

5 June 2017

Graphex Mining Ltd

Target Price: A\$1.00 share
Recommendation: Speculative Buy
Company details

Graphex Mining Ltd (GPX) which listed on the ASX in June 2016, is focussed on developing the Chilalo graphite deposit in Tanzania. All major approvals have been received with development forecast to commence in 2018 and first production forecast for 2019. Production rates are still to be finalised in the DFS, the pre-feasibility study (PFS) assuming an initial production rate of 69kt per annum.

GPX Equity Details

PRICE (26 MAY 2017)	\$0.495
52 WEEK RANGE (LOW-HIGH)	\$0.31-\$0.65
ASX TICKER	GPX
BLOOMBERG/REUTERS	GPX AU / GPX AX
YEAR END	JUNE
ORDINARY SHARES ON ISSUE (M)	57.8
OPTIONS ON ISSUE (M)	18.8
FULLY DILUTED SHARES (M)	77
MARKET CAPITALISATION (A\$M)	\$28.6
CASH (A\$M, 31 MARCH 2017)	\$1.9
DEBT (A\$M, 31 MARCH 2017)	\$0.0
NET CASH/DEBT (A\$M)	\$1.9
EV (A\$M)	\$26.7

Substantial Shareholders

JP MORGAN NOMINEES AUSTRALIA	7.3%
MMG EXPLORATION HLD	6.2%
CAPITAL SANCTUARY	5.0%

Board & Management

STEPHEN DENNIS, NON EXEC CHAIRMAN
 GRANT DAVEY, NON EXEC DIRECTOR
 PHILIP HOSKINS, MANAGING DIRECTOR
 NICK CORLIS, GM TECHNICAL
 CHRIS KNEE, CFO
 STUART MCKENZIE, CO SEC/COMMERCIAL MAN
 HEAVENLIGHT KAVISHE, COUNTRY
 MANAGER

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Summary

ASX listed Graphex Mining (ASX: GPX) is an emerging graphite producer with its key asset the advanced Chilalo graphite project in SE Tanzania. Since GPX listed in July 2016, a number of key milestones have been completed and GPX announced last week that it has signed a non-binding term sheet (term sheet) with key commercial terms for a proposed joint venture (**JV**), offtake and financing of Chilalo. The term sheet has been signed with CN Docking Joint Investment & Development Co. Ltd ("**CN Docking**"), a subsidiary of China National Building Materials Group. CN Docking intends to lead a syndicate of Chinese investors (the '**syndicate**') through a special purpose investment vehicle. Key terms of the agreement reached are summarised below.

With a term sheet in place, GPX and the syndicate will now move to complete JV documentation within a period of three months. Once JV documentation is completed, all key agreements will be in place to allow development of Chilalo. In our view the signing of this term sheet, reduces project risk significantly and the lead time to production should be quick. We are now forecasting construction to commence in 2018.

The Chilalo graphite project is a world class asset which will specifically target sales into the expandable graphite market.

We have increased our valuation of GPX to \$1.25 cps (fully diluted) and maintain our 'Buy' recommendation for GPX with an initial target price of \$1.00 per share.

Principal terms of agreed term sheet

- The syndicate will make an equity investment of US\$18-20M (A\$24-27M) for a 50% interest in the Chilalo Project, using a project-level incorporated JV directly into a wholly owned GPX subsidiary (Ngwena Tanzania Limited).
- Offtake agreement with the syndicate for the purchase of at least 50% of Chilalo product and assistance to be provided to the JV to effect sales of the remainder of production. Initial sales pricing to be agreed once a development decision has been made.
- Debt guarantees (if required) for project financing of up to 65% of pre-production capital expenditure. 65% debt financing plus the syndicate equity injection at the project level for a 50% share should pretty much finance the project.
- Both Graphex and CN Docking will use best endeavours to conclude binding agreements within three months. Detailed documentation is in progress.
- Within 10 days of signing the term sheet, HK\$100M (US\$13M) is to be deposited into a Hong Kong bank account as an initial tranche of funding designated for investment into the proposed JV
- A break fee of US\$1,800,000 is payable by either party should they execute an alternative transaction within three months.

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Term sheet agreed, risk reduced, value increased

What does the term sheet with CN Docking syndicate mean?

