ASX and Media Release

22 May 2012

SHEFFIELD DISCOVERS NEW HMS DEPOSIT AT ENEABBA PROJECT

KEY POINTS

- **First results from Sheffield's 2012 Eneabba Project drilling programme includes the discovery of a new, substantial heavy mineral sand (HMS) deposit at Durack**
- **Mineralisation is from surface, up to 18 metres depth**
- **Discovery is expected to substantially improve economics of the Eneabba Project (pre-feasibility studies commenced)**
- **Resource estimation work underway**
- **Drilling continues at the Eneabba Project – results are expected to be available progressively from June 2012**

Mineral Sands explorer Sheffield Resources ("Sheffield") (ASX:SFX) today announced the discovery of a new HMS deposit from the first results of the 2012 drilling campaign at its Eneabba Project in Western Australia's Mid-West region (Figure 1).

The discovery was made at the Durack prospect which is located 20km south of the Yandanooka deposit (**71.75Mt @ 2.6% HM** combined Indicated and Inferred Resource).

The Eneabba Project Scoping Study, conducted by TZMI and reported earlier this year (see ASX release dated 30 March 2012), identified near-surface deposits, such as this recent discovery at Durack, as having the potential to significantly improve the already robust Eneabba Project economics.

The drilling program at Durack returned excellent results (Table 1), including:

- **13.5m @ 3.66% HM from 0m in hole DUAC110**
- **13.5m @ 3.44% HM from 0m in hole DUAC074, *includes 9m @ 4.56% HM from 0m***
- **10.5m @ 4.28% HM from 0m in hole DUAC073, *includes 6m @ 6.24% HM from 0m***
- **12.0m @ 3.69% HM from 0m in hole DUAC101**

These results outline a mineralised zone approximately 3.3km long, 1.3km wide and between 3m and 18m thick (average 7m), from surface.

Within this is a high-grade (>2% HM) core approximately 2.5km long by 1km wide, from 3m to 16.5m thick (average 6m), also from surface.

The drilling was completed on a regular 400m x 120m grid, designed to provide sufficient confidence for estimation of a Mineral Resource (Figure 2).

Managing Director, Bruce McQuitty said: *"This is a terrific start to our 2012 drilling campaign."*

"Sheffield continues to deliver on its strategy of targeting HMS deposits which have minimal overburden and which present as clear exploration and development opportunities."

"Durack has all the attributes of our nearby Yandanooka deposit which contains significant zircon and rutile, has little overburden and contains a core of high grade heavy mineral."

"Most importantly, the discovery at Durack is expected to make the project economics of the current Prefeasibility Study even more attractive than the robust results demonstrated by our recently completed Scoping Study."

Exploration upside

The Durack and Yandanooka deposits occur within an ancient NNW-trending shoreline position known as the "Yandanooka shoreline". Sheffield controls 70km of strike of this prospective trend which will be explored for further significant HM deposits.

Further work

Sheffield will investigate the mineral assemblage of Durack and expects to complete a resource estimate in early Q3 2012. Drilling continues at the Eneabba project targeting the Yandanooka, Drummond Crossing and Irwin prospects. Results are expected to be available progressively from June.

