# Havilah Resources

*A New Mining Force in South Australia*

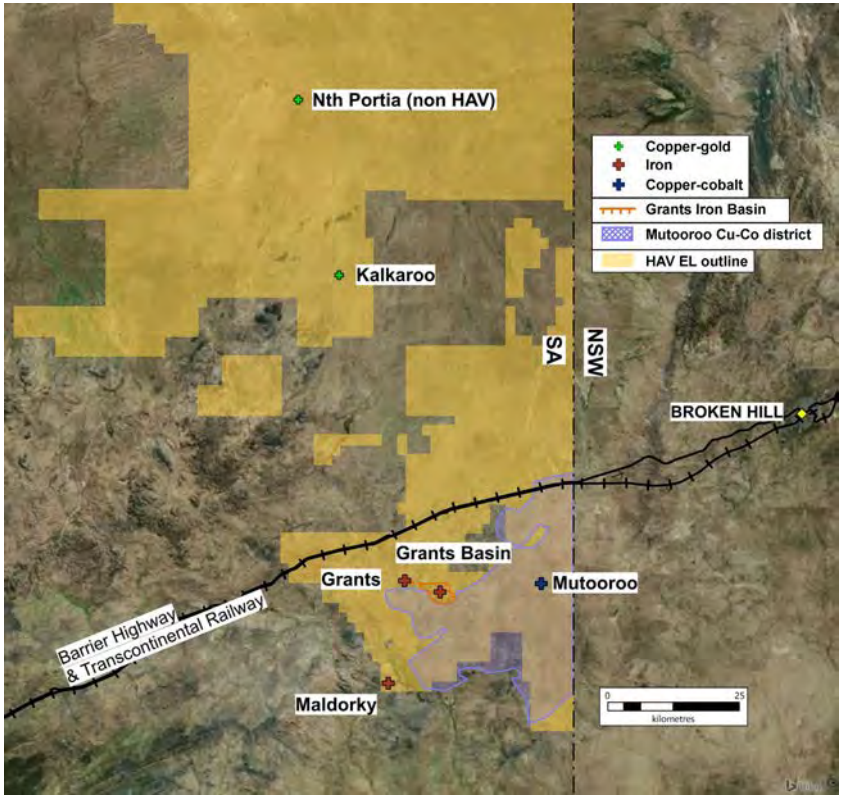
## PILBARA SCALE IRON ORE PROJECT

**DECADES SUPPLY OF HIGH QUALITY UPGRADED IRON ORE SUITABLE FOR PELLETISING**

Low Sovereign Risk, Northeastern South Australia

# Favourable logistics in northeastern South Australia

- Deposits lie from 8-26 km south of the Transcontinental Railway line and Barrier Highway. One hour by road from the regional mining centre of Broken Hill with its skilled workforce.
- Continuous heavy duty rail link to Spencer Gulf ports of Whyalla, Port Augusta and Port Pirie.
- MOU signed with developers of new Port Augusta transhipment facility.
- The Grants Basin deposit is the largest single iron ore discovery hosted by the Braemar Iron Formation in northeastern South Australia.
- Both deposits outcrop at the surface, have simple geometries and minimal internal waste, indicating low waste:ore and favourable mining economics.

# Braemar Iron Province, NE South Australia

Port Playford Development planned to be operational in 2022

Grants Iron Ore
304 Mt resource

Maldorky Iron Ore
147 Mt resource

**Havilah Iron Ore Project – positives:**

- Close to railway and Broken Hill
- Highest grades and good upgrading yields
- Best mining economics – at surface
- Low energy beneficiation –soft ore
- Yields a low impurity, premium product

