



28 October 2009

ASX Announcement

## **MAGNETITE EXPLORATION TARGET OF 600Mt - 1,000Mt IDENTIFIED AT PILBARA PROJECT**

- **Magnetite associated with 20km strike length of Banded Iron Formation (BIF) within Cleaverville Formation**
- **A grade of 25-35% Fe is expected based on known BIF deposits in the district**

Legend Mining Limited (Legend) today announced the results of a magnetic modelling report by independent geophysical consultants, Southern Geoscience Consultants (SGC), evaluating the magnetite potential of its Pilbara Project, see Figure 1.

The report was focussed on a 20km strike length of BIF within the Cleaverville Formation and indicated the potential for a range of 600Mt-1,000Mt<sup>1</sup> of magnetite. An expected grade of 25-35% Fe is considered likely based on the reported grades from the nearby Cape Lambert and Mt Oscar resources also hosted in the Cleaverville Formation.

Legend Managing Director Mr Wilson said; "Considering the 1.6Bt Cape Lambert resource and the 800Mt global Mt Oscar exploration target, it is clear we have the potential for a magnetite deposit of regional significance".

Of the 20km strike length of BIF, 10.8km lies within 100% Legend owned tenements, while the remaining 9.2km lies within Mt Marie JV tenements where Legend is earning a 70% interest from Fox Radio Hill PL, see Figure 1. This BIF unit is the extension of the host unit to the Cape Lambert deposit situated some 7km to the northeast.

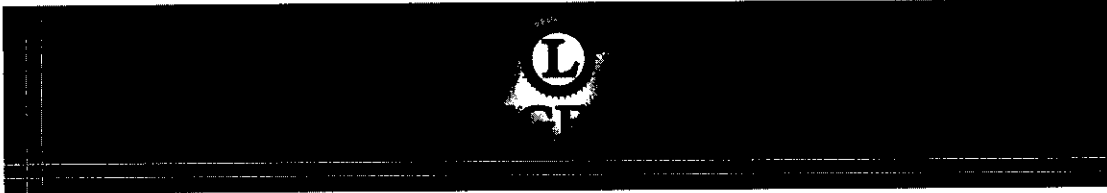
"Our challenge is now to more accurately define the tonnes and grade of this exploration target", said Mr Wilson.

### ***Technical Discussion***

Forward-modelling (21 forward models) and 3D-inversion modelling (one model) techniques were used by SGC to model high resolution 50m line spaced aeromagnetic data over the Cleaverville Formation BIF. The magnetic modelling was aimed at providing estimates of the thickness, depth to top and magnetic properties of the BIF, then using these estimates to calculate a volume and tonnage for the BIF.

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<sup>1</sup> SGC consider the global tonnage estimate of 800Mt to be broadly indicative at best, potentially accurate to  $\pm 25\%$  ( 600Mt to 1,000Mt), however should be considered accurate to  $\pm 50\%$  ( 400Mt to 1,200Mt) for planning purposes. The tonnage estimate is calculated down to a vertical depth of 200m below surface and assumes a density of 3.3g/cm<sup>3</sup>.



The models along with images created from the magnetic data have been used to calculate a global tonnage estimate of 800Mt for the magnetic portion of the BIF. This estimate is considered broadly indicative and should be accurate to  $\pm 25\%$ , giving a potential tonnage range of 600Mt - 1,000Mt at an expected grade of 25-35% Fe.

The tonnage estimate is calculated over a 20km strike length, to a vertical depth of 200m below surface and assumes a density of  $3.3\text{g/cm}^3$ . The forward models created from profiles of the total magnetic intensity and analytical signal data are well constrained and compare well with the 3D model, providing a good indication of the overall size and attitude of the magnetic BIF.

Figure 2a shows a total magnetic intensity image of the BIF, while the location of profiles and outlines of the forward modelling over a reduced to pole image are provided in Figure 2b. Full details of the forward modelling are also presented in Table 1.

