

---

Telephone: (03) 9670 7349  
Facsimile: (03) 9670 3691

A.B.N. 98 004 774 761  
Registered Office:..... 4<sup>th</sup> Floor, 114 William Street, Melbourne, Victoria, 3000  
Postal Address:..... G.P.O. Box 1778Q, Melbourne, Victoria, 3001

**ANNUAL REPORT  
2001 - 2002  
STORMONT EL 20/92  
FOR  
JERVOIS MINING N.L.**

**AUGUST 2002**

## **SUMMARY**

The Stormont Exploration Licence 20/92 is due to expire on 11<sup>th</sup> September 2002. Over its 10 years life, nearly \$430,000 has been spent directly in exploration which has included two regional helicopter-borne geophysical surveys (magnetic and electromagnetic) and the drilling of 41 diamond drill holes.

The Licence was granted to Goldstream Mining N.L. (in joint venture with Titan Resources N.L.) in 1992. Jervois Mining N.L. acquired the tenement in August 1999. The licence had been halved in size from 25 square kilometres to 12.5 square kilometres at the end of the fifth year in 1997.

Most of the diamond drilling has been in the Stormont Mine area where a resource of 135,000 tonnes @ 3.44 g/t Au and 0.21% Bi has been outlined. There is good potential to increase this resource in the lightly drilled Western Syncline where a recent Jervois' drill hole intersected two metres at 3.5 g/t Au and 0.2% Bi.

During the year a long delayed airborne EM survey was completed over the area. The results of this survey have been interpreted by the company's consultant geophysicist. Two field seasons were lost whilst waiting for the survey to be completed.

Jervois is applying to retain two square kilometres over the Stormont Mine and surrender the remaining 10.5 square kilometres.

## CONTENTS

SUMMARY .....	1
INTRODUCTION.....	3
TENEMENT.....	4
GEOLOGY .....	5
PREVIOUS EXPLORATION AND MINING .....	7
WORK COMPLETED.....	12
RESULTS.....	12
DISCUSSION .....	20
RECOMMENDATION.....	21

## APPENDIX

Interpretation of Airborne EM Data from Moina - Hugh Rutter \*

HEM Data - Processed Located Data ERM Grids \*

## ACCOMPANYING PLANS

Prospect Location Plan	1:5,000,000
Tenement Location Plan	1:250,000
Tenement Map - Showing Area to be Retained	1:50,000
Geology - Moina Area	1:25,000
Total Magnetic Intensity Contours	1:25,000
Resistivity Inversion; Coplanar Coils 880Hz	1:25,000
Stormont Mine - Geology and Drillhole Plan	1:2,000

*\* In digital format only - not in hard copy*

## **INTRODUCTION**

Jervois Mining N.L. took over EL 20/92 in August 1999 from Goldstream Mining N.L. and Titan Resources N.L. In early 2000, drilling programmes were conducted at Ti Tree Creek and at Stormont.

In November 2000 Jervois was advised by the Department of Mineral Resources Tasmania that they (DMRT), in conjunction with Commonwealth funding, had let a contract for low-level aeromagnetic and electromagnetic surveys which will cover the Stormont and Dolcoath tenements. This survey was to be flown east west on flight lines 200 metres apart.

In January 2001, Jervois entered into a contract with GeoInstruments Pty. Ltd. the geophysical contractor flying the Moina area, whereby GeoInstruments would fly the central part of the two licences on 100 metre spacing. This contract was for the electromagnetic survey only since Goldstream had flown the tenements for low level magnetics in 1996. The survey was scheduled to be flown in March 2001.

In late February 2001, Jervois was contacted by GeoInstruments and informed that the survey would be delayed because the helicopter had dropped its "bird". DMRT then requested that the survey be recommenced in August 2001 at the earliest, rather than fly in winter weather conditions.

The survey was ultimately flown in November 2001 and a report and CD were received in December 2001. In January 2001, the company's consultant geophysicist,

Hugh Rutter, began an interpretation of the results and discovered that the survey had been flown about 2km to the north of the proposed grid area.

GeoInstruments (now taken over by Fugro Airborne Services Pty. Ltd.) were requested to re-fly the area and this was finally accomplished in April 2002. The results were received in May 2002 and an interpretation report in June 2002.

Jervois had held back ground exploration since November 2000 until the results of the contracted airborne survey were received. This has caused a 1½ year delay in the exploration effort.

