GEOS MINING
MINERALS CONSULTANTS

Suite 301,
68 Alfred Street,
Milsons Point NSW 2061
Australia

T 61 2 9929 6868
F 61 2 9923 1112
E info@mineralgeos.com
www.mineralgeos.com

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Independent Geological Report

Stanton Nickel-Cobalt Deposit

Auminco Coal Pty Ltd

Job No. 2463-03

Report Date: 13 August 2012

Prepared for:

Chris Hagan

Advisor

Reviewed by:

Sue Border

Prepared by:

Jeff Randell

BSc (Hons), MAIG, RPGeo

Project Manager

Executive Summary

Auminco Coal Pty Ltd (Auminco) contracted Geos Mining to provide a geological assessment of the Stanton Nickel-Cobalt Project within the Northern Territory, Australia for existing and potential future investors in Auminco. The assessment included a site visit to the project area which has been drilled extensively (~21,000 metres in 257 holes).

Mineralisation is broadly stratabound within flat lying sequences although there is considerable fracturing and brecciation in the host sequences which has probably provided a mechanism for remobilisation of later cobalt/ nickel mineralisation.

Mineralisation at the Stanton deposit is defined over an area of about 100m x 75m and is located on the north side of the ENE trending Stanton Fault. The bulk of the mineralisation occurs within about 60m of surface although thinner zones occur up to 90m below surface. More than half of the mineralisation occurs with the oxide zone. **An Indicated Resource of 0.8 million tonnes @ 0.15% Co, 0.15% Cu and 0.08% Ni and an Inferred Resource of 0.1 million tonnes @ 0.12% Co, 0.12% Cu and 0.04% Ni was estimated in 2001. Geos Mining has reviewed the data relating to this estimate and considers the resource categorisation appropriate for the style of deposit.**

There are at least nine other prospects within the tenement area that have similar characteristics to Stanton. **An Exploration Target of 5.1 to 6.8 million tonnes @ 0.11 – 0.14% Co, 0.11 – 0.13% Cu and 0.04 – 0.07% Ni has been identified at these prospects**.

There is strong evidence to suggest that mineralisation is localised along a conjugate set of linear structures that trend NW-SE and NE-SW. Further exploration should focus along these dominant structures.

While the identified Stanton resource is quite small, there is good evidence to suggest that the resource base could be considerably expanded with further exploration drilling.

Based on our knowledge of the current resource and possibilities of future resource growth we would conclude that **the project represents a reasonable opportunity for Auminco for the definition of a modest cobalt, copper and nickel deposit**. The viability of the project has not been examined in any detail but we consider that, given the successful outcome of the proposed work program, the project could conceivably be brought into production. We note that this is dependent upon metallurgical testwork providing satisfactory recoveries of cobalt, copper and nickel.

Disclaimer

While every effort has been made, within the time constraints of this assignment, to ensure the accuracy of this report, Geos Mining accepts no liability for any error or omission. Geos Mining can take no responsibility if the conclusions of this report are based on incomplete or misleading data.

Geos Mining and the authors are independent of Auminco Coal Pty Ltd, and have no financial interests in Auminco Coal Pty Ltd or any associated companies. Geos Mining is being remunerated for this report on a standard fee for time basis, with no success incentives.

The opinions expressed herein are given in good faith and Geos Mining believes that any assumptions or interpretations are reasonable. This report contains forecasts and projections prepared by Geos Mining. However, these forecasts and projections cannot be assured and factors both within and beyond the control of Auminco Coal Pty Ltd could cause the actual results to be materially different from Geos Mining's assessments and estimates contained in this report.

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1. Introduction

Auminco Coal Pty Ltd (Auminco) contracted Geos Mining to provide a geological assessment of the Stanton Nickel-Cobalt Project within the Northern Territory, Australia for existing and potential future investors in Auminco.

The assessment included a site visit to the project area and a review of the current published mineral resource at Stanton. A re-estimation of this resource is beyond the scope of this assessment and has not been completed. This report has not included any title search or formal assessment of environmental, native title or other factors affecting exploration and development of the project. The report does, however, include comments on any relevant non-geological factors that became apparent during the course of the work. In particular, some comment has been made on marketing, mining and metallurgical factors that may affect the viability of the project.

The report does not include any valuation of the tenement but does conform to the Valmin code for independent expert reports (Valmin Committee, 2005).

In July 2012, Auminco requested that Geos Mining expand the parameters of the geological assessment to include the tenement surrounding ML23348. Exploration licence EL28567 of 33 sub blocks (108.5km^2) and held by Toro Energy completely surrounds ML23348. This report includes an evaluation of EL28567 incorporated into the original report, the subject of which was ML23348 only.

2. Report Contribution

This report has been compiled and written solely by the author, Jeff Randell. Sue Border, Principal of Geos Mining, has reviewed and edited the report and provided professional comment where applicable.

3. Reliance on Other Experts

The intent of this assessment was not to undertake a full study of the deposit, rather to supply a technical opinion of the project based on a qualified risk assessment. This was made possible after review of confidential technical reports on mineralogy, metallurgy, processing plant design, scoping studies and market studies supplied to Geos Mining by Auminco. These have been accepted as accurate, with no independent checking or verification of the data. The reports provided are considered to be technically consistent and Geos Mining has found no reason to question the data as provided.

4. Data Sources and Verification

This review was conducted on data and documentation supplied by Auminco as obtained from the tenement holder (Mineral Estates Pty Ltd, a subsidiary of Hydromet Corporation Limited) and is current as at 08 August 2012. Some reports were obtained from the Department of Resources – Minerals and Energy in Darwin open file library.

Geos Mining was not involved in any of the data collection and has assumed that all data received is valid. During the site visit, Geos Mining verified the location of the mining lease and several drill holes.

5. Property Location and Description

Location

The project is located in the Wollogorang region of the Northern Territory, adjacent to both the Queensland border and the Gulf of Carpentaria. The tenements are located 60kms NNW of Wollogorang Station and 870 kms SE of Darwin (Figure 1).

The tenement is situated within the Selby 1:100,000 sheet 6464 and the Wollogorang 1:250,000 sheet SE 53-04.

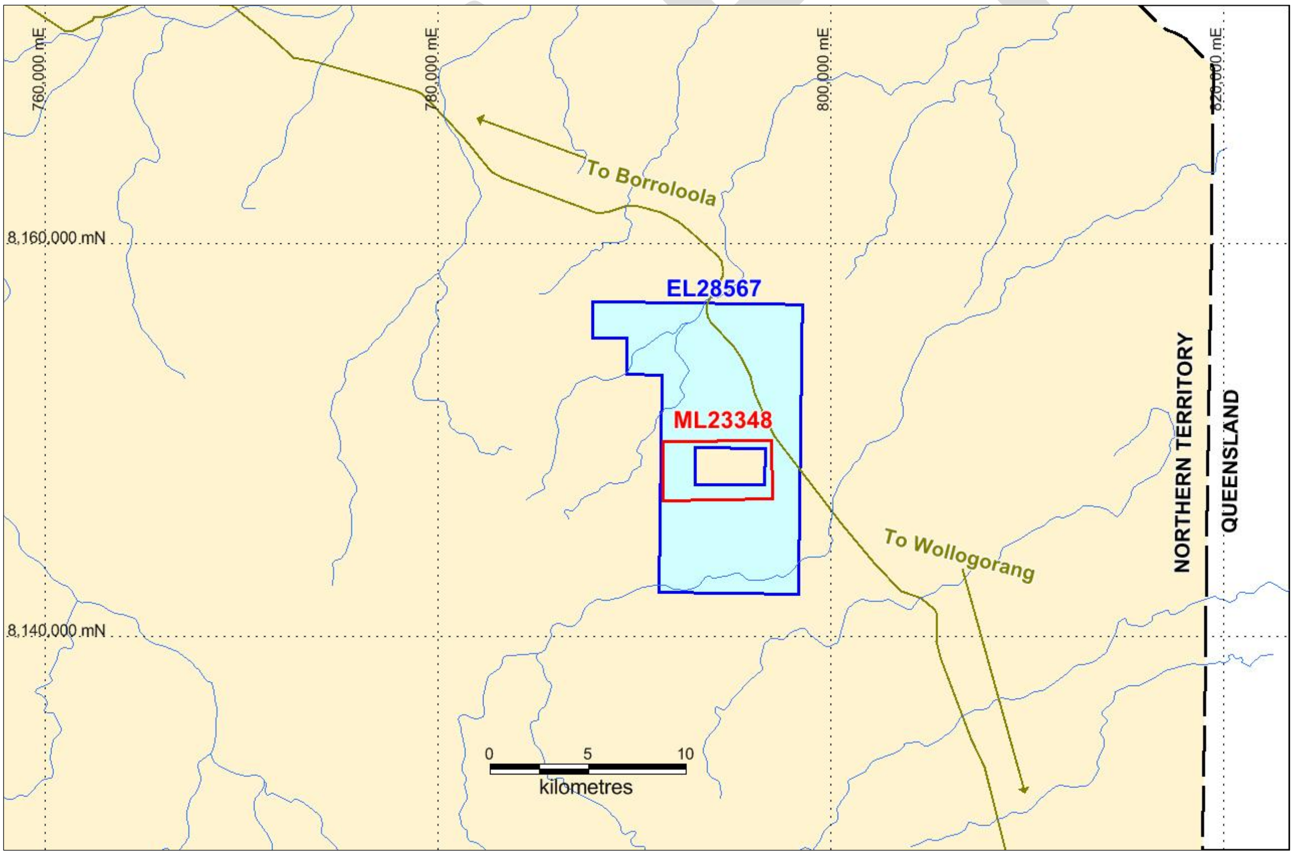

Figure 1: Location of Stanton Project

TENURE

MINING LEASE ML 23348

Granted Mining Lease 23348 of approximately 16.6 sq kms covers land held under Perpetual Pastoral Lease 1097 "Wollogorang" by Panoy Pty Ltd. The manager of Wollogorang station is Stuart Zlotowski.

ML23348 was granted to Mineral Estates Pty Ltd[1] on 24/02/2005 for a period of 25 years. Any 'mining activity' which includes exploration can only commence if a valid authorisation is held under the terms of the Mining Management Act. Compensation is payable to the native title holder if any mining activity is carried out. The grant of ML23348 over former EL8413 included no conditions for development of the project. Auminco hold an option over this Lease.

It is noted that a royalty payment of 1% of the Net Smelter Return generated from the sale of any mineral is current to be paid to Rio Tinto Exploration Pty Ltd (Rio Tinto Exploration Pty Ltd, William Joseph Fisher and Chemmet Pty Ltd, 1998). Royalco Resources Limited (Royalco) list the Stanton Project as one of their assets in which they retain a 1% NSR so presumably this has been transferred from CRAE. There are other legal ramifications of pre-existing agreements which have been noted in the Auminco Option Agreement (Mineral Estates Pty Ltd, Hydromet Corporation Limited and Auminco Coal Pty Ltd, 2012).

EL28567

Exploration licence 28567 of 33 blocks (108.5km^2) was granted to Toro Energy Limited on 24/10/2011 for a period of six years. The tenement has an expenditure commitment of $75,000 for the year ending 23/10/2012 and is required to be reduced by 50% to 15 blocks by 24/10/2013. Auminco has signed an option agreement with Toro for a joint venture over this Licence.

CULTURAL HERITAGE

The register of sacred sites, administered through the AAPA, has not been viewed but correspondence from Capricorn Mapping and Mining Title Services (04/10/2004) indicates that an Authority Certificate was in place in 2004.

The register will need to be re-checked and an Authority Certificate obtained in the event that further exploration is carried out.

NATIVE TITLE

A search of the National Native Title Tribunal register indicates that the Borroloola Region #2 (Coastal) claim (Trib No. DC09/1) was accepted for registration on 27/03/2009. This claim overlies ML23348 and it is recommended that prior to any exploration commencing that the impact of this claim on any exploration or mining activities be determined.

[1] Mineral Estates Pty Ltd is a wholly owned subsidiary of Hydromet Corporation Limited

6. Accessibility, Climate and Flora/ Fauna

ACCESSIBILITY

The area is remote from population centres. It is currently most readily accessible from Wollogorang station and roadhouse 70 kms to the south and from Borroloola 180 kms to the north-west via Seven Emus station. All of the ground in question is on Wollogorang Station.

CLIMATE

There is a pronounced wet season over the summer months. Vehicle access may be significantly restricted during the wet season by seven main creeks crossing the track to Wollogorang, but is generally assured from July to October inclusive. Running Creek is the main perennial stream and at the time of the field visit, one branch measured 0.8m deep at the track crossing (Photo 1).

Photo 1: Aerial view of Running Creek Crossing

FLORA AND FAUNA

The area lies in open grassy woodland on the coastal plain of the Gulf of Carpentaria about 35 kms from the coast. Most of it is very flat and for the most part it is trafficable for off road vehicles if small outcrops are avoided and occasional small trees and ant beds are cleared.

There are three bio-regions within the Wollogorang region but only the Gulf Plains bioregion is represented at Stanton. There is a rich diversity of flora and fauna within the region (Trainor, 1997) but the location of the Stanton project within scrubby plains suggested that most species are confined to the numerous gorges and rainforest type environment well outside the mining lease.

There are five historic sites recorded on Wollogorang Station but none are close to the Stanton Project. Parts of Wollogorang Station old homestead are listed as historic sites.

7. Project History

Open file data from the NT Geological Survey indicates that the area within and surrounding ML23348 has been covered by more than 15 tenements since 1956. Exploration has involved a search for diamonds, copper, gold, nickel and cobalt. Open and closed file summaries are not reproduced here but a list of reports is shown in **Error! Reference source not found.**.

Of importance to this report is the fact that the Stanton Project was extensively explored between 1990 and 1996 by CRA Exploration Pty Ltd (CRAE) under a farm-in arrangement with Joe Fisher. In 1997, CRAE became Rio Tinto Exploration Pty Ltd which later sold the project to Chemmet (1998) and Mineral Estates (2000).

Goulevitch (2002) notes that CRAE drilled a total of ~21,000 metres in 257 holes in the area. At Stanton itself, 35 holes were drilled for 649 metres percussion drilling and 2781 metres diamond drilling. Smith (2005) reports that drilling within the project area amounted to 22,326m in 287 holes (Table 1 and **Error! Reference source not found.**). CRAE also carried out comprehensive geophysical and geochemical surveys and preliminary metallurgical investigations.

Work by Chemmet and Mineral Estates consisted almost solely of scoping and marketing studies although a small soil sampling programme was completed in 2008.

AREA	NO. OF HOLES	METRES DRILLED	AVERAGE DEPTH
Stanton	35	3431	98
North Stanton	5	379	76
SW Stanton	4	321	80
Lager	8	319	40
Running Creek Extended	63	5601	89
Stanton 2	19	1760	93
Stanton 3	13	1099	85
Archangel	5	324	65
Felix	31	2772	89
Saltlick	11	940	85
Stout	43	2552	59
Holmes	9	632	70
Gregjo	15	753	50
Eastern EM Anomaly	4	359	90
SW EM Anomaly	4	401	50
Monster	1	40	40
Billtan	1	36	36
Stratigraphic Holes	16	607	38
TOT	287	TOT 22326	AV 78

Table 1: Inventory of drilling at Stanton Project

8. Geological Setting

Regional Geology

The project is located within the Wearyan Shelf of the Proterozoic McArthur Basin (Figure 2). To the west of the tenement the dissected plateau of the Masterton Sandstone is the dominant feature but ML23348 is situated over the broad coastal plains of the Gulf of Carpentaria. Here, the Tawallah Group Gold Creek Volcanics are the dominant sequence and are overlain by Cainozoic sands, silts and laterites. The Gold Creek Volcanics comprise four main lithotypes, according to (Rawlings, et al., 1996): these are sandstones, mudstones, basalts and ferruginous lithic breccias. However, the author's own observations of core suggest that the lithologies have the field appearance of sandstone/ quartzite, mudstone/ siltstone, dacitic lavas, epiclastic breccias and volcanogenic ash/ sediment.

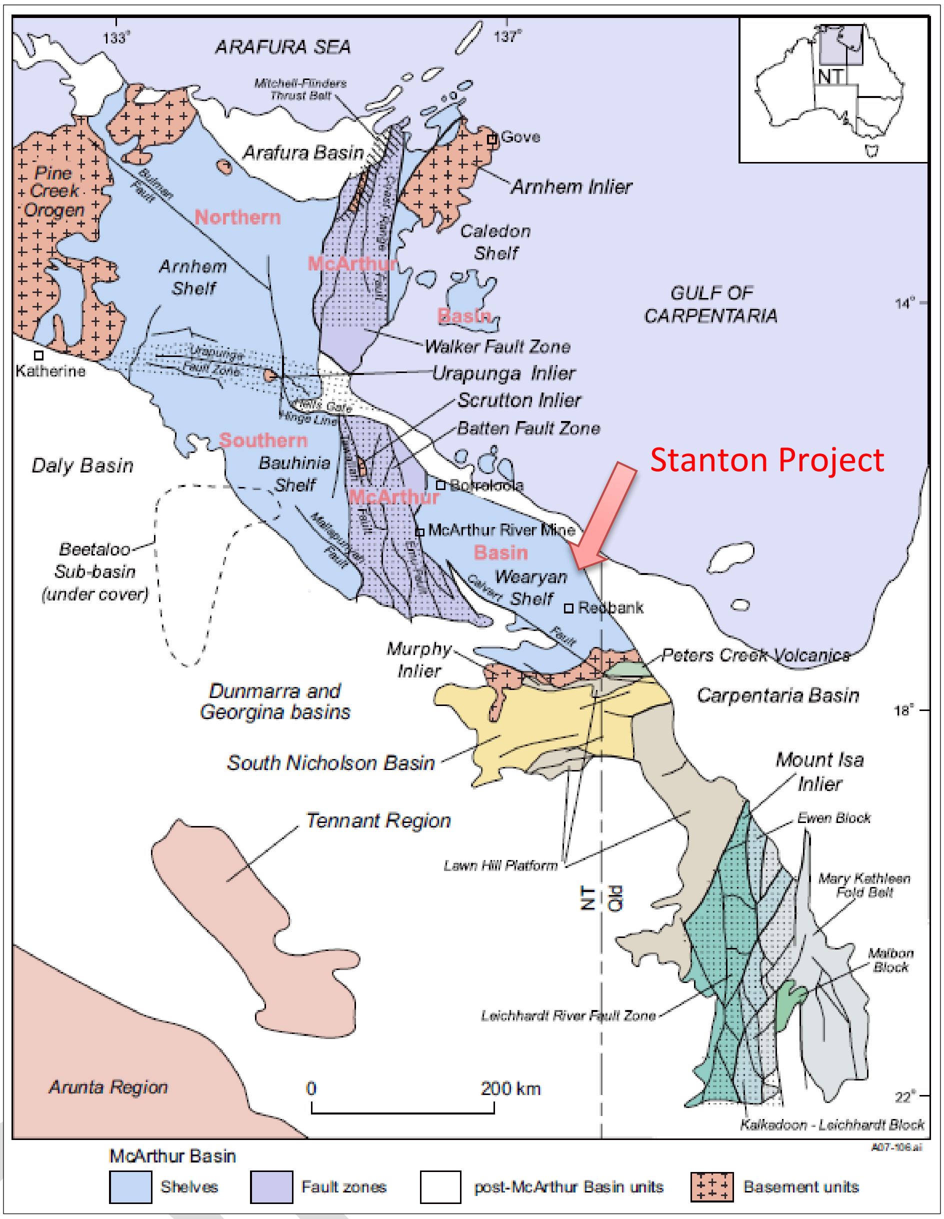

Figure 2: Tectonic Setting, Wearyan Shelf (after (Rawlings, 2005))

LOCAL GEOLOGY

The area is marked by poorly outcropping flat lying or gently dipping units[2] of the Gold Creek Volcanics. Stratigraphy is not well exposed due to eluvial cover and thick spear grass/ spinifex growth. Lithologies comprise intercalated volcanics and sediments. The volcanics are generally dacitic (?basaltic) in affinity and partly vesicular (Photo 2). The sediments include mudstone, siltstones and sandstones/ quartzites (Photo 3). Cover generally consists of lateritic eluvium of a metre or so thickness, or up to a few metres in the areas of most apparent interest (Photo 4). Lateritisation of the sediments is very apparent and will have involved scavenging of Cu, Ni, Co and Mn from underlying sediments and volcanics. This is a regional phenomenon and explains why some anomalies that were drilled produced no anomalous geochemistry.

