Paul Hart

From: Sent: To: Subject: Arun Sengupta Monday, 26 February 2024 10:19 AM Paul Hart report



Saturday 24th February

Geological Analysis Report

Announcement Title & Link - Drilling results point to major silver-indium discovery Company – Iltani Resources Ltd ASX - ILT Market Cap - \$6.3mil Note - Undiluted market cap is reported at the time of announcement.

Headline highlight

Drilling results point to major silver-indium discovery, at Orient, QLD

The recent ASX announcement on February 19, 2024, by Iltani Resources Limited (**ASX:ILT**) highlights an extensive silver-lead-zinc-indium vein mineralisation sequence at the Orient Project in Queensland Australia.

Significant drill intercepts from this program include:

- 5m @ 314 g/t AgEq (43 g/t Ag, 0.7% Pb, 5.0% Zn & 149g/t In) from 117m, and
- 22m @ 74 g/t AgEq (28.3 g/t Ag, 0.4% Pb, 0.63% Zn & 19.9g/t In) from 100m.

Does the Orient Project have the potential to host a world-class silver-lead-zinc-indium resource as claimed by the company to be a "Major Discovery"?

Currently, the Orient Project, while not yet redefining the silver-lead-zinc-indium market, shows considerable potential. These initial results, although promising, do not immediately elevate the



excitement followed by a more tempered market evaluation of the drilling results and their implications for Iltani Resources' potential growth.

Read on as we delve into potential factors that could explain the market's tempered response to this promising set of intersections.

Geological Report on Iltani Resources Ltd's silver-lead-zinc-indium Orient Discovery

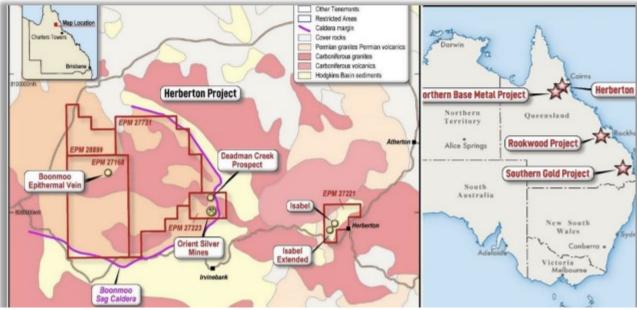
Iltani Resources Ltd has been exploring the silver-lead-zinc-indium vein mineralisation sequence at the Orient Project as part of their Herberton Project in North Queensland, Australia. Recent ASX announcement on February 19, 2024, revealed a promising yet nuanced findings from their ongoing Stage 1 and Stage 2 drilling programs.

Discovery Alert's Criteria: A Benchmark for Economic Viability

In the realm of mineral exploration, striking the balance between optimism and pragmatism is key. Discovery Alert sets a high bar for what constitutes a significant find.

The criteria?

A 50m to 100m stretch with over 5% lead and/or zinc concentration and a resource size exceeding 1.0Mt of Pb/Zn <u>contained</u> metal. This benchmark is not just a lofty goal but a testament to the rigorous standards needed to classify a discovery as Tier 1 or Tier 2 - signifying not just a find but an economically viable and impactful discovery.





Geological Setting and Mineralization

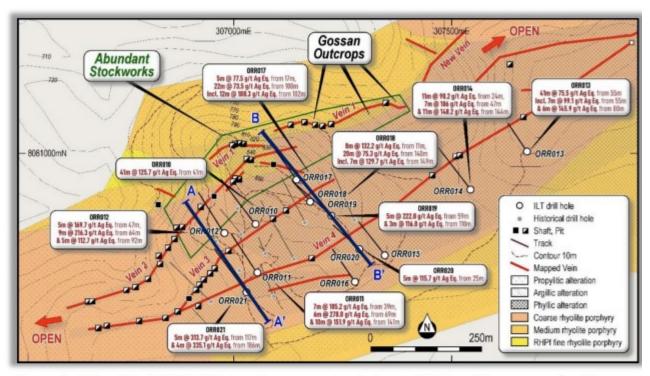


Figure 2 - Orient West Drill Collar Location, current and planned drilling. The cross section lines displayed below are also shown

Figure 2 above shows the current drilling over Orient. There are a number of drill holes with assays pending and further drilling planned to extend the potential size of the deposit. Section lines (thick blue lines) shown on the map are displayed below in Figure 3.