CN Docking are a large highly credible Chinese State Owned enterprise and in our view, the signing of this agreement is significant for GPX. While the term sheet is non-binding, we believe closure risks are minimal. Negotiations have taken place between the parties in good faith over an extended period of time. CN Docking have completed extensive due diligence which included a site visit to Chilalo in 2016, extensive test work on samples, and the completion of a feasibility study by the Suzhou Design & Research Institute for Non-Metallic minerals. CN Docking is dominant in the Chinese building industry and their interest in graphite relates to flame retardant building materials. The JV agreement will brand this project real and make it stand out from the “pack” of would-be producers. GPX bring to the table a world class asset, resource and financial management and in country expertise. CN Docking has an in depth and strategic knowledge of the Chinese graphite market, in particular the expandable graphite market, as well as downstream applications such as flame-retardant building materials – a key driver of future demand for flake graphite. CN Docking have graphite processing expertise and bring the markets for the product, and the ability to source debt funding. The JV structure should maximise the potential to advance future strategic opportunities, such as downstream processing in Tanzania. This is a good marriage.

Where to next?

Binding agreements are expected to be signed within three months.

Following signing of binding documentation, the joint venture parties will proceed with the work schedules required to reach a decision to mine including finalising project optimisation, detailed engineering and design, EPC arrangements, and securing project finance.

The joint venture expects to appoint an experienced company to undertake project EPC (engineering, procurement and construction). As part of the final engineering design and associated EPC appointment, the Company is targeting a reduction in capital expenditure from previous estimates.

No additional regulatory approvals are expected to be required for the proposed transaction to proceed.

Project and GPX valuation

Our previous reports (July 2016 and Jan 2017) calculated a project NPV for Chilalo of A\$96 million and a GPX valuation of \$1.17 cps.

Since this time there has been a substantial resource increase and the term sheet agreed now reduces project and financial risk significantly.

We now value 100% of Chilalo at A\$228 million (10% discount) and GPX (50% Chilalo) at \$1.25 cps (detailed discussion and assumptions below).

We continue to recommend GPX as a “Buy” with a target price of \$1.00.

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Financial Model key assumptions:

US\$/A\$ ~0.75

Reserves ~ 4.7Mt @ 11%TGC

Resources ~ 16.9Mt @ 10.2%TGC

Strip ratio ~4:1

Throughput ~630ktpa @ 11% TGC

Mine life ~15 years

LOM ore throughput ~9.1Mt

Graphite conc produced ~69ktpa

Grade conc ~94%

Recovery to conc ~94%

Basket price graphite ~US\$1,217/t conc

Op cost (inc royalty)~US\$518/t conc

Initial Capex ~US\$74m

Sust' capex ~US\$0.8m pa

Tax ~30%

First production ~2019

Full production ~2020

Project Valuation

The key parameters we have used in the project financial model are shown opposite. Most of these assumptions have been taken from the Replacement Prospectus issued in May 2016, prior to the ASX listing of GPX. Based on the substantial increase in resources announced in February 2017 we have now extended the mine life to 15 years (from 10 years).

We assume a two year lead time to steady state production with construction commencing in FY18, and full production of an annualised 69kt graphite concentrate being achieved in FY 2020. The lead time to full production could possibly be shortened.

Production, operating cost forecasts, and pre-production capital forecasts have been taken from the PFS. Sustaining capex is assumed to be 2.5% of operating costs.

Graphite prices used in the valuation are taken from the PFS and were derived by industry consultants Benchmark Mineral Intelligence for the various sized products.

A working capital increase of two months operating costs is assumed at the start of the operation.

Discount rate ranges used have been lowered to 7.5% to 12.5% (from 10% to 15%) due to the reduction in project risk.

NPV project value (100%)

The post- tax NPV derived for 100% of Chilalo is shown below at various discount rates. The project IRR is 52%.

NPV Chilalo Project 100%	Disc Rate	NPV US\$m	NPV A\$m
	7.5%	215	287
	10.0%	171	228
	12.5%	138	184
	IRR	52%	

The operation has an average annual EBITDA over the LOM of A\$62m and a robust operating profit margin of 60%. Capital is recouped within three years.

The operation return is most sensitive to revenue and is not as sensitive to operating costs or capital, since the operating profit margin is high.

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Key assumptions:

50% Chilalo at 10% discount rate

Zero value for exploration- considered conservative

Less the NPV of corporate costs

Diluted NPV cps includes monies from exercising options

GPX Valuation

The key parameters we have used in the valuation of GPX are shown opposite.

The NPV derived for GPX is shown below at a discount rate of 10%.

