



**SHEFFIELD EL 16/2005
NIETTA EL 17/2005
CENTRAL CASTRA EL 18/2005**

**TECHNICAL REPORT
FOR THE 12 MONTHS ENDING 21st SEPTEMBER 2006**

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1. SUMMARY

This report details exploration work undertaken on EL's 16/2005 (Sheffield), 17/2005 (Nietta) and EL 18/2005 (Central Castra) for the period 21st September 2005 to 21st September 2006, the first year of the tenements. Work completed on the *project tenements* during the reporting period comprised:

- Collection and analysis of 58 wholerock geochemical samples from surface outcrop across the 3 tenements, with minor sampling outside the tenement boundaries to assist with regional correlations.
- Thin section preparation and petrological description of 78 samples, including the 58 wholerock samples above.
- Reconnaissance and prospect scale mapping.
- Geological and lithochemical interpretations, correlations and assessment.

Work planned for the second year of the tenement is focussed on two main areas identified from this years work, with geological mapping and geochemical sampling proposed to test the **McPhersons Prospect** and the **Castra Road/Prestons Silver Mine** area. Drill testing may occur late in the coming year. A secondary target has been identified north of the **Dasher River** on the Sheffield licence, where further reconnaissance work may upgrade prospectivity.

Approximately 50% of the project tenements area is recommended for immediate relinquishment.

2. INTRODUCTION

This report details exploration work undertaken on Sheffield EL 16/2005, Nietta EL 17/2005 and Central Castra EL 18/2005 (which were granted group project status for reporting purposes on 11 April, 2006, herein referred to as *the project tenements*) during the period 21 September 2005 to 21 September 2006, the first year of these tenements.

Zinifex's main targets on the project tenements are Cambrian Rosebery or Hellyer type, Zn-Pb-Cu-Au-rich VHMS mineralisation hosted by the Mount Read Volcanics (MRV).

Zinifex plan to explore the project tenements using a combination of reviewing previous exploration data, geological mapping, whole rock and partial leach soil geochemistry, followed-up by selected ground time-domain EM, then drilling of areas of interest.

The project tenements cover an area of moderate relief, which is occasionally heavily forested and incised (e.g. surrounding Lake Barrington, Leven River). It extends from the northeast slopes of Mount Roland (1233m ASL) near Beulah, west through the townships of Roland, West Kentish, Wilmot, Upper Castra and Nietta (Figure 1) towards the Loongana Range, as well as north through Preston and Central Castra towards Sprent. Access to the area is via numerous sealed arterial roads, minor sealed and unsealed roads, forestry tracks and numerous 4WD tracks in private property. The only area of difficult access is in the western half of EL 17/2005, in the Leven River valley.

2.1 Attribution

The following personnel were responsible for the work carried out by Zinifex Rosebery Mine on the project tenements during the reporting period:

Senior Geologist:	Andrew McNeill – Zinifex Rosebery Mine
Senior Exploration Geologist	Mick Skirka – Zinifex Australia Ltd.
Consulting Geologist	Dr Keith Corbett

3. LAND TENURE

EL 16/2005 Sheffield (105 sq km), EL 17/2005 Nietta (143 sq km) and EL 18/2005 Central Castra (52 sq km), were granted to Zinifex Ltd on 21 September 2005 for a period of 5 years. The project tenements covers ground that fell vacant on the relinquishment of numerous tenements over a number of years. The location of the project tenements is shown on Figure 1, and the tenement history is addressed in Section 5 below.

The project tenements exclude approximately 34 ha of Mining Leases, including 1639P/M, 1202P/M and 1827P/M on EL 16/2005, 1308P/M on EL 17/2005 and 1402P/M on EL 18/2005. A further 67 hectares of land are excluded as State or public Reserves (eg Forth Falls State Reserve on EL16/2005).

Other land tenures within the project tenement area include State/Multiple Use Forest, MDC Informal Reserve, forest communities managed by prescription, proposed private land reserve (RFA), Tasmanian forest community agreement, Crown Land, Regional Reserve, Forest Reserve and abundant private property all of which are available for exploration under the Mineral Resources Development Act 1995.

