

Due Diligence and Valuation Report

Arrowhead Code: 14-05-01
 Coverage initiated: 27 March 2013
 This document: 27 March 2013
 Fair share value bracket: £0.03 to £0.07ⁱ
 Share price on date: £0.0145ⁱⁱ

Analyst Team

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Market Data

52-Week Range:	£0.0145 – £0.0373 ⁱⁱⁱ
Average Daily Volume:	1,355,732 ^{iv}
Market Cap. on date:	£11.10MM ^v

Financial Forecast Data (in £)

	'13E	'14E	'15E	16E	'17E	18E	'19E
High profit/(loss) MM	(2.6)	0.3	1.5	19.1	37.7	39.0	40.2
High EPS (£)	(0.0)	0.0	0.0	0.3	0.5	0.5	0.6
Low profit/(loss) MM	(2.6)	(1.1)	(1.3)	12.1	23.7	25.0	26.2
Low EPS (£)	(0.0)	(0.0)	(0.0)	0.2	0.3	0.3	0.4

Fiscal Year (FY) 1st Oct – 30th Sep

Summary

Ferrex Plc., an AIM-listed exploration and development company, focuses on iron ore and manganese projects in Africa. Currently, it has two iron ore (Malelane and Mebaga) and two manganese (Nayega and Leinster) projects in South Africa, Togo and Gabon.

The Malelane iron ore project in South Africa is a part of the Archean Barberton Greenstone Belt, an old and highly prospective belt for minerals. The project's JORC compliant inferred resource showcases 139MMT @ 37% Fe; with an upside potential as the resource estimate is over 1.1km of the total 14km strike length.

In January 2013, the company released an updated scoping study on Malelane, which highlighted the economics of the project, with an NPV of 523MM at a 10% discount rate and an IRR of 72%. The company is expected to complete the pre-feasibility study by 2013 and be developed by 2015.

The Nayega manganese project has five exploration licences covering an area of 92,390ha with a defined JORC-compliant indicated resource



Company: Ferrex Plc
 Ticker: AIM:FRX
 Headquarters: London, United Kingdom
 Managing Director: Dave Reeves
 Website: www.ferrexplc.com

of 7.3MMT at 14.7% Mn. Initial metallurgical test work and scoping study for the project highlighted low capex and opex. A definitive feasibility study (DFS), which is expected to further define the low-capex and opex economics of the project, is currently underway and due to be completed in H1 2013.

The Leinster manganese project in South Africa is in the Leinster Basin near the Kalahari Manganese field, the largest metallogenic province of manganese mineralization in the world. Based on historical work, the project has an estimated JORC-compliant exploration target of 5.5 to 8.7MMT at 28.6% to 31% Mn. Ferrex plans to define a JORC-compliant resource in 2013.

The Mebaga iron ore deposit in Gabon forms a part of the 309 km² Ngama exploration licence granted to Ferrex in January 2012. The exploration licence is located in a prolific iron province which hosts Archean banded iron formation (BIF). Work carried out in the 1960s indicated that the project has high-grade direct shipping ore, with an exploration target of 20MMT at 60% Fe and 50MMT at 47% Fe. Ferrex is implementing a fast-tracked exploration plan for the Mebaga deposit to define its resources.

Ferrex plans to be a mid-tier, low-cost producer of iron ore and manganese for the steel industry by advancing its current assets and expanding its portfolio through acquisitions. Its near-term plan is to further explore its Nayega project, with a view to bring it to production for positive cash flows. The positive cash flows will be used to develop other projects in its current portfolio.

Given the due diligence and valuation estimations are based on the discounted cash flow method, we believe Ferrex's fair value per share is between £0.03 and £0.07^{vi}. The valuation is based on the company's Nayega and Malelane projects.

Table of Contents

Company Presentation	3
News	5
Listing Information	6
Contacts	6
Major Shareholders	6
Management and Governance	7
Assets and Projects.....	8
Technologies and Markets.....	12
Project Risk Profile Analysis.....	14
Risk Parameters – Definition.....	15
Peer Valuation and Risk Profile	15
Value.....	17
Analyst certifications	20
Valuation.....	21
Notes and References	22

Company Presentation

Ferrex Plc is an AIM-listed exploration and development company, focusing on iron ore and manganese projects in Africa. Currently, it has two iron ore and two manganese projects in South Africa, Togo and Gabon.

Nayega, a manganese project in Togo, being a low capex project is fast tracked to production by 2014. The cash flows from this project are expected to be used for funding other projects with high-tonnage potential to development. The company's second manganese project, Leinster in South Africa, is expected to have JORC-compliant resources in 2013.

Ferrex's iron ore projects, Malelane in South Africa and Mebaga in Gabon, have direct shipping ore (DSO)/ beneficiable DSO (bDSO) mineralization that makes it cheaper to mine and process. The Malelane project has a maiden JORC-code compliant inferred resource of 139MMT at 37% Fe, which has been calculated over 1.1km of the 14km strike length. This indicates high tonnage potential for the project, along with the three distinct banded iron formation (BIF) for the project.

The company is steadily progressing with development plans - iron ore at Malelane in South Africa and manganese at Leinster in South Africa.

Company's Portfolio and Premiums

Ferrex has a portfolio of low-cost iron ore and manganese assets which are well-connected and has access to good infrastructure. Its projects are carefully acquired by the management to build Ferrex into a mid-tier, low-cost producer of iron ore and manganese.

Well-connected and good infrastructure availability: All projects in Ferrex's portfolio are well-connected and have good access to infrastructure. The projects are proximate to rail lines that run to major ports enabling easy shipment of ores. For example, Malelane is located 6 km from a reliable rail line that runs to the Port of Maputo in Mozambique and Mebaga is near a main rail line that runs to the Port of Owendo.

High tonnage potential at Malelane project: The Malelane project, located over the Archaean Barberton Greenstone Belt with three BIF, has maiden resource of 139MMT at 37% Fe calculated on 1.1km of the 14km strike length. This creates a significant upside to the project's potential tonnage, thus achieving higher yields and economies of scale.

Low capex and opex projects: Ferrex's projects have low capex requirements due to their proximity to existing infrastructure thus saving on infrastructure needs to transport ores. Projects like Mebaga and Malelane adds another advantage of being a DSO or bDSO reducing requirement of refining plants.

Experienced Management Team: Ferrex's management team is headed by Brian Moritz and Dave Reeves, who bring in a combination of financial and technical expertise (Chartered Accountant and Mining Engineer). The team has sound experience in the field of mining, which should help in efficient risk management, besides drawing strategies appropriate to the company's operational, financial, and business matrices. Additionally, the team's experience and expertise in the African mining space provides it the required competence for executing existing projects as well as providing forethought for prospective assets.

For more details on the management, see the [Management and Governance](#) section of the report.

Company's Portfolio and Risks

Ferrex is in its early stages, which entails a relatively higher risk for a mining company. The intrinsic risks in this stage arise from uncertainty regarding mineralization, gauging financing needs, and maintaining operational flexibility. However, Ferrex has timed its projects to reduce the risks of financing and execution.

Execution risk: The company could be exposed to implementation challenges that may arise from its simultaneous focus on two projects – Malelane and Nayega. While Nayega is undergoing a bankable study, Malelane is believed to be at its initial stages of pre-feasibility – expected to be complete in 2013. With both projects at their initial stages, the company could be faced with implementation and execution

challenges, including allocation of resources and capital. However, we understand Ferrex expects to start development at the Malelane project after the Nayega project starts production – reducing the risk substantially.

Financing risk: Ferrex’s asset portfolio is concentrated in mine development, exploration, and resource estimation stages, inducing a considerable project development and financial risk until 2014 - the time the Nayega project is expected to start production.

