



IRONCLAD  
MINING LIMITED

# Wilcherry Hill Iron Ore Project Update

---

Annual General Meeting

22 November 2012

# Disclaimer



IRONCLAD  
MINING LIMITED

- This presentation does not purport to provide all of the information an interested party may require in order to investigate the affairs of IronClad Mining Ltd (“IronClad”) nor shall it be construed as a solicitation to buy or sell IronClad securities, or to engage in or refrain from engaging in any financial transaction. In preparing this presentation IronClad did not take into account the investment objectives, financial situation and particular needs of the individual investors.
- Before making an investment decision on the basis of this presentation, the investor needs to consider, with or without the assistance of a financial advisor, whether the investment is appropriate in light of their particular investment needs, objectives and financial circumstances.
- This presentation is based on internal company reports and technical information believed to be reliable but IronClad does not make any representation or warranty to its accuracy, completeness or currency. IronClad accepts no obligation to correct or update the information or opinions expressed in it. Opinions expressed are subject to change without notice and accurately reflect the views of IronClad at the time of presenting.
- This presentation has originated from IronClad Mining Limited.
- The information that relates to exploration targets, exploration results and drilling data is based on information compiled by Chris Mroczek , who is a member of the Australian Institute of Mining and Metallurgy and who has more than five years experience in the field of activity being reported on.
- Mr Mroczek has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a competent person as defined in the 2004 Edition of the ‘Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves.
- Mr Mroczek consents to the inclusion in the presentation of the matters based on his information in the form and content in which it appears.



IRONCLAD  
MINING LIMITED

# Recent Milestones

---

# Recent Milestones - Approvals



IRONCLAD  
MINING LIMITED

- **Approvals granted:**
  - **Landholder Compensation Agreement** September 2011
  - **Commonwealth EPBC Act Public Environmental Report**  
September 2011
  - **Mining Lease Proposal (MLP)** October 2011
  - **Program for Environment Protection & Rehabilitation - PEPR (MARP)** December 2012
  - **Development Approval amendment for Lucky Bay - being submitted in stages**

# Recent Milestones – Contracts



- **Mining contract – negotiations complete** September 2012
- **Haulage contract – negotiations complete** September 2012
- **Process plant – initial design complete** October 2012
- **Crushing contract – negotiations in progress**



IRONCLAD  
MINING LIMITED

# Current Status

---

- **Action being taken to maintain cash margin and NPV at lower iron ore price**
  - **Exploration focused on delineating additional low strip ratio reserves for DSO, DMS and GS feed**
  - **Road and port redesigned to reduce start up capital cost**

## **Weednanna, Ultima Dam East, Weednanna North**

- **Program Underway to estimate DSO Mineral Reserve – Completion Mid December**
- **Infill Drilling program August – September completed**
- **Final Program Objectives**
  - **DSO delineation from existing Mineral Resources**
- **WDA, UDE, WDN**
  - **Update Mineral Resource & Estimate Reserve**
- **Resource modelling nearing completion**
- **Whittle optimisations commenced**



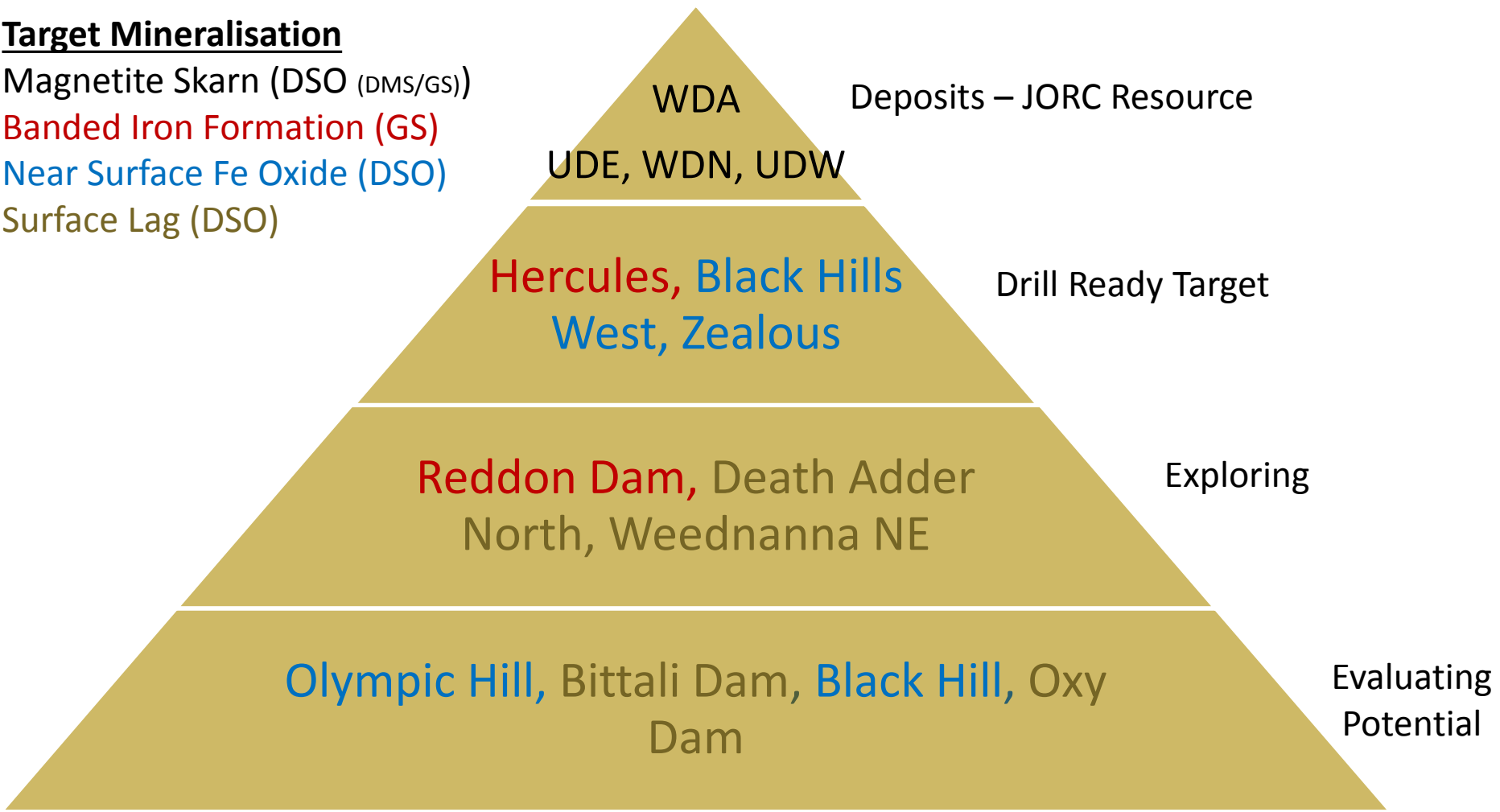
- **Strategy in a softening iron ore price environment**
  - Better grade definition of existing Mineral Resource at Wilcherry Hill – improved selectivity (DSO) for mining
- **Find more “low cost ore” – extend project mine life**
  - Key Criteria - low strip ratio & grade suitable for DSO/DMS/GS processing options

