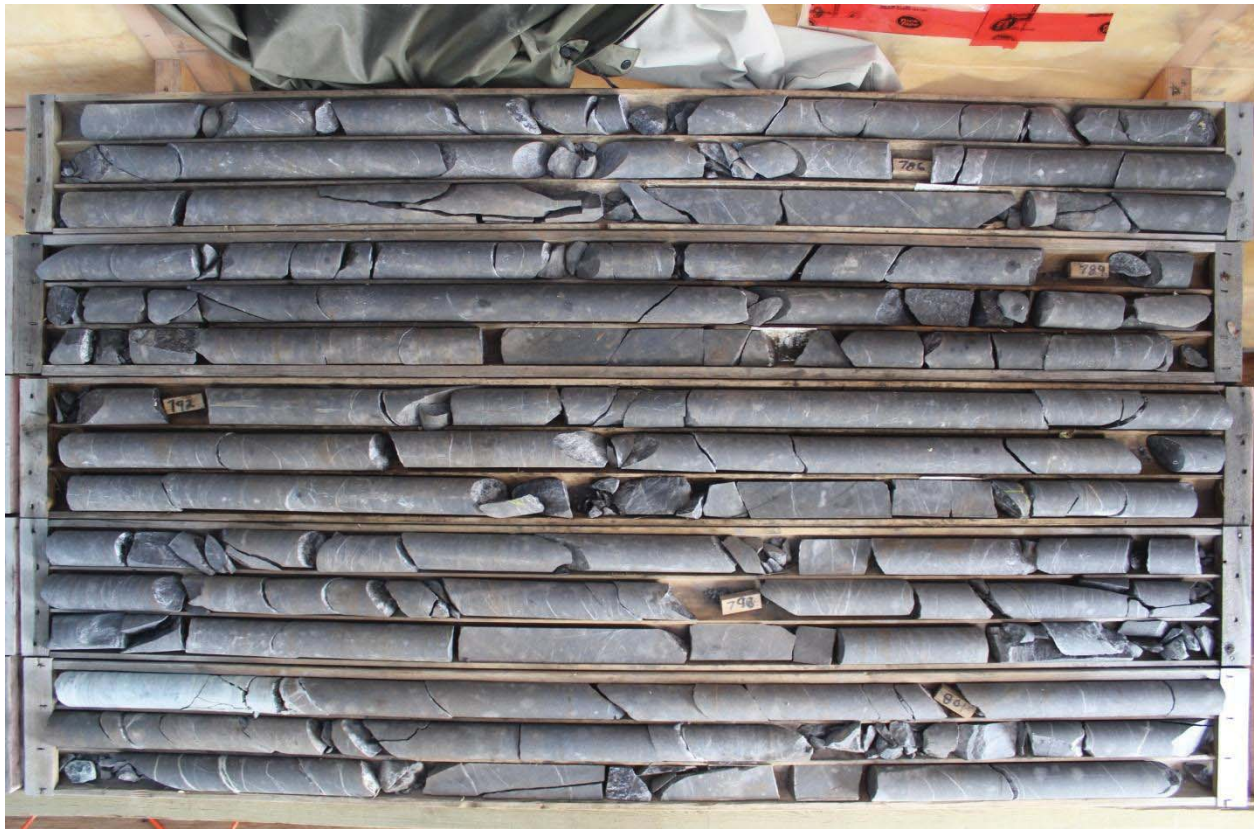


Figure 12 A photograph of a portion of hole FN-10-26 showing the interval from 783m to 804m.

#### ***14.1.1.2. Geological Domains***

Experienced geologists had coded each rock unit based on core logging description. All of the holes are inclined and six intersected at least some portion of the mineral zone of interest. Construction of the resource block model was controlled by building a wire frame that was then used to isolate related samples. No cut-off was used to limit the extent of the mineral envelope. The envelope for the mineral domain (see Figure 15) extends from an elevation of approximately 175 metres below sea level down to a maximum depth of 1250 metres below sea level, just below the deepest drilling to date. The mineralisation is open to depth along the entire strike length and is open along strike to the east. While it is not a geological envelope the mineral envelope does honour the local geology as much as possible.

A total of 8 holes (see Table 3) have been used for this resource estimate out of a total of 55 holes drilled on the property. Holes were excluded primarily because they did not intersect the mineral zone. Several excluded holes did intersect chromite mineralization; however these intercepts are interpreted as chromite entrained into the triple J Deformation Zone and as such are not considered to be part of the Black Horse chromite deposit. All 8 of the holes intersected significant chromite mineralisation.

#### ***14.1.1.3. Drill Hole Database***

The data set used for the resource estimate includes two holes drilled in 2011, FN-10-25 and FN-10-26, but which were only partially sampled. In both cases the operator at that time (Fancamp) decided that as the holes had intersected long homogenous massive intersections of chromitite that only representative samples would be collected and submitted for analysis. This decision was based on the relative uniformity of the chromite mineralization as illustrated in Figure 12.

Resource estimation best practice is to use actual data and if, as in this case, there are intervals that are not sampled then additional sampling and analysis of those samples should be done and then merged with the pre-existing data set. As KWG wished to use as much material as possible for metallurgical testing they wanted to retain the unsampled intervals as it greatly increased the amount of available metallurgical sample material.

When faced with having to handle missing samples there are two methods typically available: replace all missing values with 0 (zero) values; or use a code indicating “absent value”. The former introduces a bias as often the missing interval likely has a grade higher than zero and that definitely is the case here in that the missing samples are massive chromitite and so by using this method the grade would be seriously under estimated. The other option, using an “absent data” code, results in estimation taking place as if there is nothing present for these

intervals. Again this can result in a bias as while not sampled the fact there is core proves that there is something present. But, as it would introduce the least amount of bias for holes FN-10-25 and FN-10-26, the missing intervals were replaced with “absent values”.

Using the polynomial regression previously described, the assay table was processed to calculate SG values. Where no Cr<sub>2</sub>O<sub>3</sub> values are present SG was set to a default value of 2.663 and Cr<sub>2</sub>O<sub>3</sub> was set to 0. Using the appropriate collar, survey, assay and lithology files the CAE Studio process HOLES3D was used to create a de-surveyed 3D drill holes file: “BHRU\_holes.dm”.

A visual review was made of the drill hole file. A summary of all of the all the holes drilled on the property including those used for this resource estimate are presented in Figures 9 and 10 as a surface plans showing hole locations and in Figure 11, a sample section (547466E East).

The drill hole file, “BHRU\_holes.dm” contains information for 56 drill holes totalling 23,099.45 metres and with 1264 samples with Cr<sub>2</sub>O<sub>3</sub> assays. This file was used for collecting samples for estimation of the Koper Lake Project chromite zone.

#### ***14.1.1.4. Sample Selection***

Working in cross section a set of mineral zone lines, or strings, was defined for the domain. These strings were drawn to enclose the Koper Lake Project chromite zone by snapping to the drill holes. Some of the chromite intersections are remobilised xenoliths caught up in the Triple J Deformation Zone and were excluded from the mineral domain. The strings from each set were then used to construct a mineral envelope wire frame for the domain (see Figure 17). The envelope extends from 175 metres below mean sea level down to 1250 metres below mean sea level, just above the deepest drilling to date. The borehole samples located within the mineral envelopes were captured using a custom script.

#### ***14.1.1.5. Compositing***

The captured samples have an average sample length of 1.17 metres (see Figure 13). It is expected that mining at Koper Lake Project likely will be by underground mining methods. The block size used for resource estimation is usually a function of SMU, or Smallest Mining Unit as there is no point using a block size smaller than the smallest unit that can be physically mined selectively (usually a blast round). But if samples are large and/or spaced far apart a small block size would be inappropriate.

For this deposit, due to the geometry and relatively low sample density a block size of 25 metres by 5 metres by 25 metres was chosen as an acceptable compromise.

Composited samples are weighted by Specific Gravity as it is a close approximation of density (mass per unit volume). The samples were composited to standard 1 metre intervals using the CAE Studio process COMPDH. The COMPDH process starts the composites at the beginning of



the selected data interval and leaves any remainder at the end of the interval. This results in most holes having one sample with a length less than the established composite length, within the domain. For grade estimation purposes, drill composites are treated like point data (i.e. their length is not used), thus the need to composite to a standard sample length to eliminate any sample bias. And to avoid bias from a very short sample being treated the same as a standard sample any that were less than 40% of the composite length were rejected.

**14.1.1.6. Exploratory Data Analysis**

A review of the composited drill hole samples within the mineral envelopes was done, primarily using GSLib routines (Deutsch and Journel, 1998) to create histograms for all primary elements and X/Y scatter plots of element pairs (see Appendix 1). Features watched for are outliers and irregularities in the element statistics. Univariate summary statistics for Cr<sub>2</sub>O<sub>3</sub> are presented in Table 4.

Cr<sub>2</sub>O<sub>3</sub> does not have any spurious values with a maximum value of 48.96%. The histogram for Cr<sub>2</sub>O<sub>3</sub> (Figure 14) is a negatively skewed distribution with relatively equal representation of all fractions from approximately 12% Cr<sub>2</sub>O<sub>3</sub> to about 34% Cr<sub>2</sub>O<sub>3</sub> and with a peak at around 43%.

Exploratory Data Analysis found no issues with the drill hole database that would invalidate their use for resource estimation purposes.

<b>FIELD</b>	<b>NSAMPLES</b>	<b>MINIMUM</b>	<b>MAXIMUM</b>	<b>MEAN</b>	<b>VARIANCE</b>	<b>STANDDEV</b>	<b>SKEWNESS</b>	<b>KURTOSIS</b>
<b>CR2O3 (%)</b>	671	0.01	48.96	28.80	203.71	14.27	-0.49	-1.10

Table 4 Summary Univariate Statistics

**14.1.1.7 Unfolding**

Mineral deposits typically vary in thickness along strike due to the non-uniform nature of the original deposition environment. Primary and secondary structural modifications also produce variations in strike and dip as well as thickness. The Cartesian coordinate system makes modelling of the natural geological chemical distribution within a mineral deposit difficult. To ensure that all interpolation takes place within a given geological domain, the domain is unfolded to a planar slab to make variogram calculation and grade interpolation easier. After interpolation has been carried out, the samples are re-arranged to their original positions. This unfolding process first requires the generation of unfold strings that are used by CAE Studio as a guide. These strings also include between section and within section tag strings to further constrain the unfolding process.

Histogram for LENGTH

Total Samples : 830  
 Minimum : 0.010  
 Maximum : 8.520  
 Variance : 0.473  
 StdDeviation : 0.688  
 Coeff.Variation : 0.596

Mean : 1.155

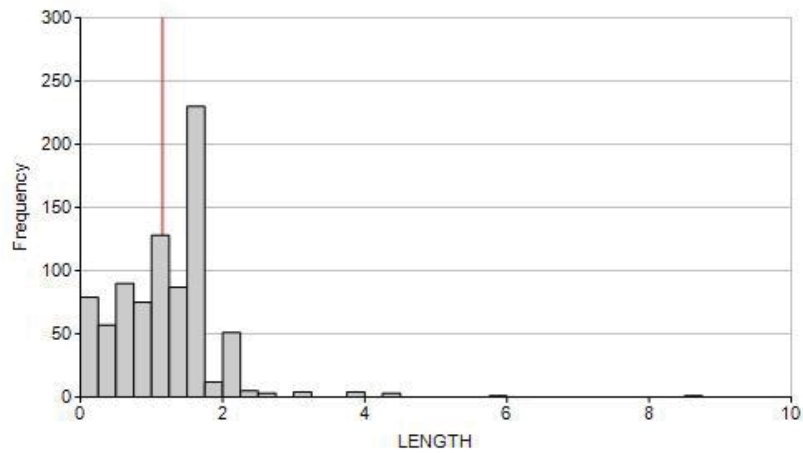


Figure 13 Histogram of sample length

Histogram for Cr2O3

Total Samples : 711  
 Minimum : 0.010  
 Maximum : 48.960  
 Variance : 190.198  
 StdDeviation : 13.791  
 Coeff.Variation : 0.471

Mean : 29.254

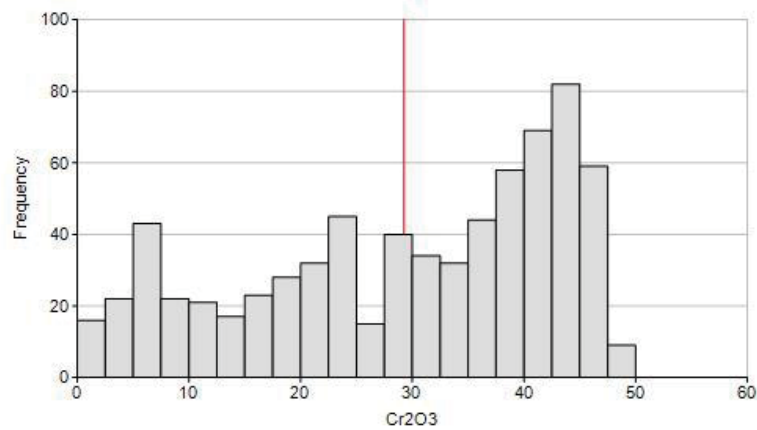


Figure 14 Histogram of Cr<sub>2</sub>O<sub>3</sub> for Koper Lake Project.