4. GEOLOGY

4.1 Regional setting

The regional geological framework of the Mt Read Belt (MRB) is subdivided, from an exploration perspective, into three elements. The central MRB covering the area of outcrop from south of Queenstown to north of Hellyer, the northern MRB covering the area from Back Bluff eastwards through Gowrie Park and Mole Creek, and the Southern MRB comprising areas west and south of Macquarie Harbour. The project tenements are in the east-central part of the northern MRB.

Basement in the Central and Northern MRB is of Precambrian age, comprising predominantly greenschist facies metasediments with minor basalts and dolerites. Higher grade amphibolite and eclogite facies are also present within the Precambrian. This Precambrian basement, termed the Tyennan Block, lies to the south of the project tenements.

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

The CCF was deposited in shallow but rapidly subsiding basins comprising basaltic lavas and volcanoclastics, turbidites, carbonates, chert and minor evaporites. This formation is not exposed in the licence area. Ultramafic cumulates and volcanic equivalents were thrust onto the CCF in the mid Cambrian. They are absent from the licence area.

The MRV, in the Central MRB, form a 200 km long by 20 km wide north-south trending belt along the eastern side of the Dundas Trough, adjacent to and in some areas overlapping and intruding the Precambrian basement. The northern extension of the MRV swings eastwards around the northern margin of the Tyennan Precambrian block. The volcanics include intermediate to felsic lavas, subvolcanic porphyries and granites, volcanoclastics and basement-derived sedimentary rocks. The MRV host five economically significant volcanic hosted massive sulphide deposits all of which lie in the Central MRB.

During late CVC to early Tyndall Group time, Cambrian granitoids intruded the volcanic pile. The majority of the granitoids occur along the eastern margin of the volcanics and stitch the volcanics to the Tyennan Block.

Cambrian volcanism and sedimentation was followed by predominantly basement derived late Cambrian to Devonian age sedimentation, including siliciclastic conglomerate, sandstone and limestone. These sequences occur within, and peripheral to, the project area.

At least two phases of regional compression were associated with the mid Devonian Tabberabberan Orogeny. The development of folding, cleavage and regional thrusts in

lower Palaeozoic rocks were associated with this event. Fold trends in the licence area are variable, some NW, and lesser E-W.

Deformation was followed by the extensive intrusion of Devonian to Carboniferous granitoids of batholitic proportions. The Dalcoath Granite (and associated hornfels aureole) outcrops south of the licence, and the Husetop Granite outcrops across a large area to the northwest of the project tenements. 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. A similar setting may be interpreted for the base metal vein deposits in the district (eg. Round Hill workings).

The Ordovician and older rocks in the far eastern part of the licence are unconformably overlain by marine sediments, including tillite, forming the basal units of the Permian Parmeener Supergroup. Small bodies of Jurassic dolerite intrude the Permian sediments and older rocks.

After substantial erosion of this terrane, extensive Tertiary flood basalts and subvolcanic sediments were deposited. Basalt flows cover as much as 50% of the project area. In the Quaternary, talus deposits have developed on the lower slopes of Mt Roland and alluvial deposits have formed in the valley of major rivers.

4.2 Project tenements:

One of the main problems with exploring in the Fossey Mountain Trough was perceived to be making correlations with the well-known stratigraphy of the Central Mount Read Volcanics, in particular locating equivalents of the “Holy Host” (i.e. the top of the CVC or it’s equivalent). A recent review, using the whole-rock geochemical data from the Tasmanian 3D model, and additional data in Zinfex’s database, has defined several areas of felsic volcanics with geochemical signatures equivalent to the top of the CVC at Rosebery. The project tenements are designed to cover these areas of potential “Holy Host” stratigraphy.

A series of new maps have been produced by MRT, giving geological coverage at 1:25,000 across the project tenements (WTRMP). A comprehensive overview can be gained from the 1:100,000 WTRMP sheet and accompanying report (Corbett and McClenaghan, 2003) and, as will be discussed below, further mapping by Dr Corbett has been focussed on discriminating the affinities and correlates of inferred central MRV units in the project area.

