**PASMINCO EXPLORATION**

# DUNDAS - EL 21/96

# ANNUAL REPORT FOR THE PERIOD 9/10/99 TO 8/10/00


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# 1. SUMMARY

This report details exploration completed on the Dundas Licence during the forth year of tenure, from 9 October 1999 to 8 October 2000. Work completed during this period of tenure focused on drilling of the Chamberlain EM anomaly (DDH CP348; 506.2m), and detailed interpretation of the 1999 airborne EM survey over the entire licence.

The current interpretation of the Chamberlain anomaly indicates it is very deep, with a depth to top of >550m, and may be a lithological conductor rather than related to mineralisation. No further work is warranted at this stage.

Detailed interpretation of the 1999 HEM survey has located 13 anomalies that warrant further follow-up. It is recommended that previous exploration over all these features be compiled and that any poorly tested anomalies be followed up further by griding, geological mapping and partial leach soil sampling.

## 2. INTRODUCTION

This report details exploration undertaken on the Dundas EL 21/96 during the reporting period October 1999 to October 2000. The Dundas licence covers a mountainous and heavily forested area extending from the north slopes of Mount Dundas to the township of Rosebery. The eastern edge of the licence is located immediately west of Rosebery township (Figure 1).

This area has a prolonged exploration history for base metals, tin and more recently gold, as indicated by the large number of prospects the area. It is estimated that well over 100 surface drill holes have been collared on the EL at a variety of geological, geochemical and/or geophysical targets.

### 2.1 Attribution

The following personnel were responsible for the work completed in the Dundas area during the last period of tenure.

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|---|---|
| Geologist | Colin Dell – Contract Geologist |
| Senior Geologist | Andrew McNeill – Pasminco Exploration Rosebery |
| Senior Geophysicist | Chris Dauth – Pasminco ETS Melbourne |
| Report Compilation | Kirsten Simpson – Pasminco ETS Melbourne |

## 3. LAND TENURE

EL 21/96 was granted to Pasminco in October 1996 over an area of 90 square kilometres in the Dundas-Ring River area. Two mining leases remain excised from the title. One ML covers a 1.5km$^2$ area in the vicinity of the Razorback Mine and the other is the Rosebery mine lease, which overlaps by approximately 6km$^2$ along the north eastern margin of the licence.

A portion of the Dundas area is subjected to claims for National Estate and RAP areas. These areas have been highlighted in Figure 2.

During 1998, M & E Phelan applied for a Mining Lease covering an area of 5 hectares or less on Stichtite Hill. This application was for Category 3 minerals as described within Schedule 4 of the Mineral Resources Regulations 1996, being semi-precious stones including stichtite. The Mining Lease is limited to a depth of 20 metres from the natural surface of the land contained within the Mining Lease. Pasminco retains an exclusive right to explore and mine Category 1 Minerals within this Mining Lease area. Applications for several further ML's for Category 3 minerals in the Dundas Township area were received during the current reporting period. Some of these applications are in the process of approval under conditions similar to those summarised above.

# 4. GEOLOGY

The geologically complex Dundas area is characterised by the interleaving of lithologies and overturned beds, with the distribution of units largely controlled by faulted boundaries (Burrett & Martin, 1989). In the Dundas area, The Mount Read Volcanics (MRV) are divided into three provinces which are separated from west to east by the Marionoak and Rosebery Fault zones. The volcanic sequences, to the east of the Rosebery Fault, are grouped together into the central MRV (including the Que-Hellyer Volcanics and the Tyndall Group) which are host to all the major VMS deposits in Western Tasmania. Between the Rosebery and Marionoak Faults are the Dundas group rocks, including the mixed epiclastic-volcaniclastic White Spur Formation (Lees & Corbett 1987). West of the Marionoak fault are the Pre-Cambrian sequences of the Oonah and Crimson Creek Formations. These Pre-Cambrian rocks are interpreted to underlie both the Dundas Group and the MRV. The Mt Read Volcanics structurally overlie the Dundas group along the east dipping Rosebery Fault - a major east dipping thrust. Stratigraphic and fossil evidence suggests, however, that the Dundas group is at least in part stratigraphically younger than the MRV. A synopsis of the geology within EL 21/96 has been taken from Crossing & Halley (1990) and is presented below with modifications.