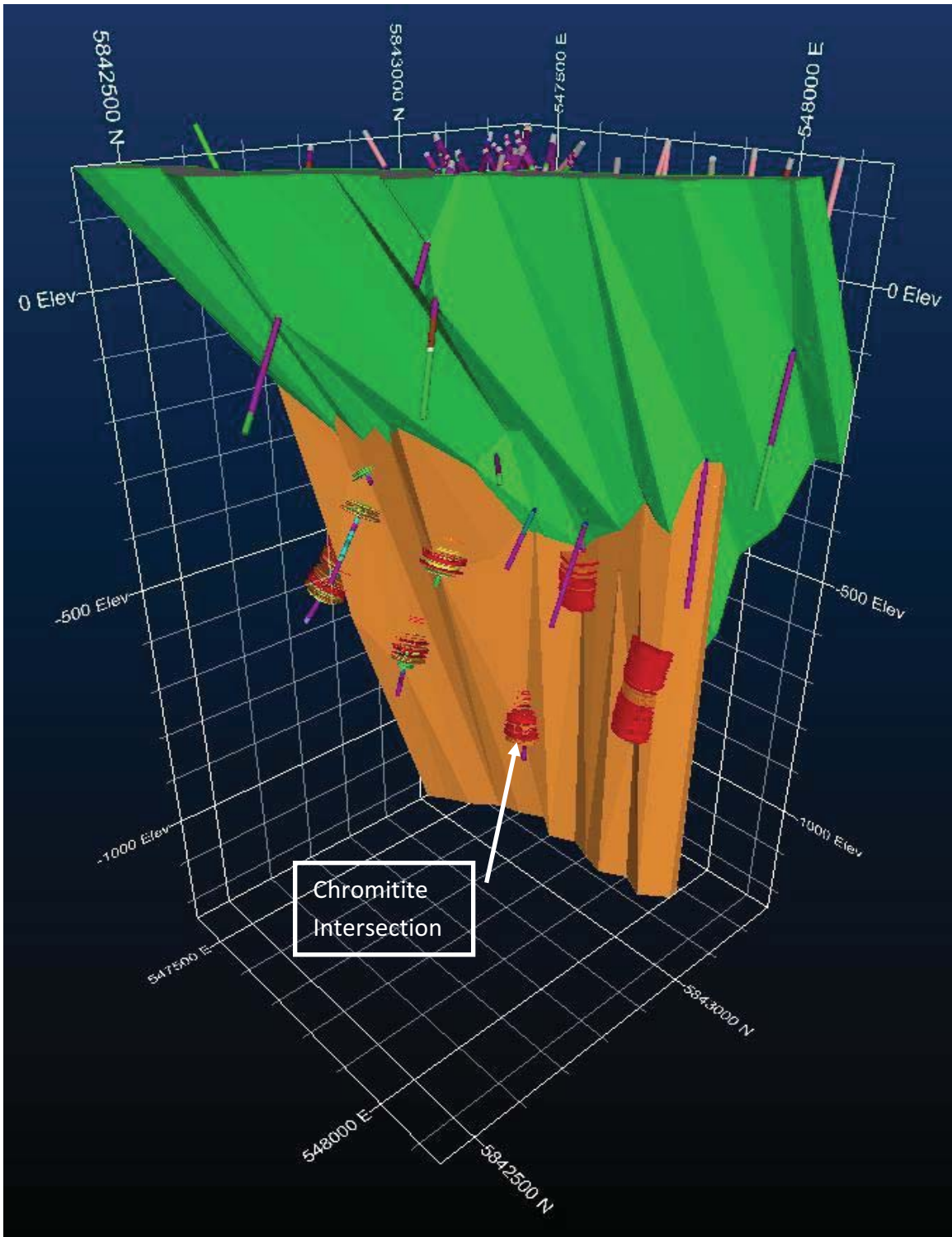


Figure 15 Isometric view of the Koper Lake Project geological domain used, in orange which is cut off up dip by the Triple J Deformation Zone (Green).



The unfolding routine used is based on a “proportional” concept under which hanging wall and footwall surfaces of the domain are made flat and parallel to one another. The true along strike and down dip distances are retained but the across dip distances are first normalised to the distance across as a proportion of the total distance. Then this normalised value is multiplied by the average thickness of the mineral domain.

After being composited to uniform sample lengths, the samples were unfolded using a custom script. Using another custom script the unfold string file was processed further. This routine checks and validates the strings. The composited sample files and the validated unfold string file are then used as input to the CAE Studio UNFOLD routine. The output files contain the samples in unfolded co-ordinate space. All subsequent processing was done on these files and utilized the new coordinate system consisting of UCSA, UCSB and UCSC (Across the Dip, Down the Dip and Along the Strike).

#### ***14.1.1.8 Grade Variography***

The data set consists of sparsely distributed drill holes that are very oblique to the mineral zone (they cut the zone at very steep angles). As a result, other than for the shorter ranges for the down the dip direction, the samples are too widely distributed or poorly sampled a particular direction (across the dip and along the strike in particular) that it was impossible to generate any kind of useful variograms.

As the style of mineralisation is very similar to that at the nearby Big Daddy chromite deposit it was decided to utilise the variograms from there. The variograms were then rescaled to reflect the local sample variance. As there is not enough data to confirm that the same anisotropy exists the down dip direction was set to be equal to the along strike thus assuming that the variograms are isotropic within the plane of the mineralisation.

The ranges used for the Koper Lake Project are shown in Table 5. Due to the lack of any certainty with the values used all resources defined must be classified as Inferred.

#### ***14.1.1.9 Block Size Determination***

The block size used for resource estimation is usually a function of SMU, or Smallest Mining Unit and is determined by taking into consideration the type of equipment that may be used during mining as it has a direct impact on the degree of selectivity that can take place. There is no point using a block size smaller than the smallest unit that can be physically mined selectively (usually a blast round). Another factor that needs to be considered is the degree of sampling detail. If samples are large and/or spaced far apart a small block size would be inappropriate.

For this deposit, due to the geometry and relatively low sample density it is pointless using too small of a block size, especially since, due to the great deal of uncertainty, no mining evaluation can be done.

As a result a block size of 25 metres by 5 metres by 25 metres was chosen as an acceptable compromise.

A custom script was used to create the empty prototype model and then fill it with blocks using the mineral envelope wire frame. And then this empty model was regularised creating FILLVOL and VOIDVOL fields containing the volume for each block inside or outside the mineral domain wire frame.

Variogram Models – McFauld's Lake	Cr2O3
Nugget	22.09
1st spherical structure range A	8
1st spherical structure range B	22
1st spherical structure range C	22
1st spherical structure sill	46.24
2nd spherical structure range A	14
2nd spherical structure range B	40
2nd spherical structure range C	40
2nd spherical structure sill	44.05
3rd spherical structure range A	28
3rd spherical structure range B	120
3rd spherical structure range C	120
3rd spherical structure sill	77.80
Total sill	190.20

Table 5 Variogram Model Parameters.

**14.1.1.10 Nearest Neighbour Block Model**

A Nearest Neighbour (NN) estimated model was created for the domain in order to determine the declustered mean for our data. This mean can then be used to validate the kriged global estimates as all methods of estimation should produce essentially the same global mean if done correctly.

Summary statistics comparing the nearest neighbour model to the sample file are presented in Table 6.

A visual inspection on a section-by-section and plan-by-plan basis comparing the input sample file with the resultant nearest neighbour file showed good correlation with the drill holes and proper spreading of the grade.

The output Nearest Neighbour file name is *nn\_bhru.dm*.

**14.1.1.11 Ordinary Kriging Block Model**

The purpose of block modelling is to provide a globally unbiased estimate based on discrete sample data. Geostatistical methods rely on mathematically modelling the autocorrelation of a regionalized variable, using variography. Then using these mathematical models weights are derived. These weights are applied to the samples used to derive the estimates while at the same time minimizing the estimation variance. A common method of estimation is Ordinary Kriging. It uses the variogram models to initially derive the weights to be used for each estimate but then, to reduce bias, has all weights sum to 1. In addition, Ordinary Kriging does not require that the mean of the data be known.

The parameter files needed for Ordinary Kriging were constructed. A nested search strategy was used (see Appendix 2). This was then followed by the using of a custom script to actually carry out the Ordinary Kriging process. Each cell in the block model was discretised using a matrix of 3 x 3 x 3 points in the ABC (unfolded) coordinate system. The Kriging functions were interpolated at each discretisation point using the same search volume as the nearest neighbour interpolation, based on the grade variogram results. In case of local low sample density, a nested search was implemented. Virtually all of the blocks were estimated in the third search, correlative with Inferred Resources. These likely suffer from poor local estimation and potentially large conditional bias.

FILENAME	FIELD	NRECORDS	NSAMPLES	MINIMUM	MAXIMUM	MEAN	%Diff	VARIANCE	SKEWNESS	WGTFIELD
DDH Data	Cr2O3	762	580	0.01	48.96	30.07		189.6600	-0.57	LENGTH
NN Model	Cr2O3	7794	7794	0.01	48.96	35.27		152.7680	-1.21	TONNES
OK Model	Cr2O3	7794	7794	6.80	47.34	33.03	-6.35	74.7750	-0.21	TONNES

Table 6 Sample file, Nearest Neighbour and OK model summary statistics.

**14.1.1.12 Block Model Validation**

Verification of grade estimation is carried out in two ways: visually, and statistically.

In the case of a visual check, interpolated estimates are loaded into sections and plans along with the original borehole data. Using contrasting colour schemes grades were tested. Any major discrepancy between the original information and the estimated block was analyzed for possible processing error. Sample plans and sections illustrating this visual check are provided in Appendix 3.

Major discrepancies were also looked for between the statistics of the sample composites, nearest neighbour model (declusterised statistics) and the ordinary kriged model. Specific statistics checked include reproduction of the global mean, as established by nearest neighbour modeling, and ensuring that all blocks were estimated (see Table 6). No significant global or local bias was identified.

**14.1.1.13 Model Verification**

Validation procedures were carried out on the estimated block models including visually checking the sample file against estimated blocks. The sample grades were found to reasonably match the estimated block grades in the model.

A global statistical comparison of the global means of all estimations method was done. The difference between all the global means was found not to exceed approximately 5%, to be expected if the process was done correctly.

Other statistical checks that were done include the use of Swath plots (see Appendix 4). Swath plots compare the moving average of the mean for both models and the sample file using panels, or “swaths” through the mineral envelope. As this is best done if the data are within a rectilinear volume the unfolded coordinates were used to define the swaths. The result is a curve for each data set. The curves for the models should inter-weave with the sample curve and the two model curves should be sympathetic with one another with no major deviations from one another. No issues were noted.

<u>Classification</u>	<u>Tonnes (millions)</u>	<u>%Cr2O3</u>	<u>Cut-off</u>
<b>Inferred Resources</b>	81.4	34.1	15% Cr2O3
<b>Inferred Resources</b>	77.2	35.1	20% Cr2O3
<b>Inferred Resources</b>	69.8	36.5	25% Cr2O3
<b>Inferred Resources</b>	51.6	39.6	30% Cr2O3

**Table 7 Summary of Classification of In-Situ Resources, at different cut-offs, for the Koper Lake Project chromite deposit**

Notes:

1. CIM Definition Standards were followed for classification of Mineral Resources.
2. The Mineral Resource estimate uses drill hole data available as of May 11, 2014.
3. The cut-off of 20% Cr<sub>2</sub>O<sub>3</sub> is the same cut-off used for the Kemi deposit as reported by Alapieti et al. (1989) and for the nearby Big Daddy chromite deposit (Aubut, 2012).
4. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

## 14.2. Mineral Resource Reporting

### 14.2.1. Resource Classification – Koper Lake Project chromite deposit

Due to the scarcity of drill hole data the variograms are poorly defined in all directions. As a result there is a low confidence in the estimates generated and so all blocks are classified as Inferred Resources. See Appendix 5 for resource classification definitions.

Using a 20% cut-off, the same cut-off used for the Kemi deposit as reported by Alapieti et al. (1989) and for the nearby Big Daddy chromite deposit (Aubut, 2012), there are a total of 77.2 million tonnes at a grade of 35.1% Cr<sub>2</sub>O<sub>3</sub> of Inferred Resources which should be upgradable through gravity and/or heavy media concentration. Prices received for similar types of chromite concentrate currently sell for at least US\$150 per tonne; depending on quality (see Figure 16). These resources are blocks above cut-off and have had no mineability criteria applied to them. This resource estimate is effective May 17, 2014.

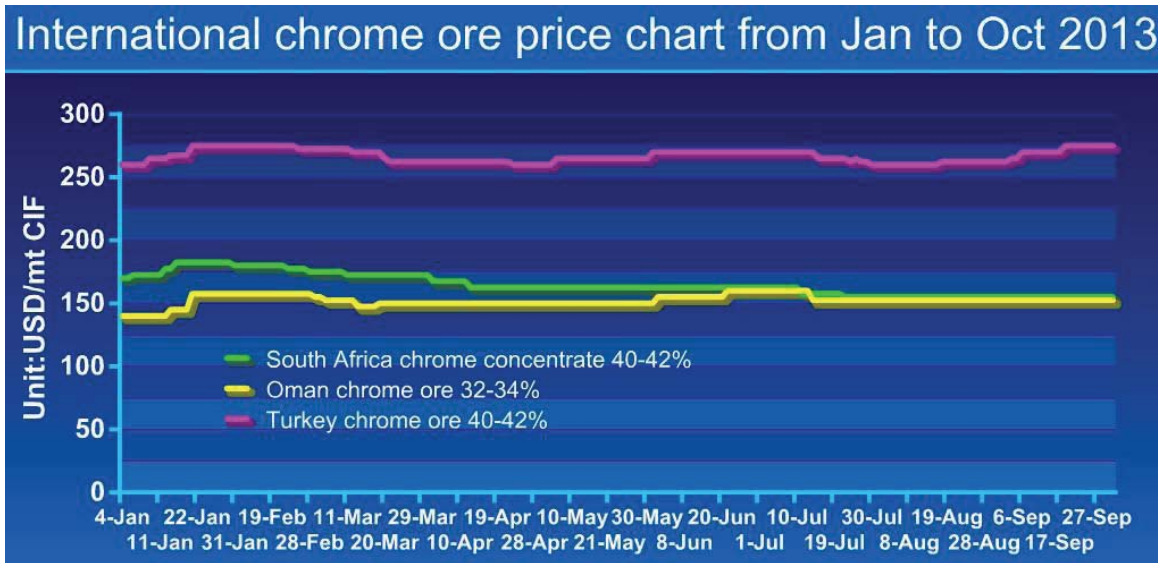


Figure 16 Chart showing price of common types of Chromite ore (www.mining-bulletin.com).

