EL 48/2004 Mt Kershaw

ANNUAL REPORT
ON
EXPLORATION ACTIVITIES
TO
23rd NOVEMBER 2008

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1. SUMMARY:

This report details exploration work undertaken on EL 48/2004 Mt Kershaw during the period 23 November 2007 to 23 November 2008, the third year of this tenement. Work on the licence has focussed on the poorly understood southern part of the license area from Cone Hill to Mt Kershaw at the southern boundary of the licence, and has comprised:

- A review and re-interpretation of the historic IP data collected in the 1990's across the entire tenement by Pasminco
- Partial leach soil sampling across new and refurbished gridlines in the southern portion of the licence (809 samples, plus 39 standards and duplicates).
- Complete coverage of the tenement by airborne EM (VTEM)

Results from the soil sampling program indicate several multi-elements responses, but most of these are located over known mineralisation or structures. The best anomalies appear to be multi-element features to the south of the Chester deposit in poorly defined Tyndall Group lithologies. There are coincident IP features with these soil anomalies, which should be modelled for depth estimates to allow drill targeting. The VTEM survey detected an anomalous response in early and mid times adjacent to the Chester deposit, which has support from the IP data and nearby partial leach soil anomalism.

Work planned for the fourth year of the tenement will involve mapping of the partial leach soil grid to shed some light on the ambiguous stratigraphy from the Cone Hill to Chester region. This data will then be incorporated with the partial leach geochemistry and IP data to identify valid drill targets, which will be recommended for completion in calendar 2009 as budgets permit.

2. INTRODUCTION:

This report details exploration work undertaken on the Mt Kershaw EL 48/2004 during the period 23rd November 2007 to 23rd November 2008, the third year of this tenement.

Access to the tenement is via the Boco Road off the Murchison highway in the north and via the Chester Mine Track off the Bastyan Dam Rd in the south. A small network of 4WD tracks, developed for logging and mineral exploration, extend from these main access points and provide moderate access to the majority of the area of interest.

OZ Minerals main target on EL 48/2004 is Cambrian Rosebery or Hellyer type Zn-Pb-Cu-Au-rich VHMS mineralisation hosted by the Mount Read Volcanics (MRV). The tenement covers a generally N-S striking section of the MRV including the contact between the Central Volcanic Complex (CVC) and the overlying Southwell Subgroup (or lower Tyndall Group), separated in part by the Hollway Andesite.

Exploration activities during the current year have focussed on the southern part of the license and have consisted of a compilation of the existing IP coverage, the collection of 813 soil samples, and complete airborne EM coverage of the tenement.

2.1 Attribution

The following personnel were responsible for the work carried out by OZ Minerals on EL 48/2004 Mt Kershaw licence area during the reporting period:

Senior Exploration Geologist:	Darren Hicks - OZ Minerals Exploration
Senior Field Technician:	Craig Archer - CM Archer P/L.
Geophysical Contractors:	Geotech Airborne Pty Ltd
Geophysical Consultants:	Dr Jovan Silic – Flagstaff GeoConsultants
	Rob Angus – RAMA Geoscience

3. LAND TENURE:

EL 48/2004 Mt Kershaw (15 sq km) was granted to Zinifex Australia Limited on 23 November 2005 for a period of 5 years. The location of the Tenement is shown on Figure 1. EL 48/2004 covers ground that fell vacant on the relinquishment of EL 35/2000 and EL 20/2001 (AurionGold) in 2003. The initial license area surrounded ML 20M/2000, held by Hercules Resources, which has subsequently been surrendered.

On July 18th 2008 the name of Zinifex Australia Limited was changed to OZ Minerals as a result of a corporate merger between Zinifex Ltd and Oxiana Ltd.

Land covered by EL 48/2004 is all crown land designated as State Forest, informal reserves, parts of the Burns Peak and Mt Kershaw Forest Reserves and some HEC land all of which are available for exploration under the Mineral Resources Development Act 1995.

4. REGIONAL GEOLOGY:

The basement lithologies in western Tasmania are Precambrian in age, comprising predominantly greenschist facies meta-sediments with minor basalt and dolerite. Higher-grade amphibolite and eclogite facies are also present within the Precambrian. This Precambrian basement is exposed approximately 15km to the east of the Mt Kershaw license (Figure 2).

