



SheffieldResources  
LIMITED

## ASX and Media Release

21 November 2011

# SHEFFIELD DISCOVERS NEW MINERAL SANDS DEPOSIT AT ENEABBA

## KEY POINTS

- Drill results from Drummond Crossing outline new heavy mineral sands (HMS) deposit
- Mineralisation is dunal style, occurs at surface, and is open to the north and south
- Discovery highlights potential to find further HM deposits in the Eneabba region
- Sheffield recently applied for two new exploration licences to north and east of Eneabba covering 66km of prospective strike for similar dunal style HMS deposits

**Bulk minerals explorer Sheffield Resources ("Sheffield") (ASX:SFX)** today announced a new heavy mineral sand (HMS) discovery at its Drummond Crossing prospect located just 20km north of Eneabba in Western Australia's Mid-West region (Figure 1).

The discovery follows Sheffield's recently reported Mineral Resources at its Yandanooka, Ellengail and West Mine North projects, also located near Eneabba.

Sheffield drilled 29 aircore holes on 3 traverses at Drummond Crossing. Results include:

**12m @ 2.74% HM from 0m (DCAC0024),  
6m @ 5.24% HM from 0m (DCAC0025),  
10.5m @ 3.16% HM from 0m, within 28.5m @ 1.91% HM from 0m(DCAC0020),  
9m @ 2.23% HM from 0m (DCAC0019), and  
7.5m @ 2.68%HM from 0m (DCAC0026).**

(Refer to Table 1 for further details.)

The drill results have outlined a mineralised area (>0.9% HM) of 3km N-S by 1.5km E-W. The mineralisation sits at surface, averages 9m in thickness (locally up 28.5m thick) and is open to the north and south (Figures 2 & 3). To the west, the deposit lies adjacent to mining leases held by Iluka Resources Ltd (Iluka) (ASX:ILU).

Managing Director, Bruce McQuitty said the Drummond Crossing discovery highlights the significant exploration potential within the broader Eneabba region.

*"Our first drilling programme in the region has met with success, supporting our belief that there is further unrealised exploration potential on Sheffield's tenure in the Eneabba area."*

*"Our strategy is to identify between 5Mt and 10Mt contained HM in the district to support one or more mobile mining plants."*

*"Dunal style mineralisation, such as that discovered at Drummond Crossing, is particularly attractive as an exploration target because it usually occurs at surface, has lower associated mining costs and is generally amenable to standard processing techniques."*

Sheffield recently applied for two new exploration licences to the east and north of Eneabba, covering 66km of prospective strike for similar dunal style HMS deposits.

Iluka recently announced revised reserves for four of its Eneabba deposits to the south of Drummond Crossing, two of which (Twin Hills and Depot Hill East) have a similar setting, grade and areal extent to the mineralisation outlined by Sheffield at Drummond Crossing (Figure 1).

In addition to the near-surface dunal mineralisation, a deeper zone of mineralisation was intersected in 4 consecutive holes (DCAC0006-9) on the southernmost drill traverse, including a best intersection of **4.5m @ 5.77% HM** from a depth of 27m in drill hole DCAC0008 (Table 1). This opens up a new exploration target to the south.

Sheffield will undertake mineral assemblage analyses on the Drummond crossing heavy mineral samples before planning further drilling.