## **TENEMENT**

Exploration Licence 20/92 covers 12.5 square kilometres and adjoins Jervois' Dolcoath EL37/97 to the east. The licence is due to expire on 11<sup>th</sup> September 2002.

DMRT advise that the licence may be extended under the following circumstances consistent with Section 25 of the Mineral Resources Development Act 1995:

"Where a discovery is made in the final years of the tenure of a licence an extension may be granted for sufficient time to allow the discovery to be evaluated. The area of the extended licence will be limited to that necessary to give security of title to the discovery."

Jervois acquired the licence from Goldstream Mining N.L. in August 1999 for a consideration of a 2% gross production royalty.

Jervois wishes to retain two square kilometres around the Stormont Mine (see accompanying plan) and surrender the remaining 10.5 square kilometres. A Partial Surrender Report for the 10.5 square kilometres is being submitted along with this Annual Report.

Stormont EL 20/92 lies immediately west of the old township of Moina, 40 kilometres south of Ulverstone in NW Tasmania.

## **GEOLOGY**

EL 20/92 covers Ordovician Denison Group and Gordon Group sediments intruded by the shallowly buried Devonian Dolcoath Granite. Tertiary basalt and sediments cover more than 50% of the licence, but drilling shows that much of this cover is less than 20m thick. Most of the basalt appears magnetically 'transparent'.

Cambrian dacitic Mt. Read Volcanics outcrop along the southern edge of the EL and are known from drilling and magnetics to underlie the Ordovician sediments in the NW part of the tenement. Volcanic remnants probably underlie the sediments in other places where they may have escaped destruction by the intruding granite.

Within the licence area the Ordovician comprises a restricted basal unit of siliciclastic conglomerate, a thick middle unit of quartzose sandstone (Moina Sandstone) and an upper unit of limestone (Gordon Limestone). Between the Moina Sandstone and Gordon Limestone, the 'Transition Beds' comprise mainly calcareous siltstone with lesser intercalated calcareous sandstone and limestone.

The Dolcoath Granite is a medium to coarse grained alkali-feldspar I-type granite. It does not outcrop on the EL but has been intersected 200m below surface in drillholes at Moina near the tenement's eastern end. The granite outcrops two kilometres further east on EL 37/97. Gravity data indicates this outcrop lies at the eastern end of a shallowly buried E-W trending granite crest that slopes gently west and directly underlies both licences at depths mostly <500m.

The intrusion has extensively altered and mineralised the adjacent Ordovician sediments. Mineralisation comprises gold, bismuth, zinc, fluorine, tin and tungsten, with lesser amounts of lead, silver and molybdenum. Styles range from veins and lodes to massive or disseminated stratiform bodies.

The basal section of the limestone and parts of the 'Transition Beds' have been converted to various unmineralised and mineralised skarn facies. These include chlorite-magnetite-sulphide skarn, pyroxene/amphibole-garnet skarn, and the finely and irregularly banded magnetite-fluorite skarn or "wrigglite", which forms the huge stratiform Moina fluorite deposit and for which the area is particularly noted.

On EL 20/92 skarns are largely preserved in NW-trending synclines, having been eroded in the pre-Tertiary off anticlinal folds and other uplifted areas. Known occurrences of stronger mineralisation within the skarns, at Stormont Mine, Ti Tree Creek and Fletchers Adit, are associated with NW-trending thrust faults.

There is also widespread silica-biotite alteration and mineralisation in the Moina Sandstone. Only minor mineralisation is known within the sandstone on EL 20/92 but

to the east on RL 8810 and EL 37/97 it is significant, including tin-tungsten bearing veins (eg: Shepherd and Murphy Mine at Moina) and auriferous stratiform sulphide bodies (eg: Higgs Deposit at Narrawa Creek). The effects are most common in the upper sections of the sandstone where it was apparently partly calcareous.

## **PREVIOUS EXPLORATION AND MINING**

The Moina district has had a long history of small-scale mining and prospecting commencing in the 1890's and continuing intermittently until the 1980's. However, within EL 20/92 historic operations were minor.

Largest was the Stormont Mine, where a 40m long and 8m deep open-cut with 40m long adit were excavated in a body of mineralised skarn between 1928-34. The mine produced 6.3t of bismuth concentrate containing 63% bismuth and 91 oz of gold.

