

Sheffield Drills into High-Grade, Near-Surface Copper Oxide Mineralization while Advancing the Prospectively World-Class Moonlight Project

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Company Overview

Sheffield Resources Ltd. (TSX.V: SLD) (OTC.PK: SLDOF) (Frankfurt: S2Q) has been selected for special consideration by SmallCapMedia due to the exceptional drill results that it is producing from its 100% owned, advanced-stage Moonlight Copper Property in north-east California. Situated at the heart of a historically rich copper belt, the property also hosts two notable past-producing mines, one of which is the Engels Mine where Sheffield is currently drilling and the other is the Superior Mine where Sheffield recently acquired a series of high grade copper assays over broad widths.

The advent of wide intersections of high-grade copper at shallow depths offers preliminary indications that Sheffield (www.sheffieldresources.com) is rapidly zeroing-in on valuable copper mineralization that are believed to be amenable to cost-effective open-pit (quarry-like) mining operations.

Early-stage drilling highlights from an ongoing 9,000-foot drill program at the historic Engels Mine include an eye-catching average grade of 3.71% over 37.8 meters (124.0 feet) from surface in Hole 07-E-4. Notably, this hole contains a number of especially rich intercepts, including a 22-metre-long section from 10 meters to 32 meters that averaged a very impressive 6.01% copper.

Other significant recent results include 2.54% copper over 44 meters (144.4 feet) from surface in Hole 07-E-2. Yet again, especially high-grade zones were encountered, such as 8.84% copper from 34 to 44 meters depth with narrower intercepts even running as high as 19.15% copper (from 36-38 meters), as well as 14.85% copper (from 38 to 40 meters) or combined 17.0% copper from 36-40 meters.

Similarly, Hole 07-E-1 assayed an average of 2.95% copper over 54 meters (177.2 feet) from surface, while Hole 07-E-3 returned an equally impressive 2.99% copper over 28 meters (91.9 feet) from surface. Notably, this is the first time that the Engels Mine area has been subjected to resource estimation drilling since the Great Depression era, when the mine was decommissioned.

However, this shallow copper oxide mineralization at the Engels Mine merely represents the icing on the geological cake – which takes the form of the prospectively world-class, large tonnage Moonlight Deposit.

This is most certainly the “jewel in the crown” or centerpiece of the Moonlight Property.

In fact, the Engels Mine and the nearby historic Superior Mine still host easy-to-access, under-developed copper inventories that are open to expansion and are becoming increasingly important assets to Sheffield -- as we will soon discuss.

With regard to the larger prize, it was Placer Developments Ltd., a subsidiary of the Canadian mining heavyweight Placer Dome (now consolidated into Barrick Gold), that first realized the world-class potential of the Moonlight Copper Deposit in the 1960s.

This came after the completion of a 199-hole drill program spanning around 100,000 feet, which accounted for much of the \$6 million spent on the project -- which would be many multiples higher in modern day dollars. The commercialization of a textbook large tonnage copper porphyry deposit seemed to be very much in the offing. That was until Placer's exploration ground to a halt at Moonlight with the onset of a decades-long slump in copper prices.

Hence, the project was mothballed until it was finally relinquished in 1993 when Placer divested itself of all of its non-gold-related projects. The Moonlight Deposit then remained largely forgotten until it was essentially "rediscovered" in 2004 by Sheffield.

Now this small but enterprising Canadian mining junior believes it actually has a tiger by the tail. By way of explanation, the company insists that a 400-million-ton target, grading around 0.4-0.5% copper is becoming an increasingly realistic scenario at the Moonlight Deposit.

Furthermore, the future development of at least several other already-established smaller deposits at the Moonlight Property and other prospects could add up to an additional 200 million tons of polymetallic resources.

Notably, the company's reliance on superior 21st century drilling technology, compared to that which was used by Placer, is already beginning to validate Sheffield's hypothesis that a "company maker" discovery is well within its reach. More on this later.