Cambrian volcanism and sedimentation developed on this Precambrian continental crust, and is subdivided into the Eo-Cambrian tholeiitic Crimson Creek Formation (CCF) and, the mid to late Cambrian predominantly calc-alkaline, Mt Read Volcanics (MRV).

The CCF was deposited in shallow but rapidly subsiding basins (Brown, 1986). The CCF consists of basaltic lavas and volcaniclastics, turbidites, carbonates, chert and minor evaporites. This formation is exposed west of the licence area.

Ultramafic cumulates and volcanic equivalents were thrust onto the CCF in the mid Cambrian (Crawford and Berry 1992). These rocks generate strong magnetic anomalies and outcrop within the Huskisson Syncline, to the west of the licence.

The MRV form a 200km long by 20km wide broadly north-south trending belt adjacent to and in some areas on lapping and intruding the Precambrian basement. The volcanics include intermediate to felsic lavas, sub-volcanic porphyries and granites, volcaniclastics and basement-derived sedimentary rocks. The MRV host six economically significant volcanic hosted massive sulphide deposits. Regional structures that subdivide the MRV are the Rosebery Fault, which transects the western part of the license, and the Henty Fault, which is located 10km east of the licence.

The Mt Kershaw license is located at a regionally significant point within the central part of the MRV, where the main trend changes from north-south to northeast-southwest. The area also coincides with a regional lithological change where lithologies correlated with the Rosebery-Hercules sequence are juxtaposed with lithologies broadly correlated to the Sock Creek and Que-Hellyer sequences.

The major components of the MRV within the Mt Kershaw license area are massive felsic lavas, lava breccias and pumice breccias of the Central Volcanic Complex (CVC) and mixed felsic lavas, andesite and volcaniclastic sediments of the Burns Peak subgroup.

The MRV are overlain by a late Cambrian – early Ordovician marine and fluviatile sequence of quartzwacke, polymict sandstones, siltstones, shales and polymict conglomerates (Rosebery Group/Stitt Quartzite to the west of the MRV and Owen Group to the east; Corbett, 2002). Correlates of the Stitt Quartzite underlie the western part of the license, west of the Rosebery Fault.

Cambrian volcanism and sedimentation was followed by predominantly basement derived Ordovician to Devonian age sedimentation, which includes sandstone and

limestone. None of these sequences occur within the licence.

At least two phases of regional compression were associated with the mid Devonian Tabberabberan Orogeny (Keele, 1991). The development of folding, cleavage and regional thrusts in lower Palaeozoic rocks were associated with this event. Fold trends in the licence are N to NE.

Deformation was followed by the extensive intrusion of Devonian to Carboniferous granitoids. The Meredith Granite and associated hornfels aureole outcrop west of the licence area (Brown, 1986). The Devonian granites are associated with carbonate replacement Sn mineralisation at Renison Bell and Mount Bischoff, and the Pb Zn Ag vein deposits of Zeehan and, possibly, the Tullah Fields.

In the Quaternary extensive unconsolidated glacial and fluvioglacial deposits up to >100m thick accumulated (Augustinius and Nichol, 1999). These deposits now obscure parts of the Palaeozoic geology in the central part of the tenement.

Significant mineralisation known from the licence area comprises the Southern Trenches – Browns Tunnel base metal massive sulphide lenses in the northern part of the license and the historic Chester pyrite mine in the southern part of the license.

5. PREVIOUS EXPLORATION:

Historic Exploration *1896 - 1958*

The earliest recorded exploration of the license area was the discovery of alluvial gold in the Marionoak River by Tom Strong in 1896 and the discovery of the Pinnacles Lodes by the McGuiness Brothers in the same year. Around the same time F. Kershaw and H. Sanderson discovered the Chester Mine, initially known as Kershaw's Iron Blow, which was worked for copper but was soon abandoned (Reid, 1918). By 1899, development of the Pinnacles Mine area had commenced with the excavation of the Southern Trenches (estimated production 55t @ +10% Zn, +8% Pb, 8g/t Au and 38 g/t Ag), Browns Tunnel (est. prod. 300t @ 2% Zn, 2g/t Au and 44 g/t Ag), and Thomas's Tunnel (est. prod. 50t @ 4% Zn, 7% Pb, 1g/t Au and 240g/t Ag). Difficulties with ore treatment and high water inflow resulted in the Pinnacles area being abandoned by 1918 (Reid 1918).

