

# NBR MAGNETITE DYKE OUTCROP SAMPLING

## **INTRODUCTION**

The NBR Magnetite Dyke was initially viewed by Shree Minerals Ltd and its predecessors as core sample remnants at the MRT Core Storage facility at Mornington. The mineralised intersections of N401 (1967) and the NBR#01 & #02 drill cores were inspected and small samples were selected for check assays and petrological study. (Results of this were reported in the Y1 Annual Report 2006).

Drilling was carried out and much core analysis and testing of the magnetite mineralisation was carried out in 2006 and reported in the Y2 Annual Report 2007.

Only the drill hole NBR#06 (deliberately designed as such) was sited on top of (and penetrated) the weathered outcrop of the magnetite dyke. No other surface sample sites (excepting a few boulders at this site) were visited or collected up to that time.

In 2006 the baseline was extended by line cutters who returned in 2008 to cut a further 4000m of cross lines in the main and southern anomaly areas. This allowed access to the anomalous areas for ground magnetometer survey sampling and the out cropping dyke at the points where the cross lines intersected the dyke. This renewed access to the dyke allowed a grab and channel sampling program to be planned and carried out in November with assay results in December 2008. (This will be discussed in detail shortly).

The Nelson Bay River Magnetite Dyke has been sampled in 3 separate time frames.

The first was in 1940 by the Tasmanian (Government) Department of Mines geologist F Blake who visited the field site in 1940 (reported 1947). He took 7 samples.

The second systematic sampling program was carried out by the Geopecko Ltd company in 1980.

The Shree Minerals Ltd company initiated program of 2008 thus became the third systematic sampling program of the main (and also southern) anomaly areas.

The approach to be taken in this report is one of completeness and of comparisons of past work with the recent work of Shree such that all effort and results may be taken into account when a overall view of the anomalous areas is undertaken.

## PREVIOUS WORK

1940.

**F Blake** visited the area and described the rocks of the main area consisting of light coloured siliceous quartzites, sandstone, grits and banded light and dark slates belonging to the Balfour series of Cambrian age.

He goes on to describe the deposit as a well defined tabular lode about 800m long and with variable widths ranging from 1m to 14m averaging 7m. Having a north west to south east trend and follows the course of a ridge adjacent to the NB River. In places the outcrop forms a cliff face to 10m high with a fall of 30m to the river in parts.

The deposit has variations in its iron mineralogy along its length. In the northern area magnetite and limonite with minor hematite with quartz veining. In the southern area it consists mainly of hematite and limonite with small quantities of magnetite, again with quartz films on joints planes and as veinlets.

Blake took seven samples in his survey and their locations are on the map below.

Sample 1 is from the old adit in the centre of the lode: no mineralogy description is given

Sample 2 is located at the northern most end presumed to be mainly magnetite

Sample 3 is from the southern most end and is presumed to be mainly hematite

Sample 4 is north of 3 hematitic?

Sample 5 is north of 4 hematitic?