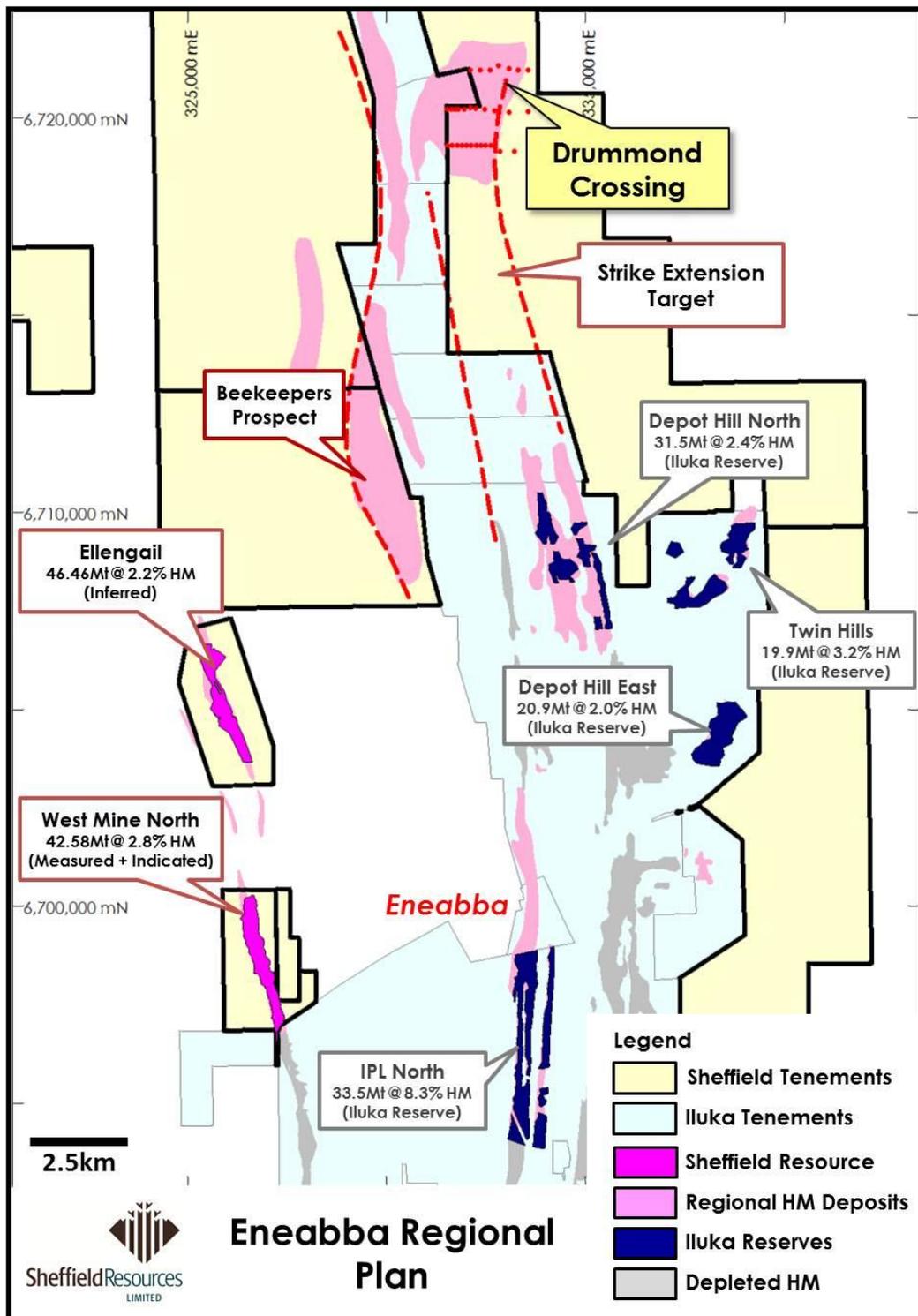


Figure 1: Eneabba regional plan showing the location of Drummond Crossing, Sheffield's landholding and current Mineral Resources\* with respect to other deposits in the region.

\* Sheffield's Mineral Resources are detailed in ASX announcements dated 7 November 2011 (West Mine North) and 25 October 2011 (Ellengail). Iluka's reserve figures are quoted from its ASX announcement dated 16 November, 2011.