## 4.1 Oonah Formation

The oldest basal rocks observed in the Dundas area have been correlated with the Precambrian Oonah Formation. These rocks outcrop in a fault bounded block north west of Mt Dundas. The formation is comprised of both metamorphosed and relatively un-metamorphosed lithologies. The lower most unit, the Concert Schist, consists predominantly of mica phyllite with subordinate micaceous quartzite (Blissett, 1962). This unit is transitionally overlain by relatively un-metamorphosed thinly bedded mudstones and siltstones containing rare interbeds of medium-grained poorly sorted sandstone, fine-grained poorly sorted micaceous sandstone and black shales (Burrett & Martin, 1989).

The preservation of these Precambrian rocks is thought to have occurred in a down-faulted graben and thus the contact with overlying groups is either faulted or an unconformity. A conflicting view was presented in a recent PhD Thesis, by D. Selley, who concluded that the Oonah Formation was acting as a horst block, ie., basement high, during the Cambrian.

## 4.2 Success Creek Group

The Success Creek Group outcrops to the north west of the Dundas area just west of Renison Bell. This package is comprised of metasedimentary rocks including shallow water laminated siltstone and shale, with interbedded sandstone and conglomerate. At Renison Bell, this sequence contains three persistent dolomite horizons which host virtually all the economic stratabound tin orebodies at the Renison Tin mine.

The relationship between the Success Creek Group and the Oonah Formation is characterised by a structural hiatus. The unconformable Success Creek Group is interpreted as having been folded and deformed in a predominantly north-west trending direction where as the Oonah Formation has been affected by multiple phases of deformation (Burrett & Martin, 1989).

## 4.3 Crimson Creek Formation

This Formation was defined near the Renison Bell Mine where it consists of 3500m of turbiditic volcaniclastic epiclastic lithic wackes, massive siltstones, mudstones and basaltic lava flows. Numerous gabbros intrude this sequence in the vicinity of Renison Bell and occasional impure dolomite horizons have been recorded.

This formation has been mapped as a north-south trending unit at Colebrook Hill, however there remains some dispute whether this outcrop is in fact Crimson Creek Formation, as the sediments contain acid to intermediate volcanic detritus rather than the mafic detritus observed at the Renison Bell type section.

## 4.4 Dundas Group

The Dundas Group occupies a trough in the central portion of the licence area and consists of mixed epiclastic and minor volcaniclastic sediments. This volcano-sedimentary sequence is dominantly comprised of turbiditic to shallow water sediments containing immature conglomerates, monotonous siltstones and shales containing some sandstone and grit interbeds. Towards the top of the sequence felsic to intermediate tuffs, related volcaniclastic sediments and minor lava flows (or intrusions) occur. These volcanic units generally show marked variations in facies and thickness over short distances and often appear to interfinger with one another making boundary correlations very difficult. In general the Dundas Group is comprised of abundant felsic volcanic material derived from the Mt Read Belt which constitutes an extensive conglomeritic flysch sequence of at least 3km in thickness (Burrett & Martin, 1989).

With further detailed mapping in the Pieman River area the Dundas Group has been further divided into formation such as the Westcott Argillite, Salisbury Conglomerate, Natone Volcanics, Stitt Quartzite and Chamberlain Shale which outcrop east and south of Colebrook Hill and in the vicinity of Westcott Hill.

## 4.5 Ultramafic Complexes

These outcrop at a number of locations throughout the licence area and have also been intersected by drilling at depth. They typically show strong serpentinite alteration and exhibit a high degree of internal deformation, which is expected considering their alteration mineralogy. The only exception to this is in the Serpentinite Hill area where pockets of unserpentinised dunite and pyroxenite have been intruded by gabbro dykes.

The current tectonic theory has these ultramafic complexes as allochthonous thrust sheets emplaced during the middle Cambrian (Berry and Crawford, 1988).

## 4.6 Gabbroic Bodies

These units occur as irregular intrusions throughout the Crimson Creek Formation and Dundas Group sediments. Their age relationships and intrusion history have yet to be accurately determined.

