



**FINAL REPORT
29 JANUARY 1988 – 28 JANUARY 2007**

**MINERAL CLAIM'S C526, C527 & C528
MALBEC**

**LICENSEE:
SANTEXCO PTY LTD
A.C.N. 002 910 296**

**AUTHOR:
A.WALTERS**

JULY 2007

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008 PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



1. INTRODUCTION

This report records the exploration work carried out on Mineral Claim's C526, C527 & C528 Malbec, during its 19 year term from the 29th January 1988 to the 28th January 2007.

Mineral Claim's C526, C527 & C528 is located approximately 10km west of the Tennant Creek Township. MC's C526, C527 & C528 covers the Malbec mine.

2. LOCATION

Mineral Claim's C526, C527 & C528 is located approximately 10km west of the Tennant Creek Township. The most direct route to tenure is via the Chariot Mine Haul Road west of the Tennant Creek Township and the tenure is located approximately 1km west of the Chariot mine. The Claim is located on the Tennant Creek 1:100,000 scale map sheet (5758).

The climate of the Tennant Creek district is mild and dry through most of the autumn to spring months. The summer period is hot with seasonal heavy rainfall between January and March making access within the Claim very difficult during these periods.

Figure 1 shows the Mineral Claims in relation to the Tennant Creek Township during the final year of tenure.

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008 PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



3. TENURE

A tenure summary for the Claims follows:

TITLE	NAME	AREA (ha)	GRANTED	2 ND TERM	3 RD TERM	4 th TERM	5 th TERM
MC C526	Malbec	15	29/01/88	29/01/93	29/01/98	29/01/01	29/01/04
MC C527	Malbec	15	29/01/88	29/01/93	29/01/98	29/01/01	29/01/04
MC C528	Malbec	16	29/01/88	29/01/93	29/01/98	29/01/01	29/01/04

Mineral Claims C526-C528 were granted to Peko Wallsend Limited (Peko) on the 29th January 1988. The Claims were formally known as Explorer 107.

On 22nd March 1991 Peko entered into a Central Joint Venture Agreement with North Flinders Mines Limited (NFM) with NFM acting as manager. Mineral Claims C526-C528 were included in the Joint Venture tenement package.

In 1991 the Tennant Creek assets of Peko were purchased by Poseidon Gold Limited (Poseidon) and the Mineral Claims C526-C528 were registered under the name of Poseidon Gold Limited. In 1996 the assets of Poseidon were then purchased by Normandy Tennant Creek Pty Ltd (NTC), including MC C526-C528.

In June 2001, Giants Reef Mining Limited (Giants Reef) purchased NTC and all its assets, including MC C526-C528. After the purchase, NTC was re-named Santexco Pty Ltd (Santexco), and is now a wholly-owned subsidiary of Emmerson Resources Pty Ltd after Emmerson's purchase of all Giants Reef including its assets.

The Mineral Claims partially fall on Inalienable Aboriginal Freehold land held by the Warrumungu Land Trust, and partially fall on NT Portion 494, Perpetual Pastoral Lease 1142, Tennant Creek Station.

An agreement referred to as the Pre Existing Tenements Agreement was signed by the Central Land Council, Traditional Landowners and NTC on the 9th December 1998. This agreement established land access for mineral exploration and mining upon Warrumungu Land Trust areas, including MC C526-C528.

address Level 1, 65 Hay Street, Subiaco Western Australia 6008

PO Box 1573, West Perth Western Australia 6872

telephone +61 8 9489 7082

facsimile +61 8 9489 7070

email admin@emmersonresources.com.au



Until January 2003, MC C526-C528 was considered as part of the Central Joint Venture 1 (CJV1), which covered the Chariot gold deposit and a number of other tenements to the west of Tennant Creek. The Joint Venture was between Giants Reef, (managers, holding 57% equity), Sons of Gwalia (replacing PacMin; 33%) and Newmont NFM (formerly Normandy NFM; 10%). Giants Reef purchased Sons of Gwalia and Newmont NFM's (43%) Joint Venture assets in January 2003, and became the sole owner of the CJV1 project, including MC C526-C528.

4. GEOLOGY

4.1 Regional Geology

Papers contained in AusIMM Monograph 14 (Geology of the Mineral Deposits of Australia and Papua New Guinea, Volume 1, pp. 829-861) give a good introduction to the regional geology and styles of gold-copper mineralisation of the area.

More recently, the regional geology of the Tennant Creek Inlier has been described in the 1:250,000 Tennant Creek geological map and its explanatory notes, published by the Northern Territory Geological Survey in 1999.

4.2 Local Geology

The tenure area is underlain by a thick sedimentary sequence of silt and sandstones of the Proterozoic Warramunga Formation. The Warramunga Formation is host to all the magnetite-haematite (ironstone-hosted) gold-copper-bismuth ore bodies in the Tennant Creek goldfield. The area is blanketed by a layer of colluvium and aeolian sand up to seven metres thick.

