Annual Report 2011

Year Ending: 3 June 2011
Title: EL23814
Bulman Project
Bulman Resources Pty Ltd
Job No. 2212-02

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Executive Summary

The Bulman project is located near the Bulman Aboriginal community within Arnhem Land, approximately 320km north east of Katherine. This project consists of two exploration licences (EL 23814 and 25931) and two mineral leases (MLN 726 and 727). This is the fourth annual report for EL 23814.

EL23814 of 77 blocks was granted to Bulman Resources Pty Ltd on 4 June 2007 and expires on 3 June 2013.

The Bulman tenements lie within the McArthur Basin. This basin is comprised of Palaeoproterozoic to Mesoproterozoic sediments comprising sandstone, shale, carbonate and interbedded volcanic and intrusive igneous rocks. The most prominent structure in the region is the northwest-trending Bulman Fault, which can be traced over a distance of 300km. The Bulman Fault is a major basement feature that was reactivated several times during the Proterozoic. The Bulman tenements are locally underlain by the Mount Rigg Group which is intruded by the Derim Derim Dolerite. The Mount Rigg Group is a sequence of dolomitic and silicilastic rocks divided into two formations, the Bone Creek Sandstone and the Dook Creek Formation.

Lead and zinc mineralisation was first discovered at Bulman in the late 1880’s. Exploration was sporadic between 1911 and 1952 but further exploration continued in the 1950’s and 1960’s. The mineralisation style consists of carbonate-hosted stratabound Zn-Pb with lens-like deposits of galena, sphalerite and chalcopyrite.

Soil sampling carried out on EL 23814 consisted of 189 XRF readings on soil and rock samples. Infill sampling was conducted over three recorded anomalous areas; the historic Bulman 1 mineralisation, 2008 drilling area (B1), and the CN (central north) fault zone.

The discovery of a new low to moderate zinc anomaly associated with cross cutting NE trending interpreted structures along the western portion of the Bulman Fault is a significant discovery in that it is the first anomalism to be located outside of the historical sites. It indicates that there is good potential for further sites of interest and mineralisation to be discovered within unexplored areas of the Dook Creek Formation.

The ridge and hill lines north of BEL001 and south of BEL009 have not been adequately tested by either XRF geochemistry sampling, rock chip geochemistry sampling, and more significantly not by drilling. Overall insufficient geological mapping has taken place to enhance the understanding of the lithological units within the Dook Creek Formation and the relationship to mineralisation to enable better drill hole targeting.

The proposed exploration programme will comprise initially:

- Airborne EM surveying throughout areas of EL 23814 that are under explored with emphasis being initially focused on areas with cross structures.

This will be followed up in successive years with:

- RC drilling of new anomalies and redrilling of some historical anomalies to delineate the extent of the mineralisation.
- Deep diamond drilling to determine any mineralisation within and beneath the dolerite sill, to ascertain its true thickness and to test the potential of the Dook Creek Formation beneath the dolerite to host significant mineralisation.
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 Bulman Resources Pty Ltd, and have no financial interests in Bulman Resources 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.

Maps

SD5306 Mt Marumba

All maps are projection in the GDA94 datum Zone 53
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Introduction

The Bulman project is located near the Bulman Aboriginal community within Arnhem Land, approximately 320km north east of Katherine. This project consists of two exploration licences (EL 23814 and 25931) and two mineral leases (MLN 726 and 727). This is the fourth annual report for EL 23814.

EL 23814 is the larger of the tenements and lies to the north-east of the township of Bulman, approximately 400 km south-east of Darwin (Figure 1). The tenement covers an area of around 215 km².

![Figure 1 Bulman project location plan](image)

Tenure Status & Encumbrances

EL 23814 of 77 blocks was granted to Bulman Resources Pty Ltd on 4 June 2007 and expires on 3 June 2013. The tenement includes two exclusion zones as shown in Figure 2.
The tenement overlies land held in trust by the Arnhem Land Aboriginal Land Trust.

**Previous Exploration**

Lead and zinc mineralisation was first discovered at Bulman in the late 1880’s and a number of small scale mines operated until 1911 when mining was abandoned due to decreasing grades of lead with depth. In total approximately 10 tonnes of high grade lead ore was mined over the period.

Other exploration was sporadic between 1911 and 1952 when Enterprise Exploration Company (a precursor to CRA) carried out diamond drilling on known lead-zinc mineralisation. Further exploration continued in the 1950’s and 1960’s by EEC, including eight drillholes, and sixteen completed by Western Nuclear (five completed in 1968 and eleven in 1969). No significant work has been done since then.