Commodity serving similar industry: Ferrex’s target commodities are highly correlated to the economic conditions. However, as the mines start production we expect developed economies to be stable and developing economies to grow – increasing demand for raw materials.

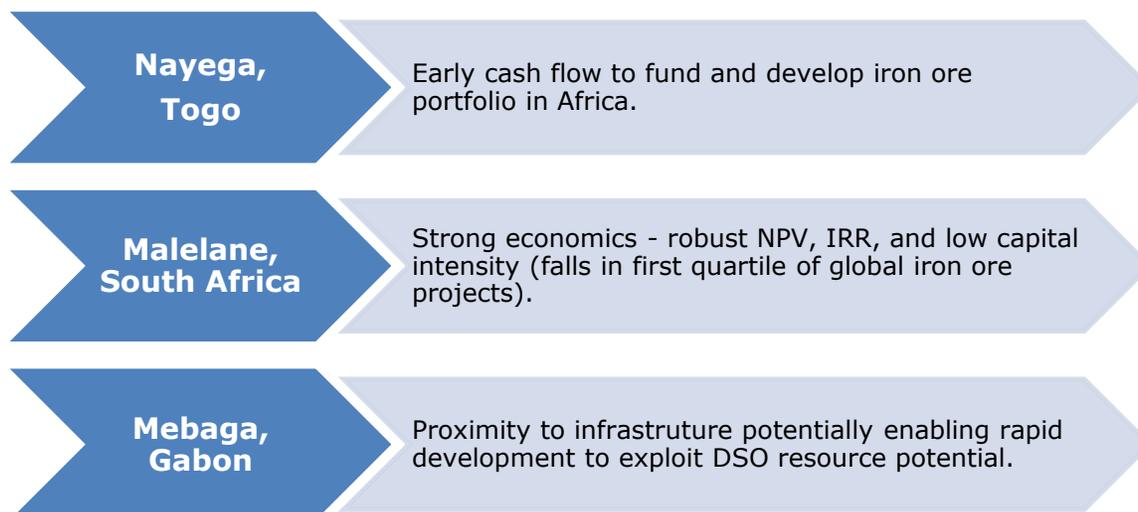
Other risks: Ferrex is also exposed to commodity price risks, environmental risks, title risks, insurance risks, and foreign exchange risks.

For a detailed risk assessment, please refer to the [Risk profile analysis](#) section.

Company’s Corporate Strategy

Ferrex plans to be a mid-tier, low-cost producer of iron ore and manganese for the steel industry by advancing its current assets and expanding its portfolio through acquisitions. The company targets assets close to established infrastructure; therefore, their development can be fast tracked and they require less capex and opex, which can add substantial value to investors in the near term. Currently, Ferrex has three applications outstanding for possible DSO projects in Africa which it expects to secure in 2013.

Ferrex’s near-term plan is to further explore its Nayega project with a view to start production for positive cash flows. The positive cash flows will be utilized to develop other projects in its current portfolio.



News

- **High grade iron ore mineralization at Mebaga:** On February 19, 2013, the company announced that the initial field work at Mebaga has confirmed the presence of high grade iron ore DSO mineralization. A drill program of 3000m is planned to test the main zone of mineralization at Mebaga.
- **Placed 135MM shares, raising £2.165MM:** On January 25, 2013, the company announced that it has conditionally raised £2.165MM by placing 135.31MM new ordinary shares at a price of 1.6 pence per share. Of the total new issued shares, 122.81MM will be placed by finnCap with institutional and other investors and 12.50MM will be issued to some directors of the company. The net proceeds will be majorly used for the following purposes:
 - to fund production of a bankable feasibility study at the Nayega project, Togo;
 - to fund exploration work at the Mebaga project, Gabon; and
 - to progress development work at the Malelane project, South Africa.
- **Secured Mebaga DSO Iron Project in Gabon:** On January 14, 2013, the company announced that it was granted the Ngama exploration licence (309 km²) in Gabon. This licence covers the high grade Mebaga iron ore deposit, with an exploration target of 20MMT at 60% Fe. This project is expected to be fast tracked to development considering its potential tonnage.
- **Secured £500,000 loan for working capital:** On November 21, 2012, the company announced that it has secured £500,000 loan for working capital at 7.5% until November 31, 2013. This facility can be drawn down in whole or in part at the Company's election and on the maturity outstanding amounts will be repayable.
- **JORC compliant resource defined at Nayega Project:** On September 18, 2012, the company announced a JORC-code compliant Indicated Resource for its Nayega Manganese Project. The Indicated Resource of 7.3MMT at 14.7% Mn showed a 16% increase in tonnage from the initial Inferred Resource.
- **Issue of shares and options:** On August 13, 2012, the company announced plans to issue 222,222 ordinary shares at a price of 2.25 pence per share for fees relating to the placing announced on July 20, 2012. The investors will also receive 111,111 warrants exercisable at 3.25 pence per share for a period of 36 months from October 9, 2012.
- **Raised £1.015MM through conditional placing of Shares:** On July 20, 2012, the company announced that it raised £1.015MM through a conditional placing of 45,111,112 ordinary shares at 2.25p per share to new and existing investors. The placing will be done in two tranches and each tranche will be conditional on admission of the placing shares to trading on AIM.
- **Positive scoping study update from Malelane project:** On July 20, 2012, the company announced a positive Scoping Study update. The update showed improved economics by using crush/high pressure grinding roll to produce a 6mm product followed by dense media separation and spirals resulting in lower capital cost to US\$139MM from US\$297MM, increasing IRR to 50% from 39%, and NPV of US\$317MM at 10% discount rate. Ferrex is currently undertaking test work on fines produced in the process; this is expected to further improve the overall recoveries and economics of the project.
- **Maiden resource defined at Nayega Project:** On May 31, 2012, the company announced Maiden JORC compliant resource for its Nayega manganese project at 6.3MMT at 14.1% Mn. The deposit is expected to be developed as a shallow open pit operation with no waste stripping.
- **Ferrex withdraws from Changara Project:** On May 31, 2012, the company announced that it will withdraw from the Changara joint venture in Mozambique. Ferrex believes it is best to focus on the Nayega project with its completion of resource estimate and possibility of developing a near term operation.
- **Positive Scoping Study Results Malelane Iron Ore Project South Africa:** On May 16, 2012, the company announced positive results from an initial Scoping Study at the Malelane project. The study shows an IRR of 39% with an NPV of US\$513MM (at a 10% discount rate). The project

economics places it in the lowest quartile of capital intensity for new-iron ore projects worldwide at US\$99/t of concentrate produced per annum.

- **Holding increased to 74% in the Leinster project:** On March 14, 2012, the company announced that it has received approval from the Department of Mineral Resources of South Africa to take control of Umbono Minerals Holdings (Pty) Limited, which holds exploration rights over the Leinster project. It thus increased its interest in the project to 74% from 49%.
- **Maiden Resource defined at the Malelane project:** On March 12, 2012, the company announced a maiden JORC compliant resource for its Malelane project with Inferred Resource of 139MMT at 36.9% Fe. Calculation of resource was based on 1.1km strike length of the northern BIF of the total BIF strike length of 14km. This highlights a potential resource upside.

Listing Information

Ferrex was listed on the Alternative Investment Market (AIM) on July 18, 2011.

Contacts

Registered office	27/28 Eastcastle Street, London, W1W 8DH
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Major Shareholders^{vii}

Equity Holder	No. of Shares Held (MM)	Percentage Holding (%)
Dave Reeves	98.67	16.18
Umbono Mineral Holdings	88.92	14.59
Roy Pitchford	78.06	12.8
Codelouf Ltd	57.88	7.56
Russell Lamming	41.94	6.88
Vision Equity	39.01	6.40
Centaurus Ltd	31.50	5.17
Gary Padmore	27.50	4.51
William Lovering	24.00	3.94
St. Annes Trustees Ltd	20.00	3.28

Management and Governance

Ferrex's management comprises professionals with a proven track record and sound experience in the exploration and mining industry. This we believe is the key to channel the company's strategies by perceiving market conditions, mining opportunities, operational implications, and associated economies.