A well defined structural corridor transects the tenure area. This structural corridor is best defined as an east-west trending shear zone, and will be the focus for exploration in the future years. Historical surface gold and copper anomalism has been recorded within this shear zone.

The Chariot gold deposit which is located approximately 1km east from the centre of the tenure is hosted by a buried haematite > magnetite dominated

address Level 1, 65 Hay Street, Subiaco Western Australia 6008

PO Box 1573, West Perth Western Australia 6872

telephone +61 8 9489 7082

facsimile +61 8 9489 7070

email admin@emmersonresources.com.au



ironstone. Limited outcrop and subcrop in the Licence suggests the presence of haematitic shale, siltstone, sandstone, ironstone and porphyry bodies.

The Malbec gold deposit (20,585 oz Au) which is located within the tenure is hosted by a buried haematite-quartz-magnetite ironstone. Mineralisation is confined to the sheared footwall contact of larger competent ironstone. Mineralisation is contained both within sheared chloritic footwall sediments and ironstone. Mining of the Malbec West mineralisation was completed in December 2004.

5. WORK DONE DURING THE TERM

The prospect was originally defined as a discrete magnetic anomaly from a BMR aeromagnetic survey completed in 1967. The anomaly was named by the BMR as C11. The BMR conducted a Wagon Percussion program of 30 holes for 1262m in 1972 over the C11 anomaly. Ironstone was identified in 3 holes under shallow cover. The deepest hole in this program was 58m. Peak assay values of 2ppm Au, 2750ppm Cu and 820ppm Bi in the ironstone alteration system were interpreted as indicating only weak Au-Cu mineralisation (Clifford, 1997).

Peko explored the prospect between 1973 and 1988, and re-named C11 to Explorer 107. During this period Peko gridded the Explorer 107 area and conducted a ground magnetic survey with subsequent magnetic data modelling. The ground magnetics defined an irregular anomaly with two peaks, the largest (eastern area) of which is 850 gammas above background (Mottram, 1999).

Drill testing by Peko was limited to 2 percussion drill holes for 264m (PDH1, PDH2) and one diamond drill hole for 220m (DDH1). Magnetite-quartz ironstone was intersected in all holes and peak values intersected were 0.899ppm Au, 0.36% Cu and 0.12% Bi, over an assayed metre interval (Clifford, 1997). It was concluded by Peko that this drilling did not identify any zones of economic mineralisation, however the lode appeared open to the east, west and at depth (Mottram, 1999).

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008 PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



Following the granting of MC C526-C528 in 1998, Peko refined the model of the ironstone source and tested east and west plunge interpretations for an ironstone centred at 100m depth. Relatively shallow percussion drilling did not effectively test this model. Four percussion drill holes for 240m (DH4-DH7) intersected the upper levels of the ironstone. Magnetite-quartz ironstone was intersected in all holes and peak values intersected were 5.0ppm Au, 0.174% Cu and 0.104% Bi, over the assayed metre interval (Clifford, 1997).

On ground exploration over the Claims was renewed by NTC in 1997, under the Central Joint Venture. NTC conducted Mobile Metal Ion (proprietary Wamtech Pty Ltd, WA) soil sampling technique over MC C526. The Au and Ag response at this prospect was subdued, showing a northeast trend line in the southern zone of the sampling (Mottram, 1999).

Further exploration by NTC was conducted in 2000, involving one HQ3 diamond drill hole (MADD002) for 240.7m and seven RC drill holes for 842m. All the drill holes intersected ironstone at various depths. The most significant result returned was 6m @ 6.82 g/t Au (MARC003) in haematite-magnetite ironstone.

At the completion of the drilling by NTC all holes were surveyed, magnetically probed and the Claim area was rehabilitated.

In June 2001, Giants Reef Mining Limited purchased NTC and all its assets, including MC C526-C528. After the purchase, NTC was re-named Santexco Pty Ltd, and is now a wholly-owned subsidiary of Giants Reef Mining Limited.

Very little work was undertaken during the period Giants Reef managed the Claims under the Central Joint Venture. Exploration conducted included reconnaissance, desk top assessment and data compilation.

Historical data compilation consisted in the transfer and validation of digital data from Datamine to Micromine. Historical RC and diamond drilling geology, collar, assay and survey data is presented as Appendix 1 as Micromine files.

In July 2002, a detailed literature assessment of the Mineral Claims and surrounding tenure was conducted by Giants Reef, including an assessment of the results from previous exploration conducted by NTC and Peko over the

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008 PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



Malbec area. This assessment highlighted the fact that previous exploration over the area had focussed on the targeting of deep magnetic responses and had not investigated the shallow, non-magnetic up-dip potential. Giants Reef noted that no gravity data existed over the Mineral Claims and recommended that a detailed gravity survey be conducted over the area to assist in drill hole positioning to target shallow haematite dominant ironstone.

An internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities completed in September 2002 assessed the future exploration potential of MC C526-C528. The review was based on the potential to discover high-grade gold mineralisation in both magnetic and haematite-dominant ironstone environments.