Sample 6 is north of the middle & sample 1: presumed to be mainly magnetitic

Sample 7 is north of 6 and also magnetite

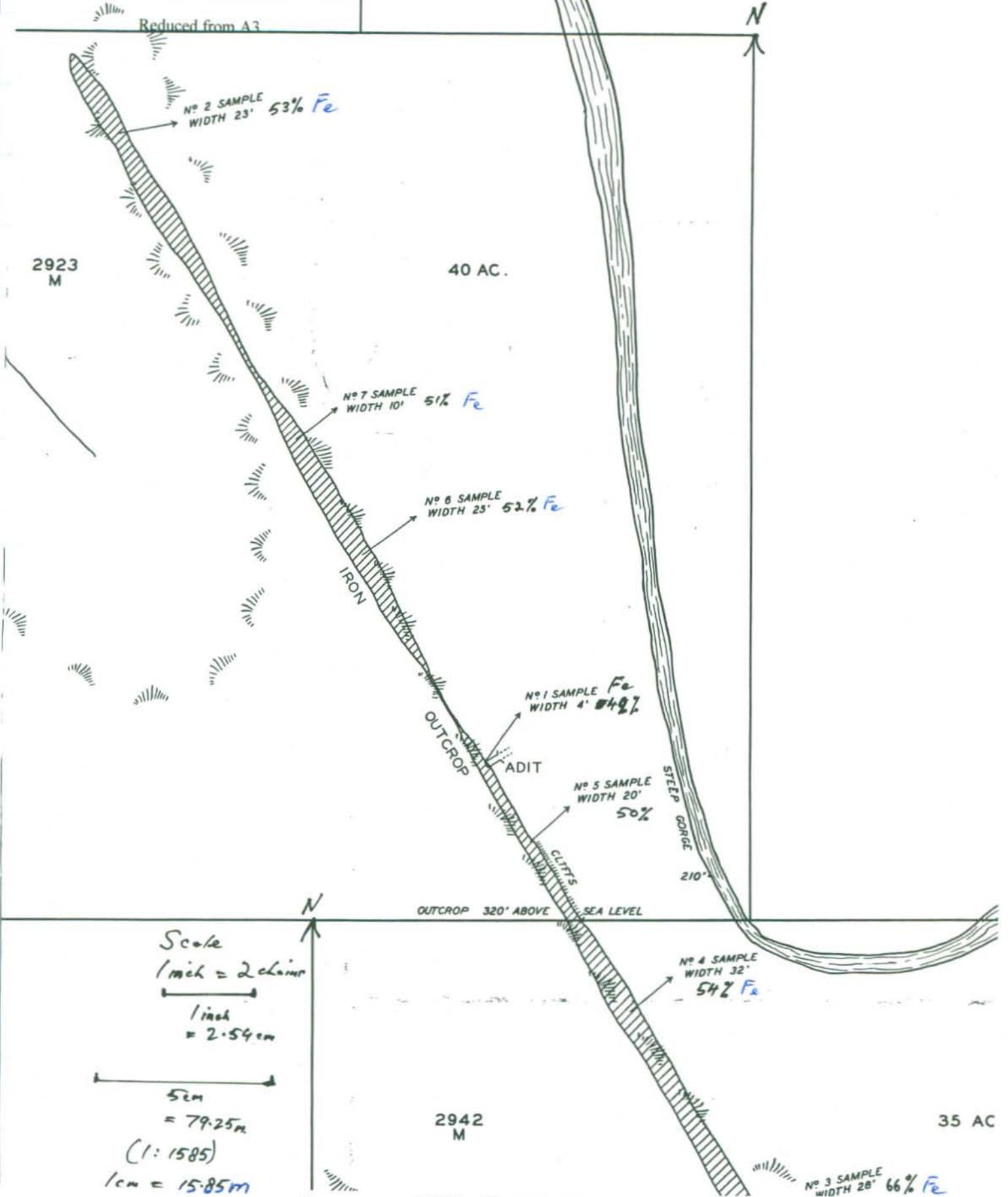
**Table 1: Nelson Bay River iron rock outcrop chip sampling assay results**

Grade %	Reg. No. 453/40	Reg. No. 454/40	<i>Reg. No. 455/40</i>	Reg. No. 456/40	Reg. No. 457/40	Reg. No. 458/40	Reg. No. 459/40
	Sample No. 1	Sample No. 2	<i>Sample No. 3</i>	Sample No. 4	Sample No. 5	Sample No. 6	Sample No. 7
	Sample width 1.22 m	Sample width 7.01 m	<i>Sample width 8.53 m</i>	Sample width 9.75 m	Sample width 6.96 m	Sample width 7.62 m	Sample width 3.05 m
Fe	48.9	52.6	<i>65.7</i>	54.2	50.3	51.9	50.6
SiO <sub>2</sub>	24	20.52	<i>1.44</i>	19.12	23.24	22.28	23.08
Mn	0.03	0.12	<i>0.13</i>	Trace	0.03	0.04	0.05
P <sub>2</sub> O <sub>5</sub>	0.04	0.04	<i>0.08</i>	0.05	0.05	0.01	0.01
S	0.02	0.03	<i>0.02</i>	0.01	0.01	0.01	0.03

# NBR DYKE

## Blake's 1940 Map

Reduced from A3



1981

The **Geopecko Ltd** company commenced field work in the area and noted the rocks comprised a layered sequence of finely laminated psammo-pelitic siltstones and medium grained quartzites characteristic of Carey's (1981) Epsilon Group.

