

WHITE SPUR CREEK EL 10/2011 ANNUAL REPORT

FOR THE PERIOD ENDING 6TH NOVEMBER 2013

Author: S. P. Maloney

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DIGITAL DATA

Product

Drillhole data; collar-survey-lithology-assay
Report and Appendices

Format

.csv
.pdf

1 SUMMARY

Exploration Licence 10/2011 was granted to MMG on the 6th November 2011. MMG made a two year commitment to expend \$340,000 of exploration on this tenement for a Rosebery or Hellyer-type VHMS Zn-Pb-Cu-Ag-Au massive sulphide deposit. This commitment has been met, predominantly through the drilling of two diamond drillholes during the current reporting year for a total of 1738.7m. One of these holes was drilled predominantly in MMG's adjacent Williamsford tenement, therefore the total metres drilled on EL 10/2011 for the reporting year was 951.4m.

Other work completed during the reporting year included; a review of geophysical data including magnetics, IP and EM with an emphasis of mapping folds, contacts and structures, re-analysis of litho-geochemical data from Purvis (2008), and the building of a 3D model utilising LeapFrog® software.

No significant mineralisation was intersected from either of the two drill holes, and at this stage no further drilling is recommended until a robust review incorporating all of the above mentioned data is completed.

2 INTRODUCTION

This report details work undertaken on EL 10/2011 White Spur Creek (Figure 1) from 7th November 2012 to 6th November 2013.

The White Spur licence covers a portion of the Cambrian Mount Read Volcanics to the south of the Rosebery and Hercules Mines and to the west of the Henty Mine in Western Tasmania. The principal exploration targets sought within the licence area are Hellyer or Rosebery-type VHMS Pb-Zn-Cu-Ag-Au massive sulphide deposits. A 5km strike length of the contact between the White Spur Formation (WSF) and the Central Volcanic Complex (CVC) runs through the centre of the tenement and has been the main target of recent exploration. The CVC – WSF contact has been considered to be a correlate of the Rosebery-Hercules host horizon by previous workers (Hicks, 2009, Vicary, 1997). A second and less well understood target is the Jones Creek package, in the NE part of the tenement. This sequence of shales and fine volcanogenic sediments associated with rhyolitic intrusives is thought to correlate with the Rosebery host position, but correlations are not as clear as for the base of the White Spur Formation due to structural complications.

Access into the tenement is via Howards Rd. (off the Anthony Rd) or on 4WD tracks (in particular the Moore's Pimple track) heading south from Mt Read and the Hercules Mine. Within the EL access is via a series of old logging tracks and a new HEC road, which follows a major canal.

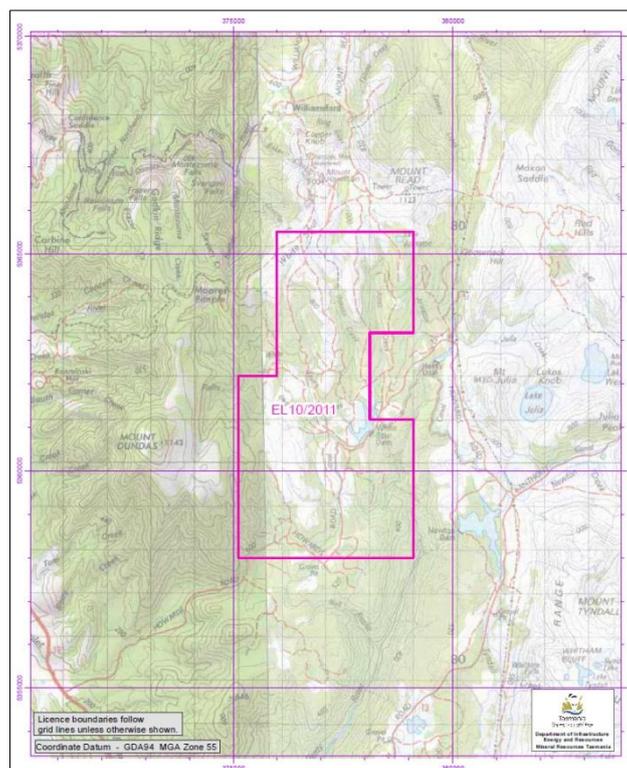


Figure 1: Location of EL 10/2011

3 GEOLOGY

The regional geology of EL 10/2011 White Spur is described on MRVP Map 3 (Corbett, 1986) and in Vicary (1997, 1998). Some areas have been mapped in more detail as Honours (Dugdale, 1992; Nunn, 1995) and M Econ. Geol. (Poltock, 1992) thesis.

The MRV in the area of EL 10/2011 can be subdivided into three main units; the WSF, CVC and Henty Fault Wedge Sequence. Of these only the first two are part of the VHMS prospective sequence.

The WSF was formally defined by Corbett and Lees (1987) as a west facing sequence of felsic tuff, siltstone, greywacke and slate that unconformably overlies the Central Volcanic Complex between the North Henty Fault and Williamsford. The WSF is conformably overlain by Dundas Group conglomerate, quartzwacke, mudstone and lithicwacke on the western end of Howards Road. The abundance of quartz-phyric detritus in the White Spur Formation may suggest derivation from Tyndall Group rocks located to the east of the Henty Fault Zone. Detailed geological maps and of the WSF and CVC contact have been completed in the south and central areas by Vicary (1997, 1998), the north by McNeill (2005 and 2006) and Lees, (1988).

4 PREVIOUS EXPLORATION

The area of EL 10/2011 White Spur has a long history of 'modern' exploration, commencing in the 1950's, that has been reviewed in detail by several authors (Purvis et al., 1983; Poltock and Fitzgerald, 1991; Fitzgerald, 1987; Vicary, 1997 and Corbett, in Vicary and Dauth, 1999). All previous exploration is summarised on Tables 1. In the period 1957-1962 the area was explored by Rio Tinto Australia Exploration as part of SPL320 and ELs 4/1959 and 6/1959. From 1962 onwards the area has a complicated tenement history, dominated by ELs 9/66 (RGC), to the south, and 1/62 (EZ Co.) to the north.