A similar but more weakly mineralised Au-Bi skarn was prospected at Fletchers Adit on the south bank of the Lea River 1km NE of Stormont Mine. There is no record of production from Fletchers.

Alluvial gold was worked in the Lea River downstream of the Stormont Mine and Fletchers Adit occurrences. Hard rock gold, hosted by thin quartz veins in a fault in Ordovician sandstone with conglomerate bands, was prospected by shafts 15m deep at the Stormont Gold Mine on the northern slopes of Mt. Stormont. Again, there is no record of production.

There is no record or visible sign of historic prospecting in the Ti Tree Creek skarn.



Modern large-scale systematic exploration of the EL 20/92 area was initiated by Mt Lyell Co. in 1965. After an aeromagnetic survey, they cut a grid extending from the Lea River to the Cradle Mountain Road. They followed up with detailed grids over the skarns at Ti Tree Creek and the Stormont Mine - Fletchers Adit area.

Magnetic and bismuth-in-soil anomalies delineated over the Ti Tree Creek skarn were investigated by 700m of costeining and two test lines of pole-dipole IP. IP anomalies and costean rock chip intersections up to 10m @ 0.48% Bi were obtained. Drilling was recommended but not done.

In the Stormont Mine - Fletchers Adit area Mt Lyell undertook soil sampling and gradient array IP. They delineated a large skarn with modest bismuth-in-soil and IP anomalies north of the Lea River opposite Fletchers Adit, but did no drilling. No further work was done at Stormont Mine because their estimate for the mineralised skarn body (250,000 tonnes) was regarded as too small. Mt Lyell withdrew in 1972.

In 1972-73 the Department of Mines drilled two holes into the Ti Tree Creek skarn. DOM2 (101m) intersected 15m of skarn at surface with a best interval of 3.2m @ 0.19% Bi & 'trace' Au. DOM3 (95m) intersected 13m of skarn and calc-silicate under 10m of Tertiary basalt, for a best result of 1m @ 0.11% Sn.

From 1974-79 the licence area was part of a major exploration effort by Comalco, who discovered and drilled out the Moina Deposit (26 million tonnes @ 18%  $\text{CaF}_2$ ).

They searched the surroundings for similar mineralisation, gridding almost the entire area at 50m spacing and carrying out mapping, soil sampling, magnetics, some IP and drilling.

At Ti Tree Creek, Comalco determined the DOM2 skarn contained up to 5.6% F. Chip sampling of outcropping magnetite-pyrite skarn returned values up to 0.65 g/t Au over 4m. They drilled hole SMD31 (41m) to test a magnetic peak, intersecting 7m of magnetite skarn with low values: 0.15 g/t Au & 1% F. They did a gradient array IP survey over Stormont Mine and Fletchers Adit which indicated skarn extensions SW of Stormont, and east and west of Fletchers. However, they did no drilling at either prospect.

On the Tertiary-covered lowlands, 1km north and east of Ti Tree Creek, Comalco drilled three holes within EL 20/92. SMD17 (5406800mN / 421550mE), SMD20 (5406480mN / 421960mE) and SMD23 (5406060mN / 421970mE). Mines Department's 1972 hole DOM1 was sited on the EL / RL boundary at 5406850mN / 422000mE.

SMD17 (74m) and SMD23 (37m) tested magnetic anomalies. Both intersected wriggilite (magnetite-fluorite skarn) averaging 10.7%  $\text{CaF}_2$ : 17m in SMD17 and 21m in SMD23, but no gold. SMD20's target MIP anomaly proved to be clay-filled limestone caverns, but 16m of calc-silicate under the limestone was not assayed.

DOM1, a 325m vertical stratigraphic hole, intersected the thickest limestone section at Moina at 21-179m downhole. The basal 9m of the limestone comprised calc-silicate skarn and minor wriggilite, containing 0.5m @ 8% F, 0.13% Bi and 'trace' Au.

Comalco was followed on the Moina project by two JV partners, Shell and CRA. CRA reassayed most of the Comalco holes for gold, concentrating on those in and around the Moina deposit. They confirmed the higher gold values in the Hugo skarn and showed the eastern part of the Moina Deposit contained irregular spotty values of 0.2-0.4 g/t Au.

In 1981, Shell drilled LGD1 (254m) at 5407500mN / 420650mE within EL 20/92, to test a coincident magnetic / gravity anomaly on the Moina Sandstone ridge west of Lake Gairdner. Below 101m the hole was in magnetite-veined Mt Read Volcanics. It was devoid of mineralisation.