Previous rockchip sampling results (44 samples) over the Cleaverville Formation BIF were announced by Legend to the ASX on 20 November 2008. This non-systematic sampling programme was targeting high grade magnetite-bearing BIF, with 30 samples returning results ranging between 30-58% Fe, see Figure 3. This confirms the magnetite potential of the Cleaverville Formation within Legend's Pilbara Project.

## Background

Legend currently holds interests in three Projects in WA, namely, Pilbara, Gum Creek and Mt Gibson. Legend also announced to the ASX on 4 September 2009 that it had signed a legally binding Heads of Agreement with Camina SA to explore for iron ore in Cameroon, West Africa.

The Cameroon Project (iron ore, gold) comprises granted exploration permits and applications covering an area of approximately  $2,400\text{km}^2$ . Discovery of 50Mt of direct shipping ore (DSO) is the primary target, however itabirite ore (lower grade but potential very high tonnage) will also be targeted. The southern project area has the added advantage of being well served by access infrastructure including rail and road networks to and from the port city of Douala.

The Pilbara Project (iron ore, nickel-copper, zinc-copper) comprises  $686\text{km}^2$  of tenure in the West Pilbara, all within 50km of Karratha. As well as the magnetite potential associated with BIF of the Cleaverville Formation, Legend has identified 14 priority base metal drill targets from Versatile Time-Domain Electromagnetic (VTEM) surveys.

The Gum Creek Project (iron ore, nickel-copper-platinum group element) is located 640km northeast of Perth in the Yilgarn Province. The Woodley region contains a 22km BIF unit with the potential for a significant tonnage of magnetite. The project is also considered prospective for both intrusion-related (Ni-Cu-PGE) and komatiite flow-related Ni-sulphide mineralisation.



The Mt Gibson Project (zinc-copper-gold) is located 290km northeast of Perth in the Murchison Province. Mt Gibson operated for 12 years as a gold mine from 1986 following the discovery of gold in surface laterite. The operation produced 870,000 ounces of gold from 16.5Mt of ore at an average grade of 1.68g/t. Legend, through a study conducted in 2006 by Dr S Carras of Carras Mining Pty Ltd, estimated the residual gold Mineral Resource (Indicated and Inferred) to be 8.7Mt at 1.98g/t gold for 559,000 ounces (see 2006 Legend Annual Report).

Visit [www.legendmining.com.au](http://www.legendmining.com.au) for further information and announcements.

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**Competent Person Statement**

*The information in this announcement that relates to Exploration Results is based on information compiled by Mr Derek Waterfield, a Member of the Australian Institute of Geoscientists and a full time employee of Legend Mining Limited. Mr Waterfield has sufficient relevant experience in the styles of mineralisation and types of deposit under consideration, and in the activity he is undertaking, to qualify as a Competent Person as defined in the 2004 Edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code), and consents to the inclusion of the information in the form and context in which it appears.*

**Exploration Target**

*While the company remains optimistic it will report resources and reserves in the future at its Pilbara Project, any discussion in relation to exploration targets, resource potential, reserves or 'ore' is only conceptual in nature, there has been insufficient exploration to define a Mineral Resource at the company's Pilbara Project and it is uncertain if further exploration will result in the determination of a Mineral Resource.*