An iron-rich lode outcrops discontinuously along a low ridge between 10 200mN and 9 400mN local grid with a further outcrop at 8 200mN. It consists of a medium granular aggregate of variably oxidised magnetite in an iron stained clayey or siliceous base. The lode strikes 340 deg T and dips 60-70 deg to the west. The strike of the lode cuts across the lithological boundaries of enclosing rocks at a low angle

Again the iron stone varies from magnetite to hematite to limonite depending on n/s location

Geopecko's sample surface outcrops (KR's 8031-8045) are tabled below.

023

811024 17.

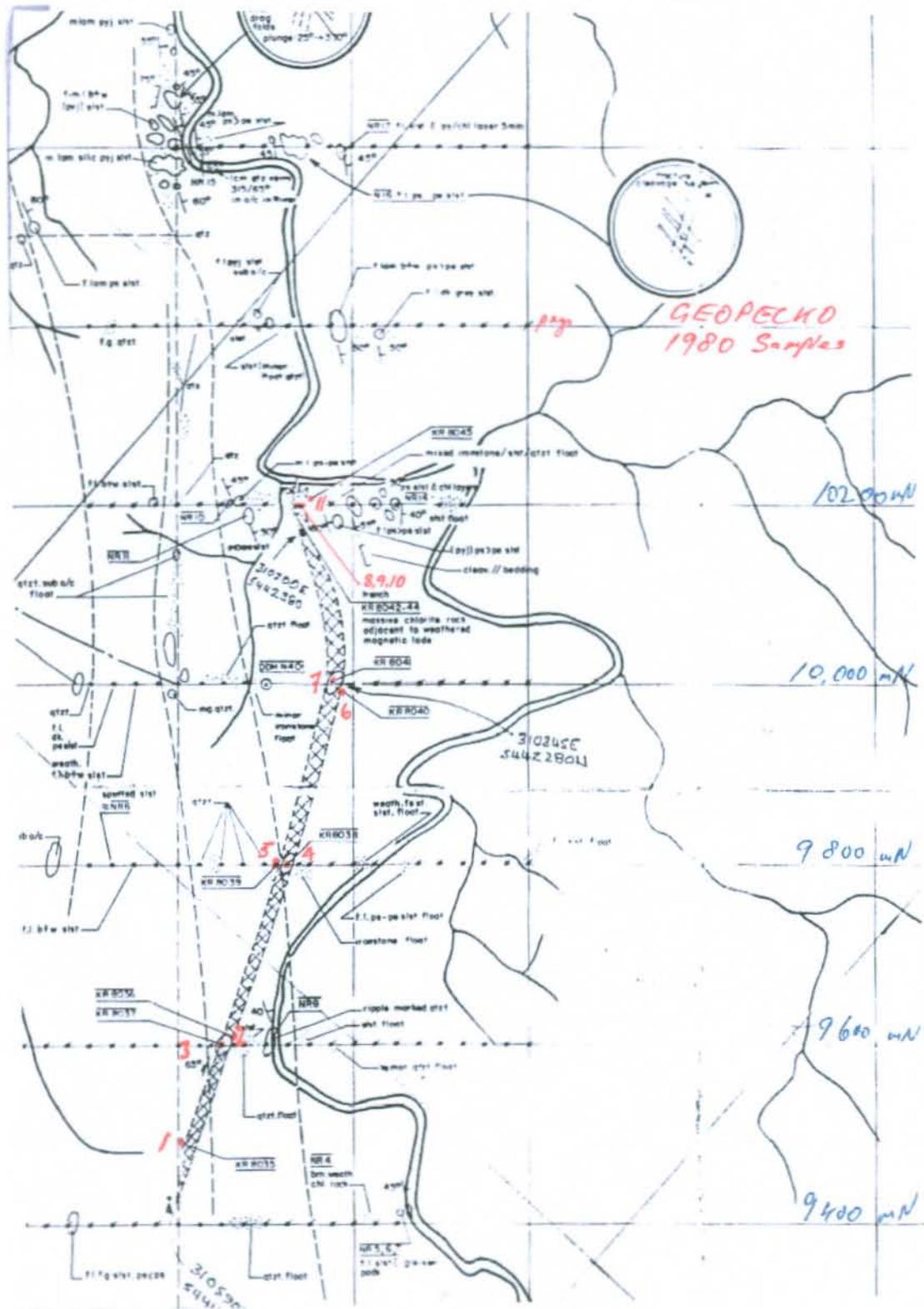
TABLE 2

Nelson River Rock Chip Samples  
(Analyses in Appendix 8.3)