EL 1/62 was initially granted to the EZ Company, but after 1978 was subject to a joint venture with the Getty Oil Development Company (GODC). EZ managed the JV from 1978-1983 at which point GODC assumed management (thus permitting exploration in conjunction with that on EL 9/66 to the south). However, in 1985 GODC's share of the JV was sold to Little River Goldfields NL and in October 1985 a new agreement was entered into between Shell Company of Australia, Little River Resources and the EZ Company, with Shell managing and operating the tenement. In January 1988 EL 1/62 was relinquished, with the northern part of the tenement being incorporated into the "Rosebery Extension leases" (MLs 10M/88, 11M/88 and 15M/88) and the remainder being incorporated into EL 11/85 (see below).

EL 9/66 was granted in August 1966 and in the period to 1980 was gradually amalgamated with other tenements to reach a maximum area of 637 sq. km. The tenement area was then progressively reduced through voluntary (in 1983 and 1984) and statutory (in 1985) reductions with complete relinquishment, apart from that area retained as the Henty Mine leases, in 1987. The tenement was explored by Renison Goldfields Consolidated Ltd. until 1976 when a Joint venture agreement was signed with GODC, who maintained an interest in the area until 1985 at which time their interest was sold to Little River Goldfields, later Little River Resources.

Following the statutory partial relinquishment of EL 9/66 in 1985 the vacant areas were picked up by Amoco Minerals Australia as EL 11/85. Title was then transferred to Cyprus Minerals (1985), Cyprus Gold (1988), Hudspeth and Company (1990) and finally to Arimco (1991). In this period the tenement was subject to two joint ventures, the second of which between Hudspeth and Co., Norgold and Pasminco commenced on 4 December 1990 and continued until relinquishment in 1995, with Pasminco as operators and managers of the JV.

TABLE 1: EXPLORATION ON THE AREA OF EL 10/2011

Reporting Period	Work Completed
1957-60 (King, 1960; McCarthy et al., 1960)	Helicopter borne EM in 1957 failed to locate any conductors. In 1960 the area was gridded, geologically mapped and a TURAM survey completed; the 3 significant anomalies located by this survey were followed-up by Vertical EM, gravity, SP and

	magnetics; costeaming and drilling was recommended.
1961? (Campana, 1962)	Drilling of DDH WSP103.
1969-70 (Newnham, 1970)	Grid cut in upper part of White Spur Creek.
1971-72 (McKibben, 1972)	White Spur Area: Re-open RTAE grids, mapping and limited rock-chip sampling.
1971-72 (Reinhardt, 1972)	Turair survey, line cutting mapping and soil sampling (Dalwitz and White Spur Grids).
1973-74 (Williams, 1974)	Geological mapping, grid extensions and soil sampling on the White Spur and Dalwitz grids.
1974-75 Stevens-Hoare, 1975)	Re-clear and extend grid, Re-log DDH WSP103, C horizon soil and rock-chip sampling and detailed mapping.
1974-75 (Williams, 1975)	Mapping and soil geochemistry on the White Spur and Dalwitz grids.
1975-76 (Stevens-Hoare, 1976)	Limited track cutting, further soil sampling (incomplete at the time of reporting) and mapping, which located a massive pyrite boulder (low base and precious metal assays).
1976-77 (Walter and Brophy, 1977)	Extended existing grid, gradient array IP and ground magnetics completed; defined 13 main IP anomalies. Soil sampling indicated black shale units have high base metals (to 1500 ppm Pb) and correspond to IP anomalies.
1977-78 (Walter, 1978)	White Spur Area: Infill grading and EIP to follow-up anomalies; costeaming and soil sampling. Jones Creek Area: grading, gradient array and dipole-dipole IP, ground magnetics, costeaming and associated rock-chip sampling, C horizon soil sampling and geological mapping; recommended that 2 x DDH test EIP anomalies.
1978-79 (Reid et al., 1979)	White Spur Area: Additional mapping, soil and rock-chip sampling, ground magnetics and EIP. Jones Creek Area: DDH WSP1 completed (hole drilled outside area of current EL); hole intersected weakly mineralised and altered volcanics. IP explained by zones of up to 2% pyrite.
1979-80 (Meares et al., 1980)	White Spur Area (EL 9/66): IP, Rock-chip and soil sampling to evaluate drill target on line 37.5N; DDH WSP2 tested this anomaly intersecting weak mineralisation in a black shale.
1979-80 (Mill et al., 1980)	Dobson's Creek Area (EL 1/62): Re-peg and infill previous EZ grid, gradient array IP, C Horizon soil sampling of new lines and over IP anomalies, limited geological mapping.
1980-81 (McDonald, 1981)	Dobson's Creek Area (EL 1/62): Mapping of grid and access tracks. Recommend drill testing combined IP/soil geochem target.
1981-1982 (Mathison and McDonald, 1982a; McDonald and Mathison, 1982; Mathison and McDonald, 1982b)	Dobson's Creek Area (EL 1/62): Access track completed and DDH DCP235 (161.6m) drilled to test IP/geochem. Target; downhole IP survey failed due to blocked hole. Best assay 0.7m @ 1.45% Pb, 2.2% Zn, 11 g/t Ag from a fault. Concluded that there was insufficient alteration to warrant further work.
1983 (Purvis et al., 1983)	Review of prospectivity of EL 9/66; reviewed previous work and did not recommend any further follow-up on the White Spur area.
1983-1984	Jones Creek Area: Jones and Dobson's Creek cut open for

