

# **Trafford** Resources Limited

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22<sup>nd</sup> December 2008

The Listing Manager ASX Limited

### IronClad Mining Limited – ASX announcement

Enclosed is an ASX announcement dated 22<sup>nd</sup> December 2008, lodged by IronClad Mining Limited ("IFE"). Trafford Resources has a 50% direct interest in IFE and a 20% free carried interest in the Wilcherry Hill Iron Ore Project.

Neil W. McKay Company Secretary



ASX/Media Release

22nd December, 2008

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## **Resource Update at Wilcherry Hill and Hercules**

### **Highlights**

- **33%** upgrade of high grade crystalline magnetite.
- 60 million tonnes defined at Wilcherry Hill 58 % in Indicated category.
- Significant additional potential identified.
- High quality, low contaminant nature confirmed.
- Low cost beneficiation likely.
- Concentrate grades likely to exceed 67% Fe.
- 215 Million Tonnes defined at Hercules.
- **500 1000** MT Exploration Target for Hercules.

The Directors of IronClad Mining Limited (ASX: IFE) wish to advise that the Company has received additional resource statements from its independent consultants Golder Associates Pty Ltd. These resource statements have increased the high grade crystalline magnetite resource at the Wilcherry Hill Project by 33% to 60 million tonnes. The statement also identifies an initial resource of 215 million tonnes of iron ore at the Hercules Prospect from drilling of the southern two kilometres of the ten kilometre long anomaly.

Significant potential for additional crystalline magnetite has been identified at the 2.8 km long Ultima Dam West Prospect at Wilcherry Hill. Although drilling identified high quality crystalline magnetite, the current density of drilling was considered, by Golder Associates Pty Ltd., insufficient to enable resource modelling.

Metallurgical Testwork continues to confirm the exceptional nature of the crystalline magnetite at the Wilcherry Hill project in South Australia.

Prospect	Resource Category	Mt	Fe (%)	SiO₂ (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	S (%)	Mn (%)
Weednanna <sup>1</sup>	Indicated	19.9	35.9	n/a	n/a	n/a	n/a	n/a
	Inferred	7.1	32.5	n/a	n/a	n/a	n/a	n/a
Weednanna North <sup>2</sup>	Indicated	15.1	21.9	30.4	9.54	0.04	0.19	0.45
	Inferred	2.1	31.24	22.0	3.23	0.03	0.57	0.61
Weednanna North "2"3	Inferred	5.0	35.0	n/a	n/a	n/a	n/a	n/a
Ultima Dam East <sup>4</sup>	Inferred	10.7	29.8	30.2	6.69	0.09	0.40	0.93
	Total Indicated	35.0	29.9					
	Total Inferred	24.9	31.7					
	Grand Total	59.9	30.6					

Only Fe results are currently available for Weednanna and Weednanna North 2

<sup>1</sup> – 15% Fe lower cut-off used (Maprock 2007)

<sup>3</sup> – 15% Fe lower cut-off used (Maprock 2007)

NB:

<sup>2</sup> – 10% Fe lower cut-off used (Golder Associates,, 2008)

 $^{4}$  – 0% Fe lower cut-off used (Golder Associates, 2008)

#### Table 2: Weednanna Prospect – Bulk Sample Metallurgical Testwork Results

Sample	Size Tested	Mass %	Concentrate Assay Grade (%)					
Jampie	Size resteu	W1033 /0	Fe	SiO <sub>2</sub>	$AI_2O_3$	S	Р	
Weednanna Fresh	-8+4mm	57.1	70.9	0.43	0.38	0.012	BDL	
	-4+2mm	57.9	70.9	0.43	0.40	0.041	BDL	
	-2mm	65.8	71.0	0.40	0.40	0.016	BDL	
Ultima Dam East Fresh	-8+4mm	63.5	67.7	1.02	1.08	0.006	BDL	
	-4+2mm	59.8	67.5	1.13	1.08	0.006	BDL	
	-2mm	55.3	67.6	1.09	1.11	0.009	BDL	
Ultima Dam Oxidised	+1mm	54.2	67.1	0.84	1.17	0.006	BDL	
	1mm-106µm	54.8	67.1	0.82	1.23	0.005	BDL	
	-106µm	12.8	66.8	1.00	1.09	0.008	BDL	