There is poor confidence in the lateral continuity of the mineralization and so these resources cannot be used for a pre-feasibility or feasibility mining study. Table 7 presents tonnes and grade for each Resource Classification using various cut-offs for the Koper Lake Project chromite deposit.

Figure 17 presents the Cr<sub>2</sub>O<sub>3</sub> tonnes-grade curves for the Koper Lake Project chromite deposit and helps illustrate the effect of different cut-offs on available resources. None of the resources identified, due to the very sparse drilling has enough confidence to be classified as anything other than inferred. As such none can be converted to reserves.

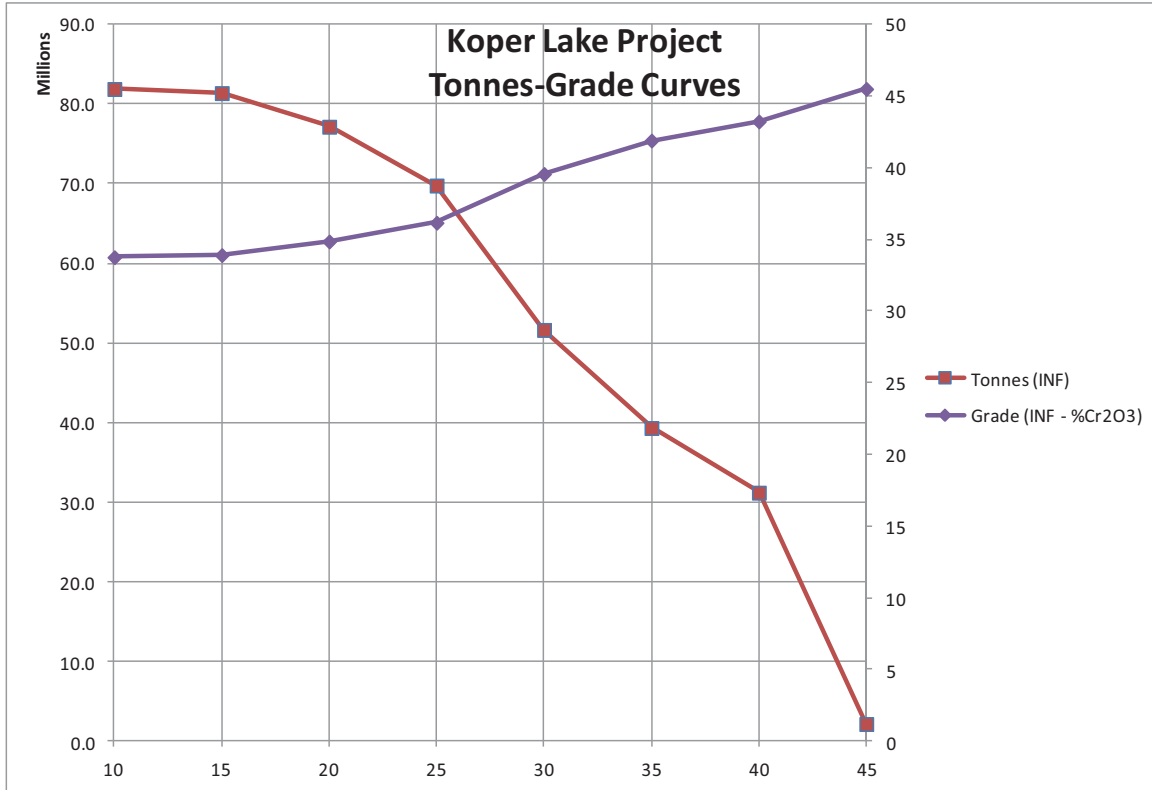


Figure 17 Cr<sub>2</sub>O<sub>3</sub> Tonnage-Grade curves for the Koper Lake Project chromite deposit.

**14.2.2. Risks and Opportunities**

**14.2.2.1. Risks**

All of the drilling done to date that has tested the chromite mineralisation is rather sparse and is inadequate to properly characterize the mineral continuity within the plane of the mineralization.

While higher-grade areas exist at depth and along strike they are poorly defined as a result of the sparse drilling.

Any mineral deposit located in a remote area, such as the Koper Lake project, absent of any infrastructure is exposed to above average risk of never getting to production if the project is unable to finance, or alternatively government is unwilling to construct, the required infrastructure. Similarly many other issues need to be addressed including native land claims, social-economic demands and environmental requirements. Due to these and many other uncertainties Mineral Resources are not Mineral Reserves as they do not have demonstrated economic viability.

#### ***14.2.2.2. Opportunities***

It must be noted that while only 8 holes were used for this resource update all of them intersected the mineral zone and massive chromitite. As a result infill drilling plus drilling to follow the mineral zone along strike to the east and down dip could identify and expand the presence of the chromite-bearing horizon, in particular higher-grade material.

The mineral zone is open to depth and along strike to the east. Thus there is excellent opportunity to expand resources significantly with additional drilling.

### **15. Mineral Reserve Estimates**

There has not yet been any mineral reserve estimation done.

### **16. Mining Methods**

As no mining study has yet to be done on the property no mining method has been selected.

### **17. Recovery Methods**

As there have yet to be any bench testing done recovery methods have yet to be established at this time but should be very similar to those reported for other chromite deposits in the area.

### **18. Project Infrastructure**

Other than the existence of an exploration camp on the nearby Noront property servicing the exploration programs being conducted by Bold and KWG there is no project infrastructure in place as yet.

### **19. Market Studies and Contracts**

To date no pre-feasibility or feasibility study has been completed, thus there is no current market study completed or sales contracts signed.

### **20. Environmental Studies, Permitting and Social or Community Impact**

As the project is at its infancy there as yet have been no environmental studies done. There have been no social or community impact studies done to date.



## 21. Capital and Operating Costs

To date no pre-feasibility or feasibility study has been completed, thus there are no current estimates of capital and operating costs.

## 22. Economic Analysis

There has not yet been any economic analysis done.

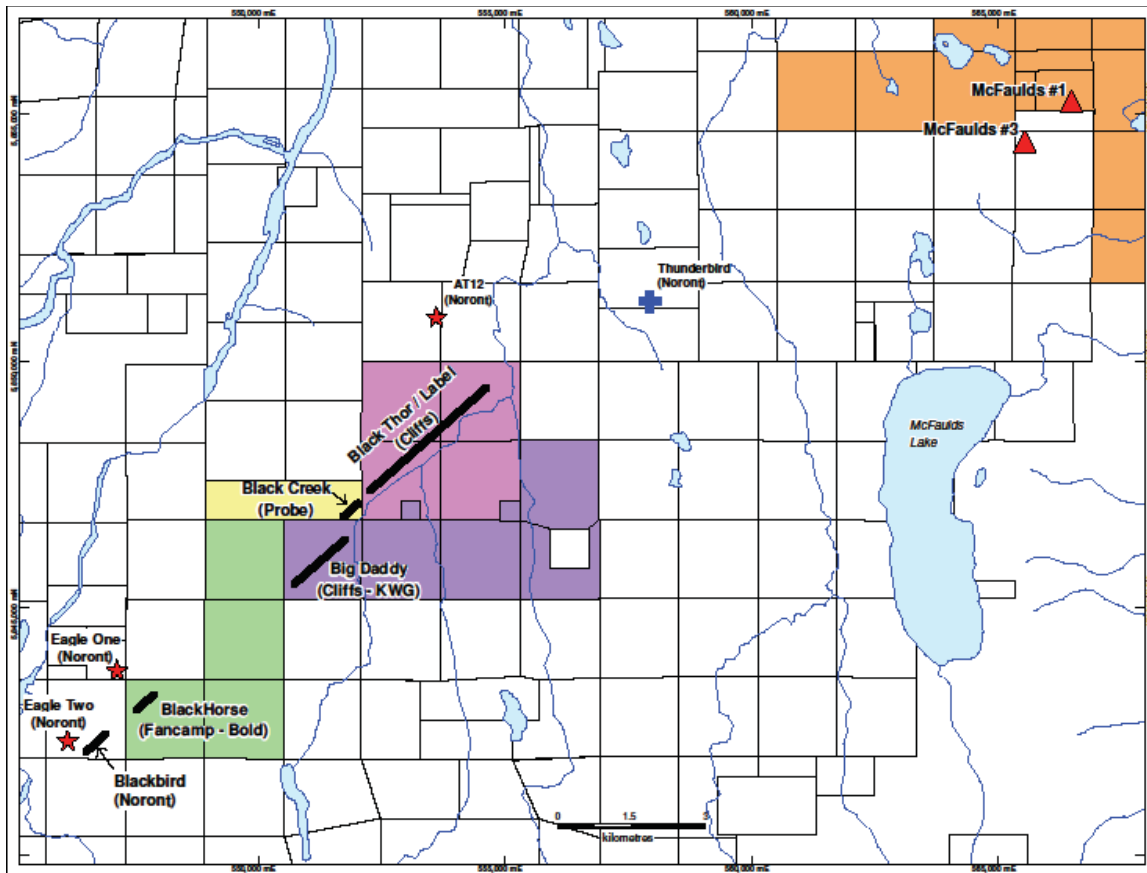


Figure 18 Location of Koper Lake Project and adjacent discoveries.

## 23. Adjacent Properties

There are four properties of note that are in the vicinity of the Koper Lake Project property. These are the Noront property that contains the Eagle 1 and Eagle 2 nickel deposits and the Blackbird chromite deposit, the Cliffs/KWG property that is host to the Big Daddy chromite deposit, the Probe Mines property hosting the Black Creek chromite deposit and the Cliffs Natural Resources property to the northeast that hosts the Black Thor and Black Label chromite

deposits (see Figure 18 for locations). A summary of identified resources for each of the four chromite deposits is presented in Table 8.

### **23.1. Noront Eagle 1, Eagle 2 and Blackbird deposits**

The discovery of the Noront Eagle 1 deposit was announced on August 28, 2007. The discovery hole, NOT-07-01, intersected 36 meters of massive sulphide grading 1.84% Ni, 1.53% Cu, 1.14 g/t Pt, 3.49 g/t Pd, 0.13 g/t Au, and 4.8 g/t Ag. A second hole, NOT-07-05, that was drilled below NOT-07-01, intersected 68.3 metres of massive sulphide grading 5.9% Ni, 3.1% Cu, 2.87 g/t Pt, 9.87 g/t Pd, 0.61 g/t Au, and 8.5 g/t Ag. This discovery led the way to an unprecedented staking rush in the James Bay lowlands of Northern Ontario.

The Noront Eagle 1 deposit is located approximately 5 kilometres SW of the SKF Project Koper Lake Project property. It is a magmatic sulphide deposit that is hosted by ultramafic rocks and is believed to be well located within a conduit system. The deposit consists of massive sulphides, net textured sulphides, sulphide breccias, semi-massive sulphide, but no disseminated sulphides. Sulphide minerals include pyrrhotite, pentlandite, and chalcopyrite (Armstrong et al. 2008).

The Eagle Two deposit was discovered in February 2008. This deposit is located 2 kilometres south-west of the Eagle One deposit. It is hosted by shear zones that strike parallel to the contact between the ultramafic rocks and the felsic plutonic host rocks. No resource estimate has yet been published for the Eagle Two deposit.

Noront has located two chromite deposits, similar in mineralization to the Black Thor deposit. They are located approximately 3 kilometres along strike from the Koper Lake Project deposit. The Blackbird chromite deposits (Blackbird 1 and 2) are hosted by a peridotite unit within a layered mafic to ultramafic body. Chromite mineralisation occurs as disseminated chromite, semi-massive chromite with intercalated olivine crystals, banded chromite interfingered with peridotite and as massive chromite commonly interlayered with dunite and harzbergite. Resource estimates have been completed by Micon (Gowans et al, 2010b and Murahwi et al, 2012).

The author has not been able to verify this information.

### **23.2. Big Daddy Chromite Deposit**

The Big Daddy chromite deposit (Aubut, 2012) lies between the Koper Lake Project property to the south west and the Black Creek and Black Thor/Black Label deposits to the north east. It is a faulted extension of the same stratigraphy consisting of a well fractionated ultramafic body hosting a zone of disseminated to massive chromite up to 65 metres thick within dunite and overlain by pyroxenite.

### **23.3. Black Creek Chromite Deposit**

The Black Creek chromite deposit (Murahwi et al, 2011) lies between the Big Daddy deposit to the south west and the Black Thor/Black Label deposits to the north east. It is a faulted extension of the same stratigraphy consisting of a well fractionated ultramafic body hosting a zone of disseminated to massive chromite up to 65 metres thick within dunite and overlain by pyroxenite.

The author has not been able to verify this information.

### **23.4. Black Thor and Black Label Chromite Deposits**

The Black Thor Chromite Zone has been traced for a length of 2.6 kilometres. It is the most extensive chromite bearing body on the property. It strikes SW – NE and has an overturned sub-vertical dip towards the NW ranging between 70 and 85 degrees. The zone typically contains two chromitite layers (upper and lower) that can range in thickness from 10's of metres to over 100 m. The layers are separated by a band of disseminated chromite in peridotite/dunite (Aubut, 2010).