The location of the Chariot gold mine east of MC C526-C528 made this prospect a highly prospective target area due to its structural significance and near mine position. Additionally the increased understanding of the local geology as a consequence of the developing Chariot mine combined with the Claims location to existing mine infrastructure ranked this prospect area as a first class project.

At the time of the review Normandy had drilled 1 diamond hole and 7 RC holes (2000). In the 15 holes drilled previously by Normandy and Peko, several encouraging but mainly deep intersections were made. The large magnetic anomaly within the Malbec Claims was viewed by Giants Reef as having great potential to host a large, shallow gold deposit and the potential for a deposit the size of Chariot was considered very high.

The prospect area was prioritised for immediate gravity based exploration to highlight the non-magnetic portion of the deeper magnetic ironstone.

Overall, the Malbec prospect was ranked by Giants Reef as a high priority exploration target with the potential for the discovery of medium to large Au (+/- Cu) resources. The possibility of the discovery of shallow gold-alone resources within the area was considered very favourable.

Until January 2003, MC C526-C528 was part of the Central Joint Venture 1 (CJV1), which covered the Chariot gold deposit and a number of other tenements

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008 PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



to the west of Tennant Creek. The Joint Venture was between Giants Reef, (managers, holding 57% equity), Sons of Gwalia (replacing PacMin; 33%) and Newmont NFM (formerly Normandy NFM; 10%). Giants Reef purchased Sons of Gwalia and Newmont NFM's (43%) Joint Venture assets, and became the sole owner of the CJV1 project, including MC C526-C528.

Under the terms of the Pre-Existing Tenement Agreement with the Native Title holders of the Tennant Creek region, it is necessary to obtain clearances from the Native Title holders before field parties can enter onto the Aboriginal Freehold Land. An application was submitted to the CLC which outlined a gravity survey Giants Reef proposed to undertake over the Malbec Claims (and adjoining tenements) and permits to enter were received by Giants Reef at the end of January 2003.

Daishsat Pty Ltd of Murray Bridge, South Australia were contracted to undertake a gravity orientation survey and broader regional gravity survey over the Chariot orebody and surrounding tenure, including MC C526-528.

One Scintrex CG-3 gravity meter was used for the gravity data acquisition. Each loop started and ended at the Tennant Creek airport gravity base station (Gravity base 0034). For horizontal and vertical GPS control, two Leica System 500 dual frequency GPS receivers were used. The gravity base (GPS base 099) was set up at the Chariot mine opposite a fence and gate, which was marked with a short star picket.

Gravity observations were made on the regular grids set out by real-time GPS. Two observations were made for each station and each observation consisted of a 20-second or greater stacking time. Two observations were made at each station so that any seismic or instrumental noise could be immediately detected. The accepted tolerance between readings was 0.02 milligals to ensure accuracy. At the survey station the Scintrex CG3 automatically recorded the station, time and readings, which were made digitally to allow for downloading into a computer.

Raw data was processed daily to check for quality and integrity. This interim process produced a set of Bouguer Gravity values, which were contoured and imaged to provide a check for any anomalous reading that would require

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008
	PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



repeating. Geosoft GRAVRED software was used for the gravity reduction in the field. At the conclusion of the job, the data was reprocessed using the standard AGSO formulae.

Giants Reef's consultant geophysicist Mr Frank Lindeman was on hand in Tennant Creek to supervise the survey on a day-by-day basis.

Daishsat Geodetic Surveyors commenced the close spaced ground based gravity orientation survey on the 30th January 2003 over the known Chariot mineralisation in Mineral Leases C176 and C177 and ML 23216. Results from the orientation survey provided information enabling optimum line and station spacing decisions to be made for the rest of the regional survey, including MC C526-C528.

The regional gravity survey working east and west of the known mineralisation at Chariot commenced immediately after the completion of the gravity orientation survey. The regional survey completely covered the Malbec Mineral Claims.

The regional survey was designed to provide:

- (a) information which could map iron-rich lithologies and assist in more focused planning of major drilling campaigns, and
- (b) target definition and refinement.

Away from the Chariot pit area and based on the gravity orientation survey results, the regional gravity survey used 80m line with 20m station intervals. The regional gravity survey, in total, collected 1,400 stations over 43 north-south traverses. 280 survey stations were collected within MC C526-C528.

In areas where magnetic ironstones have been defined and also within completely non-magnetic regions, the gravity data predicted the existence of several, (mainly shallow) haematite-rich ironstones which could be host to gold mineralisation. Remembering that the recorded density contrasts between the haematite-rich ironstone and country rock at the Chariot Deposit range between 1.0 and 2.0 gm/cc, several new bodies with similar density contrasts were defined at relatively shallow depths within the survey area.

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008
	PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



Giants Reef's consultant geophysicist Mr Frank Lindeman, of Lindeman Geophysics, Melbourne, was contracted to process, analyse and geophysically model the gravity survey data.

Mr Lindeman used a combination of Bouguer gravity, first vertical derivative of the Bouguer gravity and previously collected magnetic information to highlight specific response areas within the survey area.