Exploration completed by Bulman Resources during 2007-2008 included:

- RC drilling preparation
- Airborne magnetic and radiometric surveys
- Soil sampling (254 samples) and rock chip sampling (10 samples)

Exploration completed by Bulman Resources during 2008-2009 included:

- RC drilling (15 holes for 415m)
- Analysis of RC chips (400 readings) using an Innov-X Systems portable XRF analyser
• Assaying of selected samples (29 samples) at NTEL laboratories, Darwin
• Geochemical sampling (50 soil samples, 36 termite mound samples, 29 rock chip samples) RC drilling preparation

There was no field exploration completed by Bulman Resources during 2009-2010

Geological Setting

REGIONAL GEOLOGY

The Bulman tenements lie within the McArthur Basin. This basin is comprised of Palaeoproterozoic to Mesoproterozoic sediments that are up to 12km in thickness. The basin succession comprises of sandstone, shale, carbonate and interbedded volcanic and intrusive igneous rocks. The two main groups within the basin are the Tawallah Group upon which the McArthur Group overlies.

Within the McArthur Group is the Roper Group, this being the youngest in the McArthur Group and is important as it is commonly intruded by dolerite sills, known as the Derim Derim Dolerite. This group is thought to be a cyclic succession of fine to coarse grained siliciclastic rocks deposited in a variety of shallow marine, near shore and shelf environments.

Apart from contact metamorphic effects, the region does not show any evidence of regional metamorphism. The most prominent structure in the region is the northwest-trending Bulman Fault, which can be traced over a distance of 300km. The Bulman Fault is a major basement feature that was reactivated several times during the Proterozoic. Second generation faulting, possibly reflecting Phanerozoic tectonism (Nasca, 1979) has north-south trends and a third set of faults (probably the youngest) strikes east-northeast. Primary base metal mineralisation has been associated with this set of faults (Nasca, 1979).

It should be noted that the McArthur Basin is amongst the most prospective regions in northern Australia hosting the world class HYC Pb-Zn-Ag deposit and other smaller uranium and base metal deposits.

LOCAL GEOLOGY

The Bulman tenements are locally underlain by the Mount Rigg Group which is intruded by the Derim Derim Dolerite. The Mount Rigg Group is a sequence of dolomitic and siliciclastic rocks divided into two formations, the Bone Creek Sandstone and the Dook Creek Formation (Table 1 and Figure 3).

The Bone Creek Formation is comprised of white to pale yellow, thick bedded, medium to coarse grained quartzose sandstone with local conglomerate and breccia at the base. Unit thickness varies from 40m to 180m.

The Dook Creek Formation is a laminated stromatolitic and oolitic dolostone, dololutite, dolomitic siltstone and sandstone with chert. Exact thickness is unknown however it is estimated at around 600m in thickness.

At Bulman, the Derim Derim Dolerite forms the Bulman sill and intrudes the upper part of the Dook Creek Formation. It is a north east trending body with a thickness of between 20 to 100m. The table below shows the stratigraphy of the area.
<table>
<thead>
<tr>
<th>AGE</th>
<th>GROUP</th>
<th>FORMATION</th>
<th>LITHOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesoproterozoic</td>
<td>Ectasian</td>
<td>Derim Derim Dolerite</td>
<td>Medium to coarse grained dolerite</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Derim Derim dolerite intrudes Mount Rigg and Roper Groups</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calymmian</td>
<td>Bessie Creek Sandstone</td>
<td>Medium-grained quartz sandstone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Corcoran Formation</td>
<td>Mudstone and fine-grained quartz sandstone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hodgson Sandstone</td>
<td>Thick- to very thick-bedded, fine- to very coarse-grained quartz sandstone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jalboi Formation</td>
<td>Fine-grained laminated micaceous and glauconitic sandstone, mudstone and siltstone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Arnold Sandstone</td>
<td>Cross bedded quartz sandstone</td>
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<tr>
<td></td>
<td></td>
<td>Crawford Formation</td>
<td>Micaceous glauconitic sandstone, laminated to hummocky cross-stratified, mudstone and siltstone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mainoru Formation</td>
<td>Calcareous and non-calcareous mudstone, glauconitic siltstone, sandstone and limestone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Limmen Sandstone</td>
<td>Granule- and pebble-rich quartz sandstone and fine-to medium-grained quartz sandstone</td>
</tr>
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<td></td>
<td>Mesoproterozoic</td>
<td>Dook Creek Formation</td>
<td>Dololutite, dolomitic siltstone and sandstone, stromatolitic and oolitic dolostone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bone Creek Sandstone</td>
<td>Sandstone, glauconitic, lithic and pebbly in part, mudstone and rare dolostone</td>
</tr>
<tr>
<td></td>
<td>Palaeoproterozoic</td>
<td>West Branch Volcanics</td>
<td>Basalt, dolerite, sandstone and pebbly sandstone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gundi Sandstone</td>
<td>Sandstone, boulder conglomerate, mudstone, dolostone, basalt, rhyolite and tuff</td>
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<tr>
<td></td>
<td></td>
<td>McCaw Formation</td>
<td>Siliciclastic and dolomitic lutite, dolostone and sandstone</td>
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<td>Bonanza Creek Formation</td>
<td>Fine-grained, glauconitic sandstone</td>
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<td>Shadforth Sandstone</td>
<td>Quartz sandstone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cottee Formation</td>
<td>Mudstone, stromatolitic/glauconitic dolostone, sandstone</td>
</tr>
</tbody>
</table>
Table 1 Stratigraphy of the McArthur Basin