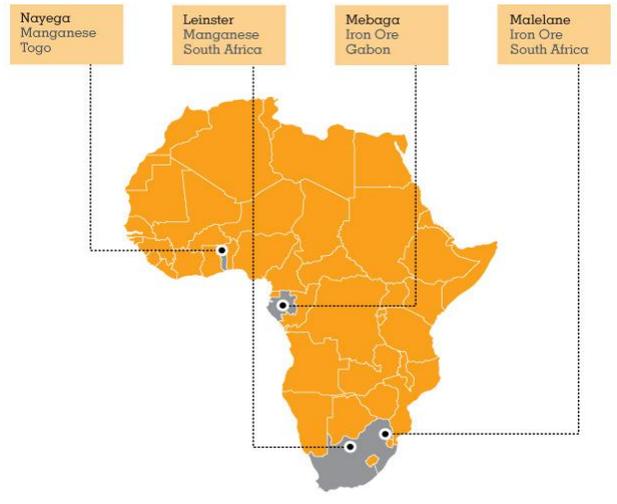
Personnel (Qualification)	Designation	Current and Total Experience
Brian Moritz	Non-executive Chairman	Brian is a Chartered Accountant and has experience in building Grant Thornton's Capital Market Team, which floated 100 new companies during his period of Chairmanship. Since 1995 he has been instrumental in bringing more companies to the market as a director. He concentrates on African mining companies, and previously he served as the Chairman of African Platinum PLC (Afplats) and Metal Bulletin PLC. Currently, he is serving as the Chairman of various junior mining companies.
Dave Reeves	Managing Director	Dave holds a first-class honours Mining Engineer degree from the University of New South Wales and also holds a diploma in Applied Finance and Investments from the Securities Institute of Australia. He has 14 years of experience of mining operations in Africa, including Zimbabwe Platinum Mines Ltd (Zimplats) and Afplats. He is a non-executive director of ASX listed Minbos Resources.
James Carter	Finance Director	James is a CPA with 17 years of experience in the mining industry. Earlier he served as a CFO of Straits Resources, a diversified metals group listed on the ASX and prior to that he was CFO and Company Secretary of SGX-listed Straits Asia Resources. He played a vital role in the development of Straits Asia as a 10mtpa coal producer in Indonesia. His work at Straits included debt and equity capital markets, tax strategy, M&A, and corporate governance. James has played a pivotal role in raising \$US2bn from equity and debt markets in the last five years. James is a board member of Worldwide Energy, an aspiring Indonesian coal company and PTT Asia Pacific Mining.
Roy Pitchford	Non – executive Director	Roy, a Chartered Accountant, has more than 25 years of senior management and executive experience. Earlier, he was the CEO of Cluff Resources Zimbabwe Ltd, Delta Gold Zimbabwe (Pvt) Ltd, Zimplats, Afplats, and African Minerals Ltd. Currently he is on the boards of numerous public and private mining companies.
Russell Lamming	Non-executive Director	Russell Lamming is a qualified geologist, with a honors degree in Geology from the University of the Witwatersrand, and is a Bachelor of Commerce in Economics from the University of Natal. Russell has a variety of experience including the directorship of a South African mining consultancy and a precious metals analyst for a leading international broker. Russell led the commercial process at Afplats, and of late he is the CEO of AIM-listed Chromex Mining, which was bought in 2010 at a significant premium to its listing price. He is currently MD of Goldplat.
Mark Styles	Exploration Manager	Mark is a geologist with a first-class honours degree from the University of Western Australia and has 20 years of experience in exploration and project management worldwide. He has covered various commodities including precious metals, base metals, and industrial minerals in Australia, Saudi Arabia, Tanzania, South Africa, Canada and Mexico. He worked as a country manager for ASX-listed explorer Azure Minerals Limited. In 2008, Mark established a geological consulting company specializing in property evaluation, target identification and exploration management with Cliffs Asia Pacific Iron Ore as a major client.
Justin Longely	General Manager West Africa	Justin holds a honors degree in Geology from the University College London, and an MBA from Imperial College London. For over 20 years he has worked throughout Africa to identify and develop mineral resources, bring mines into production, and generally realize commercial opportunities. Justin was part of the senior management of Diamondworks in Angola, of Oryx Natural Resources in the DRC, and of Mukuba Resources in Zambia. He has also led the turnaround of businesses on behalf of Barclays Bank in Kenya.
Gus Simbanegavi	General Manager, South Africa	Gus, a mining engineer, has had his whole career in Southern Africa. He has developed gold mines in Zimbabwe and was a Mine Manager for Zimplats. Most recently Gus was General Manager Operations for Aquarius Platinum and has a good experience of open pit and underground mines operation.

Assets and Projects

Overview

Ferrex's current asset portfolio consists of four projects – two iron ore projects (Malelane in South Africa and Mebaga in Gabon) and two manganese projects (Nayega in Togo and Leinster in South Africa). All the projects are proximate to the rail and water network for transportation, and have access to power and infrastructure, hence reducing capex.

Company's Asset Portfolio

Project location	Project overview
 <p>Map of Africa highlighting the locations of four projects: Nayega (Manganese, Togo), Leinster (Manganese, South Africa), Mebaga (Iron Ore, Gabon), and Malelane (Iron Ore, South Africa).</p>	<div style="background-color: #4F81BD; color: white; padding: 5px; text-align: center; font-weight: bold;">Projects</div> <div style="text-align: right; font-weight: bold;">Africa</div> <ul style="list-style-type: none"> • Nayega - 85% interest; Manganese; Togo • Malelane - 74% interest; Iron Ore; South Africa • Leinster - 74% interest; Manganese; South Africa • Nayega - 82% interest; Iron Ore; Gabon
<p>Source: Company filings</p>	<p>Source: Company filings</p>

Nayega

Company's interest: 85%

Asset Summary: Nayega has five exploration licences covering 92,390 ha, with a defined JORC-code compliant Indicated Resource of 7.3MMT at 14.7% Mn. Initial metallurgical test work and scoping study highlighted low capex and opex. The company targets to complete the Definitive Feasibility Study by H1 2013 and development by H2 2013.

Target commodities: Manganese

Location: Nayega is located in Northern Togo with access to deep water port of Lome at 600km and road with around 350,000tpa back loading capacity.

Regional geology: Nayega is a residual manganese deposit spread over an area of 3km by 1km. Mineralisation comprises lateritic and saprolitic material, which is up to 10m thick and

covered by a blanket of detrital mineralisation averaging 0.5 to 1m thick.

Nayega - tenement description



Recent developments: Initial metallurgical testwork and scoping study, carried out in the first half of 2012, shows that the project is economically viable. The ore can be upgraded with a simple and low-cost screening and gravity concentration to produce saleable product of 38%

manganese. Nayega is amenable to development as a shallow-open pit operation with no waste stripping, leading to low capital costs of about US\$15MM for a 250,000 tpa operation, with operating costs of about US\$2 /dmu FOB.

Potential mineralization: A JORC-compliant Indicated Resource of 7.3MMT at 14.7% Mn was defined in September 2012. It showed a 16% increase in tonnage from the initial Inferred Resource of 6.3MMT at 14.1% Mn. To date 153 pits have been dug on 100m centers to 9.85m deep, averaging a depth of 4.38m.