5. PREVIOUS EXPLORATION

The area encompassed by the project tenements has had an irregular exploration history for base metals starting in the 1960's, with current philosophies and methods applied since the mid 1970's. It is believed that up to 6 surface drill holes have been collared on the project tenements, at a variety of geochemical and/or geophysical targets. The project tenements can still be considered under-explored, as the majority of work described below only partially overlaps with current tenure, with much of this current tenure rapidly discounted through early regional surveys.

Modern exploration commenced in the 1960's with regional geological compilations (eg. Burns, 1957, Whiting, 1970) and aeromagnetics surveys (eg Zarzavatjian, 1966; Webb, 1968; Chestnut, 1967) focusing on broad areas and less relevant commodities or styles of mineralisation.

As is often the case, the first phase of focussed exploration (1970's) delineated most of the currently known anomalies within and adjacent to the project tenements. Tenements EL 19/72 (see Porter, 1976, who provide comprehensive summaries of exploration on the tenement area to that date) and EL 7/73 (see Barker, 1975 and Clementson and Flis, 1983) have overlaps with the project tenements.

After a break of several years, exploration became more focussed on Cambrian VHMS style mineralisation, again with only partial overlap onto the project tenements. Work on EL 8/77 (Caithness, 1986), EL 36/79 (eg Wright, 1983), EL 33/83 (Vivian, 1984a & b), EL 43/85 (eg. Sise, 1987) and EL 49/87 (Randell, 1988) led to the identification of a limited number of new prospects. An apparent trend throughout the 1980's and early 1990's was for explorers to re-assess the geology, previous exploration and open-file data, complete variably detailed reconnaissance with some follow-up, and then relinquish the licence having deemed the area a low probability of significant base metal discovery. EL 19/90 (Jones, 1991) and EL 42/92 (Vicary, 1994) are good examples of this. Some quite focussed exploration was conducted by RGC exploration on EL 15/92 (Vicary, 1995a) but areas of interest did not overlap on the current tenure.

Zinifex has previously explored parts of the project tenement area. Geopeko managed exploration on behalf of the E.Z. Co. (who became Pasminco, who became Zinifex Ltd) in EL 96/87, which reverted to Pasminco control during 1990. There is some overlap of EL 96/87 into the project tenements (see Virgoe, 1990 and Fitzgerald, 1991). Other tenements held by Pasminco/Zinifex in the vicinity of the project tenements include EL 3/1998 (Lake Barrington) and EL 13/2000 (Paradise). Both tenements were prematurely relinquished in 2002, primarily due to internal factors at the time.

The ground which makes up the project tenements was vacant prior to the granting of EL's 16/2005, 17/2005 and 18/2005. The most recent exploration appears to be that of Pasminco on the Lake Barrington and Paradise tenements. However, none of the work completed by Pasminco on these licences overlaps onto the current project tenements.

Table 1 lists previous tenement holders in the Sheffield-Castra-Nietta area, and Table 2 gives an overview of work completed prior to the granting of the project tenements in September 2005.

TABLE 1: Previous tenement holders in the vicinity of the project tenements area

Company	Reference	EL	Granted	Relinquished / JV	Relevant Prospects	Previous Tenements
1. AMEG	Webb, 1968	8/65	?	?	Nil	Regional
2. BHP	Chesnut, 1967; Cochrane, 1970	15/65	1965	1970	Nil	Regional
3. Scamander Mining Co	Whiting, 1970	14/70	?1970	?	Nil	Regional
4. CRAE	Porter, 1976; Purvis, 1978	19/72	1972	?1978	1,2,3, ?4, 9, 10	10/73
5. Asarco	Barker, 1975	7/73	1973	JV to CRAE, 1975	5, 6, 7	-
6. CRAE	Clementson, 1982; Temby, 1985	7/73	CRAE post 1983	1988	7, 8	7/73
7. CRAE	Caithness, 1986	8/77	1985 JV	?1987	3, 1, ?9	?
8. Shell, CRAE	Wright, 1983; Hungerford, 1989, 1990	36/79	1980	1990	11, 3	2/76, 19/72
9. AMAX	Vivian, 1984a & b	33/83	1983	?1984	5, ?10	-
10. Aberfoyle	Sise, 1987; Wallace, 1991	43/85	1986	1991	8, 12	49/82
11. Billiton	Randell, 1988	49/87	1987	1988	Nil	-
12. Geopeko	Virgoe, 1990;	96/87	1987	JV to PasEx 1990	1,2,3, 4	-
13. Pasminco	Fitzgerald, 1991	96/87	1990	1991	1, 2, 3, 4	96/87
14. Noranda	Jones, 1991	19/90	1990	1991	?5	-
15. RGC Expl	Vicary, 1995c	15/92	1992	1995	12,	11/88, 15/92
16. RGC Expl	Vicary, 1995a, b	42/92	1993	1996	1, 2, 3, 11	Various