(Fitzgerald et al., 1984)	mapping and sampling, roads and creeks mapped and rock-chip sampled
1983-84 (Roberts and Cartwright, 1984; Fitzgerald and Pease, 1984)	White Spur Area: Exploration managed by Getty; reviewed previous exploration; concluded that further work warranted. Completed geological mapping, rock-chip sampling and a single loop UTEM survey. Some coverage by DIGHEM survey flown in December 1983.
1984 (Fitzgerald and McNaught, 1985)	Jones Creek Area: geological mapping, re-opening of the EZ imperial grid, UTEM survey and VLF-EM; a low amplitude EM response located in Jones Creek.
1985 (Purvis, 1985)	Jones Creek Area: Drilling of DDH JC1; which failed to intersect any significant mineralisation.
1985 (Corbett, 1985)	Tasmania Department of Mines drilled a 108.7m DDH (MR1) to determine the nature and attitude of the WSF/CVC contact.
1989 (Wyatt, 1990)	Helimag survey flown over EL 9/66 and vacant ground west of EL 9/66 by RGC; several anomalies and lineaments identified in the area of EL 5/1996.
1990-1991 (Poltock and Fitzgerald, 1991)	Reconnaissance geological mapping, rock geochemistry and a review of previous exploration. Mapping located additional sulphide clasts in the WSF.
1991-92 (Poltock, 1992)	Regional geological mapping (located a significant zone of Se-Fd-py alteration), lithogeochemical sampling, interpretation of gravity and magnetic data.
1992 (Dugdale, 1992)	Honours study on "Lithostratigraphy of the White Spur area, western Tasmania".
1992-93 (Quayle, 1993)	Geological mapping, collection of mag. Susc. data from outcrops, lithogeochemical sampling, interpretation of airmagnetic and radiometric data and a review of old geochemistry and IP surveys.
1993-94 (Quayle, 1994)	The WSF/CVC contact was tested by a single 430.5m DDH (YWS1); no significant mineralisation was intersected. S.G. and Mag. Susc. data collected from drill core, further lithogeochemical assaying of rock-chips and core.
1994-95 (Quayle, 1995)	Surface rock chip sampling of CVC/WSF contact in the area of DDH MR1; high AI values were recorded in some samples, however, it is unclear whether this indicates alteration or is a function of weathering.
1995 (Nunn, 1995)	Honours study on "The sedimentology, volcanology and structure of the lower Dundas Group, Hall Rivulet Canal, western Tasmania".
1996-1997 (Vicary, 1997)	Re-logging of old drill core; Location of a pyrite occurrence at the top of the CVC (Annaliese prospect) followed up by grading (7.1 line km), soil and rock chip sampling, mapping, S and Pb Isotope analysis, ground magnetics, IP, VLF-EM and a 306.6m DDH (ANNE001) with DHEM; no significant anomalies worthy of follow-up. Roads and tracks on remainder of tenement mapped at 1:5,000 scale.
1997-98 (Vicary 1998)	20.7 line km of grading (400m spaced lines covering the tenement) followed by mapping, rock-chip sampling, CSAMT, ground mag. and VLF-EM surveys. Historical IP data digitally compiled. 3759.3m of diamond drilling (9 holes) completed

	with DHEM in two holes; best result 17m @ 0.77% Zn and 0.4% Pb in WSP5. S, O and Pb isotopes on surface and drill samples; reviews of stratigraphy and alteration completed.
1998-99 (Vicary and Dauth, 1999)	DHEM results for 4 holes presented; Review of Jones Creek area completed; core from Jones Creek area re-logged.
1999-2000 (Vicary, 2000)	No field work completed – a review of exploration by Goldfields was presented.
2000-2002 McNeill (2002)	Partial leach soil sampling (881 samples collected) and surveying (with DGPS) of the existing 400m spaced Goldfields grid over the CVC/White Spur Formation contact located 2 anomalous zones worthy of follow-up. Minor extensions (2.6 line km) to the existing grid were cut preparatory to partial leach soil sampling.
2002-2003 McNeill (2003)	Partial leach soil sampling (559 samples) and geological mapping of infill grid (9.5 line km cut) and extensions to the Goldfields grid over the CVC/White Spur Formation contact. This work was designed to follow-up the Central [Anomaly 2] and Northern [Anomaly 1] soil anomalies. Re-assaying of soils, from areas with anomalous partial leach results, by total digest methods (145 samples analysed). Completion of DHEM surveys in DDH YWS1, WSP6 and WSP10/10A.
2003-2004 McNeill (2004)	A two loop (2.275 line km) ground EM survey was completed to follow-up the DHEM responses in YWS1 and WSP6. As a result of problems with data quality no final interpretation could be made. Some geological mapping was completed in the north of the tenement. No significant changes to the structural or stratigraphic interpretation were made and no significant alteration or mineralisation was located. The 1997 RGC CSAMT survey of the tenement was re-processed and was being re-interpreted at the time the report was compiled.
2004-2005 McNeill (2005)	The YWS1/WSP6 DHEM anomaly was interpreted to result from an unusual, in Tasmania, IP effect. Additional geological mapping in the north of the tenement. DDH WSP13 (547.0m) was completed. A program of whole-rock analysis of drill core commenced. Review of the 1997 RGC CSAMT survey was completed.
2005-2006 McNeill & Skirka (2006)	<p>Work completed during the reporting period included:</p> <ul style="list-style-type: none"> • Drilling of DDH WSP14 (494.6m) and DDH WSP15 (401.2m). • DHEM surveys in DDH WSP12, WSP13, WSP14 and WSP15. • Surface Fixed Loop TEM survey in the northern part of the license. • Further geological mapping in the central part of the tenement. • Completion of an Honours project to assess the volcanic stratigraphy of the tenement. <p>This work did not lead to the location of any significant VHMS mineralisation or alteration and the target CVC/WSF contact is</p>

	considered to have been effectively tested to a depth of 250-400m throughout most of the licence.
2007-2008 Hicks and Purvis (2008)	<p>Work completed during the reporting period included:</p> <ul style="list-style-type: none"> • Re-logging of 16 drillholes and collection of 230 samples for major, minor and trace element assay. • VTEM survey - 100 line kilometres of 200m spaced E-W coverage across the entire licence <p>This work did not lead to the location of any significant VHMS mineralisation or alteration vectors, and the target CVC/WSF contact is considered to have been effectively tested to a depth of 250-400m throughout most of the licence. The VTEM survey failed to indicate significant responses outside of cultural features. One anomaly remained unexplained.</p>
2008-2009 Hicks (2009)	<p>Work completed during the reporting period included:</p> <p>Analysis of previous years VTEM survey. One moderate anomaly was detected at 5361950N, 376,500E. No further work was completed due to corporate and financial situation.</p>
2009-2010 Callaghan (2010)	<p>Work completed during the reporting period included:</p> <p>1:10,000 Geological Mapping and Interpretation with cross-sectional analysis.</p>
2010-2011 McGilvray (2011)	No work completed during the reporting year.
2011-2012 Denwer (2012)	No field work completed.