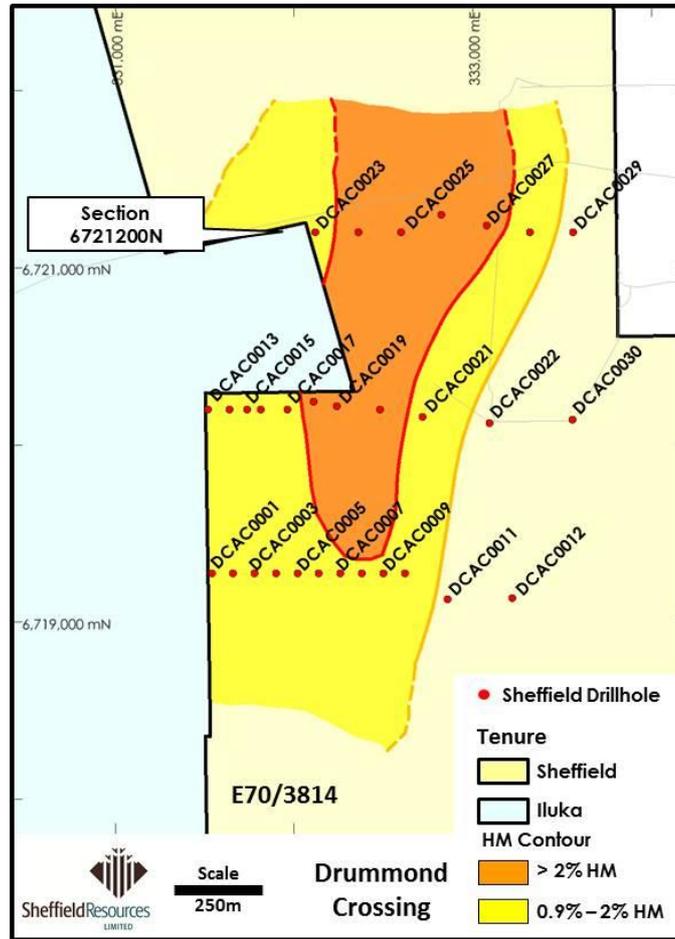


Figure 2: Drummond Crossing drillhole plan with HM contours (average grade >3m thickness).

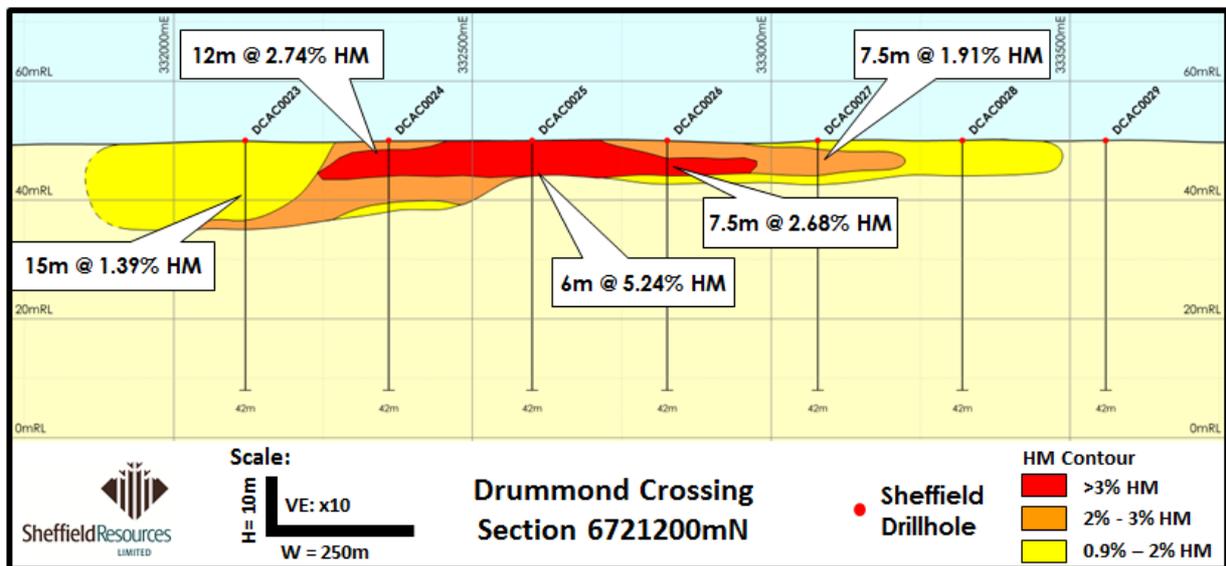


Figure 3: Cross Section 6,721,200mN - looking north (10x vertical exaggeration).