Between 1908 and 1913 the Mt Lyell Company secured the leases over Chester and an exploration and development program was completed resulting in the mining of 36,000t of pyritic ore at a grade of 37%S (Reid, 1918). A small amount of additional production occurred from 1918-1920 by Cuming Smith and Co (estimated 700t at >25%S).

In 1947, EZ Co. commenced an exploration program across the Pinnacles area comprising 14 shallow diamond drillholes (PP31 – PP59; 1150m) and trial geophysical surveys (SP, ground magnetics and resistivity). EZ concluded that the Pinnacles mineralisation was small in size and low in grade and that no additional work was warranted (Hall, 1947; Cottle, 1949; Cottle, 1950).

EL 4/1959. Rio Tinto Australia Exploration 1958-1960

Geochemical and geophysical surveys were completed across the Pinnacles and Chester areas. No details of geochemical techniques were documented however two anomalous areas were defined at both the Pinnacles and Chester. Geophysical techniques included Turam and vertical loop EM, gravity and magnetics. No conductive response was observed over the mineralisation at either Chester or the Pinnacles however a clear gravity anomaly was defined at Chester along with a second anomaly to the west of the main Chester mineralisation (Muceniekas; 1959; Boniwell 1959).

EL 5/1963. Comstaff Pty Ltd; Preussag Aust. 1968-1979

Comstaff explored the Chester – Pinnacles area in two phases. Phase 1 (1968 – 1972) comprised regional stream sediment sampling, grid based soil sampling at the Pinnacles and Chester area (1590 samples), costeaning at Shale Basin, and I.P and ground magnetic surveys at both the Pinnacles and Chester. Two diamond drillholes were completed at the Pinnacles (CP1 – CP2) and one drillhole was completed at Chester (CP3). Best result was from CP3 which returned 2.4m @ 22.3% Zn, 5.2% Pb (Anon, 1969; Anon, 1970; Everett, 1971, Orr and Smith, 1975).

Phase 2 (1974-1976) commenced with the establishment of metric grids at the Pinnacles (EAA grid), Chester (EAD grid) and at East Chester (EAB grid, extending east of EL48/2004). At Chester exploration comprised detailed mapping of the new grid, dipole-dipole I.P, S.P and EM surveys, soil sampling (Ao –A1 horizon, 1735 samples) and eleven diamond drillholes (CP4 (not assayed), CP5-CP6, CP11 and

CP16-CP22). No significant mineralisation was intersected. Soil sampling and costeaning was also completed at East Chester. In the Pinnacles area, detailed mapping of the new EAA grid was followed by a gradient array I.P survey, soil sampling (Ao – A1 horizon, 971 samples) and eight diamond drillholes (CP7-10, CP12-15) from south of Southern Trenches to Thomas's Tunnel. Best result was 8m @ 3% Zn in CP7 and CP9 at Thomas's Tunnel (Orr and Smith, 1975).

An honours thesis on the geology and mineralisation of the Chester-Pinnacles area was completed in 1974 by Stevens.

Preussag Aust. entered into a J.V with Comstaff in 1976 and commenced a program at the Pinnacles comprising geological mapping, costeaning, trial EM and two diamond drillholes at Southern Trenches (PIN1 – PIN2; 409m). Best result was 3.3m @ 2.7% Pb+Zn in PIN2 (Krummei, 1977). At Chester, Preussag completed additional geological mapping and drilled three diamond drillholes (CH1-CH3, 445m). No significant mineralisation was intersected (Perkin, 1977).

Comstaff resumed management of the license in 1977 and completed additional mapping, A horizon soil sampling (937 samples), auger sampling (128 samples) and S.P surveys across the EAA, EAB and EAD grids. Costeans were excavated and ground magnetic surveys were completed on the EAB and EAD grids with I.P surveys completed on the EAA and EAB grids. A Crone EM survey was completed on the EAB grid. On the East Chester grid (EAB) a weakly mineralised zone of siliceous (cherty) tuffs, containing up to 4.55% Zn, 33% Ba and 19.8g/t Ag with minor Pb and Cu was exposed in an access track, and was traced southwards by costeaning. No major sulphide zone was exposed (Hall, 1978). The EAA grid was extended to the north and additional soil sampling and ground magnetic traverses were completed. This work was largely north of EL48/2004 (Hall, 1979).

An honours thesis on the geochemical dispersion patterns in the Pinnacles-Boco area was completed in 1978 by Beamish.

