Malaysia – the next production center of manganese in Asia?

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Asia Minerals Limited
Target:

To review Mn-alloys investment background. To go through the opportunities Malaysia government offering to foreign companies. To assess competitiveness and challenges of those ferroalloy projects who are to start production in Malaysia in nearest future.
AGENDA:

- Investing in Mn-alloy production
- Malaysia government promoting investment
- New supply of Mn-alloys from Malaysia
- Sarawak infrastructure update
- Challenges Malaysian Mn-alloys Producers to Face
- Asia Minerals’ project in South Africa
INVESTING IN MN-ALLOY PRODUCTION

3 major reasons to set up new Mn-alloy production:

• MN ORE DEPOSITS
  When Mn Ore is available locally, its beneficiation through production of Mn-alloys can be usually a safe and solid background for building new smelter. Can be competitive in both local and export markets.

• LOCAL STEEL MARKET TO SERVE
  Very popular in countries with growing steelmaking output who have no local smelters. Taking place usually during economy booms. Competitive mostly in local market.

• COMPETITIVE POWER TARIFFS
  Applicable for countries with cheap cost of power and low level of industries development. Can be competitive in both local and export markets.

Overview of major competitive advantages for standard Mn-alloys:

<table>
<thead>
<tr>
<th>Competitive advantage</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Manganese Ore</td>
<td>• South Africa, Gabon, Brazil, Australia, Ukraine, Kazakhstan</td>
</tr>
<tr>
<td>• Local market (logistics, import duties)</td>
<td>• China, India, Middle East, Europe, Japan, S.Korea</td>
</tr>
<tr>
<td>• Power</td>
<td>• Middle East, Georgia, Malaysia, Venesuela</td>
</tr>
</tbody>
</table>
Investment promotion current details of MIDA (Malaysian Investment Development Authority):

- Government policies that maintain a business environment with opportunities for growth and profits have made Malaysia an attractive manufacturing and export base in the region. The private sector in Malaysia has become partners with the public sector in achieving the nation's development objectives.

- A major factor that has attracted investors to Malaysia is the government's commitment to maintain a business environment that provides companies with the opportunities for growth and profits. This commitment is seen in the government's constant efforts to obtain feedback from the business community through channels of consultation such as regular government-private sector dialogues. These allow the various business communities to air their views and to contribute towards the formulation of government policies which concern them. Incentives for the Manufacturing Sector.
INVEST IN MALAYSIA: Pioneer Status and Investment Tax Allowance

The major tax incentives for companies investing in the manufacturing sector are the Pioneer Status and the Investment Tax Allowance.

Eligibility for Pioneer Status and Investment Tax Allowance is based on certain priorities, including the level of value-added, technology used and industrial linkages. Eligible activities and products are termed as "promoted activities" or "promoted products".

Applications for Pioneer Status should be submitted to the Malaysian Investment Development Authority (MIDA).

<table>
<thead>
<tr>
<th>A. Pioneer Status:</th>
<th>B. Investment Tax Allowance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A company granted Pioneer Status enjoys a five year partial exemption from the payment of income tax. It pays tax on 30% of its statutory income*, with the exemption period commencing from its Production Day (defined as the day its production level reaches 30% of its capacity).</td>
<td></td>
</tr>
<tr>
<td>• Unabsorbed capital allowances as well as accumulated losses incurred during the pioneer period can be carried forward and deducted from the post pioneer income of the company.</td>
<td>• The company can offset this allowance against 70% of its statutory income for each year of assessment. Any unutilised allowance can be carried forward to subsequent years until fully utilised. The remaining 30% of its statutory income will be taxed at the prevailing company tax rate.</td>
</tr>
</tbody>
</table>

*Statutory Income is derived after deducting revenue expenditure and capital allowances from the gross income.

Applications for Pioneer Status should be submitted to the MIDA.
New Direction in Investment Promotion:

=> It is against this backdrop that MIDA has been looking to attract high technology, knowledge and capital intensive investments that generate multiplier effects and have a significant GNI impact. At the same time, they are also looking for investments that develop new growth areas or industries or introduce new and emerging technologies.

=> It is no longer enough just to promote assembly type operations and labour-intensive projects. To create new wealth, improve competitiveness and spur economic growth, Malaysia need to become an innovation economy.

=> This investment drive will also be complemented by both existing Free Trade Agreements and Economic Cooperation Agreements already in place as well as new ones, such as the Trans-Pacific Partnership under pursuit.
INVEST IN MALAYSIA: Sarawak Corridor of Renewable Energy

During 2006-2010, Malaysia announced 5 economic corridors in a farsighted attempt to stimulate investment in traditionally rural areas to create balanced development throughout the country. Sarawak Corridor of Renewable Energy (SCORE) is now firmly established as one of Malaysia’s five economic corridors. SCORE has an abundance of natural resources, including clean and safe renewable resources, such as hydropower, that offers commercial users clean energy at competitive rates.