*Southern Anomaly*

*Main Anomaly*

	KR 8030	7800N,	9860E	Gossanous vein quartz float.
	KR 8031	8185N,	9885E	Sugary magnetite-quartz.
	KR 8032	8190N,	9885E	Banded gossan after sulphide and magnetite, some relict pyrite.
	KR 8033	9180N,	9885E	Quartz vein float, 2% disseminated oxide pyrite.
	KR 8034	9190N,	9890E	Weath. magnetite rock assoc. with weath. chlorite rock
	<u>1</u> KR 8035	9485N,	10000E	Non magnetic gossanous ironstone.
	2 KR 8036	9605N,	10053E	Oxidized magnetite in siliceous base.
	3 KR 8037	9600N,	10048E	Compact hematite, minor quartz slightly magnetic.
	4 KR 8038	9800N,	10125E	Massive cse. grained magnetite.
	5 KR 8039	9745N,	10122E	Massive-granular magnetite in brown limonitic? base.
	6 KR 8040	10000N,		" " " " " "
	7 KR 8041	10000N,		Granular mt-hem in limonite quartz base.
	8 KR 8042	10200N,	trench	Massive chloritized siltstone.
	9 KR 8043	10200N,	trench	Slightly altered semi pelitic siltstone.
	10 KR 8044	10200N,	trench	Oxidized, leached mt-qtz ironstone.
	11 KR 8045	10200N,	10145E	" " " " "



Sample location numbers in red 1-11 above correspond with blue 1-11 in table above.



## CURRENT WORK

### 2008

In November the Shree Minerals Ltd company spent several field days on the NBR dyke. Several months before in early August, the line cutters completed 4000m of cross lines on the old Geopecko grid in the main anomaly area east of the baseline to the river and in the southern anomaly area the whole grid. These cross lines facilitated access to the mineralised dyke outcrop.

The map below is of the main magnetic area.

It shows the grab/channel samples numbers 1-22 in red, and commence at the NBR#06 drill site on the baseline, samples 2 to 5 were also taken along the baseline from large floating boulders. At crossline 9 600mN (local grid, and also corresponds to Line 11 of the magnetic survey) samples 6 7 8 were taken on outcrop. These samples were grab samples of limited outcrop.

The next line 9 800mN (local grid & Line 10 magnetic survey) were samples 9 10 11 each of these samples were channel samples over a 1 metre distance of small chips continuously sampled and bagged.

Samples 12 to 21 were also chips taken from a 1 metre spread of each site along the continuous outcrop. This line 10 000mN corresponds with Line 9 of the magnetic survey and the two diamond drill holes NB401 and NBR#01. It had by far the widest out crop of some 10m.

Samples 22 and 23 were taken at a creek and are not iron stone rocks but were thought to be at the head end of the outcrop. Lack of further cut line prevented further eastward movement to check on outcrop further east.

The map below the coloured one, shows the contiguous area to the south and is the grid that covers this area.