The "Big Picture"

Indeed, the Moonlight Deposit is unequivocally shaping up to be a prospective world-class large tonnage polymetallic mineral asset, according to Sheffield's seasoned management. Again, this is where nearly 100,000 feet of historic drilling spanning 199 holes, as well as Sheffield's more recent drilling efforts, have demonstrated that copper, silver and minor gold are all present to considerable depths, beginning near surface.

Placer's historic drilling has proved particularly valuable, in conjunction with Sheffield's own drill results, for the formulation of a National Instrument (NI) 43-101 compliant resource estimate. One that demonstrates the prolific "blue sky" potential of this emerging major porphyry deposit.

Specifically, 161,570,000 tons averaging 0.324% copper, 0.003 ounces per ton (oz/t) of gold and 0.099 oz/t of silver was estimated in the very reliable "indicated" category by the independent engineering firms, Giroux Consultants Ltd. and Orequest Consultants Ltd. Their findings were released last March.

They also factored-in a further 88,350,000 tons of 0.282% copper, 0.003 oz/t of gold and 0.089 oz/t of silver in the more assumption-based "inferred category." The database for the Moonlight Deposit that was used to provide these resource calculations consists of 207 drill holes involving 11,165 sample intervals.



These latest resource estimates compare favourably with Placer's drill-delineated resource estimate of 180 million tons of copper, averaging 0.39%. (Please note that this historic resource estimate is now outdated and is not compliant with Canadian federal government NI 43-101 guidelines for a defined resource or reserve. In other words, it is to be used for reference purposes only).

The fact that most of Placer's historic drilling was confined to depths of less than 500 feet is particularly significant in that it severely curtailed the major mining company's resource estimate for the deposit. In turn, this means that the recent NI 43-101 resource estimate is based on shallow drilling of what is believed to be a much larger mineralized body and the data used to estimate the resource may not realistically reflect the overall potential of the deposit.

However, Placer was only interested in the cost-efficient excavation of relatively shallow copper mineralization back in the 1960's. This was a strategic decision that was related to the rather modest copper prices at that time. Furthermore, other valuable co-existing metals – namely gold and silver – were believed to exist in insufficient quantities to be worth separately compiling resources for each. Gold and silver have acquired a great deal more luster within the last several years and are both trading at 25-year highs. and recent exploration has demonstrated silver and to a lesser degree gold occur in substantial quantities in some deposits at the Moonlight Project.

So, why is Sheffield's seasoned management so confident that the balance of geological evidence is shaping up in favour of the Moonlight Deposit doubling in size?

First, this 180-million-tonne figure only represents a core or base resource inventory as the deposit still remains "open" (continuous) at depth and along "strike" (the lateral axis of the mineralization). Sheffield suggests that the additional delineation of previously overlooked near-surface oxide copper, along with mineralization at depths greater than 500 feet, opens up the potential for a 400-million-tonne-plus discovery.

In support of this hypothesis, Sheffield points to the fact that Placer probed to depths of 1,500 feet and 1,700 respectively with two deeper exploratory drill holes. The result was that elevated copper grades were still being encountered at those uncharted depths. Hence, the Moonlight Deposit obviously remains amenable to resource expansion to untested depths potentially exceeding 1700 feet. Likewise, it also offers considerable scope for further expansion along a lateral plane.

Second, Placer's use of inferior drilling techniques to those commonly used decades later is largely responsible for an under-estimation of the deposit's overall grade distribution as well. By way of explanation, Sheffield is using angled drilling, which is yielding better recoveries of mineralization than Placer's vertical drilling. This is because some of the deposit's mineralization is hosted by near vertical shear structures, which were never properly tested by way of Placer's historic drilling.

Additionally, Sheffield's much larger diameter drill core and better drilling technology have also led to significant increases in the grade distributions. In fact, Sheffield's limited 2005-06 drill program (14 holes) demonstrated that Sheffield's drill data produced a remarkable 44% higher average copper grade when the average copper grade of specific tonnages could be estimated separately using either Sheffield drilling or Placer drilling data.