Gravity modelling of the Malbec ironstone suggests that there is a great deal of dense non-magnetic material (haematite-magnetite ironstone) that has not been previously identified (or drilled) using magnetic methods above the modelled (magnetic) ironstone body.

Mr Lindeman reported that;

"At first examination, the magnetics and the new gravity data appear to be in agreement at Malbec, as the responses from both techniques are roughly coincident. However, given the wide and deep magnetic ironstone intersections made previously, the gravity data does suggest a shallow component to this response (ie strong 1VD), indicating the potential for hematite-rich ironstone mineralisation lying within the 200m above these intersections."

This target is well defined by a linear gravity response running east-west from the main Malbec ironstone to the Chariot deposit. This area is essentially the eastern extension of the Malbec Ironstone which has no magnetic support. Three geophysical bodies were modelled to be tested. Mr Lindeman noted that this gravity response, although strong was unlikely to represent massive ironstone, however as no drilling was present and mineralisation exists west (Malbec) and east (Chariot) of the target area, the Malbec East gravity anomaly required drill testing.

Giants Reef submitted a Mining Management Plan, detailing all aspects of Giants Reef's plans to drill test the gravity anomalies identified within the West TC8 Project Area, including MC C526-C528. The plan was subsequently approved by the Department of Business, Industry & Resource Development (DBIRD) under Authorisation 0148-01.

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008 PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



Pursuant to condition 4 of the Authorisation, a security of \$6,000 was lodged with DBIRD. This security covered all the tenements included within the West TC8 Project Area, of which includes MC C526-C528. Release of the \$6,000 security is conditional upon Giants Reef's compliance with the activities and commitments contained in the accepted plan (Authorisation 0148-01).

Under the terms of Giants Reef's Pre Existing Tenements Agreement with the Native Title holders of the Tennant Creek region, it was necessary to obtain clearances from the Native Title holders before the field party for the planned RC drilling could enter the Claims area. A work program was submitted to the CLC which outlined the work Giants Reef proposed to undertake over MC C526-C528 in May 2003.

A site clearance for the proposed drill holes within the West TC8 Project Area, including MC C526-C528 was conducted. This involved a day trip by 4x4 vehicles to examine the proposed drill sites and tracks. A CLC representative and a number of Traditional Owners were directed to the sites by Giants Reef's Senior Geologist for inspection.

The CLC under instruction from the Traditional Aboriginal Owners of the land approved the proposed drilling activities in June 2003. One proviso was that all mature trees of any species must be protected, and stands or groups of trees must be protected.

A pre-existing, east-west baseline that runs west of the Chariot mine area was upgraded and re-established to allow access into the Malbec Claims. A steel gate was also erected in the north-south fence that separates Tennant Creek Pastoral Land and Aboriginal Freehold Land. Permission to construct this fence was provided by Traditional Owners and Tennant Creek Station management.

Grid lines were lightly cleared to allow access to the various Malbec drill sites. A small loader was used in the line clearing and preparation of the drill pads.

Thirteen drill sites were chosen for RC drilling at the Malbec prospect (Stage 1). An additional four holes were drilled at Malbec to follow up anomalous gold, resulting in 17 RC holes for an advance of 1,820m within the Malbec Claims.

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008 PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



The drill contractor was Gomex Drilling, Dry Creek, South Australia using a RCD 150 drill rig.

Samples collected during the drilling were riffle split in metre intervals. 3-metre speared, composite samples were collected and sent to North Australian Laboratories (NAL) Pine Creek for analysis. Samples were assayed for Au, Fe, Cu and Bi using FA50 and mixed-acid digest respectively. A low-grade standard was added at the end of each drill hole for analysis, to monitor quality control of laboratory results.

Further 1-metre riffle split samples were collected for anomalous intervals (>0.1 ppm Au), and were sent to NAL Pine Creek for the same method of analysis.

Although most of the drill holes were targeting residual gravity anomalies, several had coincident magnetic anomalies. Consultant Geophysicist Frank Lindeman of Lindeman Geophysics Pty Ltd, Melbourne has recommended measuring the magnetic susceptibility of all drill chips, which was undertaken at the end of each drill hole, and noted on all drill chip logs using a Kappameter KT-5 magnetic susceptibility meter.

Geological logging was completed on site, using a Hewlett Packard 200LX palmtop computer and downloaded in the evenings. Downloaded geology and magnetic susceptibility data was then validated and printed out as separate log sheets and then loaded into a Micromine database, along with collar, survey and assay data (Appendix 1).