# Exploration Project Pipeline Summary



## Target Mineralisation

- Magnetite Skarn (DSO (DMS/GS))
- Banded Iron Formation (GS)
- Near Surface Fe Oxide (DSO)
- Surface Lag (DSO)



WDA

Deposits – JORC Resource

UDE, WDN, UDW

Hercules, Black Hills West, Zealous

Drill Ready Target

Reddon Dam, Death Adder North, Weednanna NE

Exploring

Olympic Hill, Bittali Dam, Black Hill, Oxy Dam

Evaluating Potential

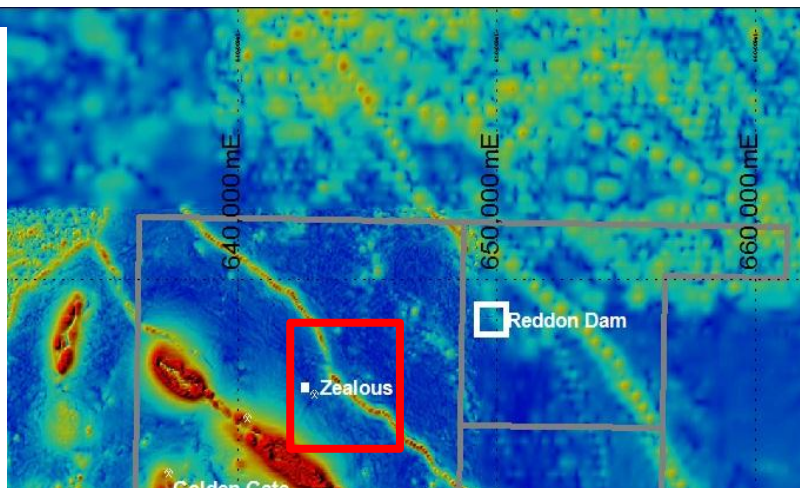


IRONCLAD  
MINING LIMITED

# Exploration Prospect Locations

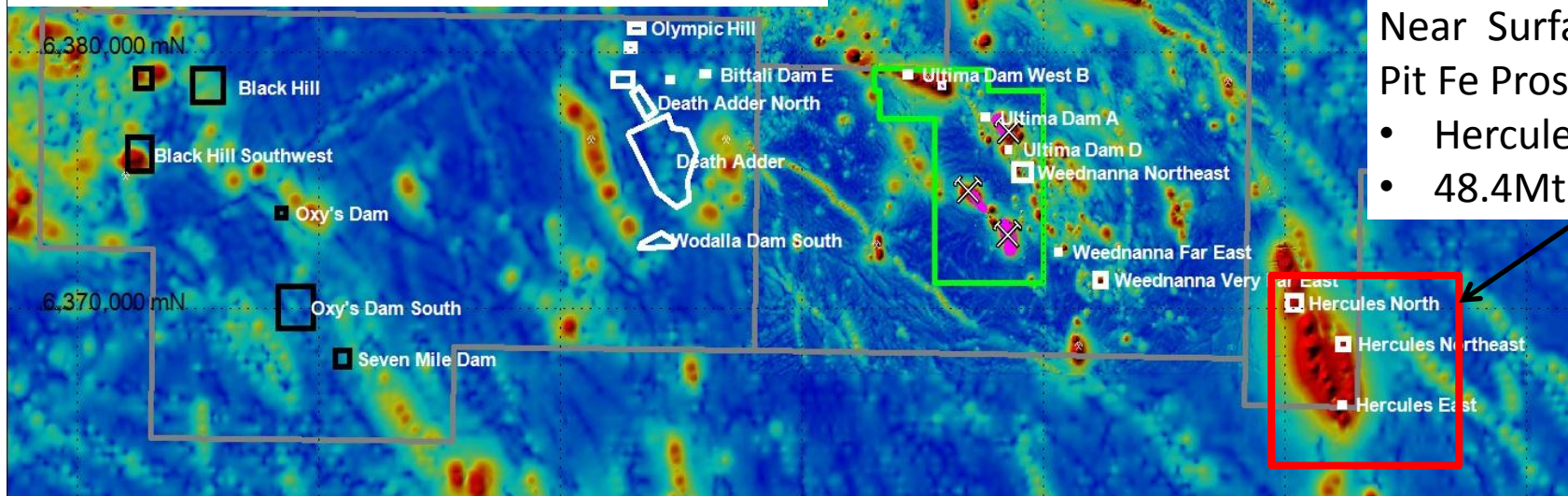
## DSO – Near Surface Fe Prospects:

- Targets for initial follow up exploration.
  - Zealous: 60% Fe, Hem
  - Black Hill West: 66% Fe, Hem
  - Reddon Dam: 51% Fe, Geoth
  - Olympic Hill: 64% Fe, Hem
- Drilling Planned November 2012
  - Zealous and Black Hills West



## Near Surface Open Pit Fe Prospects:

- Hercules
- 48.4Mt @ 40% Fe



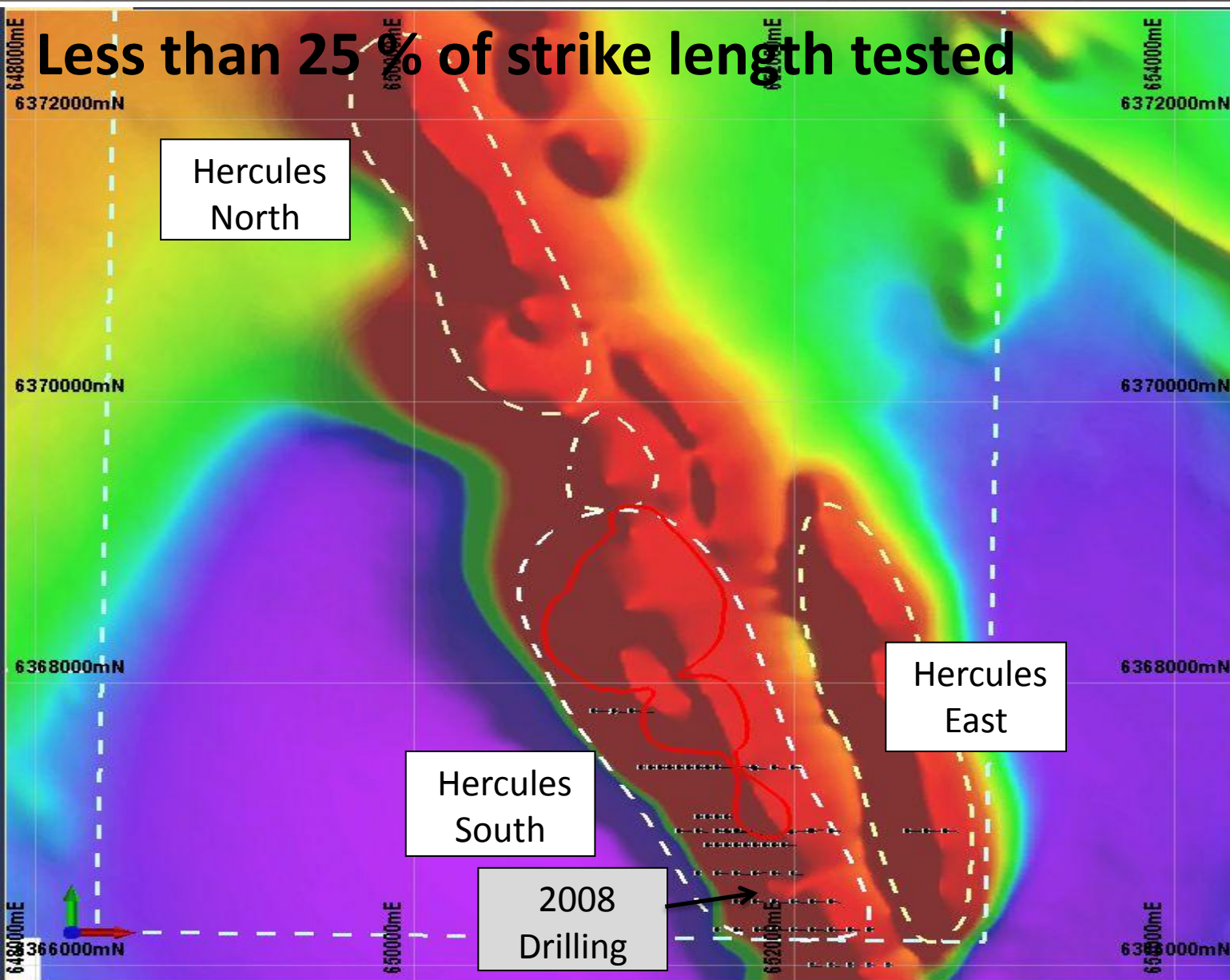
Extensive surface Fe oxide accumulations – Potential yet to be fully evaluated, significant upside. Ignored by past explorers looking for base metals and copper/ gold



IRONCLAD  
MINING LIMITED

- Work Completed.
- **2008**
  - Geophysics
  - Drilling
  - 2008
  - Resource Estimate
  - **2012**
  - Infill Gravity
  - Modelling
  - Target Generation
  - **Planning to Drill Nov 2012**