#### Table 3: Hercules Prospect Iron Resource Summary

Material Type	Resource Catergory	Mt	Fe (%)	Calcined Fe (%)	SiO₂ (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	S (%)	Mn (%)	LOI (%)
Detrital <sup>1</sup>	Inferred	5.7	41.6	45.0	21.6	7.96	0.07	0.10	0.50	7.45
Goethite/Hematite <sup>2</sup>	Inferred	44.4	40.8	44.1	27.8	3.31	0.19	0.03	0.87	7.45
Goethite/Hematite/Manganese <sup>3</sup>	Inferred	8.9	35.1	38.5	20.9	3.82	0.20	0.03	10.15	8.87
Magnetite <sup>4</sup>	Inferred	156.6	23.1	23.8	50.8	2.25	0.19	0.09	0.54	3.74
Grand Total	Inferred	215.6	27.7	29.1	44.0	2.69	0.19	0.07	1.00	4.82
NB: 1 - 0.001% Fe lower cut-off used (Golder Associates,, 2008) 2 - 0.001% Fe lower cut-off used (Golder Associates,, 2008)										

<sup>1</sup> - 0.001% Fe lower cut-off used (Golder Associates,, 2008) <sup>3</sup> - 0.001% Mn lower cut-off used (Golder Associates,, 2008) <sup>2</sup> - 0.001% Fe lower cut-off used (Golder Associates,, 2008) <sup>4</sup> - 0.001% Fe lower cut-off used (Golder Associates,, 2008)

#### **Project Overview**

#### Background

The Wilcherry Hill Project is located about 30km north of the township of Kimba on the northern Eyre Peninsula of South Australia (Figure 1) and about 120km west of the deep water port at Port Bonython, close to the major steel making industry at Whyalla.

The Wilcherry Hill Project comprises five exploration licenses, four in Joint Venture with Trafford Resources and one in Joint Venture with Lincoln Minerals, together covering over 1000 square kilometers. The project area has been explored since the early 1980's, originally by Shell Minerals then, after numerous joint ventures and corporate takeovers, Trafford Resources acquired the four main tenements from Aquila Resources Ltd in 2006. Previous exploration focused mainly on gold and base metals, but Trafford quickly identified the potential of the iron resources at the Weednanna Prospect.

A Desktop Study was commissioned, and Promet Engineers concluded that a 2Mtpa base case operation was potentially viable with a number of product and export alternatives. This was based on a JORC resource of 44Mt at an average grade of 36.4% Fe (Maprock independent geologist) and metallurgical testwork, which indicated that a premium quality product of crystalline magnetite with high weight recoveries (up to 75%) and low impurities could be produced.

IronClad Mining entered into a joint venture with Trafford Resources to further advance the project through continued exploration, to increase the available tonnage and to investigate the feasibility of establishing an economically viable operation. Subsequent identification of the Hercules Prospect led IronClad to sign an agreement with Lincoln Minerals, which secures IronClad's access to the entire 10 km strike extent of this prospect.



Figure 1: Regional magnetic image (TMI) showing active prospects.

#### **Iron Ore Mineralisation**

The Wilcherry Hill magnetite prospects are hosted with the Hutchison Group sediments, which in the project area consists of a basal massive to flaggy quartzite sequence, Warrow Quartzite, overlain by dolomitic marble and calc-silicates (Katunga Dolomite unit), amphibolite, cherty BIF and pelitic schist, collectively of the Middleback Subgroup. A strong gravity low in the southern half of the Wilcherry Hill tenement most probably reflects a Hiltaba granite body, which was intersected by previous explorers at depth below the Weednanna prospect. This granite is significant because it is interpreted as the heat source for the magnetite skarn mineralisation. The interpretation is that iron oxides in the Wilcherry Hill area are developed in brecciated, metasomatically altered carbonate rocks of the Middleback Subgroup in a skarn setting adjacent to intrusions of Hiltaba Suite granites.

This geological setting is quite different to conventional magnetite deposits, in which the host to mineralisation is typically banded iron formation (BIF), which by definition contains fine grained magnetite interbanded with silica. By the nature of the skarn mineralisation, the Wilcherry Hill magnetite is coarsely crystalline and hosted within comparatively soft carbonate host rock.

#### Technical work completed by IronClad to date has included:

- 343 drill holes with 41349.4 total metres drilled (Table 4);
- Downhole density, magnetic susceptibility and gamma measurements
- 424 Davis Tube Recovery tests to determine product specification from wet magnetic separation
- Metallurgical testwork on four bulk samples from large diameter diamond drilling
- Review of historical exploration and retrieval of stored samples for analysis
- Regional exploration targeting, identifying the Hercules and Numancia prospects, plus subsequent drill testing.
- Gravity survey (250x250m grid) over Hercules.
- Aeromagnetic survey (100m line spacing) over Hercules

Drill Type	Holes Drilled	Metres Drilled
RC	334	40,040.5
Diamond	9	1,308.9
TOTAL	343	41,349.4

Table 4: Drilling summary

#### Ultima Dam East Prospect

At the Ultima Dam East prospect, 112 Reverse Circulation (RC) holes (10,135m) and 3 Diamond core holes (256.3m) have been drilled by IronClad. Ultima Dam East comprises a cluster of magnetite targets defined by aeromagnetic data, with historic iron mineralisation having been previously identified at the Mathews target. Resource modelling by Golder Associates Pty Ltd has been completed and metallurgical testwork has shown that the magnetite mineralisation, in both weathered and fresh rock, is easily beneficiated to obtain 67.1% Fe and 67.6% Fe grades respectively, with excellent mass recoveries of around 55% in each case and very low impurity levels.