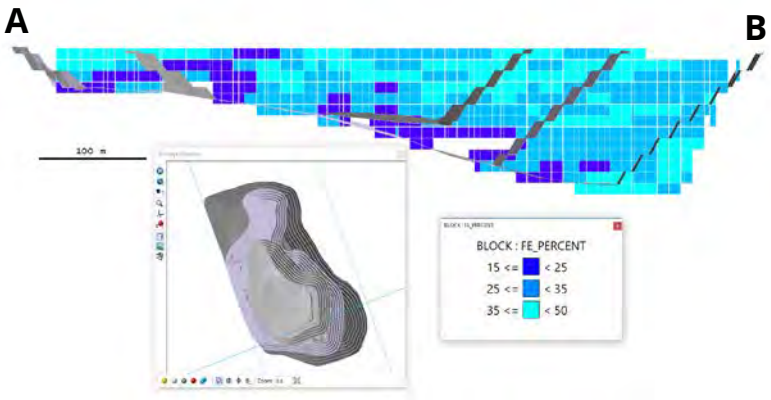
Railway
Gas Pipeline

50 km
20 mi

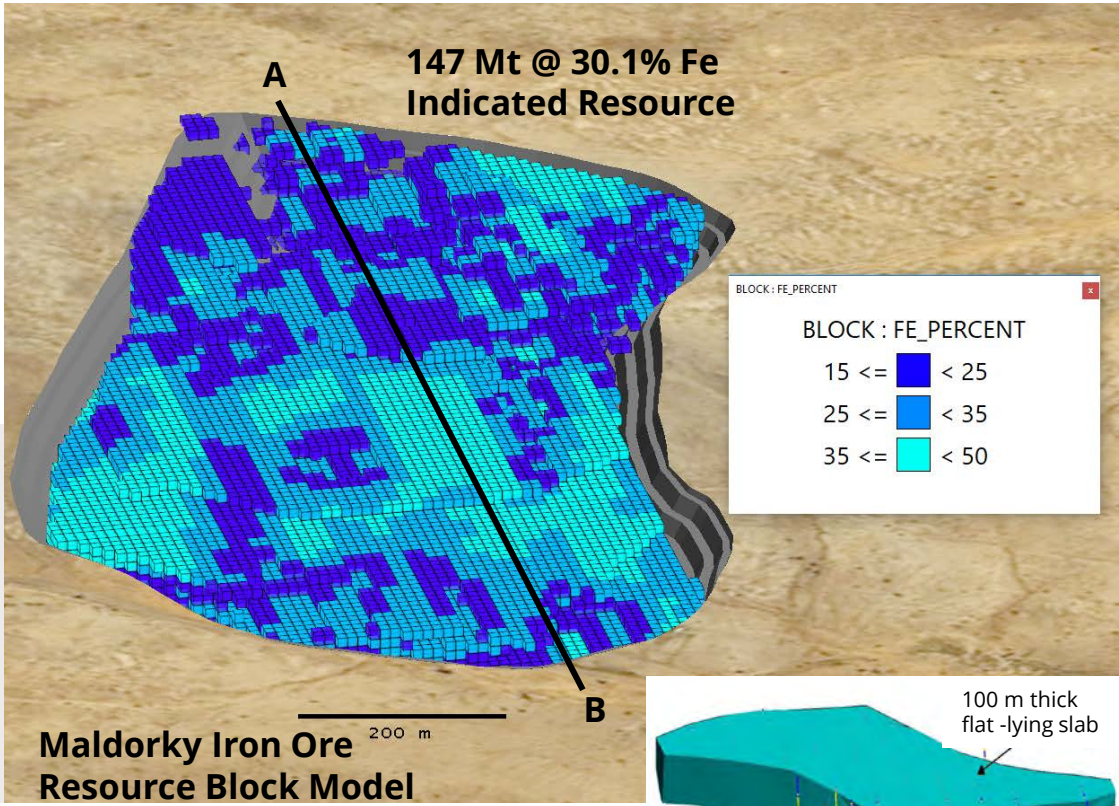
HAVILAH RESOURCES NL

February 2013

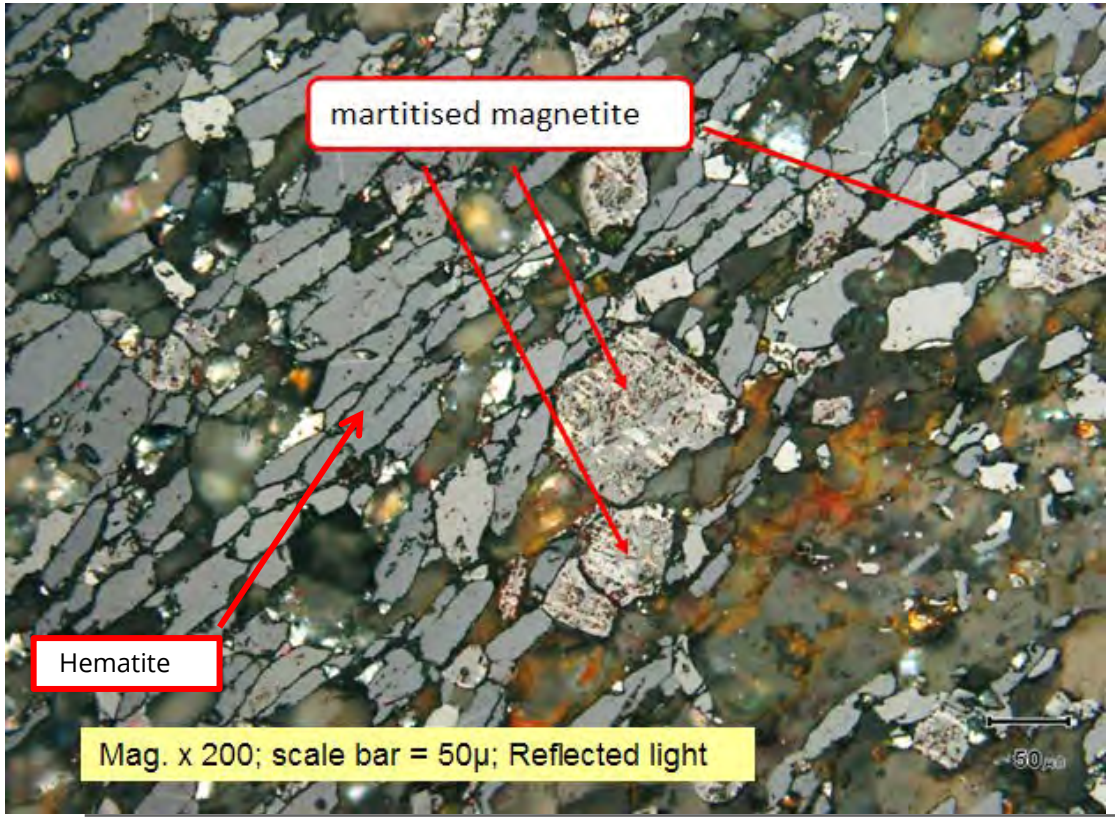
# Maldorky iron ore resource




- Favourable mining geometry - a 100 metre thick flat-lying slab from surface.
- Minor overburden, resulting in a very low waste:ore (0.19:1) in an open pit mine.
- Maldorky is the highest grade (30.1% Fe) Braemar Iron Formation hosted iron ore deposit in northeastern South Australia.
- Grant of a Mining Lease is subject to negotiation of a native title mining agreement, which is being pursued.



