27 February 2025

ASX ANNOUNCEMENT

Iron Road Ltd (Iron Road, ASX: IRD)

SLURRY TRANSPORT OF CEIP CONCENTRATE TO PORT

Study supports feasibility of efficient slurry pipeline logistics system

Key points:

- **Scoping study by *WSP Australia* (WSP) investigated the feasibility, scope, equipment requirements & probable cost of a slurry transport solution from the Central Eyre Iron Project (CEIP) mine near Wudinna to the Cape Hardy Industrial Port Precinct, Eyre Peninsula, South Australia.**
- **Slurry transport represents an efficient alternative compared with a heavy haulage rail system, estimated during the 21.5Mtpa Definitive Feasibility Study (DFS) and dual powered road train logistics assessed for the 12Mtpa Optimisation Study.**
- **Technical feasibility of a 130km CEIP slurry pipeline supported by study & reference installations in commercial operations around the world.**
- **System designed to transport 12Mtpa of CEIP iron concentrate (dry basis) including slurry preparation & pumping facilities, slurry pipeline, slurry terminal facilities, water recovery & pumping facilities, and return water pipeline.**
- **Leverages high-quality water supply expected to be available from the proposed Northern Water project, eliminating the requirement for development of local hypersaline water supplies for CEIP operations & relocates the function of concentrate filtration from the mine site to the port site, with a resultant reduction in mine site complexity and capital expenditure.**
- **Total capital cost of slurry transport facilities is estimated at USD$576 million, which includes pipelines, mine site and port site installations, pre-commissioning & commissioning, 10-20% EPCM allowances and a 25% contingency. A minimum USD$200 million of previously estimated 2019 CEIP capital requirements (escalated to $2025 terms) is superseded and substituted by this slurry transport CAPEX estimate.**
- **Nameplate slurry system operating costs (OPEX) estimated at USD$1.04 per wet metric tonne, based on labour, power consumption, equipment spares, consumables, supplies, services and a 25% contingency (excludes yet to be determined unit cost of desalinated water offtake).**
- **Highly industry competitive OPEX for slurry transport logistics compares favourably with the 2019 estimated logistics cost of >USD$8.00/wmt (escalated to $2025 terms) for the dual powered road train option.**
- **Engagement with Northern Water's commercial team has commenced on water offtake & preliminary engineering design requirements to integrate with the slurry transport system.**
- **Revised "pit-to-port" CEIP CAPEX and OPEX estimates and updated project economics (NPV and IRR metrics) are targeted for completion in 2025 with a strategic industry partner to provide complementary technical and commercial input.**

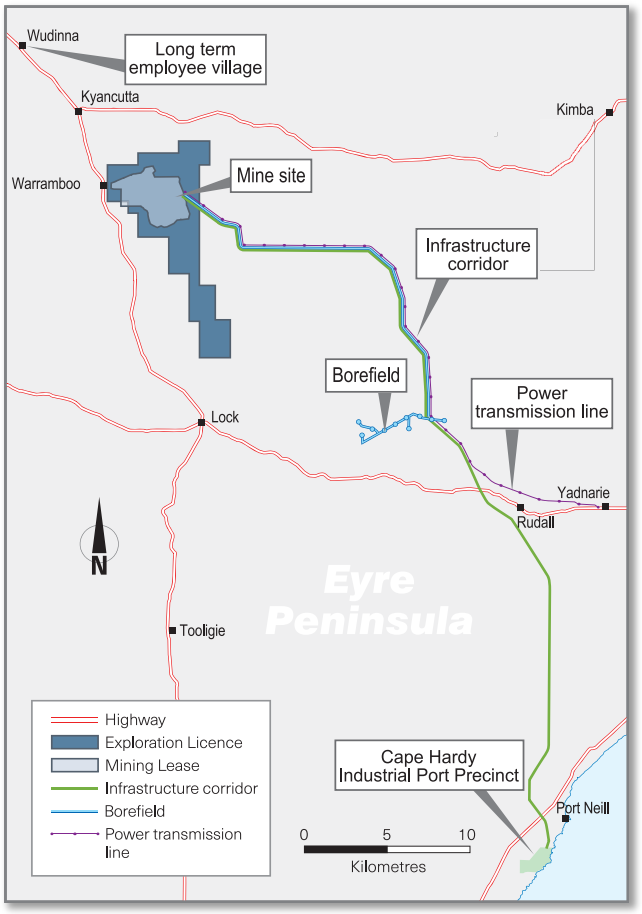
Iron Road Ltd (Iron Road or **Company**, **ASX:IRD)** advises that WSP has delivered a scoping study which investigated the feasibility, scope, equipment requirements and probable cost of a slurry transport solution from the CEIP mine near Wudinna to the Cape Hardy Industrial Port Precinct near Port Neill. The study was commissioned by the Company during September 2024 as a slurry logistics option was expected to be more efficient and reduce previously estimated capital and / or operating costs versus heavy haulage rail or private road haulage alternatives. A slurry transport system has also been raised as a clear logistics preference by potential CEIP investors.