Mineral Distribution

The drilling results from the Orient Project have unveiled a promising geological canvas, revealing an extensive network of silver-lead-zinc-indium vein mineralization stretching over an impressive strike length of approximately 1,500 meters. This discovery not only highlights the rich mineral potential of the area but also introduces a layer of complexity to the geological understanding of the deposit. The significant silver equivalent (**AgEq**) values derived from the drilling data have indeed painted an optimistic picture of the deposit's value. However, beneath this optimistic veneer lie intricate challenges tied to the inherent variability of the mineralization patterns observed within the identified veins.

This variability in mineralization sequences across the Orient deposit indicates a complex geological framework that requires a more refined exploration strategy. The inconsistent patterns of silver, lead, zinc, and indium distribution within the vein systems suggest a



Does the Orient Project Measure Up?

Iltani Resources Ltd's recent announcement from the Orient Project in North Queensland has raised interest, especially given the claim of a "Major Discovery" by the company. With reported extensive silver-lead-zinc-indium stacked vein mineralisation across a 1,500m strike length and 250m width, the numbers are initially impressive. Yet, when held against Discovery Alert's stringent criteria, the project, as it stands, falls short of Tier 1 or Tier 2 status.

The reason?

Size and scale and grade, when translated into **GOLD** equivalent evaluation (AuEq) g/t for comparative purposes, are **not** large enough yet to be economic.

Understanding the broader context of drill results is crucial in evaluating the true potential of a mineral discovery. Companies tend to emphasize their most favourable drill intersections, which can sometimes give an overly optimistic view of a project's viability. This practice, while not unique to any one company, underscores the importance of a thorough and balanced analysis of all available data, not just the highlights.

In the context of the Orient Project by Iltani Resources Ltd, while the high-grade intercepts of silver-lead-zinc-indium are undoubtedly promising, they represent only a part of the story. The overall economic viability of a mining project hinges not just on the presence of high-grade zones but on the size, consistency, and continuity of the mineralization, as well as the project's ability to meet specific economic thresholds for development.

The mention of significant vein mineralization intercepts and the potential for a world-class silver-lead-zinc-indium resource are encouraging. However, it is vital to approach these results with a critical eye, considering the entire dataset, including less favourable results, the geological model, and economic feasibility studies, not just taking the companies optimistic word for it. Such comprehensive analysis is essential to understand the project's true potential and to make informed decisions about its development.

Moreover, the discussion around AgEq (Silver Equivalent) calculations and their potential to overstate the value of a project highlights the need for transparency and standardisation in reporting results. Investors and stakeholders should have access to clear, detailed information that allows for an accurate assessment of a project's prospects, including an understanding of how companies calculate equivalent grades and the assumptions underlying these calculations.



Geological Setting and Mineralization

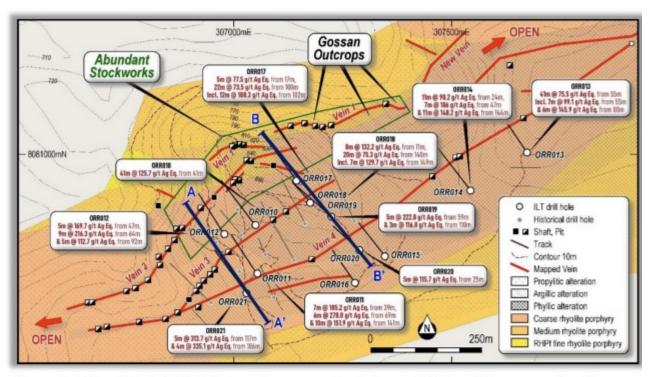


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quantity of the mineral resource, these sorts of resources always present challenges in resource estimation, with highly variable outcomes possible, these variabilities can be presented in an optimistic way, however if they are not realistic the cracks will appear when you mine and its from scenarios like this that mines go bust and are put into care and maintenance.