In 1983, Gold Fields Exploration took up the Stormont area after it was dropped by the Comalco JV. GFEL's target was gold and they determined all streams draining north from Mt. Stormont were anomalous in gold. Channel sampling of the old workings at Stormont Mine returned values up to 42m @ 9.56 g/t Au & 0.5% Bi. Sampling of the final face in the adit, showed the old miners stopped in ore grading 36.5 g/t Au and 1.1% Bi!

From 1988 to 1990 GFEL drilled 21 holes at Stormont Mine and 9 near Fletchers Adit. The most significant intersections were in the Stormont skarn: 13m @ 4.1 g/t Au,

0.46% Bi (SD1); 2.1m @ 12.8 g/t Au, 0.35% Bi (SD3) and 5.4m @ 2.5 g/t Au, 0.1% Bi (SD10).

At Fletchers the holes were all north of the Lea River and outlined a large area of weakly auriferous skarn mostly beneath thin Tertiary basalt. Best intersection was 2m @ 1.5 g/t Au in FD7. One hundred metres away, the northern most hole (FD8) had a 35m gold anomalous section with 21m assaying 0.3 g/t Au.

Despite the encouraging drill results GFEL withdrew in 1991.

In the six years Goldstream-Titan had EI 20/92, the exclusive focus of groundwork on the licence was drilling at Stormont Mine. They put down a further 32 short holes, mostly in peripheral areas for generally poor results. Better intersections were all in the main mineralisation zone: 10.5m @ 1.4 g/t Au (SD33); 9.5m @ 2.7 g/t Au (SD36); 19.6m @ 2.9 g/t Au (SD39) and 8m @ 1.8 g/t Au (SD44).

They estimated the deposit contained 100,000 - 150,000t @ 2-4 g/t Au.

The only work done by Goldstream-Titan on the EL outside Stormont was a high-resolution helicopter-borne aeromagnetic survey of the whole 25 square kilometre tenement in 1996.

They also drilled the Hugo Skarn (Zn-Au-Bi) on RL 8810, where they had a JV with 1993-97 with the present owners, RTZ and Anglogold Ltd.

In 1999-2000, Jervois drilled 5 short vertical diamond drillholes (TC01-05) totalling 188m at the Ti Tree Creek skarn testing geological and geophysical targets. Best intersections were 1 metre @ 1.32 g/t Au in TC04 and 1 metre @ 1.2 g/t Au in TC05.

In the same field season at Stormont, Jervois drilled 4 cored holes for 171 metres. In this programme the best intersection was 2m @ 3.5 g/t Au and 0.21% Bi. This result was from the relatively untested 'Western Syncline' and drilling of at least eight 40 metre holes was recommended.

## **WORK COMPLETED**

In April 2002, the helicopter-borne electromagnetic and magnetic survey was completed over EL 20/92 and the adjoining EL 37/97 (Dolcoath) held by Jervois. The survey was flown N-S and the details of the survey are given in the Appendix (HEM Data).

The results of the survey were plotted and interpreted by Hugh Rutter of Flagstaff GeoConsultants Pty. Ltd. in June 2002. His report also appears in the Appendix.

## **RESULTS**

Hugh Rutter's full report with plans is appended. Included below are his 'Interpretation', 'Target Selection' and 'Conclusions':

### **"3. Interpretation**

#### **3.1. Magnetics and digital elevation model**

The digital elevation model is derived from the GPS position of the helicopter and its distance above the ground; the contoured DEM is shown in figure 1.

The total magnetic intensity contours are shown in figure 3. There are three very high amplitude but localised anomalies that do not appear on the earlier magnetic maps. The current survey has a closer line spacing and a mean terrain clearance of 30 metres so it is likely that localised responses have been detected. They occur at:

419500E 5405450N	possibly metallic objects in or near Ti Tree Creek.
421500E 5405650N	possibly metallic objects in or near the Iris River.
421700E 5406500N	possibly metallic objects located on the small hill south of Lake Gairdner.