Project schedule: The definitive feasibility study is currently underway and due to be completed in H1 2013. This will set out a comprehensive development path for Nayega, which is expected to be a simple, low-strip, open pit operation with production at end-2013. The DFS is expected to further define the low-capex and opex economics of the project.

Malelane

Company's interest: 74%

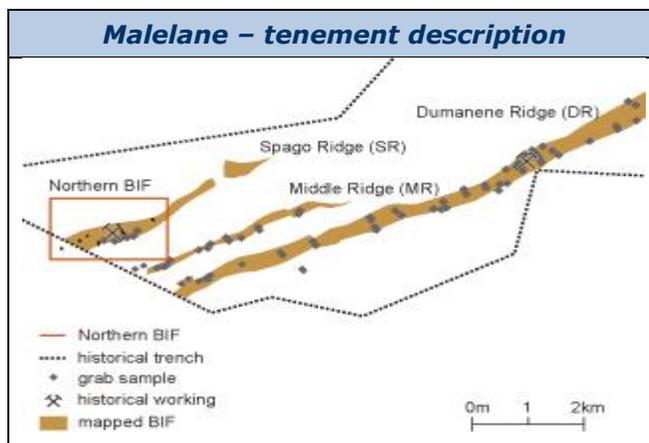
Asset Summary: The Malelane project forms a part of the Archean Barberton Greenstone Belt, an old and highly prospective belt for minerals. The project has its maiden Inferred resource of 139 MMT at 37% Fe (calculated over 1.1km of a 14km BIF strike), with an NPV of US\$523MM (10% discount rate) and IRR of 72% (pre tax). The environmental studies and social and labor plan is currently being drafted and pre-feasibility is targeted in 2013.

Target commodities: Iron Ore

Location: The Malelane project has prospecting rights over a 4,192ha tenement in the Mpumalanga region in South Africa. The project is located near water and power and just 6 km away from a reliable rail line that runs to the Port of Maputo in Mozambique.

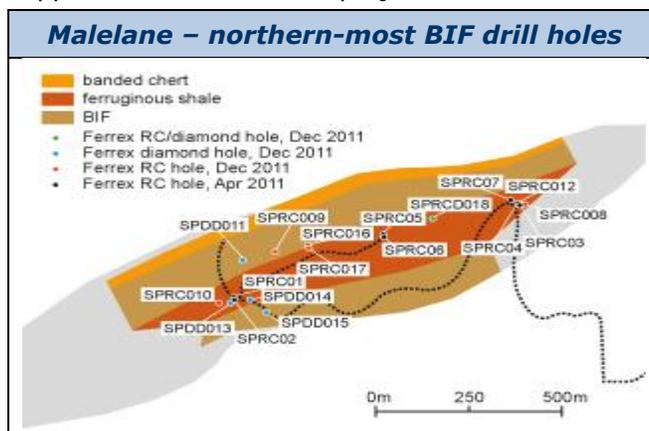
Regional geology: The project's mineralization is hosted within a BIF and is associated with Ferruginous Shale. The mineralization is considered a part of the Archean Barberton greenstone belt, some of the oldest exposed rocks on Earth - ultramafic lavas and meta sedimentary rocks emplaced and deposited between 3.5 and 3.2 Ga.

Three distinct banded iron formation (BIF) horizons have been identified on the property, having a combined length of 14km with mapped horizontal widths of up to 300m.



Recent developments: During 2012 maiden resource of 139MMT at 37% Fe, with 4.9MMT of higher grade zones at 52.2% Fe, was defined for the Malelane project. The Scoping study (updated), released in January 2013 showed the project could be economically viable as an open pit mining operation producing 1.8MMT per annum at 57% Fe over a 16.6 year mine life. The project's NPV stood at US\$523MM at a discount rate of 10% and an IRR of 72%, backed by lower capital cost of US\$139MM and operating cost of US\$44/t FOB (compared to global iron ore projects).

The metallurgical test work program carried out in 2012 accessed and proved that a simple crush followed by dense media separation (DMS) resulted in an iron yield of 58% and a mass yield of 43%. This increase in the mass recovery of the fines from 20% to 37% along with lower rail costs supported the increase in project economics.



Potential mineralization: Based on the drilling program totaling 18 holes for 2,650m over the part of the northern-most BIF, a maiden JORC-compliant Inferred Resource of 139MMT at 37% Fe was defined in March 2012. The resource was based on 1.1km of the total 14km BIF, hinting at

the huge tonnage potential. Also, the Coffey mining exploration target at Malelane is between 775 and 930MMT at 34% – 36% Fe for the entire 14km of the BIF.

Project schedule: Currently, Ferrex is working on the environmental studies and social and labor plan in preparation for the submission of a mining lease application. Ferrex targets to commence and complete a pre-feasibility study at the Malelane project in 2013. The results from the pre-feasibility will provide the basis for the development plan to construct an iron ore processing operation in 2015.

Leinster

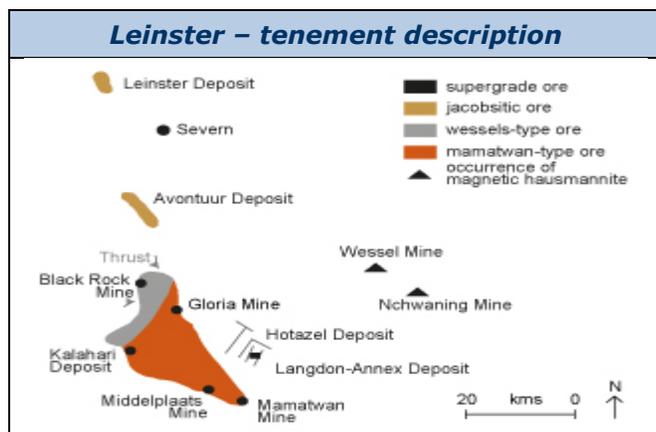
Company's interest: 74%

Asset Summary: The company has a 74% stake in the Leinster manganese project, which is located on the border between the Northern Cape and Northwest Provinces of South Africa. Drilling of selected targets and to define a compliant resource is planned in 2013.

Target commodities: Manganese

Location: The Leinster project is in the Leinster Basin. The basin is near the Kalahari Manganese Field, the largest metallogenic province of manganese mineralization in the world.

Regional geology: Manganese mineralization at the Kalahari field is concealed beneath soft, generally semi-consolidated sediments. The mineral is mined from hydrothermal enrichments in strata-bound deposits that formed about 2.1 Ga.



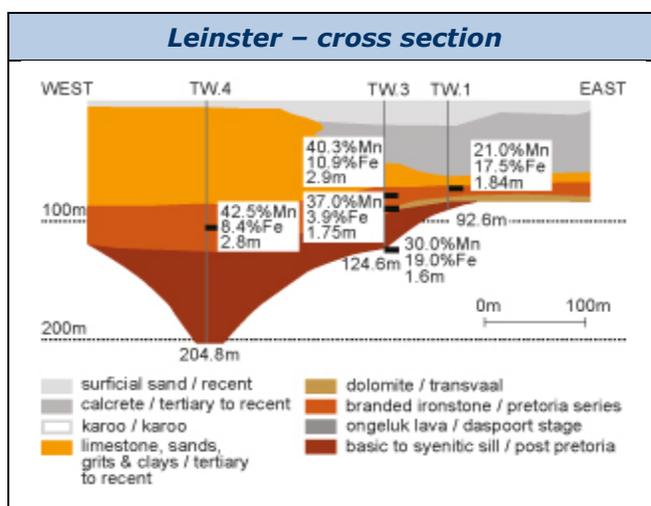
The Leinster deposit lies at an average depth of 80m below surface and the Kalahari Formation cover is around 70 and 150m in thickness.