To navigate this complexity, a comprehensive exploration approach is necessary to fully delineate the mineral zoning and understand the spatial distribution of the different metals within the deposit. Advanced geophysical techniques, detailed geochemical analyses, and targeted drilling campaigns designed to intersect the vein systems at multiple points will be crucial in unravelling the deposit's true nature. This meticulous exploration effort aims not only to bridge the current knowledge gaps regarding the deposit's mineralization patterns but also to lay the groundwork for a robust resource estimation that accurately reflects the Orient Project's economic potential.

In essence, while the initial drilling outcomes at the Orient deposit are undeniably promising, they also underscore the need for a deeper and more refined exploration to fully appreciate and quantify the complex tapestry of mineralization that exists beneath the surface. The journey to transforming this initial promise into a defined and economically viable resource is fraught with challenges but also brimming with potential, highlighting the exciting yet intricate path that lies ahead in the development of the Orient Project.

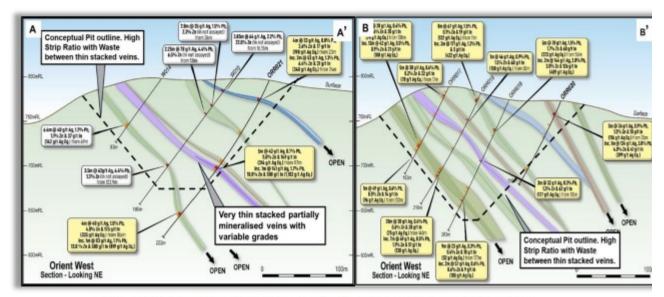


Figure 3 Orient Cross Sections marked on Figure 2 plan of drillholes.

Figure 3 illustrates the presence of finely layered veins, each marked by fluctuating concentrations of a diverse array of minerals, including silver, lead, zinc, and indium. These thin, stratified veins form a complex network within the polymetallic deposit at the Orient Project,



insights into the deposit's formation processes and presents both challenges and opportunities for exploration and extraction of these valuable minerals. **Use of AgEq:**

The process of converting polymetallic assay data, in this case silver-lead-zinc-indium, to Silver Equivalent (**AgEq**) grade integrates several key factors, including expected plant recovery/payability and commodity sales prices, reflective of spot market trends and specific mineralogical characteristics akin to the Orient discovery.

This meticulous calculation, leveraging average grades, metal prices, and recovery rates, culminates in a comprehensive **AgEq** g/t that encapsulates the value of the polymetallic content within the deposit and is presented in an easy to digest single figure, in this case Silver Equivalent (**AgEq**) which is the predominant economic mineral. Such an approach ensures that the economic assessment of the deposit's metal content is grounded in real-world recovery expectations and current market conditions, providing a robust framework for evaluating its potential.

The Devil is in the Details: AgEq Calculations and True Potential?

The use of Silver Equivalent (AgEq) calculations has been a double-edged sword. On one hand, it simplifies the value of polymetallic deposits into a single metric. On the other, it can obscure the true nature of the mineralisation, especially when critical elements like indium are involved. In the case of the Orient Project, the high **AgEq** values, bolstered by indium's inclusion, paint a rosier picture than the raw data might support. This is not to say the project lacks merit—significant intercepts of silver-lead-zinc-indium are noteworthy—but it raises questions about the transparency and interpretation of the results.

Table 1 below shows the grades, process recoveries and factors used in the conversion of the polymetallic assay information into an equivalent Silver Equivalent (AgEq) grade g/t (grams per tonne of ore) using hole ORR017 which returned the 22m @ 74 g/t AgEq (28.3 g/t Ag, 0.4% Pb, 0.63% Zn & 19.9g/t In). reported silver-lead-zinc-indium intercept.