Host lithologies consist of serpentinized peridotite, serpentinized dunite, dunite, and peridotite. Chromite is present as intermittent chromite beds, finely to heavily disseminated chromite in dunite/peridotite, and semi-massive to massive chromitite. Because of its lateral continuity and uniformity the chromite mineralisation was likely deposited in a quiescent magmatic environment. The Black Thor Chromite Zone is typical of most large layered igneous intrusions such as the Kemi deposit in Finland (Alapieti et al, 1989).

Within the Black Label deposit chromite is generally present as fine to heavily disseminated crystals in peridotite, chromitite bearing magmatic breccias, semi-massive bands and as massive chromitite. Silicate fragments, in the form of rip up clasts and as ovoid blebs have been observed in the zone and indicate the chromite was emplaced in a highly dynamic magmatic environment unlike the Black Thor Deposit (Aubut, 2010).

The Black Label Chromite Zone has been traced by drilling for over 2.2 kilometres along strike. It is locally cross-cut and interrupted by a pyroxenitic body. It lies stratigraphically below the Black Thor chromite zone. Chromite is generally present as fine to heavily disseminated crystals in peridotite, chromitite bearing magmatic breccias, semi-massive bands and as massive chromitite. Silicate fragments, in the form of rip up clasts and as ovoid blebs have been observed in the zone and indicate the chromite was emplaced in a highly dynamic magmatic environment (Aubut, 2010).

<b><u>Deposit</u></b>	<b><u>Classification</u></b>	<b><u>Tonnes (millions)</u></b>	<b><u>%Cr2O3</u></b>	<b><u>Cut-Off (%Cr2O3)</u></b>
<b>Blackbird<sup>1</sup></b>	<b>Meas. &amp; Ind.</b>	20.5	35.8	30%
	<b>Inferred</b>	23.5	33.1	30%
<b>Big Daddy<sup>2</sup></b>	<b>Meas. &amp; Ind.</b>	29.1	31.7	20%
	<b>Inferred</b>	3.4	28.1	20%
<b>Black Creek<sup>3</sup></b>	<b>Meas. &amp; Ind.</b>	8.6	37.4	20%
	<b>Inferred</b>	1.6	37.8	20%
<b>Black Thor<sup>4</sup></b>	<b>Meas. &amp; Ind.</b>			
	<b>Inferred</b>	121.9	27.8	20%

**Table 8 Summary of Classification of In-Situ Resources for other chromite deposits in the area.**

<sup>1</sup>Murahwi et al., 2012.

<sup>2</sup>Aubut, 2012.

<sup>3</sup>Murahwi et al., 2011.

<sup>4</sup>Aubut, 2010.

## **24. Other Relevant Data and Information**

Details on drill results and other pertinent information can be found on the following web sites:

<http://www.kwgresources.com>, and <http://www.boldresources.com>.

The objective of any resource estimate should always be to reduce bias as much as possible. As two of the holes used in Section 14 (FN-10-25 and FN-10-26) were incompletely sampled and as the use of either zero grade or absent values would have introduced a potentially serious bias an alternative method was tested.

Based on consultation with KWG staff a process was developed that utilised a Niton portable x-ray fluorescent (XRF) analyser (Niton) to determine Cr content. This process involved taking spot readings every 0.5 metres on the NQ core of hole FN-10-026, and every 0.33 metres on the BQ core of hole FN-10-025 of both the unsampled intervals and the sampled intervals. In each case the analyser was kept in the same place for at least 15 seconds such that the instrument error was less than 1%. Then the arithmetic average of the spot averages for each interval was calculated.

A critical aspect of any XRF analysis is the use of proper standards to compensate for matrix and other effects. The most common practise in using handheld XRF is to accept the results and depend on built-in calibration curves. In this instance a methodology was put into place that mimics that of lab based XRF analysis whereby XRF analyses are based on concurrent analysis of certified standard powder that are similar in composition to the samples. This reduces errors caused by matrix effects. In the case of analysing whole core, the ideal standard is also core. As such, core intervals that had previously been analysed by lab based XRF were also analysed

with the handheld XRF, and the results used to calibrate the readings on the remaining core. An additional quality control check consisted of taking readings on a slab of massive chromitite from the UG-2 reef, Bushveld complex, South Africa. These reading were taken concurrently after each 4 core intervals were read.

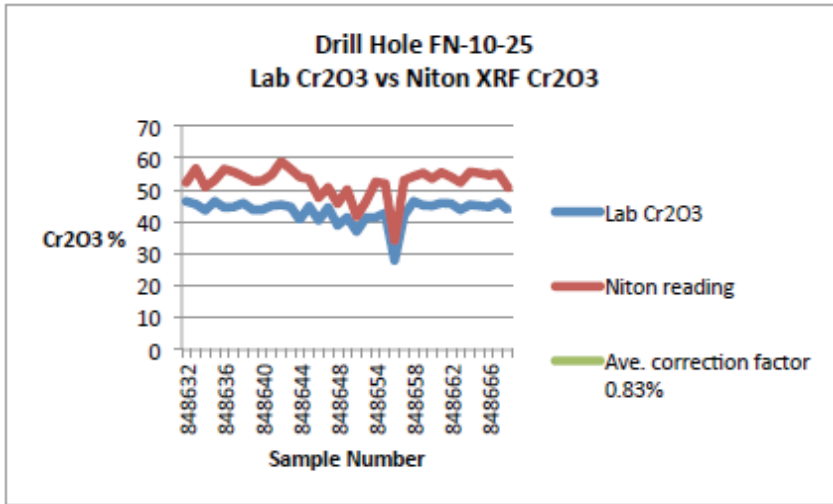


Figure 19 Comparison of Niton XRF readings, prior to application of correction factor, and Lab Results for hole FN-10-25 (Armstrong, 2013).

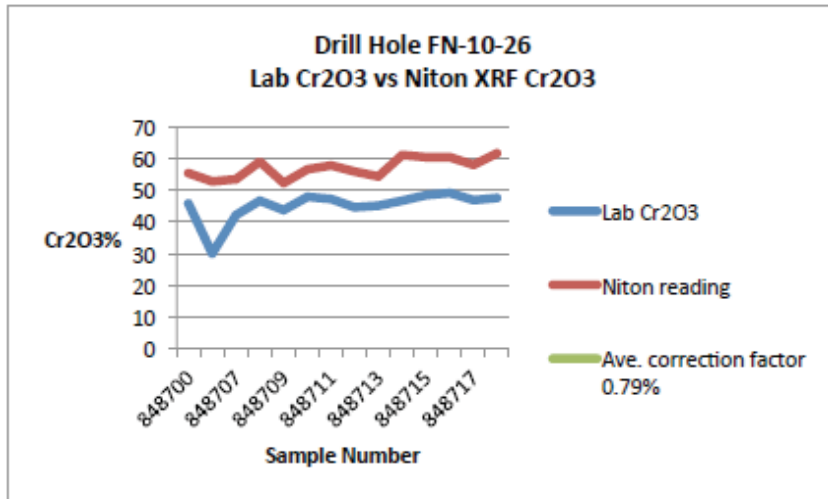


Figure 20 Comparison of Niton XRF readings, prior to application of correction factor, and Lab Results for hole FN-10-26 (Armstrong, 2013).

A comparison of the Niton readings with the sampled sections of the two holes, FN-10-25 and FN-10-26, is shown in Figures 19 and 20. Using these spot readings collected from the previously sampled and assayed intervals a calibration factor was determined. This factor is the average ratio of the Niton results for the sampled intervals to the lab assay values. This



correction factor was then applied to all of the Niton results for the unassayed intervals to obtain a final Cr<sub>2</sub>O<sub>3</sub> content. Figures 12 and 13 show the results of the Niton analyses for the two holes evaluated using this method.

The entire core through the main mineral zone from holes FN-10-25 and FN-10-26, both sampled and unsampled, was sent to Xstrata Process Support (XPS) for metallurgical testing (Barnes, 2013). The core was separated into 11 composite samples and after the removal of some silicate rich material each composite was assayed. A final check of the use of the Niton portable XRF analyser as described here involved comparing these assays with the average grade based on the Niton work for the same composite intervals. In all cases it was found that the composites using the Niton results consistently underestimated the grade compared to the XPS assays by a proportional difference of 1.48 to 9.24% with an average of 4.48%. While it appears that a bias has been introduced it must be kept in mind that the composite assays reflect a relatively minor amount of beneficiation due to the removal of any obvious silicate rich portions. Thus while not a true test it does confirm that there is no undesired bias, especially the overstating of grade.

FILENAME	FIELD	NRECORDS	NSAMPLES	MINIMUM	MAXIMUM	MEAN	%Diff	VARIANCE	SKEWNESS	WGTFIELD
<i>Estimate done using some samples collected with a Niton analyser</i>										
DDH Data - Niton	Cr <sub>2</sub> O <sub>3</sub>	772	762	0.00	49.00	33.34		178.4620	-0.93	LENGTH
NN Model - Niton	Cr <sub>2</sub> O <sub>3</sub>	7794	7794	0.00	49.00	35.07		148.1710	-1.21	TONNES
OK Model - Niton	Cr <sub>2</sub> O <sub>3</sub>	7794	7794	5.92	46.84	33.23	-5.25	77.1840	-0.20	TONNES
<i>Estimate done using only available assays and "Absent Value" for unsampled intervals.</i>										
DDH Data	Cr <sub>2</sub> O <sub>3</sub>	762	580	0.01	48.96	30.07		189.6600	-0.57	LENGTH
NN Model	Cr <sub>2</sub> O <sub>3</sub>	7794	7794	0.01	48.96	35.27		152.7680	-1.21	TONNES
OK Model	Cr <sub>2</sub> O <sub>3</sub>	7794	7794	6.80	47.34	33.03	-6.35	74.7750	-0.21	TONNES

**Table 9 Comparison of resource estimates done with samples collected using a Niton analyser and without.**

The metallurgical testing provided also a second means of verification of the use of the Niton instrument and that is by doing a mass balance. Based on the results of the metallurgical test an average grade can be calculated for the full bulk sample based on the quantity of chromium metal recovered versus the quantity of the material placed into the furnace. In this case 343 kg of Cr metal were extracted from 1067 kg of sample material for an average grade of 46.9% Cr<sub>2</sub>O<sub>3</sub>. The length weighted average of the Niton factored results for the same interval is 43.4% Cr<sub>2</sub>O<sub>3</sub>, or 8.2% lower. Again the use of Niton factored values results in a negative bias which will result in an understatement of the grade if used.

While not ideal (one cannot do better than having actual analyses) the validation checks show that the factored Niton values give a reasonable approximation of the actual Cr<sub>2</sub>O<sub>3</sub> Content although with a small negative bias The Niton results were merged into the sample data set and from there on every step as used in resource estimation was duplicated but using these

samples. Table 9 presents a summary, for comparison purposes, of the global statistics for the two models.

As can be seen the use of the Niton analyser for the unsampled portions of holes FN-10-025 and FN-10-026 had a very small impact on the results. It must be stressed that this deposit type, due to the presence of relatively homogenous high grade material, is ideal for the use of a portable analyser although there is still a degree of uncertainty in the results. It is therefore concluded that under similar circumstances of having this deposit type, and if a rigorous set of protocols are put in place such that there is good verification and control, analyses done by a portable XRF analyser, such as the Niton, it would be reasonable to use in the calculation of an inferred resource for comparable purposes.

## **25. Interpretation and Conclusions**

Drilling to date has identified a chromite horizon that is potentially economic. The zone does not come to surface but is open along strike and down dip.

Using industry-standard block modelling techniques a resource model was created covering the Koper Lake Project chromite deposit. Querying this model, using a 20% Cr<sub>2</sub>O<sub>3</sub> cut-off, there is a total in-situ Inferred resources 77.2 million tonnes at a grade of 35.1% Cr<sub>2</sub>O<sub>3</sub>. Due to the depth below surface of the mineral zone this material potentially could be mined by underground mining methods, but no mineability criteria have been applied. The confidence in this estimate is such that only a preliminary economic assessment should be attempted using this data.

Initial metallurgical testing consisting of ferro-chrome melting of available chromite material shows that a very high grade product can be produced enhancing the potential economics of the deposit.

## **26. Recommendations**

To properly define the limits of the mineralisation on the property, additional drilling is required. The objective would be to have pierce points approximately on a 100 metre grid within the plane of the mineralisation and to trace the zone along strike and further down dip. It is estimated that about 37,500 metres of drilling should accomplish this objective and in doing so should be able to move most of the identified resources into at minimum the Indicated category. Due to the depth and the dip of the known mineralisation it is also recommended that wedging be used as much as possible to both maximize the cost benefits and to improve the core angles through the mineralisation.

Table 10 presents a budget for a 37,500 metre drilling program that will provide enough information to increase the confidence in the identified resource.