Stage 1 drilling statistics for Malbec are as follows:

Hole No	Easting (GDA)	Northing (GDA)	Dip (deg)	Azi (deg)	Depth (m)	Date Drilled	Tenure
MARC 009	404138.62	7826650.24	-60	178	118	19-Aug-03	MC C528
MARC 010	404175.62	7826610.72	-60	178	150	19-Aug-03	MC C528
MARC 011	404176.88	7826665.85	-60	178	124	19-Aug-03	MC C528

address Level 1, 65 Hay Street, Subiaco Western Australia 6008

PO Box 1573, West Perth Western Australia 6872

telephone +61 8 9489 7082

facsimile +61 8 9489 7070

email admin@emmersonresources.com.au



MARC 012	404215.97	7826610.54	-60	178	62	20-Aug-03	MC C528
MARC 013	404259.92	7826534.80	-60	178	100	20-Aug-03	MC C527
MARC 014	404259.88	7826584.92	-60	178	150	21-Aug-03	MC C528
MARC 015	404296.05	7826526.81	-60	178	112	22-Aug-03	MC C527
MARC 016	404349.86	7826559.42	-60	178	100	23-Aug-03	MC C527
MARC 017	404429.85	7826559.50	-60	178	88	24-Aug-03	MC C527
MARC 023	404156.45	7826612.08	-60	178	81	4-Sep-03	MC C528
MARC 024	404175.28	7826590.59	-60	178	64	4-Sep-03	MC C528
MARC 025	404196.19	7826612.25	-60	178	69	5-Sep-03	MC C528
TOTAL 1,218							

Twelve RC holes were drilled into the Malbec target (MARC 009 – 017, MARC 023-025)) for a total of 1,218m. The holes targeted two coincident magnetic and gravity anomalies. Drilling of both anomalies confirmed the presence of shallow ironstone containing variable ratios of haematite to magnetite. A great deal of the shallow ironstone intersected at Malbec is dominated by haematite ironstone which had previously been untested.

Significant drilling results from Malbec are tabulated below:

Hole No	Easting (GDA)	Northing (GDA)	Dip (deg)	Azi (deg)	Significant intercepts		Interval (m)	Grade g/t Au
					from	to		
MARC 009	404138.62	7826650.24	-60	178	71	72	1	1.05

address Level 1, 65 Hay Street, Subiaco Western Australia 6008

PO Box 1573, West Perth Western Australia 6872

telephone +61 8 9489 7082

facsimile +61 8 9489 7070

email admin@emmersonresources.com.au



MARC 010	404175.62	7826610.72	-60	178	23	24	1	1.19
					38	41	3	1.88
					47	58	11	3.84
				Incl.	52	53	1	9.77
				Incl.	54	55	1	14.36
MARC 011	404176.88	7826665.85	-60	178	105	110	5	3.48
MARC 017	404429.85	7826559.50	-60	178	17	18	1	2.25
					49	50	1	10.95
MARC 023	404156.45	7826612.08	-60	178	22	23	1	3.31
MARC 024	404175.28	7826590.59	-60	178	10	14	4	13.72
				Incl.	12	13	1	51.45
					18	23	5	18.48
				Incl.	19	20	1	35.65
MARC 025	404196.19	7826612.25	-60	178	47	52	5	0.79

Drilling results at Malbec identified near surface gold mineralisation associated with haematite-magnetite-ironstone and associated alteration assemblage. This area was subsequently renamed Malbec West (Figure 10). Mineralisation at Malbec West remained open to the east and west and a significant strike extension remained to be drill tested with the objective of identifying a shallow open pit resource for rapid development.

Drilling statistics for Malbec East are as follows:

address Level 1, 65 Hay Street, Subiaco Western Australia 6008
 PO Box 1573, West Perth Western Australia 6872

telephone +61 8 9489 7082

facsimile +61 8 9489 7070

email admin@emmersonresources.com.au



Hole No	Easting (GDA)	Northing (GDA)	Dip (deg)	Azi (deg)	Depth (m)	Date Drilled	Tenure
MARC 018	404589.99	7826609.94	-60	178	154	24-Aug-03	MC C526
MARC 019	404585.44	7826667.07	-60	178	82	24/Aug/03	MC C526
MARC 020	404592.14	7826570.50	-60	178	106	25-Aug-03	MC C526
MARC 021	404669.69	7826639.31	-60	178	130	25-Aug-03	MC C526
MARC 022	404799.79	7826593.67	-60	178	130	26-Aug-03	MC C526
					TOTAL 602		

Five RC holes were drilled into the Malbec East target (MARC 018 - 022) for an advance of 602m. Malbec East (Figure 3) was seen as a potential non-magnetic extension to the larger Malbec ironstone. No significant geochemical results were returned from this drilling. MARC 018 intersected two zones of chlorite alteration and ironstone development (89-99m and 113-137m) however ironstone was not intersected in any of the other holes.

At the completion of the drill program consultant geophysicist Mr Frank Lindeman spent two weeks on site, compiling geophysical data and assessing the effectiveness of gravity as an exploration tool. Additional geophysical modelling was undertaken over remaining prospects within the West TC8 Project Area. Successful results from the drilling were correlated and used in redefining density parameters for further geophysical modelling.

Mr Lindeman remodelled the Malbec gravity and magnetic responses.