Metallurgical Equivalent Calculation:

The equivalent silver formula is AgEq. = Ag + (Pb x 35.5) + (Zn x 50.2) + (In x 0.47)

Where factor/ratios are applied to Pb, Zn and In grades based on the costs and recovery of each metal assuming Silver (Ag) is the primary metal.

For example: Indium ratio to Silver is (350/643)*0.85 = 0.47 where \$350 is price per Kg of Indium and \$650 is price per Kg of Silver.

Disco	Alert					
Zinc	US\$1 50/lb	15622/1/2	050/	50.2		

ZINC	05\$1.50/10	US\$3.3/Kg	0570	50.2	
Indium	US\$350/kg	US\$350/Kg	85%	0.47	
			Address for some sta		200

It is Iltani's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold.

Using the factors/ratios calculated above, the equation for calculating the Silver Equivalent (AgEq) g/t grade of the intersection of 22m @ 74 g/t AgEq (28.3 g/t Ag, 0.4% Pb, 0.63% Zn & 19.9g/t In) is approximately the following:

28.3 + (0.4*35.5) + (0.63*50.2) + (19.9*0.47) = 73.5 g/t AgEq.

Note - these calculations are highly subjective as they often assume recoveries which are higher than achievable. The lower the recoveries are the lower the Equivalent Grade calculations becomes. Conversely the costs per unit can change considerably potentially changing the economics of the equivalent estimate.

The AuEq check of these results for comparison:

Given the provided details, the drill intercept of **22 meters grading at 74 g/t AgEq** (Silver Equivalent), which breaks down to **28.3 g/t Silver (Ag)**, **0.4% Lead (Pb)**, **0.63% Zinc (Zn)**, **and 19.9 g/t Indium (In)**, translates into an equivalent gold (**AuEq**) grade of **0.77 g/t Au over 17 gram x metres**. This transformation underscores the comparative value of the polymetallic mineralisation in gold terms. Despite the apparent richness in various metals, when viewed through the lens of gold equivalency, this particular drillhole intersection does not reach the threshold of significance typically associated with gold mining and mineralisation. This analysis highlights the nuanced interpretation required in assessing the economic viability of polymetallic deposits, especially when converting the value of various metals into a single gold equivalent metric for comparison purposes.

Technical and Economic Considerations

Size Matters: The Quest for Economic Viability

The initial excitement around the Orient Project's intercepts cannot be understated. However, Discovery Alert's model—built on data from the last 15 years—emphasizes the critical importance of deposit size for economic viability. Despite the promising signs, the project's current estimated tonnage, based on the disclosed dimensions and intercepts, suggests a potential that, while not insignificant, does not yet meet the criteria for a standalone Tier 1 or Tier 2 project.

Is the deposit of sufficient size and grade to justify the investment?

Resource Size Threshold:

Based on our evaluation, it appears that for the development of a processing facility to be economically viable, the project would need to encompass a resource exceeding 300,000 tonnes of combined zinc and lead metal, or equivalently, over 1M ounces of gold (AuEq). Nevertheless, the discovery of a smaller, yet economically mineable reserve—distinct from a larger unconfirmed resource—might still hold considerable value, especially if located within 100 kilometres of an already operational mill. This strategic positioning could significantly enhance the feasibility and attractiveness of exploiting smaller reserves, providing a potential pathway for development even in the absence of larger-scale resource thresholds.

High Side Assumption: A Peek into the Potential

Despite the current reservations, it's essential to recognize the project's potential. An optimistic estimate suggests a significant quantity of mineralisation, could translate into a notable Silver equivalent value. This projection, while preliminary, underscores the need for further exploration and assessment.