Figure 3 Regional geological setting

Mineralisation Models

The mineralisation style consists of a carbonate-hosted stratabound Zn-Pb deposit. This type of deposit consists of carbonates with lens-like deposits of galena, sphalerite and chalcopyrite. The carbonates typically have primary to secondary porosity.

Almost all mineralisation occurs in carbonate rocks showing contact metamorphic effects within 50m of the intruding dolerite sills. There are three styles of mineralisation defined:

- Small but rich pods of high grade galena and sphalerite that follow fractures or karst-related cavities along bedding planes and terminate at shallow depths, possibly at the base of the palaeokarst corrosion.

- Surface crusts of high grade zinc mineralisation 0.3 to 0.6m thick. The crust ore is light brown in colour, highly porous and consists of cerrusite, smithsonite, galena, hydrozincite and willemite.

- Sub-surface stratiform mineralisation occurring in several horizons, making up the bulk of the base metal resource at Bulman. The mineralisation consists of low iron sphalerite, galena and traces of chalcopyrite.
2010 Exploration Results

Soil sampling carried out on EL 23814 consisted of 189 XRF readings on soil and rock samples, plus readings of supplied standards. Infill sampling was conducted over three recorded anomalous areas; the historic Bulman 1 mineralisation, 2008 drilling area (B1), and the CN (central north) fault zone. In addition one other area was tested, targeting the Bulman Fault intersection with northeast trending lineaments in the western portion of EL 23814 (Figure 4).

The traverses were targeted to test:

- Continuation of known Zn-Pb mineralisation in the southern parts of EL 23814 (B1)
- Across geophysical anomalies and reported fault breccia in the northern part of EL 23814 (CN)
- Interpreted NE cross structures cutting the Bulman Fault in the unexplored western half of EL 23814

Figure 4 Zn-Pb bivariate plot of XRF data in EL23814

Details of the samples are presented in Appendix 1. Twenty rock chip samples were collected for chemical analysis during the program. A total of 39 readings were made on the stored drill hole samples from holes BEL001 and BEL009 for correlation and confirmation purposes. Split samples from the mineralised intersections of these two drill holes were sent for assay however a second split sample was not taken for storage and the pulps from the assays were not returned to storage during the original program and contrary to the program design, consequently no mineralised intervals were able to be tested for correlative purposes.
General geological, stratigraphy, alteration and structural features were noted as part of the geochemical / XRF traverses. Particular attention was paid to anomalous geochemistry in relation to its associated lithological unit.

**METHODOLOGY**

The method for soil sampling used was:
- Clear a patch of ground of all rock, vegetation and loose sediment
- Remove the top 2-5 cm of soil and clear to the side
- Loosen the next layer of soil down to 10cm depth if possible and clear
- Place the portable XRF instrument on the exposed soil at the bottom of the hole and conduct a reading
- Fill in the hole with removed material

The method for rock sampling used was:
- Crack the rock open to expose a less weathered surface
- Locate a suitable flat section of the now exposed rock surface
- Position the portable XRF instrument reading window on the flat section of the rock surface and conduct a reading
- Place the chipped samples near the outcrop or collect into a sample bag as deemed necessary.

**XRF ANALYSIS**

The Olympus Innov-X Omega XRF Analyser is a point source analyser that can analyse soil, rock, drill cuttings and drill core to give an instantaneous point reading of the elements present at that point of window exposure.