5 WORK COMPLETED (YEAR 2)

5.1 DIAMOND DRILLING

Two diamond drillholes were completed during the reporting period; WSP16 and WSP17 (Figure 2). These were collared further west, away from the traditional target horizon that the majority of drilling on the tenement has tested. Only 70m of WSP16 was drilled on EL 10/2011, with the remainder of the hole passing into the adjacent Williamsford EL 48/2011 tenement. However, for the continuity of this report, drillhole WSP16 will be treated in its entirety.

Neither drillhole intersected any significant mineralisation or hydrothermal alteration, however, WSP17 intersected a massive sulphide clast bearing mass flow unit.

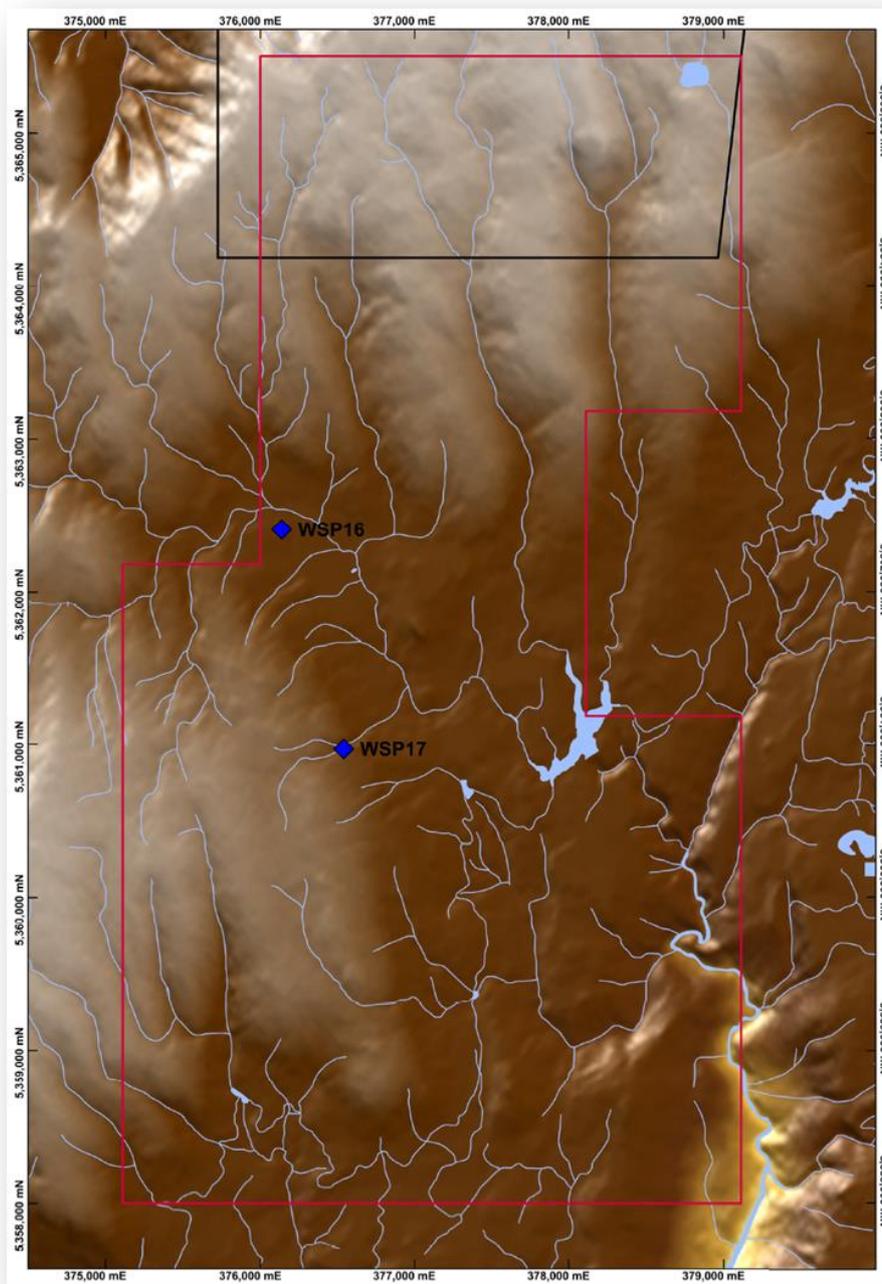


Figure 2: Location of drillholes WSP16 and WSP17

5.1.1 DDH WSP16

Drillhole WSP16 targeted the mapped anticline to the west of WSP13 which had tested the related syncline. Drillhole WSP13 also intersected a ~20m package of host rocks which is one of the thickest intersections at the White Spur prospect. Mapping and drilling in the area suggested that the anticline should bring the CVC/WSF contact to a reasonable depth of 400-500m. Although bedding/cleavage relationships suggested WSP16 drilled very close to hinge of the anticline, a large disconformity was present at the CVC/WSF contact at 566.2m, potentially missing 100-200m of stratigraphy. Alteration of the CVC rocks was weak, dominated by pink albite-silica alteration. Only the first 70m of the drillhole was drilled within EL 10/2011.

