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Orbite Aluminae Inc. (TSX:ORT)

Stock Rating:	**Speculative Buy**
Prior:	*Unchanged*
Risk Rating:	**High**

Orbite Files PEA for the Smelter Grade Alumina Plant

Highlights:

- Total operating costs of \$210/t of alumina (incl. by-products) and total capex of \$500 million (Mine capex: \$34 million; Processing plant capex: \$467 million).
- Rare metals and rare earth inferred resource of 780 million tonnes at 502 ppm TREO (contained resources: 392,000 tonnes of TREO) and 71 ppm of scandium and gallium oxide (contained resources: 55,000 tonnes of rare metals) was estimated. Including, 17% HREO/TREO (excluding holmium, thulium, ytterbium and lutetium) and 6% MREO/TREO.
- Energy and power are expected to account for 61% of the total operating costs, the second largest cost is labour at 14% of the total operating costs.
- One of the estimates shows a pre-tax NPV of \$2.5 billion at 10% discount. The preliminary economic assessment (PEA) did not include the High Purity Alumina (HPA) business or license revenue.

Our Take:

We have made several changes to our model based on the PEA results published by the independent consultants Genivar Inc.:

- Genivar Inc. suggests mid-2014 (2.5 years from now) as a reasonable target production date. Thus, we have decided to **delay the plant production starting date from 4Q2013 to 4Q2014,** and redistributed the capital expenditures accordingly.
- Capex estimates could be more conservative. We believe that capex does not adequately account for the capital costs associated with the construction of a solvent extraction and/or ion exchange processing facility to separate and refine rare earths and rare metals and other potential unforeseen process integration costs. Therefore we have **increased capex for the SGA plant to \$550 million.**
- We **maintain our estimated operating costs of \$222/t** of Al_2O_3 (compared to PEA estimate of \$210/t of Al_2O_3) as it is within the margin of error. Both estimates are still well below the 2013 forecast global average cost of \$275/t (Commodities Research Unit estimate).

Recommendation:

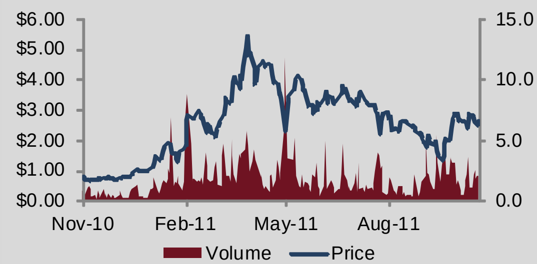
We maintain our **Speculative Buy** recommendation, but have **lowered our target price from \$12.20 to \$11.20**, which reflects our conservative capex and price assumptions, and production start delay.

For analyst certification and other important disclosures, refer to the Disclosure Section.

1-Year Target Price	**\$11.20↓**
Prior	*\$12.20*
1-Year ROR	**264%**

(\$ mm except per share data)	
Share Price	\$3.08
52 Week High	\$5.69
52 Week Low	\$0.97
Shares Outstanding (B)	177.00
Shares Outstanding (D)	206.00
Market Cap	\$545.16
Net Debt	-\$72.79
Cash & Short Term Investments	\$75.00
Debt	\$2.21
Total Enterprise Value	\$472.37

Price/Volume Chart



Project Details

Name	Grande Vallée
Location	Quebec, Gaspé Region
Project Stage	Feasibility
Size of Property	6,441 ha
Type of Ore	Clays
NI 43-101 (or equivalent)	Yes
Average grade	23.3% Al_2O_3
By-products	Sc, Dy, Nd, Gd, etc

Estimates

\$000s	2011F	2012F	2013F	2014F	2015F
Revenue	-	37,826	299,250	379,298	742,296
EBITDA	-9,788	24,443	247,804	266,345	430,819
EBIT	-9,807	24,443	227,329	227,318	376,936
EPS	-0.05	0.10	0.67	0.66	1.10
FCFPS	-0.18	-0.88	-0.29	0.01	0.60

Production Estimates

tonnes	2011F	2012F	2013F	2014F	2015F
HPA	-	108	998	1,663	1,712
SGA	-	-	-	131,673	529,809
Ferric Oxide	-	-	-	40,731	162,925
Gallium	-	-	-	21	82
Scandium	-	-	-	6	24
REE	-	-	-	229	917