Recent developments: An airborne magnetic/radiometric, low level and high

resolution, survey was conducted at the Leinster project in September 2012. Using high resolution data, 14 targets were identified as potential accumulations of detrital or channel manganese mineralization.

In 2012, Ferrex was granted the prospecting right over the Tweed farm and control of Umbono Minerals Holdings (Pty) Limited. The control of Umbono Minerals Holdings (Pty) Limited increased Ferrex's interest in Leinster from 49% to 74%.

Potential mineralization: Based on historical work, the project has an estimated JORC-compliant exploration target of 5.5 to 8.7MMT at 28.6% to 31% Mn.



Project schedule: Ferrex will conduct further 3D magnetic modeling prior to drilling of selected shallow magnetic targets. In 2013, Ferrex plans to complete a drill program and define JORC-compliant resource for the Leinster project.

Mebaga

Company's interest: 82%*

Asset Summary: The Mebaga iron ore deposit in Gabon is a high-grade DSO with an exploration target of 20MMT at 60% Fe and 50MMT at 47% Fe (bDSO). The project forms a part of the 309km² Ngama exploration licence granted to the company in January 2012.

The Mebaga licence overlaps an existing gold licence granted to Goldstone Resources Ltd, and thus Ferrex has agreed to the following conditions to satisfy the Gabonese government:

- 1% gross royalty to be paid on any production;

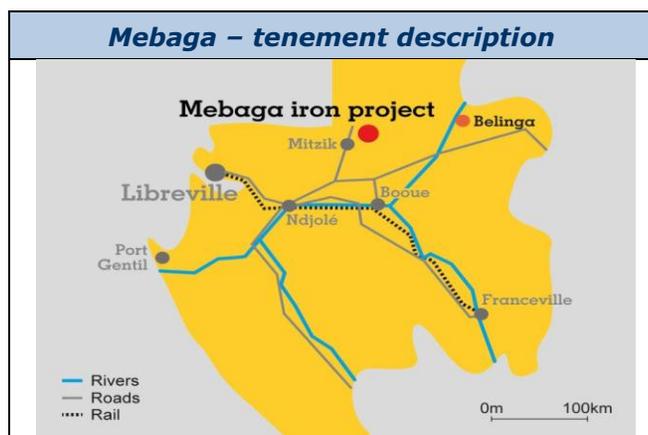
- Ferrex will undertake soil sampling for gold on the BIF in the overlapping area; and
- Any economic gold mineralization will take precedence over iron mineralization if there is overlap.

Target commodities: Iron Ore

Location: The Mebaga project is in Gabon, a prolific iron province, with two well established infrastructure routes--a main rail line of 200 km to the Port of Owendo (3.5mtpa of Mn) and a Barge, which can transport ore 300km along the Oougue River to the Port of Gentil in Gabon.

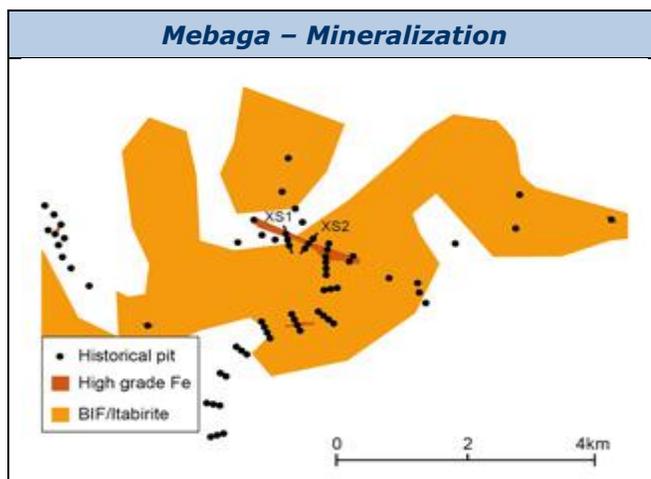
Mebaga is the nearest DSO iron ore project to the Atlantic of any deposits in this prolific iron province, and has two infrastructure routes available. The project is 30km from a highway, and 100km to the Trans-Gabon railway.

Regional geology: The iron ore mineralization in the province is hosted in Archean banded iron formation (BIF) horizons. Work carried out in the 1960s sets an exploration target of 20MMT at 60% Fe and a larger, lower grade target of 50MMT at 47% Fe. Major deposits in the district include Belinga in Gabon (1Bt at 60% Fe); Mbalam in Cameroon (775MMT at 57% Fe); and Avima in the ROC (690MMT at 58% Fe).



Recent developments: The company has completed detailed geological mapping of the deposit. A drilling program has been planned and will be implemented once regional geophysical and geological data is interpreted.

Potential mineralization: The project looks attractive, with its exposure to the BIF over a strike length of more than 20km and width of up to 2km, as per the government geology mapping. A reconnaissance evaluation done by the Bureau de Recherches Géologiques et Minières (BRGM) in the 1960s with targeted pitting of high grade iron exposure, exhibited results such as 27m at 58.4% Fe, 18.5m at 57.5% Fe, and 10.5m at 61.4% Fe. DSO mineralization is defined over 1.8km of strike, with an exploration target of 20MMT at 60% Fe (DSO). The work done by the BRGM also allowed estimation of a larger but lower grade target of 50MMT at 47% Fe. If the lower grade ore can be upgraded to beneficiable DSO through a simple screening process, this will add immense value to this project.



Project schedule: Ferrex is implementing a fast-tracked exploration plan for the Mebaga deposit to define its resources. It will purchase and process aeromagnetic and radiometric geophysical data and has completed preliminary reconnaissance and detailed geological mapping. In addition to interpretation of geophysical and geological data, a drill program will be planned to define resources.

**Ferrex currently owns 65% of equatorial and has agreed to purchase an additional 17% from a minority shareholder. This acquisition is subject to receiving an independent confirmation that the valuation of the minority interest is reasonable in accordance with the section 593 of the Companies Act 2006.*

Technologies and Markets

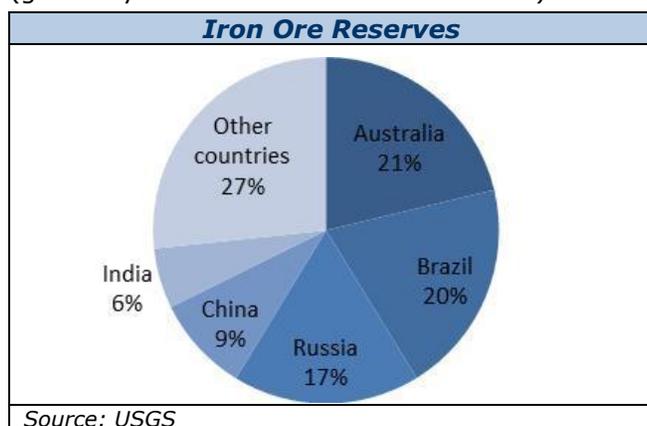
Iron Ore

Chemistry and Properties

Iron ores are rocks and minerals – rich in iron oxides [primarily in the form of magnetite (Fe_3O_4) and hematite (Fe_2O_3)] and hence helpful in the extraction of metallic iron (Fe). Iron is the world’s most popularly used metal and constitutes about 5% of the Earth’s crust.

Sources and Production^{viii}

Sources^{ix}: The major sources of iron ore are hematite deposits (generally with Fe content of more than 55%) and magnetite deposits (generally with Fe content as low as 30%).



South Africa is the sixth largest producer of iron ore and is one of the major producers of iron ore in the Africa region. Most of South Africa’s iron ore reserves are in the Northern Cape. Also, recent work in Gabon indicates the presence of a very large unexploited iron ore deposit.

