Comprehensive Summary of Hercules Metals' Recent Drilling and Exploration Progress

Introduction

Hercules Metals, a junior exploration company focused on copper and precious metals, has recently released significant updates on its ongoing drilling campaigns and geological modeling efforts. Led by CEO Chris Paul, Hercules is making strides in understanding the scale, geometry, and potential of its flagship Leviathan project in Idaho. This summary distills the key insights from a detailed interview with Chris Paul, highlighting the company's technical achievements, exploration strategies, and future prospects. The narrative emphasizes the evolution from initial discovery to model validation, the implications of recent drill results, and the promising potential of the broader mineral system.

The Evolution of Hercules' Exploration Model

Hercules' journey began with an initial silver exploration project, which unexpectedly led to the discovery of a copper-rich porphyry system—*the first of its kind in Idaho in decades*. The early drilling, notably the discovery hole, was straightforward, but subsequent efforts revealed the complexity of the mineralization system.

Key milestones include:

- **Discovery of the Portfree Copper System:** The initial hole confirmed a significant copper mineralization, but understanding its extent required extensive follow-up.
- **Development of a 3D Geological Model:** Using structural data, core analysis, geophysical surveys, and geochemistry, Hercules constructed a detailed 3D model that aligns with geophysical anomalies and geological observations.
- **Validation of the Model:** Recent drill results have confirmed the accuracy of this model, enabling the company to shift from broad targeting to focused, systematic drilling.

Implication: The validated model allows Hercules to *lay out drill fences*—series of cross-sections—across the deposit, facilitating efficient resource definition and expansion.

Recent Drilling Highlights and Strategic Focus

1. **Breakthrough in the Leviathan System (Holes 252 & 258)**

- **Hole 252 (June 2023):** Marked a pivotal moment, confirming the model's predictions. Drilled from the hanging wall across the system, it intersected the expected contact zones, validating the southeast dip of the porphyry system.

- **Hole 258:** A near-vertical hole drilled from the same pad, aimed at testing the down-dip extent of the mineralization. This approach helps delineate the vertical and lateral boundaries of the deposit.

Key insights:

Aspect	Details
Objective	Validate the 3D model, test the down-dip extension, and step out toward the Great Creek Zone
Results	Confirmed the model's accuracy, intersected high-grade zones, and extended the known strike length to approximately 1.3 km, with potential to grow beyond 3 km
Future Plans	Continue systematic fence drilling, with multiple pads planned to define grade, width, and continuity

Chris emphasizes that the system's strike length could extend significantly beyond current estimates, possibly reaching 4 km or more, based on geophysical and geochemical evidence.

2. **Expansion Potential and Geophysical Evidence**

- **Chargeability and MT Surveys:** The company's recent magnetotelluric (MT) surveys reveal anomalies extending well beyond the modeled 1.3 km, suggesting the mineralized system could be *over 3 km in strike* and possibly 2 km deep.
- **Geophysical Correlation:** The chargeability anomalies correlate strongly with known mineralization zones, indicating a large, concealed system.
- **Surface and Boulders:** Copper-rich porphyry vein boulders found in prospect pits northeast of the main system suggest high-grade zones may be preserved and thicker in untested areas.

Implication: The geophysical and surface evidence supports the hypothesis that the mineral system is *much larger* than initially modeled, with potential extensions to the northeast and south.

Structural and Geological Insights

1. **Porphyry Geometry and Mineralization Zones**

- The deposit features a *southeast-dipping porphyry intrusion*, with mineralization concentrated around the central intrusion (Leviathan).
- **Supergene Enrichment:** Studies confirm that the high-grade zones are hypogene (deep-seated) rather than supergene (near-surface), with enrichment zones plunging along the system's dip.
- **Tilted Enrichment Zones:** Cross-sectional modeling suggests the enrichment blanket is *dipping and plunging*, which means thicker high-grade zones could exist down plunge, especially toward the northeast.

2. **Erosional Windows and Surface Indicators**

- **Grade Creek and Southern Flats:** Erosional features have exposed parts of the system, revealing *red conglomerate boulders* containing copper oxides and sulfides.
- These conglomerates act as *prospecting tools*, indicating the presence of underlying mineralization and guiding future drill targets.