## 4.7 Devonian Pine Hill Granite

The south-eastern 'tail' of this intrusion occurs on the mid-western side of the Dundas licence. The intrusion is described as a porphyritic adamellite and is thought to consist of a series of intrusions. Locally it exhibits early silica and sericite alteration of the both the granite and country rocks, followed by later boron metasomatism. The granite has extensively altered carbonate bearing units along its contact and is responsible for the metasomatic replacement of the three dolomitic units of the Success Creek Group which are host to the Renison Bell tin lodes. Not surprisingly areas surrounding this intrusive body have been extensively explored for replacement style tin mineralisation.

## 4.8 Quaternary

Glacial gravels occupy a N-S zone in the NE quadrant of the licence area.

## 4.9 Structure

The Dundas licence area is one of structural complexity, making the determination of age relationships between the various stratigraphic units difficult. Shearing and faulting is often preferentially taken up by the more mafic and shale dominated units, thereby complicating stratigraphic relationships. Several tectonic melange zones occur in the Ring River area west of Hercules, at Williamsford and Moores Pimple. The zones contain small to very large (>30m) irregular blocks of siltstone and sandstone in a highly contorted fluidised matrix of siltstone and shale. These tectonic melange's exhibit some soft sediment deformation characteristics suggesting possible synsedimentary to early digenetic deformation and tectonic instability during Dundas Group deposition.

The Oonah Formation contains strong isoclinal folding which is notably absent from the younger Palaeozoic rocks. This deformation may have occurred during the Precambrian Penguin Orogeny.

The main structural and stratigraphic features of the Dundas Trough are:

1) The thick MRV belt occurs along the eastern margin of the trough with no obvious correlates on the western side. Such felsic successions have modern analogues in Andean style subduction zones (Crossing & Halley 1990).

2) The basin has been infill by early shallow water deposits (eg Success Creek Group), followed by greywackes and tholeitic lavas and intrusions (Crimson Creek Formation) and finally a series of epiclastic and volcaniclastic sediments (Dundas Group). The sediment-volcanic deposition rates were rapid which is supported by modern dating techniques which show the basin filled in about 5 million years (Perkins *et al*, 1995).

3) Mafic and ultramafic complexes with ophiolite characteristics are present as fault bounded slices. Modern analogues to this occur in mid-oceanic ridge and oceanic island arc settings.

4) The Dundas Group metasediments are partially derived from the MRV, partly from the Precambrian and partly from intra trough sources including basement highs of ultramafic and gabbroic material.

This shows the structural history to be very complicated and difficulty arises when trying to compare the MRV Province with modern analogues. Rifting is not particularly evident in the belt, however, thrusting is thought to have occurred especially associated with the ultramafic bodies (most of which are strongly deformed and dismembered). The Dundas Group may in part post-date the main thrusting event because of conformable relationships observed at Green Prospect where sheared ultramafics are unconformably overlain, not sheared against east dipping Dundas Group metasediments.

It is believed that the Rosebery Fault has a major Cambrian thrust history, but which is not associated with emplacement of the mafic-ultramafic complexes (Crossing & Halley 1990).

In the Devonian, the Tabberabberan Orogeny produced most of the observable folding, cleavage and faulting that has been mapped in the Dundas area. This Orogeny most probably influenced some degree of control on the shape of the syn-to-post orogenic Devonian granite intrusions.

The main folds generated during the Devonian include the Huskisson Syncline north west of the Dundas licence. The Renison Anticline (to the west of the Dundas licence) and the Dundas Anticline, where the Oonah Formation has been folded, NW of Mount Dundas.

Faulting appears to be closely associated with most of the mineralised systems. Generally there are two prominent groups of faults, a NNW trending steeply dipping group with limited dip slip to oblique slip movement and a steeply dipping NE trending set which show larger orders of displacement.

An true estimate of the amount of displacement along these NE trending structures is difficult to quantify mainly due to a lack of recognisable marker beds. The NE faults often occur along margins of the mafic-ultramafic complexes, whereas the NNW faults are more generally confined. These faults and the Cambrian thrusts (including the Rosebery Fault) also acted as zones of structural weakness during the Devonian which resulted in a secondary period of mineralisation and partial remobilisation of Cambrian ore.