Production: Iron ore is mined in about 50 countries, with the top-seven producers accounting for about three-quarters of the total world production. China is a major producer of iron ore, producing about 43% (2012E) of the world’s pig iron (per the U.S. Geological Survey).

Iron Ore Production ^x		
Country	2011 (MMT)	2012E (MMT)
China	1,330	1300
Australia	488	525
Brazil	373	375
India	240	245
Russia	100	100
Ukraine	81	81
South Africa	60	61
World Total	2,940	3000

Demand: Demand for iron ore is mainly from China and other emerging economies, primarily due to increased urbanization and industrialization. Iron Ore consumption in China remains a key factor of the expansion of the global iron ore industry. Demand is expected to increase in 2013 driven by the rebound of Chinese economy from a seven-quarter slowdown.

Applications

Steel – According to USGS, 98% of iron ore is used in steel making. Steel is a processed form of pig iron.

Powdered Iron – Iron’s low cost and high strength makes it indispensable for engineering applications such as construction of machinery and machine tools, automobiles, hulls of large ships, and structural components for buildings.

Radioactive Iron – It is used in medicine and as a trace element in biochemical and metallurgical research.

Iron Blue – It is used in paints, printing inks, plastics, cosmetics (eye shadow), artist colors, laundry blue, paper dyeing, fertilizer ingredient, baked enamel finishes for autos and appliances, and industrial finishes.

Black Iron Oxide – It is used as a pigment and in polishing compounds, metallurgy, medicine, and magnetic inks. It is also used in ferrites for the electronics industry.

Market Trends: Prices and drivers^{xi}

Iron ore prices slumped to its lowest in September 2012 (averaging ~US\$99/dmtu for the month); however, towards the beginning of 2013, prices started rising with the increasing demand from China. We expect the prices to range between US\$150 and US\$160 in 2013, with limited upward potential in the following years.



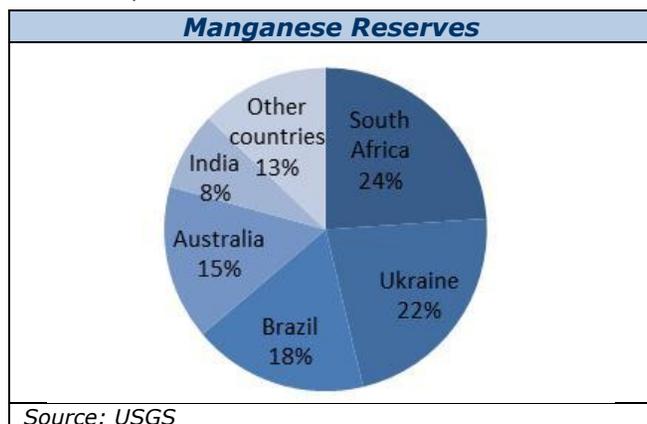
Manganese

Chemistry and Properties

Manganese is a silvery white metal, essential for making steel. The mining of manganese ores is usually done in open pits. It is the fourth most used metal for industrial purposes, following iron, aluminum and copper.

Sources and Production

Sources: The most important manganese ores are the oxides pyrolusite (MnO_2), braunite, $(Mn^{2+}Mn^{3+}_6)(SiO_{12})$, psilomelane $(Ba,H_2O)_2Mn_5O_{10}$ and rhodochrosite ($MnCO_3$). Relative to other metals, manganese deposits are widely distributed with principal sources being South Africa, Australia, Brazil, Gabon, India, Ukraine, and Georgia. South Africa has the largest estimated reserve at 150MMT (~25% of total world reserves) followed by Ukraine at 140MMT and Brazil at 110MMT. South Africa accounts for about 75% of the world's identified manganese resources, and Ukraine accounts for 10%.



Production: World production of manganese in 2012 was expected to be about 16MMT, as per USGS, with South Africa contributing about 3.5MMT (~22%) followed by Australia and China.

Demand: Manganese derives its demand from steel and iron production, where it is used as a sulphur fixing and deoxidizing agent. Average unit consumption of manganese by industrial countries is about 7.5kg per ton of steel^{xii}. However, the requirements vary depending on the grade of steel produced.

Manganese Production^{xiii}

Country	2011 (MMT)	2012E (MMT)
South Africa	3,400	3,500
Australia	3,200	3,400
China	2,800	3,000
Gabon	1,860	2,000
Brazil	1,210	1,100
India	895	810
Other countries	3,090	3,030
World Total	16,000	16,000

Applications^{xiv}

Industrial and Metallurgical: Manganese is used as a sulphur fixing, deoxidizing and alloying agent in the process of steel production. It plays a key role in desulphurification due to its ability to form sulphur di oxides quickly compared to iron. Pure electrolytic manganese is used in the production of non-ferrous alloys of copper and aluminum, which improves the corrosion resistance properties of the metal.

Non-Metallurgical: Manganese di oxide is used as a depolarizer in dry cell batteries. It is also used as a purifying, deodorization agent due to its oxidizing properties.

Market Trends: Prices and Drivers

Iron demand being the primary driver, manganese prices are expected to increase, given the positive outlook for the Chinese economy. In Q1 2013 the prices are expected to rise with tighter supply and low inventory levels.



Project Risk Profile Analysis

Ferrex has a slightly higher risk profile than peers. However, from a medium-to-long-term perspective, we believe Ferrex will be able to quickly advance its projects by defining resources for development, given its projects in Africa have access to good infrastructure and required management expertise.

Peer Risk Analysis

We have compared the risk profile of Ferrex with other exploration companies in Africa with a similar commodity base and which are relatively in more advanced stages in exploration. We identify the risk as low/medium/high and assign a score of 1/2/3 respectively based on the risk profile of the major projects pursued by the companies. The important risk categories considered for the study include:

- Project Maturity Risk: Low – Near feasibility; High - Proof of concept stage
- Financing Risk: Low – Near negotiations / lower exploration capex; High - Funding need for exploration or no well-known funding sources
- Operational / execution Risk: Low – Advanced stages of production and stable grade extraction; High – Early development stages and volatile grade extraction or more
- Regulatory Risk: Low – the project requires no regulatory approvals; High – the project requires many regulatory approvals for production/development

The individual risk parameters and the underlying rationale for the scores are discussed in the subsequent sections.

Peer Risk Profile

Ticker	Total Risk Score	Project Stage Risk	Financing Risk	Operational Risk	Regulatory Risk
FRX LN	2.0	2.0	2.0	2.0	2.0
FCR LN	2.3	2.5	2.5	2.0	2.0
WAI CN	1.8	2.0	1.5	2.0	1.5
WAFM LN	1.4	1.5	1.5	1.5	1.0

Malelane - Iron Ore

Project Stage Risk – Medium

Malelane project is in its initial stages, with the pre-feasibility study expected in 2013. However, the project has positive scoping study updates. Hence, we view it as a medium risk category.

Financing/Capex Risk – Medium

The company has zero debt and has support from private investors for placement of shares (two successful placements in 7 months). Ferrex plans to fast track its low capex projects to production and utilize the operating cash flows for developing this mine.

Operational/Execution Risk – Low to Medium

The scoping study update for the project has increased the NPV by 65%, IRR by 44%, and reduced opex to US\$44/t and capital intensity (Capex/Production (tpa)) to US\$72/t. This increases our confidence in the project's operating economics.

Regulatory Risk – Medium

We believe Ferrex might face regulatory risks, given it is in its initial stages of regulatory approvals for developing its projects. However, the rich experience of the management in handling African projects will mitigate this risk to a great extent.