VALUATION	NPV		DISCOUNT %
	(A\$M)	(A\$/share)	
CHILALO PROJECT 50%	114.2	\$ 1.98	10%
EXPLORATION	0.0	\$ -	
NET CASH	1.9	\$ 0.03	
CORPORATE	-23.7	-\$ 0.41	
TOTAL NPV	92.4	\$ 1.60	
fully diluted (includes option monies)		\$ 1.25	

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GRAPHEX MINING	GPX
YEAR END	JUNE
NPV (A\$/SHARE FULLY DILUTED)	1.25
PRICE (A\$/SHARE)	0.495
MARKET CAP (A\$M)	28.6
ORDINARY SHARES (M)	57.8
OPTIONS (M)	18.8
MODELLED SHARES (M)	57.8

HALF YEAR EARNINGS (100%)		DECH18	JUNH18	DECH19	JUNH19	DECH20	JUNH20
NPAT (PRE-ABS)	(A\$M)	-1.4	-1.4	-2.0	-2.0	-3.9	-3.9
EARNINGS GROWTH	(%)	NA	NA	-37%	NA	-96%	NA
DIVIDEND	(CPS)	0	0	0	0	0	0

PRICE ASSUMPTIONS		LT	FY'18	FY'19	FY'20	FY'21	FY'22
EXCHANGE RATE	A\$/US\$	0.75	0.75	0.75	0.75	0.75	0.75
GRAPHITE CONC +500um	US\$/t	2,500	2,500	2,500	2,500	2,500	2,500
	A\$/t	3,333	3,333	3,333	3,333	3,333	3,333
GRAPHITE CONC 300-500um	US\$/t	2,200	2,200	2,200	2,200	2,200	2,200
	A\$/t	2,933	2,933	2,933	2,933	2,933	2,933
GRAPHITE CONC 180-300um	US\$/t	1,400	1,400	1,400	1,400	1,400	1,400
	A\$/t	1,438	1,438	1,438	1,438	1,438	1,438
GRAPHITE CONC 150-180um	US\$/t	950	950	950	950	950	950
	A\$/t	1,267	1,267	1,267	1,267	1,267	1,267
GRAPHITE CONC 75-150um	US\$/t	700	700	700	700	700	700
	A\$/t	933	933	933	933	933	933
GRAPHITE CONC <75um	US\$/t	500	500	500	500	500	500
	A\$/t	667	667	667	667	667	667

FINANCIAL SUMMARY (100%)		FY'18	FY'19	FY'20	FY'21	FY'22
NPAT	(A\$M)	-2.9	-3.9	-7.7	15.7	27.9
EPS	(CPS)	-5.0	-6.8	-13.3	27.2	48.2
PER	(x)	-9.9	-7.3	-3.7	1.8	1.0
EPS GROWTH	(%)	NA	-37%	-96%	-304%	77%
EBITDA	(A\$M)	-2.0	-3.0	30.9	62.3	62.3
EBITDA/SHARE	(CPS)	-3.5	-5.2	53.5	107.7	107.7
EV/EBITDA	(x)	-15.3	1.6	-0.2	-0.1	-0.1
DPS	(CPS)	0	0	0	0	0
YIELD	(%)	0%	0%	0%	0%	0%
FRANKING	(%)	0.0	0.0	0.0	0.0	0.0

PROFIT AND LOSS - A\$M (100%)		FY'18	FY'19	FY'20	FY'21	FY'22
SALES REVENUE		0.0	0.0	67.2	111.4	111.4
OTHER REVENUE		0.0	0.0	0.0	0.0	0.0
OPERATING COSTS		0.0	0.0	31.3	42.8	42.8
DEPRECIATION		0.0	0.0	33.9	33.5	20.3
ROYALTIES		0.0	0.0	2.0	3.3	3.3
EXPLORATION, R & D		0.0	0.0	0.0	0.0	0.0
OTHER COSTS		2.0	3.0	3.0	3.0	3.0
EBITDA		-2.0	-3.0	30.9	62.3	62.3
EBIT		-2.0	-3.0	-3.0	28.7	42.0
NET INTEREST EXPENSE		0.9	0.9	4.7	3.5	0.6
PROF PRE TAX AND ABNORMALS		-2.9	-3.9	-7.7	25.2	41.4
TAX EXCLUDING ABNORMALS		0.0	0.0	0.0	9.5	13.5
NPAT (PRE-ABS)		-2.9	-3.9	-7.7	15.7	27.9
PLUS ABNORMALS - PRE TAX		0.0	0.0	0.0	0.0	0.0
LESS TAX ON ABNORMALS		0.0	0.0	0.0	0.0	0.0
REPORTED PROFIT		-2.9	-3.9	-7.7	15.7	27.9