<b>Item</b>	<b>Description</b>	<b>Amount</b>
<b>Diamond Drilling</b>	5,500m – summer exploration drilling (\$600/m)	\$ 3,300,000
	32,000m – winter exploration drilling (\$300/m)	\$ 9,600,000
<b>Contingencies</b>	10%	\$ 1,300,000
<b>Total</b>		<b>\$ 14,200,000</b>

Table 10 Proposed Budget for Infill and Exploration drilling on the Koper Lake Project

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## Certificate of Qualifications

I, Alan James Aubut, Geologist, do hereby certify the following:

- I operate under the business name of Sibley Basin Group Geological Consulting Services Ltd., a company independent of KWG Resources Inc. The business address of Sibley Basin Group Geological Consulting Services Ltd. is:

Sibley Basin Group  
PO Box 304  
300 First St. West  
Nipigon, ON  
P0T 2J0

- I am the author of this National Instrument 43-101 technical document titled “*National Instrument 43-101 Technical Report, Koper Lake Project Chromite Deposit, McFauld’s Lake Area, Ontario, Canada, Porcupine Mining Division, NTS 43D16, Updated Mineral Resource Estimation Technical Report*” (the report), and it is effective May 28, 2014.
- I am a graduate Geologist of Lakehead University, in Thunder Bay, Ontario with the degree of Honours Bachelor of Science, Geology (1977).
- I am a graduate Geologist of the University of Alberta, in Edmonton, Alberta with the degree of Master of Science, Geology (1979).
- I hold an Applied Geostatistics Citation through the Faculty of Extension of the University of Alberta, in Edmonton, Alberta.
- I have been a practicing Geologist since 1979.
- I have been practicing mineral resource estimation since 2000.
  - 2000 – 2010: Senior Geologist responsible for resource estimation for Inco/Vale.
  - 2010 – present: Consulting Geologist specializing in resource estimation.
    - This work experience has included doing multiple resource estimates on the Black Thor and Big Daddy chromite deposits.
- I am currently a member in good standing of the Association of Professional Geoscientists of Ontario.
- I am a member of the Society of Economic Geologists.
- I have read National Instrument 43-101, and confirm that I am a “qualified person” for the purposes of this instrument and that this report has been prepared in compliance with said instrument.
- I conducted a two hour site visit on April 3, 2014.
- I take responsibility for all items within this report.
- I am independent, as defined by Chapter 5 Section 1.5 of NI 43-101, of KWG Resources Inc. and all other parties related to the subject property and do not expect to become an insider, associate or employee of any of the parties.
- I have previously prepared a technical report detailing a preliminary resource estimate for the property.
- As of May 28, 2014, the report to the best of my knowledge, information and belief contains all scientific and technical information that is required to be disclosed in order to make the report not misleading.

KWG Resources Inc. and Bold Ventures Inc. supplied copies of all reports and data available. It was these data that were used for the current project. The resource estimate generated with this data is effective as of May 28, 2014.

[signed] [sealed]

Alan Aubut  
May 28, 2014

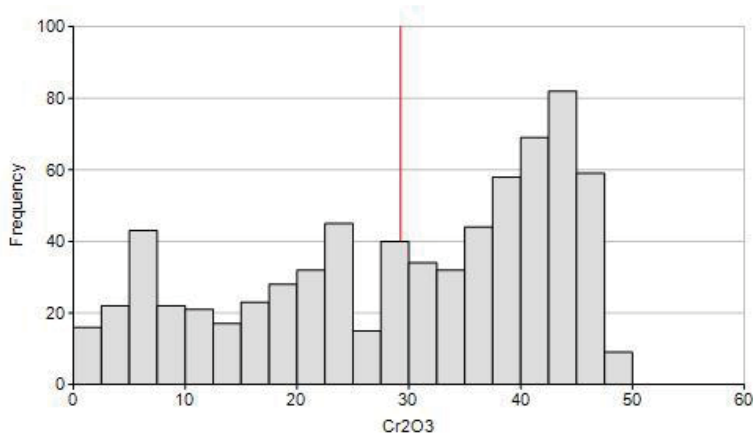
## Appendix 1 – Exploratory Data Analysis

### Histograms

Histogram for Cr2O3

Total Samples : 711  
 Minimum : 0.010  
 Maximum : 48.960  
 Variance : 190.198  
 StdDeviation : 13.791  
 Coeff.Variation : 0.471

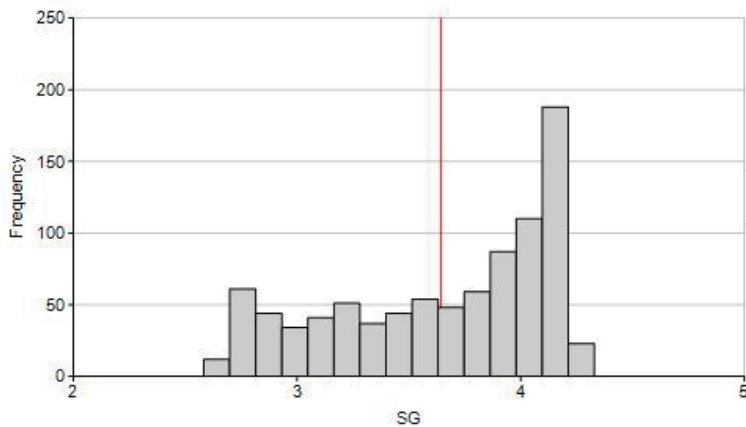
Mean : 29.254



Histogram for SG

Total Samples : 893  
 Minimum : 2.660  
 Maximum : 4.315  
 Variance : 0.233  
 StdDeviation : 0.482  
 Coeff.Variation : 0.132

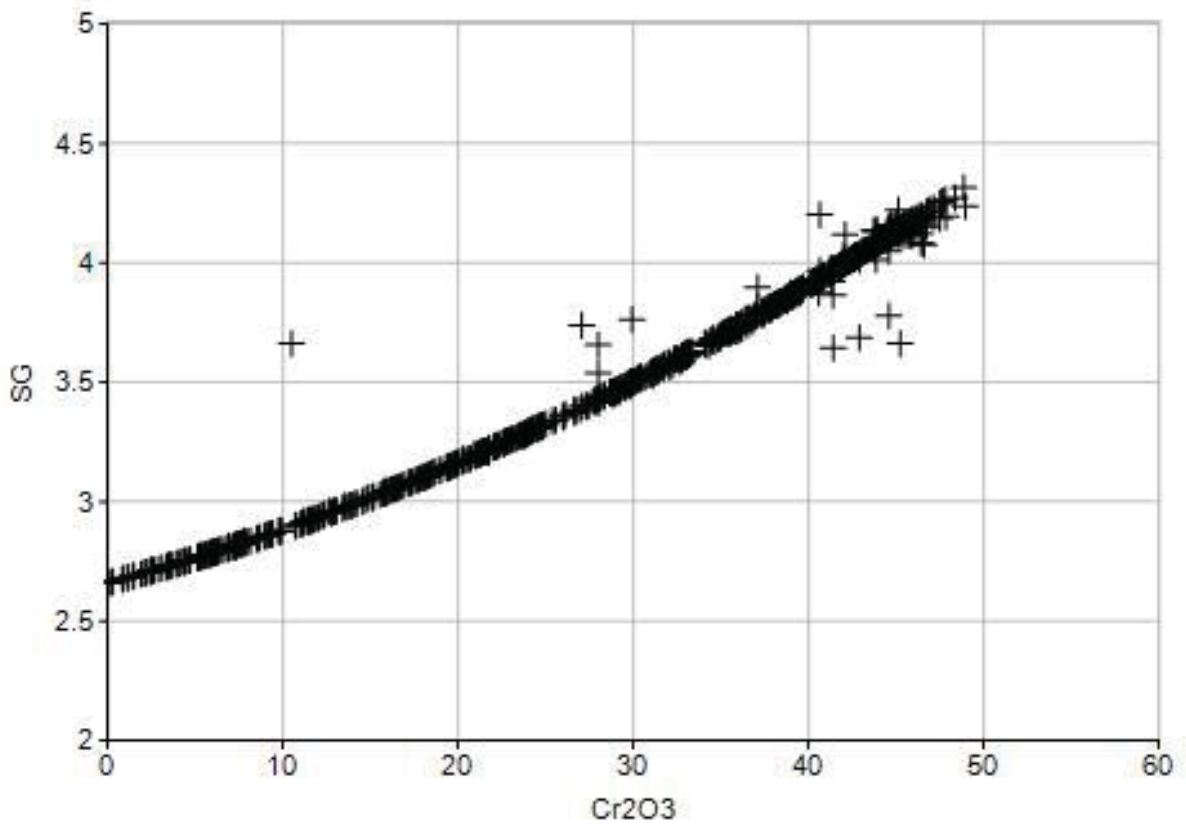
Mean : 3.643



## Scatter Plots

Cr2O3 vs SG

NAME	:	Cr2O3	SG
Total Samples	:	711	711
Mean	:	29.254	3.534
StdDeviation	:	13.791	0.477
Correlation Coeff:		0.990	



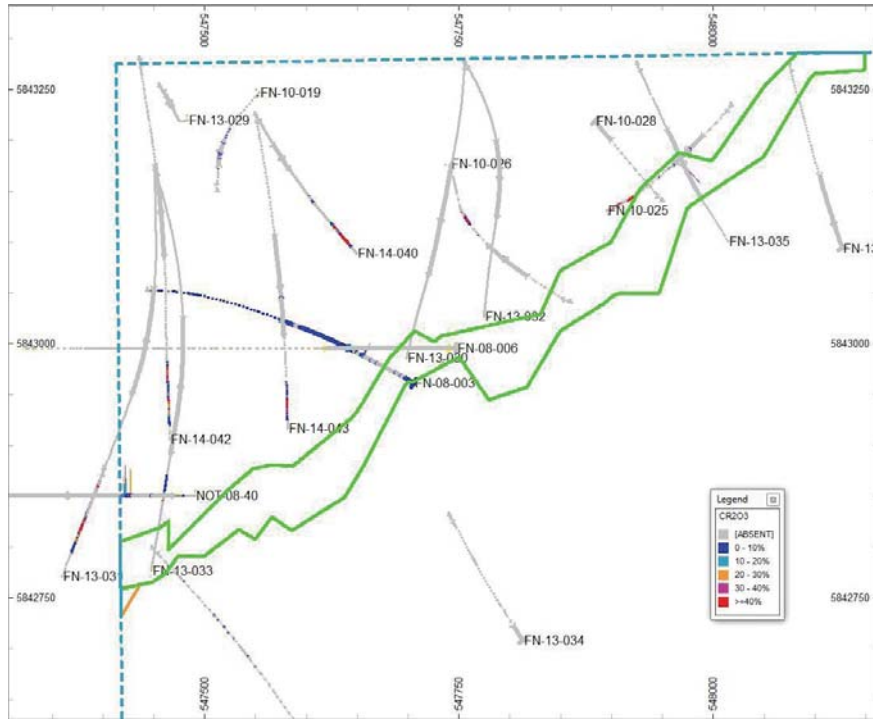
## Appendix 2 – OK Search Parameters Used

UCSA	UCSB	UCSC	OCTANT METHOD USED?	MINIMUM NUMBER OF OCTANTS	MINIMUM SAMPLES PER OCTANT	MAXIMUM SAMPLES PER OCTANT	MINIMUM NUMBER OF SAMPLES	MAXIMUM NUMBER OF SAMPLES	MAX. NUMBER OF SAMPLES PER HOLE
10	120	120	YES	5	1	4	20	32	6
15	160	160	YES	5	1	4	10	32	6
20	200	200	NO	n/a	n/a	n/a	5	32	0
- across the dip									
- down the dip									
- along the strike									

### Appendix 3 – Block Model Plans and Sections

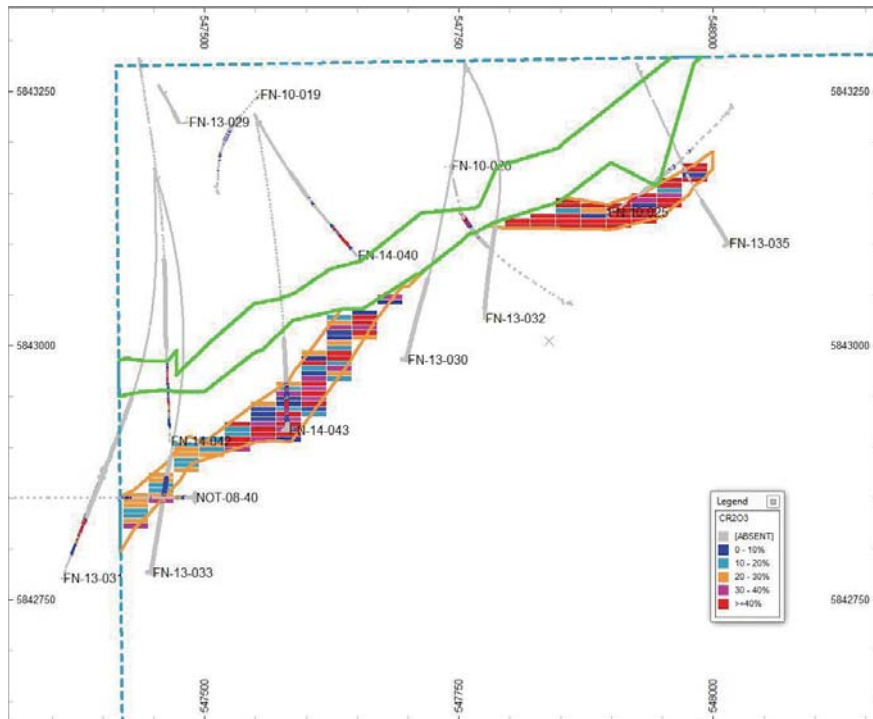
#### NN Models Sample Plan views – Koper Lake Project chromite deposit

-250 Elev.