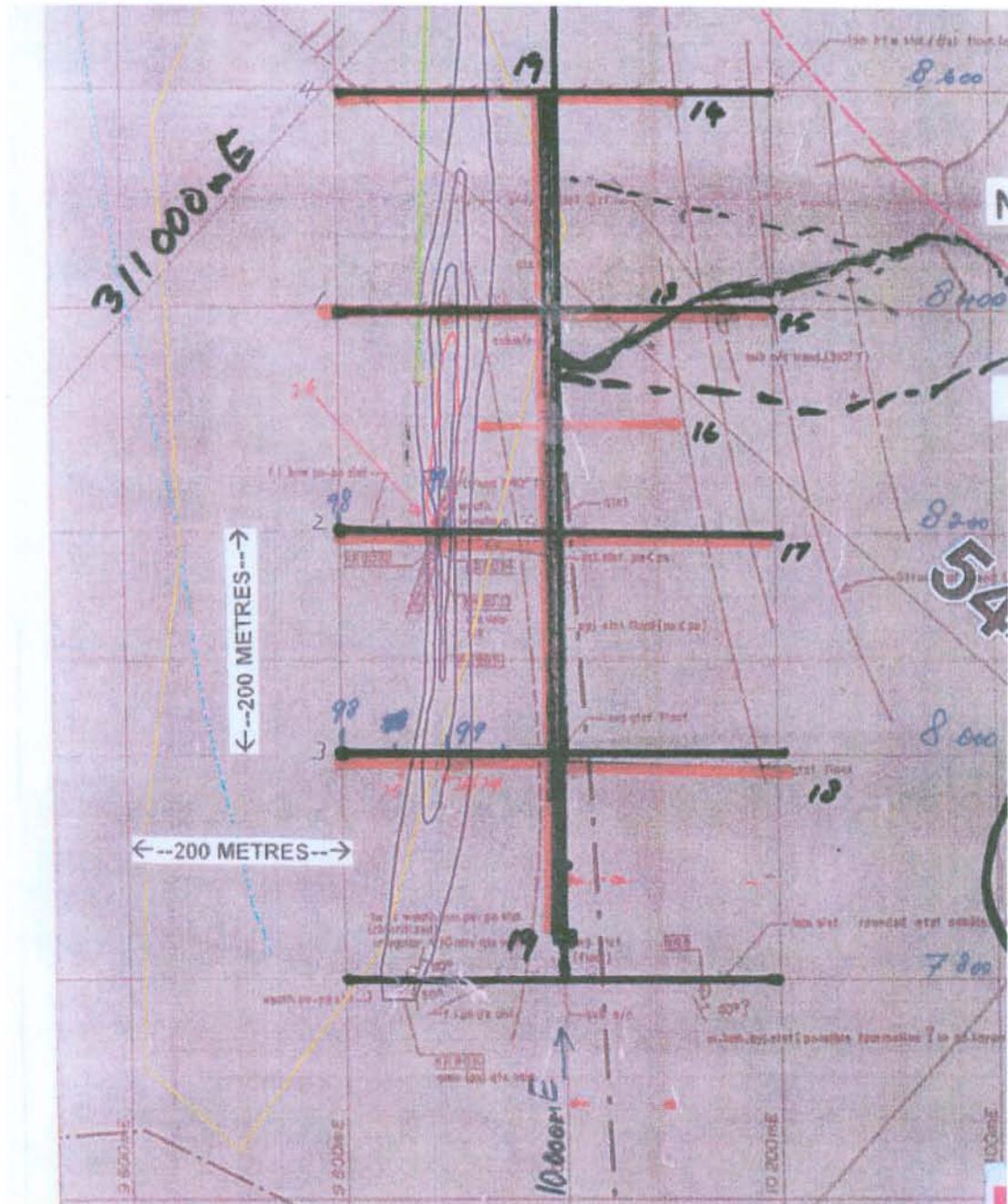
Black lines are the previous grid, the red lines are the renovated grid cut in August 2008. The black line in the north east approximated the track coming into the elbow at the baseline.

The red lines are also the magnetometer survey Lines 14-19 numbered in black.

8 600 – 7 800 refer to the local grid mN lines.

Three samples sites in red numbered 24 25 26 are the only rock samples taken from this area as the only outcrop resembling ironstone and samples 24 and 26 were in fact much weathered limonite/hematite/magnetite. Mainly the later as the rock was magnetic.

The two samples above in the southern area confirm the magnetite lode is present in out crop in this area and therefore presents a worthy drilling target.



The table below is a descriptive list of the each sample taken..

The first samples are grab the rest are channel samples of the main area, with local grid coordinates as well as AGD94 GPS co ordinates.

The description is the main one and where recorded as magnetite was confirmed by a magnet during write up and sample splitting/bagging for shipment.