ENDS

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## Results Tabulation

Results of heavy liquid separation (HLS) are tabulated below. HLS using TBE, screen sizes: slimes -53µm, oversize +1mm. Coordinates used throughout are MGA Zone 50 (GDA94), all holes drilled vertically.

**Table 1: Drummond Crossing aircore drill results. Intervals calculated using 0.9% HM cutoff, 3m minimum width, maximum 1.5m internal waste.**

Hole ID	Easting	Northing	Depth From (m)	Depth To (m)	Interval Width (m)	HM wt%	Slimes wt%	Osize wt%		
DCAC0001	331540	6719276	4.5	12.0	7.5	1.33	9.1	24.3		
DCAC0002	331660	6719276	6.0	10.5	4.5	0.91	13.0	25.2		
DCAC0003	331780	6719276	3.0	9.0	6.0	0.96	15.4	12.0		
DCAC0004	331900	6719276	3.0	7.5	4.5	1.10	22.4	6.5		
DCAC0005	332020	6719276	0.0	7.5	7.5	1.20	12.3	8.0		
DCAC0006	332140	6719276	1.5	9.0	7.5	1.30	16.1	9.5		
DCAC0006	332140	6719276	28.5	34.5	6.0	1.21	12.5	18.7		
DCAC0007	332260	6719276	0.0	7.5	7.5	1.40	11.6	5.7		
DCAC0007	332260	6719276	24.0	34.5	10.5	2.07	12.4	8.0		
DCAC0008	332380	6719276	0.0	6.0	6.0	1.45	17.1	9.1		
DCAC0008	332380	6719276	27.0	31.5	4.5	5.77	10.9	11.8		
DCAC0009	332500	6719276	0.0	7.5	7.5	1.33	16.7	14.9		
DCAC0009	332500	6719276	30.0	36.0	6.0	3.88	8.8	11.6		
DCAC0010	332620	6719276	0.0	6.0	6.0	1.34	17.5	16.9		
DCAC0011	332860	6719127	No significant result							
DCAC0012	333220	6719136	No significant result							
DCAC0013	331520	6720200	0.0	18.0	18.0	1.33	9.5	6.3		
DCAC0014	331640	6720200	0.0	9.0	9.0	1.41	13.3	2.7		
DCAC0015	331738	6720200	0.0	7.5	7.5	1.54	15.8	4.9		
DCAC0016	331816	6720200	0.0	7.5	7.5	1.66	18.0	3.6		
DCAC0017	331965	6720200	0.0	7.5	7.5	1.83	21.7	6.5		
DCAC0018	332111	6720244	0.0	7.5	7.5	2.01	16.4	7.4		
DCAC0018	332111	6720244	12.0	15.0	3.0	1.43	6.7	3.4		
DCAC0019	332241	6720217	0.0	9.0	9.0	2.23	13.0	5.2		
DCAC0020	332480	6720200	0.0	28.5	28.5	1.91	10.9	3.0		
		<i>including</i>	0.0	10.5	10.5	3.16	13.1	4.2		
DCAC0020	332480	6720200	31.5	34.5	3.0	5.05	28.1	11.1		
DCAC0021	332720	6720159	0.0	6.0	6.0	1.77	37.9	14.4		
DCAC0022	333095	6720122	No significant result							
DCAC0023	332120	6721200	0.0	15.0	15.0	1.39	8.7	1.4		
DCAC0024	332360	6721200	0.0	12.0	12.0	2.74	8.8	3.2		
DCAC0025	332600	6721200	0.0	6.0	6.0	5.24	10.9	5.6		
DCAC0026	332826	6721298	0.0	7.5	7.5	2.68	8.5	11.2		
		<i>including</i>	0.0	6.0	6.0	3.03	8.2	5.0		
DCAC0027	333078	6721238	0.0	7.5	7.5	1.91	12.5	12.1		
DCAC0028	333320	6721200	0.0	6.0	6.0	1.21	16.5	18.0		
DCAC0029	333560	6721200	No significant result							
DCAC0030	333559	6720142	No significant result							