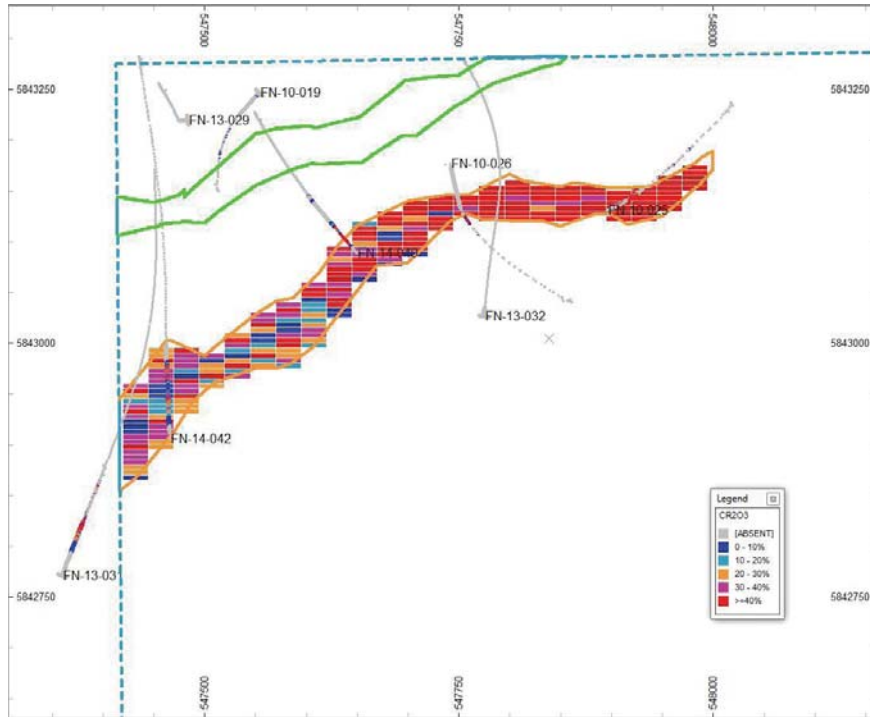
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Blue dashed line – claim boundary

-500 Elev.





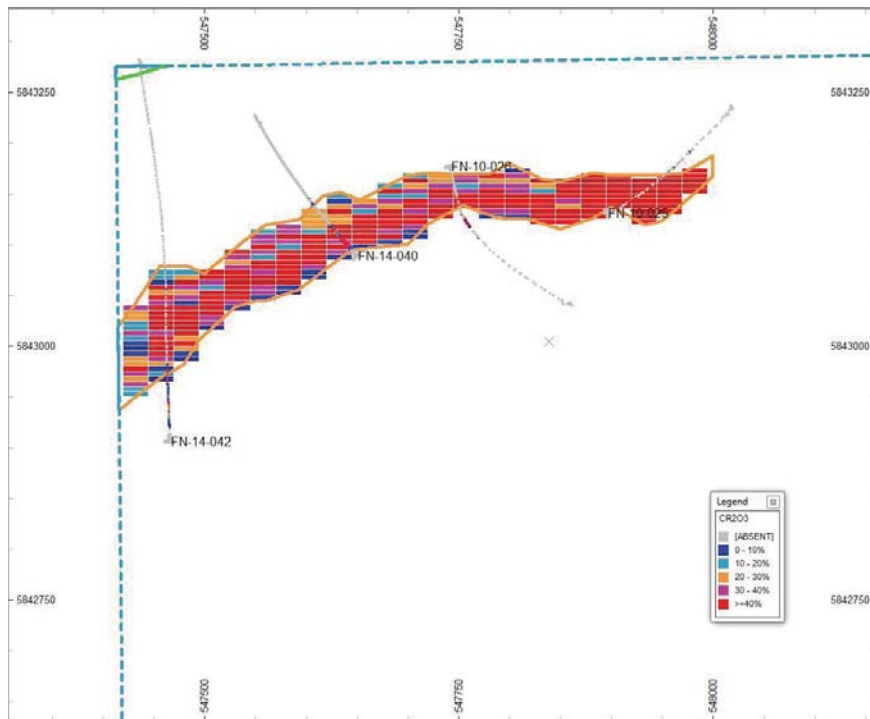
**-750 Elev.**



Green outline – Triple J  
Deformation Zone

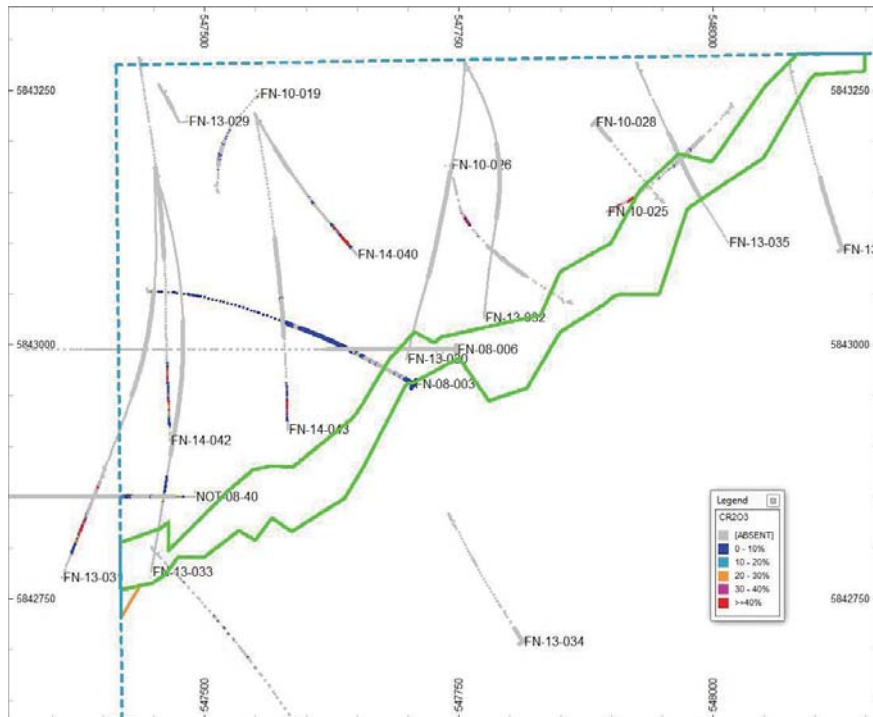
Blue dashed line – claim  
boundary

**-1000 Elev.**



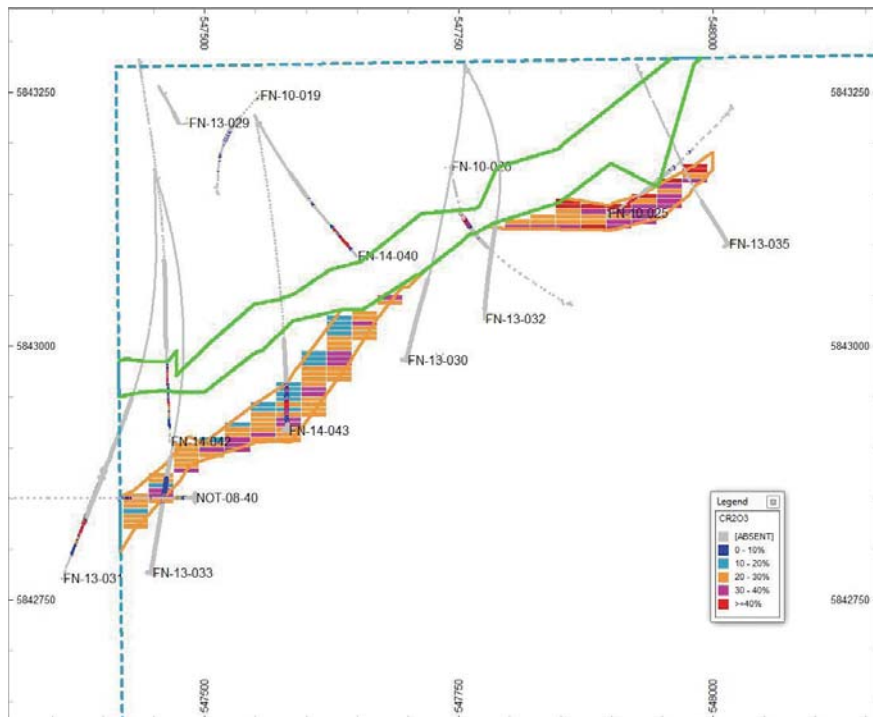
### OK Models: Sample Plan views - - Koper Lake Project chromite deposit

-250 Elev.

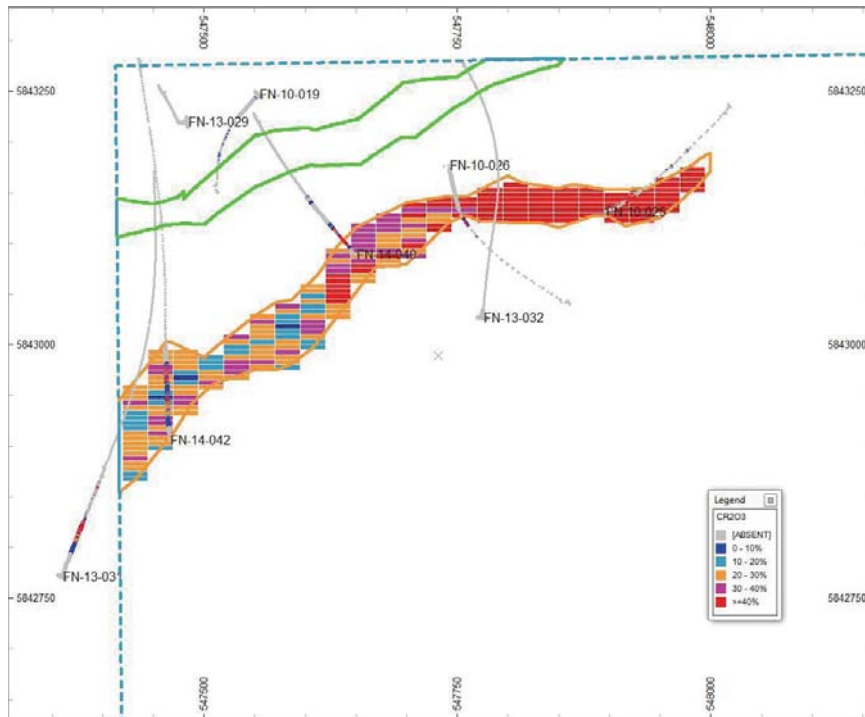


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Blue dashed line – claim boundary

-500 Elev.