RESERVES/RESOURCES	ORE TONNES	GRAPHITE %	CONTAINED Kt
JORC COMPLIANT RESERVES	4.7	11%	517
JORC COMPLIANT RESOURCES MT	16.9	10.2%	1,722
JORC COMPLIANT EXPLORATION TARGET	130-150Mt	3-11%	
MODELLED THROUGHPUT	630,000	11%	

CASH FLOW - A\$M (100%)	FY'18	FY'19	FY'20	FY'21	FY'22
CASH FLOWS FROM OPERATING ACTIVITIES					
RECEIPTS FROM CUSTOMERS	0.0	0.0	67.2	111.4	111.4
PAYMENTS TO SUPPLIERS	0.0	0.0	-31.3	-42.8	-42.8
INCOME TAX PAID	0.0	0.0	0.0	-9.5	-13.5
OTHER	-2.0	-3.0	-5.0	-6.3	-6.3

CASH FLOWS FROM INVESTING ACTIVITIES					
ACQON OF PROPERTY, PLANT & EQUIPMENT	-39.4	-59.0	-6.0	-1.1	-1.1
SALE OF PROPERTY, PLANT & EQUIPMENT	0.0	0.0	0.0	0.0	0.0
EXPLORATION EXPENDITURE	0.0	0.0	0.0	0.0	0.0
OTHER	0.0	0.0	0.0	0.0	0.0

CASH FLOWS FROM FINANCING ACTIVITIES					
PROCEEDS FROM BORROWINGS	14.7	62.0	0.0	0.0	0.0
REPAYMENT OF BORROWINGS	0.0	0.0	-24.9	-5.17	-10.8
JV CONTRIBUTION / JV CASH	20.0	0.0	0.0	0.0	0.0
EQUITY RAISED	0.0	0.0	0.0	0.0	0.0

NET INCREASE IN CASH HELD					
CASH AT THE BEGINNING OF THE YEAR	1.9	-4.8	-4.8	-4.8	-4.8
CASH AT THE END OF THE YEAR	-4.8	-4.8	-4.8	-4.8	32.1

BALANCE SHEET - A\$M (100%)	FY'18	FY'19	FY'20	FY'21	FY'22
CURRENT ASSETS					
CASH	1.9	1.9	1.9	1.9	38.8
OTHER	0.0	0.0	5.2	5.2	5.2
NON-CURRENT ASSETS					
INVESTMENTS	0.0	0.0	0.0	0.0	0.0
FIXED ASSETS	39.4	98.4	65.3	32.8	13.6
OTHER	0.0	0.0	0.0	0.0	0.0

TOTAL ASSETS	41.3	100.3	72.4	39.9	57.6
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CURRENT LIABILITIES					
BORROWINGS	0.0	0.0	0.0	0.0	0.0
CREDITORS	0.0	0.0	0.0	0.0	0.0
OTHER	0.0	0.0	0.0	0.0	0.0

NON-CURRENT LIABILITIES					
BORROWINGS	15.6	78.6	58.3	10.2	0.0
OTHER	0.0	0.0	0.0	0.0	0.0
TOTAL LIABILITIES	15.6	78.6	58.3	10.2	0.0

SHAREHOLDERS FUNDS	25.7	21.8	14.0	29.7	57.6
NET DEBT TO NET DEBT + EQUITY	35%	78%	80%	NA	NA

PROJECT PRODUCTION - (100%)	FY'18	FY'19	FY'20	FY'21	FY'22
ORE MILLED ('000t)	0	0	380	630	630
GRAPHITE GRADE (%)	NA	NA	11%	11%	11%
CONCENTRATE PRODUCED (Kt 94% GRAPHITE)	0	0	41	69	69
>500 um	0	0	1	1	1
300-500um	0	0	10	16	16
180-300um	0	0	9	15	15
150-180um	0	0	2	4	4
75-150um	0	0	9	14	14
<75um	0	0	10	17	17

VALUATION	NPV (A\$M)	DISCOUNT %
CHILALO PROJECT 50%	114.2 \$	198
EXPLORATION	0.0 \$	-
NET CASH	1.9 \$	0.03
CORPORATE	-23.7 \$	0.41
TOTAL NPV	92.4 \$	1.60
fully diluted (includes option monies)	\$	1.25

Graphex Mining

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