# Hematite – magnetite iron ore outcrops at surface




# Favourable physical properties for upgrading

| | MALDORKY | BANDED IRON |
|---|---|---|
| UCS (MPa) | 58 | ~350 |
| BAi (Abrasion Index) | 0.033 | 0.3 – 0.7 |
| BBWi – 106u (kWh/t) | 4.7 | 15 - 30 |
| BRWi – 1180u (kWh/t) | 8.9 | 15-25 |
| Est power (kWh/ t concentrate) | ~27 | ~57 |

This is because:

- Highly fissile due to cleavage
- Carbonate-layered silicate rich matrix
- Lack of silica

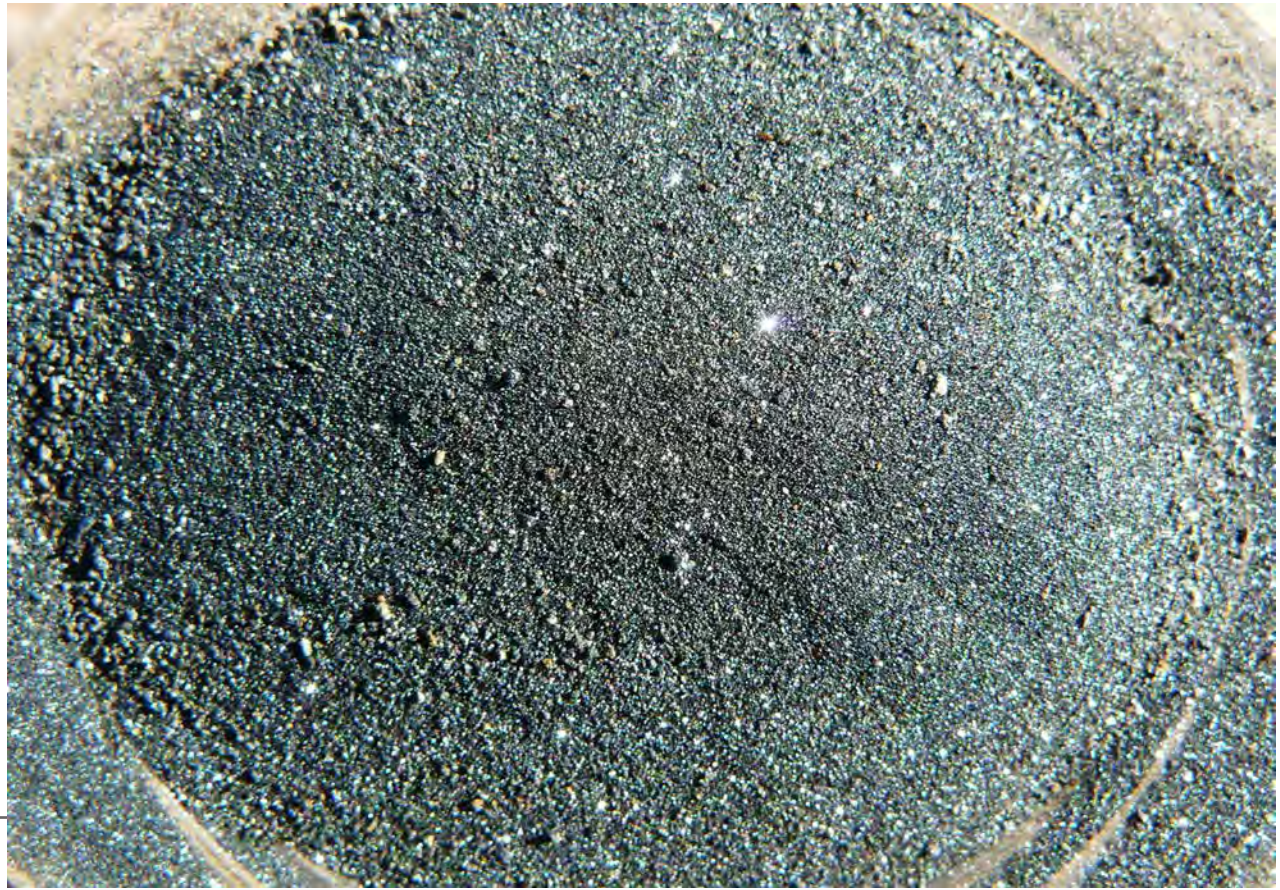
Materials testing conclusion:

