Final Report

EL28825 Box Hole

Reporting Period 3 April 2012 to 12 April 2013

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Keywords: Northern Territory, Base Metals, Lead, Zinc, MVT mineralisation
Map Sheets: Huckitta (SF53-11),
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SUMMARY

This report covers the period of grant of the Retention Exploration Licence ELR28825, from 3rd April 2012 to the surrender on 12th April 2013.

The ELR28825 tenement is located approximately 250kms east-northeast of Alice Springs in the Northern Territory. It is located on Arapunya Station, and access is via the Plenty Highway and station tracks. Kings workings are located approximately 7kms SE of Arapunya Station.

The area held under ELR28825 was the core area held previously by Intercept Minerals Ltd under EL22537, which was terminated in July 2011 after 10 years of exploration. The early period was restricted to diamond exploration, but the base metal search was commenced by Uramet (renamed to Intercept Minerals later) in late 2006. This work was focussed around the Kings Workings – lead mineralisation worked briefly in 1960.

Exploration work over the years 2007-2011 was extensive and focussed on the base metal potential of the Kings Mineralisation and its extensions. Exploration expenditure in that period was $960,000.

Despite coverage by several geophysical systems and follow up drilling, no priority targets had been defined by the time of termination of EL22537. It was decided to maintain exploration access and rights to the core area of Kings by a Retention Exploration Licence.

However after grant in April 2012, a thorough review of the project and all the data again resulted in a determination to delay further exploration activities. Financial constraints and a diminishing value and general interest in base metals, lead to a decision to seek a JV partner for the Project. This attempt to get a partner was unsuccessful.

No New exploration data was acquired or generated in the course of the 2012-2013 period of grant.

Despite the attraction of the extent of identified Lead-Zinc mineralisation in the area, the lack of defined targets and the difficulty inherent with MVT style mineralisation lead to the decision to surrender the tenement at the end of the first year.

Reference to the work and results from this time will be briefly mentioned in this report, but are all available in detail in annual technical reports submitted to NT Department of Resources.
1 INTRODUCTION

The Kings Workings galena deposit located within the Box Hole project area was mined by hand in 1960. Since that time, sporadic attempts were made to find extensions or related deposits in the local area, with work by previous explorers involving mapping, surface sampling, drilling and ground EM. Work conducted by Uramet - Intercept includes mapping, surface sampling, ground geophysics, VTEM, and RAB drilling.

2 LOCATION AND ACCESS

The tenement is located approximately 250km east-northeast of Alice Springs in the Northern Territory, Arapunya Station lies within the tenement boundary. (Figure 1).

Access to the tenement is via the Plenty Highway and station tracks.

Physiography ranges from nodule-paved plains in the south and east to gentle carbonate hills in the northwest. There are two sizable seasonal creeks, and karst features are present in the carbonate areas. The vegetation ranges from savanna woodland near the creeks to annual grasslands to gidgee and acacia scrub. The vegetation is consistent with a continental desert.

3 GEOLOGICAL SETTING

3.1 Regional Geology

The Box Hole tenement is located within the southern Georgina Basin, which was the northern part of the Centralian Superbasin. Following the Peterman Orogeny, the area developed as a stable carbonate platform, with occasional clastic sedimentation. The subsequent Alice Springs Orogeny produced little metamorphism in the southern Georgina Basin, but is thought to be responsible for some mild heating and hydrothermal activity (Dunster et al. 2007).

3.2 Tenement Geology

This tenement lies entirely within the Arrinthrunga Formation of the Georgina Basin. This is a shale/carbonate sequence with some quartzitic sands that was deposited in an occasionally emergent, restricted shallow basin. Stromatolitic reefs are plentiful.

One of the Stromatolitic reefs in the upper Cambrian Arrinthrunga Formation hosts the King’s workings deposit, which appears to be a MVT style barite-galena deposit formed during the Alice Springs Orogeny. The mineralized area is extensively silicified, and contains pyrite gossans and occasional sphalerite in addition to the galena and barite.