EL 5/1963. Comstaff Pty Ltd; BHP Ltd. 1980-1988

Work during this period initially focused on the east Chester (EAB) area, where additional gridding, mapping, C horizon soil sampling and geophysical surveys (ground magnetics, I.P, S.P) were completed (Hall and Pigott, 1980; Anderson, 1982). This work was followed up with the drilling of four diamond drillholes (EAB1 – EAB4) with the best result from EAB3: 6.2m @ 1.5% Zn from 36.8m (Shaw, 1983). A Dighem III survey was flown over all except the most southern part of EL48/2004 during 1983 (Dvorak, 1983) with no significant anomalies identified.

In 1984 a new grid was established across the Southern Trenches to Browns Tunnel area (EAF grid) and a program of geological mapping, C horizon auger sampling (including Au assays) and a UTEM survey was completed. Fifteen drillholes were drilled in the Browns Tunnel area (ESB1, EAF1-EAF14) to follow up elevated gold values returned from soil and channel sampling. A preliminary resource of 110,000t @ 18.8% Zn, 6.6% Pb, 1.3% Cu, 122 g/t Ag and 4.1g/t Au was calculated, based on intersections from five drillholes (Shaw and Roberts, 1985). An additional four drillholes were completed in the Thomas's Tunnel (EAF15-EAF16) and Southern Trenches areas (EAF17-EAF18). Narrow bands of massive sulphide were intersected in EAF15, EAF16 and EAF18 (Mroczek, 1985).

BHP Minerals entered into a JV with Comstaff and Preussag in 1985 and a program of regional BLEG drainage sampling was completed. Several historic drillholes at the Pinnacles area were surveyed with downhole Sirotem. No significant anomalies were identified however BHP reported difficulties with the Sirotem surveys due to self-response effects (Anon, 1986).

During 1986 - 1988, a significant program of mapping, relogging and data compilation was completed and an extensive UTEM survey across the entire area covered by EL 48/2004 commenced (173 line km). This survey concluded in late 1987 and several weak UTEM responses were identified. These anomalies along with several additional geological targets including the Hollway Pyrite Zone, Chester and West Mt Kershaw areas were followed up with a program of power auger geochemical sampling (811 auger holes for 1127m). No significant anomalies were reported (Anon, 1987). A program of Lead and Sulphur isotope analyses was completed from mineralisation from the Pinnacles, Chester, East Chester and Hollway areas (Anon, 1988).

EL 44/1988. Pasminco Ltd, Noranda Ltd, Plutonic Ltd. 1989-2001

The license area initially covered the entire area of EL48/2004 and was explored as the Burns Peak Joint Venture. Initial exploration comprised a compilation and review of all Comstaff/BHP geophysical surveys and open file geophysical data, relogging of historic drillcore, 1:1000 scale mapping at Southern Trenches to Leo's Find, compilation of historic geochemistry and the drilling of four diamond drillholes at Southern Trenches – Browns Tunnel (BPD 62 – BPD 65). DHEM surveys were completed on BPD62 – BPD65 and historic drillholes EAF 9, EAF 11 and EAF14 and trial Mise a la Masse and CSAMT surveys were completed (Rosenhain and Mathison, 1989).

In August 1990, Pasminco commenced management of the JV and collected new aeromagnetic and gravity data across the license area. Three additional drillholes were drilled north of Browns Tunnel (BPD66, BPD69 and BPD70), two drillholes north of Leo's Find (BPD71, BPD72) and four drillholes at Mt Kershaw - Chester (BPD67, BPD68, BPD73 and BPD74). Best result was 6m @ 3% Zn+Pb, 0.55g/t Au from BPD66. Petrographic and lithogeochemical data was obtained from selected drillcore samples (including some oxygen isotope data) and minor wacker and rockchip sampling was completed to the east of the Leo's Find area, to the northeast of Chester and in the Mt Kershaw area (Kirsner et al 1991; Lorrigan, 1990). Honours theses were produced by Coutts (1990) on the Hollway Andesite, Reid (1990) on the geology of the Burns Peak – Boco Rd area and Boda (1991) on the geology and structure of the Chester deposit.

