

Manganese X stealing the cobalt thunder

The shortcomings of Lithium Ion batteries are becoming more and more evident by the day. As if the travails of the Samsung Galaxy Note 7 were not enough there is a rising tide of frustration with the chargeability (or lack thereof) with the most common example of LIBs, namely in mobile phones. With rising usage (in terms of minutes and hours spent online) and ravenous apps continuing to operate even when a phone is not being actively used, the batteries are lasting ever shorter amounts of time and necessitating that users carry back-up power packs or spend their lives in search of “somewhere to plug in”. If this is the future it looks very fraught and grim.

The die has already been cast though with regards to the type of battery that will go into the next few generations of EV and HEVs. It would be too expensive and disruptive for Western car makers to execute a *volte face* away from LiBs. However as applications proliferate so do technologies. Prominent amongst these are batteries utilizing Manganese as a key component.

The main focus in equities markets in the past has been on bulk DSO Manganese and that has mainly been a focus of the Australian and South African markets. Manganese X Energy Corp. (TSXV: MN) is, instead, looking to develop the higher-value tech-oriented possibilities of Electrolytic Manganese.

I shall review the developments and strategy at Manganese X and look at the dynamics of the Electrolytic Manganese market and the battery technologies that utilize it.

The Focus Change

Manganese X Energy has been born out of the redirection of the old Sunset Cove Mining to better reflect its new exploration

focus on the Houlton Woodstock manganese prospect in New Brunswick. It optioned this property in late June from the project generator, Globex Mining (TSX: GMX). Manganese X may acquire 100% interest in the property subject to a 3% Gross Metal Royalty by, over a two-year period, making \$200,000 in cash payments (\$100,000 already paid), issuing 4,000,000 post-consolidation shares (2,000,000 obligatory), undertaking an aggregate of at least \$1mn in exploration expenditures and delivering a Preliminary Economic Assessment to Globex on or before the fourth anniversary of the option agreement.

The Target Market

The cutting edge application, being targeted by Manganese X, is known as the Lithiated Manganese Dioxide (LMD) Battery. The standard mix of LMD used in batteries contains 4% Lithium, 61% manganese and 35% oxygen by atomic weight. The attractions of this format are that LMD has high power output, thermal stability and enhanced safety when compared to other lithium ion battery types. For these reasons LMD batteries are currently being used in the Chevy Volt and Nissan Leaf. Research at the University of Illinois has achieved an advanced prototype battery, using Lithiated Manganese that can be recharged in as little as two minutes (equivalent to filling a gas tank).



Houlton Woodstock

In pursuit of product to feed what might very well be a full production chain of Electrolytic Manganese is the company's initial property at Houlton Woodstock. This covers a significant portion of the known historic manganese-bearing horizon(s) in an area approximately 6.3km northwest of the town of Woodstock, southwestern New Brunswick.

The southern-most portion of the claims is located

approximately 5 km west-northwest of town of Woodstock. Crucially the USA-Canada border is approximately 12 kilometres west of licence 5816. Route 95, a twinned highway running from Woodstock to connect to the US interstate I-95 highway, is located approximately 3 km south of the claims.

Geology

The Woodstock manganese banded iron formations (BIFs) are known to be one of the largest Mn resources in North America and were mined as a source of iron from 1848 to 1884. Six major ferromanganese bodies were identified by gravimetric surveys (circa 1954). The strike of these BIF's extends from Jacksontown to Plymouth, western New Brunswick, and similar deposits are known to occur nearby in Maine.

Between 1953 and 1957 a company called Stratmat Limited completed 10,370m of drilling (5,300m of which was on the Plymouth occurrence, located several kilometres southwest of Globex's claims).



The Stratmat work covered three of the main historic manganese occurrences plus at least two additional showings that are located on claims of licence 5816. Starting from the south, the Moody Hill occurrence was reported in 1957 by Sidwell (the area manager of Stratmat, that held the project at that time) to contain an estimated 9,072,000 tonnes, the Sharpe Farm occurrence an estimated 7,257,000 tonnes and the Iron Ore Hill occurrence 22,680,000 tonnes, all of an estimated average grade of 13% iron and 9% manganese. These estimates are obviously not NI43-101 compliant.

North of the Iron Ore Hill occurrence approximately 2 kilometres, the Maple Hill showing is reported to have grades of 13.9% iron and 6.97% manganese. Located a further 1.5 kilometres north of the Maple Hill showing, at the far

northern end of licence 5816, the Wakefield Showing is reported to have tested 20.9% iron and 8.86% manganese.

In 2010, Globex took seven samples from the old workings at the Iron Ore Hill site and 59 chip samples were taken from outcrop in a ditch running along the road which cuts across the south side of the occurrence. The rock types ranged from a massive, dense, black, semi-metallic rock to a brick red, highly fractured, lighter, slaty material. Manganese values in the chip samples ranged from 0.72% to 26% MnO and iron ranged from 7.74% to 33.4% Fe₂O₃.



In 2011 two diamond drill holes were collared in the area of Iron Ore Hill to test at depth near the historic workings. Sampling from wide intervals of this mineralization returned assays greater than 11% MnO and 16% Fe₂O₃.

Conclusion

The battery space is a fast moving one these days. The obvious new technology is the “plain vanilla” Lithium Ion battery. It is gaining widespread adoption for automobiles but in less standardized applications requiring storage systems that are not necessarily mass produced a plethora of variants on the lithium battery formula are getting traction due to the all too evident shortcomings (particularly on the charging and endurance fronts) for which LiBs are becoming notorious.

Manganese is shrugging off its rather prosaic image as “just” another steel alloy metal and is now being seen in many quarters as one of the rising battery metals. Manganese X is one of the few to have recognized this trend and is seeking to create a source of EMM in the North America where hitherto dependence upon China has been the norm. Also in this mix are the pronouncements of the US president elect on “making America great again” and one area that this could be achieved

would be to achieve “metals” independence in those categories that China has hitherto dominated with EMD being an obvious candidate for duties and/or punitive action.

This company has identified a niche that potentially steals the thunder of the hard-to-source Cobalt and advances the cause of an improved type of storage device that addresses some of the well-known yet scarcely talked about drawbacks of the currently dominant Lithium Ion Battery formulations.

Hallgarten & Company initiates coverage on Manganese X Energy Corp. (TSXV: MN) today with an independent research report titled “Manganese X Energy Corp.: Rising Metal in the Battery Space”...to access the report, [click here](#)