4 BASE METAL EXPLORATION ACTIVITIES COMPLETED ON EL22537

Base metal related exploration activities undertaken on EL22537 include:
1) Gravity survey
2) Field mapping and sample collection
3) Examination of historical drill core
4) IP survey
5) Aerial electromagnetic (VTEM) survey (including magnetics)
6) Soil and rock chip geochemical survey
7) Vegetation survey
8) Drilling
9) Geochemistry
10) Interpretation of geophysical data by consultants

4.1 Gravity Survey

A helicopter-based gravity survey was performed by Daishsat Pty Ltd in July of 2006 in conjunction with the NTGS East Arunta Gravity Survey. This survey involved a 500 metre spaced gravity survey over most of the Box Hole section of the tenement. The gravity data was processed by Dr Duncan Cowen to produce a residual gravity map, from which 15 anomalous targets were generated. Some of these anomalies were then modeled as buried dense bodies. Figure 4 indicates the location of each station.

A second infill gravity survey was performed by Daishsat Pty Ltd in August of 2007. This survey involved 1742 readings at 50 metre spacing over 39 lines on the Box Hole section of the tenement. Data was modelled by consultants Dr Duncan Cowan and Keith Jones. Some gravity anomalies were modelled as high density bodies at depth and targeted for drilling. The completed lines are shown in figure 1.
Figure 1 Gravity Survey
4.2 Field Mapping

Detailed field mapping was carried out to establish the location of surface mineralization, investigate preliminary gravity targets, and look at archived drill core that was stored on site. 8 aerial photographs were used as a base, covering all the tenement. Soil, rock, and vegetation surveys were also completed. The geological map is below.

Figure 2: Geologic map, including measured strikes and dips, three generations of faults.

4.3 IP Survey
An IP survey was completed in August through October, 2008. This entailed 17 lines at 100 or 50 meter spacing, along 28 line kilometres. Figure 3 shows location of lines. The IP data was inverted by consultant Graham Elliot, resulting in the generation of several targets ranging from 20 to 200 meters in depth. An example is shown in Figure 3.

![Figure 3. Inversion for IP line 9 showing a chargeability anomaly at approximately 50m depth.]

Inverted chargeability and inverted resistivity over the IP lines is presented as figure 4.
4.4 VTEM Survey

In October 2007, a 417 line kilometre VTEM survey was flown at Box Hole by Geotech Airborne Pty Ltd. The data showed a broad correlation between conductivity highs and gravity lows, presumably related to structure. Figure 5 shows a conductivity map based on channel 11, the 131 to 154 microsecond channel.

Magnetic data ("helimag") was recorded as part of the VTEM survey. No tie lines were flown but the data was levelled using regional aeromagnetics by consultant Dr Duncan Cowan.
Figure 5 VTEM channel 11 conductivity map for the Box Hole area
4.5 Soil and Rock Chip Sampling

Systematic measurements of soil and rock chip base metal concentrations were made in the field using the Company’s Niton portable XRF analyser. The initial study was run over the area of known surface mineralization. Other areas of interest from geophysical surveys were added and soil measurements were obtained for the soil where trees used in the vegetation survey (below) were growing. In all, 458 rock chips and 541 soil samples were analysed. Figure 6 below indicates the areal extent of the sampling.

Pb values in soil reached as high as 1330 ppm. The maximum Zn value in soil was 2093 ppm, figure 7 thematically maps the Zinc content of the soils. Rock chips yielded values up to 3% Zn and 1% Pb, excluding values from galena macrocrysts.

Figure 6: Sample Locations showing Zn content in soil, analysis by Niton portable XRF.
4.6 Vegetation Biogeochemistry Survey

A vegetation geochemistry survey was conducted to determine if any anomalous enrichment in base metals or tracer elements was present. 116 samples were collected. Including repeats, 102 total analyses were made on 73 samples, measuring 64 elements. Location of samples is indicated in figure 7. Anomalies in Pb, Ag, Cd, and Zn were correlated with known shallow mineralization. In the southern area, vegetation over the down dip extension of the surface mineralization also showed elevated base metal content.

Figure 7: Location of Vegetation Samples. (Green Diamonds)
4.7 Drilling

4.7.1 RAB Drilling

Between 24 June and 6 July 2008, 94 RAB (rotary air blast) holes were drilled by URAMET to test base metal (Pb and Zn) targets. Drilling was carried out by Bullion Drilling Pty Ltd, and totalled 4,155 metres. Individual holes varied from 1 to 88 metres in depth, locations are shown in figure 11. Every metre drilled was examined on-site and logged according to lithology, with any visible mineralization or alteration noted. Based on initial inspection, 1,070 metres were chip-trayed for later inspection, while 374 metres were sampled for laboratory assay.