Alteration of the rocks is very strong making identification difficult. CRAE took a lot of samples for petrographic examination so the petrographic descriptions should be looked at carefully.

[2] This was confirmed from observations in core which almost always indicated flat or gently dipping stratigraphy.

The area is thought to be affected by a large number of structures but these are not readily recognisable at the surface.

Photo 2: Core from drill hole DD94RC107 at 9.0m. Note highly vesicular dacitic lava (?flow top)

Photo 3: Drillhole DD94RC120 at 7.9m. Note sharp contact between massive volcanic and quartzite

Photo 4: Typical pisolitic laterite cover. Note 'copper plant' with white flowers next to notebook

Geochemical anomalies are situated in low lying areas and usually marked by differing vegetation patterns (Photo 5). This is especially evident from the air and probably reflects the strong scavenging of particular elements in these areas. This may or may not reflect bedrock geochemistry.

Photo 5: Stanton II geobotanical anomaly

9. Mineralisation

There are a number of prospects with ML23348 and EL28567 (Figure 3) but the main ones to be considered in this report are Stanton, Stanton II and Running Creek.

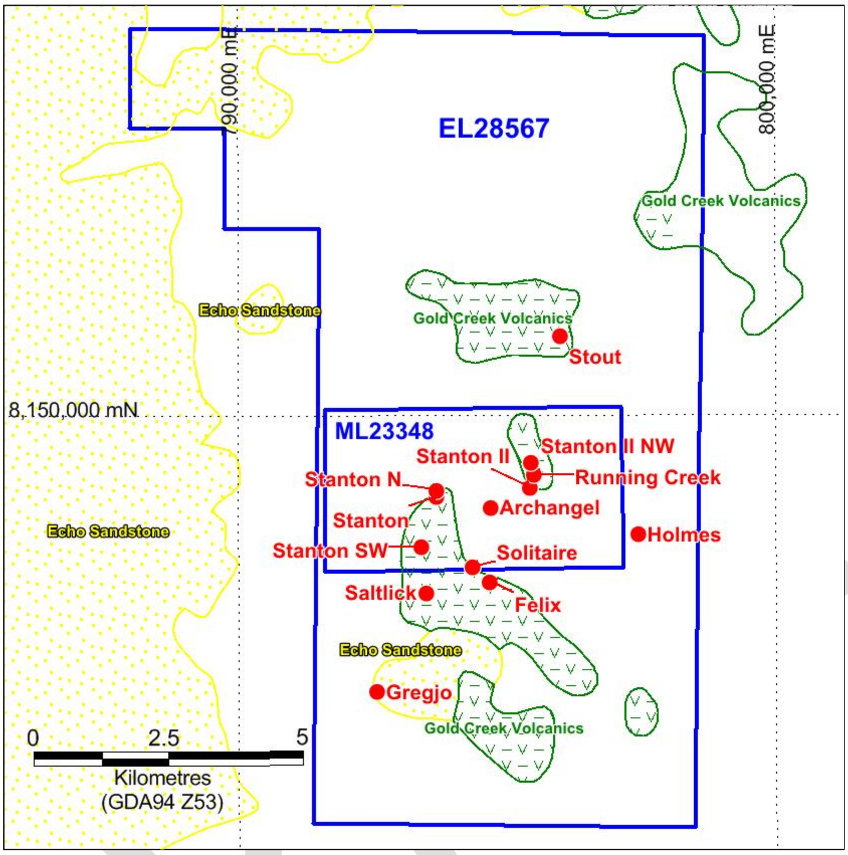

Figure 3: Stanton Project - Prospect Location

Stanton

Examination of core from the Stanton Prospect kept at the NT Core Library in Darwin provided an opportunity to observe the various forms of mineralisation at this location. Core examined and photographed is presented in **Error! Reference source not found.**.

Mineralisation is visually expressed as black manganese rich crackle veining, spots (Photo 6) and laminations (Photo 7) and is best developed in brecciated dacitic volcanics (Photo 8) and at margins with volcaniclastic sediments. Overall it appears to be broadly stratabound within flat lying sequences although there is considerable fracturing and brecciation in the host sequences which has probably provided pathways for remobilisation of later cobalt/ nickel mineralisation.

Photo 6: Drillhole DD94RC122 at 32.3m. Note black spotted mineralisation in a bleached volcanic

Photo 7: Drillhole DD94RC107 at 71m. Note black strongly mineralised laminations

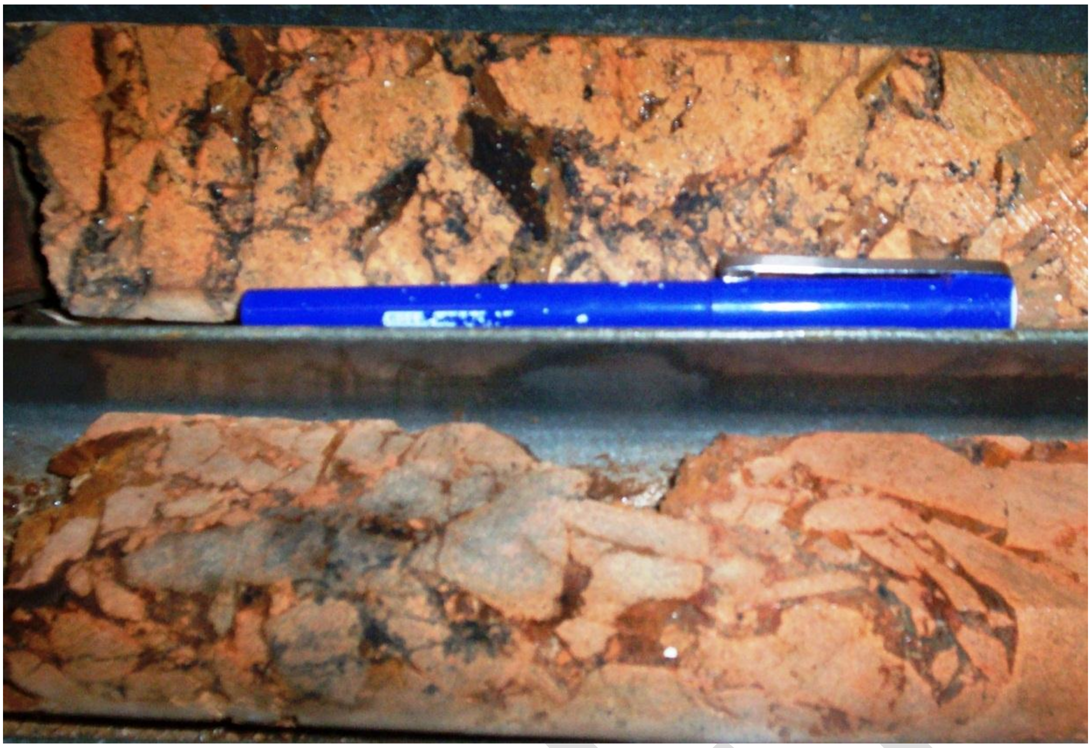

Photo 8: Drillhole DD94RC122 at 7.7m. Note strongly angular brecciated volcanics with fine black crackle veinlets and patches

Mineralisation at Stanton is defined over an area of about 100m x 75m and is located on the north side of the ENE trending Stanton Fault (**Error! Reference source not found.** and Photo 10). This fault was not obvious on ground but can be apparently observed in several locations (Smith, pers. comm.). (Goulevitch, 2001)has interpreted a number of NNW trending faults which are oblique to the Stanton Fault; these appear to have been interpreted due to lithological displacement of units as inferred from core logging and section interpretation. Their reality is yet to be proven but certainly observations of core (Photo 9) support the thesis that there has been much disruption of the sequence.

Photo 9: Drillhole DD94RC122 at 37.0m. Note intensely broken core

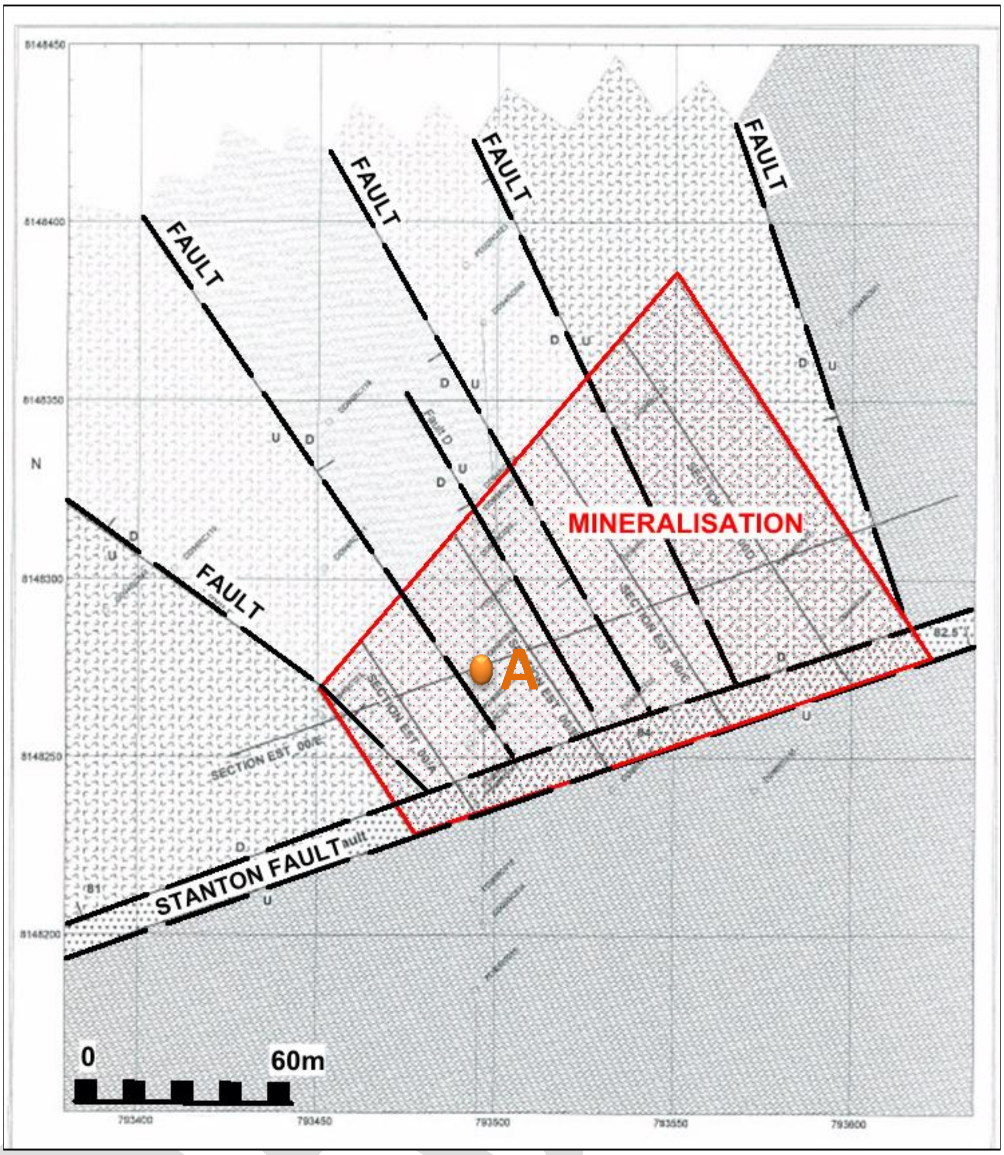

Figure 4: Stanton Prospect - Plan View (after (Goulevitch, 2001))

Photo 10: Stanton Prospect Panorama looking NE from point 'A' in **Error! Reference source not found.**

The bulk of the mineralisation occurs within about 60m of surface although thinner zones occur up to 90m below surface (**Error! Reference source not found.**). The base of oxidation (i.e. first appearance of sulphide mineralisation) has been mapped at between 20m and 40m so it is evident that much of the mineralisation occurs with the oxide or transition zone (if there is one).

Some of the better intersections recorded by CRAE/ RioTinto are:

- 8.15m @ 0.35% Co, 0.20% Ni from 31.85m in hole DD94RC39
- 16.90m @ 0.32% Co, 0.13% Ni from 19.1m in hole DD94RC100
- 45.0m @ 0.18% Co, 0.17% Ni, 0.23% Cu from 0m in hole DD94RC122

CRAE have represented a typical cross section in **Error! Reference source not found.** and consider that the intercalated sequence of volcaniclastic sediments, sandstones and trachyte/ basalt is disrupted by a volcanic/ sediment breccia bounded by faults. Whether these are primary debris flows or later tectonic breccias has not been ascertained but we note the similarity with the Redbank style of mineralisation (Redbank Mines, 2008). Observations in core (Photo 11) indicated that some breccias are polymictic and would seem more akin to tectonic breccias rather than actual flows. If this were the case we would infer that the host breccias are more discrete and localised in their form (ovoid pipes?).