Sheffield suggests that as drilling continues and the company's drill data gradually replaces the outdated Placer data, then the deposit's average overall copper grade will increase due to better sampling and better geological modeling.

Last but not least, the gold and silver that also co-exist with the copper at the Moonlight were never systematically assayed by Placer; for reasons that we discussed earlier. These mineral credits therefore were not factored into Placer's economic valuation of the deposit.

Moonlight Deposit: Sheffield's Drilling Sweetens the Pot

A total of 14 drill holes spanning 3,134 meters (10,281 feet) at the Moonlight Deposit have helped corroborate the theory that Placer under-estimated the overall tonnage size of the deposit, as well as its average grades.

Sheffield's 2005-06 drilling highlights included an average of 0.54% copper over 185 meters (beginning at only 9 meters beneath the surface), plus 7 grams per tonne (g/t) of silver in the same mineralized intercept. Another notable intercept encountered an average grade of 0.37% copper and 4 g/t of silver over 178 meters (beginning at only 11 meters beneath the surface). Again, Placer did not recover core from shallow depths in much of its drilling and core recoveries with attendant loss of copper from the core was greater at shallow depth hence, Placer in some cases did not recognize such economic copper values until much deeper.

In addition, future drill programs will also test the vertical and lateral extensions of the known mineralized zones. Thus, the prospect of delineating significant more copper sulphide mineralization at depth, alone, could conceivably more than double the deposit's mineral inventory.

Sheffield's Scalable Business Model Starts with Near-Surface Copper Oxide Resources

By focusing its efforts at the heart of a rich copper belt where several small historic mines are situated, Sheffield has formulated a savvy strategy to generate near-term cash flow. This initially involves using sophisticated 21st century technology and geological acumen to outline significant near-surface mineral resources.

Much of which involves high-grade copper that can be cost-effectively mined by way of open-pitting and which promises to offer a fast payback on the company's capital investments.

In this regard, the company's more than 8,000-acre land holdings strategically encompass not only the Moonlight Deposit but also two adjacent historic copper mines in which Sheffield has an option to earn up to a 100% interest. Besides the Engels and Superior mines, other well-mineralized targets are also known to exist within Sheffield's land holdings in this historic mining camp.

Other key prospects also include the historic Copper Mountain and Sulphide Ridge deposits – both of which have yet to be investigated by Sheffield. In turn, all of these targets and others will be followed-up in due course as part of the company's near-term mandate to outline additional shallow copper oxide resources and identify further copper sulfide mineral inventory.

Importantly, both the Engels and Superior mines, which are in close proximity to the Moonlight Deposit, still benefit from untapped mineral inventories that are still amenable to expansion.

This is where about 161.5 million pounds of copper, 23,000 ounces of gold and 1.9 million ounces of silver were recovered from 4.7 million tons of ore between 1914 and 1930. Notably, this was during



an era that predated modern mining techniques – ones that translate into much better ore extraction recovery rates and more cost-effective mining production at depth.

Again, Sheffield's current drill program is focusing on the development of near-surface oxide copper mineralization at the former Engels Mine. The company believes that an oxide target of several million tons grading approximately 1.5% copper is a very realistic goal.

The advent of a heap leach open pit mining operation would make for very inexpensive copper output, as well as a fast payback on invested capital. Such a scenario would enjoy a further major cost-cutting benefit in the form of the economies of scale that can be realized from accumulative bulk tonnage excavation. This would become an increasingly likely prospect with the advent of also mining the oxide resources from both the Moonlight Deposit and the old Superior mine.

The Superior Mine – which represents a 60-million-ton-plus target – also benefits from plenty of untapped resources which are amenable to cost-effective, environmentally-friendly underground mining, and potentially the reclamation of dry stacked (inert) tailings underground.