A finer-grind direct-reduced (DR) iron grade CEIP iron concentrate product (circa. 70% Fe conc. @ p80 -53µm) is amenable to slurry transport as opposed to a coarser-grind sinter feed CEIP iron concentrate product (circa. 67% Fe conc. @ p80 -106µm), which was subject to the DFS and estimated for a significantly higher production rate. The shift to a higher-grade iron concentrate at a finer grind is in response to an increasing focus on DR grade products by potential CEIP proponents and project partners. The global iron ore mining and steelmaking industry acknowledges that DR grade products are likely to remain the most viable mid-term solution for progressively reducing Scope 3 industry emissions.

The technical feasibility of a slurry pipeline system is supported by the WSP study and reference installations in commercial operations around the world, such as the Minas Rio pipeline in Brazil (commissioned 2014), more than 500km long with a throughput of more than 25Mtpa. WSP utilised the design experience gained from these pipelines to develop the conceptual design for the proposed CEIP pipeline. Where possible, planned slurry properties were benchmarked against actual operating data from these successful systems. Every component proposed for the CEIP slurry pipeline system is well within proven commercial experience. The system configuration and equipment selection include the required components to achieve a high system availability expected to be consistently above 99% (97.5% used for design).

The pipeline is designed to transport 12Mtpa of CEIP iron concentrate (dry basis). The system includes slurry preparation and pumping facilities, slurry pipeline, slurry terminal facilities, water recovery and pumping facilities, and the return water pipeline. Each facility design considers mechanical / process components, civil / earthworks, electrical systems, instrumentation and control, and communication systems. All components selected for the proposed system design are well within the range of those providing reliable service in other commercial operations.

Based on a desktop review of the pipeline alignment along the existing CEIP infrastructure corridor, which is aligned with gentle gradients specifically suited for heavy haulage rail, the terrain is relatively flat, indicating low construction difficulty and favourable topographical conditions for standard pipeline construction. It is expected that grading will be minimal, with only a few small cut-and-fill locations. The pipelines are expected to be buried with an average depth of cover of 1.5m over the top of the larger water pipeline.



The Central Eyre Iron Project (CEIP) showing the three major components- mine site, port and infrastructure corridor connecting the two. Shown also, is the previously identified hypersaline bore field located at Kielpa.

Pipeline construction within terrain similar to that traversed by the CEIP infrastructure corridor on the Eyre Peninsula.
(Image: WSP Australia)

Arrangements for the system facilities are based on a modular plant concept, allowing for offshore construction and assembly, with delivery of pre-assembled modules to the site. Buffer storage tanks are designed to manage operational variations between CEIP iron concentrate production and pipeline transportation. These tanks ensure continuous operation and high system availability, providing significant storage capacity and operational flexibility. Slurry pumping equipment includes charge pumps and slurry discharge pumps. Centrifugal charge pumps provide sufficient suction head for the positive displacement (PD) pumps. PD pumps have been selected for their ability to generate high discharge pressures necessary for long-distance slurry transport with a single pump station. The terminal facility features buffer tanks to decouple pipeline and filtration rates, plate and frame filter presses for slurry dewatering, and a clarifier for filtrate processing to ensure water quality for return to the mine site.

Typical tailings storage tanks with slurry intake box.
(Image: WSP Australia)

The slurry pipeline design is based on hydraulic analysis to determine the required head and hydraulic gradient line. The pipeline is designed to maintain sufficient pressure and prevent sedimentation, with a telescopic design to optimise construction costs. Wear and corrosion management strategies are based on proven practices from similar projects, ensuring long-term durability and minimal erosion. Corrosion protection measures include external coatings and a comprehensive cathodic protection system to safeguard the pipeline's integrity.

The DN650 return water pipeline is designed to transport filtrate and makeup water originating from the desalination plant to the mine site, also supplying the CEIP processing plant with water. The return water pumps are centrifugal, two-stage pumps designed to handle the required flow and head. The return water storage tank provides 50-hour storage capacity to manage unplanned outages and ensure continuous operation.

The slurry transport system leverages the high-quality water supply available from the proposed Northern Water project desalination plant at Cape Hardy, which eliminates the requirement for development of local water supplies for the CEIP operations (previous studies identified a hypersaline bore field at Kielpa). The system also relocates the function of CEIP iron concentrate filtration from the mine site to the port site, with a resultant reduction in mine site complexity and capital expenditure.