Photo 11: Drillhole DD94RC122 at 18m. Note polymict breccia near pen

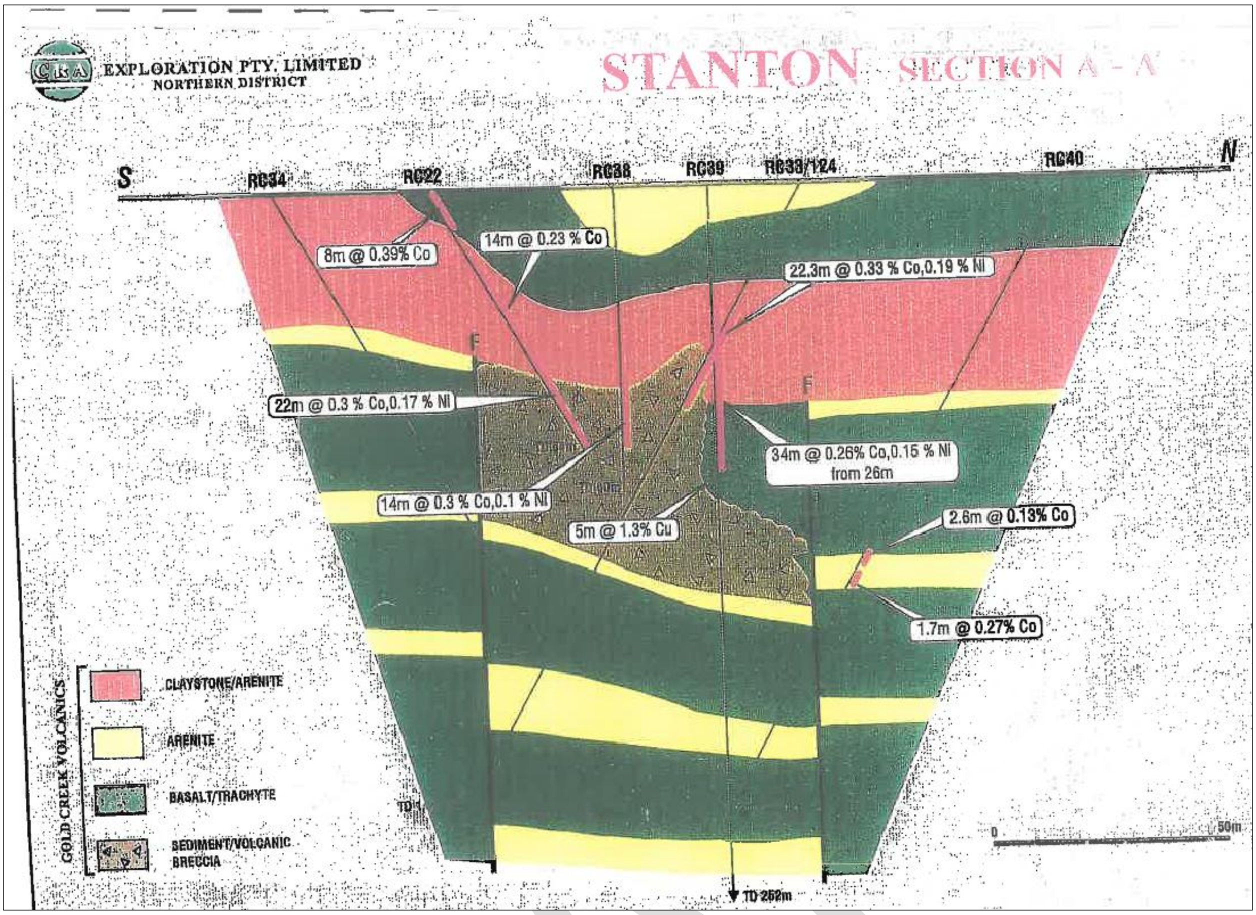

Figure 5: Stanton Prospect - schematic cross section

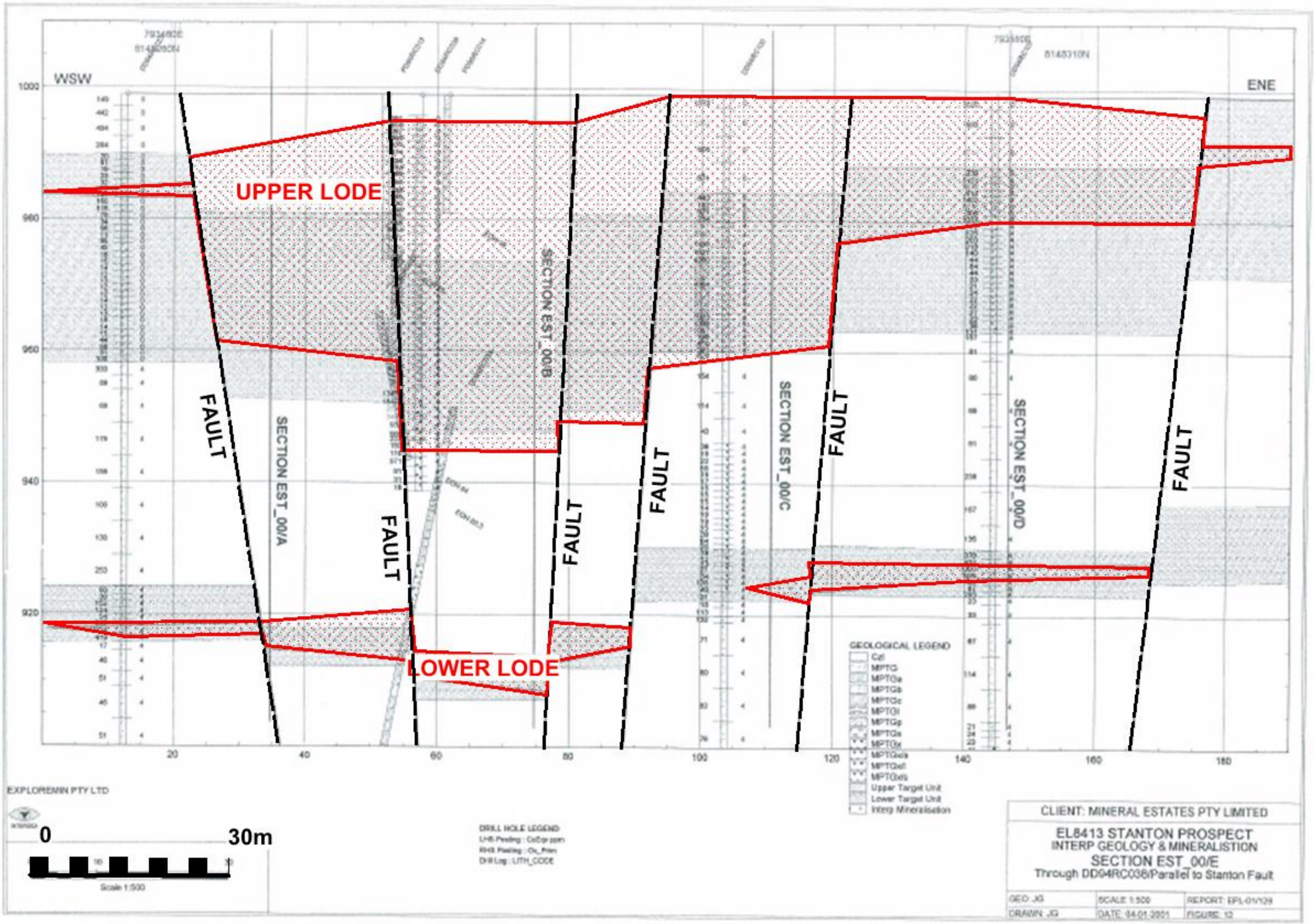

Figure 6: Oblique Section through Stanton, showing two discrete zones of mineralisation (after (Goulevitch, 2001))

RUNNING CREEK

Surface expression of mineralisation is limited to small pits and subcrops of readily recognisable malachite, chrysocolla and possibly a nickel carbonate occurring as veinlets, fracture fillings and irregular patches (Photo 12 and Photo 13).

Photo 12: Running Creek 'Mine' showing malachite stained rocks (centre right). Note lack of trees

Photo 13: Running Creek mineralisation; malachite stained and ferruginous fracture fill in quartzitic host

At Running Creek, better drill intersections included:

- 13.4m @ 1.2% Cu from 25.50m in DD94RC63
- 7.0m @ 0.37% Cu from 25m in DD94RC125

CRAE have represented a partly schematic cross section as shown in **Error! Reference source not found.** and it appears in this case that mineralisation is more related to a dispersion phenomenon at the base of oxidation in proximity to late stage faulting.

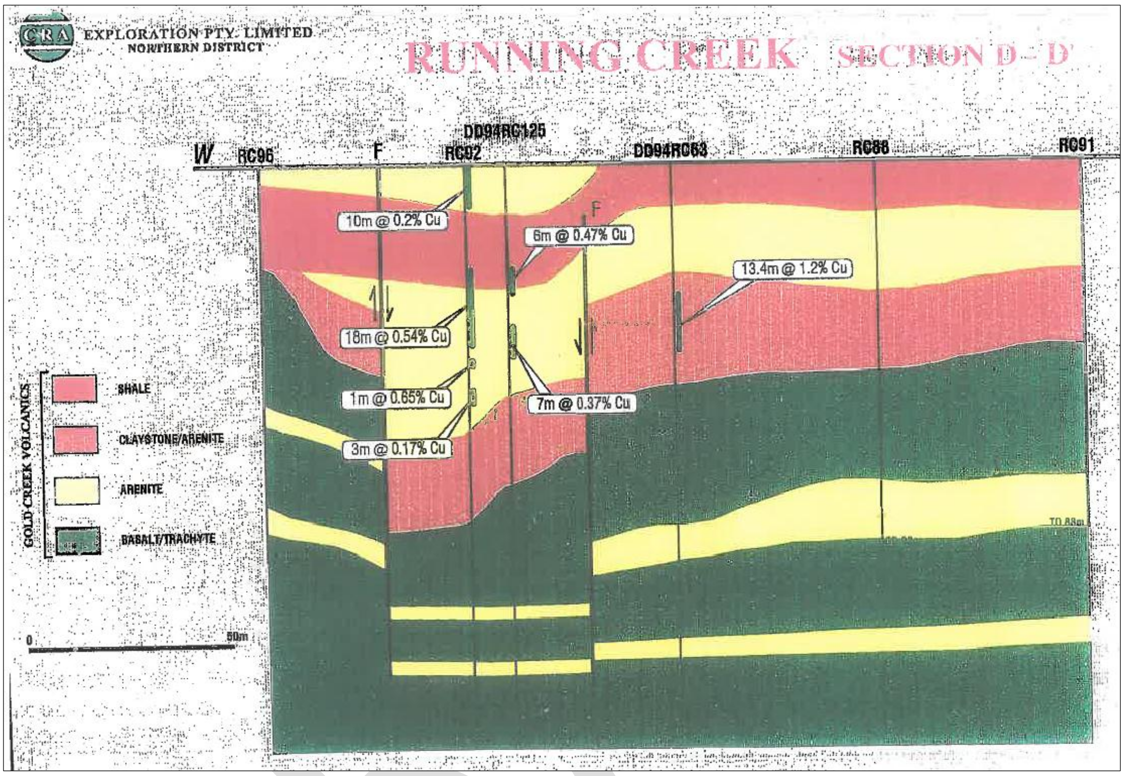

Figure 7: Running Creek - Typical Section through mineralisation

Stanton II and III

Mineralisation at Stanton II was observed at surface as several small pits (Photo 14). Here, obvious malachite stained and fractured ferruginous sediments are observed in subcrop.

Photo 14: Stanton II typical mineralisation (malachite, chrysocolla veinlets and patches in strongly ferruginous lateritic matrix)

Mineralisation intersected at Stanton II and III included:

- 10.5m @ 0.85% Cu, 0.1% Co from 57m in hole DD95RC219
- 15.00m @ 2.3% Cu from 14m in hole PD95RC247

CRAE have represented a schematic cross section as shown in in **Error! Reference source not found.** and it is noted here that the mineralisation is essentially copper rich as compared to Stanton which is cobalt – copper- nickel deposit.

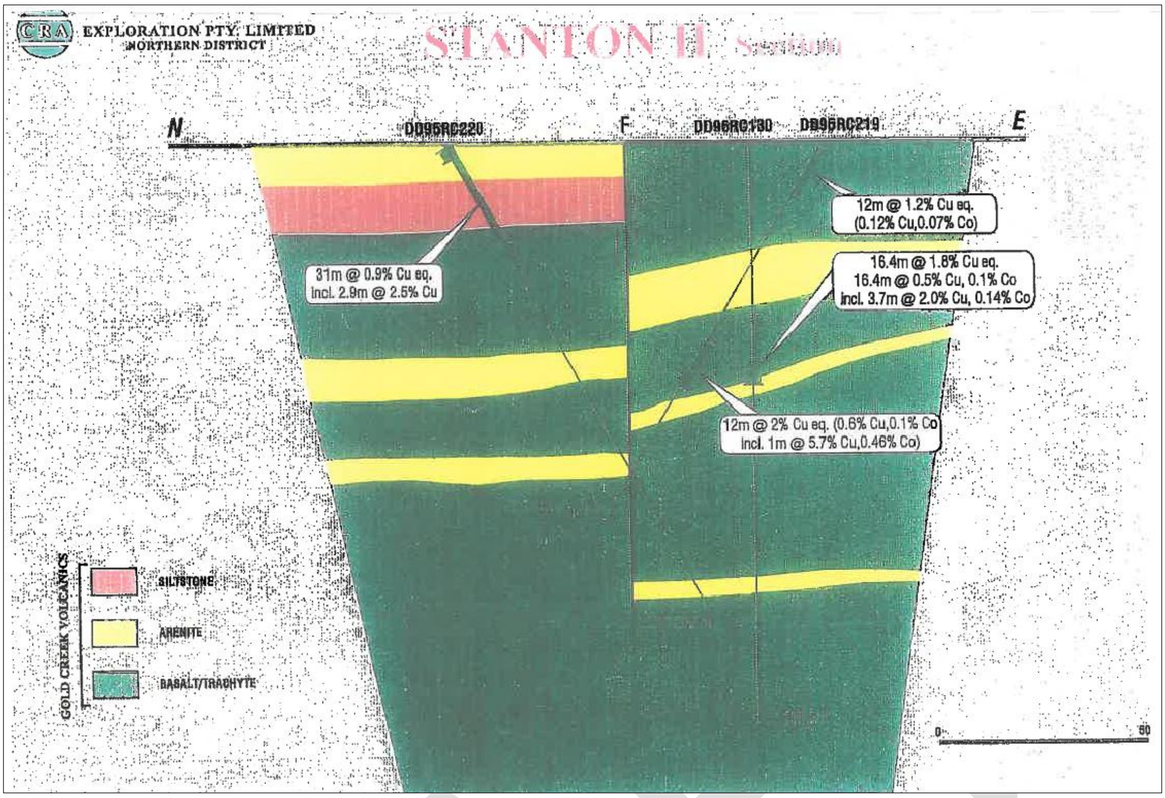

Figure 8: Stanton II - schematic section through mineralisation

Other Prospects

FELIX - the area is defined by a large and coherent pattern of lag anomalies (1.2km x 0.4km) with strongly anomalous values for both copper and cobalt (Figure 9). A total of 22 RC drillholes were completed on broad 200m hole spacing with the best intersected recorded being 1m @ 0.37% copper from 85m. All holes were drilled vertically. Interestingly, one diamond drill hole (DD95RC154) intersected a strong mineralised zone of pyrite-sphalerite-galena which assayed 7.9m @ 0.48% zinc from 115.4m depth.

Despite the broad drilling coverage, the extensive geochemical anomalism does not appear to have been specifically targeted. Drilling has instead been designed to test for a large disseminated body of mineralisation with no apparent consideration of structural control to the mineralisation.

SALTLICK – the prospect is located immediately west of Felix and is defined by a consistent zone of cobalt anomalism over an area of 1km x 0.5km. The existing drilling pattern has been centred off the copper and cobalt lag anomalies which are located 200-300m to the south and southeast. Despite this, broad zones of copper mineralisation were intersected:

- 10m @ 1.7% copper from 4m (DD90RC006)
- 25m @ 0.37% copper from surface (DD94RC072)

The bulk of the cobalt geochemical anomaly is untested.

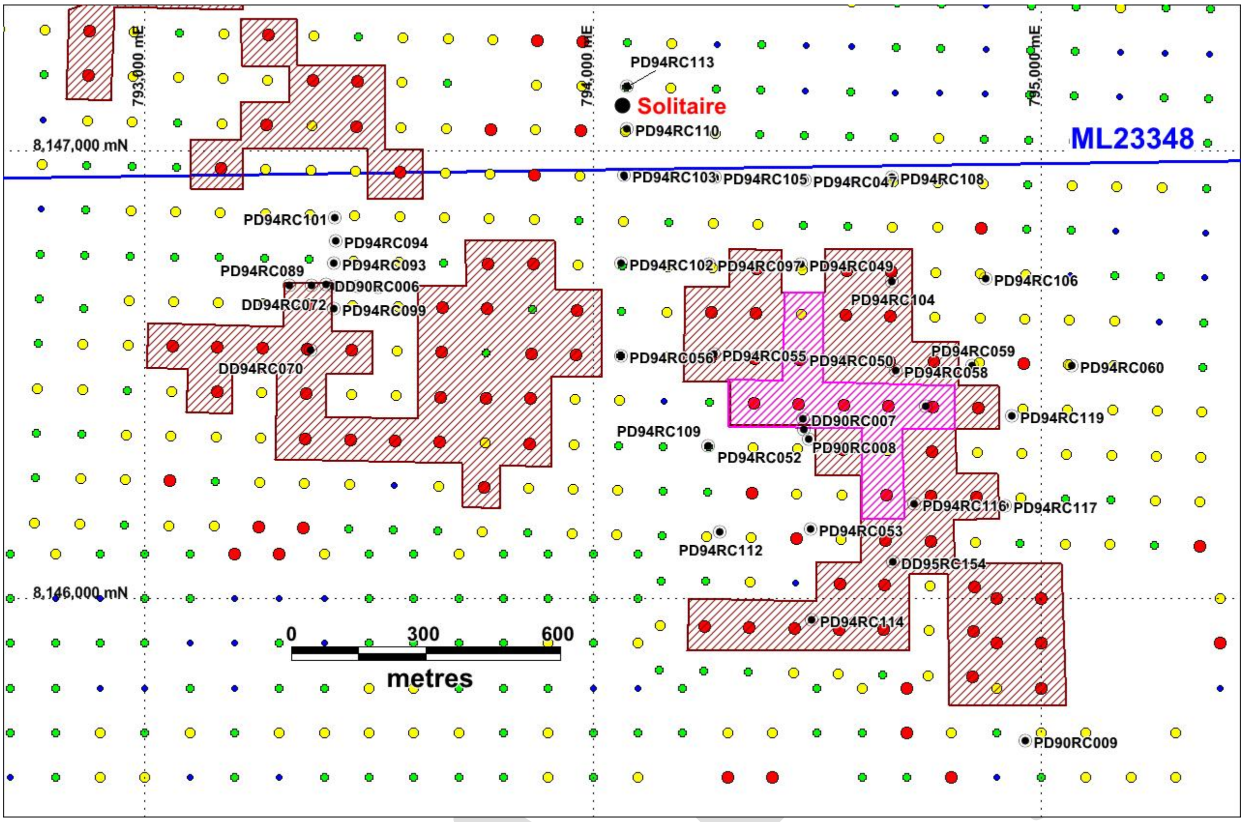

Figure 9: Felix/ Saltlick Prospects - drilling coverage and cobalt (brown)/ copper (purple) anomalies

STOUT - the area has a well developed cobalt anomaly defined over an area of 900m x 300m within which a discrete copper anomaly is present (Figure 10). The prospect appears to have been extensively drilled with disappointing results being reported. The western end of the anomaly remains untested.

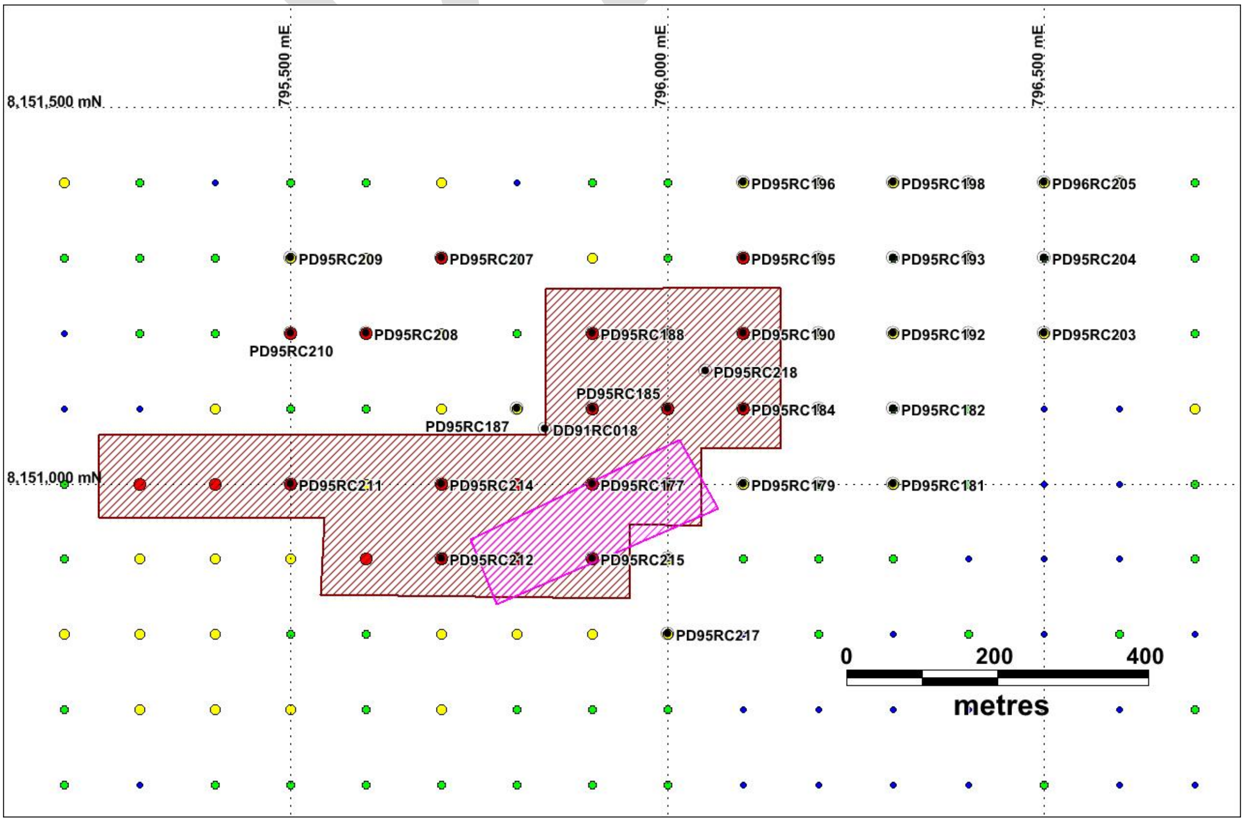

Figure 10: Stout Prospect - drilling coverage with Co anomalies (brown) and Cu anomalies (purple)

GREGJO – a discrete cobalt (700m x 400m) and copper (300m x 100m) anomaly has been partially tested with 14 drillholes, however most were collared to the south of the actual anomalies (Figure 11). Results were not encouraging with the best being 12m @ 0.3% copper from surface (PD92RC028).