Prospects: 1= Crosby Ck, 2= Loyetea Nth, 3= Loyetea Sth [incl. Tulip Tree Ck], 4= Castra Rd, 5= Wilmot, 6= Razorback Ridge [?aka Loyetea Sth], 7= Lake Barrington Cu, 8= Stonebridge, 9= Prestons Ag, 10= McPhersons, 11= Challenger2 [aka - Native Track Tier], 12= Beulah.

TABLE 2: Previous work on the project tenements area by other Companies

Company	Year	Exploration Activities
1, 2, 3: AMEG, BHP, Scamander Mining Co.	1965 - 1970	Regional aeromagnetics, data review – old school thinking, no prospects of relevance, poorly documented, often without specific tenement information.
4. CRAE	1972 - 1978	CRAE conducted the first (and probably most successful) modern exploration program in the vicinity of the project tenements. The exploration program (EL 19/72) can be summarised chronologically as follows: <ul style="list-style-type: none"> Geological compilation (1972) and inspection of known mineralisation, including Preston Ag and McPhersons prospects. Stream sediment sampling program (1973, unknown no. of samples) detected only low level

Company	Year	Exploration Activities
		<p>base metal concentrations. The best was from the Crosby Creek area (380ppm Zn, 70ppm Pb)</p> <ul style="list-style-type: none"> • A 5-line 10m spaced soil sampling program was designed to follow-up this area 600ppm Zn, 1210ppm Pb, 480ppm Cu being peak values obtained) • More regional soil sampling in 1973-74: 15 km2 using 400m x 20m grid. Best results: 5100ppm Pb 244ppm Zn, 200ppm Cu – defined the Castra anomalies • Further regional soil sampling and mapping in 1975, at various scales. Reasons for sampling new areas were due to geological interpretation of depositional environments. Best results not given, but defined the Loyetee North and Loyetee South anomalies. • Airborne EM flown April 1975 across most of tenement • Magnetics, IP and auger sampling completed on Crosby Creek prospect in 1975. Best results from the auger work was 3000ppm Pb, 500ppm Zn and 400ppm Cu. • 3 diamond drillholes completed for 652m at Crosby Creek prospect in 1975 (DD 75 CC1 to DD 75 CC3) • Blanket gradient-array IP over Crosby Creek and Loyetee prospects • 2 diamond drillholes completed for 500.30m at Loyetee South prospect in 1976 (DD 76 LS1 & DD 76 LS2) • Concluded that the highest order anomalies have been tested, recommended some further work at Crosby Creek and Loyetee South prospects, proposed a JV of tenement.
5, 6: ASARCO, CRAE	1972 - 1978	<p>There is some overlap of ground originally held by Asarco under EL 7/73.</p> <p>During tenure, Asarco completed the following</p> <ul style="list-style-type: none"> • regional stream sediment (25 samples) and rockchip (67 samples) sampling, mapping and review/evaluation. They identified a low level anomalies at Loyetee South and Wilmot before the tenement was joint ventured with CRAE. <p>CRAE joint ventured into this large tenement in 1976 to assess targets generated through Asarco's stream sampling programme. CRAE, who also held EL 10/76, explored the area from 1976-1988. The majority of prospects that were explored by CRAE in EL 7/73 were not on the current project tenements. However, the Wilmot anomaly (and possibly the Stonebridge anomaly) are, and were followed up with more detailed stream and soil geochemistry, as well as VLF-EM and ground magnetics. The eventual conclusion reached by CRAE was lack of evidence and tenor of mineralising systems, but still some (low) potential for such systems to occur in the district. CRA relinquished EL 7/73 in 1988.</p>
7. CRAE	1985 - 1987	<p>CRAE explored EL 8/77 (which has a small overlap with the project tenements) for a brief time by:</p> <ul style="list-style-type: none"> • Regional drainage sampling program – unknown number of samples, but this program identified Crosby Creek and Loyetee South anomalies again. • Recommended re-sampling of Crosby Creek and Loyetee South drillcore to vector towards Au and base metal mineralisation.
8. SHELL (BILLITON) - CRAE JV	1980 - 1990	<p>EL 36/79 has a small overlap with current tenure. Across EL 36/79, Shell completed the following:</p> <ul style="list-style-type: none"> • Airborne magnetics and radiometrics • regional INPUT airborne EM • regional drainage and soil geochemistry. <p>The one anomaly coincident with current tenure is Tulip Creek (also known as Loyetee South). Shell found only low order, sporadic anomalism and poor repeatability, so recommended no follow-up.</p> <p>CRAE began exploring this JV tenement in 1985, but focussed on areas outside current tenure. Detailed</p>