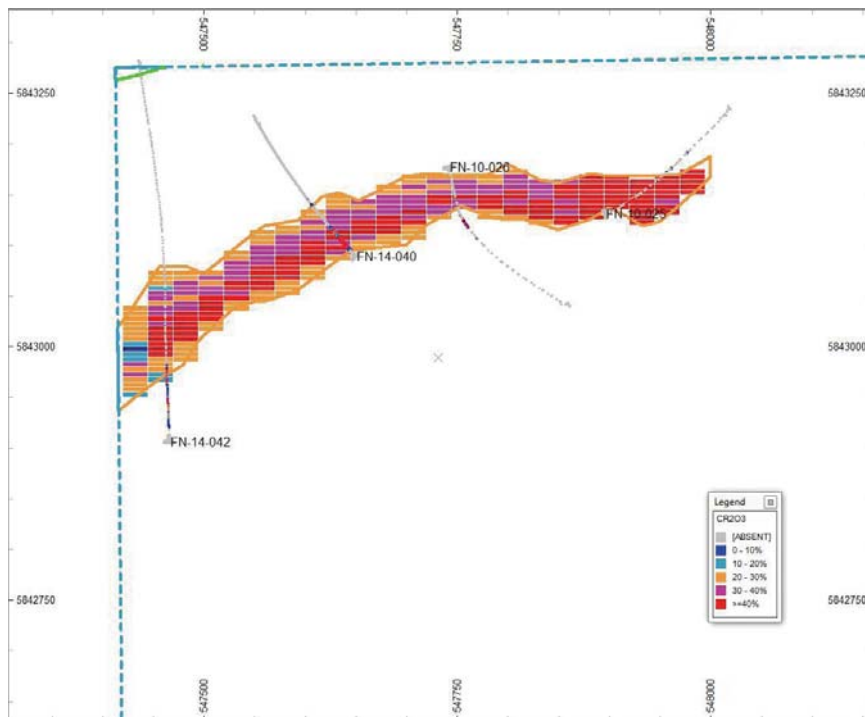


**-750 Elev.**



Green outline – Triple J Deformation Zone  
Blue dashed line – claim boundary

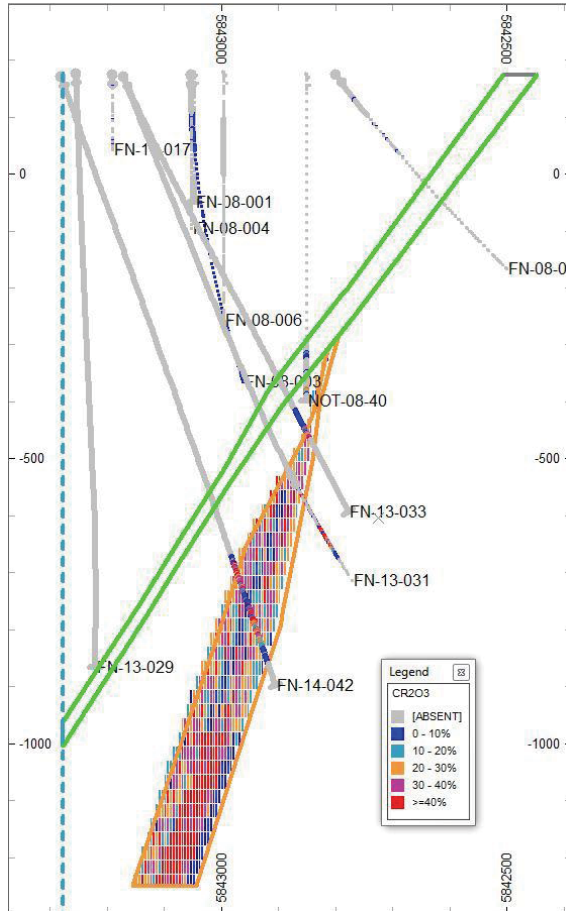
**-1000 Elev.**



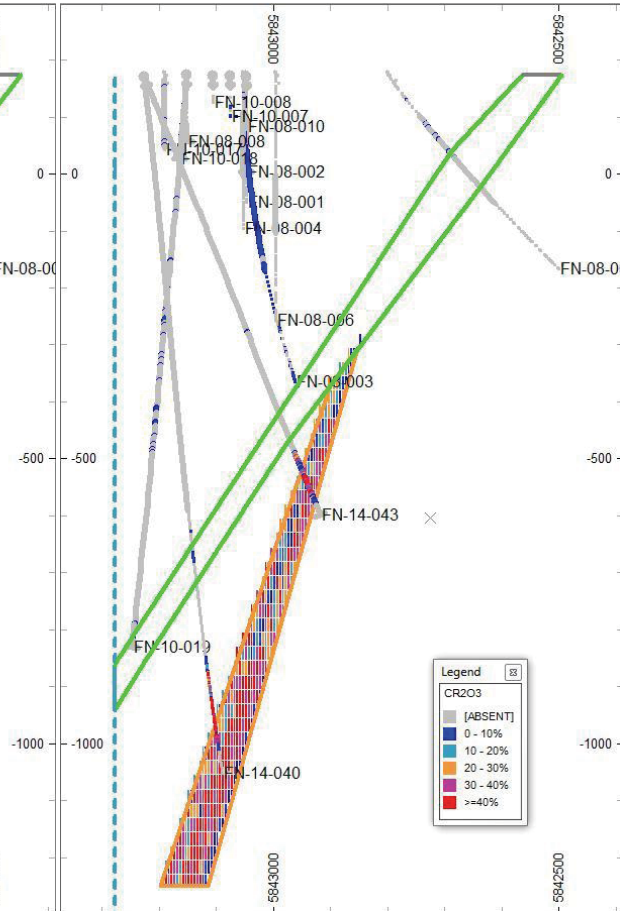
## NN Model – N-S Sample Sections

– Koper Lake Project chromite deposit

Section 547450E



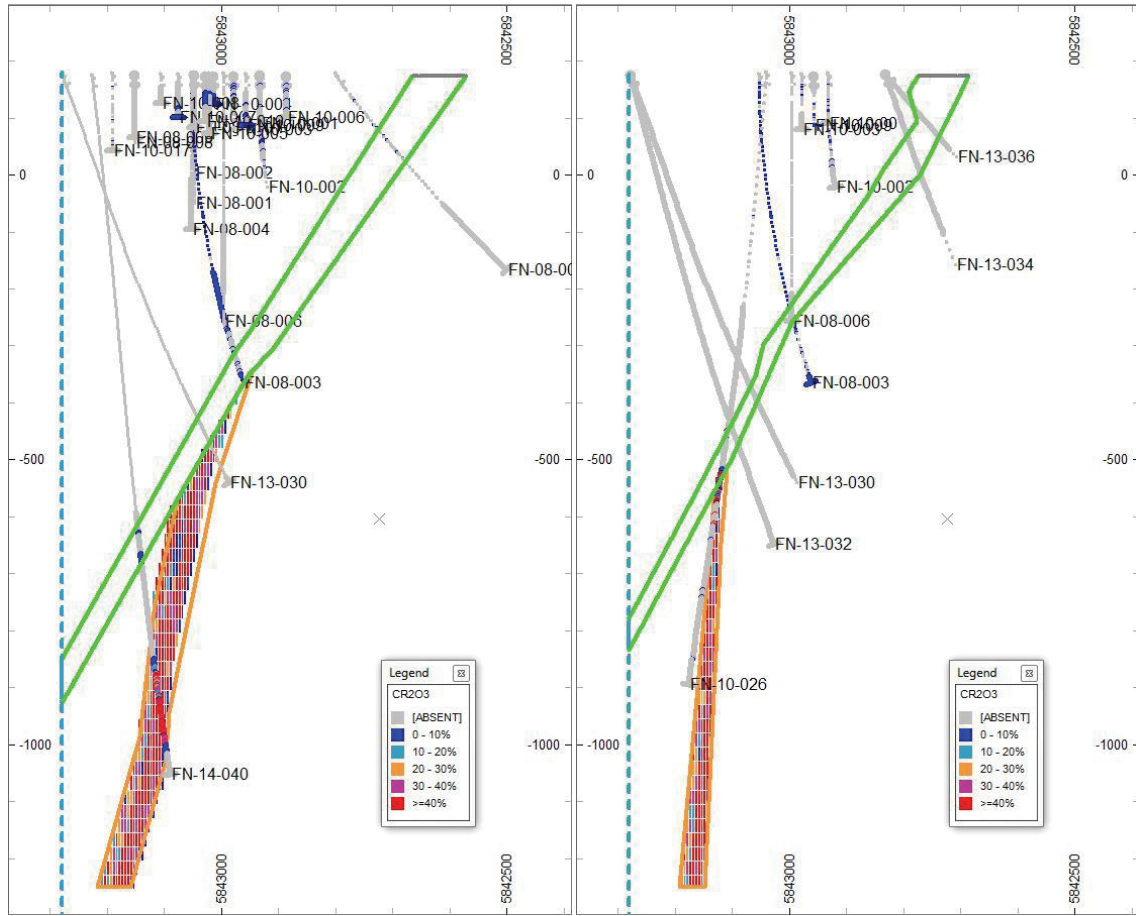
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Section 547650E

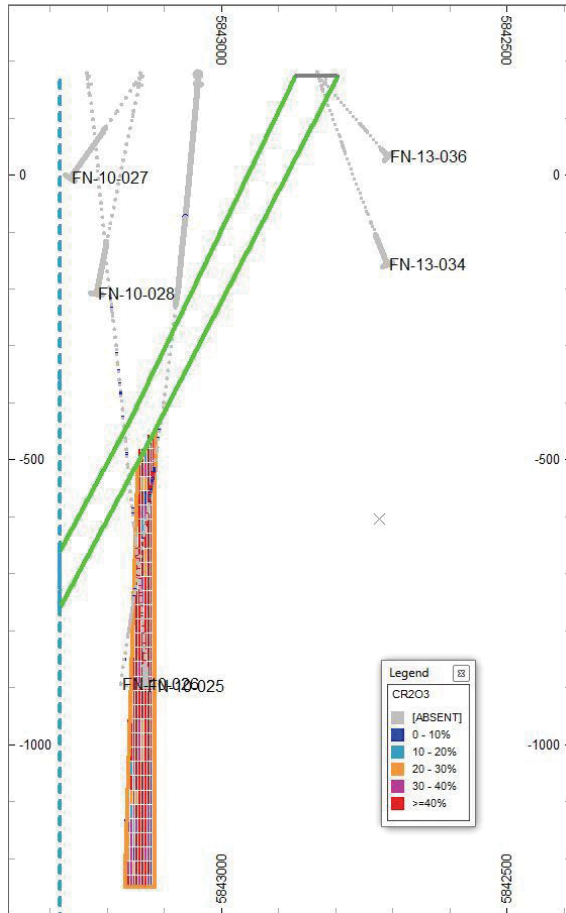
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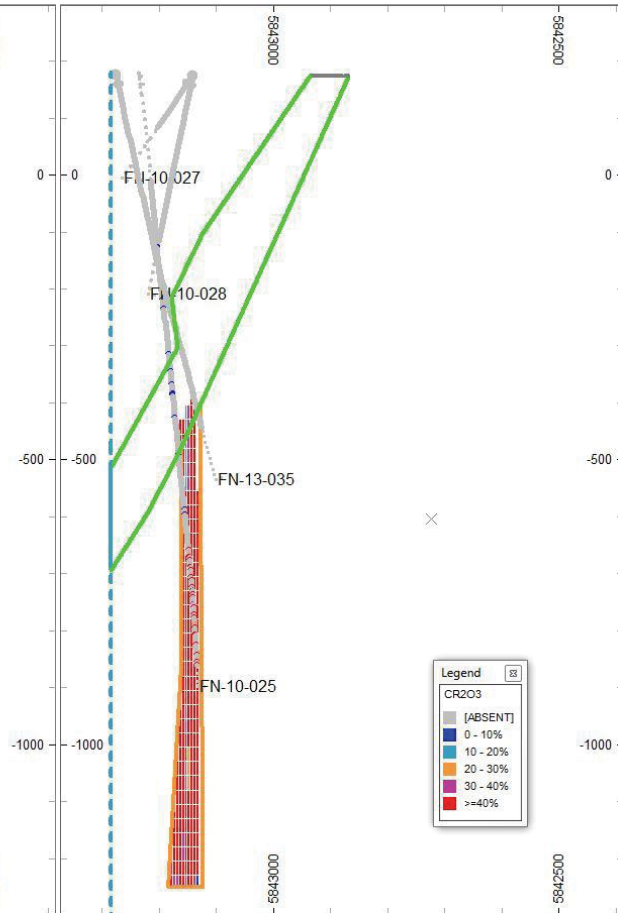
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Section 547850E



Section 547950E



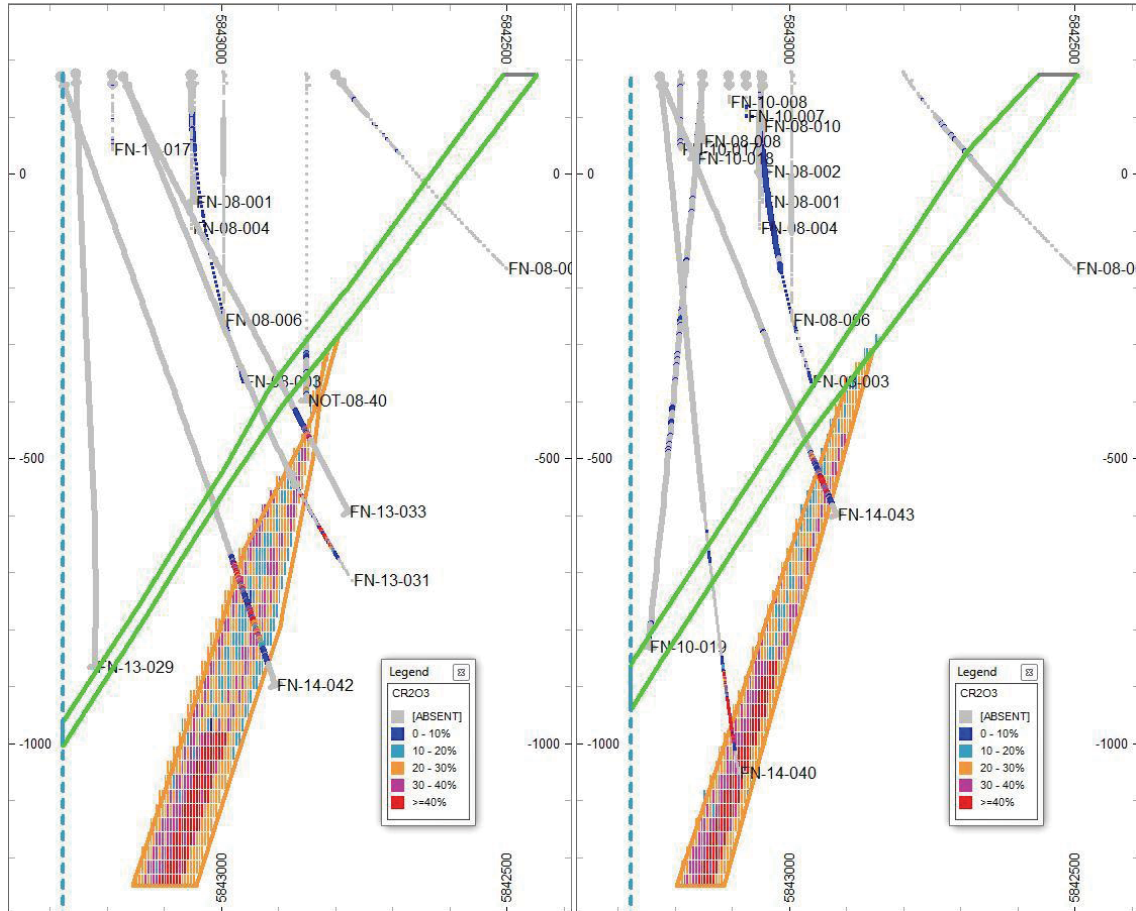
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### OK Models - N-S Sample Sections