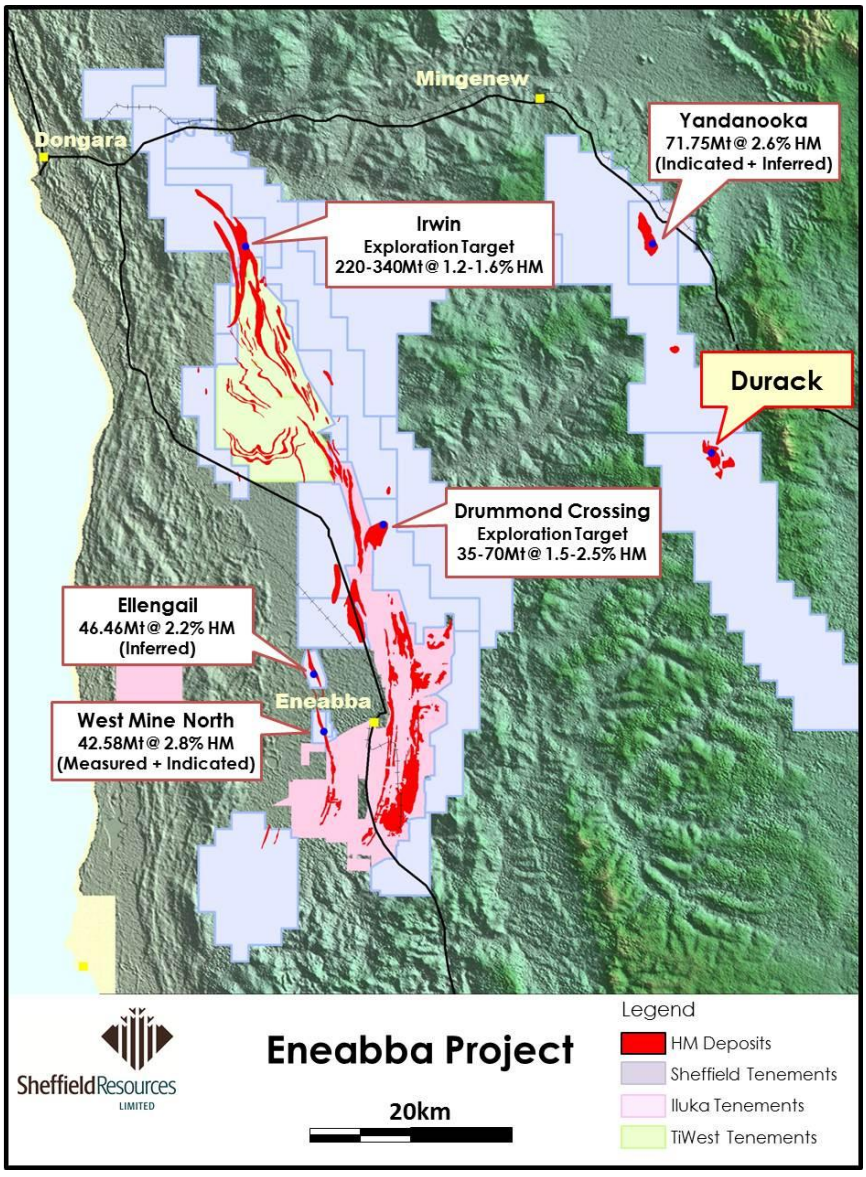

Figure 1: Location of Durack prospect within the Eneabba Project

[1]Sheffield Resources has not yet reported Mineral Resources for Drummond Crossing and Irwin any discussion in relation to targets and Mineral Resources is conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource.