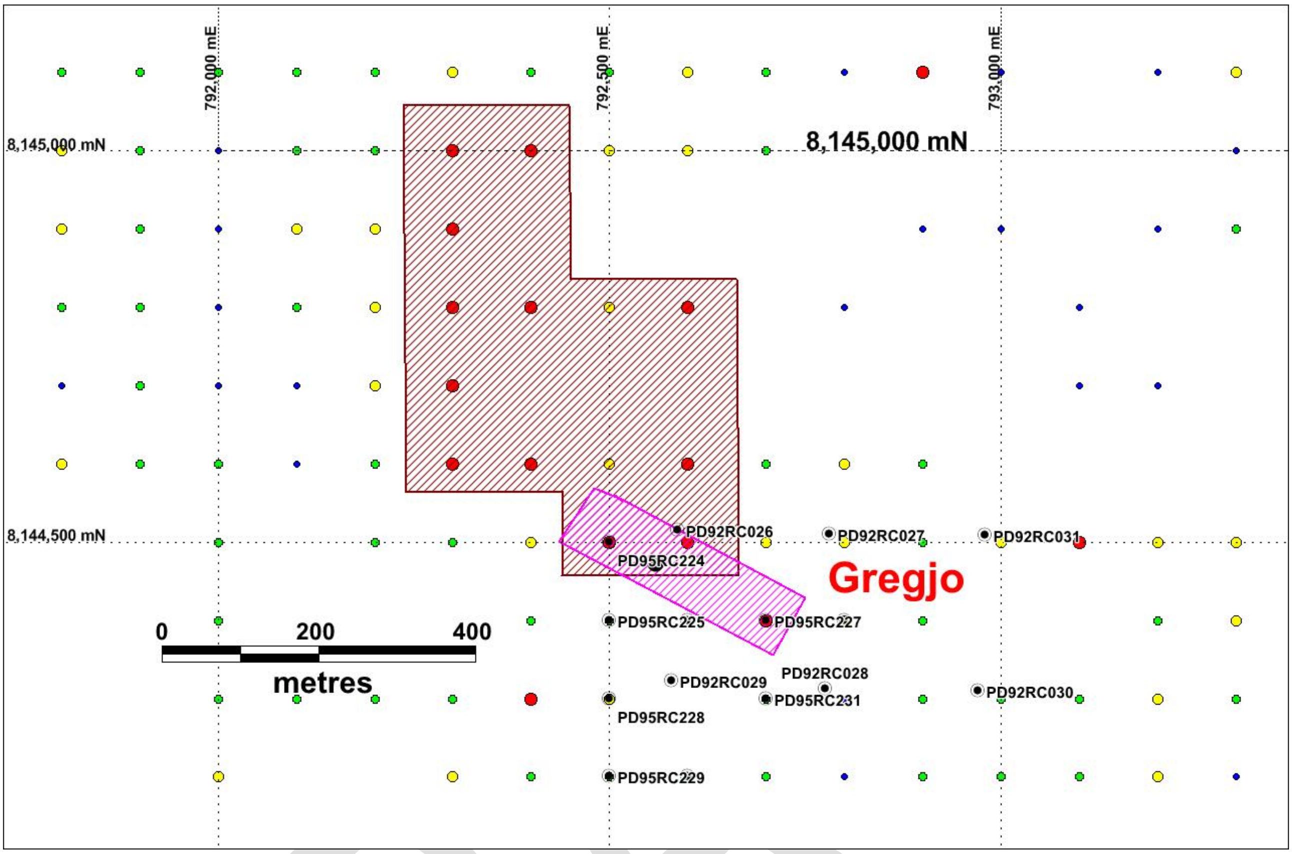

Figure 11: Gregjo Prospect - drilling coverage with Co anomalies (brown) and Cu anomalies (purple)

10. Exploration Completed

Historical Exploration

A small copper mine was operated at Running Creek in the 1950s during which time 30-40 tonnes of hand-picked oxidised copper ore was mined. Most of the earlier exploratory work of relevance was by Mr W J Fisher. (Smith, 2005) reports that his work was based on a search for pipe like deposits similar to those at Redbank 50kms to the south in rocks of the same age. Initially attention was given to possible circular structures which it was thought might be mineralised.

The more recent exploration of most relevance has been dominated by CRA Exploration Pty Ltd (CRAE). CRAE's main activity was from 1990 to 1996 during which time emphasis changed from targets as pipes towards the perception of targets of red-bed type, Mississippi Valley Type, or large stratabound copper deposits. In the course of the CRAE work, cobalt copper nickel mineralisation was intersected in percussion and diamond drilling.

A combined magnetic and Dighem survey (100m line spacing, 60m terrain clearance) was flown over all of the area of the former EL 8413. While it was not considered that magnetic responses could be used as direct indicators of mineralisation, it was thought that they would have considerable use in identifying structural disruptions. Dighem was intended to serve as a direct indicator of conductive mineralisation, however the drilling of targets indicated by the airborne survey was not encouraging.

An extensive lag geochemistry program (5410 samples (–4mm +2mm) at 100m spacing) covered ~54 sq kms which is most of former EL 8413. Analyses included As, Bi, Co, Mo, Cu, Cr, Ni, Pb, and Zn as well as Fe and Mn. The data was processed statistically by CRAE (Smith, 2005) but we have not sighted any report describing this work. The distribution of Co and Cu anomalies is shown in **Error! Reference source not found.**; the spatially largest copper anomaly occurs in the Running Creek – Stanton II area while other prospects include Felix, Saltlick, Stout and Gregjo. Cobalt anomalies occur generally at the areas mentioned for copper, and more generally as spatially smaller anomalies at fourteen well distributed other localities, some of which are located outside of ML23348. but within EL28567.

There is no clear correlation between Co-Cu anomalism and mineralisation as evidenced by the numerous anomalies tested by CRAE. The influence of the eluvial pisolitic laterite cover on elemental dispersion may have been addressed by CRAE but we have found no evidence of this as yet. In any case, there should be an independent review of this data to determine whether normalising values would be useful in discriminating surficial from bedrock anomalies. The extensive database allows a good opportunity to determine to what extent future exploration should rely on this data. Results reviewed from historical reports indicate that drilling has not always focussed on geochemical targets and there remains good potential for testing of additional targets within known prospects.

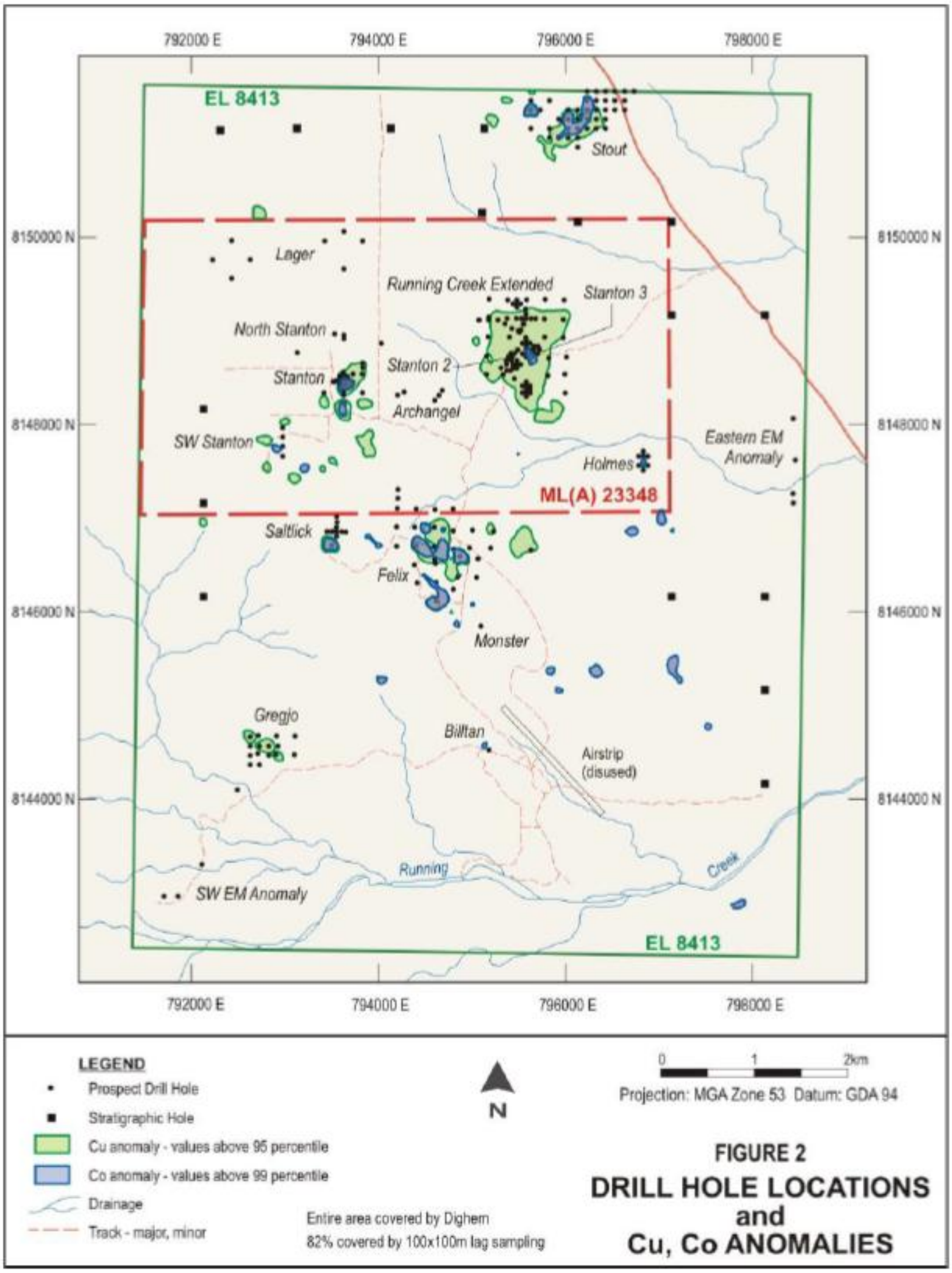

Figure 12: Distribution of Lag Anomalies (Smith, 2005)

Recent Exploration

There has been very limited field exploration (soil sampling survey in 2008) completed since 2001 and only cursory scoping and marketing studies have been completed by Chemmet and Mineral Estates.

11. Mineral Resource Estimates

Stanton Prospect

The first formal statement of Mineral Resources for the Stanton Prospect was completed by Goulevitch, (2001) although the author does refer to "informal estimates of potential resources". Goulevitch's resource statement is reproduced as Table 2.

Table 1: STATEMENT OF IDENTIFIED MINERAL RESOURCES, STANTON PROSPECT (31 December, 2000; Cut-off Grade - 0.05% Co Equivalent)

	TONNES	Co ppm	Cu ppm	Ni ppm	CoEqv* ppm
INDICATED RESOURCES					
Lower Lode	63,000	1042	580	503	1182
Upper Lode Oxide	391,000	1131	1841	535	1341
Upper Lode Primary	335,000	2030	1252	1224	2362
TOTAL	788,000	1506	1490	825	1762
TOTAL INDICATED	0.8 MT	0.15%	0.15%	0.08%	0.18%
INFERRED RESOURCES					
Upper Lode Oxide	64,000	1238	1296	448	1401
Upper Lode Primary	8,000	1016	265	436	1125
TOTAL	72,000	1214	1184	447	1371
TOTAL INFERRED	0.1 MT	0.12%	0.12%	0.04%	0.14%

Totals may not compute exactly due to rounding.
*CoEqv = Co + 0.22Ni + 0.05Cu

Table 2: Statement of Identified Mineral Resources - Stanton Prospect

There are several geological features which are integral to the integrity of Goulevitch's resource model:

- Stratigraphy is sub horizontal and mineralisation is broadly stratabound
- All mineralisation is coincident with a 'nested' set of faults and decreases away from the ENE trending Stanton Fault
- The base of oxidation averages 30m depth and the main 'Upper Lode' occurs from surface to 60m depth

Quality Control

Almost all trace of drill hole collars has been lost through rehabilitation, trampling by stock or coverage by thick grass. Drillhole DD94RC038 collar was located and the location agreed well with the collar location recorded in the database. In other cases, drill sumps were observed and these approximated recorded collar positions. There are significant reported differences in collar positions when comparing original geological logs with coordinates recorded in the database but the use of a qualified surveyor to pick up collars would suggest confidence can be placed in the positions as recorded in the database.

Almost all samples used in the resource model were nominally half core although remaining splits are quite variable in diameter. Crushing and pulverising of samples was carried out but apparently duplicate samples were not prepared. There is no evidence of any internal laboratory standards being used although it is likely that this was done, just not reported by CRAE.

CRAE mainly used AMDEL in Darwin to assay their samples. They used several analytical methods to assay drill samples but Goulevitch (2001) used only those samples in which four acid digest was carried out in his resource estimation. He notes that use of this digest "may overstate recoverable grades of Co, Ni and Cu to an unknown degree". From the metallurgical testwork, 25-30% of the siegenite (nickel cobalt sulphide) is locked in silicate minerals (Wilson, 1994), and there are major technical challenges to recovery of any metals that are locked in a silicate lattice. Hence use of this digest will give resource grades that may be significantly higher than recoverable grades. An aqua regia digest may be more appropriate for future sampling to avoid dissolution of the target trace elements in silicate minerals.

Replicate quarter core and RC samples were analysed by AssayCorp in Pine Creek but final assay reports had not been located (Goulevitch, 2001).

Goulevitch (2001) reported that he reviewed and validated all digital data against the original geological logs, sample intervals and original laboratory assay reports. In selecting intervals for inclusion in the resource estimation he subdivided these by lithology and oxidation state, allowing for up to 4m internal dilution and a minimum cutoff of 0.05% CoEquiv (CoEquiv = Co ppm + 0.22 x Ni ppm +0.05 x Cu ppm). The relevance of this cutoff to today's market has not been addressed.

Resource Estimation Method

Goulevitch (2001) reports that resource estimation used a simple sectional polygon method with blocks constrained by lithology and oxidation state. Grades were weighted by downhole length only and not by distance. Bulk densities were applied to both sediment and volcanic units in the oxide and primary zones; these were estimates only.

Intersections where poor core recovery was observed were assigned a zero or much reduced grade for estimation purposes. Geos Mining considers this a prudent decision but one which reinforces the need for future drilling to ensure maximum core recovery to provide confidence in assay grades.

Resource Results

The resource was estimated on the basis of only 33 intersections in 14 drillholes. Geos Mining's observations of core indicate that while sampling intervals have been geologically honoured, resource block boundaries have not discriminated laterite from underlying weathered sediments or volcanics. Whilst the laterite may only be up to 3m thick, this may represent up to 10% of the oxide resource which may not be recoverable, or only recoverable by different techniques from those suitable for the rest of the deposit.

Other points of note, as shown in Table 3, include:

- 28% of the global resource is contained in two primary resource blocks, of which one has been intersected by only one drillhole
- 40% of the resource blocks are represented by only one drillhole in each block

Resource	Intersected	Assay	Tonnage	Oxide/	Grade Allocation

Block	Holes	Values Included	Allocation/ %	Primary	Co ppm	Cu ppm	Ni ppm
ASO2	1	9	47935/ 6%	Oxide	1401	471	693
AVO3	1	18	55123/ 6%	Oxide	1745	2488	408
ASP1	1	14	31524/ 4%	Primary	1073	278	448
ASP4	2	8	26348/ 3%	Primary	1211	317	628
BSO4	3	12	48131/ 6%	Oxide	1341	4026	988
BVO3	3	25	78514/ 9%	Oxide	797	2130	446
BVO5	1	1	3557/ 0%	Oxide	560	410	330
BSP2	3	37	138665/ 16%	Primary	1824	625	1141
BSP6	3	13	20605/ 2%	Primary	1257	1323	581
BVP1	2	22	68157/ 8%	Primary	2956	3447	1024
CVO2	1	4	66960/ 8%	Oxide	975	2433	520
CSP1	1	20	104230/ 12%	Primary	1886	446	1135
DSO1	3	17	68175/ 8%	Oxide	845	1178	367
DVO2	3	8	86660/ 10%	Oxide	907	1000	342
DSP3	2	8	15944/ 2%	Primary	1281	114	658

Table 3: Summary of Resource Block Attributes

Resource Estimation Limitations

The Stanton resource estimate was subjected to a due diligence review by (Exploremin Pty Ltd, 2000), the same company which completed the resource estimation. Geos Mining has reviewed this report and considers it to be a fair and reasonable assessment of the limitations of the quality of the Stanton resource. The more important of these limitations are summarised below:

- Most drill holes were drilled vertically and while this may be relevant for the flat lying mineralised envelope, this orientation does not allow for either the recognition of sub vertical faults (of which a large number are interpreted) or the intersection of fault bound mineralisation in a representative fashion. Geos Mining recommends that future drilling should be angled at 60o to stratigraphy.
- Significant core loss (up to 80%) was reported for holes DD94RC038, 039, 040, 100, 107 and 122, all of which have intersections included in the resource estimate. Geos Mining observed that core recoveries are variable but are particularly low (<50%) in strongly brecciated, broken volcanics/ sediments. There are 7 intersections with poor core recovery which affects 48% of the tonnage contained in the resource blocks. The effect on actual recoverable grade cannot be ascertained: actual grades may improve or decrease. Future drilling should use triple tube and care be taken to maximise core recovery.
- Core from the high grade intersections recorded in holes DD94RC038 and 039 was totally consumed for metallurgical testwork purposes and therefore the grades cannot be verified.
- Almost all assays used in the resource estimation were derived after a four acid digestion, including hydrofluoric acid. This has dissolved some of the nickel and cobalt which is held in silicate and refractory oxide minerals. There are major technical challenges to recovery of any metals that are locked in a silicate lattice. Hence use of this digest will give resource grades that may be significantly higher than recoverable grades.
- There have been no bulk density determinations done on any core. For the resource estimations values chosen varied from 2.2 to 2.6 g/cc depending upon whether the resource block was predominantly volcanic or sediment and either above or below the base of oxidation. Geos Mining considers that this range of values is reasonable for the categorisation of Inferred Resources but strongly recommends extensive and systematic measurements be taken across the entire mineralised sequence in future drilling programmes.

- Drill hole spacing is quite low in many cases (20-40m) and mineralisation in adjacent drillholes generally shows quite good continuity. However, the inference of numerous late stage faults to account for discontinuities in lithological units may imply a lack of confidence in mineralisation continuity in detail.
- The estimation used was based on a simple sectional polygonal method with no distance weighting applied. Given the very limited data available, this method could be expected to give a reasonable approximation of the global resource characteristics. However, any future estimations after additional diamond drilling, should address the mineralogical, lithological and expected metallurgical differences of the mineralisation by way of domaining and kriging.
- The depiction (Goulevitch, 2001) of seven separate lenses (**Error! Reference source not found.**) is considered by Geos Mining to be simplistic and the amount of detail given not warranted by the quality of the data and modelling technique used. As stated above, additional drilling needs to be done prior to any further resource estimations.