# Less than 25 % of strike length tested





## Inferred Mineral Resources 15th Dec 2008

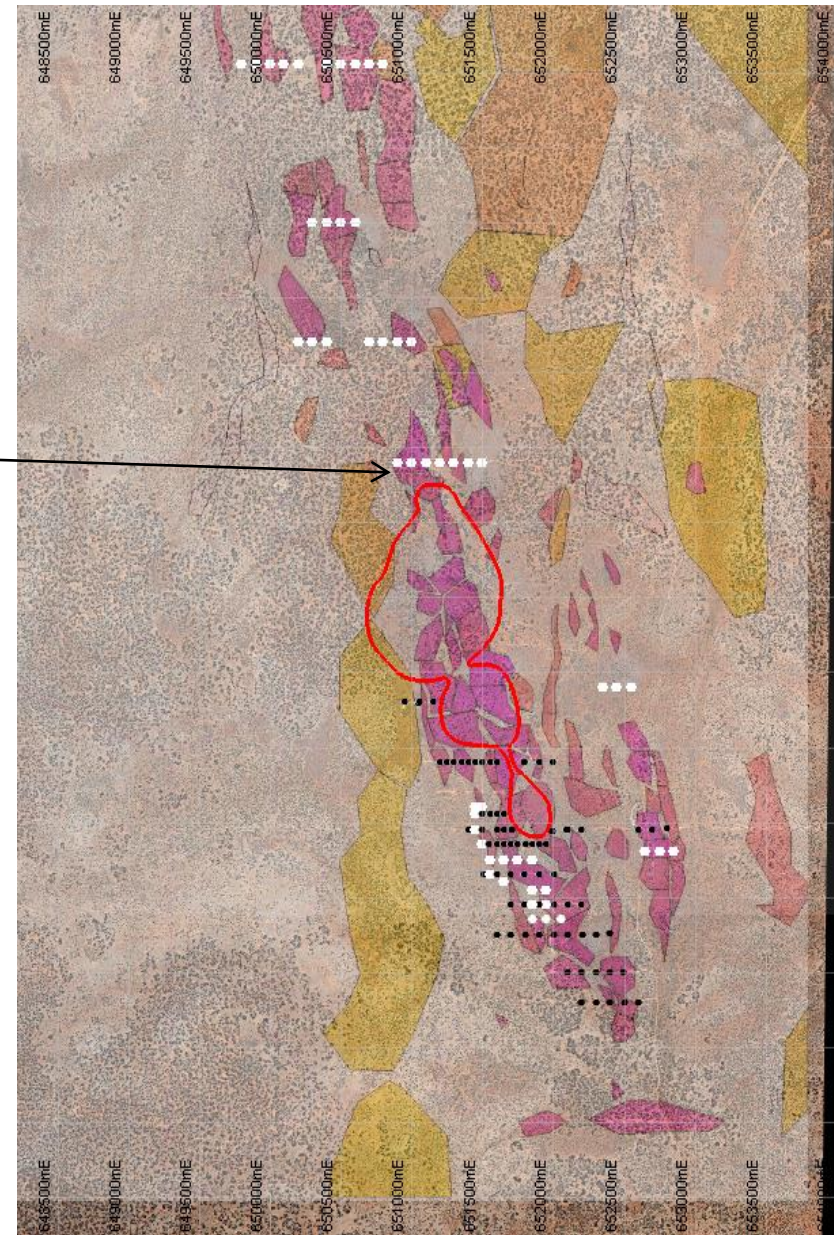
	Domain 1	Domain 2	Domain 3	Domain 4	Total
<b>Kt</b>	<b>3,579</b>	<b>36,028</b>	<b>8,752</b>	<b>145,577</b>	<b>193,936</b>
<b>Fe%</b>	41.86	40.75	35.19	22.88	27.11
<b>Calcined Fe%</b>	45.37	44.14	38.58	23.58	28.48
<b>SiO<sub>2</sub>%</b>	21.51	27.79	20.99	50.88	44.70
<b>Al<sub>2</sub>O<sub>3</sub>%</b>	8.32	3.16	3.80	2.28	2.62
<b>MgO%</b>	0.22	0.17	0.20	3.72	2.84
<b>TiO<sub>2</sub>%</b>	0.32	0.08	0.10	0.08	0.09
<b>K<sub>2</sub>O%</b>	0.16	0.11	0.45	0.60	0.49
<b>CaO%</b>	0.57	0.11	0.14		
<b>P%</b>	0.09	0.20	0.20		
<b>Mn%</b>	0.61	0.86	10.01		
<b>S%</b>	0.08	0.03	0.03		
<b>Na<sub>2</sub>O%</b>	0.19	0.30	0.52		
<b>LOI%</b>	7.73	7.62	8.85		
<b>LOI371%</b>	4.70	5.85	5.44		
<b>LOI538%</b>	6.86	6.92	6.85		

Element

Hole Details			Oxidised BIF Significant Assay Results								
Hole ID	From	Interval	Fe%	Calcined Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P%	Mn%	S%	LOI	Comment
08HCRC006	14	4	52.0	58.2	8.8	5.0	0.109	0.41	0.097	10.7	
08HCRC007	4	6	51.3	56.2	13.3	3.9	0.149	0.20	0.067	8.8	
08HCRC011	62	20	52.2	57.3	9.7	3.7	0.283	0.71	0.032	8.9	
08HCRC011	72	8	56.0	60.7	8.0	1.8	0.284	0.29	0.031	7.8	
08HCRC012	48	4	54.8	57.4	14.5	0.9	0.085	0.80	0.021	4.6	
08HCRC012	74	8	52.7	58.5	9.4	3.2	0.350	0.24	0.035	9.9	
08HCRC031	30	6	55.9	59.6	8.5	2.8	0.238	1.01	0.020	6.2	
08HCRC032	54	8	54.3	58.6	11.8	2.1	0.228	0.26	0.017	7.5	
08HCRC034	30	16	53.9	60.0	8.3	3.3	0.234	0.30	0.095	10.2	
08HCRC048	20	10	54.4	61.1	6.3	3.2	0.146	0.41	0.047	10.9	
and	32	8	32.1	35.8	8.6	2.1	0.102	21.6	0.028	10.4	
08HCRC062	28	4	24.3	27.2	7.2	2.0	0.138	29.5	0.005	10.7	
08HCRC063	12	12	50.0	54.5	10.9	5.1	0.209	1.84	0.041	8.3	
08HCRC064	48	20	46.5	50.9	11.9	3.5	0.288	5.4	0.034	8.7	
08HCRC067	38	4	51.8	57.9	10.5	2.8	0.124	0.84	0.050	10.7	



- **Exploration – Next Stage**
- **Drilling**
  - **Reverse Circulation  $\approx$  2,500m**
- **Results and Re-assessment of prospectivity – December**