- Koper Lake Project chromite deposit

Section 547450E

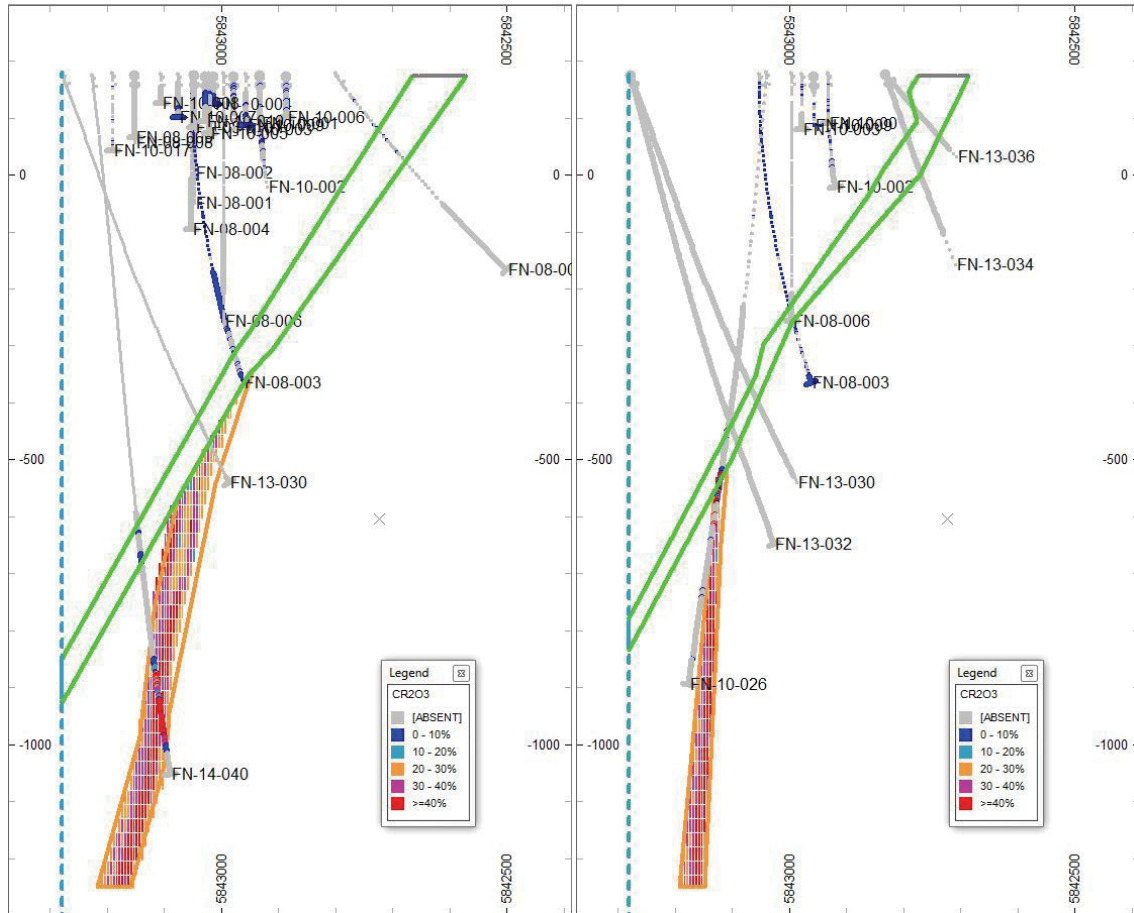
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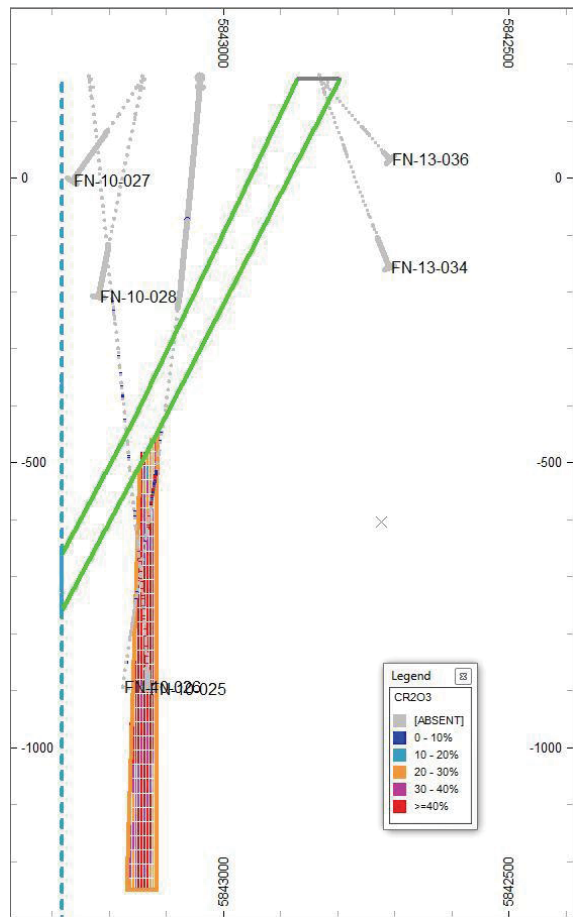
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Section 547750E

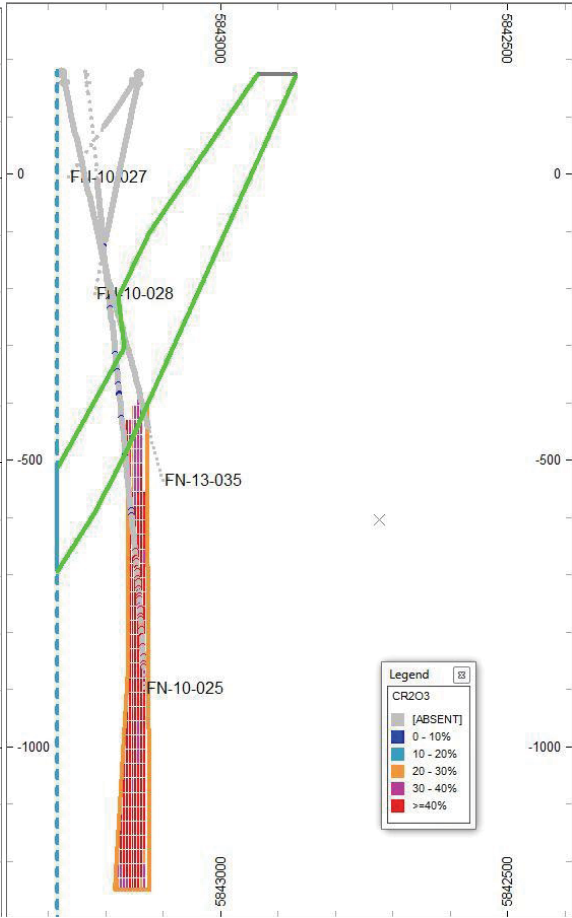


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Blue dashed line – claim boundary

Section 547850E



Section 547950E

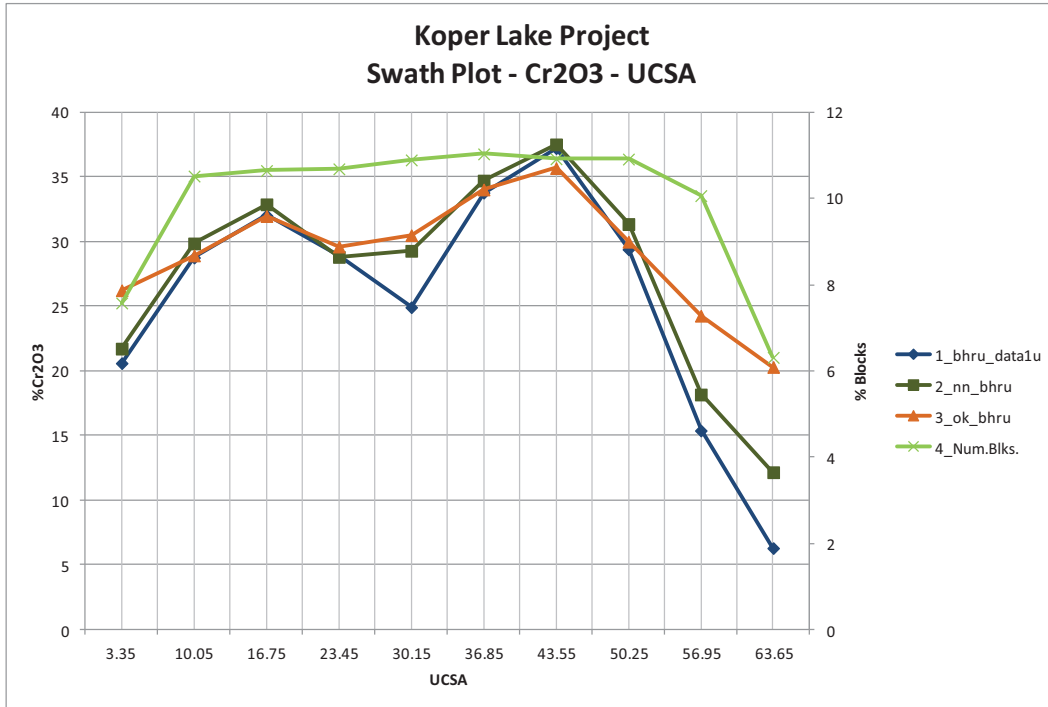


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Blue dashed line – claim boundary

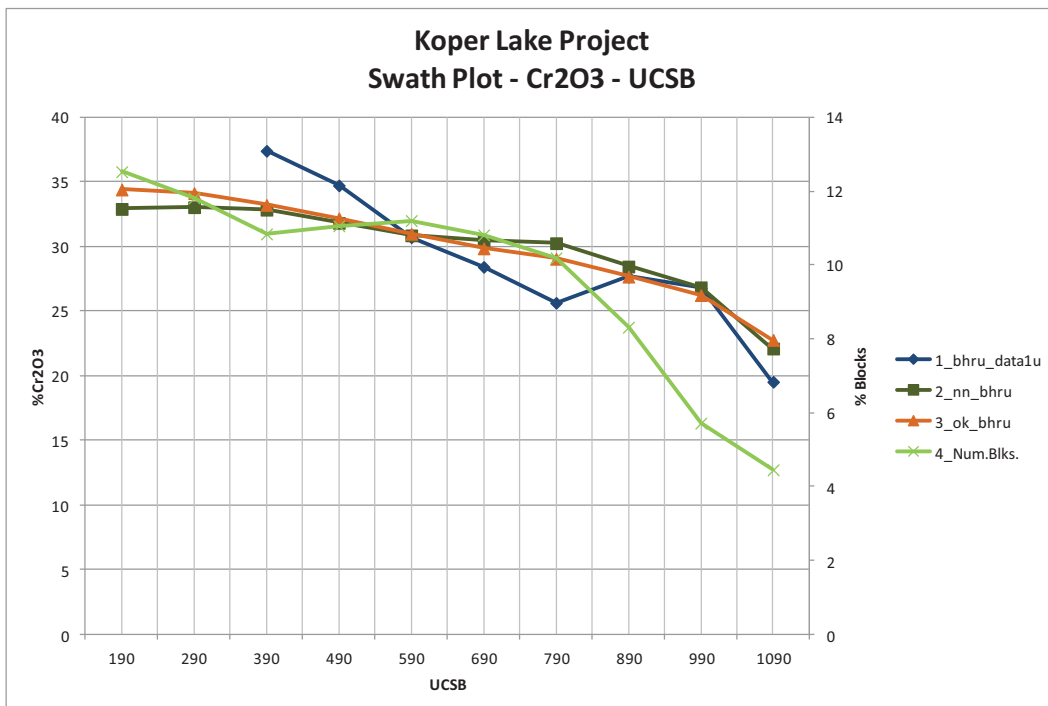
## Appendix 4 - Model Validation

### Swath Plots - Cr<sub>2</sub>O<sub>3</sub>

#### UCSA

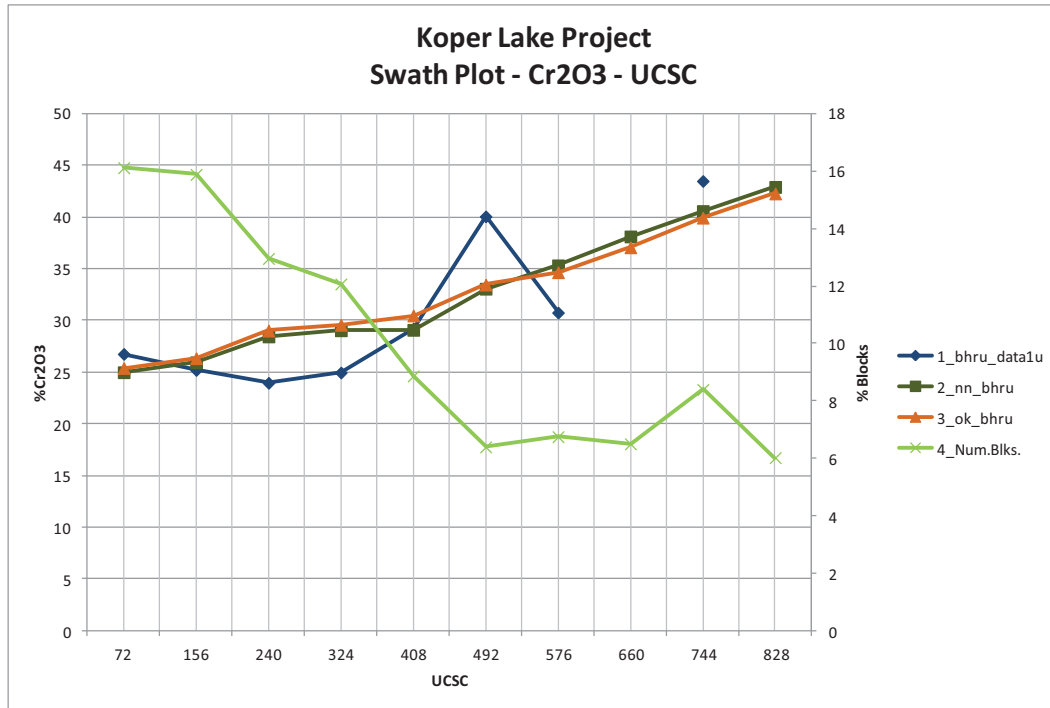


#### UCSB





UCSC



## **Appendix 5 – Resource Classification Definitions**

The following is an extract from the CIM Definition Standards for Mineral Resources and Mineral Reserves, adopted December 11, 2005.

**“A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth’s crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.**

*The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase ‘reasonable prospects for economic extraction’ implies a judgement by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A Mineral Resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions might become economically extractable. These assumptions must be presented explicitly in both public and technical reports.*

### **Inferred Mineral Resource**

**An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.**

*Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.*

### **Indicated Mineral Resource**

**An ‘Indicated Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered**

**through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.**

*Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Preliminary Feasibility Study which can serve as the basis for major development decisions.*

### **Measured Mineral Resource**

**A ‘Measured Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.**

*Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.”*