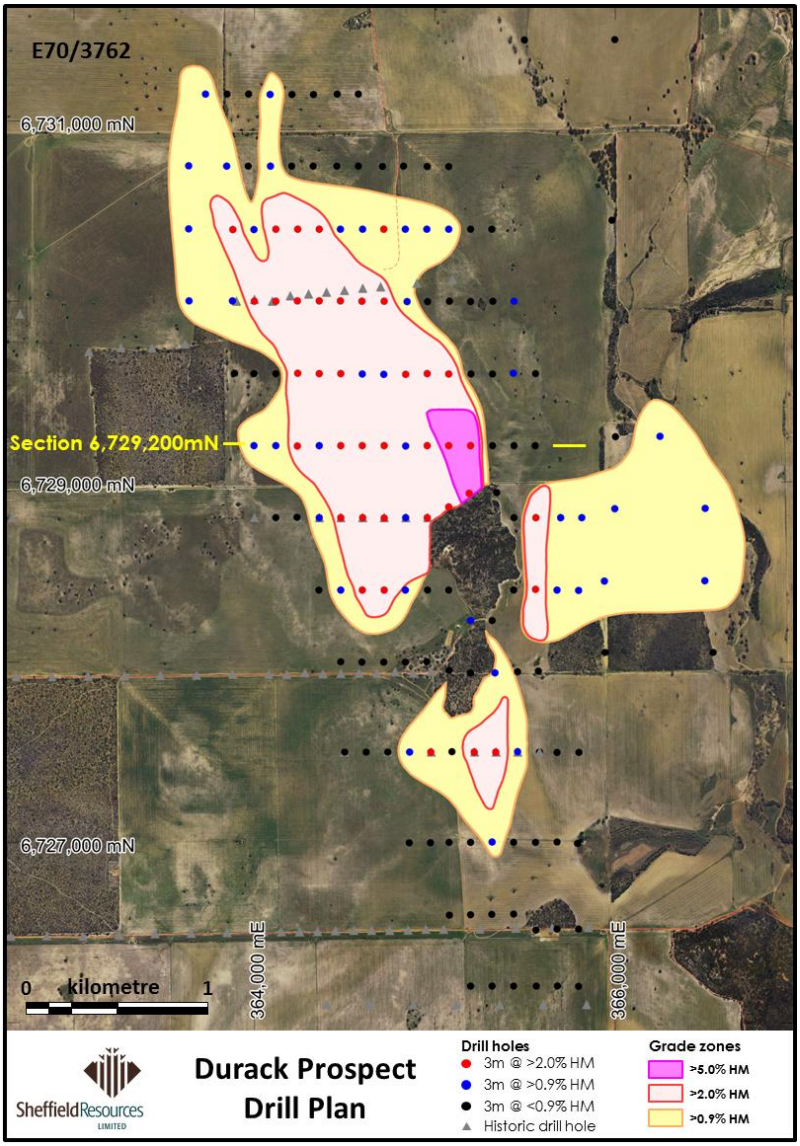

Figure 2: Durack drill hole plan with HM grade zones.

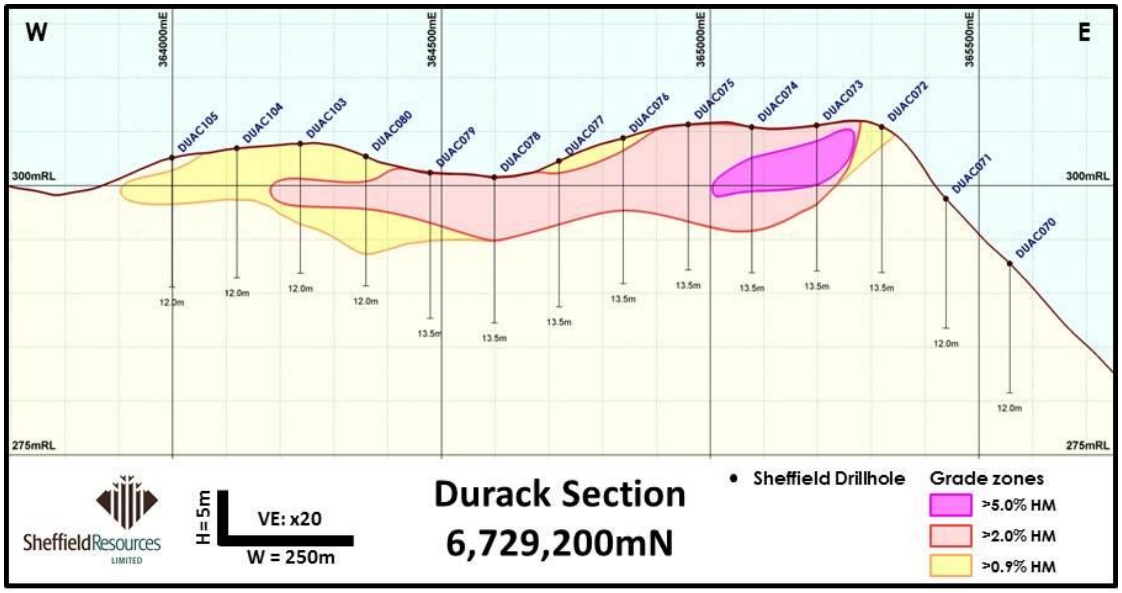

Figure 3: Durack cross section, note lack of overburden and broad, dunal-style mineralised zones.