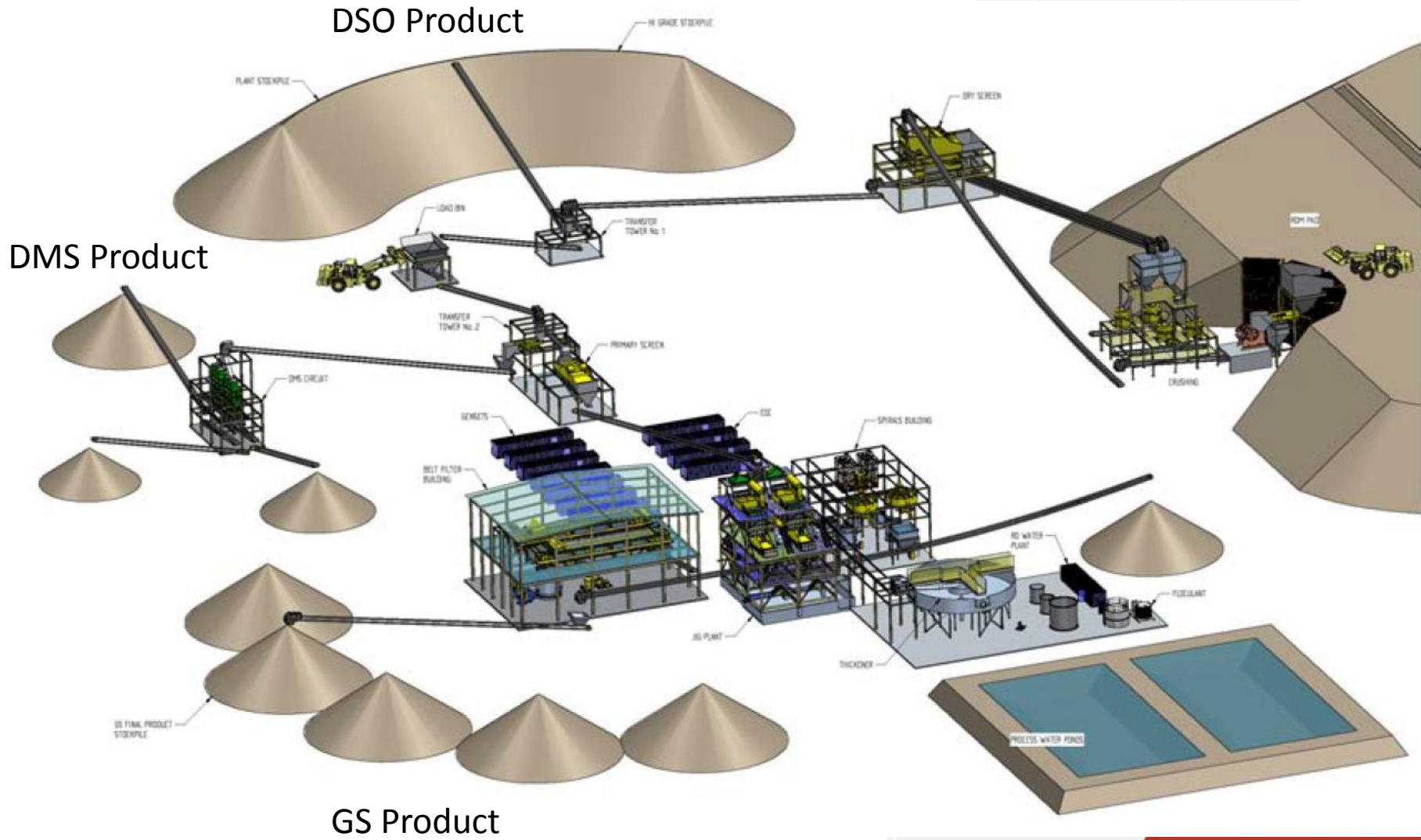


- **GS Plant preliminary design completed**
- **Current design is two GS trains – each of 1.1Mta ore feed**
- **Plant capital costs can be reduced by installing one train initially and deleting fixed crushing plant**
- **Modular construction of plant to reduce onsite labour and costs and allow it to be relocated when required**

# Process Plant



IRONCLAD  
MINING LIMITED





# GS Plant – Modular Design



IRONCLAD  
MINING LIMITED



# Road Haulage



- **Trucking in bulk from mine to port** (Subject to amendment approval)
- **Initial trucking - double road trains** (54t payload)
- **Final negotiations in progress with local Councils for route approval and road maintenance agreements**
- **Port layout revised to improve efficiency and reduce costs**
- **Buffer stockpile of bulk ore at Lucky Bay** (Subject to amendment approval)
- **Trans-shipping to export vessels in containers**

# Transport Approvals



IRONCLAD  
MINING LIMITED

- Mine Site to Lucky Bay Route Details **Confirmed**
- Double Road Train Route Assessment **Completed**
- Road Condition Report **Completed**
- Road Infrastructure Upgrade and Maintenance Requirements **Final Negotiations with Councils**
- Re-Gazetting/permitting of Council Roads for Use of Double Road Trains **In progress**
- SA Government Department of Transport Special Permit to Operate Double Road Trains **In progress**