Valuation

	2011F	2012F	2013F	2014F	2015F
EV/EBITDA	-	97.1x	9.9x	9.3x	5.5x
ROIC	-	12%	38%	28%	37%
P/E	-	113.4x	16.8x	17.1x	10.2x
P/S	-	62.2x	7.9x	6.2x	3.2x

Additional Changes

- We have **included revenue from silica and magnesium by-products**, we used prices of $10/t for silica and $400/t for magnesium. Other mixed oxides revenue was not included.
- We now forecast that the price of gallium, scandium and iron will decline at a rate of 5% per year as Orbite ramps up production and adoption of the Orbite process increases.
- We believe that the takeover risk is higher now that the company has released a more detailed description of the Orbite process. The company believes that the process is still well protected by the family of patents. There are also key technical details and new advancements that only the Orbite team has access to.
- We expect the SGA plant **Bankable Feasibility Study to be completed sometime in 3Q/4Q 2012**, and it will include details about energy sources and mining license.

Challenges and Opportunities

- We have increased our capex estimates by 10%, well within the margin of error (-/+ 30%). We think that the 10% contingency capital costs may be modest for the size and complexity of this project. Also, we assume that Orbite will be using the solvent extraction and/or ion exchange process to separate and refine the rare metals and earths including the heavy rare elements and hence higher total capex may be required. We also anticipate that the first plant is likely to cost more, as it will require vital infrastructure and it will carry higher cost risk (see below Key Risks to Target). As indicated in the PEA, the first plant will also have higher engineering integration risks as different parts of process that are been developed in different locations and have been proven to be adaptable to the Orbite process, would have to be correctly inter-connected.
- As the PEA states, supply of natural gas is not yet available at the chosen site of the future plant. However there are oil and gas exploring companies in the area. Furthermore, Orbite is also exploring other sources of energy including biomass electricity, coal and biomethanisation.
- Mining may have to be performed 9 months of the year to avoid the snow and rainy seasons that could affect the clay moisture and increase operating costs. That will require higher mining throughput (~9,000 tpd) and mining costs but the SGA plant will still process 7,000 tpd and the processing costs should remain unchanged. Orbite will have to find an area to stockpile 3 month of clay near the site, which should require additional mining capex.
- If Bill 14 which proposes amendments to the Quebec Mining Act becomes law, it will require Orbite to perform additional environmental impact studies, which may include public hearings. We do not expect the adoption of the Bill to delay the plant production start beyond 2014.
- Our estimated operating costs are somewhat higher than what is estimated in the PEA, and we include additional costs for the refinery of rare earths. Our understanding is that, only a REO concentrate will be produced from the Orbite process, and that additional processing will be required to produce individual rare earths. We expect the feasibility study to better clarify the process and costs associated with production of the rare metals and rare earths.
- It should be noted that the PEA only accounts for one plant with an output of about 540 kt. Considering that the aluminum industry in Quebec consumes at full capacity more than 6 million tonnes of alumina, to fulfill the alumina demand in Quebec Orbite would have to add at least 11 more plants of the same size as the one described in the PEA. Thus, if Genivar Inc. was to model the additional planned plants, the economics of the Orbite process in Quebec would be significantly higher.
- The PEA does not include the potential revenue from licensing the technology around the globe, and it does not include the HPA business. We expect the HPA plant to be in production in 2H2012.

- We believe that the PEA of Orbite's first SGA plant offers a comprehensive, eligible and strong description of the Orbite process. We expect aluminum companies and end-users of gallium, scandium and rare earths to show increase interested in working with Orbite or licensing the technology. We still believe that Orbite is an extremely attractive takeover target (see section Key Risk to Target Price).

Exhibit 1: PEA vs JSI Price and Cost Assumptions

	PEA (Year1)	JSI (2014)
Prices		
Alumina SGA ($/t)	425	371
Alumina HPA ($/t)	not included	250,000
Silicium ($/t)	25	10
Magnesium Oxide	400	400
Ferric Oxide ($/t)	200	175
Scandium Oxide ($/kg)	1500	1000
Gallium Oxide ($/kg)	600	600
*REO ($/kg)	152	79
Costs		
Mining and Process operating costs ($/t)	210	222
Rare earths refining costs ($/t)	included in 210$/t	40
Gallium and Scandium refining costs	included in 210$/t	35% revenue
**Capex	$500 million	$550 million

Note: We forecast a 5% yoy decrease in the price of Ferric Oxide, Scandium oxide and Gallium oxide for the duration of the forecast period. * REO prices are 20% below November 2011 China FOB prices. ** Capex is for SGA plant only.
Source: JSI; company reports

Justification of Target Price

We use the enterprise value DCF approach, which is an adequate valuation methodology for industrial companies with cash flow potential in the near term. The weighted average cost of capital of 12.5% was determined assuming a risk free rate for Canada of 3%, a company beta of 1.92 and a market premium of 5%. We estimate that in the long term the Company capital structure will comprise very low levels of debt.