#### Weednanna North Prospect

At the Weednanna North prospect, IronClad has drilled 66 RC holes (8,257m) and one Diamond core hole (195.9m), with the aim of adding to the adjacent resources at Weednanna,. Some of the better results included 08WNRC008, which

intersected 82m @ 30.9% Fe and 08WNRC016, which intersected 46m@ 33.8% Fe in magnetite). Within these broad drill intercepts, it is noted that there are very high grade zones, which are potentially direct shipping ore (DSO) grade, for example 08WNRC003 (7m @ 57.4% Fe) and 08WNRC008 (7m @ 53.8% Fe). The Weednanna North Resource has now been quantified by Golder Associates Pty Ltd (Table 1).

Weednanna North "Pod 2" is a discrete magnetic anomaly that has previously been resource modelled and quantified by Maprock Pty Ltd.

#### Weednanna Prospect

The Weednanna prospect has previously been resource modelled and quantified by Maprock Pty Ltd. Drilling has continued during IronClad's scoping study with a further 19 RC holes (1,915m) and 4 Diamond core holes (575.6m), additional re-assaying of previous samples for Fe has also been undertaken. Further metallurgical testing has been conducted,

#### Ultima Dam West Prospect

Significant historical drilling has taken place at the prospect. This was predominantly shallow RAB drilling, although three deep diamond holes were also drilled. Where available samples from these holes have been submitted for re-assay for the full suite of iron ore elements.

A total of 10 RC holes for 2,195m were drilled by Ironclad during 2008.

Magnetite skarn mineralisation was intersected in 9 out of the 10 holes drilled by IronClad at the prospect, with the best results coming from 08UWRC003, intersecting 133m @ 29.6% Fe, which includes 14m @ 47.3% Fe.

Ultima Dam West has the highest potential to add significant resources on the Wilcherry tenement (EL 4162) due to the significant (2.8km) strike length of the anomaly, combined with the success in the initial phase of drilling completed by IronClad. As a comparison, the Weednanna anomaly is approximately 1.2km in strike length.

#### Hercules Prospect

The Hercules prospect (formerly known as Ironstone Hills or Eurilla Dam) is an outcropping ironstone located 10km to the east of IronClad's established iron resources at the Weednanna and Ultima Dam East prospects. Hercules shares many geological and geophysical similarities with the Middleback Range iron ore deposits, approximately 70 kilometres to the south east, where more than 200Mt have been mined for over 100 years. IronClad entered into a JV with Lincoln Minerals in early 2008 to secure access to the southern portion of the prospect.

Hercules is a strong magnetic and density anomaly approximately 10km in length, so it has been considered a large tonnage target and offers significant medium term growth potential for Ironclad. Prior to IronClad's involvement, there had been no drilling into the ironstone, but surface sampling indicated the presence of significant outcrop at >50% Fe. IronClad has now drilled 74 RC holes (9,933.5m), for exploration and a single diamond hole (281.1m) to collect a metallurgical sample.. The maiden resource statement (Table 1) represents approximately 25% of the anomaly length and demonstrates that there is large magnetite resource with a capping of goethite-hematite resource and a manganiferous Fe resource present.

An Exploration Target of between 500 MT and 1 billion tonnes at 25-30% Fe is considered achievable, based on extension of strike lengths and dip of defined mineralisation. The potential quantity and grade is conceptual in nature, and there has been insufficient exploration to define a Mineral Resource additional to the 215 MT currently defined, and it is uncertain if further exploration will result in the determination of a Mineral Resource greater than the 215 MT currently defined.