TABLE 2: SUMMARY LOG WSP16

FROM	TO	DESCRIPTION
0.0m	285.7m	WSF – interbedded greywacke and lithicwacke turbidites of the upper White Spur Formation.
285.7m	438.4m	WSF – crystal rich mass flow unit with a 40m mudstone top. The mass flow is composed of 20-25% Fd and 2-5% Qz crystals. Clasts composition includes; mudstone clasts up to 100cm,

		porphyritic rhyolite clasts, white/grey siliceous clasts and abundant pumice.
438.4m	566.2m	WSF – lithic and pumice rich mass flow unit. Unit is topped by approximately 10m of mudstone that becomes a fine siltstone to 520m, gradually coarsening downhole. The mass flow does not develop a coarse clast dominant base due to a sharp contact at 566.2m. This contact is interpreted as a disconformity, possibly representing an erosional time gap.
566.2m	857.3m	CVC – overall this is a feldspar crystal rich pumice breccia with variable pink silica-albite alteration throughout. Compositionally, it is dominated by wispy tube pumice, Fd crystals and occasional dark bands of fiamme pumice. The black shale and host rocks were missing above the CVC (presumably eroded off). From 608.6-611.7m are grey/buff coloured clasts up to 30cm which were subsequently confirmed by geochemistry to be of a basaltic composition. A rhyo-dacite porphyry intrusive is apparent from 629.6-635m; however, this is possibly an alteration effect as the lower contact is difficult to determine.

5.1.2 DDH WSP17

Outcrop of the upper turbidite unit was exposed from earthworks for the drill pad. Measurements along this exposure indicated bedding was dipping at 60 degrees towards the west with a vergence to the east. Drillhole WSP17 was targeting the syncline below the mineralisation in WSP5 which is considered the “best” intersection in the prospect, with 17m @ 0.77% Zn and 0.4% Pb.

As WSP17 progressed, it became evident the bedding angles were becoming sub-parallel to the core axis – i.e. the drillhole was drilling sub-parallel to bedding. The drill configuration was changed to gain more lift, however the opposite was achieved, with the hole swinging to the south and becoming slightly steeper. Importantly though, the drillhole was still cutting through stratigraphy, albeit at a low angle.

The drillhole finished in a quartz crystal bearing porphyritic lava or autobreccia. Interesting replacement style carbonates up to 1.5m intervals were present in the last 20m of the hole. Whether the drillhole effectively tested the CVC contact is still contentious- the fact quartz was present towards the end of hole suggests it may have been in WSF rocks still.

TABLE 3: SUMMARY LOG WSP17

FROM	TO	DESCRIPTION
0.0m	230.1m	WSF - interbedded greywacke and lithicwacke turbidites.
230.1m	280.8m	WSF - predominantly mudstone with occasional thin interbeds of coarser sandstone. Fine mudstone top of the below mass flow; gradational lower contact.
280.8m	411.2m	WSF - crystal rich mass flow with clast rich base, 20-25% Fd and 5-10% Qz crystals.
411.2m	440.3m	WSF - interbedded mudstone/siltstone/sandstone.
440.3m	563.1m	WSF - polymict lithic rich mass flow. Abundant clasts of rhyolite, mudstone, pumice, and limestone.
563.1m	601.8m	WSF – massive sulphide clast bearing mass flow breccia with a mudstone matrix. Best examples occur at 574m, 580.8m, 590.4m, 591.3m and 594.95m.
601.8m	781.0m	WSF – a number of polymict mass flow breccias comprising: 601.8-683.9m Rhyolite clast rich; graded mass flow breccia 683.9-701.0m Mudstone mega-clast 701.0-718.6m Rhyolitic clast rich polymict breccia 718.6-726.9m Massive sulphide clast bearing mass flow with mudstone matrix 726.9-781.0m Rhyolitic and pumiceous breccia
781.0m	881.4m	WSF? - Quartz phyric lava/auto-breccia or pseudo breccia? Interesting replacement style carbonate or limestone from ~860-870m.

The most encouraging result from this hole was the massive sulphide clast bearing mass flow unit from 568-600m (Figure 3). Although sulphide clasts are well known to be present in the mass flow units at White Spur, these clasts were sphalerite rich and large in size up to 15cm. Known sulphide clasts in the prospect typically occur as massive pyrite and are much smaller in size. A lot of focus for the next year will be on determining the depositional or

basinal environment of these clasts. A proximal source of the clasts would warrant further exploration in the immediate area.



Figure 3: Pyrrhotite-Sphalerite-Pyrite massive sulphide clast in WSP17 at 591.3m

5.2 GEOPHYSICAL REVIEW

Relevant data from EL 10/2011 was reviewed by MMG geophysicist Liam Webb;

An assessment of regional geophysical datasets was completed with the aim of investigating existing datasets for evidence of anticlinal highs in the Central Volcanic Complex (CVC). The obvious method to image this lithological boundary is 2D or 3D Seismic; however the considerable cost of a reconnaissance style project such as this is prohibitive. Information that can be gained from existing datasets which could focus targeting or future seismic work was considered valuable.

The area has good regional geophysical coverage. The entire licence was covered by the Western Tasmania Regional Minerals Program (WTRMP) in 2001 which acquired 200m spaced HEM frequency domain electromagnetic, radiometrics and magnetic datasets. In 2008, a 200m spaced VTEM survey by Geotech Airborne was flown for Zinifex Ltd and provided additional time domain electromagnetic and magnetic datasets. Gravity coverage over the tenement is coarse, public domain data with no infill survey data. There has been a significant amount of direct targeting electrical surveys, including Downhole and Ground Electromagnetic surveys, Induced Polarisation surveys (IP), and a Controlled Source Audio Magnetotellurics (CSAMT) survey.

Quite detailed structural mapping has been completed in the area, most recently by Callaghan in 2010. These interpretations, combined with MRT 1:12500 maps were used to correlate geophysical responses to geology. Induced Polarisation surveys performed by Goldfields in 1997 show that the contact between the CVC and WSF can somewhat reliably be mapped at surface using electrical properties. The CVC appears to be more resistive compared to the WSF, which maps as relatively more conductive and chargeable (Figure 4, B&C).