- Soft
- Weakly abrasive
- Not power hungry for crushing or grinding

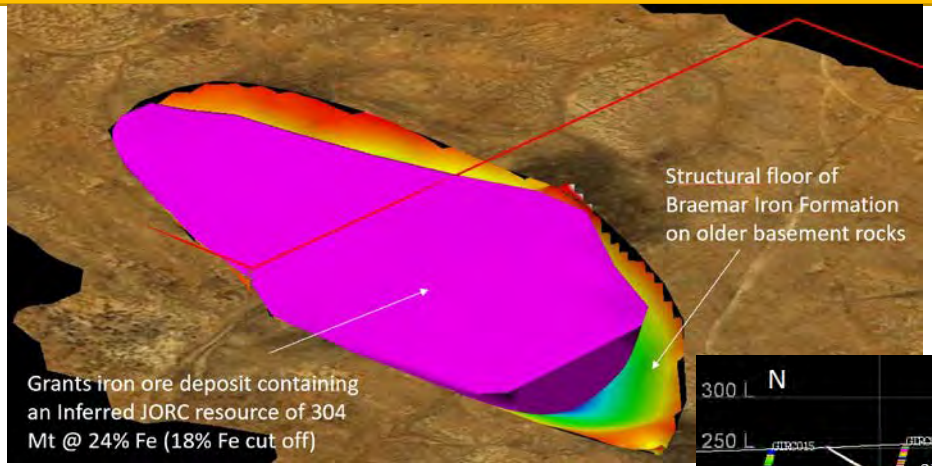
# Upgrades to a high quality 65.2% Fe product

| | |
|---|---|
| Fe | 65.2% |
| SiO2 | 4.94% |
| Al2O3 | 0.47% |
| CaO | 0.25% |
| MgO | 0.12% |
| K2O | 0.06% |
| MnO | 0.05% |
| TiO2 | 0.37% |
| P | 0.06% |
| LOI | 0.44% |

Extensive work by Havilah and SIMEC Mining has confirmed that the iron ore can be upgraded to a low impurity 65% Fe product for an efficient 40% yield and 85-88% overall Fe recovery.