All have the appearance of being caused by man-made metallic objects and are not considered to be geologically related. There are two negative magnetic anomalies at 420350E 5406600N and 420700E 5406100N which are also likely to be due to metallic material. However, it is recommended that each of these locations is checked in the field to verify the assumptions made above. This is important because the magnetic anomaly with the highest amplitude other than those listed above is coincident with the skarn associated with the Shepherd and Murphy Mine (423350E 5406450N). Unfortunately not all of the skarns shown on the 1: 25,000 scale geological map have a magnetic signature. Other than Shepherd and Murphy, possible Moina and Stormont Bismuth Mine, the mapped skarns have very little magnetic signature.

The magnetic contour map has been used to define geological boundaries and identify potential faults. In almost all instances the magnetic anomalies have no recognizable geological cause at the surface and appear to be related to underlying extrusive rocks. The Dolcoath Granite is a non magnetic rock.

The interpretation of the magnetic data is shown in figure 9.

### **3.2. Resistivity from coplanar coil configuration, 34000 Hz**

The general rule in electromagnetics is that the higher the frequency, the lower the effective penetration but increased definition; it follows that the lower the frequency, the greater the effective penetration but with less definition. This is the reason that multiple frequency surveys are preferred over a single frequency survey. Coplanar coils are better orientated to respond to steeply dipping variations in conductivity, while the coaxial coils are orientated to respond to horizontal variations. The Hummingbird EM system is designed to cover these various options. Finally, the in-phase and quadrature components of the secondary electromagnetic field are used to derive the conductivity and resistivity variations in the ground for each frequency and coil pair. Conductivity and resistivity are reciprocals of each other, therefore only the resistivity has been compiled and contoured in this report.

The resistivity derived from the coplanar 34000Hz coils is shown in figure 4. Values of less than 1000 $\Omega$ m tend to outline the distribution of the Tertiary basalt flows. The outcrop of Moina Sandstone (Odm) has a resistivity range of 1000 - 3500 $\Omega$ m and is also defined. The course of the River Lea and Iris River can also be seen in the data. The very low values of 1 - 10 $\Omega$ m in the central east are suspected to be caused by

interference from the power station and electricity transmission lines. The skarns do not have a distinctive response in this data set.

The geological information derived from the coplanar 34000Hz results have been incorporated in the interpretation plan (figure 9).

### **3.3. Resistivity from coplanar coil configuration, 6000 Hz**

The resistivity derived from the coplanar 6000Hz coils is shown in figure 5. There is a reduced influence from the purely surface geology with an increasing response from deeper geology. The skarn at the Shepherd and Murphy Mine is beginning to be identifiable as a resistivity high. The NW-SE faults can also be seen in this area. At Ti Tree Creek much of the skarn is related to higher resistivity values but part may be influenced by creek sediments or the valley itself. The skarns around Fletchers Adit are also related to elevated resistivity and, in this case NE-SW faulting. East of 424000E and south of 540700N where most of the old mines are located, the resistivities are generally higher than elsewhere. North of Narrawa Reward as far as Cethana Road there is another area of higher resistivities with no mineralisation recorded. This could be an area for further exploration.

### **3.4. Resistivity from coaxial coil configuration, 7000 Hz**

The resistivity derived from the coaxial 7000 Hz coils is shown in figure 7. There is the least correlation with geology or mineralisation from this coil configuration and frequency. The most active part of the map is in a zone extending south-west from the power station which looks suspiciously like the effect from a high voltage electricity transmission line. In general the low resistivity areas correlate with the Tertiary basalt



and the higher values correlate with the Moina Sandstone and the Dolcoath Granite. The skarn at Shepherd and Murphy has a marginally higher resistivity response but it is not particularly distinctive. Nor do the other skarns or old mine sites have a distinctive response.

### **3.5. Resistivity from coplanar coil configuration, 880 Hz**

The resistivity derived from the coplanar 880 Hz coils is shown in figure 6. The high resistivity anomalies along the line 424500E, 5405500N to 426250E, 5407250N are coincident with the high voltage power line and appear to be an artifact produced by electromagnetic interference with this transmission line.