An optimistic perspective on the prospect's potential based on the true width of reported intercepts, suggests a yield of approximately 300kt of zinc-lead and up to 8Moz Silver, making it a Tier 3 size deposit at best. This forecast hinges on further exploration and pending assay outcomes, which could significantly enhance the project's valuation. The projection is grounded in an optimistic scenario involving a 1,500m strike length, with an orebody (stacked veins) true width estimate average of about 25 metres in total, and a depth reaching up to 200 meters, envisioning an open-cut mining approach with a high strip ratio, high dilution, and internal waste between the veins.

An estimate of Indium is somewhat more difficult to determine, as the average grade of returned assay results indicates a high 33g/t In. The Indium with its high economic value of appears to overestimate the economic value of the AgEq estimates.

Geological Complexity and Exploration Challenges

The existence of such thin, stacked veins indicates a complex geological setting where mineralising fluids have repeatedly infiltrated fractures or spaces within the host rock, depositing minerals in successive layers. This process can result from fluctuating physical and chemical conditions in the subsurface environment, such as changes in pressure, temperature, or fluid composition. The variable mineralisation observed within these veins further complicates the geological model, suggesting that the mineralising fluids themselves were heterogeneous in composition or that the geochemical environment of the host rock evolved

Implications for Resource Estimation

The variability and thin nature of these veins pose significant challenges for resource estimation. Traditional bulk mining techniques may not be effective in efficiently extracting these resources due to the fine-scale variability in mineral content and the potential for significant dilution and extreme Open Pit strip ratios. As such, detailed geological mapping, precise sampling, and possibly selective mining techniques may be required to accurately assess and exploit the deposit.

Potential for High-Grade Zones

Despite these challenges, the presence of such veins is often indicative of high-grade mineralisation zones. Polymetallic veins, especially those containing critical metals like indium alongside silver, lead, and zinc, can be economically significant. The key to unlocking their value lies in the detailed understanding of their distribution, continuity, and the relationship between vein structures and the surrounding geological features.

Regional Potential: The Bigger Picture

The Orient Project is but a piece of the puzzle in the Herberton mining district. The region's history of silver-lead-zinc mining hints at untapped potential, suggesting that, with further exploration, Iltani Resources Ltd could unlock more significant finds. This context paints a picture of a project with room to grow, both in scope and in significance.

A Closer Look at the potential Red Flags

The announcement revealed a couple of areas of concern. The relatively steep angle drilling on some of the steeper angled veins and the potential underestimation of the true thickness of the intercepts could imply a smaller overall volume of the orebody. Although not considered significant at this stage potentially could have an impact on future Resource estimations. The large amount of internal waste potentially resulting in dilution during mining will be an issue. Additionally, the variability in the silver-lead-zinc-indium assays and the lack of clarity on the zoning of these elements within the deposit call for a more nuanced analysis. A number of the veins returned no mineralisation in the drillholes. These factors, coupled with the optimistic yet potentially misleading **AgEq** figures, necessitate a cautious approach.

Strategic Expansion and Exploration

Metallurgical Test Work:

The recent acquisition of historical metallurgical test results for the Orient Project by Iltani Resources has underscored the project's capacity to yield high-quality lead-silver and zinc-

silver concentrate with an impressive grade of approximately 48% Pb and 2,250 g/t Ag, and a zinc-indium-silver concentrate with grades of 47-48% Zn, 2,000 g/t In, and 200 g/t Ag have been identified. Significantly more work is required to validate these historic results, as the original insitu assays are unknown. However, they are extremely encouraging.

This breakthrough not only highlights the Orient Project's potential as a significant source of silver and indium but also aligns with the increasing global demand for these critical raw materials, especially indium, which is pivotal in various high-tech applications. Iltani's confidence in the marketability of these concentrates further cements the project's status as a potentially major player in Australia's mining sector and a key supplier of indium concentrates on a global scale.

The strategic importance of indium, coupled with the Orient Project's ability to produce highgrade concentrates, positions it at the forefront of addressing the critical raw material needs essential for technological advancements and the low emission future. This metallurgical work not only enhances the project's economic viability but also contributes significantly to the broader narrative of sustainable and responsible mining practices in Australia.