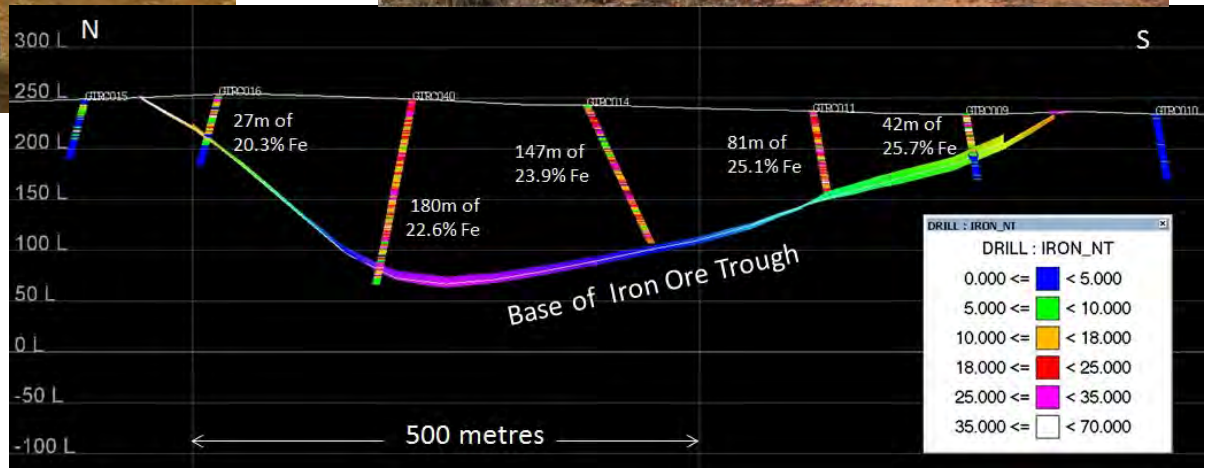


# Grants iron ore discovery 2011

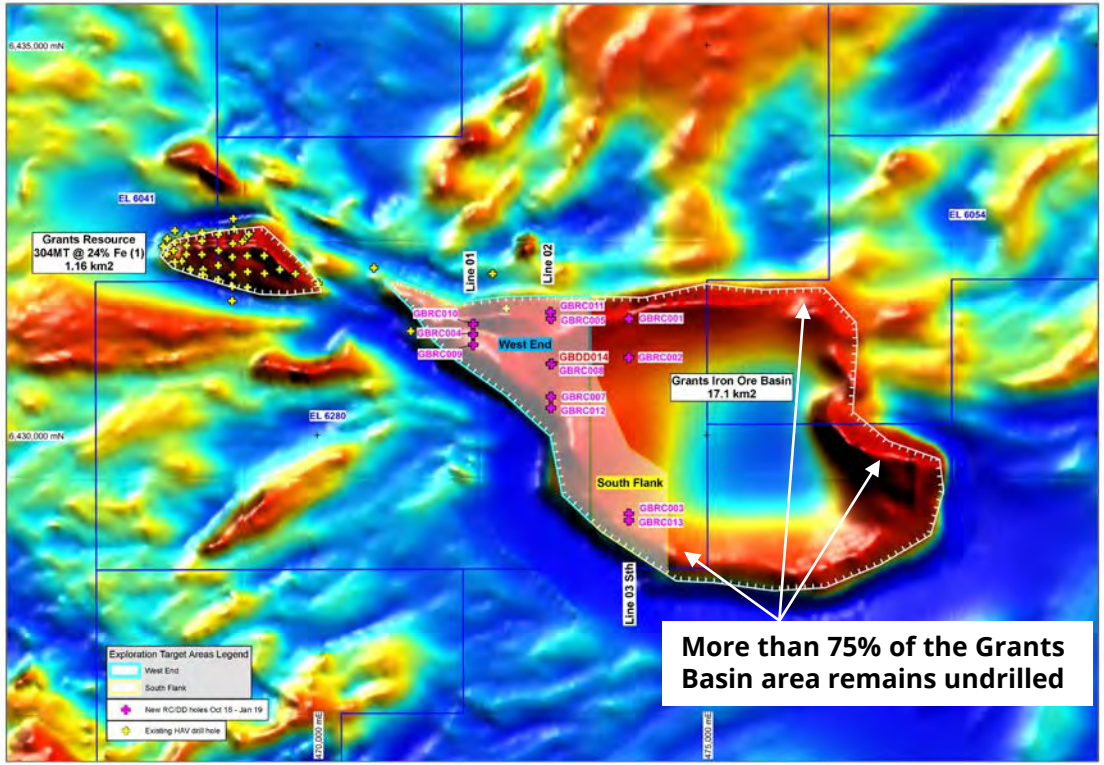




- Large hull-shaped deposit >200m thick in centre.
- Faulted sliver from the southwestern edge of the Grants Basin.
- Lies 8 km south of the Transcontinental railway line and one hour from Broken Hill along the main Barrier Highway



# Grants Basin iron ore discovery - 2018



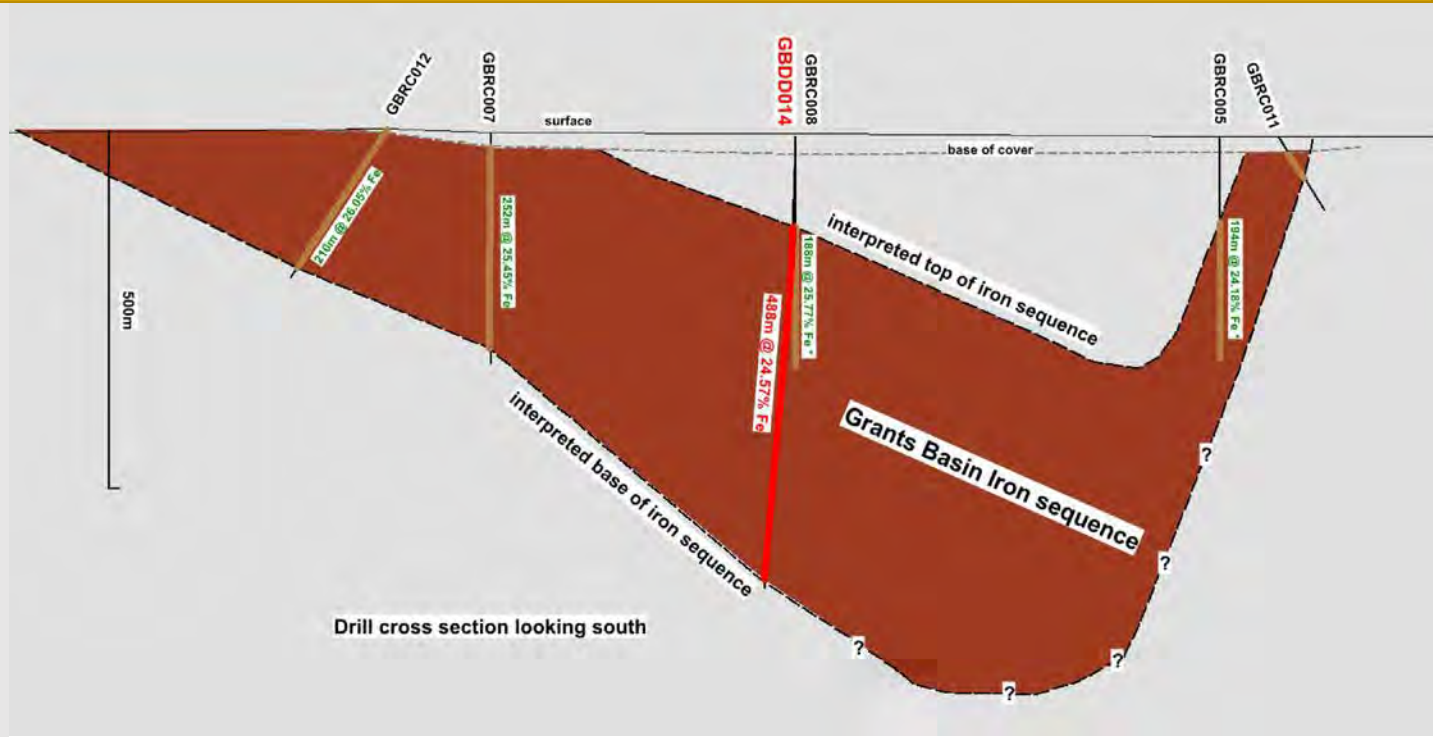

- Grants Basin is roughly defined by the large donut-shaped higher magnetic intensity feature (red colour) on the aeromagnetic image.
- Drilling to date has discovered iron ore mineralization over about 25% of the total area of the Grants Basin at its west end and south flank.
- The 304 million tonne Grants iron ore resource lies immediately west of Grants Basin and was likely faulted from it.