The first vertical derivative of the TMI can provide information on the contact between the CVC and the overlying WSF, and can be tracked over most of the Mt Read Belt. The CVC has a distinct disrupted and variable texture compared with the homogenous nature of the WSF rocks. It may be possible to map anticlinal hinges by tracing these zones of disrupted magnetics. As can be seen in Figure 4D, mapped anticlines by Callaghan do appear to correspond with zones such as this. Future work should include more detailed and depth penetrating electrical surveys to try and enhance knowledge on the depth of the contact. Once the confidence in an area has been increased by these relatively cheap methods, then seismic techniques could be used to generate drill targets.

5.3 GEOCHEMISTRY

Data from Purvis' 2008 geochemistry program was reviewed. Purvis concluded there was little true hydrothermal alteration present in the host and footwall rocks (CVC). This conclusion is indeed corroborated; however, he failed to undertake any pathfinder elemental analysis as well as compositional classification of the rocks. This review shows that pathfinder elements used at Rosebery, in particularly Thallium, can be used to good effect at White Spur. Also, the CVC rock composition can be classified into 3 distinct groups which will be discussed further below.

5.3.1 CVC Geochemical Discrimination & Correlation

In the 2008 geochemistry program, the drillholes were only sampled from the CVC/WSF contact down until the end of hole. As seen in Figure 5, when the data is plotted on a Zr/TiO_2 vs Al_2O_3/TiO_2 plot, three clear populations are evident. The green population represents the typical Rosebery and Hercules footwall pumice breccia CVC rocks. Compositionally these are rhyolitic and more fractionated. The red and blue populations are more dacitic and becoming less fractionated. Samples in black are predominantly from the host rock. They do not fall within a clear population, suggesting they are of mixed provenience and maybe not "true" host rocks.

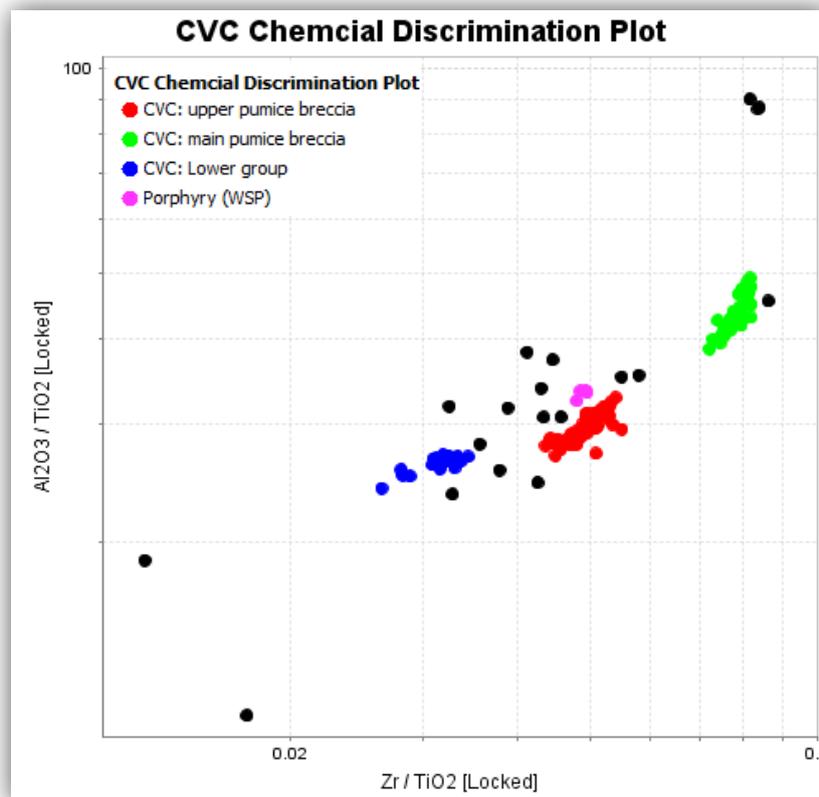


Figure 5: CVC chemical discrimination plot at White Spur (Zr/TiO_2 vs Al_2O_3/TiO_2)

When this data is viewed in 3D there is an obvious compositional change along strike from south to north (Figure 6). Drillholes ANNE001 and WSP14 are the only holes to contain the blue population, with the majority of the holes throughout the tenement being composed of the red "upper pumice breccia" grouping. Further north towards Hercules the green population representing typical Rosebery-Hercules footwall becomes the dominant composition. Determining whether mineralisation "prefers" a particular type of CVC composition could be an important question to answer at White Spur.