The instrument can be set on either of two settings, with the first being analysis to a ppm level (SOIL) and the second being to a % level (MINING). All the samples tested were done so using the SOIL setting. Readings were conducted for a total of 60 seconds each.

**RESULTS**

Results from the soil and/or rock chip XRF readings are tabulated in Appendix 1. Due to the nature of the sampling and analytical procedure, these results should only be regarded as indicative only. Results of selected samples, some of higher grade readings, collected and submitted to NTEL in Darwin for chemical analyses are tabulated in Appendix 2.

**CENTRAL NORTH (CN) FAULT ZONE**

Due to there being no access to the site of the reported fault breccia zone within the central north of EL 23814 at approx 437000mE 8499500mN (MGA 94 Z 53)(Figure 4), a path had to be found into the site which took time away from conducting traverses. In addition due to OH&S issues the pace of operation for such traverses had to be reduced for the benefit of staff. Hence only a series of short 300m traverses over a selected central core area of the possible fault breccia were conducted. No significant mineralisation was noted on these traverses from the XRF data although several fault breccia outcrops and hence rock samples have very high iron and manganese levels (samples 1513 and 1514 returned assay values of 33,600 and
64,800 ppm Mn, respectively (Appendix 2). Both samples have elevated cobalt and molybdenum suggesting an igneous origin component to enrich fluids moving through the fault. Minor arsenic and silver values noted from the XRF instrument during the survey have not been reflected in the data plotting due to high error factors.

**B1, 2008 Drill Area, BEL001 and BEL009**

Initially it was planned to conduct infill 800 - 1200m E-W traverse lines across the central portion of the 2008 drilling area from BEL014 to BEL011. Due to logistic and time constraints plus minor access issues this was reduced to a series of targeted traverses concentrating around BEL001, BEL009 and 100m spaced lines south of BEL009 (Figure 5). BEL001 and BEL009 were selected based on the highest anomalous from drill hole assays. The lines south of BEL009 were infill traverses to better aid understanding of this 2007-2008 anomalous area.

Sampling by XRF around drill hole BEL001, the most anomalous drill hole from the 2008 campaign, was not successful in locating any significant mineralisation or anomalies. The readings gave values of less than 400 ppm for both Zn and Pb. A highly bleached weakly limonitic calcareous sandstone noted to have very low Zn + Pb values from XRF readings was sampled (1527); this sample returned 90 ppm Zn and 76 ppm Pb confirming the very low values in this locale. Low levels of arsenic and silver noted from the XRF instrument during the survey have not been reflected in the final data interpretation due to high error factors for these elements.

Dolerite outcrop was noted within 200m southwest of drill hole BEL001 location. Dolerite was also intersected at 16m within this drill hole with a mineralised 2-3m interval above this contact, hence mineralisation is potentially shallowly plunging to the northeast and may lie at depth below a series of small east-west orientated hills that occur north of the drill hole location. Dook Creek Formation outcrops observed on the short traverses around BEL001 generally dip shallowly north to northeast. This local dip to the stratigraphy is either due to the dolerite intrusion upwarping, faulting or a combination of faulting with dolerite intrusion along those faults.

Upon visiting the site of BEL009 it was noted that this drill hole was sited adjacent to the locale where historical costeanning and pitting was conducted to estimate the historical reported grade and tonnage for Bulman 1 (B1). The BEL009 site is located on a small knoll of outcropping interbedded Dook Creek Formation units. This knoll/outcrop is surrounded to the north-northeast by dolerite outcrop, west and east by flat wash zone plains that are characterised by dolerite type soils.

The Dook Creek Formation at BEL009 is a repeat sequence of interbedded stromatolitic/laminated limestone to dolostone, overlain by thin beds of siltstone and or calcareous sandstone. The upper unit forming the top bluff to the knoll is a massive blocky limestone. At this locale all the units have anomalous Zn and Pb (Figure 5). Minor lead (Pb) veining was noted within the southern edge of the blocky massive limestone.

Distinctive green and or brown “chert” bands were observed from within or at the contact of siltstone and overlying laminated stromatolitic “dolostone”. Historical pitting, shafts and costeanning was observed to transect these chert units, as did drill hole BEL009 according to the drill logs. These “chert” units are considered to contain willemite, a zinc silicate (Zn$_2$SiO$_4$) alteration mineral and as such are evidence of reactivation/remobilisation of the generally lower grade stratiform mineralisation from within the “dolostone”. A sample of the thin green “chert” band (1527) collected from the western side of the knoll returned assay values of 71,300 ppm Zn (7.1% Zn), 1930 ppm Pb and notable low anomalous silver of 4 ppm which would appear to support the concept of this being willemite. Another sample collected from the
historical costean of brown limestone with weak green brown chert veining (1528) returned lesser assay values of 3910 ppm Zn and 268 ppm Pb (Appendix 2). Both of these samples are also notable for their high magnesium content of 20% and 18% respectively.