# Grants Basin cross-section line 01

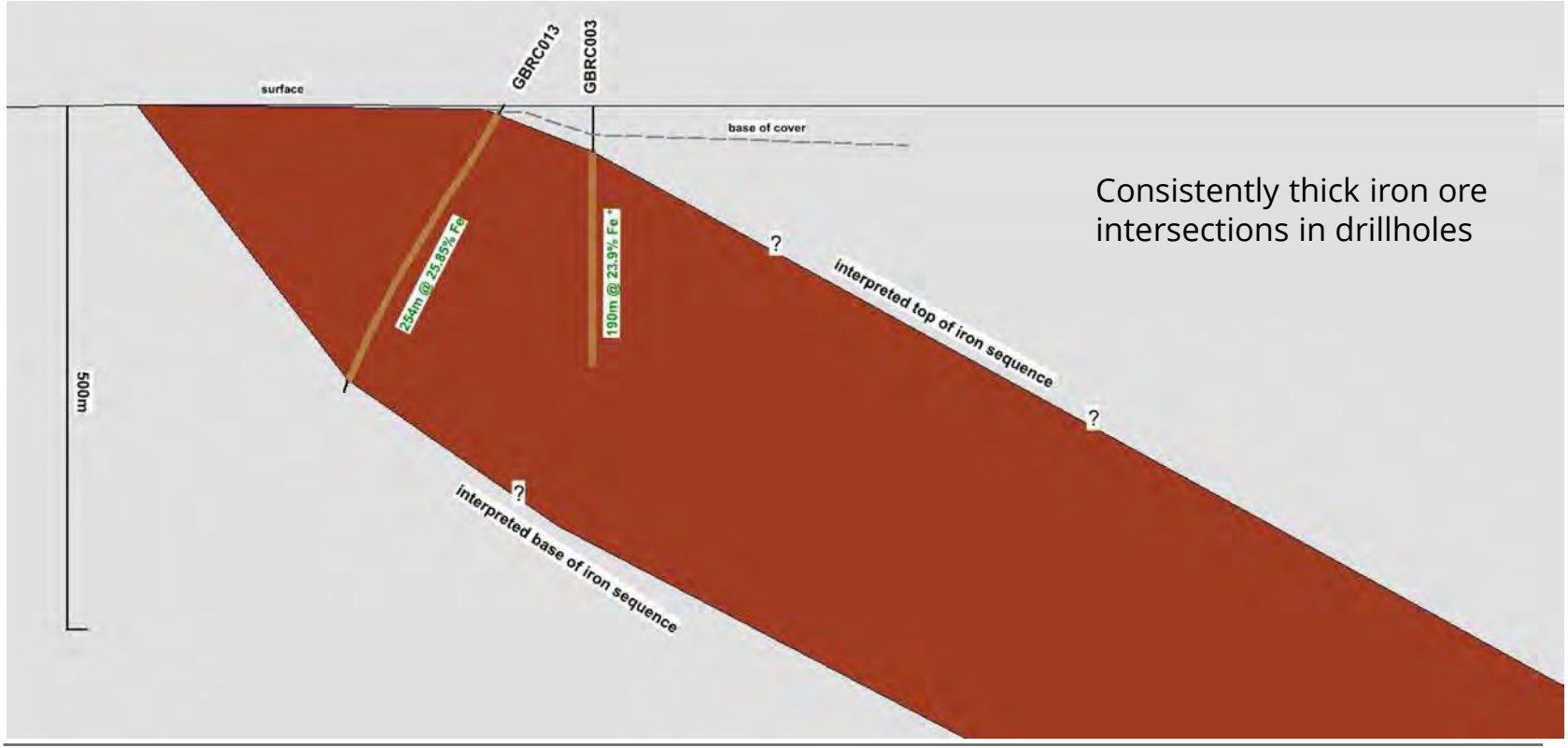

Consistently thick iron ore intersections in drillholes

# Grants Basin cross-section line 02

- A large basin shape, the deepest hole so far is 624m with 488m of continuous iron ore at 24.57% Fe.
- Extensive surface outcrop indicating a potentially very low waste:ore ratio for an open pit mine.
- Coarser-grained, higher grade zones that can potentially be exploited in upper parts of deposit.
- Ore mineralogy is similar to Maldorky and beneficiation characteristics are expected to be comparable.