## 5. PREVIOUS EXPLORATION

The Dundas area has been the focus of extensive exploration activity since the 1930's, when modern exploration commenced. Weber & Murphy (1997) provide a comprehensive summary of previous exploration on the tenement area. Table 1 gives an overview of previous work by other companies and Table 2 presents a summary of work conducted by Pasminco over the tenement area between 1996 and 1999.

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**TABLE 1: Previous Work on EL 21/96 Dundas Area (partially after Crossing & Halley 1990)**

| COMPANY | PERIOD | PROSPECT/ COMMODITY | METHODS | RESULTS |
|---|---|---|---|---|
| BHP | 1959/60 | Razorback<br>Grand Prize (Sn) | Turam, SP and Magnetics | Inconclusive except over known mineralisation. |
| PLACER | 1964/66 | Razorback<br>Grand Prize<br>(Sn) | Underground Drilling & Mining | No new orebodies found. The prospects are not connected. |
| NCGF | 1966/71 | N Dundas<br>(Montezuma)<br>(Sn) | Magnetics, VHEM, Mapping, Geochem | Coincident Magnetic and Tin-in-Soil anomaly on Montezuma Fault. Not considered worth drilling |
| GEOPHOTO | 1968/74 | Dundas<br>(Pb Zn Ag) | IP, REM, SP, Mag, Mapping, Geochem & 79 Drill Holes | Intensive drilling located Pb Zn Ag in several thin fissure veins separated by barren host rocks. Didn't meet corporate objectives. |
| COMSTAFF | 1970/85 | E Renison<br>Godkin<br>(Sn) | IP, Input, Mag, Mapping & 58 Drill Holes | Intensive drilling defined:<br>Fenton's Tin Vein; 0.43Mt x 1% Sn, 0.2% Cu<br>Salmon Vein; 0.83Mt x 3% Pb, 2% Zn<br>Godkin; 0.3Mt x 0.9% Sn |
| CSR | 1976/87 | Nevada<br>Razorback<br>Montezuma<br>Carbine Hill<br>(Sn Cu Pb Zn Au) | Em, Mag, IP, Dighem, Input, Mapping, Stream Geochem, Soil Geochem & 7 Drill holes | Several geochem anomalies identified and followed up but more were drilled.<br>Airborne geophysical anomalies were followed up by 7 unsuccessful holes. |
| EZ/GETTY<br>EZ/CSR | 1978/86 | Colebrook Hill<br>Ring River<br>Mt Dundas<br>Montezuma<br>(Sn Cu) | Input, Dighem, Turam, IP, Mapping, Geochem & 28 Drill holes | Several encouraging Sn and/or Cu intersections as Colebrook Hill (23 holes). Only minor Sn, Pb intersections on Montezuma Fault (5 holes). Deep hole proposed - not completed. |

**TABLE 1: Previous Work on EL 21/96 Dundas Area (partially after Crossing & Halley 1990) cont.**

| COMPANY | PERIOD | PROSPECT/ COMMODITY | METHODS | RESULTS |
|---|---|---|---|---|
| MINOPS P/L | 1979/84 | Godkin Prospect (Sn) | Gridding, soil geochem, geophysics, drilling | Comstaff and Paringa JV into Godkin area outlined inferred resource 300,000t @ 0.9% Sn. |
| RENISON LTD | 1971/87 | Grand Prize (Fault), North Dundas Grid, Commonwealth Hill, Razorback Grid, Kapi, Carbine Hill, Serpentine Hill, (Sn Cu Asbestos, PGM) | Gridding, mapping, Airborne EM, drilling.<br>Soil/rock geochem.<br>IP, Dighem. | Extremely deep diamond drilling on the Kapi Fault returned in S 652, 313.4-313.9m 0.5m @ 2.14% Cu.<br>Grand Prize Fault: S 947A @ 534.8m tourmaline alteration zone.<br>S 969: 406.8-409.8 - 3m @ 5.21% Sn, 0.23% Cu, 13 g/t Ag<br>408.4-409.8 - 1.4m @ 10.93% Sn |
| ROGER POLTOCK GEOLOGIC AL P/L | 1986/88 | Colebrook Hill (Au Cu W) | Stream Sediments | Concluded Colebrook Hill was a thin skarn alteration system. |
| RGC EXPL. P/L | 1987/95<br>1988/95<br>(Dundas & Moores Pimple) | Montezuma Grid<br>Ring River<br>Wallace Prospect<br>Greens Prospect<br>(Sn Au) | Gridding, prospect mapping, rock chip sampling, IP | MZ 004 182.1-183.7 1.6m @ 19.25% As, 725ppm Sb and 0.54 g/t Au. |