4.8 Geochemistry

4.8.1 RAB Drill Results

A Niton portable XRF analyser was used to assist in determining which of the samples would be sent to a commercial laboratory for analysis. Methods, procedures and results are summarised below. Using Niton values of 0.5% or more for zinc, 0.2% or more for lead, plus visible silicification or mineralisation as a guide.

4.8.1.1 Niton Analysis

A 15 second Niton XRF analysis was performed on each metre using the base metal ore mode of analysis. This reported metals with 22 or more protons (titanium and higher). Based on Niton and visual inspection, a small quantity of sample was collected from 1070 samples and stored in chip trays for later inspection. Where anomalous XRF results or visual alteration was noticed, multiple Niton analyses per metre were performed.
A total of 374 samples were selected for laboratory analysis. A number of encouraging lead and zinc intercepts were returned from the assaying. The highest zinc intercept returned by the laboratory analysis was 12m @ 2.8% zinc (and 0.67% lead) from 17m, including one metre @14.7% zinc at 24-25m in hole HDB045 which was targeting a gravity anomaly to the south of mapped mineralisation. The best lead intercept received was 2m @ 3.98% (with 2.8% zinc), including 1m @ 5.39% (with 3.4% zinc) in hole HDB001 close to Kings Workings. Also of particular note are HDB079 in the north-western part of the project area, intersection 5m @ 3.2% zinc at 11-16m, including 1m @ 6.8% zinc 12-13m, and HDB029 located approximately 750m south of Kings Workings, returning 5m @ 1.8% Zn including 1m @ 4.9% Zn.

Other than the intercepts mentioned above, Pb and/or Zn mineralisation over 1% was generally confined to intersections of one to two metres in width. Significant results (over 1% of either Pb or Zn) are summarised below in Table 3, with Figure 14 showing best combined one metre Pb+ Zn intercept for each hole.

Mineralisation is generally associated with silicified dolostone. Often there is a strong correlation with Pb and/or Zn mineralisation and Ba, particularly in the northern part of the mineralised area.

A notable exception is hole HDB045, where mineralisation is associated with siltstone. HDB045 is also unusual in that the mineralisation is wider than other intercepts, and has the highest zinc grade.
Figure 8: Locations of RAB drillholes (purple circles) on geologic map.
4.9 Consultant Reports

Numerous geophysical consultants were engaged initially to interpret the various geophysical data. Reports by Dr Duncan Cowan, Keith Jones, and Graham Elliot were used to generate targets for the RAB drill program. Those geophysical targets deeper than 75 meters were not targeted in the RAB program.

During 2010, consulting MVT experts CSA Global (CSA) were engaged to review and evaluate all available data on the Box Hole MVT Project, and to make recommendations on future work.

CSA concluded that previous work has focused on testing close to outcropping mineralisation, and has not tested significant areas of shallow stratigraphy close to potential feeder zones. In addition, significant target positions are likely to exist at deeper stratigraphic levels and are only tested by extremely limited deeper diamond drilling. The known mineralisation may represent leakage from a more substantial mineralising system at depth, in host rocks more favourable than the mixed carbonates and clastics at shallow depths.

5 CONCLUSIONS

Various geophysical and geochemical methods undertaken by Uramet/Intercept led to target generation, and those targets with an expected depth of less than 75m were drilled in the 2008 RAB program, with a number of anomalous lead and or zinc intercepts returned.

A thorough data review by CSA led to the recommendation of further work including wider coverage of soil sampling, RAB and diamond drilling. More work is needed to test significant areas of shallow stratigraphy close to potential feeder zones. The known mineralisation may represent leakage from a more substantial mineralising system at depth and more work is needed to assess this possibility. Intercept has applied for a retention licence to allow for further exploration.

EL22537 had passed the 10 year period, and was unable to be renewed and consequently Intercept applied for an Exploration Retention Licence over most of the pre-existing EL.
6 REFERENCES