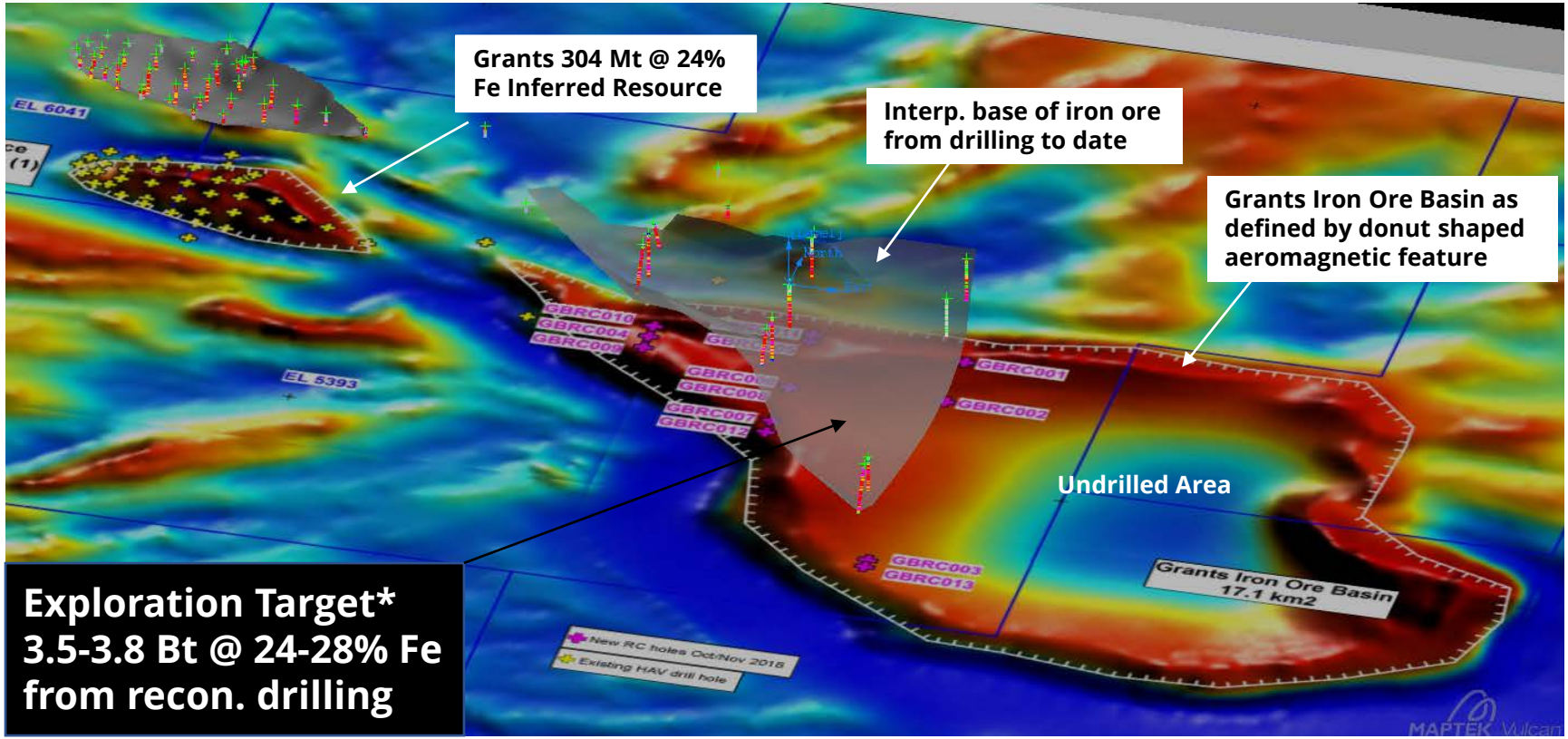


# Grants Basin cross section line 03




Consistently thick iron ore intersections in drillholes

# Grants Basin contains a large Exploration Target*




Havilah Resources

*The potential quantity and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

# Grants Basin is very large



Grants Basin area in comparison with Adelaide City and Sydney Harbour

# Iron ore transportation and port logistics solved

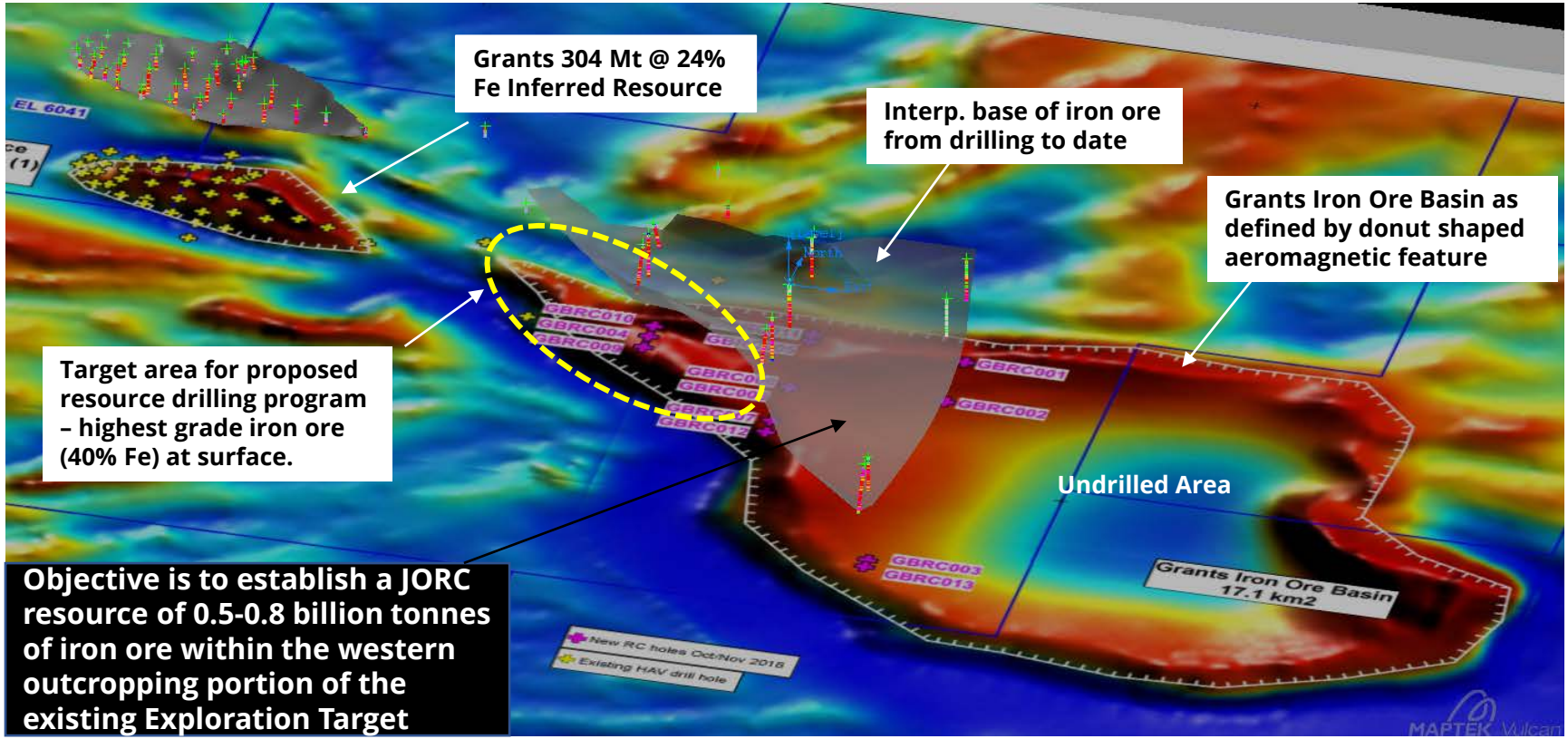
- MOU signed with Port Augusta Operations who are constructing the new Port Playford iron ore transhipment facility.
- “Port Playford will offer a strategically located, low capital and near-term export facility….and will offer storage, port and transhipment services for iron ore” from Port Playford website https://www.portplayford.com
- Direct rail link from within a few km of Grants and Grants Basin iron ore deposits to Port Playford (see slide 3).