Company	Year	Exploration Activities
		work has been completed on the Challenger II anomaly (also known as Native Track Tier anomaly) which has possible strike extensions into the western portion of EL 17/2005 Nietta.
9. AMAX	1983 – 1984?	<p>EL 33/83 coincides with much of the central and southeastern parts of the project tenements. AMAX completed the following activities in 1983 and 1984:</p> <ul style="list-style-type: none"> • Review of existing geophysical and geochemical data • Minor check sampling of anomalous drainages and rock chip locations • Reconnaissance and rock chip sampling (with samples sent for whole rock analysis) in the vicinity of McPhersons anomaly • Further stream (48 samples) and rock chip (20 samples) sampling • DIGHEM airborne EM (360 line km) over part of the tenement <p>This latest work failed to highlight areas worthy of follow-up, and AMAX surrendered the tenement.</p>
10. ABERFOYLE	1986 - 1991	<p>The northern portion of EL 43/85 overlaps with part of the southeastern area in the project tenement. Aberfoyle completed significant exploration across their tenement, but only minor parts of interest coincide with current Zinifex tenure. Work completed on relevant areas includes:</p> <ul style="list-style-type: none"> • Some regional mapping traverses, and limited grid mapping at the Stonebridge prospect • Minor portion of a UTEM survey on the Stonebridge grid, no anomalies detected. <p>Aberfoyle downgraded the prospectivity of much of the overlapping areas of EL 43/85 and current tenure quite early in the tenement life, and therefore little work has been completed.</p>
11. SHELL/BILLITON	1987 - 1988	<p>Billiton tackled this area in a similar manner to previous explorers – regional reviews and stream sediment sampling programs. Details are:</p> <ul style="list-style-type: none"> • 69 sample sites giving 1-3 sq km coverage, both conventional ¼”BLEG and -80# samples were collected. Sample sites where cultural interference was too high were either not sampled or flagged as possibly contaminated. Approximately 10 anomalies were identified (none within current Zinifex tenure) but almost all failed to reproduce when re-sampled. The tenement was abandoned based on these results and a re-assessment of the regional geology.
12, 13: GEOPEKO, PASMINGO	1987 - 1991	<p>Geopeko (and Pasmingo) document a thorough examination of existing data and clever application of further exploration methodology in their 1987-1991 tenure (EL 96/87). While no new anomalous areas were identified, several were re-visited, extended and probably fully tested to current thinking at the time. This work can be summarised by prospect as follows:</p> <p>Loyetea South (Tulip Tree Creek grid):</p> <ul style="list-style-type: none"> • 2 new lines cleared and sampled (rock chip instead of C-horizon due to scree cover) – only 3 of 30 samples anomalous (>200ppm Pb) – closes off anomalous zone on grid • Ground magnetics <p>Crosby Creek:</p> <ul style="list-style-type: none"> • A new 7-line grid of 11.5 kms was cut to the SE of CRAE’s old grid, geologically mapped • Rock chip (162 samples) or C-horizon soils (291 samples) collected on these lines at 20m spacing – six samples anomalous in Pb, and 20 in Zn define a new area of interest southeast of CRAE’s 1976 work. An offset Cu anomaly (low level) is also defined. • 4 BLEG and 2 standard stream sediment samples collected – assays at background levels. <p>Regional work:</p> <ul style="list-style-type: none"> • Eleven samples were analysed for Pb-isotopes – 5 from Tulip Tree Creek grid, 2 from McPhersons prospect, 1 from Preston Ag prospect, and 3 from CRAE diamond drillholes from