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: Durack aircore drill results. Intervals calculated using >0.9% HM, <35% Slimes cut off, 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%
DUAC018	365319	6727002	0.0	4.5	4.5	1.33	20.3	21.6
DUAC026	364860	6727500	0.0	4.5	4.5	1.13	17.3	35.9
DUAC027	**364978**	**6727501**	**0.0**	**3.0**	**3.0**	**3.02**	**20.0**	**22.4**
DUAC029	365218	6727501	0.0	3.0	3.0	2.23	15.5	31.0
DUAC030	**365338**	**6727500**	**0.0**	**6.0**	**6.0**	**3.21**	**11.1**	**17.6**
DUAC031	365460	6727502	0.0	7.5	7.5	1.77	9.2	13.9
DUAC043	365334	6727940	0.0	4.5	4.5	1.58	27.2	17.5
DUAC046	**365558**	**6728402**	**0.0**	**18.0**	**18.0**	**2.30**	**14.5**	**15.6**
		including	***0.0***	***16.5***	***16.5***	***2.40***	***14.0***	***14.6***
DUAC049	365199	6728229	0.0	3.0	3.0	1.32	19.4	14.8
DUAC052	364837	6728399	0.0	3.0	3.0	1.55	13.0	5.8
DUAC052	364837	6728399	6.0	13.5	7.5	1.26	16.4	24.5
DUAC053	364720	6728399	0.0	6.0	6.0	2.83	9.8	10.6
DUAC054	364599	6728399	0.0	6.0	6.0	2.81	15.7	16.9
DUAC055	364480	6728398	0.0	3.0	3.0	1.52	14.8	10.0
DUAC059	364361	6728801	0.0	6.0	6.0	1.79	15.4	17.9
DUAC060	364480	6728800	0.0	6.0	6.0	2.44	18.8	18.3
DUAC061	364600	6728800	0.0	6.0	6.0	2.72	19.4	20.6
DUAC062	364720	6728799	0.0	3.0	3.0	2.50	21.3	16.0
DUAC063	364839	6728800	0.0	4.5	4.5	1.65	27.7	19.4
DUAC064	**364959**	**6728801**	**0.0**	**4.5**	**4.5**	**3.09**	**27.9**	**17.6**
DUAC065	365077	6728861	0.0	4.5	4.5	2.91	11.4	33.7
DUAC066	**365190**	**6728935**	**0.0**	**7.5**	**7.5**	**3.85**	**12.8**	**28.3**
		including	***0.0***	***4.5***	***4.5***	***5.63***	***13.7***	***19.8***
DUAC069	365561	6728800	0.0	10.5	10.5	1.93	20.8	17.7
DUAC073	**365198**	**6729200**	**0.0**	**10.5**	**10.5**	**4.28**	**8.0**	**22.9**
		including	***0.0***	***6.0***	***6.0***	***6.24***	***11.7***	***10.8***
DUAC074	**365078**	**6729200**	**0.0**	**13.5**	**13.5**	**3.44**	**11.8**	**18.0**
		including	***0.0***	***9.0***	***9.0***	***4.56***	***10.8***	***16.3***
DUAC075	**364959**	**6729200**	**0.0**	**9.0**	**9.0**	**3.24**	**12.6**	**21.8**
DUAC076	364838	6729199	0.0	6.0	6.0	1.76	16.5	21.3
DUAC077	364719	6729200	0.0	6.0	6.0	2.23	14.9	15.2
DUAC078	**364599**	**6729199**	**0.0**	**6.0**	**6.0**	**3.19**	**16.6**	**15.8**
DUAC079	364479	6729200	0.0	6.0	6.0	2.99	12.1	16.7
DUAC080	364360	6729199	0.0	9.0	9.0	1.41	22.3	19.1
DUAC081	**364361**	**6729600**	**0.0**	**10.5**	**10.5**	**3.35**	**18.8**	**13.8**