# Export Facility - Approvals

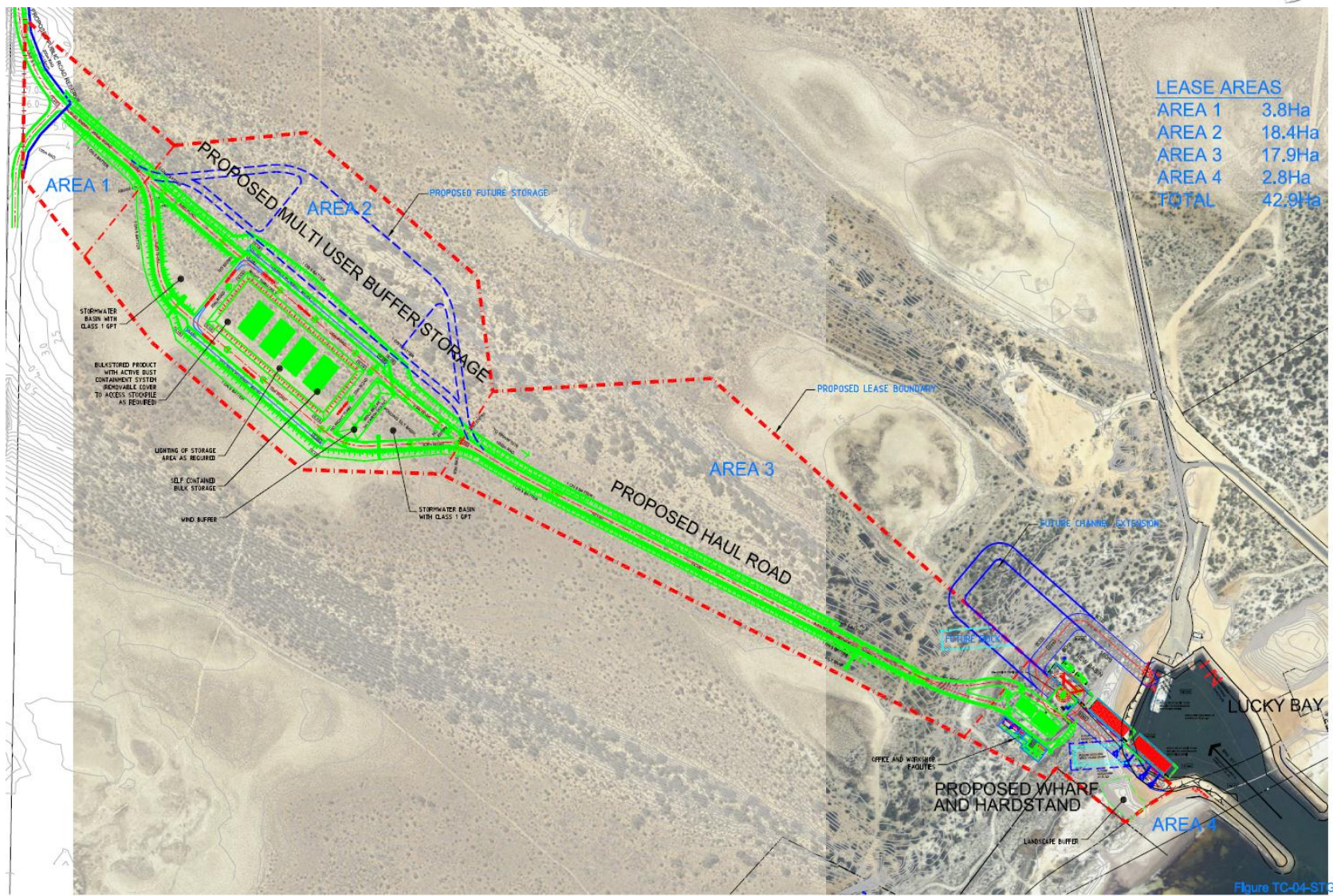


- **Lucky Bay Development Application**
  - Section 49 Public Infrastructure SA Government Sponsorship  
**Approved 9 April 2011**
  - Development Application  
**Approved 5 April 2012**
- **Lucky Bay Development Variations**
  - Variation Application A – Transhipment Point Relocation  
**Submitted**
  - Variation Application B – Buffer Storage and Haul Road Relocation  
**In progress**
  - Variation Application C – Temporary Harbour Loading Facility  
**In progress**
  - 3-4 Months SA Government Approvals process