Risk Parameters – Definition

Project Stage Risk

The different stages in a project are:

- **Early Stage Exploration:** In this stage, the exploration location is decided using a combination of various techniques, such as samplings, drilling, geophysics, and other extensive geological and exploration services.
- **Pre-feasibility Study:** A preferred base-case option will be identified from the possible options available to the company. The preferred base-case option will provide some level of confidence in production capacity, ore grades, metal recovery, capital and operating costs, project schedule, and project risks / opportunities. A financial analysis will also be carried out to assess the economic viability of the project.
- **Feasibility Study:** This includes a collection of more detailed information, additional designs, and project-specific cost information to refine the project cost and schedule. This will also address information gaps, issues of concern, risks, and opportunities identified in the advanced exploration stage.
- **Detailed Engineering:** Detailed designs based on the project scope, concept designs, and purchase of key plant equipment will be completed.
- **Site Construction:** Site construction starts as per the field engineering designs and is expected to confirm adherence to appropriate quality control practices.
- **Commissioning and Start of Operations:** After the completion of construction, operability testing, and acceptance, the owner will be asked to confirm whether the project construction and performance is as designed and meets the required plant performance and safety requirements. The final operating control programs will be completed, installed, and tested for functional efficiencies.

We consider a project to carry lower risk if its feasibility study is complete and detailed engineering is conducted, as the uncertainty regarding the sustainability of the project reduces significantly.

Project Financing Risk

Initial stages of exploration, development, and production require high levels of capital investment. Investments at the exploration stage

will be riskier as the economic viability of deposit is not determined. The risk level of the capital reduces as it advances through various exploration stages.

Initial stages of exploration and development of the project attract high-risk capital investors. As the project stages proceed, the company will have varied options, such as equity (IPO) and debt funding.

We consider a project to carry lower risk if exploration capital expenditure is low and the company has secured sources to fund its capex.

Operational Risk

Mining machinery, transport, and new technology are used for operations that have complicated geological and climatic conditions. There are increased risks of flooding, pit slope, and rim slide, accidents caused by the use of mining transport equipment due to adverse weather conditions, and problems in power supply facilities and recovery plants. These risks could result in delayed ore production and recovery, increased costs, health, safety and environmental issues, and affect the company's output. Additionally, the quality of ore reserves, and the method used for extraction contribute to the operational risk.

We consider a project to carry lower risks if the company is in advanced stages of its operations and extracts fairly stable grades.

Regulatory Risk

Mining companies operations and exploration and development activities are subject to laws and regulations, and require regulatory approvals for some their operations. Obtaining necessary approvals can be time consuming, which could create monetary losses and delay operations. We consider a project to be of lower risk profile if the company is in advanced stages of operations.

Peer Valuation and Risk Profile

We have also evaluated the companies based on the value per resource and their risk profile. We have arrived at the enterprise value per resource and use £/T as a proxy for the valuation measure.

The risk profile has been assessed as a weighted blended score based on the project maturity risk (30% weightage), financing risk (30%), operational risk (20%), and regulatory risk

(20%). The peer-risk profile table in the previous section shows individual risk scores.

Valuation Vs Risk Profile

Company	Total Risk Score	Enterprise Value/ Resource (£/T)	Enterprise Value (£MM)	Total Resource (unit)
FRX LN	2.0	0.22	11.47	51.43
FCR LN	2.3	0.03	2.37	82.75
WAI CN	1.8	1.13	180.94	160.72
WAFM LN	1.4	1.38	748.81	544.30

The analysis clearly indicates our assertion that Ferrex commands a premium compared to its peers, considering the medium risk profile of its projects.

Valuation Vs Risk Profile Chart



Value

The Fair Market Value for Ferrex shares is between £26.14MM and £52.02MM.

The Fair Market Value for one of Ferrex publicly-traded shares is between £0.03 and £0.07.

Ferrex Balance Sheet Forecast

CONSOLIDATED BALANCE SHEET

*all figures in '000 £,
unless stated differently*

*Low bracket
estimates*

<i>year ending September 30</i>	2013E	2014E	2015E	2016E	2017E	2018E	2019E
Total Current Assets	5,026	8,571	14,106	24,444	41,510	54,644	68,255
Total Non-Current Assets	10,406	20,935	54,260	93,005	84,265	76,427	69,400
TOTAL ASSETS	15,431	29,506	68,366	117,449	125,776	131,071	137,655
Total Current Liabilities	-	251	503	1,831	3,158	3,158	3,158
Total Non-current Liabilities	15,000	30,000	45,000	60,000	42,000	21,000	-
TOTAL LIABILITIES	15,000	30,251	45,503	61,831	45,158	24,158	3,158
Total Shareholders Equity	431	(746)	22,864	55,618	80,617	106,912	134,497
TOTAL LIABILITIES and EQUITY	15,431	29,506	68,366	117,449	125,776	131,071	137,655

Important information on Arrowhead methodology

The principles of the valuation methodology employed by Arrowhead BID are variable to a certain extent, depending on the sub-sectors in which the research is conducted. But all Arrowhead valuation researches possess an underlying set of common principles and a generally common quantitative process.

With Arrowhead commercial and technical due diligence, the company researches the fundamentals, assets and liabilities of a company, and builds estimates for revenue and expenditure over a coherently determined forecast period.

Elements of past performance such as price/earnings ratios, indicated as applicable, are mainly for reference. Still, elements of real-world past performance enter the valuation through their impact on the commercial and technical due diligence.

We have also presented the comparable method based on market capitalization per resource of ton (£/T) as a secondary measure of fair value, which, though is not central to the methodology applied towards building the fair value bracket, is presented here as additional information.

Arrowhead BID Fair Market Value Bracket

The Arrowhead fair market value is given as a bracket. This is based on quantitative key variable analyses, such as key price analysis for revenue and cost drivers, or analysis and discounts on revenue estimates for projects, especially relevant to projects estimated to provide revenue near the end of the chosen forecast period. Low and high estimates for key variables are produced as a valuation tool.

In principle, an investor comfortable with the high brackets of our key variable analysis will align with the high bracket in the Arrowhead Fair Value Bracket, and, likewise, in terms of low estimates. The investor will also note the company intangibles to analyze the strengths and weaknesses, and other essential company information. These intangibles serve as supplementary decision factors for adding or subtracting a premium in investor's own analysis.

The bracket should be taken as a tool by Arrowhead BID for the reader of this report and the reader should not solely rely on this information to make his decision on any particular security. The reader must also understand that while on the one hand global capital markets contain inefficiencies, especially in terms of information, on the other, corporations and their commercial and technical positions evolve rapidly. This current edition of the Arrowhead valuation is for a short- to medium-term alignment

analysis (one to twelve months). The reader should refer to important disclosures on page 20 of this report.

Information on the Ferrex Valuation

Ferrex Valuation Methodology: The Arrowhead fair valuation for Ferrex is based on the discounted cash flow (DCF) method.

Time Horizon: The time period chosen for the valuation is 115 months (2013-2022). While revenue is expected to ramp up significantly during 2016-2018, the later years are heavily discounted and have a marginal effect on valuation, which are included primarily to present a full project cycle situation.

Underlying Business Plan: Ferrex targets assets close to established infrastructure which can be fast tracked to development. Hence, they require less capex and opex, and add substantial value to investors in the near term.

Ferrex's near-term plan is to further explore its Nayega project, with a view to start production for positive cash flows. The positive cash flows will be utilized to develop other projects in its current portfolio.

Terminal Value: Terminal value is estimated to depend on a terminal growth rate of 0%, representing the maturity, technology change, and prospective competitiveness of the business.

Prudential Nature of Valuation: This Arrowhead fair value bracket is a relatively prudential estimate, as it discounts the eventuality of the company acquiring and producing from any projects other than Malelane, and Nayega, before 2022.

Key Variables in Ferrex Revenue Estimations

Variable 1 – Hypothesis for Annual Production

The Malelane and Nayega projects have JORC-compliant resources of 139MMT at 37% Fe and 7.3MMT at 14.7% Mn, respectively. We have discounted the resources by about 40% - 55% for a conservative estimate. However, we believe as the projects progress to advanced stages the resources will expand and add more value to investors.