During 1992-1993 two diamond drillholes were drilled at the Summit prospect, east of Leo's Find (BPD76, BPD77) and an additional two diamond drillholes were completed at Browns Tunnel (BPD78, BPD79). Best result was 9.0m @ 2.5% Cu in a stringer sulphide zone from BPD78. High grade sulphide clasts were reportedly intersected in BPD77. DHEM surveys were completed on BPD66, BPD69, BPD71-74 and BPD76-77 and lithogeochemistry was conducted, primarily from andesites from the Hollway and Browns Tunnel area in addition to felsic volcanics from Chester. Dipole-dipole IP data was collected at Hollway-Cone Hill and South Kershaw (largely south of EL 48/2004), which identified chargeability anomalies at both areas (Kirsner, 1992; Poltock et al, 1993).

A follow-up hole was drilled at the Summit prospect (BPD80) down dip from BPD77. Three additional diamond drillholes were completed at Browns Tunnel (BPD81, BPD82 and BPD85) and historic drillholes EAF2 and CP7 were extended. Best result was 0.5m @ 17.8% Zn, 8.3% Pb, 2.7% Cu and 15.5 g/t Au from BPD85. Drillhole BPD83 was drilled into the Hollway pyrite zone, which intersected a wide interval of intense silica-pyrite alteration. A Mise-a-la-Masse survey was completed on BPD78 at Browns Tunnel, ground magnetic traverses were completed on the Southern Trenches – Browns Tunnel area and DHEM surveys were completed on BPD78-85. Additional mapping was undertaken at the Cone Hill – Hollway area and MMI soil geochemistry was trialled in the Brown Tunnel to Shale Basin area. No significant anomalies were identified (Poltock and Saxon, 1994; Saxon, 1995).

In 1996, work at Browns Tunnel focused on assessing the potential for a near surface, open pittable resource and five shallow diamond drillholes were completed (BT1 – BT5). Relogging of historic drill core and additional petrography lead to a new geological interpretation and a provisional inferred resource for Lens 1 was calculated (190,000t @ 7.7% Zn, 2.8% Pb, 0.7% Cu, 0.98g/t Au and 48g/t Ag). Regridding of the Brown's Tunnel to Southern Trenches area was followed by ground magnetic traverses, soil sampling (583 samples) and mapping. At Southern Trenches rockchip sampling, trenching (seven trenches ST1 – ST7) and RC drilling (STRC1 – STRC7) was completed (Quayle and Dibben, 1996; Weber et al, 1997). Best result was 13m @ 11.7% Zn, 7.9% Pb, 9g/t Au and 0.6% Cu from STRC5. Additional mapping and rockchip sampling was undertaken at Cone Hill and IP and ground magnetic surveys were completed at Hollway (mainly east of EL48/2004; Quayle and Dibben, 1996). A review of previous data included digitizing previous open file and Pasminco geochemistry datasets (Weber et al, 1997).

The Brown's Tunnel resource was refined by an additional 11 diamond drillholes (001B – 008B, 011B – 013B) which resulted in an inferred resource of 90,000t @ 7.4% Zn, 1.9% Pb, 0.9g/t Au, 49g/t Au (Edwards et al, 1998). At Southern Trenches an additional four diamond drillholes (009B, 010B, 014B and 015B) resulted in an inferred resource of 10,000t @ 23.4% Zn, 18.3% Pb, 2.1% Cu, 12.1g/t Au and 96g/t Ag (Edwards et al, 1998). Metallurgical testwork indicated that the Southern Trenches and Browns Tunnel mineralisation was suitable for the Rosebery mill. An orientation partial leach soil survey line was completed across Southern Trenches and five additional lines of soil samples were collected for partial leach analysis south of the Southern Trenches / Cone Hill area. Dipole-dipole IP data was also collected from these five lines.

Following a pre-feasibility review, Pasminco concluded that the Browns Tunnel deposit was un-economic and Hercules Resources entered into an arrangement with Pasminco. An additional five shallow diamond drillholes were completed at Southern Trenches (STM1 – STM5, also referred to as 016B – 020B), which confirmed the earlier Pasminco resource. The Southern Trenches to Leo's Find area was then incorporated into ML 20M/2000 (Edwards and Parfrey, 1999; Edwards and Denwer, 2000).