**Table 1: Forward Modelled / Interpolated Dimensions**

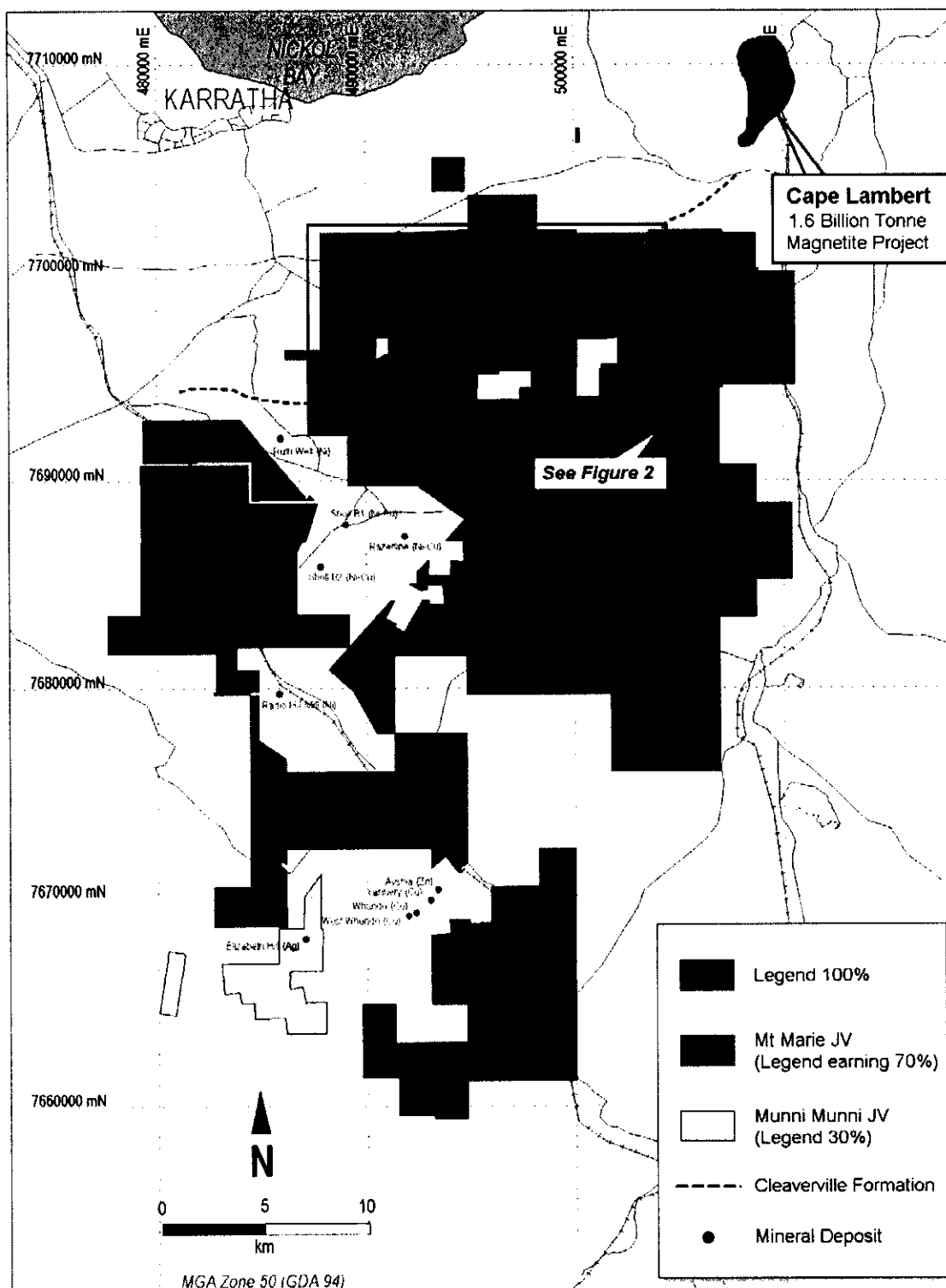
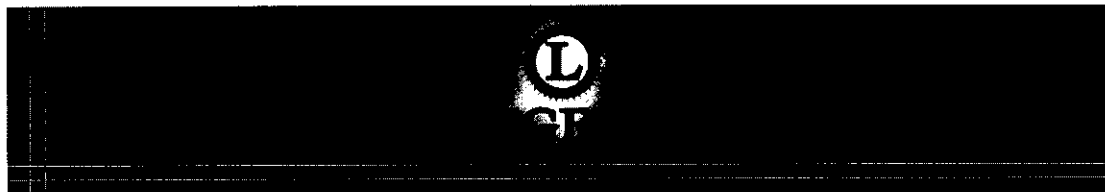
Id	Model	X	Y	Z	C-Z	Depth	Strike	(SI)	Thickness	C	Dip	Mt
1	486900	486888	7693738	-44	18	51	87	1.42	59	600	84	17.5
2	486900	486891	7693412	-82	-23	94	85	0.25	130	0	80	
3	486900	486884	7694730	-20	53	9	83	1.5	80	0	70	
1	487700	487693	7693756	-47	18	49	87	1.35	51	650	85	16.7
2	487700	487696	7693439	-184	-117	187	85	0.25	150	0	75	
1	488700	488685	7693761	-20	43	24	92	1.28	78	600	69	29.1
2	488700	488685	7693392	-134	-71	134	85	0.25	150	0	75	
1	489400	489389	7693744	-29	37	34	87	1.2	68	750	75	28.9
2	489400	489171	7693537	-84	-17	78	85	0.25	150	0	75	
1	490500	490507	7693908	-30	31	29	85	1.1	61	1000	65	38.0
2	490500	490500	7693708	-65	-2	57	85	0.25	80	0	70	
1	491700	491694	7693964	-55	14	40	81	0.95	48	1300	70	35.1
2	491700	491708	7693368	-83	-12	60	85	0.25	80	0	70	
2	493100	493100	7693860	-121	-58	104	81	0.32	400	0	100	
1	493100	493090	7694370	-45	16	30	77	1.5	44	950	70	25.0
2	494200	494196	7694413	-132	-64	103	63	0.15	250	0	70	
1	494200	494200	7694795	-71	-4	43	62	0.9	45	900	70	22.3
1	494700	494693	7695042	-50	17	24	58	0.95	48	950	70	28.2
1	495900	495885	7695719	-41	23	27	64	1.05	62	2000	55	86.4
1	497200	497187	7696435	-15	49	17	55	1.12	75	900	75	42.2
2	497200	497191	7696557	-12	55	7	60	1.2	63	600	80	24.4
1	498200	498201	7697036	-11	53	13	55	1.12	90	1000	75	57.5