Resource & Grade	Malelane (MMT)	Malelane (%)	Nayega (MMT)	Nayega (%)
Low	62.6	34.0%	3.7	13.0%
High	76.5	35.5%	4.4	14.0%

Variable 2 – Forecast prices of Iron Ore and Manganese

Price (US\$/T)	Iron Ore (US\$/T)	Manganese (US\$/T)
Low	130.0	500.0
High	140.0	520.0

Variable 3 – Operating Cost

Opex (US\$/T)	Iron Ore (US\$/T)	Manganese (US\$/T)
Low	56.0	250.0
High	55.0	220.0

Variable 4 – Exchange Rate (US\$/£)

Exchange Rate	US\$/£
Low	0.66
High	0.63

Analyst certifications

I, Mohanaragam Purushothaman, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security and the subject company.

I, Vishal Pasari, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security and the subject company.

Important disclosures

Arrowhead Business and Investment Decisions, LLC received fees in 2013 from Ferrex for researching and drafting this report and for a series of other services to Ferrex, including distribution of this report and networking services. Neither Arrowhead BID nor its employees own any long or short positions in Ferrex.

Aside from certain reports published on a periodic basis, the large majority of reports are published by Arrowhead BID at irregular intervals as appropriate in the analyst's judgment.

Any opinions expressed in this report are statements of our judgment to this date and are subject to change without notice.

This report was prepared for general circulation and does not provide investment recommendations specific to individual investors. As such, any of the financial or other money-management instruments linked to the company and company valuation described in this report, hereafter referred to as "the securities", may not be suitable for all investors.

Investors must make their own investment decisions based upon their specific investment objectives and financial situation utilizing their own financial advisors as they deem necessary.

Investors are advised to gather and consult multiple information sources before making investment decisions. Recipients of this report are strongly advised to read the information on Arrowhead Methodology section of this report to understand if and how the Arrowhead Due Diligence and Arrowhead Fair Value Bracket integrate alongside the rest of their stream of information and within their decision taking process.

Past performance of securities described directly or indirectly in this report should not be taken as an indication or guarantee of future results. The price, value of, and income from any of the financial securities described in this report may rise as well as fall, and may be affected by simple and complex changes in economic, financial and political factors.

Should a security described in this report be denominated in a currency other than the investor's home currency, a change in exchange rates may adversely affect the price of, value of, or income derived from the security.

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Arrowhead Business and Investment Decisions, LLC is not responsible for any loss, financial or other, directly or indirectly linked to any price movement or absence of price movement of the securities described in this report.

Valuation

WACC

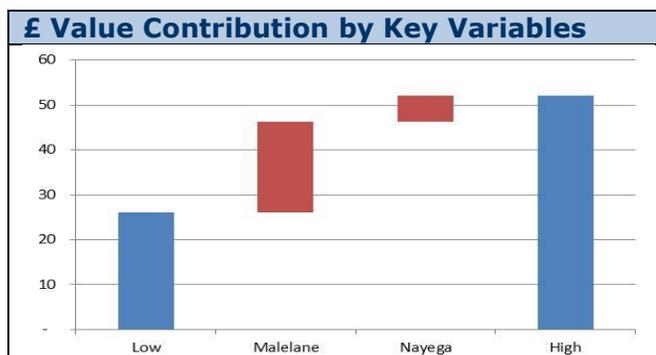
Risk-free rate	1.9%	xv
Beta	2.00	xvi
Risk premium	12.0%	xvii
Additional Risk Premium	2.0%	xviii
Cost of Equity	29.9%	
Terminal Growth Rate	0.0%	xix

	Production	Price	Operating Expense
Max value	Please refer to the Key Variable Section		
Min value			

FCFE (High) Time Period -->	0.54	1.54	2.54	3.54	4.54	5.54	6.54	7.54	8.54
	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E
Net cash from operating activities	(1,601)	2,458	6,698	27,567	48,508	50,250	49,655	49,197	48,814
Capital Expenditure	(7,404)	(11,451)	(35,375)	(44,148)	(380)	(399)	(417)	(437)	(458)
Net Debt Addition	15,000	15,000	15,000	15,000	(18,000)	(21,000)	(21,000)	-	-
Free Cash Flow to Equity	5,996	6,008	(13,677)	(1,581)	30,128	28,852	28,238	48,760	48,356
Discount Factor	0.87	0.67	0.51	0.40	0.30	0.23	0.18	0.14	0.11
Present Value of FCF	5,204	4,014	(7,036)	(626)	9,186	6,773	5,103	6,784	5,180
FCFE (Low) Time Period -->	0.54	1.54	2.54	3.54	4.54	5.54	6.54	7.54	8.54
	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E
Net cash from operating activities	(1,601)	1,158	3,985	21,206	34,924	36,005	35,412	34,957	34,577
Capital Expenditure	(7,751)	(11,996)	(37,092)	(46,294)	(380)	(399)	(417)	(437)	(458)
Net Debt Addition	15,000	15,000	15,000	15,000	(18,000)	(21,000)	(21,000)	-	-
Free Cash Flow to Equity	5,648	4,163	(18,107)	(10,089)	16,543	14,606	13,995	34,519	34,119
Discount Factor	0.87	0.67	0.51	0.40	0.30	0.23	0.18	0.14	0.11
Present Value of FCF	4,902	2,781	(9,315)	(3,996)	5,044	3,429	2,529	4,803	3,655

In the model, the valuation is continued to the year 2022, from which point the terminal value is established. For all data see reference table below:

ARROWHEAD FAIR VALUE BRACKET		
	High	Low
Terminal Value (TV)	161,566	113,661
Present Value of TV	13,324	9,374
Present Value of FCF + TV	51,890	26,009
+ Cash	127	127
Equity Value Bracket	52,017	26,136
Shares Outstanding (in '000)	765,200	765,200
Fair Value Bracket	0.07	0.03
Current Market Price	0.01	0.01
Current Market Capital	11.10	11.10
Target Market Capital	52.02	26.14



Notes and References

- i* Arrowhead Business and Investment Decisions Fair Value Bracket - AFVBTM. See information on valuation on pages 17-21 of this report and important disclosures on 20 of this report.
- ii* Source: Bloomberg as on March 27, 2013
- iii* Source: Bloomberg as on March 27, 2013
- iv* Source: Bloomberg as on March 27, 2013
- v* Source: Bloomberg as on March 27, 2013
- vi* Arrowhead Business and Investment Decisions Fair Value Bracket - AFVBTM. See information on valuation on pages 17-21 of this report and important disclosures on 20 of this report.
- vii* Source: Company website; website data as on February 22, 2013
- viii* http://minerals.usgs.gov/minerals/pubs/commodity/iron_ore/mcs-2012-feore.pdf
- ix* <http://www.rba.gov.au/publications/bulletin/2011/mar/1.html>
- x* http://minerals.usgs.gov/minerals/pubs/commodity/iron_ore/mcs-2013-feore.pdf
- xi* <http://www.thebull.com.au/premium/a/36213-playing-the-price-of-iron-ore-in-2013-and-beyond.html>
- xii* http://www.manganese.org/about_mn/production
- xiii* <http://minerals.usgs.gov/minerals/pubs/commodity/manganese/mcs-2013-manga.pdf>
- xiv* <http://www.britannica.com/EBchecked/topic/361875/manganese-Mn>
- xv* Source: Bloomberg as on March 18, 2013
- xvi* Arrowhead estimate
- xvii* Arrowhead estimate
- xviii* Arrowhead estimate
- xix* Arrowhead estimate