Table: Key Geological Features

Feature	Description
Porphyry Dips	Southeast at moderate angles (~45°)
Enrichment Zones	Dipping and plunging, potentially thicker down plunge
Erosional Windows	Expose mineralized zones via erosion of overlying cover
Boulder Indicators	Copper oxide and sulfide-rich conglomerates in streams and prospect pits

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Broader System and Regional Context

1. **System Size and Potential**

- The *Leviathan system* now has a *known strike length of approximately 1.3 km*, but geophysical and geochemical data suggest it could extend *over 10 km* along regional structures.
- **Vertical Extent:** The system could be *2 km deep*, with the potential for high-grade zones to extend further, especially in areas where erosion has exposed or preserved thick enrichment zones.

2. **Multiple Intrusions and "String of Pearls" Model**

- The regional geology indicates a *big regional fault or structure* that has reactivated multiple times over 20 million years.
- **Multiple Pfries:** The presence of other anomalies, such as the *Eastern Block* and *Southern Flats*, suggests a *series of intrusions* along the regional trend, possibly forming a *string of mineralized centers*.
- **Bend Zones:** Structural bends and intersections are prime sites for mineralization, and Hercules' exploration is targeting these zones.

Implication: The entire belt could host *multiple porphyry centers*, with Hercules' Leviathan being the most advanced and promising.

Exploration Tools and Techniques

1. **Geophysical Surveys**

- **MT (Magnetotelluric):** Reveals deep conductive zones correlating with mineralization.
- **Chargeability (IP):** Detects disseminated sulfides, directly indicating mineralized zones.
- **Magnetics:** Highlights structural features and potential intrusion centers.

2. **Surface and Boulders Sampling**

- Copper oxide-rich boulders and outcrops provide *direct clues* to underlying mineralization.
- Prospecting in erosional zones like Grade Creek has uncovered *highly altered, mineralized boulders*, guiding drill targeting.

3. **Drilling Strategy**

- Systematic fence drilling across modeled zones.
- Vertical and inclined holes to test both shallow and deep extensions.
- Focused testing of geophysical anomalies, especially where surface indicators are absent.

Future Outlook and Potential

1. **Resource Expansion**

- The current *1.3 km* modeled strike could *expand to over 3 km*, with the possibility of a *multi-kilometer, multi-billion-ton* porphyry system.
- **High-grade zones** may be thicker and more continuous than initially thought, especially in the northeast plunge.

2. **Upcoming Results and Milestones**

- Assays from recent holes are expected in *6 to 8 weeks*, with initial results likely to be available in time for the *Beaver Creek* conference.
- **Geophysical inversions** from MT surveys are preliminary but show promising correlation with known mineralization, bolstering confidence in the exploration model.

3. **Regional Significance**

- Hercules' discoveries are attracting attention from major players like Rio Tinto, which is exploring nearby, indicating regional potential.
- The *large regional structures* and multiple anomalies suggest Hercules' project could be part of a *major mineralized belt*.

Conclusion

Hercules Metals has transitioned from initial discovery to a robust, validated geological model that indicates a *massive, potentially multi-kilometer porphyry copper system*. Recent drill results, geophysical surveys, and surface indicators collectively point to a *large, deep, and high-grade mineralized system* with significant expansion potential. The strategic approach—systematic fence drilling, geophysical targeting, and surface prospecting—positions Hercules to unlock substantial resource growth in the coming months. The company's disciplined exploration, combined with regional geological insights, underscores the enormous scale and economic promise of the Leviathan project. As assay results and geophysical interpretations continue to refine the picture, Hercules remains a compelling story in the junior mining space, with the potential to deliver a world-class copper deposit.

Final Remarks

Hercules' exploration success hinges on *continued validation of its models*, *expansion of the known system*, and *integrating geophysical data with geological observations*. The company's methodical approach and recent breakthroughs suggest a *high likelihood of significant resource growth*, making it a noteworthy player in the copper

exploration landscape. Investors and stakeholders should watch for upcoming assay results and geophysical updates, which could catalyze further valuation appreciation.

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