Mr Lindeman reported:

“The recent gravity survey also shows a two-peak response although the sources of these are not the same as defined by the magnetics. As a demonstration of how the magnetic bodies alone DO NOT replicate the gravity response, the magnetic bodies, as interpreted by Normandy personnel, have been modelled

address Level 1, 65 Hay Street, Subiaco Western Australia 6008
 PO Box 1573, West Perth Western Australia 6872

telephone +61 8 9489 7082

facsimile +61 8 9489 7070

email admin@emmersonresources.com.au



using an assigned high density contrast of 1.0 g/cc. Figure 5 shows how these bodies are located in plan, relative to the Bouguer gravity response. Figure 6 shows the gravity profiles, observed (black) and calculated (red), for this traverse. Note that the black bodies are located at Malbec East, not on this section, but close enough to have some effect on the gravity response. Clearly these magnetic bodies do not explain the gravity response. Even using density contrast of many times those used, this situation remains.”

Lindeman recommended that additional infill gravity lines be surveyed over the Malbec West Prospect in MC C527-C528. The additional survey stations would make the Malbec West target more robust and hence enable more accurate 3D modelling and drill hole positioning over the area.

Haines Surveys Pty Ltd of Aldgate, South Australia were contracted to undertake the gravity infill survey over three separate infill areas, including MC C526-C528.

The gravity survey used north-south lines coincident with MGA94 and a line spacing of 80m and station spacing of 20m. The Malbec survey comprised 5 lines bounded in the south west by 404070E 7826280N and in the north east by 404390E 7826940N, for a total of 170 stations.

One Scintrex CG-3 Autograv gravity meter was used for the gravity data acquisition. No new gravity base stations were required, as existing base stations were used. Readings of 120 seconds were taken at base stations, and readings of 40 seconds were taken at all other gravity survey points.

Carrier phase GPS data was collected using the Trimble 4000 series geodetic receivers. Measurements for detailed gravity observations were made using Real Time Kinematic (RTK) techniques giving horizontal and vertical precisions of at least 5cm. RTK processing has been completed using Trimble TDC1 firmware and TRIMMAP version 6.50 software.

Raw data was processed to check for quality and integrity. The field gravity observations were processed using standard formulae and constants, and a country rock density of 2.67 g/cc, to produce a Bouguer anomaly for each gravity station. The data was later stitched into the gravity 1 survey. This interim process produced a set of Bouguer Gravity values, which were contoured and imaged to provide a check for any anomalous reading that would require repeating.

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008
	PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



Given the success from the first round of drilling at the Malbec West Prospect, a second round of infill and definition drilling was proposed. However the oncoming wet season was considered as a hindrance to access to the site especially with the very real possibility of the drill rig being bogged.

Construction of an all weather access road to the Malbec West Prospect sheeted with Chariot Mine mullock was proposed. The decision was made to upgrade an existing track along the north side of the Tennant Creek Station fence line (Tennant Creek Station Pastoral Land) was made. This was primarily to minimise unnecessary vehicle movement around the Chariot Mine site, and allow all weather access to the Claims (Figure 8). Permission to construct the road was granted by the Tennant Creek Station manager.

A site clearance for the all weather road construction from Chariot to Malbec was conducted in October 2003. The CLC under instruction from the Traditional Aboriginal Owners of the land approved the construction in a letter dated 28th October 2003. One proviso was that all mature trees of any species must be protected, and stands or groups of trees must also be protected.

At the time of writing this report the all weather access road to the Malbec Claims has not been constructed, however given further drilling success at Malbec West an all weather road may become necessary in the future.

On the 14th November the CLC acting under instruction from the Traditional Owners approved a proposed second-stage definition drill program. No on-site clearance was necessary at the Malbec Claims due to a number of previous site clearances having been conducted over the Claim area. This was very much appreciated by Giants Reef as it allowed for rapid advancement of the drilling program.

Giants Reef submitted to DBIRD an application for additional exploration on land covered under Authorisation 0148-01. The application detailed all aspects of Giants Reef's plans to infill and defines the Malbec West mineralisation, along with the drilling of other gravity anomalies identified within the West TC8 Project Area.

The additional request for exploration was subsequently approved by DBIRD on the 5th November 2003. The tenements and activities associated with

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008
	PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



Authorisation 0148-01 and those outlined in the application for additional authorisation have all been included in the granted Authorisation 0179-01.

A second stage of RC drilling commenced in December 2003, to define and infill the Malbec West mineralisation, and follow up new target areas in the broader West TC8 Project area. Given the oncoming wet season drilling of Malbec West was the priority of the drill program.

The drill contractor was Gorey and Cole Drillers Pty Ltd, Alice Springs, using an Ingersollrand TH75 drill rig.

Samples collected during the drilling were riffle split in metre intervals. 3-metre speared composite samples were collected and dropped off at NAL Tennant Creek for sample preparation. The pulps were then sent to NAL Pine Creek for analysis. All samples were assayed for Au, Fe, Cu and Bi by FA50 for gold and multi-acid digest for the base metals. A duplicate sample was added at the end of each drill hole for analysis, to monitor quality control of laboratory results.

Further 1-metre riffle split samples were collected for anomalous gold (>0.1 ppm Au) and were sent to NAL Pine Creek for the same method of analysis.