**TABLE 2: Previous Work on EL 21/96 Dundas**

| COMPANY | PERIOD | PROSPECT/ COMMODITY | METHODS | RESULTS |
|---|---|---|---|---|
| PASMINCO<br><br>Weber and Murphy (1997) | 1996-97 | Pb/Zn | Reconnaissance mapping and a review with subsequent compilation of historical data (GIS format). | |
| PASMINCO<br><br>Murphy (1998) | 1997-98 | Pb/Zn | Reconnaissance work and mapping by Dave Selley (PhD thesis) | Work identified that the nature of the boundaries with the Precambrian need to be considered for their potential as growth faults and potential mineralising structures. This geometry impacts on modelling fluid flow regimes associated with mineralisation. |
| PASMINCO<br><br>Parfrey and Simpson (1999) | 1998-99 | Pb/Zn | Identification of priority prospect areas through the completion of an airborne EM Survey | A suite of anomalous conductive responses were delineated in the EM data, however most of these were interpreted as being directly related to shallow glacial cover. Several more discrete anomalous responses were also identified - these are worthy of further investigation. |

## 6. WORK COMPLETED 1999-2000 REPORTING PERIOD

Work during this reporting period focused on drill testing of the Chamberlain EM Anomaly, and interpretation of the 1999 Airborne EM survey.

### 6.1 Drilling

A review of TDEM data on the Rosebery Mine Lease indicated that there was a deep 1200m long conductor in the footwall of the Rosebery Fault near the Chamberlain prospect. A follow-up survey on three 200m spaced lines more closely defined this anomaly at a depth of 375-460m (i.e., gentle northern plunge) and indicated a time constant consistent with VHMS deposits in Western Tasmania (Edwards, et al., 2000).

The anomaly is in an area with no previous deep (>200m) drilling and close to areas of strong cultural contamination (from the TME smelter and old Hercules aerial haulage) and partial leach sampling was not considered to be a viable technique for confirming the presence of mineralisation. A single hole test of the anomaly was therefore proposed, with the hole targeting the anomaly where shallowest, near line 71200N on EL 21/96.

DDH CP348 was collared at 377201mE, 5371318mN (Coordinates in AGD66, zone 55) on 12/5/2000 and completed at 506.2m on 1/6/2000. A detailed log and downhole survey details are included in Appendix 1 and assay results are included as appendix 2; a summary log is as follows:

**Table 3: DDH CP348 Summary Log**

| From | To | Lithology |
|---|---|---|
| 0.0 | 29.2 | Glacial detritus (mixed volcaniclastics, Owen conglomerate). |
| 29.2 | 62.0 | Fine to coarse grained feldspar-quartz-lithic volcaniclastic derived sandstone |
| 62.0 | 130.5 | Interbedded shales, siltstones, and quartz-lithic sandstones; fault zone 93.1-94.4m |
| 130.5 | 155.3 | Medium to coarse quartz-feldspar-lithic sandstones |
| 155.3 | 193.2 | Laminated shales, siltstones and minor quartz-feldspar-lithic sandstones; 100mm carbonate vein + 40% arsenopyrite and 20% pyrite at 176.0m, 150mm carbonate vein +10% pyrite, 5% chalcopyrite, trace arsenopyrite and galena at 181.9m |
| 193.2 | 201.2 | Well sorted, fine to medium grained quartz rich sandstone |
| 201.2 | 233.1 | Laminated shales and siltstones with minor fine grained feldspathic sandstone; 1-5mm quartz-carbonate veinlets of sphalerite ± pyrite ± galena 214.8-233.0m |
| 233.1 | 252.0 | Coarse grained quartz rich sandstone |
| 252.0 | 285.5 | Laminated shales, siltstones and minor fine grained quartz sandstone |
| 285.5 | 294.0 | Medium to coarse grained quartz sandstone |
| 294.0 | 316.7 | Laminated, weakly graphitic shales; banded carbonate vein + 10%pyrite, 10% pyrrhotite, 5% chalcopyrite, and 2% sphalerite from 299.3-300.0m |
| 316.7 | 320.7 | Medium grained quartz-feldspar sandstone |
| 320.7 | 326.2 | Thinly laminated shales with minor siltstone and sandstone |
| 326.2 | 335.7 | Fine to medium grained quartz-feldspar sandstone |
| 335.7 | 349.0 | Repetitive, well graded, coarse sandstone turbidite sequence |
| 349.0 | 366.5 | Laminated black graphitic shales and minor siltstone |
| 366.5 | 394.4 | Fine to medium grained quartz >> feldspar sandstone; 200mm carbonate-quartz –pyrite-arsenopyrite vein at 386.4m |
| 394.4 | 429.0 | Thinly laminated interbedded shales and siltstones; 30cm rubble filled fault at |

| | | |
|---|---|---|
| | | 399.2m |
| 429.0 | 431.5 | Fine to medium grained quartz rich sandstone; 5% pyrite, 2% chalcopyrite, 1% galena in 100mm carbonate-quartz breccia vein at 422.0m |
| 431.5 | 486.3 | Thinly laminated interbedded shales and minor siltstones; 50mm carbonate-quartz vein with 5% sphalerite at 464.3m |
| 486.3 | 490.6 | Fine grained quartz rich sandstone |
| 490.6 | 506.2 | Finely laminated shales, siltstones and minor fine grained quartz rich sandstone |

The lithologies encountered in this hole correlate with units of the White Spur Formation, and are similar to other shallow holes drilled nearby. The lithologies as logged correlate best with the upper shale-siltstone-greywacke successions of the White Spur Formation which are overlain by Chamberlain Shale. The stratigraphy is also consistent with units 1b and 2a of the White Spur Formation as defined by Parfrey (1993), although the strong to moderate alteration he described is absent from DDH CP348. Core orientations confirm that the sequence intersected is generally moderately to steeply (60-80°) W-NW dipping.

The mineralisation encountered can be grouped broadly into three assemblages. The first consists dominantly of carbonate-pyrite-arsenopyrite ± chalcopyrite veins. The second comprises a carbonate-sphalerite ± pyrite ± galena veinlet assemblage. The third assemblage consists of carbonate-pyrite-pyrrhotite-chalcopyrite-sphalerite veining. All these assemblages are more consistent with formation as Devonian granite related veins, rather than remobilisation of Cambrian VHMS mineralisation.

No obvious cause for the EM conductor was seen, however, it is possible that as the hole lifted more than planned it may have gone 30-40m over the top of the anomaly.

Mineralised intervals (all veins) have been cut and samples submitted for assay. Significant intersections include:

172.0-172.3m, 0.3m @ 0.6% Pb, 22.6 g/t Ag, 0.73 g/t Au, 7.2% As and 0.18% Sb

299.2-300.7m, 1.5m @ 0.9% Cu, 0.11% Pb, 0.37% Zn, 27.6 g/t Ag, 1.06 g/t Au, 2.55% As, and 0.1% Bi

371.0-372.0m, 1.0m @ 0.19% Pb, 0.39% Zn, 5.8 g/t Ag, 0.01 g/t Au and 0.77% As

421.9-422.2m, 0.3m @ 0.61% Cu, 0.6% Pb, 1.65% Zn, 55 g/t Ag, 0.25 g/t Au, 0.47% As, 288 ppm Bi and 0.11% Sn

464.2-464.4, 0.2m @ 2.9% Zn

A galena sample was collected from a vein at 271.1m and has been submitted for Pb Isotope analysis to confirm that the Pb is Devonian rather than Cambrian.