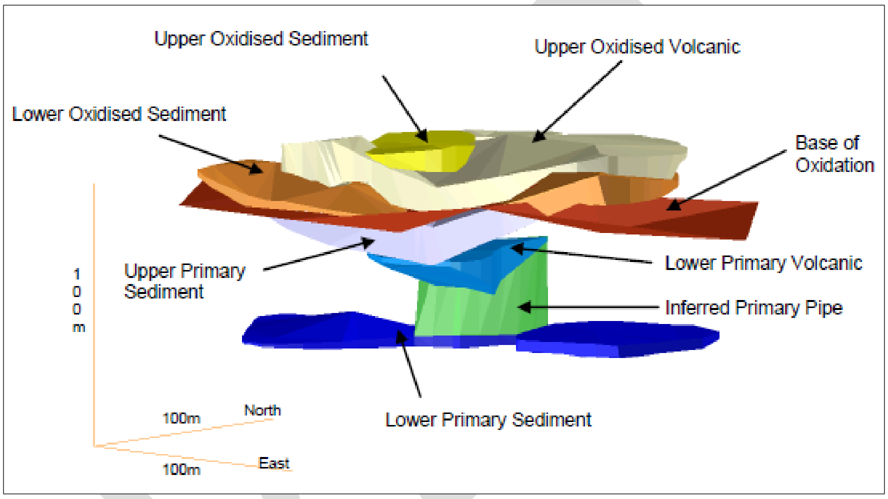

Figure 13: 3D Model of Stanton (after Goulevitch)

The bulk of the resources have been categorised as Indicated (Goulevitch, 2001). Geos Mining considers that this is reasonable in light of the current data and limitations expressed above.

Stanton II and III

The only resource estimate attempted was by (Smith, 2005) who has calculated a tonnage and grade which he calls "probabilistic, derived from the frequency of intersections of the required quality, and reasonable assumptions about continuity". The estimate is based upon only seven drill holes with barren holes in between mineralised holes and only very limited details of how the estimate was made. Geos Mining considers that this estimate may not be rigorous enough to meet the JORC (2004) guidelines. We would therefore assign an Exploration Target category to this tonnage/ grade at this stage, pending a review of drilling surrounding the mineralised drill holes. Upgrading this to Inferred status is quite likely once this review has been completed and methodology documented more thoroughly.

Exploration Target

There are several prospects in addition to the main ones already discussed which have been drilled and returned interesting results. In themselves they do not constitute a resource but given similar geological setting, similar mineralisation style and proximity to other Stanton prospects Geos Mining considers it reasonable to ascribe a range of tonnages and grades that could constitute an Exploration Target category, as defined in the JORC (2004) guidelines. The criteria used to assign tonnages and grades are based on the parameters of geochemical expression and resources already defined at Stanton (Table 4). Normalising particular elements against Fe has reduced the area of apparent dispersion considerably and while there is not a simple relationship between area of geochemical anomalism and resource size we infer that there is at least a qualitative relationship between these parameters.

In order to at least semi-quantify the assignment of tonnage, we have made three assumptions:

- Of the ten defined prospects and extensions listed in Table 4 we think it reasonable to assume that a tonnage range can be assigned to each based in part on their geochemical signature
- The assignment of tonnage range:
    - can be made in a relative sense according to each prospect's area of anomalism
    - should be discounted by consideration of previous exploration results

We have applied these assumptions from a base case of the Stanton Deposit tonnage to arrive at upper tonnage values. These are further nominally reduced by 25% to provide a conservative lower tonnage value. The resultant tonnage ranges are shown in Table 4.

	Resource Area (m^2)	Co Anom Area (m^2)	Cu Anom Area (m^2)	Ni Anom Area (m^2)	Tonnes (10^6)	Grade		
						Co %	Cu %	Ni %
Stanton	10850	13980	3260	20850	0.9	0.12 – 0.15	0.12 – 0.15	0.04 – 0.08
Prospect						**Discount Applied**		
Stanton Surrounds		21110	21950	88350	0.3 - 0.4	0%		
Stanton North		0	0	0	0.08 - 0.1	Nominal tonnage applied		
Stanton SW		225640	0	404900	0.7 - 0.9	20% - essentially untested		
Stanton II, III		0	110500	0	0.8 - 1.1	0% - strong Cu intersections		
Stanton II NW		0	110400	0	0.6 - 0.8	25% - limited intersections		
Archangel		0	0	0	0.08 - 0.1	Nominal tonnage applied		
Felix		443400	88190	366900	1.1 - 1.5	40% - Some drilling completed		
Saltlick		281500	0	249700	0.6 - 0.8	20% - main Co anomaly untested		
Gregjo		187000	25900	269600	0.7 - 0.9	20% - some drilling but off anomalies		
Stout		194200	30890	0	0.1 - 0.2	70% - well drilled, limited scope		

Table 4: Prospect Geochemical Anomalism

Grade ranges for each of the prospects could be assumed to be as estimated for the Stanton Deposit. However, the geochemical signature and evidence from drill intersections suggests that each has a distinctive elemental association:

- Stanton Surrounds Co Cu Ni
- Stanton North Co
- Stanton SW Co Ni

- Stanton II, III Cu
- Stanton II NW Cu
- Archangel Co
- Felix Co Ni (Cu)
- Saltlick Co Ni
- Gregjo Co Ni (Cu)
- Stout Co (Cu)

Using the Stanton Deposit grades as upper/ lower ranges we have assigned grades to each prospect based on the elemental association shown above. These have been recorded in Table 5

Prospect	Intersections	Geochemical Anomalism	Tonnage Range (Mt)	Grade Range Co %	Cu %	Ni %	Comments
Stanton Surrounds		Strong Co, Cu up to 100m to NE and SW. Strong Ni up to 400m to NE.	0.3 - 0.4	0.12 – 0.15	0.12 – 0.15	0.04 – 0.08	Open to NE and SW
Stanton North	5m @ 660ppm Co from 11m	Some Ni anomalism	0.08 - 0.1	0.12 – 0.15	0.1 - 0.12	0.03 - 0.04	Four other holes no significant mineralisation
Stanton SW		Strong Co, Ni anomalism over area of 1.1kms x 0.5kms	0.7 - 0.9	0.12 – 0.15	0.1 - 0.12	0.04 – 0.08	Four holes in west, no significant mineralisation
Stanton 11 and III	7 intersections; best 15.00m @ 2.3% Cu from 14m	Very strong Cu anomalism over area of 900m x 700m	0.8 - 1.1	0.1 - 0.12	0.12 – 0.15	0.03 - 0.04	Some unusually high Cu grades
Stanton II NW	10m @ 760ppm Co from 70m	Strong Cu anomalism	0.6 - 0.8	0.1 - 0.12	0.12 – 0.15	0.03 - 0.04	
Archangel	2m @ 1250ppm Co from 18m	No Cu or Co anomalism	0.08 - 0.1	0.12 – 0.15	0.1 - 0.12	0.03 - 0.04	
Felix	1m @ 0.37% Cu from 85m 7.9m @ 0.48% Zn from 115.4m	Strong Co-(Cu) anomalism over broad area (1200m x 400m)	1.1 - 1.5	0.12 – 0.15	0.1 - 0.12	0.04 – 0.08	Extensive geochemical anomalism does not appear to have been specifically targeted.
Saltlick	10m @ 1.7% Cu from 4m 25m @ 0.37% Cu from 0m	Extensive Co anomalism	0.6 - 0.8	0.12 – 0.15	0.1 - 0.12	0.04 – 0.08	The bulk of the cobalt geochemical anomaly is untested.
Gregjo	12m @ 0.3% copper from 0m	Discrete Co/ Ni (700m x 400m) and Cu (300m x 100m) anomaly	0.7 - 0.9	0.12 – 0.15	0.1 - 0.12	0.04 – 0.08	Partially drilled but most were collared to the south of the actual anomalies.
Stout		Co (900 x 200m) and smaller Cu anomaly	0.1 - 0.2	0.12 – 0.15	0.1 - 0.12	0.03 - 0.04	Quite well drilled, poor results
		TOTAL	**5.1 – 6.8**	**0.11 – 0.14**	**0.11 – 0.13**	**0.04 – 0.07**	

Table 5: Exploration Targets - Tonnage/ Grade Ranges

12. Exploration Potential

Evidence from Soil Geochemistry

Exploration potential is highly dependent upon the confidence in the lag geochemistry as an effective tool in this lateritised environment. Observations on site indicated that eluvial pisolitic laterite occupied topographically lower areas surrounding more resistive quartz rich lithologies. What is unclear however is the effect of weathering on the underlying saprolite layer and bedrock. While CRAE apparently did complete a statistical analysis of the data it is not clear that they sufficiently normalised the data to remove the effect of surficial anomalism. Geos Mining recommends that further treatment of the data should be carried out to identify bedrock geochemical anomalies prior to any further drilling being carried out on area outside of the immediate Stanton prospect. To test this hypothesis, data was normalised against Fe to determine whether this technique would discriminate more surficial trends with those possibly related to bedrock mineralisation. The use of Fe with which other elements can be normalised is supported by mineralogical work which indicates that most of the primary Fe is contained with the lattice of siegenite, a cobalt – nickel sulphide species that is the dominant sulphide mineral present at Stanton. The results are shown for Stanton and Stanton II in **Error! Reference source not found.** and indicate that the most anomalous normalised values comprise an area ~50% less than the un-normalised values. It is suggested that these results give a better indication of subsurface geochemistry by removing surficial dispersion effects and should be added to by further more sophisticated treatment to isolate genuine bedrock anomalies. The lag geochemical dataset is an important one and more information can be used to highlight anomalous areas.

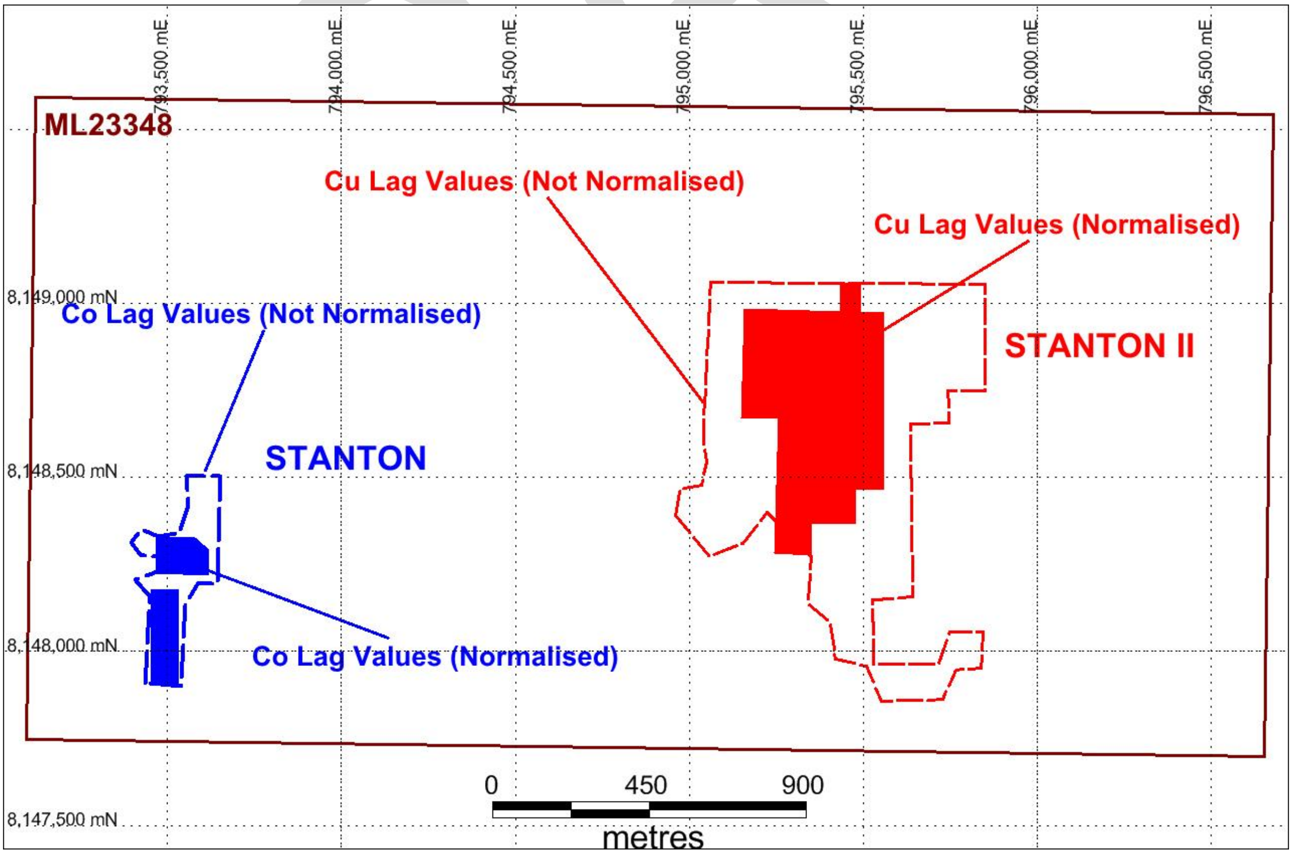

Figure 14: Comparison of Normalised vs Un-normalised Lag Geochemistry

In addition, simple thematic maps of Co normalised against Fe, Cu normalised against Fe and Ni normalised against Fe were created to identify dominant geochemical directions that could indicate areas of interest outside of the known prospects. The normalised plots are shown in **Error! Reference source not found.**.

Preferred directions have been identified as shown pictorially in Figure 15, Figure 16 and Figure 17 and indicate that there are dominant NW-SE and NE-SW trends to the mineralisation, suggesting that future exploration should focus along these trends.

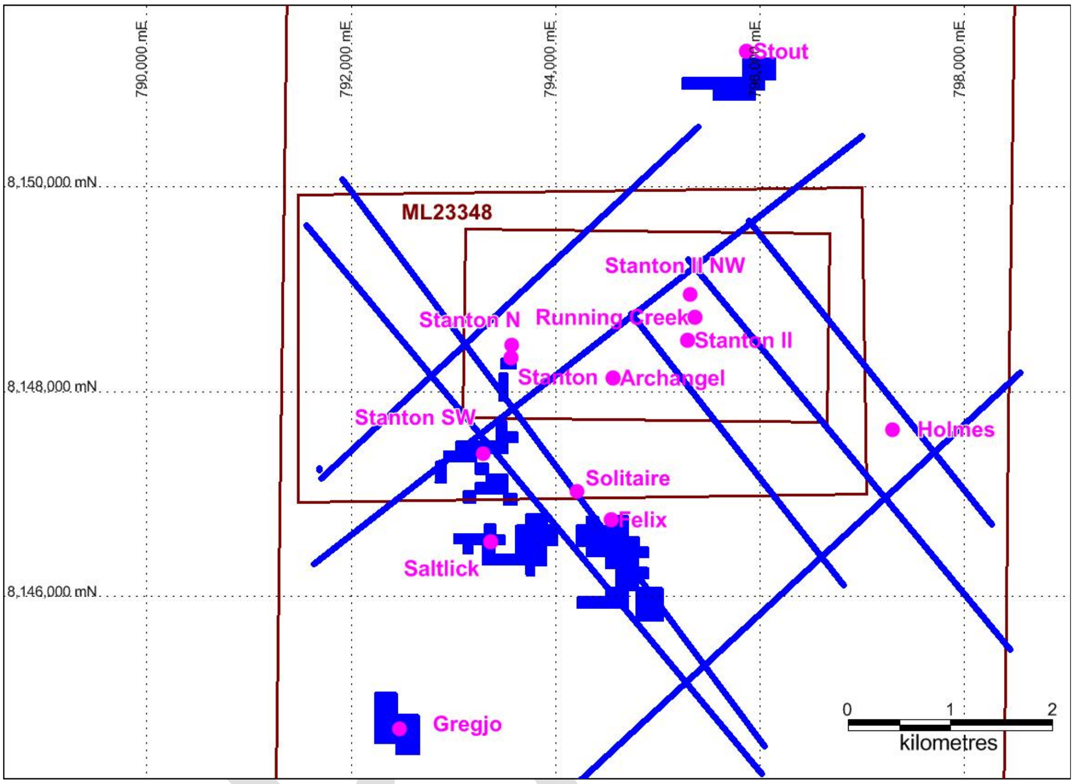

Figure 15: Preferred Co geochemical trends (blue lines) in relation to anomalous Co geochemistry (blue areas)

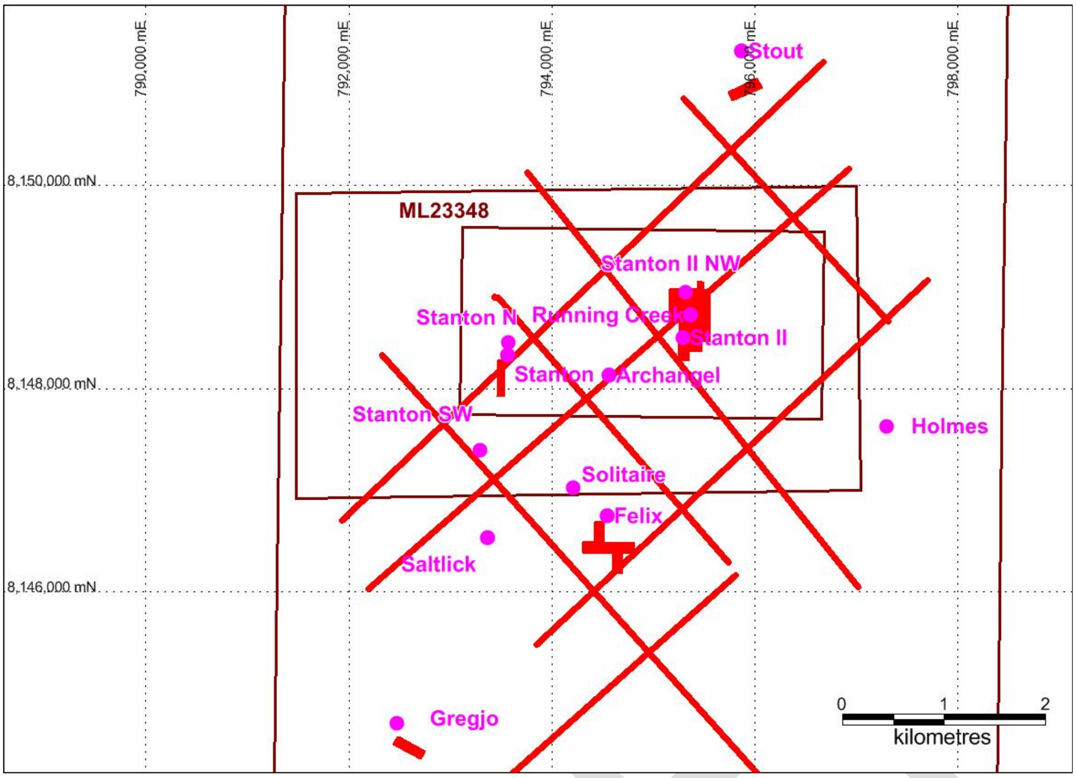

Figure 16: Preferred Cu geochemical trends (red lines) in relation to anomalous Cu geochemistry (red areas)