Hole ID	Easting	Northing	Depth From (m)	Depth To (m)	Interval Width (m)	HM wt%	Slimes wt%	Osize wt%
DUAC082	364479	6729600	0.0	10.5	10.5	1.58	14.3	17.4
DUAC083	364599	6729598	0.0	7.5	7.5	1.59	13.7	10.6
DUAC084	364718	6729596	0.0	6.0	6.0	1.41	11.6	12.9
DUAC085	364840	6729596	0.0	10.5	10.5	2.19	8.3	22.7
		including	***1.5***	***6.0***	***4.5***	***3.24***	***8.2***	***17.5***
DUAC086	364958	6729599	0.0	7.5	7.5	2.77	11.7	20.1
DUAC087	365077	6729598	0.0	4.5	4.5	2.25	19.5	13.9
DUAC090	365436	6729600	9.0	12.0	3.0	1.55	28.3	22.2
DUAC092	365439	6730001	0.0	3.0	3.0	1.77	20.6	12.8
DUAC097	364846	6729998	0.0	9.0	9.0	1.28	11.7	21.3
DUAC098	364720	6730002	0.0	10.5	10.5	2.06	7.6	17.1
		including	*1.5*	*7.5*	*6.0*	*2.74*	*8.3*	6.6
DUAC099	364597	6730000	0.0	12.0	12.0	2.35	7.8	10.7
		including	*1.5*	*10.5*	*9.0*	*2.78*	*8.7*	*8.1*
DUAC100	364478	6730002	0.0	10.5	10.5	2.60	6.6	7.4
DUAC101	**364360**	**6730002**	**0.0**	**12.0**	**12.0**	**3.69**	**6.7**	**7.0**
		including	***1.5***	***12.0***	***10.5***	***3.94***	***6.8***	***7.6***
DUAC102	**364239**	**6730003**	**0.0**	**13.5**	**13.5**	**3.30**	**6.7**	**11.1**
		including	***1.5***	***12.0***	***10.5***	***3.86***	***7.3***	***10.3***
DUAC103	364238	6729199	0.0	6.0	6.0	2.00	9.8	14.6
DUAC104	364120	6729200	0.0	4.5	4.5	1.23	14.2	28.0
DUAC105	363999	6729200	1.5	4.5	3.0	1.13	13.0	38.6
DUAC109	364240	6729601	0.0	7.5	7.5	2.03	15.7	21.7
DUAC110	**364120**	**6730000**	**0.0**	**13.5**	**13.5**	**3.66**	**6.9**	**12.7**
		including	***1.5***	***12.0***	***10.5***	***4.34***	***7.6***	***10.8***
DUAC111	364000	6730001	0.0	10.5	10.5	2.37	10.3	8.6
		including	***4.5***	***10.5***	***6.0***	***3.09***	***9.1***	***11.3***
DUAC112	363878	6730002	3.0	7.5	4.5	1.10	11.9	10.7
DUAC113	363880	6730398	0.0	7.5	7.5	1.91	9.7	14.3
		including	*3.0*	*6.0*	*3.0*	*2.86*	*11.6*	*8.7*
DUAC114	363999	6730399	0.0	7.5	7.5	1.64	10.8	14.0
DUAC115	364119	6730400	0.0	9.0	9.0	2.23	9.6	15.6
DUAC116	364090	6730750	0.0	6.0	6.0	1.65	12.1	18.2
DUAC118	363848	6730750	1.5	7.5	6.0	1.17	11.5	20.3
DUAC119	363639	6730002	0.0	7.5	7.5	1.40	15.2	17.3
DUAC120	363637	6730401	0.0	7.5	7.5	1.72	10.9	23.5
DUAC121	363637	6730752	0.0	6.0	6.0	1.24	14.5	31.2
DUAC122	364241	6730400	0.0	7.5	7.5	2.69	8.5	19.5
		including	***0.0***	***6.0***	***6.0***	***3.09***	***9.8***	***14.8***
DUAC123	364361	6730401	0.0	6.0	6.0	1.83	10.5	11.3
DUAC124	364477	6730400	0.0	6.0	6.0	1.32	11.7	13.0
DUAC125	364601	6730400	0.0	6.0	6.0	1.84	10.9	10.7