Company	Year	Exploration Activities
		<p>Crosby Creek. All possess Cambrian Pb signatures, the significance of this noted.</p> <ul style="list-style-type: none"> • 34 rock samples were submitted for detailed thin section petrological description.- mostly from Tulip Tree Creek and Crosby Creek, but also Preston Ag and Loyetea Sth drillholes. This petrology confirmed most field names used. • Zinc ratios were determined for 32 samples with >200ppm Pb from similar areas to those sent for petrology. Results suggest 6 samples (core form Crosby Creek, rockchip from McPherson's Prospect) have classic Cambrian VHMS signatures, while Prestons Ag Prospect and 2 other samples show Cambrian vein-style mineralisation signatures • An attempt was made to re-interpret regional aeromagnetics, radiometrics and gravity data for the tenement, but failed to see through local effects from numerous intrusive bodies. • The negative geochemical anomaly at Castra Road was interpreted to represent possible evidence of ore systems (hydrothermal depletion), and its prospectivity was highlighted by mapped zones of sericite-pyrite-silica alteration. <p>Management of exploration in EL 96/87 reverted to Pasminco in July 1990, after which time no new work was completed and the tenement was relinquished in April 1991.</p>
14: NORANDA	1990 - 1991	<p>No results of relevance to current Zinifex tenure arose from the very limited review Noranda completed across EL 19/90. There is a small overlap with parts of the Nietta tenement, but no anomalies were identified or recommendations for further work made by Noranda before relinquishment.</p>
15, 16: RGC EXPL.	1993 - 1996	<p>RGC Exploration were active in two areas in the mid 1990's.</p> <ol style="list-style-type: none"> 1. The first of these (EL 15/92) has a very small overlap with current Zinifex tenure and no results of interest. 2. The second area was in EL 42/92, partly overlapping the Nietta portion of the project tenements. Work completed by RGC in this area consisted of: <ul style="list-style-type: none"> • 1:10,000 geological mapping and compilation which tied the geological sequences at Tulip Tree Creek with the Crosby Creek area. • Collection and assaying 9 rock chip samples from the Leven Canyon area (outside current tenure) • Re-logging of the 3 Crosby Creek diamond holes. <p>RGC were discouraged by the lack of mapped hydrothermal alteration, and chose not to extend tenure.</p>

6. WORK COMPLETED 2005-2006 REPORTING PERIOD

Work completed on the project tenements for the 2005-2006 reporting period consists exclusively of the geological investigation by Dr Keith Corbett. This report is reproduced in its entirety in Appendix 1, and conclusions and recommendations herein are drawn directly from this report.

7. CONCLUSIONS & RECOMMENDATIONS

During the first year of tenure, work was of a regional nature and comprised:

- Regional and prospect scale mapping
- Geological interpretations and correlations to the main MRV stratigraphy to the southwest.
- Collection and analysis of 58 whole-rock surface samples.
- 78 petrological descriptions (including the 58 samples above)

This detailed wholerock sampling and petrological characterisation has indicated a lack of CVC-equivalents through the project tenements, as well as an absence of Rosebery Host Rock sequences and any large areas of hydrothermally altered rocks. However, there is a possibility that the host position may feasibly occur in the Sheffield licence, where the only occurrence of Suite-3 mafic volcanics has been identified. Further mapping is needed here to explore this possibility.