On completion of the drill program, 70 high-grade gold intervals were selected from the Malbec West drilling and sent to Australian Laboratory Services (Perth) for check and confirmation assaying. Results from this sampling will be reported in next years Annual Report.

Drill logging processes were same as for the first stage of drilling.

Results from the first round of drilling at Malbec West were considered very encouraging. The gravity response at Malbec West (source was interpreted to lie at a shallow depth above previously drilled magnetic ironstone) is caused by haematitic dominant ironstone carrying significant widths of high- grade gold. Given this positive result a further 6 holes (Stage 2) were planned to infill and define the extent of mineralisation. A further two holes were drilled once geochemical results were received.

Drilling focussed on delineating the extent of mineralisation at the Malbec West Prospect with the objective of identifying a shallow, open pit resource for rapid development. Delineation drilling commenced on the 5th December 2003 and

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008
	PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au



was completed on the 12th December 2003. Eight RC holes (545m) were drilled. Significant results returned from the program are tabulated below:

Stage 2 drilling statistics for Malbec West are as follows:

Hole No	Easting (GDA)	Northing (GDA)	Dip (deg)	Azi (deg)	Depth (m)	Date Drilled	Tenure
MARC 026	404138	7826612	-60	176	70	08-Dec-03	MC C528
MARC 027	404156	7826592	-60	176	42	09-Dec-03	MC C527
MARC 028	404156	7826632	-60	176	90	09-Dec-03	MC C528
MARC 029	404196	7826592	-60	176	48	12-Dec-03	MC C527
MARC 030	404196	7826632	-60	176	82	13-Dec-03	MC C528
MARC 032	404175	7826686	-60	176	141	14-Dec-03	MC C528
MARC 033	404138	7826592	-60	176	48	16-Dec-03	MC C528
MARC 034	404169	7826574	-60	176	24	16-Dec-03	MC C527
					TOTAL 545m		

Significant Stage 2 drilling results from Malbec West is tabulated below:

Hole Number	Easting (GDA)	Northing (GDA)	Dip (deg)	Azi (deg)	Significant intercepts from to		Interval (m)	Grade (g/t Au)	Cu Grade (ppm)
MARC 027	404156	7826592	-60	176	8	9	1.62	1.62	26
					21	24	2.99	2.99	120

address Level 1, 65 Hay Street, Subiaco Western Australia 6008

PO Box 1573, West Perth Western Australia 6872

telephone +61 8 9489 7082

facsimile +61 8 9489 7070

email admin@emmersonresources.com.au



MARC 028	404156	7826632	-60	176	73	75	4.45	4.45	342
				Incl.	74	75	6.99	6.99	438
MARC 029	404196	7826592	-60	176	4	5	1.04	1.04	27
					21	22	1.55	1.55	206
MARC 030	404196	7826632	-60	176	46	47	1.45	1.45	77
					65	66	2.45	2.45	561

Shallow mineralisation is now believed to be closed along strike. All drill data has been validated and provided to Snowden Mining Consultants to allow for resource estimation. Once the resource calculation has been received, grade control and mine design will commence.

Drill hole MARC 032 targeted a down-dip ironstone position below significant gold mineralisation (5m at 3.48 g/t Au incl. 1m at 10.3 g/t Au in MARC 011). The ironstone was intersected in the predicted position, however, contained weak gold values. It is likely that a depletion zone in the ironstone was intersected as seen within the Chariot and other deposits within the Tennant Creek goldfield. Additional deep drilling of the Malbec West ironstone is planned prior to finalisation of a Malbec West mine design.

One shallow RC drill hole (MARC 031) was completed targeting interpreted up-dip ironstone. An iron-rich alteration zone was intersected at the projected position, containing low-order gold anomalism, however no ironstone was intersected.

The Malbec East ironstone is a large complex system which has returned several encouraging gold assays. These include 1m at 10.95 g/t Au from 49m (MARC 017) and 2m at 4.9 g/t Au from 62m (DH5). The exploration potential for the Malbec East ironstone has increased with the recent shallow gold mineralisation discovered only 200m to the west. Additional RC drilling will commence at

address Level 1, 65 Hay Street, Subiaco Western Australia 6008
 PO Box 1573, West Perth Western Australia 6872

telephone +61 8 9489 7082

facsimile +61 8 9489 7070

email admin@emmersonresources.com.au



Malbec East as part of an accelerated drilling campaign to identify shallow, economic mineralisation.

Drilling statistics for Malbec East are as follows:

Hole No	Easting (GDA)	Northing (GDA)	Dip (deg)	Azi (deg)	Depth (m)	Date Drilled	Tenure
MARC 031	404260	7826495	-60	176	48	13-Dec-03	MC C527
					TOTAL 48m		

All drilling data for the Stage 2 drilling program including collar, survey, geology, magnetic susceptibility and assay can be found in Appendix 1 as Micromine files.