Cost Estimation

CAPEX

The estimating methodology used during the development of the cost estimate has generally been prepared following a deterministic estimating methodology, in which the properties are known and are able to be partially or fully determined (i.e. measurement of units multiplied by unit costs or factors). The pipeline construction cost includes various phases estimated using WSP's proprietary methods, which are then transferred to the project's standard CAPEX template. This approach provides a more accurate estimation of the pipeline corridor cost by aligning with the actual construction sequences and durations.

Estimate summary - CAPEX

Item	Installation cost (USD $M)	Material and permanent equipment cost (USD $M)	Totals (USD $M)
Pipelines	149.9	148.8	298.7
Mine Site	7.2	26.1	33.3
Port Site	20.6	52.8	73.5
		Total Direct Cost	**405.5**
Pre-Commissioning & Commissioning (1%)			4.1
EPCM for Pipeline (10%)			29.9
EPCM for Mine and Port Site (20%)			21.3
Contingency (25%)			115.2
		Total Indirect Cost	**170.5**
		Total Project Cost	**576.0**

Note - All direct cost components have been converted from various native currency sub-component estimates or budgetary quotes using exchange rates of $1 AUD = $0.65 USD & $1 AUD = 0.62 EUR.

An opportunity exists to defer some of the initial capital spend in the construction of the pipeline system. The mining and processing operation at the CEIP can be expected to ramp up output over time and may itself be executed as a staged development as processing trains are brought online sequentially. The pipeline system can be constructed with an initial capacity of 6Mtpa, which would permit deferral of several major items of equipment, along with some ancillary (piping and electrical infrastructure costs) by constructing for lower throughput and availability in the initial phase of operation.

OPEX

Nameplate slurry system operating costs (OPEX) are based on labour, power consumption, major equipment spares, consumables, supplies, and services. The following table provides the OPEX breakdown for 13Mtpa (wet tonnes basis) assuming targeted 8% moisture content in the iron concentrate product. It specifically excludes the yet to be determined unit cost of desalinated water offtake from the proposed Northern Water project. The slurry pipeline and water return pipeline are both designed for 97.5% utilisation. At steady-state nameplate capacity of 13Mtpa iron concentrate product (wet tonnes basis), nominal make-up water requirements totals 700m^3/h, equivalent to approximately 6GLpa.

Estimate summary- OPEX

Item	Nameplate OPEX (USD$ per wet metric tonne)
Operating Labour	0.14
Power Consumption	0.39
Equipment Spares & Labour	0.23
Consumables, Supplies & Services	0.07
Contingency (25%)	0.21
Total OPEX *(excl. water offtake)*	**1.04**

The slurry transport system reduces complexity across the CEIP (mine, port and infrastructure corridor), primarily in relation to the heavy haulage rail infrastructure or road train haulage and associated facilities that have previously been evaluated. The system not only eliminates the need for rail or a private dual powered road train haul road, but also the requirement for a bore field at Kielpa and 60km water pipeline, processing plant corrosion mitigation requirements (processing in hypersaline water), and the need for an RO plant at the mine site to allow for the flushing of iron

concentrate product with desalinated water prior to dispatch to port by rail or road haulage. The slurry transport system is expected to provide the foundation for a more technically efficient and economically optimal CEIP with revised "pit-to-port" CAPEX and OPEX estimates targeted in 2025 with a strategic industry partner.

The buried slurry pipeline system, using desalinated water, has environmental benefits and is less intrusive and disruptive to farming businesses and communities. The replacement of the heavy haulage rail or road haulage options eliminates State and community safety concerns relating to numerous public and private crossings, whether road or rail.

Iron Road has commenced discussions with Northern Water's commercial team on water offtake relating to first fill volume requirements and 'top-up' water demand for the ongoing operation of the slurry pipeline system. Preliminary engineering design and battery limits are also being considered.

About WSP

WSP is one of the world's leading engineering professional services consulting firms, bringing together approximately 65,000+ talented people around the globe. We are technical experts who design and provide strategic advice on sustainable solutions and engineer Future ReadyTM projects that will help societies grow for lifetimes to come. *wsp.com*

– Ends –

Iron Road confirms that it is not aware of any new information or data that materially affects the results included in this announcement as released on 25 February 2019 "Revised CEIP Development Strategy" and 29 January 2019 "Investor Strategy Drives New Mine Plan" and that all material assumptions and technical parameters underpinning the production target continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original announcements.

Authorised for release by the board of Iron Road Ltd

For further information, please contact:

Larry Ingle, Chief Executive Officer
Iron Road Ltd
Tel: +61 8 8214 4400

Jarek Kopias, Company Secretary
Iron Road Ltd

ASX: IRD
admin@ironroadlimited.com.au
https://ironroadlimited.com.au