Key Risks to Target Price

Technology Risk: The high purity alumina Cap Chat pilot plant can currently produce 1 tonne of high purity alumina per day and we believe it could be scaled up with relatively low risk. The design of the SGA plant is currently in the initial stages of development and requires the integration of acid regeneration and calcination technologies that have not been extensively tested for an alumina refinery. Unforeseen challenges may occur during the adaptation and integration of these technologies to the Orbite process, leading to project delays. We believe that at this stage the SGA plant design carries higher technology risk.

Cost Risk: As Orbite develops the SGA plant and expands the Cap Chat plant, it may find unexpected but justifiable capital costs that, if implemented, could improve plant efficiency and operating costs in the long term. Actual future operating costs may turn out to be higher than forecast, if, for instance, plant efficiency (e.g., recovery rates, acid regeneration) is lower than expected.

Patent Protection Risk: As Orbite discloses more detailed information about its technology to the market, through a preliminary economic assessment or feasibility study, it will increase patent risk. If sufficient technology description is made public, there could be attempts to illegally reproduce the highly sought-after Orbite process in countries where it has not been protected or in regions where patent law is not adequately reinforced. This scenario is likely to compromise the

Company's future license and HPA revenue but will not change Orbite's unique position in Québec to become an alumina supplier to the regional aluminium industry.

Financing Risk: We estimate that the total capital expenditure required for Orbite's project is about $550 million and believe that the Company will need to raise additional funds for the project in the next two years. In order to fund the project's equity portion, we expect future equity and/or project dilution. Additionally, tight credit markets could make it difficult for Orbite to raise funds, thus, delaying the project.

Geopolitical Risk: Some projects in North America are under the jurisdiction of First Nations groups, which often involve high levels of negotiations and approvals. There seems to be significant support for Orbite's project, as it could be a significant job creator in the Gaspé region.

Price Risk: Fluctuations in commodity prices could have an adverse effect on the economics of a project. Smelter grade alumina is sold on both spot and contract terms. High purity markets are fairly inefficient by nature, as sales contracts are usually set up between the seller and the buyer and depend on the quality, purity and quantity of the HPA sold. If Orbite is able to produce large amounts of good quality HPA, it will likely disrupt the market and have a downward effect on prices, in our view. The Company also expects to generate revenues from rare earth, gallium and scandium by-products. Based on our estimates Orbite would have the capacity to produce record amounts of gallium and scandium, which could also affect their prices. We use conservative forecast prices for the HPA and rare metals.

Currency Risk: Commodities are usually priced in U.S. dollars; as such, companies operating outside of the U.S., like Orbite, will be affected by changes in the exchange rate between the dollar and their functional currency.

Takeover Risk: The alumina industry has experienced a significant consolidation in the recent years, influenced by the aluminium industry vertically integrated nature. Most alumina companies with strong exploration results or those close to production are usually acquired by aluminium smelter. Accordingly, there is a high likelihood that Orbite could be acquired by one of the leading aluminium companies. If Orbite becomes the target of an aggressive takeover at an early stage of development and during poor equity markets, shareholders may not be able to fully realise the potential long-term value of the stock.

Management Risk: At this stage of development Orbite has a core team of managers and engineers that are instrumental to the development and implementation of its technology. The departure of the CEO, the CTO or any key technical personnel could have an adverse effect on the development of the project

Investment Conclusion

We maintain our Speculative Buy recommendation, but have lowered our target price from $12.20 to $11.20. The lower target price reflects the higher capital expenditures and 5% yoy decrease in the price of by-products. We believe that the Orbite process has great potential to be adopted around the globe, however, additional Orbite process plants are likely to increase the supply of scandium, gallium and iron which should lead to lower prices for these elements. We have also redistributed capex and added silica and magnesium revenue, which minimized the impact of higher capex and lower prices. At current stock price of $3.08 we estimate that the market is discounting the company at a 22% discount rate. We believe that at this price the stock is at an attractive entry point for a long term position.

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Hold:	26%
Reduce:	0%
Sell:	4%
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