Importantly, rich and very thick high-grade vein systems are known to exist at Superior Mine where underground infrastructure includes a network of crosscuts and adits that provide ready access to this mineralization. Highlights include underground channel sampling assay results from vein systems within some adits that run as high as 110 feet of 2.6% copper at shallow depths. And some of these high-grade zones are even potentially amenable to open pit mining.

Furthermore, an historical 12.2-million tonne copper near-surface oxide deposit at the Moonlight Deposit, averaging an estimated 0.54% copper, also shows considerable promise for expansion of tonnage. As mentioned earlier, this mineral asset was largely overlooked by Placer, which focused its drilling efforts on delineating deeper copper sulphide resources.

In essence, the advent of cost-efficient open pit mining of high-grade copper oxide at the Moonlight Property promises to provide Sheffield with valuable near-term cash flow. These funds are expected to defray the considerable costs involved in the further exploration of the much more prolifically mineralized copper sulphide resources – which represents a 400-million-tonne target at the Moonlight Deposit, alone.

Assuming success in developing the oxide resources at Moonlight, the cash flow from operations will potentially allow Sheffield to continue its search for bulk mineable mineral resource projects in infrastructure-rich regions of politically stable jurisdictions without having to continue raising funds by public subscription.

Investment Summary

Sheffield is focused on the advancement of under-developed North American base metals deposits – ones that exhibit world-class potential, particularly for copper, nickel and cobalt. Other key criteria involve the development of such well-established mineral projects in politically stable jurisdictions, where the projects also benefit from robust infrastructure.

On this last note, the Moonlight Property also benefits from this excellent infrastructure by way of proximal water supplies and a power grid that extends onto the property. The property is also intersected by a network of paved roads that are connected to a nearby highway. A major service centre, the city of Reno, is also situated a mere 85 miles to the southeast.



From a technical perspective, Sheffield has approximately 31.0 million shares outstanding (about 42.1 million shares fully diluted). Such a relatively tight share structure, matched with positive and meaningful exploration developments, typically acts as a potent catalyst to a sustained uptrend for a company's share price. Sheffield has yet to see this situation unfold but it is probably just a matter of time before the broad investment community begins to rally behind this low-key company's rising fortunes.

On a corporate note, SmallCapMedia believes that strong management is always the greatest value driver behind up-and-coming exploration juniors. To this end, Sheffield's shareholders are being well served.

Company President David Jenkins, P. Geo. benefits from over three decades of experience in the mining business, during which time he had been involved in the discovery and development of a number of deposits. Having worked in more than 20 countries, he has accumulated a wealth of experience that Sheffield now benefits from and which is being shrewdly applied to the development of the company's flagship Moonlight Project.

In closing, SmallCapMedia believes that Sheffield is currently undervalued mainly due to the fact that its fast-emerging Moonlight Project is located in the "green" state of California. However, the notion that this may be an impediment to the development of the project is something of a misconception.

In fact, California has a very well-defined system for mine permitting. And it seems to work very well for all concerned, including environmental groups that require assurances that mining companies adhere to the highest standards of environmental stewardship.

Hence, no less than 38 gold mines have been successfully commercialized in recent memory. Add to this over 750 more other mines (mainly producing industrial minerals) and it is easy to see how California has become one of the largest mining jurisdictions in North America. All the while without producing one single mining-related environmental disaster.

This politically stable situation bodes well for Sheffield's prospects for developing a 400-600 million ton copper-silver-gold mineral asset at the heart of a copper-rich belt. One that nonetheless exists in a somewhat remote, economically under-developed area of California where the advent of Sheffield's proposed mining operations would represent a valuable and sustained monetary infusion into the resource based economy of this rural region.

SmallCapMedia therefore believes that Sheffield Resources' compressed share price is poised to benefit considerably from the continuation of impressive drill results and other milestone developments at the Moonlight Property. Hence, we do not expect the company's share price to remain undervalued for much longer as the coming months offer the prospect of more upbeat news flow.

Moreover, patient shareholders also stand to benefit immeasurably from the Moonlight Project's shot at delivering a world-class "home run" success story.