# Lucky Bay - Layout



1D



**LEASE AREAS**

AREA 1	3.8Ha
AREA 2	18.4Ha
AREA 3	17.9Ha
AREA 4	2.8Ha
<b>TOTAL</b>	<b>42.9Ha</b>

Figure TC-04-ST-B1A  
STAGE 1 HARBOUR FACILITY

# Lucky Bay – Buffer Stockpile Area



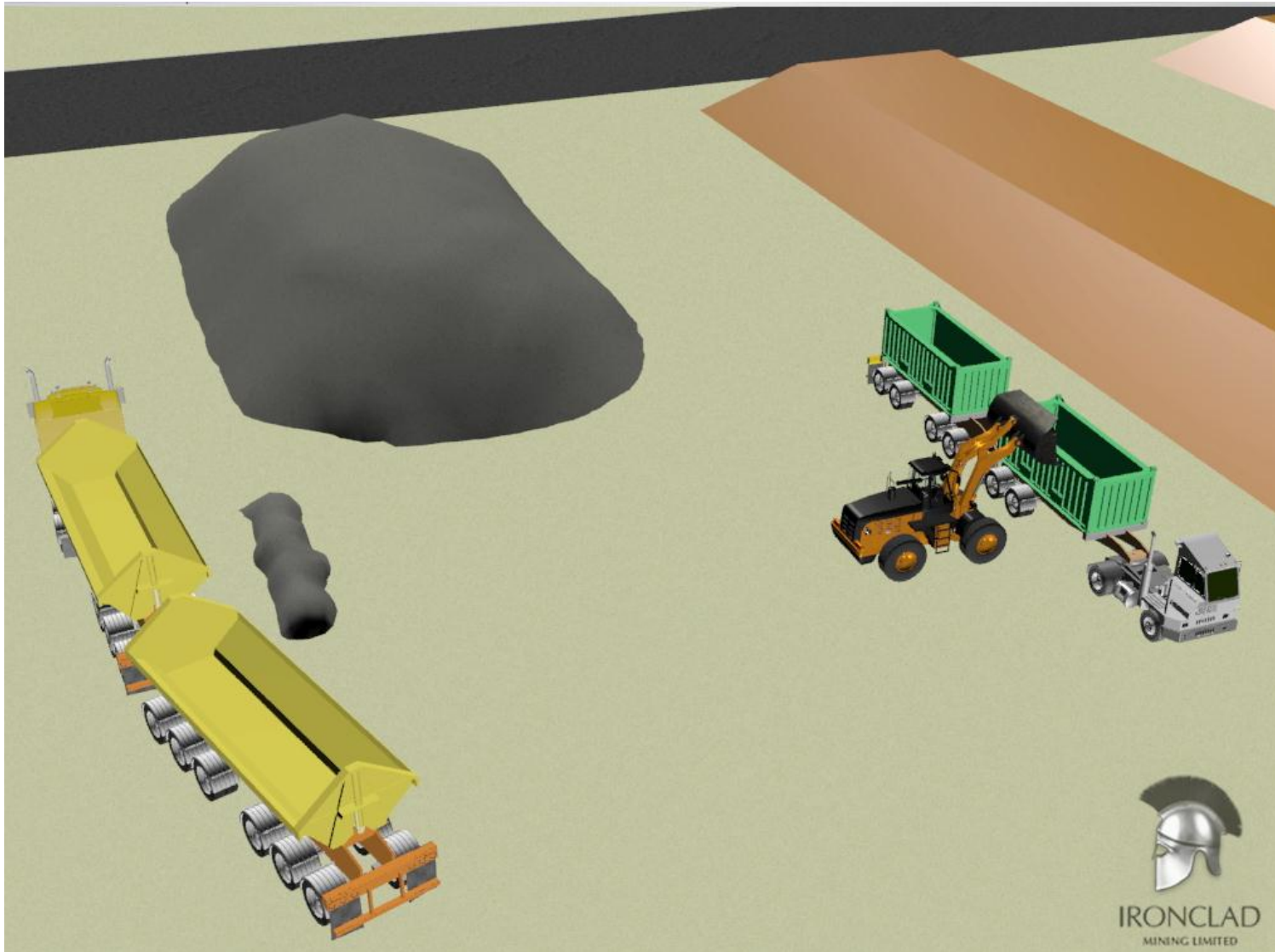
IRONCLAD  
MINING LIMITED

- **Receives 3,000 tonnes per day, seven days per week in side tippers from mine.**
- **During ship loading, 9,000 tonnes per day of ore to be loaded into containers at the stockpile and delivered to the dock.**
- **Two vehicles with two loaded containers – average cycle time of 20 minutes between stockpile and dock**