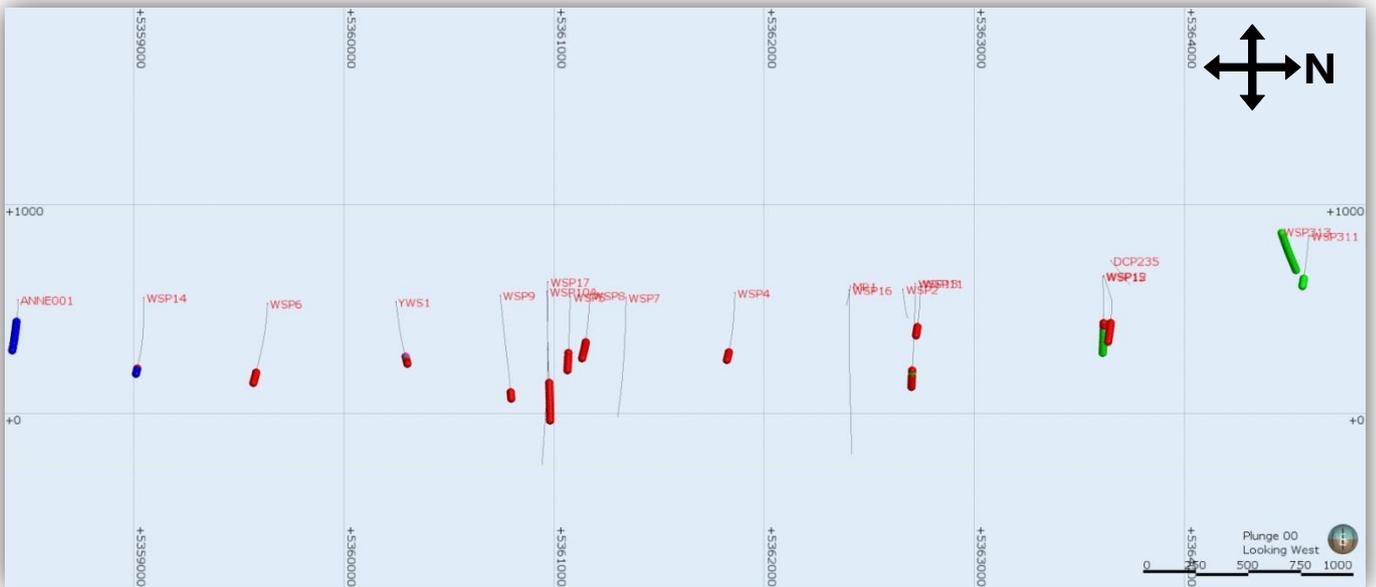


Figure 6: Long section looking west displaying the compositional variation within the CVC at White Spur

5.3.2 Pathfinder Elements & Alteration

Geochemistry completed on Lake Rosebery EL 41/2010 in 2012 confirms that the element Thallium is an excellent vector to ore grade mineralisation. From the reports available, Gerald Purvis did not investigate potential pathfinder elements in his 2008 geochemical study of the White Spur prospect. Fortunately, he analysed for a number of trace elements that can be used as pathfinders, such as Arsenic (As), Antimony (Sb), Silver (Ag) and Thallium (Tl). The results from these pathfinder elements can be seen in the below Figures 7-9.

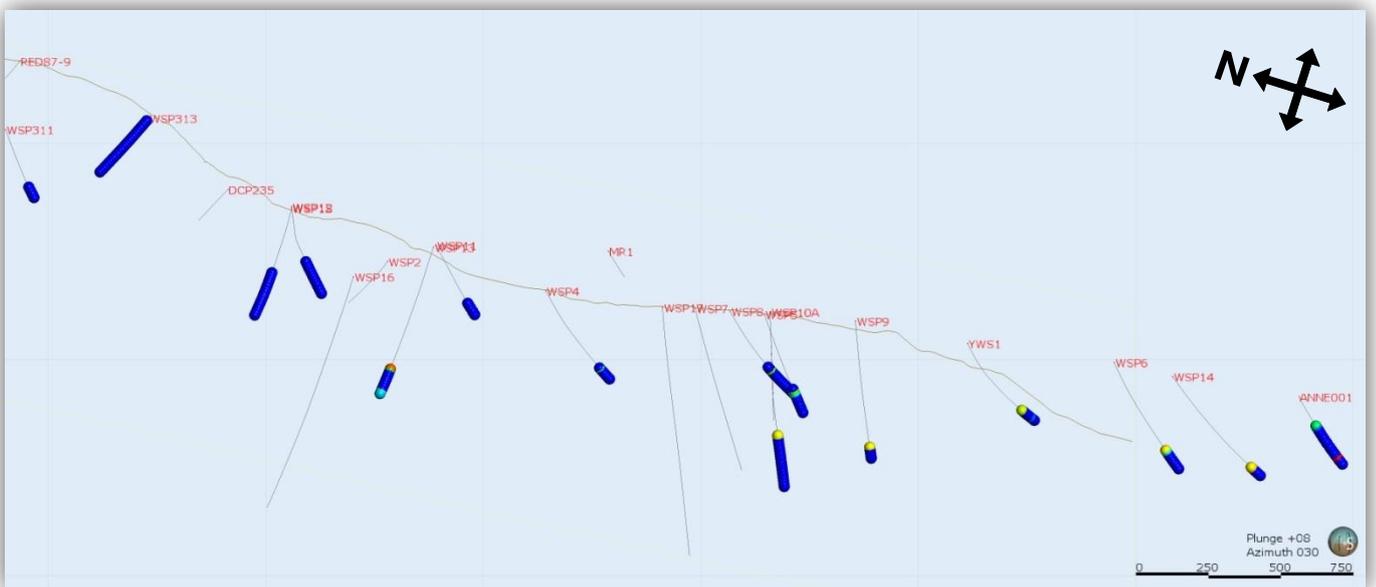


Figure 7: Thallium anomalism across EL 10/2011; looking towards the NE (Blue <1ppm, Red >3ppm Tl)

Overall, Thallium has no broad anomalous zones over tens of metres in what would be expected in a “near miss” drillhole. In fact, only one sample is greater than 3ppm Tl in what is considered to be a strongly anomalous value – this is in ANNE001. This drillhole is located in the very south of the prospect, and the anomalous sample occurs deep in the footwall which is most likely due to the intersection of the North Henty Fault. Drillhole WSP5 is considered to be the “best” intersection within the tenement; with an interval of 17m @ 0.77% Zn and 0.4% Pb. This drillhole has a weak anomalous zone around the mineralisation. All the drillholes from the middle of the licence to the south have weakly anomalous Tl values at the CVC/WSF contact, whereas all the drillholes to the north contain no anomalism. It is possible that Tl within the White Spur area is not strongly associated with

mineralisation, however given the recent work completed at Rosebery/Hercules ore bodies, a more likely answer is that none of the drillholes have come within close proximity to a high grade mineralised zone.

Elements Arsenic and Antimony both show broad, moderately anomalous zones into the footwall pumice breccias of drillholes WSP5 and WSP8. Both of these holes intersected weak Pb-Zn mineralisation. Antimony also has a number of broad, albeit weakly-anomalous zones in the drillholes to the north. Given these holes did not have any anomalous TI, this may potentially down grade Sb as an effective vector. Arsenic appears to follow a similar trend to the TI, typically being anomalous at the CVC/WSF contact.