6. REHABILITATION

It was decided not to rehabilitate the drill holes from Stage 1 or 2 as it was felt that bulk-metallurgical samples may be required. A Mining Management Plan (MMP) compliance audit was conducted by DBIRD personnel (November 2003) and included a site inspection of the Stage 1 Malbec Prospect drilling. It was Giants Reef's intention to completely rehabilitate all drill sites within the Claims area. This was to be conducted when a decision to mine the shallow gold mineralisation was made. If the decision to mine was negative, immediate rehabilitation of the sites was to commence. All drill holes within the Malbec West and Malbec East Prospects have been capped to prevent animals falling into them.

Giants Reef didn't make a decision on mining the shallow gold mineralisation and therefore rehabilitation wasn't completed.

As stated in the tenure section of this report the expiry of these tenure was unintentional and Emmerson Resources will be applying for tenure to cover the now expired tenure to fulfil the rehabilitation liability.

address Level 1, 65 Hay Street, Subiaco Western Australia 6008

PO Box 1573, West Perth Western Australia 6872

telephone +61 8 9489 7082

facsimile +61 8 9489 7070

email admin@emmersonresources.com.au



7. CONCLUSIONS

The Malbec Claims (MC C526-C528) were centred on the magnetic structural ridge extending from the Extension mine (300t @ 19.5g/t Au) to TC8 mine (80,680t @ 18g/t Au and 1.2% Cu).

A regional gravity survey was completed over several tenements east and west of the Chariot Mine including MC C526-C528 in 2003. This survey identified that the Malbec anomaly (formally known as C11 and Explorer 107) consisted of coincident magnetic and gravity anomalism and formed 2 distinct east and west "lobes".

Based on knowledge from the Chariot ore body, where mineralisation occurs within both haematite and magnetite ironstone, it was suggested this response may represent shallow, haematite ironstone positioned directly above the previously defined, deep magnetic ironstone.

Geophysical modelling of the Malbec gravity data confirmed the presence of shallow, dense, non-magnetic material (haematite ironstone) and ranked the western "lobe" of the Malbec anomaly as a priority drill target.

A Mining Management Plan, and CLC work programs, detailing all aspects of Giants Reef's plans to drill test the gravity anomalies identified within MC C526-C528 were submitted and approved.

Stage 1 drilling over the Malbec Claims consisted of 17 RC holes for a total of 1,820m drilled. The drilling results at Malbec identified near surface high-grade gold mineralisation associated with haematite-magnetite-ironstone and associated alteration assemblage.

The shallow high-grade gold mineralisation identified during Stage 1 of the drilling occurs within the western "lobe" of the Malbec anomaly, typically in ironstone. Given the success of the Stage 1 drilling, it was decided to name the recent Malbec mineralisation as Malbec West as distinct from the remainder of the Malbec Prospect to be called Malbec East.

Stage 1 drilling at the Malbec East Prospect intersected haematite rock and although this returned no economic intersections, this drilling extended the known Malbec ironstone further east. The exploration potential for the Malbec East

address Level 1, 65 Hay Street, Subiaco Western Australia 6008

PO Box 1573, West Perth Western Australia 6872

telephone +61 8 9489 7082

facsimile +61 8 9489 7070

email admin@emmersonresources.com.au



ironstone has increased with the recent shallow gold mineralisation discovered only 200m to the west. Additional RC drilling will commence at Malbec East as part of an accelerated drilling campaign to identify shallow, economic mineralisation.

A limited, infill gravity survey was conducted over the Malbec West Prospect to greater define the anomaly and allow for more accurate 3D modelling and drill collar positioning over the area.

Stage 2 drilling focussed on delineating the extent of mineralisation at the Malbec West Prospect (formally known as Malbec Prospect), with the objective of identifying a shallow, open pit resource for rapid development. Delineation drilling commenced on the 5th December 2003 and was completed on the 12th December 2003. Eight RC holes (545m) were drilled.

Several additional high-grade intersections were made during Stage 2 and it was decided to progress the Malbec West Project by providing the digital data to Snowden Mining Consultants to allow for resource estimation.

Shallow mineralisation is now believed to be closed along strike however remains open at depth on many sections.

As stated in the tenure section of this report the expiry of these tenure was unintentional and Emmerson Resources will be applying for tenure to cover the now expired tenure to fulfil the rehabilitation liability.

8. REFERENCES

Mottram, N., 1999, "MCC 285, 286, 526-528, 755-757, 802, 804-808, 1032, 1033, 1038, 1039, 1350 and MLC 23, 52, 58-62, 182-184, 406-409 1998/1999 Annual Report to 25th June 1999". Northern Gold NL report to NTDME .

Clifford, B.A., 1997, "Report in support of renewal of Mineral Claims Central 526 to 528 inclusive, Malbec Prospect, Tennant Creek District, NT". Normandy Gold Pty Ltd report to NTDME.

address	Level 1, 65 Hay Street, Subiaco Western Australia 6008 PO Box 1573, West Perth Western Australia 6872
telephone	+61 8 9489 7082
facsimile	+61 8 9489 7070
email	admin@emmersonresources.com.au