2	498200	498211	7697157	-27	26	50	60	1.25	80	1000	100	40.2
6	498200	498219	7697111	9	70	1	-125	1.5	75	1000	90	12.6
4	499500	499495	7697866	-24	28	66	55	0.3	110	0	90	
2	499500	499500	7698173	-31	41	39	55	1.25	110	650	95	38.1
4	500200	500180	7698255	-20	43	53	55	0.3	140	0	90	
3	500200	501087	7699587	-68	-3	82	55	1.2	122	0	80	
2	500200	500185	7698604	-27	55	38	55	0.95	155	450	95	37.4
1	501000	500990	7699315	-52	6	70	55	1.2	70	750	70	24.0
2	501000	500988	7699438	1	58	19	55	1.1	60	750	80	27.3
6	501000	501022	7699348	16	72	6	-125	1.2	70	750	80	12.3
3	501000	500988	7699619	-4	57	18	55	0.25	120	0	80	
1	501500	501474	7699518	-51	26	51	63	1.3	78	550	60	24.4
2	501500	501486	7699701	-2	64	24	66	1.1	65	550	65	22.9
6	501500	501473	7699596	28	87	10	-115	1.2	40	550	65	4.0
3	501500	501478	7699873	-6	66	9	63	0.25	103	0	80	
4	501500	501478	7699700	20	88	1	-115	0.85	30	550	65	1.2
9	502000	501997	7700271	-49	16	51	50	0.4	100	0	70	
2	502000	501997	7700101	-12	55	15	50	0.95	70	1000	70	45.5
1	502000	502000	7699968	-36	40	29	49	0.75	55	200	70	6.6
2	502800	502788	7700741	-33	25	34	55	1	80	200	90	8.8
3	502800	502790	7700669	-80	-20	77	55	0.7	40	200	90	3.2
4	502800	502991	7700530	-116	-42	105	55	0.85	100	0	90	
2	503000	502990	7700976	-44	19	34	55	1.15	64.5	200	80	7.2
3	503000	502988	7700810	-83	-17	71	55	0.7	122	200	80	10.5
4	503000	503002	7700423	-28	29	52	55	1	66	250	80	8.2