Magnetic susceptibility readings were collected at each core block down the hole (Appendix 1). Results were all low, with even the interval containing the major carbonate-pyrite-pyrrhotite vein failing to return a significant value.

A three component down-hole EM survey using two separate transmitter loops was completed on DDH CP348 during the month of June (Appendix 3). Interpretation of this data from has confirmed the presence of an off-hole EM source below the drill-trace. The source is most likely greater than 150m below the drill-trace placing a source at more than 550m below surface. Reconciliation of data from two down-hole transmitter loop positions and surface EM data is currently ongoing to determine whether the source is a thick moderately conductive package (shales) or a thin conductive plate.

## 6.2 Geophysics

The 1999 HEM survey (was interpreted during the year. A full report is included as appendix 4). A suite of anomalous EM responses were delineated in images produced from the computed resistivity data. These anomalies were checked against stacked profiles of the actual located line data. Analysis of stacked profiles provided the most suitable means of anomaly prioritisation. A majority of the low resistivity responses were determined to be dominantly high frequency quadrature responses (poor conductors). A significant EM response was delineated coincident with the known Colebrook Hill skarn mineralisation. A total of 13 other HEM responses have been determined to be worthy of ground follow-up. Most of these anomalies have had some degree of previous work conducted on them. Images of the EM and magnetic data have been produced and provide the basis for future structural and lithological interpretation.

## 7. REHABILITATION

Access from the Williamsford Rd. (approximately 120m in length) and a drill pad were cleared for DDH CP348. As it is unlikely any further work will be completed from this site the track and pad will be rehabilitated when the weather improves and the ground dries in November-December.

## 8. CONCLUSIONS AND RECOMMENDATIONS

During the current reporting year work focussed on drill testing a deep EM target at the Chamberlain prospect and completing interpretation of the 1999 HEM survey.

The current interpretation of the Chamberlain anomaly indicates it is very deep, with a depth to top of >550m, and may be a lithological conductor rather than related to mineralisation. No further work is warranted at this stage.

Detailed interpretation of the 1999 HEM survey has located 13 anomalies that warrant further follow-up. It is recommended that previous exploration over all these features be compiled and that any poorly tested anomalies be followed up further by griding, geological mapping and partial leach soil sampling.

One area of EL 21/96 that has received little attention to date is the contact between the White Spur Formation and CVC which occurs east of the EL (on ML 28M/93), but, which dips west onto EL 21/96 Dundas. It is likely that this key contact is present at explorable depths in some areas and is a high priority target, in conjunction with work on ML 28M/93, for partial leach soil sampling and(or) ground EM surveys. It is recommended that this contact be tested during the coming year.

## 9. EXPENDITURE

Expenditure on EL 21/96 during the 10 month period ending 30 September 2000 was $92,829. A detailed breakdown of this expenditure is presented below.

| | |
|---|---|
| Personnel | 16,324 |
| Travel & Accommodation | 489 |
| Consultants & Contractors | 2,626 |
| Geological Consultants | 1,093 |
| Geochemical Consultants & Assays | 608 |
| Geophysical Surveys & Contractors | 3,818 |
| Drilling | 50,066 |
| Stores & Supplies | 485 |
| Vehicles Plant & Equipment | 386 |
| Land | 3,624 |
| Computing | 89 |
| Office | 4,782 |
| Administration Fee | 8,439 |
| **Total Tenement Expenditure** | **$92,829** |

## 10. KEYWORDS AND LOCALITY

**Keywords**

ZINC, LEAD, COPPER, SILVER, TIN, ARSENOPYRITE, TENNANTITE, DUNDAS, OONAH FORMATION, SUCCESS CREEK, ROSEBERY FAULT, AIRBORNE EM, MAGNETICS, CHAMBERLAIN, TIME DOMAIN EM, DIAMOND DRILLING.

**Locality**

QUEENSTOWN SK 55-5

Mt Dundas, Rosebery, Montezuma, Renison Bell, Ring River, Moores Pimple, Chamberlain.

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