The southern part of the license was relinquished and additional partial leach soil sampling was completed to the immediate south of Southern Trenches (538 samples). Several anomalies were identified and a shallow diamond drillhole (STD1) was drilled to test a partial leach anomaly, intersecting minor base metal mineralisation (1.0m @ 2.0% Zn from 76m). An honours thesis on the isotopic systematics of the Southern

Trenches area was submitted (Woolford, 2000). A small program of partial leach soil sampling in the Leo's Find – Summit area (163 samples) was completed during 2001 following which the license was relinquished (McNeill 2001).

EL 21/1998. Pasminco Exploration. 1998-1999

The license comprised part of the relinquished part of EL44/1988, predominantly west of the Rosebery Fault in the southwestern part of EL48/2004. Exploration on EL21/1998 was contiguous with exploration on the neighbouring EL44/1988 and comprised a dipole-dipole IP survey and limited partial leach soil sampling (35 samples). No significant anomalies were identified and the license was subsequently relinquished (Parfrey and Simpson, 1999).

EL 35/2000. AurionGold Exploration Pty Ltd. 2001-2003

This license covered the southern part of EL48/2004, south of Cone Hill and west of Chester. Exploration conducted by AurionGold comprised relogging of historic drillholes from the Chester area, compilation of drilling, soil and rockchip data and reprocessing of Pasminco IP data. A program of PIMA, XRD and lithogeochemistry of drillcore samples was also completed (Vicary, 2002). Several recommendations were made however the license was relinquished after AurionGold was taken over by Placer Dome.

EL 20/2001 AurionGold Exploration Pty Ltd. 2001-2003

EL20/2001 covered the northern part of EL48/2004, surrounding ML 20M/2000. Exploration work by AurionGold comprised reprocessing of Pasminco IP data (in conjunction with EL35/2000) and the collection of C horizon soil samples in the northeastern part of the license (35 samples). Similarly to EL35/2000, the license was relinquished following a corporate takeover of AurionGold (Vicary, 2003).

EL 48/2004 Zinifex Exploration 2004+

EL48/2004 was granted to continue the focus of exploration close to the Rosebery Mine Lease. A geological compilation of the northern portion of the licence and relogging of historic drilling in this area was conducted by Dr Keith Corbett as documented in Skirka, 2007. Parts of this area were sampled for partial leach analysis (564 samples) and reported in Hicks, 2007. The work by Dr Corbett in 2006 continued into the second year of the licence, and this further work is also described in Hicks, 2007.

The partial leach soil sampling assays illustrated some typical problems with this method, but through this there are 3 areas of anomalous responses. Two of these areas sit over known mineralisation (and have not been recommended for additional follow-up) and the third is on a separate lease.

The only recommendation of this work was to extend the sampling to the south, past a single point anomaly on line 5383000mN, which may overly the southern extension of the Burns Peak shear zone.

6. WORK COMPLETED 2007-2008 REPORTING PERIOD:

Work carried out by OZ Minerals during this reporting period has focussed on the southern part of the license and has comprised a geophysical compilation of existing IP data, blanket coverage by VTEM airborne EM; and collection and interpretation of a partial leach soil sampling program across the Cone Hill to Mt Kershaw area, east to Chester Mine, west to the Rosebery Fault.

6.1 Geophysical Compilation

Consultant Geophysicist Rob Angus of RAMA Geoscience was contracted in early 2008 to re-examine historic IP data collected by Pasminco in 1993 and 1998, and re-processed by AurionGold in 2002. This open file data covered most of EL 48/2004 and surrounding areas.

Mr Angus has produced a brief report in memo format, with some accompanying images. This is reproduced in Appendix 1 and Figure 3. In brief, however, the area exhibits strong IP responses mostly associated with the Rosebery Fault, and several known areas of mineralisation. There are trends shown in Figure 3 that warrant further investigation and are discussed in the next section.

6.2 Partial Leach soil sampling

The southern portions of the Mt Kershaw licence have never been sampled for partial leach soil analysis, so a program was designed to cover the area east of the Rosebery Fault from the southern lease boundary for approximately 3 kilometres north (see Plan 1). A small overlap with existing lines to the north was obtained.

The soil samples were collected at 25m intervals at or near a grid peg and involved digging a hole with a pick, removing the organic rich A-horizon and collecting approximately 500g of sample from the nominal B-horizon. The samples were placed in ziploc plastic bags and once returned to the field office the bags were stored open to prevent anaerobic reactions. When a batch of at least 200 samples was collected, the sample bags were sealed and the samples despatched to Amdel in Adelaide for analysis by partial leach technique DL42. Randomised sample numbers were used in partial leach sampling to reduce the effect of analytical variations. Elements determined were Ag, As, Au, Ba, Bi, Cd, Cu, Co, Mo, Pb, Y, Zn, and the rare earth elements Ce, Eu, Gd, La and Sm. The pH of the leachate, after digestion, was also determined.