The skarn at Moina (423250E, 5406500N) has a distinct resistivity high which is 500 $\Omega$ m above background. At the Stormont Bismuth Mine and at Ti Tree Creek the skarns also show a resistivity high of between 400 - 500 $\Omega$ m. These three features are labelled T1, T2 and T3 on the interpretation plan (figure 9). Five similar features not correlated to mineralisation shown on the 1: 25,000 scale plan are located as follows:

Target	Coordinates	Strike	Length	Width
T4:	420700E 5407400N	N135°E	500 metres	180 metres
T5:	419950E 5407400N	N060°E	150 metres	100 metres
T6:	422200E 5406750N	N000°E	250 metres	150 metres
T7:	420400E 5405250N	N100°E	150 metres	100 metres
T8:	420900E 5405300N	N030°E	300 metres	100 metres

The skarn at Ti Tree Creek has a complex resistivity response with a strong resistivity low on the southern side, falling to 50 $\Omega$ m from a background of 300 $\Omega$ m. There is also a low resistivity zone south of the Moina Skarn. There is no outcrop of skarn here but this may be a response from conductive rocks associated with the skarn beneath the basalt.

Higher conductivity responses are relatively uncommon within the survey area, but there is a broad zone extending from 422000E 540600N to 42400E 540800N, striking N45 $^{\circ}$ E, which contains four distinct areas of increased conductivity. They are recommended for further exploration on the grounds that they could represent sulphide mineralisation with additional economic mineral associations. However it is also possible that the higher conductivity is the product of basalt alteration to clays.

In the south eastern part of the survey, east of 423500E and south of 5407000N, there are a number of resistivity anomalies with limited dimensions, frequently circular with a diameter of less than 100 metres. While they do not relate to the power line, neither do they have any spatial relationship to the numerous old mines in the area. The cause of these small features is not known, but at this stage they are not recommended for further work.

### **3.6. Resistivity from coaxial coil configuration, 980 Hz**

The resistivity derived from the coaxial coils is shown in figure 8. The influence of the power line is quite apparent at this frequency and coil orientation. There is also a strong correlation between low resistivity and river channels and high resistivity with

higher ground elevations. The high resistivity skarns outlined with the 880Hz response can be seen here, but with less clarity.

The zone of higher conductivity (422000E 540600N to 42400E 540800N) is clearly defined, suggesting that it is more likely to be the result of clay alteration derived from basalt.

#### **4. Target selection**

The targets selected for further exploration have been identified by correlation with the electromagnetic signature of known mineralisation, predominantly skarn related. In the following table, three areas of known mineralisation are included because the geophysical signature extends beyond the area of the mine shown on the geological map. However, further research may show that these areas have been evaluated either by surface drilling or underground development.

Target	Coordinates	Strike	Dimensions	Comments	Priority
T1	423300E 5406500N	N140 <sup>0</sup> E	300 x 500 m	Moina Mine	Two
T2	418800E 5405800N	N045 <sup>0</sup> E	300 x 75 m	Stormont Bismuth Mine	Two
T3	420900E 5406350N	N000 <sup>0</sup> E	250 x 150 m	Ti Tree Creek Mine	Two
T4	420700E 5407400N	N135 <sup>0</sup> E	500 x 180 m	High resistivity	One
T5	419950E 5407400N	N060 <sup>0</sup> E	150 x 100 m	High resistivity	One
T6	422200E 5406750N	N000 <sup>0</sup> E	250 x 150 m	High resistivity	One
T7	420400E 5405250N	N100 <sup>0</sup> E	150 x 100 m	High resistivity	One
T8	420900E 5405300N	N030 <sup>0</sup> E	300 x 100 m	High resistivity	One
Tc9	422200E 5406400N	*****	500 x 500 m	Broad conductivity high	Three
Tc10	422800E 5406700N	*****	400 x 400 m	Broad conductivity high	Three
Tc11	423250E 5407400N	*****	450 x 600 m	Broad conductivity high	Three
Tc12	424000E 5408000N	*****	500 x 700 m	Broad conductivity high	Three
Tc13	423650E 5407150N	N140 <sup>0</sup> E	400 x 150 m	Lenticular conductivity high	Two
Tc14	423250E 5406100N	N010 <sup>0</sup> E	200 x 200 m	High conductivity south of Moina Mine	One
Tc15	420850E 5406200N	N135 <sup>0</sup> E	300 x 200 m	High conductivity south of Ti Tree Creek Mine	One

## 5. Conclusion

The EM survey has provided information which indicates changes to the outcrop geological map, particularly with respect to the distribution of the basalt. More importantly, a distinctive resistivity response can be recognized at Moina (Shepherd and Murphy), Ti Tree Creek and Stormont Bismuth Mine, three major skarns. All are characterised by an increase in resistivity relative to the surrounding host rocks. Moina and Ti Tree Creek also show a conductivity high south of the outcrop which could indicate a sulphide rich component of the skarn. These three signatures have been

used to identify other prospective targets, primarily those with a high resistivity response but also noting the local, defined conductive increases. T4 to T8 have been given a priority one rating as having the greatest similarity to areas of known mineralisation. Tc14 and Tc15 have also been given a priority one. Both are conductive zones with a close relationship with the mapped skarn. The broad zones of higher conductivity have been listed, but only with a priority three rating as they are considered to be more likely due to altered basalt.