Figure 2: Hercules Prospect – First Vertical Derivative Gravity Image showing aeromagnetic peak outlines and IronClad Drillholes

#### **Metallurgical Testwork**

Ongoing testwork results on bulk representative samples have confirmed the high grade and high mass recoveries of the magnetite, even at coarse grind sizes. The wet magnetic separation (DTR) tests on the diamond drill core, using a 75µm screen, produced direct reduction (DR) grade product similar to the earlier testwork undertaken by Trafford Resources. The results are reproduced in Table 5. Concentrate grades of 71% Fe were achieved from the fresh Weednanna sample, while concentrate grades of 67.6% Fe were achieved from the fresh Ultima Dam East sample, in each case with excellent mass recoveries. The weathered (oxidized) sample at Ultima East also achieved a concentrate grade of 67.1% Fe with more than 54% weight recovery, after removal of the -106µm size fraction. In all cases, the impurity levels were very low, with phosphorous notably below the detection limit.

Sample	Size Tested	Mass %	Concentrate Assay Grade (%)					
Sample		111105 /0	Fe	SiO <sub>2</sub>	$AI_2O_3$	S	Р	
Weednanna Fresh	-8+4mm	57.1	70.9	0.43	0.38	0.012	BDL	
	-4+2mm	57.9	70.9	0.43	0.40	0.041	BDL	
	-2mm	65.8	71.0	0.40	0.40	0.016	BDL	
Ultima Dam East Fresh	-8+4mm	63.5	67.7	1.02	1.08	0.006	BDL	
	-4+2mm	59.8	67.5	1.13	1.08	0.006	BDL	
	-2mm	55.3	67.6	1.09	1.11	0.009	BDL	
Ultima Dam Oxidised	+1mm	54.2	67.1	0.84	1.17	0.006	BDL	
	1mm-106µm	54.8	67.1	0.82	1.23	0.005	BDL	
	-106µm	12.8	66.8	1.00	1.09	0.008	BDL	

Table 5: Summary of the test results from bulk metallurgical samples results.

Further DTR work has been carried out on the RC drill chips, with results consistent with those from the bulk drill core samples. A significant outcome of this work is that even samples with low head grades (<25% Fe) are still shown to readily upgrade to an excellent concentrate grade (>65% Fe).

Dry magnetic separation test (DMS) were also undertaken on the two fresh magnetite samples from Ultima Dam East and Weednanna. The aim of the testwork was to determine if a saleable concentrate can be obtained by simple dry magnetic separation, which presents an opportunity for IronClad to reduce the capital costs to develop its project by reducing the amount of water required to process the ore. The results were extremely encouraging. The head grades at various grind sizes can be upgraded (up to 21%), with the best results coming from the -2mm fraction (Table 6). The Promet report states that the Weednanna sample is "good grade magnetite with very good weight rejected at the DMS stage with very minimal losses of magnetic Fe in the DMS tails". Testwork is continuing, using magnets of differing magnetic intensity.

Sample	Size Tested	Maga 9/	Concentrate Assay Grade (%)					
		WId55 70	Fe	SiO <sub>2</sub>	$AI_2O_3$	S	Р	
	+4mm	80.6	51.9	14.2	2.07	0.206	0.007	
Weednanna Fresh	+2mm	76.4	52.2	14.1	2.03	0.224	0.007	
	-2mm	80.9	58.5	9.23	1.53	0.12	0.005	
	+4mm	87.2	51.3	12.0	1.13	0.009	0.03	
Ultima Dam East Fresh	+2mm	88.4	52.4	11.1	1.14	0.01	0.03	
	-2mm	80.2	54.4	9.99	1.14	0.01	0.02	

Table 6: Summary of dry magnetic separation (DMS) results

Further metallurgical testwork under Promet's supervision is underway on samples collected from diamond drilling in the second half of 2008. This includes fresh and oxidised magnetite samples from Weednanna, Weednanna North and Hercules, as well as hematite testwork on Hercules. Results are expected in early 2009.

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Ian Finch Director Tel: 08 9485 1040

#### **Competent Persons Statement**

The Ultima Dam East, Weednanna North and Hercules Resources were estimated by Mr Alan Miller BSc (Hons) Member of The Australian Institute of Mining and Metallurgy and a full time employee of Golder Associates Pty Ltd and Mr Brendan Borg BSc (Hons) Member of The Australian Institute of Mining and Metallurgy and a full time employee off IronClad Mining Limited. Resource Statements for Weednanna and Weednanna North 2 were provided by Fritz Fitton BSc (Hons) MAUSIMM, MAIG a full time employee of Maprock Pty Ltd in 2007. All parties have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Persons as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Miller, Mr Borg and Mr Fitton consent to the inclusion in this report of the above Resource information in the form and context in which it appears.

The information that relates to exploration targets, exploration results and drilling data is based on information compiled by Ian D. Finch, who is a Member of The Australasian Institute of Mining and Metallurgy and who has more than five years experience in the field of activity being reported on. Mr. Finch is a full-time employee of IronClad's parent company, Trafford Resources Limited.

*Mr.* Finch has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Finch consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.