**COMPETENT PERSONS' STATEMENT**

The information in this announcement that relates to exploration results is based on information compiled by Bruce McQuitty. Mr McQuitty is a full time employee of the Company. Mr McQuitty is a Member of the Australasian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity to which they are undertaking to qualify as Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code")'. Mr McQuitty consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

**FORWARD LOOKING AND EXPLORATION TARGET STATEMENTS**

Some statements in this announcement regarding estimates or future events are forward-looking statements. They involve risk and uncertainties that could cause actual results to differ from estimated results. Forward-looking statements include, but are not limited to, statements concerning the Company's exploration programme, outlook, target sizes and mineralised material estimates. They include statements preceded by words such as "expected", "planned", "target", "scheduled", "prospective", and similar expressions.

## ABOUT SHEFFIELD RESOURCES

Sheffield Resources Limited (**Sheffield**) is a dynamic exploration company with a bulk minerals focus. The Company's Projects are geared towards the steel industry feed cycle (iron ore and tungsten) and the emerging fillers-ceramics-pigments cycle (talc, zircon, titanium dioxide).

ASX Code – SFX

Market Cap @ 30cps - \$17.6m

Issued shares – 58.7m

Cash - \$3.3 (at 30/9/2011)

The Company has over 6,000km<sup>2</sup> of highly prospective tenure, all situated within the state of Western Australia.

### HEAVY MINERAL SANDS

The Dampier project, located near Derby in WA's Kimberley region has the potential to become Sheffield's flagship HMS project. It contains a large zircon-rich HMS deposit formerly explored by Rio Tinto.

Sheffield's North Perth Basin tenement package of over 2,500km<sup>2</sup> contains eight advanced exploration projects: West Mine North, Ellengail, Yandanooka, Durack, Beekeepers, Drummond Crossing and Irwin which are located near Eneabba; and the large McCalls deposit - a former BHP project located near Gingin. These projects are well located close to existing mineral sands operations and to a network of highways and railway lines connecting to the Geraldton and Fremantle/Kwinana ports. Sheffield's strategy is, subject to exploration success, to build multiple HMS projects capable of supporting a flexible mobile mining plant.

### IRON

Sheffield's Pilbara iron ore projects consist of 5 granted tenements and 8 tenement applications, 6 of which are subject to ballot with multiple competing parties. Sheffield's strategy is to target hematite mineralisation adjacent to infrastructure in the world class Pilbara iron province and to build up consolidated tenement holdings over time. High grade iron mineralisation has been identified on three of the Company's tenements.

### TALC

Sheffield has 1,152km<sup>2</sup> of tenure over the 175km-long Moora Talc Belt which represents a dominant ground position over a region that has, for the last 50 years, been exclusively controlled by major mining companies.

The Moora Talc Belt includes the large Three Springs mine which is owned by Imerys subsidiary Luzenac Australia Pty Ltd. Three Springs is renowned for producing high purity talc and is a relatively simple "dig-and-deliver" operation.

Sheffield's large tenement holding contains numerous talc occurrences and has the potential to become a strategic talc asset. Sheffield therefore represents a unique opportunity for investors to gain exposure to one of the few high-grade talc explorers in the world.