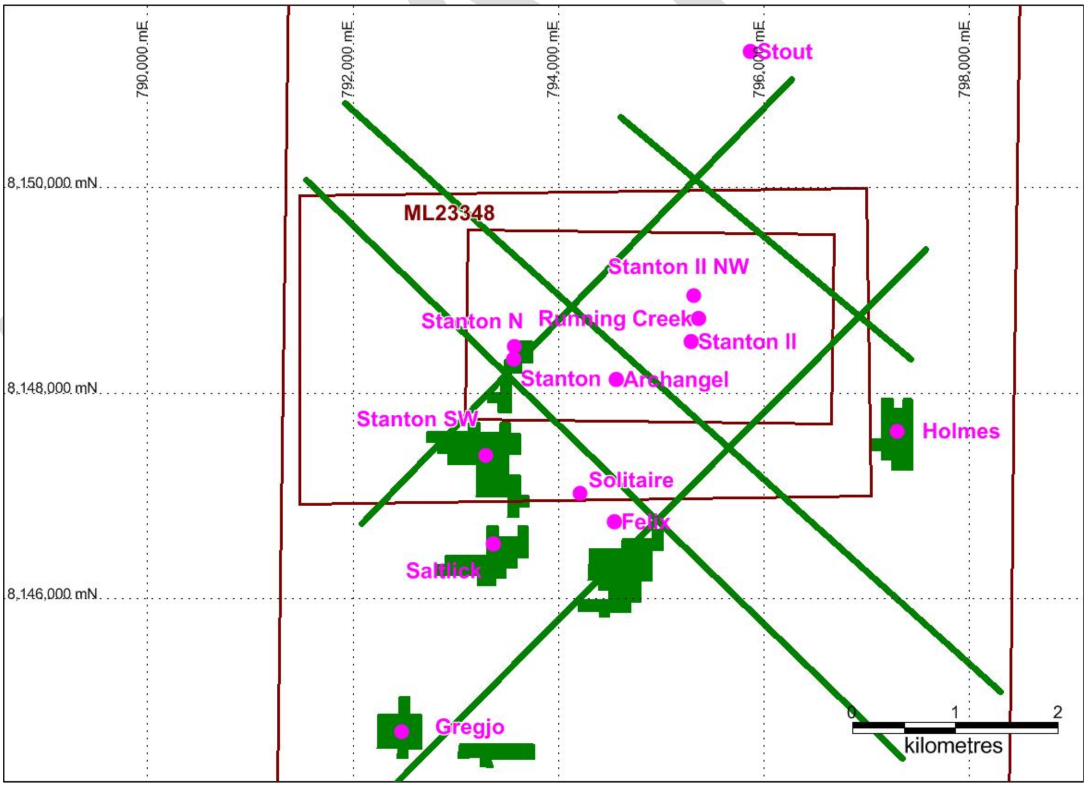

Figure 17: Preferred Ni geochemical trends (green lines) in relation to anomalous Ni geochemistry (green areas)

It is worth noting here that the northern half of the project area (north of 8152000mN, GDA94 Z53) has not been geochemically sampled and accordingly, there is opportunity for further mineralisation in this area.

Evidence from Structural Pattern

The other geological parameter that will greatly influence exploration potential is the identification of structural controls on the mineralisation. The Stanton deposit is bounded by what has been termed the Stanton Fault and the “nested faults” that are orthogonal to it. A simple Google Earth plot (Figure 18) shows that there are three dominant linear features that traverse the Stanton project area: NE-SW, NW-SE and EW. The former two orthogonal directions form the locus of mineralisation inferring that potential exists for mineralisation along these structures. In particular the NE-SW trending linear A-B may well be a controlling late stage structure which may be responsible for the observed offset in the Gold Creek Volcanics. This structure mimics the position of the Stanton Fault.

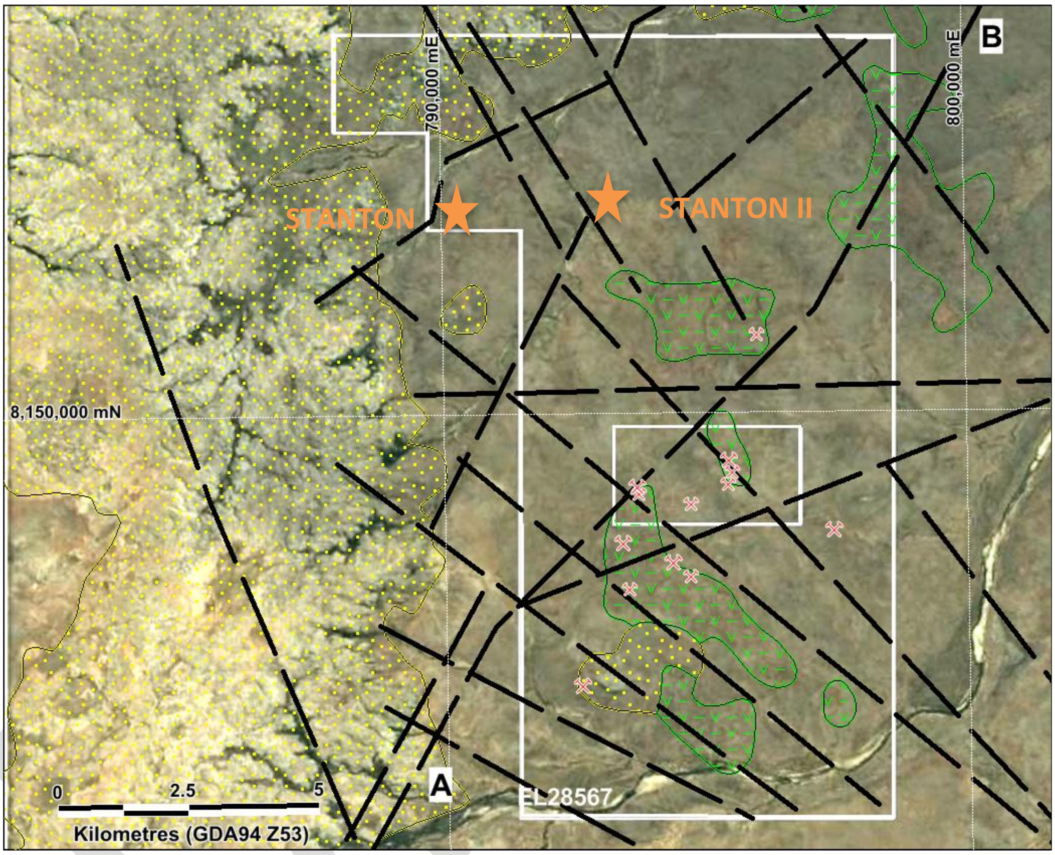

Figure 18: Stanton Project Identified Linears from Google Earth

(In Figure 18, the green areas are Gold Creek Volcanics; the yellow areas are Echo Sandstone)

This structural pattern is similar to that observed when the geochemical ‘structures’ (Figure 15, Figure 16, Figure 17) are plotted with the Google linears, again confirming the dominant structural directions (Figure 19).

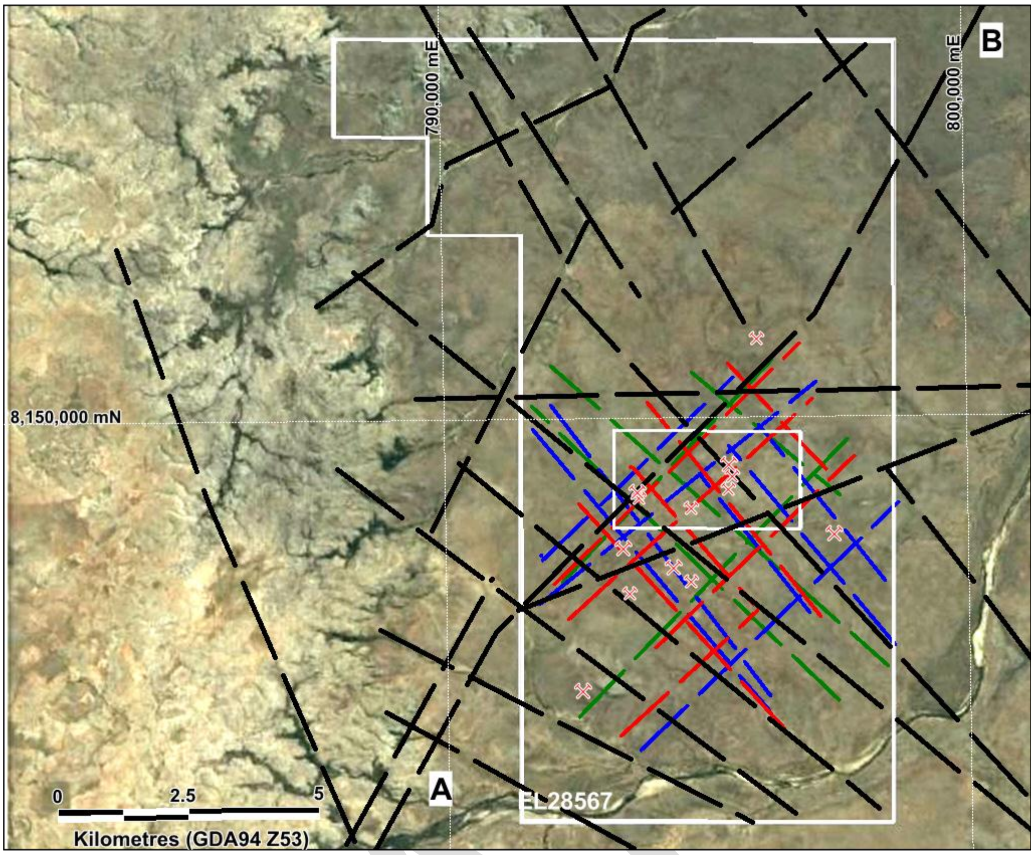

Figure 19: Stanton Project showing Google structures overlying geochemical linears

Data which has not been reviewed comprises the CRAE flown DIGHEM magnetic and EM survey. This requires some manipulation and has not yet been investigated; once this data has been re-interpreted using modern techniques, it may reveal some additional prospectivity.

13. Suggested Exploration Programme

It is proposed that the initial exploration programme will have three objectives:

- Confirm and upgrade the Stanton resource to Measured status, (this program will also obtain more samples for metallurgical testwork)
- Upgrade Exploration Targets to Inferred Resources
- Define additional Exploration Targets for future upgrading

This programme can be staged according to budgetary or access constraints and may comprise the following elements (Table 6: Suggested Exploration Programme).

Stage	Component	Budget
Logistics	Stakeholder negotiations, approvals, camp establishment, access upgrade	$200,000
Confirm and upgrade the Stanton resource	RC and diamond drilling, 2000m	$500,000

	Metallurgical testwork on core	$150,000
Upgrade Exploration Targets to Inferred Resources	RC and diamond drilling, 5000m	$1,000,000
	Scoping study	$200,000
Define additional Exploration Targets for future upgrading	Mapping, sampling, lag data massage	$100,000
	RC drilling, 5000m	$500,000
	TOTAL	**$2,650,000**

Table 6: Suggested Exploration Programme

Geos Mining has reviewed this proposed budget and agrees with its content.

14. Mineral Processing and Metallurgical Testwork

The only recorded metallurgical testwork was done by CRAE. Wilson describes mineralogical examination and flotation tests on two high grade composite samples from drill holes DD94RC038 and 039. The composite head grades are shown in **Error! Reference source not found.** and indicate that only primary sulphide mineralisation was tested: there is no metallurgical information relating to the oxide mineralisation which comprises ~60% of the Stanton resource.

Comp.	Intersection(s)	Assays (%)						
		Co	Ni	Cu	Fe	As	S	SiO_2
Claystone	DD94RC38 34-44.55 m,47-49.4 m & DD94RC39 31.85-29.15 m	0.26	0.15	0.04	3.13	<0.01	0.60	63.6
Vesicular	DD94RC39 36.26-50.27 m	0.32	0.21	0.03	2.70	0.04	1.02	64.0
high grade sections	DD94RC38 44.55-46.3 m	9.41	0.59	0.91	6.40	0.37	0.01	33.3
	DD94RC38 46.3-47 m	1.59	0.19	0.32	5.84	0.09	<0.01	49.6

Table 7:Composite Head Grades for Metallurgical Samples

Wilson (1994) concludes that "the flotation scheme is made uncomplicated by the absence of a major sulphide gangue phase but locking of 25-30% of the siegenite in silicate gangue in both of the composites restricts recovery". While a concentrate (15.8% Co, 9.3% Ni, 2.8% Cu) was produced from this testwork, it would seem that recovery is an issue that needs further resolution (concentrate recoveries were calculated at 64% Co, 71% Ni, 76% Cu). Note also that there has been no metallurgical testwork done on either the oxide mineralisation or the laterite hosted mineralisation. Surficial laterite is up to 1.8m thick and can be expected to have scavenged some of the cobalt and nickel but whether this is recoverable has not been investigated.

Future metallurgical testwork needs to be carefully considered as it is apparent that it is not simply a case of oxide/ primary sediments/ volcanics (which is the way the resource is divided up). The Sherritt process is the usual process by which nickel sulphide concentrates can be treated through either smelting or pressure leaching. Metal recovery from copper-cobalt oxides usually involves separation by froth flotation then smelting to produce a copper-cobalt liquid which is further refined by hydrometallurgical or electrolytic processing to separate the copper from cobalt. Lateritic mineralisation can be either treated by hydrometallurgical or pyrometallurgical processes. Various leaching processes may also be an option for the oxide mineralisation.

The Mt Fitch deposit at Rum Jungle shows similarities with the Stanton project in terms of morphology, mineral species, low grades and separate treatment routes for primary and oxide mineralisation (Compass Resources NL, 2008). In 2008 the Mt Fitch oxide copper prospect (Browns Oxide) had a resource of 5.3Mt @ 0.36% Cu, 0.09% Co and 0.12% Ni and Compass report that there is considerable zoning in both primary and oxide zones. This statement reinforces the point that there needs to be considerable metallurgical testwork done at Stanton before a reliable process route can be determined. Compass also note that cobalt recovery is only 60% while copper is 91% and nickel 81%. The Browns Oxide plant was commissioned in 2008 but was placed under care and maintenance in June 2010.

15. Risk Assessment

When compared with many industrial and commercial operations, mining is a relatively high risk business and projects that are still in the exploration phase are even higher risk. Even once a resource is outlined, the nature and quality of the resource are never completely predictable. There are many economic, technical, legal, environmental and social factors that affect the conversion of a resource to a reserve and these factors also affect the profitability of any mining of that reserve.

A risk assessment has been carried out to identify those geological factors that may affect the viability of the Stanton Project and specifically relate to Auminco's Option to Purchase arrangement that is to be exercised by 1 October 2012. The reader is referred to a full discussion of project risk provided by the Directors of Auminco Coal. Results of Geos Mining's assessment are tabulated below in **Error! Reference source not found.**.

Risk Factor	Risk Rating	Mitigation
Mineable resource does not meet minimum tonnage and grade for economic extraction	High	Complete an aggressive drilling campaign targeting both the Stanton resource and surrounding prospects
		Finesse exploration model to identify new drilling targets
Metal recoveries are too low for economic extraction and processing	High	Ensure that drilling provides sufficient representative samples for considerable metallurgical testwork
		Well designed and managed testwork program to investigate recovery options
		Consider doing some preliminary testwork on oxide mineralisation prior to exercise date
Remote location necessitates very high trucking costs for concentrate	Moderate	Look at options of toll treatment at Redbank or leaching on site
Stakeholders delay commencement of exploration and/or mine development	Moderate	Consider Native Title claim and landholder sentiment by commencing discussions now

Table 8: Risk Assessment

16. Conclusions

Mineralisation

1. Mineralisation is best developed in brecciated dacitic volcanics and at margins with volcaniclastic sediments.

2. Overall it appears to be broadly stratabound within flat lying sequences although there is considerable fracturing and brecciation in the host sequences which has probably provided a mechanism into which later cobalt/ nickel mineralisation may be remobilised.

3. There is no clear correlation between Co-Cu anomalism in lag geochemistry and mineralisation. Lateritisation of the sediments will have involved scavenging of Cu, Ni, Co and Mn from underlying sediments and volcanics. This is a regional phenomenon and may explain why some anomalies that were drilled produced no anomalous geochemistry.

4. A review of the lag data to determine whether normalising values against Fe and/or Mn would be useful in discriminating surficial from bedrock anomalies.

Mineral Resource Estimates

1. The Stanton deposit model assumes that:
   - stratigraphy is sub horizontal and mineralisation is broadly stratabound,
   - all mineralisation is coincident with a 'nested' set of faults and decreases away from the ENE trending Stanton Fault,
   - the base of oxidation averages 30m depth and the main 'Upper Lode' occurs from surface to 60m depth.

   Geos Mining agrees with these assumptions.

2. In regard to quality control we note that:
   - Almost all drill collars cannot be located but those that were located, agree well with the position recorded in the database
   - Future assaying should not include a four acid digest which may dissolve metals in silicate minerals.
   - Resource estimation using the sectional polygon method is simplistic but is reasonable for the Stanton deposit given the limited and variable quality data

3. The Stanton resource was estimated on the basis of only 33 intersections in 14 drillholes; 40% of the resource blocks are represented by only one drillhole in each block and 28% of the global resource is contained in two primary resource blocks, of which one has been intersected by only one drillhole.

4. While sampling intervals have been geologically honoured, resource block boundaries have not discriminated laterite from underlying weathered sediments or volcanics. This may represent up to 10% of the oxide resource which may not be recoverable.

5. Geos Mining considers that the due diligence report for the Stanton deposit is a fair and reasonable assessment of the limitations of the quality of the resource. In particular:
   - At least some future drilling should be angled at 60^{o}.
   - Significant core loss was reported for a number of drillholes which are included in the resource estimate. There are 7 intersections with poor core recovery which affect 48% of the tonnage contained in the resource blocks. Future drilling should use triple tube and care taken to maximise core recovery.
   - Core from the high grade intersections recorded in holes DD94RC038 and 039 was totally consumed for metallurgical testwork purposes and therefore the grades cannot be verified.
   - Almost all assays used in the resource estimation were derived after a four acid digestion, including hydrofluoric acid. This has dissolved some of the nickel and cobalt which is held in silicate and refractory oxide minerals. and there are major technical challenges to recovery of any metals that are locked in a silicate lattice. Hence use of this digest will give resource grades that may be significantly higher than recoverable grades. Further testwork will be required to determine recoverable grades.
   - There have been no bulk density determinations done on any core. Geos Mining considers that the range of values is reasonable for the categorisation of Inferred Resource but extensive and systematic measurements should be taken across the entire mineralised sequence in future drilling programmes.
   - Mineralisation in adjacent drillholes generally shows quite good continuity. However, the inference of numerous late stage faults to account for discontinuities in lithological units may imply a lack of confidence in mineralisation continuity in detail.
   - The estimation used was based on a simple sectional polygonal method but Geos Mining considers that this method will give a reasonable approximation of the global resource characteristics. However, any future estimations after additional diamond drilling, should address the mineralogical, lithological and expected metallurgical differences of the mineralisation by way of domaining and kriging.
   - The bulk of the resources have been categorised as Indicated by (Goulevitch, 2001). Geos Mining considers that this is reasonable in light of the current data and limitations expressed above.
6. The resource estimate for Stanton II and III is based upon very limited data and estimate details. Geos Mining considers that this estimate may not be rigorous enough to meet the JORC (2004) guidelines and would therefore assign an Exploration Target category to this tonnage/ grade at this stage, pending a review of drilling surrounding the mineralised drill holes.