No petrography was conducted on samples of this material or other rock units from during this or the 2007 – 2008 exploration.

Traverses across a hill south of BEL009 show a significant level of anomalism (>500ppm Zn and > 400ppm Pb) (Figure 5). Lead (Pb) notably declines towards the south though 2007 data indicate that there is still anomalous lead and zinc levels down to 8491700mN. An outcropping limestone unit of the Dook Creek Formation on this southern hill was found to be notably elevated in Zn and Pb values with XRF readings of up to 6462 ppm Zn. A sample collected from this site (sample 1530), returned assay values of 725 ppm Zn and 3910 ppm Pb which is significantly different although this sample does have notable silver anomalism (12.5ppm Ag) (Appendix 2) which indicates that some of the silver values indicated from the original traverse XRF readings data and subsequently interpreted to be dominated by high error factors may be significant indicators of weak Pb-Ag +/-Zn mineralisation. The XRF instrument records a spot sample reading of 5mm diameter while the assay sample is a more dilute sample by comparison and this may explain the significant difference between XRF instrument and assay values. The XRF instrument data is indicative only at best.

There is a distinct bifurcation of the anomalism distribution from line 8492400mN and to test this, line 8491800mN was selected to collect additional data across. This resulted in two discrete Zn anomalies being located along this traverse which correlates with the 2007 data. It also confirmed that this splitting of the anomaly corresponds to the location of the outcropping hills of Dook Creek Formation as can be seen...
from the underlying grey scale elevation image (Figure 5 - dark ~ low lying areas – light ~ more elevated regions). Both BEL013 and BEL014 drill holes have not been positioned to adequately test the full sequence of the ridge line, however both these holes are noted to have intersected low anomalous Zn mineralisation at depth (~32m).

The ridge and hill line south of BEL009 has not been adequately tested by either XRF geochemistry sampling, rock chip geochemical sampling, or by drilling. Hence the potential for economic mineralisation within this Zn-Pb anomalous area is still quite high. Overall, insufficient geological mapping has taken place to enhance the understanding of the lithological units within the Dook Creek Formation and their relationship to mineralisation. These brief reconnaissance traverses have indicated that the stromatolitic/laminated “dolostone” unit has a general low to moderately low Zn-Pb anomalism from 200 – 600 ppm, whereas higher grade anomalism is found within calcareous sandstone units and altered siltstone units.

Though higher silver responses (16-36ppm) were noted on the edge of the higher Zn-Pb anomalism, these have not been reflected in the data interpretation / plotting due to high error factors although notable silver anomalism associated with weakly mineralised lead samples is seen in the assay results from this area.

**Ripple Hill – West Bulman Fault Area**

Several days trekking to an area of postulated NE cross faulting of the Bulman Fault resulted in the location of previously unknown or unrecorded Zn-Pb anomalism (Figure 6). This newly discovered area is 12km northwest of the 2008 drill area.

The anomalism is noted to be on the SE side of a hill consisting of a sequence of Dook Creek Formation laminated / stromatolitic “dolostone” interbedded with calcareous sandstone, a thick altered ferruginous siltstone and a massive blocky limestone. An area of roughly 300m x 200m and 20m elevation was noted to have zinc anomalism of >0.1% and ranged up to 0.5% Zn on the XRF instrument. Lead anomalism was noted to be more patchy and ranged from 400ppm to 1000ppm. Also located on the northwest to west aspect of this hill is a distinct unmineralised narrow fault breccia which trends north. Dolerite outcrop was noted at the base of the hill on the west side and flat wash plain with dolerite characteristic soils was noted to the southeast.
Zn anomalism was found to highest in a highly altered ferruginous siltstone unit above a calcareous sandstone unit which overlies stromatolitic “dolostone”.

A total of seven rock chip samples were collected from sites around the anomaly. The significant assay results are shown in Table 2 below.

Table 2: Significant assay results for rock samples from Ripple Hill anomaly.