# Buffer Stockpile Operation



IRONCLAD  
MINING LIMITED



IRONCLAD  
MINING LIMITED

# Lucky Bay – Dock Area



IRONCLAD  
MINING LIMITED

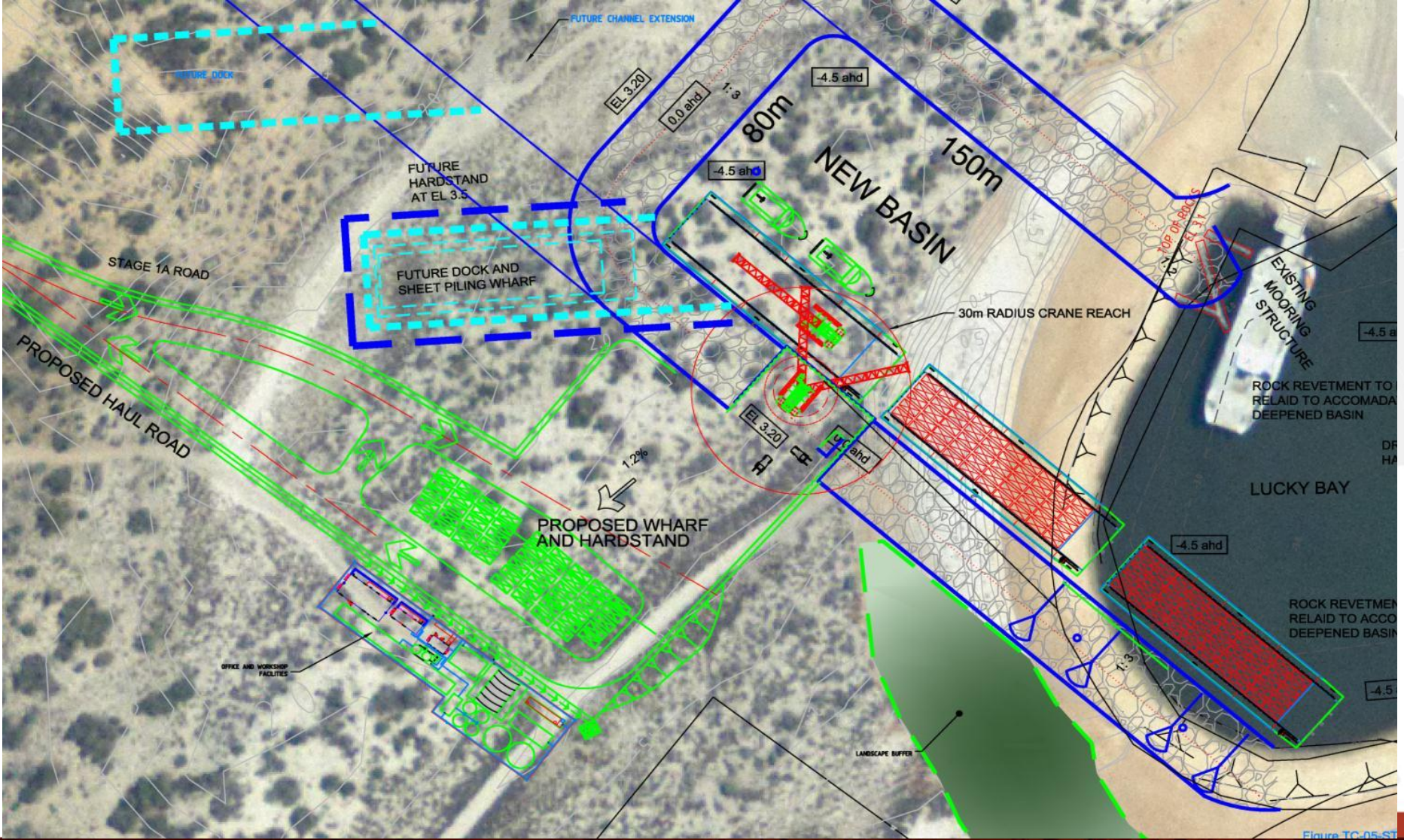


Figure TC-05-ST

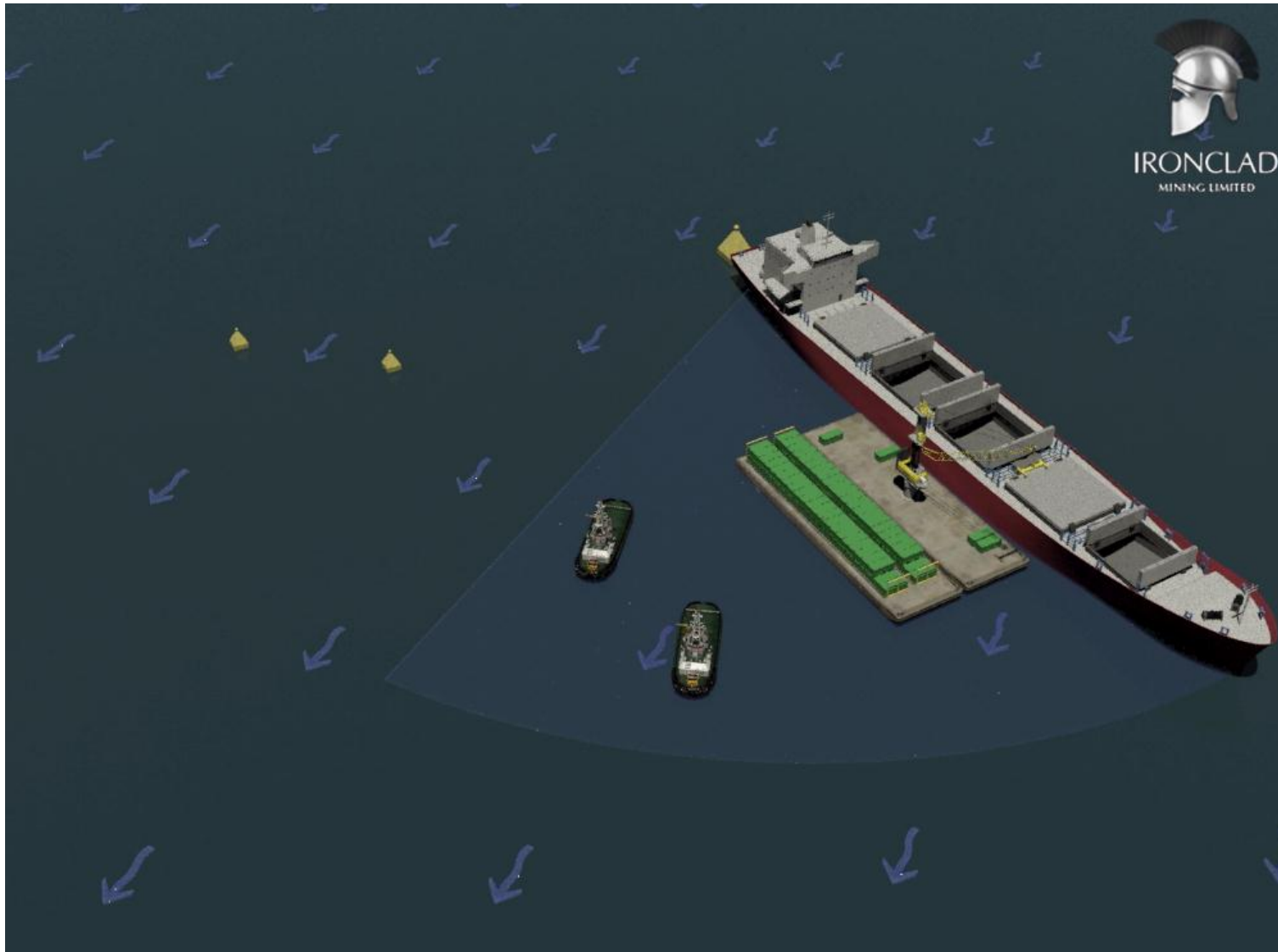


- **Redesigned to increase throughput, reduce operating costs and de-risk operation**
- **Powered barge and light Tug Boat replaced with two Conventional Tugs, two Dumb barges and Floating Crane Barge**
- **Dumb barges substantially increase shipping capacity**
- **Floating Crane allow larger vessels to be loaded, reducing shipping costs**

# Offshore Operation



IRONCLAD  
MINING LIMITED



# Revolver Spreaders



IRONCLAD  
MINING LIMITED

**Rotating spreaders – two purchased, one on standby on crane barge**



# Port Capacity



	Tonnes per Day	Days to load Panamax (70,000t)	Days to load Cape (160,000t)	Possible tonnes per annum
First Vessel Two Barges Containers	6,000 tonnes	12 days	28 Days	1.8 million tonnes
Normal Two Barges Containers	9,000 tonnes	8 Days	18 Days	2.7 million tonnes
Normal Three Barges Containers	12,000 tonnes	6 days	14 Days	3.6 million tonnes
BULK				EVEN GREATER CAPACITY



IRONCLAD  
MINING LIMITED

# Future Milestones

---

- 1. Completion of updated Reserve**
- 2. Approval of variation to Lucky Bay development (Including Buffer Storage Area)**
- 3. Confirmed funding for GS plant (Stage 2)**
- 4. Board approval**



**IRONCLAD**  
MINING LIMITED