Three duplicate and two standard samples were included per 100 samples. The field duplicates were also analysed in duplicate to allow assessment of both the sample and laboratory variance. Additionally at each sample site a small amount of soil was collected and stored in a chip tray for reference and to allow soil colour to be recorded. Soil colour was assigned from a Munsell Colour chart with 19 colours.

The **848** samples (including duplicates and standards) from this program were analysed as part of three batches (SDS 5018, 5032 and 5034). Sample locations for all samples are shown on Plan 1 and assay results are in Appendix 2 along with some statistical data illustrating trends in batches.

No samples are obviously contaminated, however samples requiring re-assay by

method DL43 due to a low (pH<8.0) post-digest pH are close to average for batches 5018 (31 of 309 samples – 10%) and 5034 (34 of 333 samples – 11%), but very high for batch 5032 (55 samples from a batch of only 206 samples – 26%). At these 'low' pH's the speciation of reagents in DL42 may change and the resulting assays may be unreliable. Many of the low-pH samples had high Pb and Zn results that could be important in the interpretation of the dataset. However, Test work at Amdel indicated that decreasing the sample:liquid from 10:1 (method DL42) to 5:1 (method DL43) could buffer the solution to a higher, acceptable, final pH (for samples with a post-digest pH of >7.2) and not significantly affect the precision of the analysis. Accordingly, these samples with low post-digest pH were re-assayed with the new protocol, and most of the remaining samples had DL43 post-digest pH's of >8.0 (see Appendix 2 for full details and assay data). In the preliminary interpretation discussed below the low (pH <8.0) samples from the original dataset have had their assay results replaced by the re-assayed data.

For interpretation this new data was combined with results from previous surveys by Pasminco/Zinifex on EL's 44/1988 Burns Peak, 4/2000 Boco and EL 23/2000 Silver Falls to produce a series of gridded images of raw assay results (Plans 2, 3 & 4). Several features are obvious:

- The central block of 5 lines (batch 5032) have a much more subdued signature than the rest of the area. This block of data corresponds with batch 8AD1205 and the low values may suggest low background geochemistry in this area. However, the QAQC data for this batch is more erratic than for the other two batches, suggesting there may be analytical reasons for the low values. This batch is recommended for levelling to batch number to improve continuity between batches.
- There is very little striping in any of the new data.
- Lithological trends are apparent in several elements (see Plan 2-4), and the location of the Rosebery Fault is clear in many of these images, especially in the arsenic data.
- The continuity between old data and this new sampling is surprisingly good for most elements.

There are several anomalies in this new data from EL 48/2004 Mt Kershaw:

1. A multi-element Ag-As-Ba-Cu-Mo-Pb & Zn anomaly that falls over 3 lines in the south of the survey area. This anomaly seems to follow the inferred NE trend of stratigraphy further north (eg Hollway Andesite contact) rather than the NNW trend inferred from exposure on the Bastyn Dam Road further south (see Plans 2-4)

2. Several single point multi-element anomalies, often at the ends of lines (eg east end of line 80,300N, west end of line 81,100N, 82,500N). The significance of these is considered low due to their single point source and probable edge effects in the contouring process.

3. A more convincing multi-element feature is evident between lines 82,700N and 82,900N towards the eastern end of the lines. This position coincides with the fingering out of the Hollway Andesite, and may be associated with the Summit alteration zone.

4. There is a multi-element feature that sits just to the south of the Chester deposit – it may be over emphasised due to an edge effect at the end of the lines.

6.3 VTEM survey

Geotech Airborne Pty Ltd flew airborne EM (VTEM) across the entire tenement package in March and April, 2008, as part of a larger survey of Zinifex tenure in Tasmania. Approximately 83.5 line kilometres of data was collected across this tenement.

Block 2 (the Mt Kershaw tenement EL 48/2004) was flown in an AMG east-west direction, flight lines were a nominal 200 metres apart, and the helicopter flew at a nominal height of 80 metres at 80 km/hr, although topography and culture prevented this in some instances. The sensor was at a nominal 30 metre height above ground level. Full details of all survey specifications and results are contained in Appendix 4, or alternatively available at the contractors website (www.geotechairborne.com).