Objectives Going Forward:

Iltani Resources Limited is taking a significant step forward in its exploration efforts at the Orient Project, engaging the expertise of Mining One to develop a comprehensive 3D geological model of the entire Orient System. This model, encompassing Orient West, Orient East, and Deadman Creek areas, integrates all available geological, geophysical, and drilling data to create a detailed representation of the subsurface mineralization. This innovative approach not only illustrates Iltani's commitment to leveraging technology for exploration but also sets the stage for a more strategic and informed drilling campaign.

The creation of this 3D model marks a pivotal moment in the project's development, allowing Iltani to refine and optimize the drill hole designs for the upcoming Stage 2 reverse circulation (RC) drilling program. Planned for March/April 2024, once the wet season abates, this next phase of drilling is crucial. It aims to enhance the understanding of the size, grade, and continuity of the mineralized system. The detailed insights provided by the 3D model will enable precise targeting of drill holes, maximizing the chances of intersecting significant mineralization and, ultimately, defining the economic potential of the Orient System.

This strategic approach is particularly important given the multiple outstanding targets identified within the project area. Nick Tate's mapping of stockwork mineralization and the identification of several geophysical anomalies underscore the potential for discovering additional high-grade zones within the Orient System. The meticulous planning and execution of Stage 2 drilling, guided by the comprehensive 3D model, are designed to systematically evaluate these targets, further delineating the extent and richness of the silver-lead-zinc-indium

As Iltani Resources continues to advance the Orient Project, the company remains committed to transparently sharing progress and findings with its shareholders and the broader investment community. The engagement of Mining One to develop a comprehensive 3D model not only demonstrates Iltani's innovative approach to exploration but also reinforces the project's potential to host a world-class mineral deposit. The anticipation builds as the company prepares for the next phase of exploration, with the promise of further unlocking the Orient System's secrets and moving closer to realizing its full potential.

Conclusion

In summary, while the initial results from the Orient Project are promising, a full appraisal of its economic viability requires a careful examination of the entire suite of data, including drill results, geological interpretations, and economic assessments. This comprehensive approach ensures a more accurate and realistic understanding of the project's potential and the challenges it may face on the path to development.

It's important to remember that the companies commentary and headlines often act as a distraction, investors are encouraged to look past these distractions and go for the hard truths which are often presented in the cross sections, long sections and other relevant figures to understand the context of the results.

This report aims to encapsulate the nuanced findings from Iltani's recent exploration efforts, emphasizing the importance of continued investigation and analysis to unveil the full potential of exploration results.

The Orient Project, while not yet meeting the criteria for a Tier 1 or Tier 2 discovery, holds promise. The significant intercepts of silver-lead-zinc-indium, coupled with the project's strategic location, lay the groundwork for optimistic speculation. However, the path forward requires careful navigation, with a focus on expanding the resource size, refining the economic assessments, and transparently addressing the complexities of the deposit. For Iltani Resources Ltd, the journey has just begun, and the potential for the Orient Project to evolve into an economically viable discovery remains a compelling narrative awaiting its next chapter and further drilling, however, for now it is not a "major discovery" as the company claims, what constitutes a "major" find is the size of the ore body.

The discovery of thin, stacked veins with variable mineralisation within the Orient Project highlights the complex nature of mineral deposits and the need for sophisticated exploration and development strategies. While challenging, these deposits can also have the potential for economic returns, particularly when they contain critical metals like indium. However, success in such endeavours requires a deep understanding of geological processes, innovative exploration techniques, metallurey and a flexible approach to mining and minoral processing, they are not

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Thank you, The Discovery Alert Team!



Regards,

Arun Sengupta

Executive Director Level 6, 3 Spring Street, Sydney NSW 2000 m: +61 417 617 181 e: asengupta@canarycapital.com.au w: www.canarycapital.com.au



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