Port Playford – site of former Port Augusta power station


Proposed development of Port Playford as an iron ore transhipment facility


Pictures are reproduced from the Port Playford website

# Next step: Grants Basin planned resource drilling 2021



# Video Links for  Iron Ore Projects

Click on the following links to view short videos of the iron ore projects

**Maldorky Project**

https://www.youtube.com/watch?v=Z8Ro7xvZuw0&list=PLFQCxdQOdNjs4bJdaqvqxggfmj7BVLnB4&index=4&t=0s

**Grants Project**

https://www.youtube.com/watch?v=PCV_KQnX1PY&list=PLFQCxdQOdNjs4bJdaqvqxggfmj7BVLnB4&index=3&t=5s

**Grants Deposit Flythrough**

https://www.youtube.com/watch?v=DSqPmEkIyOU

# 2019 JORC Mineral Resources

| Project | Classification | Tonnes (Mt) | Iron (%) | Fe concentrate (Mt) | Estimated yield |
|---|---|---|---|---|---|
| Maldorky[5] | Indicated | 147 | 30.1 | 59 | 40% |
| Grants[6] | Inferred | 304 | 24 | 100 | 33% |
| **Total all projects** | **All categories** | **451** | | **159** | |

**Footnotes to 2019 JORC Mineral Resource Table**
Numbers in tables are rounded
Based on JORC resources
[5] Details released to ASX: 10 June 2011 applying an 18% Fe cut-off (Maldorky)
[6] Details released to ASX: 25 December 2012 applying an 18% Fe cut-off (Grants)

# Cautionary and Competent Person's Statement

## Cautionary Statement

The information contained in this presentation is not financial product advice. The presentation is for information purposes and is of a general and summary nature only. Neither Havilah Resources Limited (Havilah) nor any member of the Havilah Group of companies, gives no warranties in relation to the statements and information in this presentation. Investors should seek appropriate advice on their own objectives, financial situation and needs.

It is not recommended that any person makes any investment decision in relation to Havilah based on this presentation. This presentation should be read in conjunction with the latest Annual Report together with any announcements made by Havilah in accordance with its continuous disclosure obligations arising under the *Corporations Act 2001*.

This presentation contains certain statements which may constitute 'forward-looking statements'. Such statements are only predictions and are subject to inherent risks and uncertainties which could cause actual values, performance or achievements to differ materially from those expressed, implied or projected in any forward-looking statements Havilah disclaims any intent or obligation to update publicly any forward-looking statements, whether as a result of new information, future events or results or otherwise. Investors are cautioned that forward-looking statements are not guarantees of future performance and investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein.

## Competent Person's Statement

The information in this presentation that relates to Exploration Targets, Exploration Results, Mineral Resources and Ore Reserves is based on data compiled by geologist, Dr Chris Giles, a Competent Person who is a member of The Australian Institute of Geoscientists. Dr Giles is Technical Director of the Company, a full-time employee and is a substantial shareholder. Dr Giles has sufficient experience, which is relevant to the style of mineralisation and type of deposit and activities described herein to qualify as a Competent Person as defined in the 2012 Edition of *'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'*. Dr Giles consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

Resource information for the Maldorky and Grants JORC Mineral Resources reported here was prepared and first disclosed under the JORC Code 2004 and has not been updated to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. Except where explicitly stated, this presentation contains references to prior exploration results and JORC Mineral Resources, all of which have been cross-referenced to previous ASX announcements made by Havilah. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant ASX announcements.

# CONTACT INFORMATION

## SUBSCRIBE TO OUR MAILING LIST

**KEEP UP WITH THE LATEST NEWS AND ANNOUNCEMENTS**

**CLICK HERE**


**FIND US ONLINE**

www.havilah-resources.com.au

youtube.com/havilahresources

linkedin.com/havilah-resources

facebook.com/havilah-resources

twitter.com/havilah-resources

**CORPORATE**

Havilah Resources Limited
ABN: 39 077 435 520
ASX Code: HAV

**OFFICE**

PO BOX 3
Fullarton, 5063
South Australia, Australia

Tel: +61 (08) 7111 3627
Email: info@havilah-resources.com.au