Preliminary data was examined throughout the survey period by consultant Geophysicist Dr Jovan Silic, of Flagstaff GeoConsultants, Melbourne, Victoria. From this a series of images have been produced at early (channel 5), mid (channel 10) and late (channel 20) times, as shown on Figures 4, 5 and 6 respectively.

One highly ranked feature was identified in the preliminary data from the Mt Kershaw licence, which was infilled at 100m spacing. This feature roughly coincides with the Chester Deposit, a pyrite-rich alteration system with very low base and precious metal content, but several million tonnes of semi-massive pyrite.

Other anomalous responses were checked against topographic and land use maps to identify obvious cultural sources across the tenement. After this first pass, no features were recommended for further investigation.

7. CONCLUSIONS:

Exploration conducted on EL48/2004 during the third year of tenure has focussed on the southern part of the license area near Mt Kershaw and has included partial leach soil sampling across new gridlines, blanket airborne EM coverage of the entire tenement, and a re-interpretation of historic IP data.

Results from the soil sampling program indicate several areas of anomalism:

- A multi-element Ag-As-Ba-Cu-Mo-Pb & Zn anomaly that falls over 3 lines in the south of the survey area. This anomaly seems to follow the inferred NE trend of stratigraphy further north (eg Hollway Andesite contact) rather than the NNW trend inferred from exposure on the Bastyn Dam Road further south
- Several single point multi-element anomalies, often at the ends of lines (eg east end of line 80,300N, west end of line 81,100N, 82,500N). The significance of these is considered low due to their single point source and probable edge effects in the contouring process.
- A more convincing multi-element feature is evident between lines 82,700N and 82,900N towards the eastern end. This position coincides with the fingering out of the Hollway Andesite, and may be associated with the Summit alteration zone.
- There is a multi-element feature that sits just to the south of the Chester deposit – it may be over emphasised due to an edge effect at the end of the lines, but could indicate a down plunge extension of the Chester system.

The IP data gives encouraging coincident anomalies with several of the above partial leach anomalies. The most encouraging appears to be south and southwest of the Chester deposit, and in the far northeast corner of the new data where the Hollway Andesite interfingers with inferred Tyndall Group correlates. These features should be modelled where possible to give estimates of depth to allow drill targeting.

The VTEM data does not add to the prospectivity of these areas unfortunately – the only anomalous response seen in the VTEM data occurs adjacent to the Chester deposit, and does not persist to late times (in fact, there is very little late time signal from anywhere in the tenement)

The recommendations for the fourth year of the licence are to follow up these coincident IP-partial leach anomalies with a view to drill testing the best targets. Detailed mapping is still pending across the grid used for the soil sampling, and may help prioritise drill targets in 2009.

8. ENVIRONMENT AND REHABILITATION:

Sections of the Boco Track were improved to allow vehicle access to the parts of the grid for collection of soil samples and mapping. Secondary tracks down to Chester were also touched up as part of this activity.

The gridding and track cutting was completed in accordance with the approval of MRT Environmental officer David Gatehouse, dated 14 December, 2007. No unexpected deviations from this program were encountered.

9. EXPENDITURE:

Total expenditure for all work undertaken by OZ Minerals (Exploration) within Mt Kershaw EL 48/2004, for the period ending 23rd November 2008 was **$96,908.88**

A detailed expenditure statement is given below.

Personnel	$11,085.75
Contract Field Support	$31,289.57
Geoscience Consultants	$900.00
Track Cutting, Gridding	$6,858.57
Geochemical/Assays	$10,353.00
Diamond Drilling	$0
Other Contractors (roadworks)	$21,600.80
Stores & Supplies	$2,566.47
Vehicles, Plant & Maintenance	$300.25
Land & Environment	$577.50
Equipment Hire	$1,470.00
Depreciation, Office, Sundry	$1097.07
Administration Fee 10%	$8,809.90
Total	**$96,908.88**

10. KEYWORDS & LOCALITY:

Keywords

Hollway Andesite, Chester, geology, Partial Leach soil geochemistry, VTEM airborne EM, line cutting, geological mapping, IP review, Rosebery Fault

Locality

1:250,000	BURNIE SK55-3
1:100,000	SOPHIA 8014
1:25,000	PARSONS 3638;

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