## NBR Magnetite Dyke samples

Date	Sample Type	Sample No	Location	AGD	AGD94	Spaced Over	Description	% Fe
		NBRDR#	Local Grid on dyke	Regional GIS Grid N	Regional GIS Grid E			
11.11.08	Grab/Channel							
"	Grab	1	at drill site #6	5441787	310710	surface boulder	Hematite-magnetite gossan	63.4
"	"	2	on baseline track	830	648	94012nm on grid	"	65.1
"	"	3	on baseline track	870	642	surface bo 9477n	Yellow-Limonite Gossan	59.6
"	"	4	on baseline track	893	625	surface bo 9450n	Limonite gossan	57.2
"	"	5	on baseline track	945	590	9558n	fresh magnetite	22.9
"	"	6	on cross line 9600n/1000e	997	597	fresh out crop	15m thick out crop	60.0
"	"	7	on cross line	986	603		at 50m peg	46.0
"	"	8	on cross line	5442002	607		ironstone	52.1
"	1m Channel	9	9800n 10121e	2203	526	o/c	at 55m peg	50.5
"	1m Channel	10	9800n 10125	2204	327	o/c	magnetite	53.4
"	1m Channel	11	9800n 10130	2204	532	nth o/c of dyke	ironstone	45.2
"	1m Channel	12	10000n 10175e	2403	434	1st of out crop south s	magnetite	54.3
"	1m Channel	13	10000n 10175	2403	434	2nd out crop	magnetite	56.9
"	1m Channel	14	" 10177e	397	431	3rd o/c	magnetite	60.4
"	1m Channel	15	" 10178	395	432	4th o/c	magnetite	64.0
"	1m Channel	16	" 10179e	397	432	5th o/c	magnetite	63.9
"	1m Channel	17	" 10180	396	433	6th o/c	magnetite	62.5
"	1m Channel	18	" 10181	396	435	7th o/c	magnetite	63.8
"	1m Channel	19	" 10182	397	433	8th o/c	magnetite	61.6
"	1m Channel	20	" 10183	398	437	9th o/c	magnetite	63.7
"	1m Channel	21	" 10184	398	438	10th o/c last & furthest north out crop		61.2
"	"							
"	Channel		no number	2526	272	end of line 102 000n sst on mag out crop		5.1
"	"							
"	Grab	22	creek 10150e	5442507	310270	in creek o/c at near end of line 102 000n	dolerite	12.8
"	"							
12.11.08	Grab	24	8000n 9900e	5440693	311483		magnetite	48.3
12.11.08	Grab		8870 e ck	685	1452	o/c west of creek		
12.11.08	Grab	25	8000n 9865e	678	1447		fe stained slits	6.9
12.11.08	Grab	26	8200n 9881	879	311348	o/c	magnetite e of line at 85n 98015e	46.3