Identified mineralisation at prospects within the project tenements are of 2 main types:

1. Low-level Pb-Zn-minor Cu, associated with the margins of some of the Cambrian andesitic intrusive bodies. This has been well documented at Crosby Creek prospect, at Nietta, by drilling and other techniques, and also seems to be the case at Loyetea South. A number of known prospects through the Dial Range Trough are also of this type.
2. The second type involves scattered Pb-Ag-Ba-pyrite occurrences apparently related to Devonian structures, particularly major faults. The Castra Road and nearby Preston Silver Mine prospects appear to be of this type, although further mapping is required to establish the relationships. Remobilised Cambrian lead is suggested by Pb isotopes.

As a result of the geological investigation of the license area, the following work has been recommended for the second year of the tenement:

- The highest priority area is at the McPhersons Prospect on the Central Castra EL 18/2005. The style of mineralisation at this prospect appears to be different from the two styles described above, and with associated pyrite-sericite alteration and a Cambrian Pb-isotope signature warrants some detailed work. Due to the difficult access and terrain issues, cutting a grid is recommended as the basis for detailed soil and rockchip sampling and mapping, further work (ie drilling) dependant on results of this phase.
- The discovery by Corbett (Appendix 1) of sericite-pyrite alteration 600m west of the Preston Silver Mine indicates that there may be a 1.5 kilometre zone of alteration (with Devonian overprinting) running along a major zone of NW faulting. The (remobilised) Cambrian Pb isotope ratios for this mineralisation upgrade the prospectivity of this area. Vicary (2006) also infers that the apparent hydrothermal alteration may be feeder-style alteration to the stratigraphically

overlying base metal mineralisation at Preston Silver Mine (shale host), and with an encouraging structural setting (syn-volcanic Deep Gully fault) and encouraging stratigraphy (contact between base of the Tyndall Group with underlying Western Volcano-Sedimentary Sequence) there is some exploration potential (note also an anomalous Au stream sediment sample draining the Preston Silver Mine which has not received any follow-up).

- There is a need to complete some detailed mapping and prospecting in the vicinity of the Stonebridge Prospect near Paradise (EL 16/2005), where minor gossan development in andesitic and felsic volcanics has been observed but no detailed historical follow-up documented. Equivalent Rosebery host lithologies may occur within the stratigraphy in this area.

8. **EXPENDITURE**

Expenditure by Zinifex Australia Ltd on the project tenements EL 16/2005, EL 17/2005 and EL 18/2005 during the 12 month period ending 21st September 2006 was **\$32,582.56**. A detailed breakdown of this expenditure is presented below.

Personnel	\$ 1216.15
Travel & Accommodation	\$
Consultants & Contractors	\$ 1050
Geological Consultants	\$ 23,118.64
Geochemical Consultants & Assays	\$ 2,434.96
Geophysical Surveys & Contractors	\$
Drilling	\$
Stores & Supplies	\$
Vehicles Plant & Equipment	\$
Land	\$ 119.26
Computing	\$ 1,351.50
Office	\$ 330
SUB-TOTAL	\$ 29,620.51
Administration Fee (10%)	\$ 2,962.05
Total Tenement Expenditure =	\$ 32,582.56

9. KEYWORDS & LOCALITY

Keywords

Geology, Fossey Mountain Trough, Castra, Nietta, Sheffield, geochemistry–whole rock, thin section petrography, correlations, MRV, previous exploration, geological mapping, Tyndall Group, Western Volcano-Sedimentary Sequence, Crosby Creek Prospect, Preston Silver Mine, Loyetea South, Castra Road Prospect, McPhersons Prospect

Locality

1:250,000 BURNIE SK 55-3

1:100,000 INGLIS 8015, FORTH 8115.

1:25,000 CASTRA 4242, LOYETEA 4042, LOONGANA 4041, WILMOT 4241,
SHEFFIELD 4441.

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