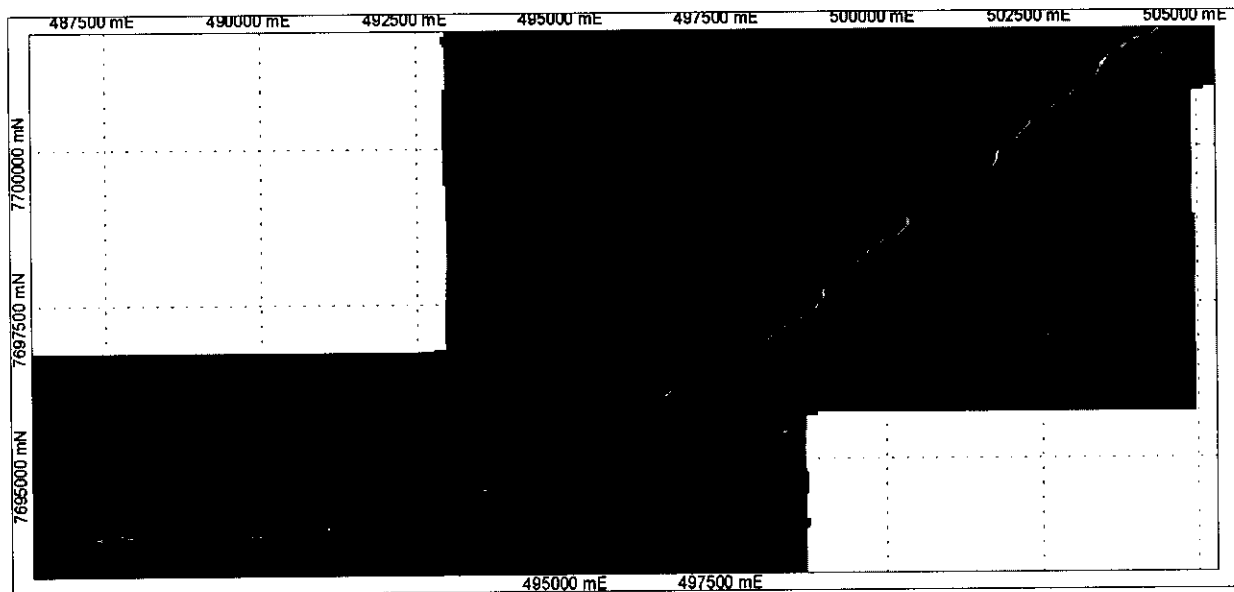
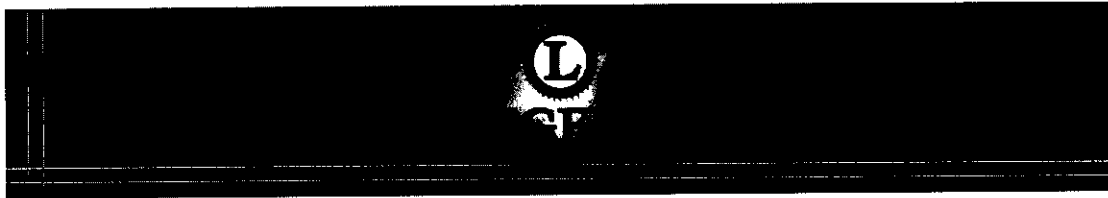
Id	Model	X	Y	Z	C-Z	Depth	Strike	(SI)	Thickness	C	Dip	Mt
2	503200	503193	7701068	-33	30	22	55	1	65	350	80	13.6
3	503200	503193	7700957	-122	-55	107	55	1.15	80	350	80	8.7
4	503200	503036	7700423	-39	19	57	55	0.85	70	0	90	
4	503600	503364	7700720	-35	34	30	55	0.188	110	0	80	
3	503600	503406	7701270	-53	16	35	55	0.95	65	200	75	7.3
2	503600	503810	7701627	-37	24	48	55	0.8	55	650	80	18.2
1	503600	503587	7701159	-117	-49	104	55	0.45	100	0	75	
											Total	834Mt