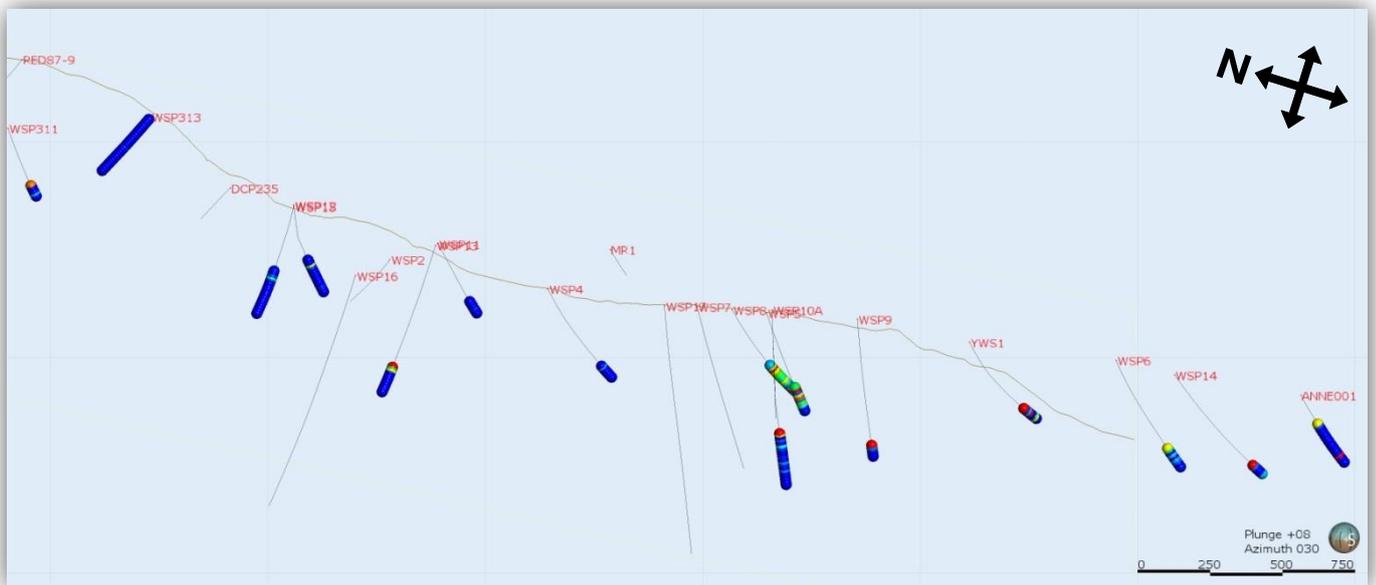


Figure 8: Arsenic anomalism across EL 10/2011; looking towards the NE (Blue <5ppm, Red >50ppm As)



Figure 9: Antimony anomalism across EL 10/2011; looking towards the NE (Blue <1ppm, Red >10ppm Sb)

6 CONCLUSIONS & RECOMMENDATIONS

With the CVC/WSF contact effectively tested at a depth of 250-400m throughout the tenement, a focus was put on testing mapped anticlines to the west of the tenement which may bring this prospective contact to drillable depths. Drillhole WSP16 tested one of these anticlines, however, the contact was much deeper than anticipated and with the host rocks eroded away, this area is significantly downgraded. Better constraints on the depth of the CVC anticlinal highs in the west of the licence need to be applied if this type of targeting is to be continued - rather than relying on mapping. The second drillhole, WSP17 may not have effectively tested the CVC/WSF contact, potentially drilling sub-parallel to bedding. However, interesting massive sulphide clasts were intersected within one of the mass flow units.

Geochemistry is important for the use of pathfinder elements and to distinguish compositional variation within the CVC rocks. Alteration and pathfinder geochemistry suggest there is no strong hydrothermal alteration throughout the prospect, nor are there any broad zones of anomalous Thallium indicating proximal mineralisation.

A budget of \$25,000 is proposed for the 2013-14 tenement year, and recommendations and suggestions for further work include:

- Petrological and geochemical analysis to determine the basinal environment of the massive sulphide clasts in WSP17
- Litho-geochemistry on WSP16, WSP17 and the remaining holes not sampled in the 2008 study
- Petrophysics on the CVC and WSF rocks to determine whether a seismic survey could be effective at mapping folds and structures
- DHEM and/or VSP survey on WSP17 if warranted

7 ENVIRONMENT & REHABILITATION

Surface disturbance activities undertaken during the reporting period comprised of:

- Track upgrade for access to sites for both WSP16 and WSP17
- Drill pad and in ground sumps for WSP16 and 17

Both the drillholes have been capped (Figure 10) and the sites have been cleaned with the sumps barricaded off. The drill pads for each hole have not been rehabilitated, as to allow future access for potential DHEM and/or a downhole VSP survey.



Figure 10: Capped drillholes for WSP16 (top) and WSP17 (bottom)

8 EXPENDITURE

A total of \$553,824 was spent on EL 10/2011 for the reporting period. A detailed expenditure statement is given below (Table 4).

TABLE 4: EXPENDITURE FOR EL 10/2011 WHITE SPUR CREEK

	White Spur Creek EL 10/2011
TOTAL COSTS	553,824
PERSONNEL	58,899
OTHER CONTRACTORS	40,620
GEOSCIENCE CONSULTANTS	2,930
TRACK CUTTING & GRIDDING	
GEOCHEMICAL & ASSAYING	
DRILLING	377,952
STORES & SUPPLIES	26,277
VEHICLES, PLANT & MAINTENANCE	
LAND & ENVIRONMENT	27,430
EQUIPMENT HIRE	
DEPRECIATION, OFFICE & SUNDRY	19,716

9 KEYWORDS & LOCALITY

9.1 KEYWORDS

WHITE SPUR, GEOPHYSICS – VTEM, GEOLOGY, LITHOGEOCHEMISTRY, ALTERATION INDICES, WHITE SPUR FORMATION, CENTRAL VOLCANIC COMPLEX, MOUNT READ VOLCANICS

9.2 LOCALITY

1:250,000 QUEENSTOWN SK55-5
1:100,000 SOPHIA 8014, PIEMAN 7914
1:25,000 OCEANA 3635, DUNDAS 3636

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