Hole ID	Easting	Northing	Depth From (m)	Depth To (m)	Interval Width (m)	HM wt%	Slimes wt%	Osize wt%
DUAC126	364718	6730401	0.0	10.5	10.5	1.82	9.3	15.4
		including	*4.5*	*7.5*	*3.0*	*2.64*	9.6	*10.0*
DUAC127	364838	6730400	0.0	6.0	6.0	1.51	10.5	10.7
DUAC128	364957	6730401	1.5	4.5	3.0	1.01	16.4	8.3
DUAC129	365077	6730400	0.0	6.0	6.0	1.35	12.4	10.4
DUAC140	363730	6731151	1.5	7.5	6.0	1.22	10.4	11.4
DUAC143	364089	6731149	3.0	10.5	7.5	1.31	7.6	20.6
DUAC152	366247	6729251	0.0	4.5	4.5	1.13	21.8	21.5
DUAC153	365679	6728398	7.5	18.0	10.5	1.10	7.9	12.4
DUAC154	365797	6728396	12.0	16.5	4.5	0.98	7.7	17.2
DUAC155	365698	6728800	0.0	9.0	9.0	1.12	24.0	11.3
DUAC155	365698	6728800	12.0	15.0	3.0	1.11	18.1	20.8
DUAC156	365815	6728800	1.5	10.5	9.0	1.20	24.8	13.5
DUAC157	365941	6728448	10.5	19.5	9.0	1.23	16.2	11.5
DUAC160	366497	6728451	3.0	6.0	3.0	1.60	19.7	23.6
DUAC161	366499	6728852	1.5	6.0	4.5	0.97	19.3	17.6
DUAC162	365999	6728850	7.5	10.5	3.0	1.04	15.6	14.3

ENDS

For further information please contact:

Bruce McQuitty
Managing Director
Tel: 0409 929 121
bmcquitty@sheffieldresources.com.au

Media: Annette Ellis
Purple Communications
Tel: 08 6314 6300
AEllis@purplecom.com.au

Website: www.sheffieldresources.com.au

COMPETENT PERSONS' STATEMENT

The information in this announcement that relates to exploration results is based on information compiled by David Boyd. Mr Boyd is a full time employee of the Company. Mr Boyd 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 Boyd 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 rapidly emerging heavy mineral sands (HMS) company.

ASX Code – SFX	Market Cap @ 35cps - $33.2m
Issued shares* – 94.8m	Cash - $10.3m (approx.)

The Company has over 6,000km^2 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 Eneabba Project contains six advanced exploration prospects: West Mine North, Ellengail, Yandanooka, Durack, Drummond Crossing and Irwin which are located near Eneabba. The Project is 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 develop multiple HMS deposits capable of supporting a flexible mobile mining operation.

Sheffield is also evaluating the large McCalls chloride ilmenite project, located near Gingin.

IRON

Sheffield's iron strategy is to target hematite mineralisation adjacent to infrastructure in the world class Pilbara iron province and build up consolidated tenement holdings over time. To date, high grade iron mineralisation has been identified on three of the Company's tenements.

TALC

Sheffield has 1,152km^2 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.