**Table Parameters:**

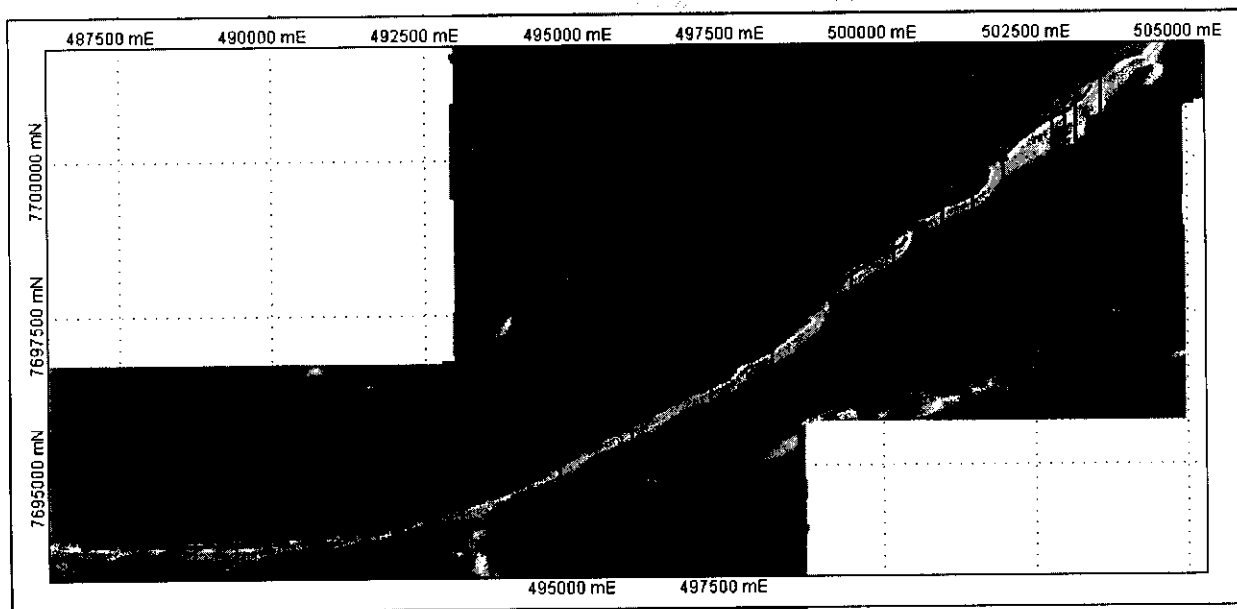
X, Y, Z, C-Z	Coordinates refer to top of model, with C-Z = corrected Z.
Depth	Vertical distance to top centre of model from surface.
Strike	Strike of the model.
Thickness	Thickness of the model.
Dip	Dip of the model.
SI	Modelled magnetic susceptibility $\times 10^{-3}$ .
C	Interpolated strike length between model.
Mt	Tonnage calculated from strike, thickness, depth and assumed $3.3\text{g/cm}^3$ density.



**Figure 1: Pilbara Project – Tenements with Cleaverville Formation**



**Figure 2a:** Total magnetic intensity (TMI) image over the Cleaverville BIF.



**Figure 2b:** Locations and extents of the 21 north-south forward-modelled magnetic-profiles (magenta) and outlines of forward models (red) on an image of the reduced to pole (RTP) magnetics.