Job Number: 10396

Head Assays

Sample	Sample Number	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P %	CaO %	MgO %	S %	Mn %	TiO <sub>2</sub> %	Na <sub>2</sub> O %	K <sub>2</sub> O %	LOI %	Σ
1 NBRDR	21282	63.4	1.48	0.73	0.047	0.02	0.01	0.041	0.33	0.02	0.01	<0.01	6.82	72.92
2 NBRDR	21283	65.1	1.50	0.66	0.036	0.03	0.02	0.051	0.05	0.04	0.02	0.01	4.90	73.42
3 NBRDR	21284	59.6	1.41	1.51	0.110	0.03	0.10	0.050	0.03	<0.01	0.02	<0.01	11.80	74.68
4 NBRDR	21285	57.2	4.26	2.17	0.242	0.03	0.12	0.071	0.04	0.04	0.02	<0.01	11.10	75.30
5 NBRDR	21286	22.9	62.40	0.59	0.015	0.12	0.09	0.035	0.02	0.03	0.03	0.10	3.37	87.70
6 NBRDR	21287	60.0	10.30	0.07	0.019	0.01	<0.01	0.013	0.01	<0.01	<0.01	<0.01	3.77	74.23
7 NBRDR	21288	46.0	28.10	0.07	0.031	0.03	0.01	0.010	0.04	<0.01	<0.01	<0.01	5.91	80.23
8 NBRDR	21289	52.1	23.50	0.11	0.026	0.01	<0.01	0.006	0.02	0.01	<0.01	<0.01	1.86	77.67
9 NBRDR	21290	50.5	19.00	0.26	0.016	0.01	0.03	0.039	0.68	<0.01	<0.01	0.03	7.28	77.87
10 NBRDR	21291	53.4	10.90	0.11	0.009	0.01	0.02	0.048	2.88	<0.01	<0.01	0.03	8.53	75.96
11 NBRDR	21292	45.2	28.60	0.14	0.014	0.02	0.02	0.034	0.08	<0.01	<0.01	0.01	6.44	80.52
12 NBRDR	21293	54.3	12.70	3.51	0.021	0.04	0.03	0.085	0.07	0.30	<0.01	0.02	5.60	76.37
13 NBRDR	21294	56.9	7.06	3.28	0.018	0.10	0.06	0.141	0.29	0.15	0.03	0.05	7.62	75.70
14 NBRDR	21295	60.4	4.72	0.51	0.018	0.14	0.07	0.037	4.80	0.03	0.07	0.26	1.50	72.72
15 NBRDR	21296	64.0	4.71	0.27	0.011	0.05	0.04	0.049	2.28	0.02	0.02	0.12	0.44	72.01
16 NBRDR	21297	63.9	5.40	0.46	0.017	0.10	0.05	0.044	0.24	0.03	0.03	0.02	2.17	72.46
17 NBRDR	21298	62.5	9.26	0.36	0.011	0.19	0.10	0.035	0.20	0.03	0.03	0.04	0.23	72.99
18 NBRDR	21299	63.8	8.01	0.18	0.011	0.05	0.03	0.035	0.18	0.01	0.02	0.01	0.67	73.01
19 NBRDR	21300	61.6	4.60	3.55	0.013	0.03	0.02	0.101	0.13	0.07	0.02	0.01	3.83	73.97
20 NBRDR	21301	63.7	6.77	0.99	0.011	0.06	0.05	0.046	0.05	0.04	0.02	0.01	1.22	72.97
21 NBRDR	21302	61.2	5.45	4.19	0.012	0.11	0.11	0.065	0.06	0.14	0.04	0.04	2.52	74.26
22 NBRDR	21303	12.8	66.10	8.77	0.026	0.07	2.37	0.029	0.29	0.33	<0.01	0.10	3.12	94.02
23 NBRDR	21304	5.1	79.70	7.53	0.021	0.03	0.25	0.024	0.02	0.35	0.03	1.60	2.60	97.26
24 NBRDR	21305	48.3	17.10	2.43	0.029	0.03	0.06	0.114	0.04	0.17	<0.01	0.09	10.80	79.17
25 NBRDR	21306	6.9	76.00	7.58	0.019	0.09	0.11	0.034	0.02	0.23	1.30	0.76	3.57	96.81
26 NBRDR	21307	46.3	19.00	3.08	0.020	0.01	0.27	0.075	0.24	0.04	<0.01	0.03	11.10	80.18
27 Rebecca CK. Creek Bank	21308	2.4	69.90	16.40	0.011	0.08	0.58	0.012	0.03	0.75	0.51	4.96	2.92	98.55
28 Rebecca CK. Cairn Hillock South	21309	3.2	83.20	6.99	0.015	0.02	0.57	0.010	0.05	0.25	0.06	1.92	1.93	98.22
29 Rebecca CK. Anomaly Area Centre	21310	4.4	64.10	18.40	0.015	0.02	0.87	0.018	0.05	0.81	0.12	5.27	3.50	97.57

The table above is the assay results as prepared by the SGS Lakefield Pty Ltd Assay Laboratory in Perth WA.

Twenty six samples were split and sent for total iron content with the rest of the list as a bonus thrown in.

The sample identification numbers 1 NBRDR refers to site/sample number 1 NBR Dyke Rock. And are readable in the table of description and **red numbering** on the maps above.

Sample Number 21282 is an identification number by SGS Labs.

The slightly yellow column has the total iron content as assayed.

The range of the results is very good especially over the 10m of channel samples taken from the widest part of the outcrop : 54.3 to 64.0% Fe. With an average of about 61.23% Silica content in this area is quite low ranging 4.6 to 12.7% averaging about 6.87%.

The blue hand written figures are a summation of each element and the iron rich samples had a about a 25% loss in the process owing to laboratory factors.

## **CONCLUSION**

The Nelson Bay River Magnetite Dyke rock out crop sampling program was a complete success.

Total iron content of the dyke (no matter what the magnetite to hematite to limonite ratios were) was over 60% Fe: good enough for a direct shipping ore if the tonnage can be proven up.

The aim of the exercise was three fold :-

- To test the outcrop for its potential as a DSO

- To help confirm the need and sites for further drilling to increase its JORC ranking and to further increase the size of the resource.

- To better understand the topography and access for future use for the above.

All three aims were met, the resource warrants further exploratory drilling for the above reasons and the project should be advanced as much as possible on both the exploration and development fronts.

## **PHOTOS:**

The widest part of the outcrop, samples from 3 separate lines, magnetic deflection.



Part of the sample line of 10 x 1m intervals over outcrop on Line 10 000mN Line 9  
The widest part ? of the magnetite dyke outcrop.