7. Geos Mining has ascribed to a number of prospects an Exploration Target category of 5.1 to 6.8 million tonnes at a grade range of 0.11 – 0.14% Co, 0.11 – 0.13% Cu and 0.04 – 0.07% Ni.

Exploration Potential

1. Exploration potential is highly dependent upon the confidence in the lag geochemistry and Geos Mining recommends that further treatment of the data should be carried out to identify bedrock geochemical anomalies prior to any further drilling being carried out.

2. Simple elemental thematic maps identified preferred dominant NW-SE and NE-SW trends to the mineralisation, suggesting that future exploration should focus along these trends.

3. Lag data normalised against Fe indicated that the most anomalous normalised values comprise an area ~50% less than the un-normalised values. It is suggested that these results give a better indication of subsurface geochemistry by removing surficial dispersion effects and should be added to by further more sophisticated treatment to isolate genuine bedrock anomalies.

4. A simple Google Earth plot shows that there are three dominant linear sets that traverse the Stanton project area: NE-SW, NW-SE and EW. The former two orthogonal directions form the locus of mineralisation inferring that potential exists for mineralisation along these structures. In particular, one dominant NE-SW trending structure appears to have offset stratigraphy and may be a fundamental mineralising structure. This structure mimics the position of the Stanton Fault.

5. The northern half of EL28567 has not been geochemically sampled: there is geological evidence to suggest that additional mineralisation could be discovered in this area.

Suggested Exploration Programme

It is proposed that the initial exploration programme will have three objectives:

- Confirm and upgrade the Stanton resource to Measured status, (this program will also obtain more core for metallurgical testwork).
- Upgrade Exploration Targets to Inferred Resources
- Define additional Exploration Targets for future upgrading

This programme can be staged according to budgetary or access constraints and may comprise the following elements:

- Geochemical exploration
- RC and diamond drilling (12,000 m)
- Metallurgical testwork
- Scoping studies

  Suggested Exploration Programme

It is proposed that the initial exploration programme will have three objectives:

- Confirm and upgrade the Stanton resource to Measured status, (this program will also obtain more samples for metallurgical testwork)
- Upgrade Exploration Targets to Inferred Resources
- Define additional Exploration Targets for future upgrading

This programme can be staged according to budgetary or access constraints and may comprise the following elements (Table 6: Suggested Exploration Programme).

Stage	Component	Budget
Logistics	Stakeholder negotiations, approvals, camp establishment, access upgrade	$200,000
Confirm and upgrade the Stanton resource	RC and diamond drilling, 2000m	$500,000
	Metallurgical testwork on core	$150,000
Upgrade Exploration Targets to Inferred Resources	RC and diamond drilling, 5000m	$1,000,000
	Scoping study	$200,000
Define additional Exploration Targets for future upgrading	Mapping, sampling, lag data massage	$100,000
	RC drilling, 5000m	$500,000
	TOTAL	**$2,650,000**

Table 6: Suggested Exploration Programme

Geos Mining has reviewed this proposed budget and agrees with its content.

Mineral Processing and Metallurgical Testwork

1. The only recorded metallurgical testwork was done on two high grade composite drill hole samples. Only primary sulphide mineralisation was tested and there is no metallurgical information relating to the oxide mineralisation or the laterite hosted mineralisation which comprise ~60% of the Stanton resource.
2. While a concentrate was produced from this testwork, it would seem that recovery is an issue that needs further resolution. Future metallurgical testwork needs to be carefully considered as it is apparent that it is not simply a case of oxide/ primary sediments/ volcanics.

18. Recommendations

Overview

1. While the identified Stanton resource is quite small, there is good evidence to suggest that this could be considerably expanded with further exploration drilling. It is recommended that Auminco update the previous economic studies using a base case mineable resource of 2.5 million tonnes @ 0.15% Co, 0.15% Cu and 0.1% Ni to determine if such a project would be viable. On site processing by leaching of the oxide mineralisation may reduce operating costs to acceptable levels.

2. An aggressive exploration programme is recommended with the objective of defining additional resources both at known prospects and new prospects.

3. Further metallurgical testwork is required and this will need careful planning and ore characterisation.

4. Further exploration and metallurgical testwork will reduce the geological risks to the project.

SPECIFIC

1. Investigation of the current Native Title claim should be carried out to determine the impact on exploration and mining

2. The geochemical lag data should be further reviewed to determine the effect of 'normalising' in discriminating surficial from bedrock anomalies

3. The northern half of the exploration licence should be systematically lag sampled

4. Future assaying should not include a four acid digest which may lead to dissolution of metals in silicate minerals

5. Future drilling should be angled away from the gentle interpreted dip of the stratigraphy at 60^{o} and use triple tube to maximise core recovery

6. Extensive and systematic bulk density measurements need to be taken across the entire mineralised sequence in future drilling programmes.

7. Any future estimations after additional diamond drilling, should address the mineralogical, lithological and expected metallurgical differences of the mineralisation by way of domaining and kriging.

8. Resource estimation using the sectional polygon method is simplistic and should not be used in future estimations

9. Future metallurgical testwork needs to be carefully considered to incorporate a wide range of mineralisation types

19. Statement of Capability

This report has been prepared by Geos Mining and has been compiled and edited by Project Manager, Jeff Randell. Principal Consultant, Sue Border, has reviewed this document. Significant contributors are listed below.

Sue Border (BSc Hons, Gr Dip, FAIG, FAusIMM, MMICA)

Sue Border has 35 years' experience in the minerals industry working mainly in Africa, Australia and Asia. Sue specialises in project assessment, exploration management and resource and reserve estimation. Sue's broad experience includes periods as a mine geologist, consultant, academic and exploration manager before starting Geos Mining. Sue is the Principal of Geos Mining, a consultancy company providing specialist exploration services to the coal, uranium, gold, base metals and industrial minerals sectors. Sue has specialist experience in a wide variety of metals and industrial minerals and supervises all independent geological reports produced by Geos Mining personnel.

Jeff Randell (BSc Hons, MAIG)

Jeff Randell is a widely experienced professional geologist in both exploration and mining with more than 35 years' experience in gold, base metals and bauxite. Mr Randell has particular expertise in the administrative management of projects and is currently employed as a Project Manager for Geos Mining.

All information in this report relating to Mineral Resources is based on and accurately reflects, information compiled by consultants and contractors employed by Geos Mining under the supervision of the company's Project Manager who is a Competent or Qualified Person as defined in the Australasian Code for Reporting or Mineral Resources and Ore Reserves.

Signature:

Name: Jeff Randell Position: Project Manager

Qualifications: BSc (Hons), MAIG, RPGeo Date: 24 August 2012

20. Statement of Independence

Geos Mining is independent of all parties involved with the project activities described in this report. Geos Mining will receive a professional fee based on standard rates plus reimbursement of out of pocket expenses for the preparation of this report. The payment of these fees is not contingent upon the success or otherwise of the proposed listing or any associated fundraising. There are no pecuniary or other interests that could be reasonably regarded as being capable of affecting the independence of Geos or the undersigned.

The final report includes full disclosure of fees and work carried out for Auminco over the last two years, as required by ASIC Regulatory Guide 112.

Geos Mining is not aware of any appointments over the past 2 years by any stakeholders or other relevant parties that may be perceived as able to affect the independence of Geos Mining. Geos Mining, the authors and members of the authors' families, have no interest in, or entitlement to, any of the project areas the subject of this report.

21. Limitations and Consent

The opinions expressed herein are given in good faith and Geos Mining believes that any assumptions or interpretations are reasonable. With respect to this report and its use by Auminco Coal and its advisers, Auminco Coal agrees to indemnify and hold harmless Geos Mining, its shareholders, directors, officers and associates against any and all losses, claims, damages, liabilities or actions to which they or any of them may become subject under any securities act, statute or common law, except in respect to fraudulent conduct, negligence or wilful misconduct, and will reimburse them on a current basis for any legal or other expenses incurred by them in connection with investigating any claims or defending any actions, except where they or any of them are found liable for, or guilty of fraudulent conduct, negligence or wilful misconduct.

This report is provided to Auminco Coal solely for the purpose of assisting Auminco Coal shareholders and other interested parties in assessing the geological and technical issues associated with the Stanton project. This report does not constitute a full technical audit but rather it seeks to provide an independent overview and technical appreciation of Auminco Coal's Stanton project and proposed acquisition. This report may be reproduced only in its entirety and then only with Geos Mining's written consent.

22. Glossary

Terms not included in this glossary are used in accordance with their definitions in the Australian Concise English Dictionary.

Aeromagnetic survey	Geophysical data indicating the variation in magnetic intensity captured from an aircraft.
Alluvial (alluvium)	Related to sediment deposited by a river or stream
Alteration	Change in the mineralogical and chemical composition of a rock, generally produced by hydrothermal fluids or by weathering.
Arenite	Broad term applied to rock of a detrital sedimentary origin
Arsenopyrite	A sulphide mineral of iron and arsenic ($FeAsS$)
Basalt	Extrusive igneous rock, fine grained equivalent to gabbro
Base Metal	Any metal at the lower end of the electrochemical series that oxidizes readily
Basic	Igneous rock with low silica content, usually 45 – 50%.
Basin	A depressed segment of rock in which sediments accumulate and where hydrocarbons may be located.
Bedrock	The solid rock that exists at some depth below the ground surface beneath a superficial cover of soils and sediments.
Bismuth	A reddish white metallic element which may be an indicator of a particular style of intrusive-related gold deposit
Breccia/Brecciation	A coarse-grained rock consisting of angular broken rock fragments held together by a fine-grained matrix, distinct from conglomerate.
Chalcopyrite	Copper and iron sulphide, the most common copper ore mineral
Cobalt	Cobalt is a hard, lustrous, grey metal, a chemical element with symbol Co and atomic number 27.
Cobaltiferous	Containing or yielding cobalt.
Core	A cylindrical section of rock usually 5-10cm in diameter and up to several metres in length, obtained by drilling and brought to the surface for examination and/or analysis.
Country rock	The rock hosting/immediately adjacent to a mineralized body.
Deposit	A mineral occurrence of sufficient size and grade that it might, under favourable circumstances, be considered to have economic potential
Diamond drilling	Drilling by a diamond impregnated drill bit attached to the end of hollow drill rods to cut a cylindrical core of solid rock
Dip	The angle at which rock strata are inclined from the horizontal.
Disseminated	Said of a mineral deposit in which the desired minerals occur as scattered particles in the rock.
Drill chips	Chips of rock produced by percussion drilling methods
Drill core	A solid, cylindrical sample of rock extracted from beneath the Earth's surface by drilling.
Electromagnetic (EM) Survey	A geophysical survey method which measures the electromagnetic properties of rocks.
Exploration Licence	A granted title over an area of land entitling the holder to explore for one or more mineral commodities for a set period of time
Exploration Target	A term used to describe a potential mineral occurrence where there has been insufficient exploration to define a mineral resource and where it is uncertain if further exploration

	will result in the determination of a mineral resource.
Fault	A geological fracture along which rocks on one side of the fault are dislocated relative to those on the other side. 2- A fracture in a rock mass, with the movement of one side past the other
Feasibility Study	A study of the economic viability of the mining and production of base or precious metals or other minerals
Footwall	The section of rock that extends below a diagonal fault line (the corresponding upper section being the hanging wall).
Galena	Lead sulphide, the most common lead ore mineral
Grade	Average quantity of ore or metal in a specified quantity of rock.
Grassroots exploration	Exploration carried out in an area where there has been no previously identified geological resource.
Hanging wall	The upper wall of an inclined fault.
Head Grade	The grade of the ore as delivered to the metallurgical plant
Heap leach	A process used for the recovery of metals such as copper, nickel, uranium and gold from low-grade ores. The crushed material is laid on a slightly sloping, impermeable pad and leached by uniformly trickling (gravity fed) a chemical solution through the beds to ponds. The metals are recovered from the solution.
Host rock	A body of rock serving as a host for other rocks or for mineral deposits; eg. A pluton containing xenoliths, or any rock in which ore deposits occur.
Hydrothermal	Pertaining to deposition of minerals from hot water of magmatic origin
Igneous	Pertaining to rocks formed from a molten state
Indicated Resource	That part of the total resource for which quantity and quality can be estimated with reasonable levels of confidence.
Inferred Resource	Mineral resource for which tonnage, grade and mineral content can be estimated with a low level of confidence as estimates are largely based on broad geological evidence but not verified geological and/or grade continuity.
IP resistivity	Induced Polarisation; a surface electrical-geophysical survey technique which is used to search for certain types of sulphide deposit
JORC Code	Joint Ore Reserve Committee. A code prepared by the Joint Ore Reserves Committee which sets out minimum standards, recommendations and guidelines for public reporting in Australasia of exploration results, mineral resources and ore reserves.
Kriging Method	A group of geostatistical techniques to interpolate the value of a random field at an unobserved location from observations of its value at nearby locations.
Laterite	Highly weathered material rich in secondary oxides of iron, aluminium or both.
Lensoidal	Sections with elliptical shape.
Limestone	Limestone is a sedimentary rock composed largely of the mineral calcite (calcium carbonate: $CaCO_3$). Like most other sedimentary rocks, limestones are composed of grains, however, around 80-90% of limestone grains are skeletal fragments of marine organisms such as coral or foraminifera.
Lithologically Logged	Pertaining to the act of physically describing the visual characteristics (in downhole chronologic order) of the rock core extracted from the drillhole. Lithological logging is usually made by a geologist on site, immediately upon core extraction.
Lode	A deposit of valuable ore occurring within definite boundaries separating it from surrounding rocks
Mafics	Igneous rocks with a high magnesium and iron content, usually dark in colour
Maghemite	A magnetic form of Fe_2O_3. It has the same structure as magnetite
Magnetic lag sampling	Magnetically separated geochemical sample
Magnetics survey	A survey carried out using a magnetometer either on an aircraft or carried along by hand. The magnetometer records tiny variations in the intensity of the ambient magnetic field due to the local effect of magnetic minerals in the Earth's crust.
Massive sulphides	Rock containing abundant sulphides that can form close to 100% of the mass.
Matrix	The finer grains enclosing large grains in a sedimentary rock, the groundmass of a rock.
Measured Resource	That part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It 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. The locations are spaced closely enough to

	confirm geological and/or grade continuity.
Metamorphosed/ metamorphic	Alteration of rocks by heat and pressure.
Metasediments	Sediments or sedimentary rocks which show evidence of being exposed to metamorphism
Mineralisation	Term describing the hydrothermal deposition of economically important minerals in the formation of ore bodies.
Native title	Native title is "the recognition by Australian law that some Indigenous people have rights and interests to their land that come from their traditional laws and customs".
Outcrop	An exposure of rock or mineral deposit that can be seen on surface that is, not covered by soil or water.
Overburden	Top soil and strata overlying the coal seam(s).
Oxidation	The process of oxidizing; the addition of oxygen to a compound with a loss of electrons; always occurs accompanied by reduction.
Percussion drilling	A drilling technique in which the cuttings are recovered using air pressure up the inside of the drill rods to mini-mize contamination from the wall of the hole.
Petrological	Referring to the study of rocks and their genesis.
Pisolith	A somewhat spherical accretionary body in sediments
Polymetallic	Refers to a substance composed of a combination of different metals
Probable Reserves	These reserves are the economically minable portion of an indicated resource, and have a lower level of confidence than proved reserves
Proterozoic	Geological eon from 2500 million years ago to 542 million years ago
Proved reserves	These reserves are the economically minable portion of a measured resource, and represents the highest confidence category of reserves
Pyrite	Yellow lustrous iron sulphide mineral (CuS_2)
Pyritic Sulphur	Sulphur which is in the form of sulphide. This sulphur can often be removed from the coal by washing
Pyritization	The hydrothermal process whereby a rock is transformed into a pyrite.
Pyroclastics	Rock formed from aerial deposition of material from a volcanic explosion
Quartz	Second most abundant mineral in the Earth's continental crust, after feldspar. It is made up of a continuous framework of SiO4 silicon–oxygen tetrahedra, with each oxygen being shared between two tetrahedra, giving an overall formula SiO2.
Quartzite	Hard metamorphic rock consisting essentially of interlocking quartz crystals
RC chip	The ideally dry rock sample which is brought up by compressed air from reverse circulation (RC) drilling.
RC Drilling	Reverse circulation drilling, a form of percussion drilling where the sample is returned through the centre of the drill string so minimising contamination of the sample
Rehabilitation	In mining, rehabilitation means restoring mined land so that it can be used for the same or some other purpose after mining has finished.
Relative Density	The ratio of the weight of a given volume of coal to the weight of an equal volume of water. The relative density or a coal depends on its rank and the degree of mineral impurity, and is an essential factor in conversion of coal resources from units of volume to units of mass.
Reserves	The economically mineable part of a measured or indicated coal resource at the time of reporting, as defined in the JORC Code.
Resources	The part of the mineral deposit for which there is a reasonable prospect for eventual economic extraction, as defined in the JORC Code. Not all of a resource may be economically minable.
Rhyolite	Extrusive igneous rock that is equivalent to granite
Riffle Splitter	Is a sampling device that is used for sample splitting. In the riffle splitter, the sample is poured from a suitable vessel, into a battery of about ten open chambers which are so arranged that any two adjacent chambers permit the material to flow out towards two different sides
Rock chip	A method of sampling exposed rocks; generally not considered as representative as a channel sample
Sediment	Material such as mud and sand that has been moved and deposited by water, ice or wind
Sedimentary	Sedimentary is one of three types of rock. Sedimentary rock forms from mineral fragments deposited by wind, water, or glaciers.
Shale	A fine grained detrital sedimentary rock, formed by the compaction of clay, silt or mud.