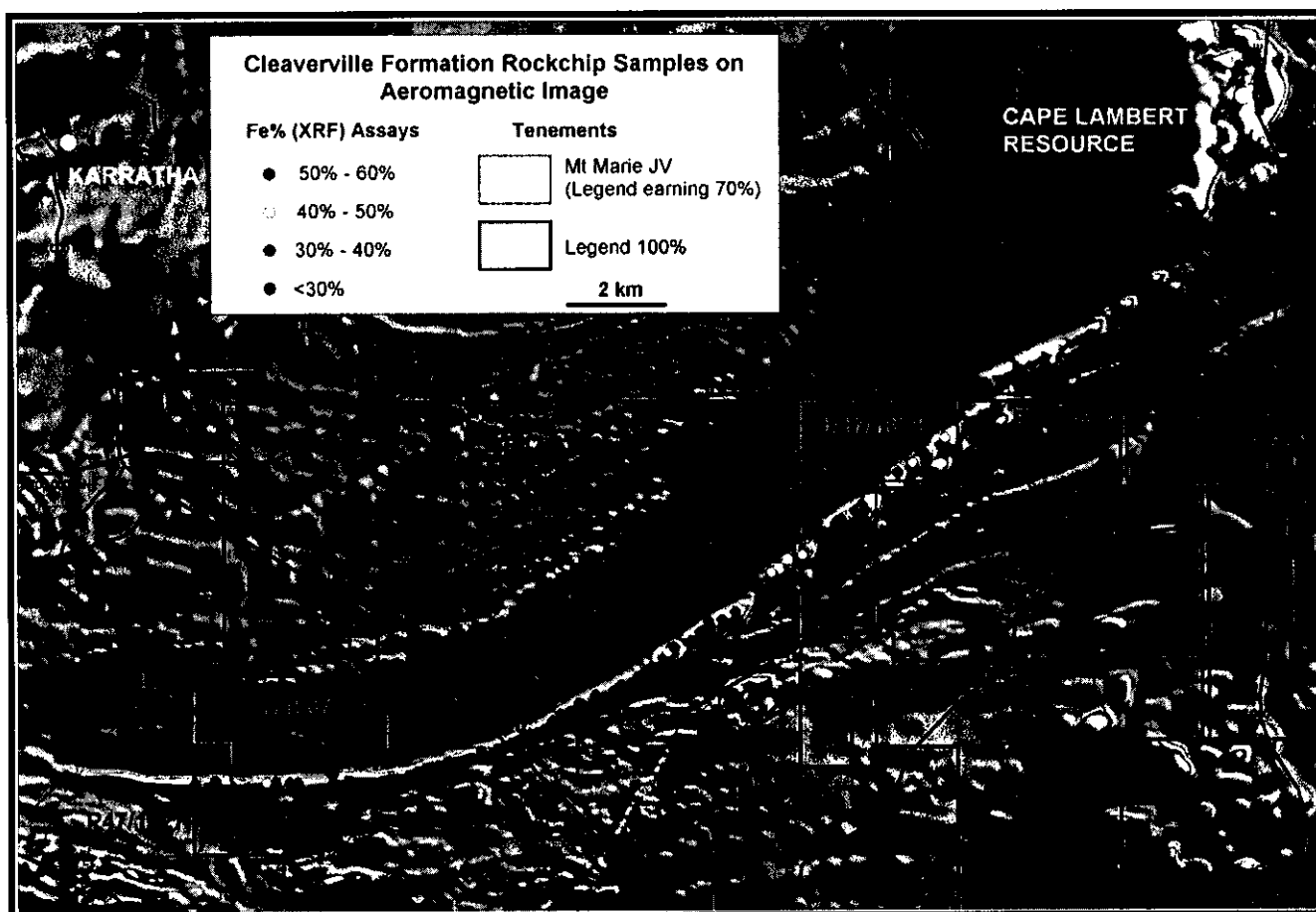
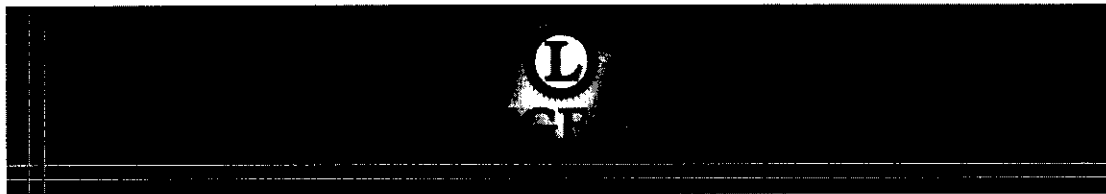


Figure 3: Aeromagnetic Image showing Rockchip Results and Tenements