<table>
<thead>
<tr>
<th>Sample Number</th>
<th>Zinc ppm</th>
<th>Lead ppm</th>
<th>Nickel ppm</th>
<th>Cobalt ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1518</td>
<td>105</td>
<td>64</td>
<td>82</td>
<td>40</td>
</tr>
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<td>1519</td>
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<td>1524</td>
<td>5860</td>
<td>166</td>
<td>764</td>
<td>386</td>
</tr>
</tbody>
</table>

Notably as evidenced from the assay results this anomaly area is elevated in Zn and depleted in Pb, with elevated cobalt and nickel content. This suggests that there has been significant influx of nickel and cobalt enriched fluids most likely from the dolerite intrusion which has potentially remobilised the more volatile lead mineralisation. The samples are also notably iron enriched and ferruginous, which is postulated to be a function of oxidation of sulphide minerals.
Despite the fact that this is a low to moderate zinc anomaly and a depleted lead anomaly, it is a significant discovery in that it is the first geochemical anomalism to be located outside of the historical sites. In addition it is also significant in that it indicates that there is good potential for further sites of interest and mineralisation to be discovered within unexplored areas of the Dook Creek Formation in EL 23814 by good ‘on the ground’ geological exploration.

To undertake further ground exploration would require a high degree of logistic arrangement and infrastructure development. A significant well supplied and semi permanent fully staffed camp would be recommended: the Blue Water outstation which is currently unoccupied may be available for this purpose but this would require negotiation with the traditional owners, NLC, Roper Shire Council and other affected parties. Another major logistic matter needed to be attended to is that of access to camp and to exploration target areas. At present a couple of rough bush and buffalo hunting tracks are the only access into the Blue Water outstation and only several kilometres west of there. These would need to be significantly upgraded to allow heavy machinery and vehicle access. This again would require detailed involved negotiations concerning access routes to take, level of impact allowed and compensation with traditional owners, NLC and Roper Shire Council.

**Rehabilitation**

No ground disturbing activities were carried out and no rehabilitation was completed during the period.

**Conclusions**

- The historical and newly located anomalies within EL 23814 are significantly zinc dominated anomalies. There is only low lead levels detected in the geochemical samples collected these anomalies.
- The ridge and hill lines north of BEL001 and south of BEL009 have not been adequately tested by either XRF geochemistry sampling, rock chip geochemistry sampling or by drilling. Hence the potential for small scale economic mineralisation within this Zn-Pb anomalous area is moderate.
- Overall insufficient geological mapping has taken place to enhance the understanding of the lithological units within the Dook Creek Formation and the relationship to mineralisation to enable better drill hole targeting. The current reconnaissance traverses has observed that the stromatilitic - laminated “dolostone” unit has a general low to moderately low Zn- Pb anomalism from 200 – 600 ppm (XRF), whereas higher geochemical anomalism is found within calcareous sandstone units and altered siltstone units. Weak silver anomalism is associated with low lead anomalism.
- The discovery of a new low to moderate zinc anomaly with depleted lead anomalism associated with cross cutting NE trending interpreted structures along the western portion of the Bulman Fault is a significant discovery in that it is the first anomalism to be located outside of the historical sites. In addition it is also significant in that it indicates that there is good potential for further sites of interest and mineralisation to be discovered within unexplored areas of the Dook Creek Formation in EL 23814 by good ‘on the ground’ geological exploration.
- Surface geochemical methods are limited in their effectiveness in areas of transported cover, but are useful tools in zones of outcrop. Geophysical methods such as IP and modern airborne electromagnetic survey techniques could potentially provide a means of identifying potential cross structures and relative higher conductor targets.
**Proposed Program**

**EL 23814 Regional (high priority)**
- Geological mapping with rock chip and soil sampling (including XRF)
- Airborne EM surveying throughout areas of EL 23814 that are under explored with emphasis being initially focused on areas with cross structures.
- RC drilling of new anomalies and redrilling of some historical anomalies to delineate the extent of the mineralisation.
- Deep diamond drilling to determine any mineralisation within and beneath the dolerite sill, to ascertain its true thickness and to test the potential of the Dook Creek Formation beneath the dolerite to host significant mineralisation.

**BEL001 - BEL009 Area (moderate priority)**
- Reconnaissance with the portable XRF analyser, rock chip sampling
- RC drilling, as warranted by results

**Proposed Expenditure**

Proposed exploration expenditure within EL23814 proposed for the year 2011 – 2012 is $226,000.

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<thead>
<tr>
<th>Expenditure Item</th>
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<td>Geological Consultants</td>
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<tr>
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References