Ground inspection is the next logical step in the exploration process but there may be very little outcrop at the target sites. The airborne EM survey is well located and it is possible that drill sites could be placed using this data. However it would be preferable to establish the geophysical signature on the ground using a ground based EM system prior to drilling.'

## **DISCUSSION**

The airborne EM/magnetic survey has found no large 'new' targets comparable to the already defined mineralised skarns such as at Moina, Stormont and Ti Tree Creek. The strongest anomaly, at Ti Tree Creek, had been drilled by Jervois in 2000 revealing semi-massive sulphides but little economic mineralisation.

Over the 10 years life of the exploration licence (6 years Goldstream, 4 years Jervois), there has been regional airborne exploration and detailed ground exploration at Stormont and Ti Tree Creek. Most of the work has been at Stormont where Goldstream drilled 32 diamond drill holes for 1451 metres and Jervois added a further four holes for 171 metres (In 1988, Gold Fields Exploration had already drilled 21

holes at Stormont). As a consequence of this work, a resource of 135,000 tonnes @ 3.44 g/t Au and 0.21% Bi has been established associated with a partly oxidized pyroxene-garnet-magnetite skarn.

The resource occurs over a strike length of 90 metres within a 350 metre long mineralised syncline adjacent to the Stormont Fault and characterized by a high magnetic trend. Some 200 metres to the south west lies a similar and stronger magnetic high also associated with a syncline (Western Syncline). This area has been lightly drilled with the axis of the magnetic anomaly still to be tested (see Stormont Mine Plan). At the south-eastern end (of the anomaly axis) a recent Jervois' hole intersected 2 metres @ 3.5 g/t Au and 0.2% Bi.

Further drilling is required to test this mineralisation to establish whether it contains a gold resource that can be added to the Stormont figures. Some of the early drilling at Stormont had poor recoveries and check drilling in some of these zones to discover if they are mineralised is also a priority.

Drilling of the Western Syncline had been recommended in the report to June 2000 (J.G. Purvis). This was the first priority recommendation and would have been acted on had not two summer field seasons been lost due to the delays with the airborne geophysical survey.

## **RECOMMENDATION**

It is recommended that Jervois apply for an extension of the exploration licence for the area that covers the Stormont Mine. This area contains a resource of gold and

bismuth that has been drill evaluated by 36 diamond drill holes during the currency of the licence. There is space to increase the present resource (especially in the Western Syncline).

The area to be retained is two square kilometres bounded by the AMG co-ordinates

of 418000mE and 420000mE

and 5405000mN and 5406000mE

as shown on the Tenement Plan. If AGD co-ordinates have to be used, then four square kilometres will be needed and the two kilometre blocks north of this application will have to be included (419000E 5406000N AGD  $\equiv$  418889mE 5405817mN AMG would put this corner point in the middle of the calculated resource - see Stormont Mine Plan - necessitating four kilometre blocks radiating from this central point).

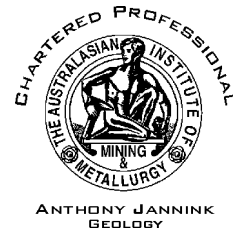
Whilst there is still some potential for mineralisation elsewhere in the present exploration licence, the airborne EM survey has not presented any obvious large targets to drill. The results of drilling in 2000 at Ti Tree Creek failed to produce sufficient encouragement to do further work there. It is recommended that the remainder of the exploration licence be surrendered.

The Priority 1 recommendation of the June 2000 report still stands:

"Drilling is recommended in the Western Syncline at Stormont Mine to test for extensions NW and SE of the gold zone in holes ST04 - SD50.

At least eight 40m holes are required. Six holes to be sited along the trend of the aeromagnetic anomaly west of existing drilling in the northern part of the syncline, and two holes to be sited SE of ST04."

As mentioned above, check drilling of old poor recovery holes is also recommended.



Douglas McKenna & Partners Pty. Ltd.

9<sup>th</sup> August 2002