Shear zone	A zone where rock has been stressed or deformed, often host ore bodies as they focus hydrothermal flows
Shear/Sheared	A deformation resulting from stresses that cause parts of a body to slide relative to each other in a direction parallel to their plane of contact
Siltstone	A fine grained sedimentary rock which is finer than sandstone and coarser than claystone.
Sphalerite	Zinc sulphide, an important ore mineral of zinc
Stockwork	Three dimensional network of irregular veinlets
Stratiform	Occurring in layers.
Stratigraphic Column	A diagram showing the arrangement of strata, especially as to geographic position and chronologic order of sequence.
Stratigraphy	The science of rock strata, concerned with all characteristics and attributes of rocks as strata, and their interpretation in terms of mode of origin and geologic history.
Stream sediment	Sample taken of stream gravels and assayed
Strike	Direction of a line created by intersection of a rock surface with a horizontal plane
Subcrop	The spatial extent of a rock unit which is in contact with an overlying rock unit
Sulphide	A chemical compound or mineral containing sulphur in its lowest oxidation state
Supergene	Process of enrichment occurring in sulphide deposits relatively near to the surface.
Surficial	Pertaining to or occurring on or near the earth's surface
Tenement	An area granted for exploration or mining purposes.
Trachyte	Porphyritic extrusive igneous rock of alkali feldspars and minor mafic minerals and lacking free quartz
Tuff	General term for consolidated pyroclastic rocks
VALMIN Code	A code prepared to assist those involved in the preparation of public Independent Expert Reports that are required for the assessment and/or valuation of mineral and petroleum assets and securities so that the resulting reports will be reliable, thorough, understandable and include all the material information required by investors and their advisers when making investment decisions.
Variogram	A graph of the function of the spatial dependence of variance
Vein	A fracture in rock which has been filled with mineral, often quartz.
Volcaniclastics	Rocks composed of fragments of material derived from volcanic eruptions and ash
Workings	The entire system of openings in a mine for the purpose of operation

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Appendix 2: Summary Logs

HOLE	FROM	TO	MAJOR ROCK	MINERALISATION	CONTACT ANGLE	COMMENTS
38	3.2	8.2	MUDST	Some fine malachite vnlets		Pale br brecciated at top, some fine laminations 85deg TCA, graded bedding, facing uphole
		10.0	MUDST/ DAC			Bands or-pk mgr volc breccia within laminated mudstone. Some scouring indicating uphole facing
		25.1	DAC	14.3 to 16.8 mod bl crackle veinlets		More dominant pk-or porphyritic dacite with volcaniclastic clasts. From 16.8 to 18.9 very stg chloritic zone
		> 30	MUDST			Bleached laminated sediments with gr-gy brecciated contact
39	0.0	0.7	LAT			Pisolitic and frags
		8.2	SLST/SST	Some fine black vnlets and patches	80	Wk to mod banded volc sst/slst 85deg TCA
		22.1	DAC			Fgr massive with numerous irreg broken bands, stgly chloritic from 9 to 15m. Stg broken core
		24.1	QTZITE		75	Gy vaguely layered, dirty.
	50.3	67.0	VOLCS	Some fine bl veinlets throughout. From 59.2 to 65.5 more predominant crackle veinlets		Mixed altered volcanics, some amygd dacites, other chloritic albitised. Stg chloritic from 56.7 to 59.2.

HOLE	FROM	TO	MAJOR ROCK	MINERALISATION	CONTACT ANGLE	COMMENTS
100	0.0	2.7	LAT			Broken pisolitic and irregular with some volcanic frags
		4.8	SST			Lt or-br volcanic sandst with some brecc zones, stg altered
		11.6	SST			Variably altered gr-or volc sandst, very patchy, quite broken
		15.2	DAC	Fine anast bl veinlets		Or-pk massive dacite or volc sandst, quite broken
		38.9	SST			Fgr dirty br volc sandst, some layering 80deg TCA. From 19.2 to 20.7, very stg broken. More silty down hole, finely layered
		> 44	DAC			Stg amygd at top, massive wk to mod amygdaloidal
107	0.0	0.9	LAT			Massive cemented pisolitic
		1.7	LAT			Pisolitic rubble
		8.8	DAC	Irreg fine bl vnlets		Massive or-pk
		10.6	DAC		75	Stg vesicular volcanic
		13.0	SST	some ferrug vnlets		Gy fgr sandst with slst laminations
		16.0	SLST	fine ferrug vnlets	80	Gy fgr silst, weakly laminated
		18.9	SST			Or-br fgr volcaniclastic sandst, layering 80deg TCA
		>21.5	SLST			Fgr gy-gn silst with vague layering
	65.0	69.0	VOLC			Vfgr bleached with brecc bands, some qtz-cb infill
		69.9	SLST/VOLC	Abundant fgr bl vnlets		Stg brecc with slst and volcanics
		75.6	VOLC	Bl laminations		Alternating fgr dkred volcanic bands 5-7cm wide in irregular dk volcs

HOLE	FROM	TO	MAJOR ROCK	MINERALISATION	CONTACT ANGLE	COMMENTS
		77.6	AND			Dk or-br amygdaloidal volcs, possiblt hematite alteration
111	73.6	80.3	DAC	Minor bl vnlets and patches		massive pk-or volcanic, becoming more bleached at 75.4m
		86.0	MUDST/VOLC		90	Intermixed gr fissile mudst and volc bands, mod broken. Remnant layering 85deg TCA. Less volcs toward bottom, becomes spotted (?albite). Layering more pronounced
		>88	DAC			Amygdaloidal/ vesicular ?flow top, or volcanic
115	76.0	79.8	DAC/AND	Fine bl vnlets		Massive or-gr, weak alteration, brecciated at top
		80.6	MUDST	Fine bl vnlets/ stgers		Poorly layered, gr-br sediment
		84.8	DAC/AND			Dkgr porphyritic volcanic with minor layered banded sediments, grades into below
		86.2	DAC/AND			Brecciated or-br zone mixed volcanics
120	0.0	0.2	LAT			Pisolitic gravels
	0.2	0.7	LAT			Cemented pisolites
	0.7	1.8	LAT			Pisolitic gravels
		2.3	DAC			Massive or-br
		2.8	DAC			Stg fractured ?FLT
		7.9	DAC	Irreg ferrug/black crackle veining	80	Massive or-br with stg altered and vesicular base
		13.1	QTZITE			Vaguely bedded 80deg TCA
		13.8	SLST		85	Lt br poorly laminated and fractured

HOLE	FROM	TO	MAJOR ROCK	MINERALISATION	CONTACT ANGLE	COMMENTS
		18.5	SST/QTZITE		85	Dirty gy-pk with minor angular grit towards contact. Gr-br slst/mudst at base
122	0.0	0.4	LAT			Pisolitic gravels
		0.9	LAT			Cemented pisolites
		2.3	LAT/VOLC			Mixed pisolites and volcanics
		6.6	DAC	Fgr black Mn patches and colloform banding		Massive vfgr or-pk altered with gritty felds rich altered clasts
		7.2	DAC/SST	Minor fine crackle veinlets		Or-pk sandy volcanic, grad lower contact
		11.8	DACBX	Fine bl veinlets, vughs, patches		Stg brecc or-pk bleached with some angular slst clasts
		15.0	DAC			Massive with minor brecc, not bleached
		20.6	DAC			Variably bleached (albitised), stg fractured with ang/subang frags. Some fgr mudst frags
		25.3	SST			Fgr gy-gr altered with some volc bands. Vague bedding 65deg
		28.1	DAC			Deep pk-red fgr, ?hematised with minor brecc
		34.0	MUDST	Fine ferrug vnlets, crackle like and some black spotting		Bleached altered brecc with gy-gn fine altered mudst. Sub rounded to ang volc frags
		40.6	VOLC/SLST			Very stg broken core, stg alteration possibly chlorite
		41.3	DAC			Or-br weak alteration, massive
		45.0	MUDST			Fgr br-gn altered sediment

Appendix 3: Lag Sample Geochemical Plots

Geochemical plots shown in Figure 20, Figure 21 and Figure 22 are compiled from CRAE data. No normalisation has been attempted. Coloured squares are a thematic representation of elemental values with ranges according to cumulative frequency natural breaks in data:

Red squares - highest values; top 7% Co, 3% Cu, 9% Ni

Yellow squares - next highest values; 30% Co, 38% Cu, 38% Ni

Green squares - next highest values; 38% Co, 25% Cu, 36% Ni

Blue squares – lowest values; 25% Co, 34% Cu, 17% Ni

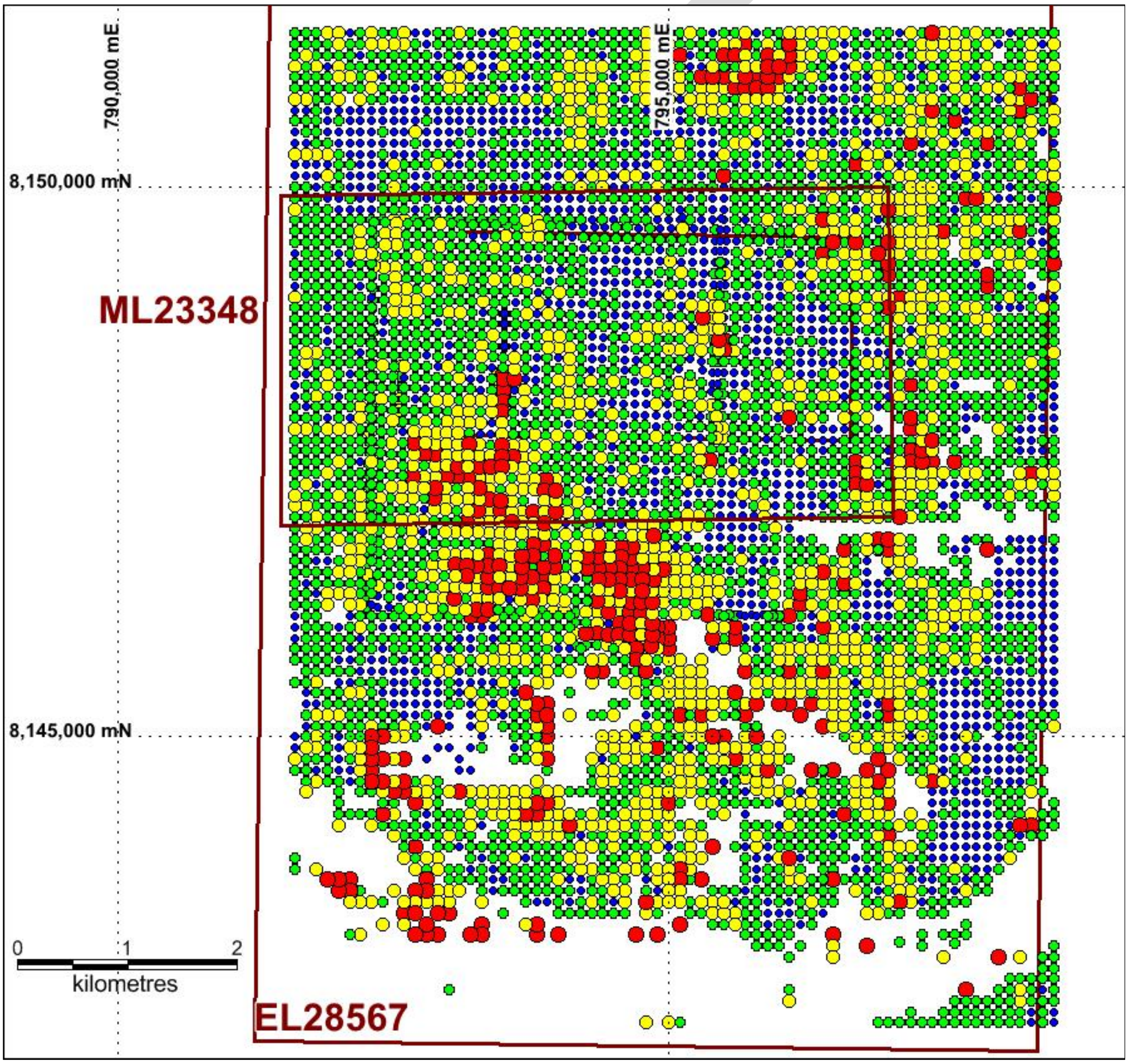

Figure 20: Stanton Lag Geochemistry: Co Plot

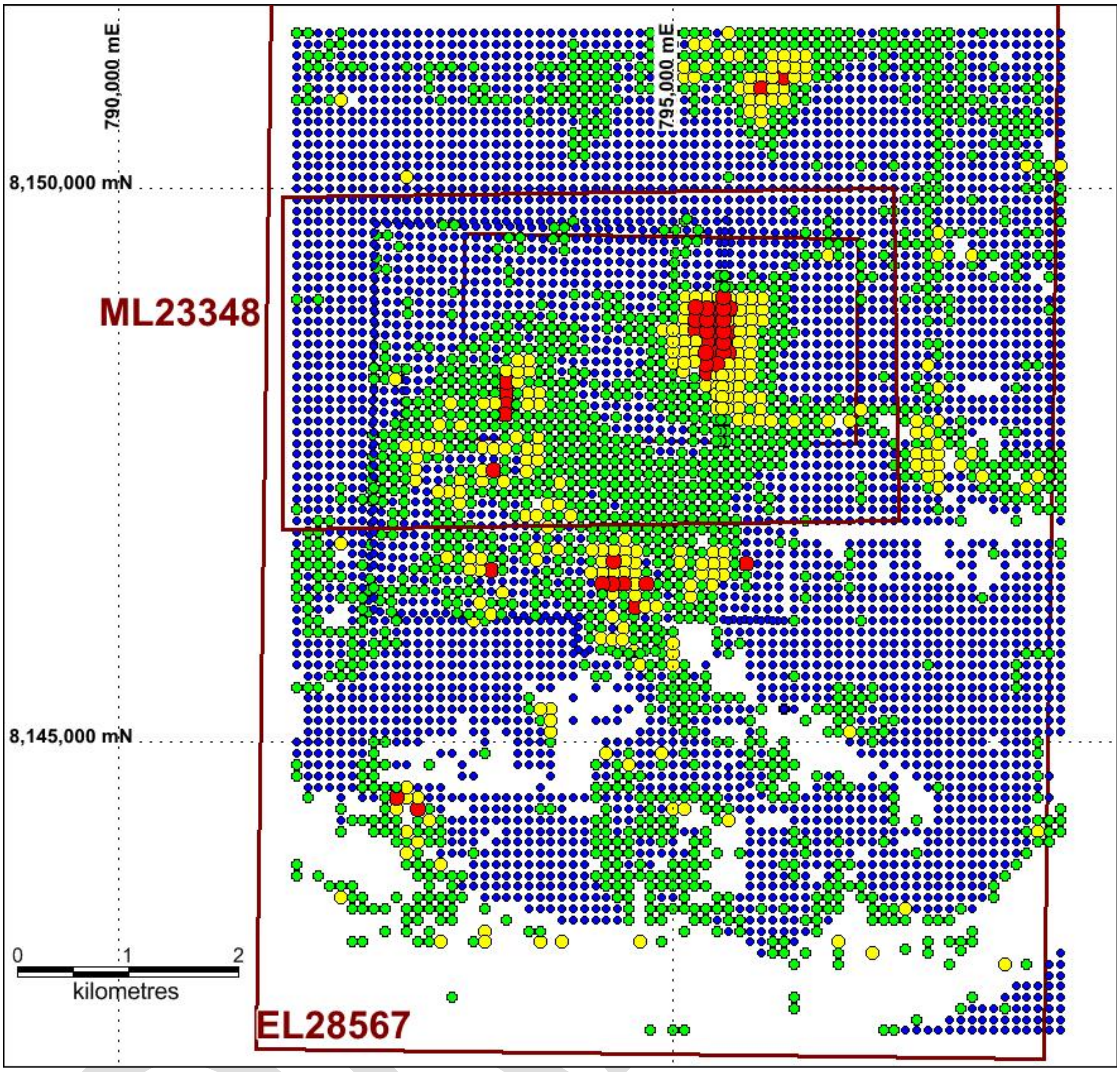

Figure 21: Stanton Lag Geochemistry: Cu plot

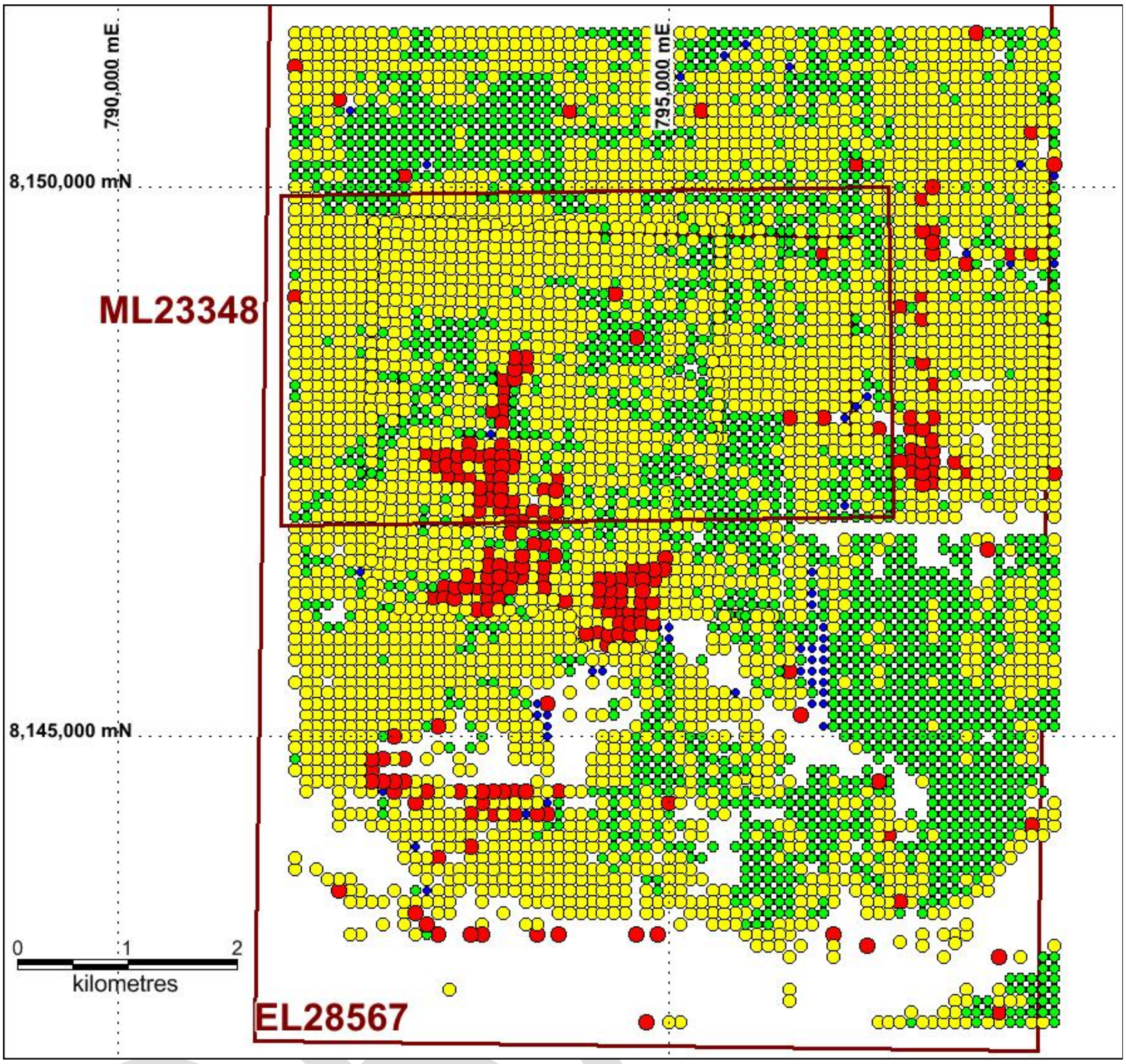

Figure 22: Stanton Lag Geochemistry: Ni plot