Power Generation Plan: 2011 – 2020 (Installed MW)

SCORE projects 2011 – 2015:
- Bakun: 2,400MW installed capacity
- Murum (Hydro): 944MW installed capacity
- Balingian (Coal): 600MW installed capacity

Potential SCORE projects 2016 – 2020
- Baram 1: 1,200MW installed capacity
- Smaller stations, such as Linau (hydro), Belepeh (hydro), Baram 3 (hydro), Pelagus (hydro), Kapit (Coal)
- Northern agenda – Limbang & Lawas
INVEST IN MALAYSIA: Samalaju Industrial Park

Thanks to SCORE, Samalaju Industrial Park has become a home for major foreign investors.

- **Samalaju Port**: Logistics & port services
- **Tokuyama Malaysia**: Polysilicon production
- **Pertama Ferroalloys**: Manganese & Silicon alloys production
- **Press Metal**: Aluminium ingots & billets production
- **OM Materials**: Silicon alloys production
- **Asia Advanced Materials**: Metallic Silicon production
- **Sakura Ferroalloys**: Manganese alloys production
NEW SUPPLY OF ALLOYS FROM MALAYSIA: 3 projects in pipeline

<table>
<thead>
<tr>
<th>Shareholders</th>
<th>Capacity</th>
<th>Ferro Alloys</th>
<th>Integrate by own Mn Ore</th>
<th>Association with end-users by shareholdership</th>
<th>Start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pertama Ferroalloys</strong></td>
<td></td>
<td></td>
<td></td>
<td>+ NSSMC, Kobe Steel</td>
<td>2014</td>
</tr>
<tr>
<td>AML (60%), Nippon Denko (20%), Chuo Denki (7%), Shinsho (5%), CCC (8%)</td>
<td>300 313</td>
<td>✓ - ✓ ✓ ✓ ✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OM Materials</strong></td>
<td></td>
<td></td>
<td></td>
<td>+</td>
<td>2014</td>
</tr>
<tr>
<td>OM Holdings (80%), CMS (20%)</td>
<td>360 310</td>
<td>- - - - ✓ ✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sakura Ferroalloys</strong></td>
<td></td>
<td></td>
<td></td>
<td>+ China Steel</td>
<td>2015</td>
</tr>
<tr>
<td>Assmang (54.36%), China Steel (19%), Sumitomo (26.64%)</td>
<td>162 170</td>
<td>✓ ✓ - - - +</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Pertama has the longest product line among above 3 smelters
- Association with major Japanese steelmakers through JV partners who are to buy alloys on long-term basis mitigates Pertama’s marketing risks
PERTAMA FERROALLOYS: Project Overview

Pertama Ferroalloy Sdn. Bhd., was named by Chief Minister of Sarawak state ("Pertama" means "first" in local language) as 1st Ferroalloy plant in Sarawak, Malaysia.

<table>
<thead>
<tr>
<th>Project Location</th>
<th>Project Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project location</strong></td>
<td>• Samalaju Industrial Park, Bintulu, Sarawak, Malaysia</td>
</tr>
<tr>
<td><strong>Estimated investment</strong></td>
<td>• USD350M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Production line /Technology</th>
<th>Phase I:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Electric Arc Furnaces: 33MVA x 6</td>
</tr>
<tr>
<td></td>
<td>• Refining Furnaces: 5MVAx2</td>
</tr>
</tbody>
</table>

**Phase II:**
• Electrolytic Manganese Metal (EMM): 5 lines
• Electric Arc Furnaces: 2

<table>
<thead>
<tr>
<th>Annual Production Capacity</th>
<th>Phase I: Manganese Alloys: 159kt &amp; Ferrosilicon: 62kt, Total 221kt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phase II: EMM: 50kt and FeSi: 45kt</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of staff/workers</th>
<th>• 700 (planned)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power Supply</strong></td>
<td>• 22-years Power Purchase Agreement with Syarikat Sesco Berhad (SESCO), which provides low cost and stable electricity from Hydropower Generation Plant of Bakun Dam to the Project</td>
</tr>
</tbody>
</table>
INFRASTRUCTURE & TRANSPORTATION: Ports

1. BINTULU PORT is available now:
   • Distance from plant to port is 62km
   • Can handle barges, bulk as well container vessels
   • Numerous container lines are available already and further expansion is expected
   • Pertama is renting temporary raw material storage at Bintulu port to cover transit period (before Samalaju port commissioning)

2. SAMALAJU PORT:
   • Distance from plant to port is 2km
   • Can handle barges, bulk as well container vessels
   • Commissioning is expected in 2014
INFRASTRUCTURE & TRANSPORTATION: Samalaju Industrial Port

The port will be developed in phases in line with projected demand.

Based on the demand projection, the development of the port will be done in phases focusing mainly on the Interim and Phase 1. Phase 2 and 3 will be developed in the future when the demand and the needs for port facilities is more certain.

PHASE 1 FACILITIES:

Dredging and Reclamation

Breakwater and Revetment

Berth
- 3 Handymax Berths
- 1 Handysize Berth
- 2 Barge Berths
- 1 Ro-Ro Ramp

Cargo Handling Equipment
- Conveyor Belt System
- Mobile Handling Equipment

Landside Facilities
- Stockpile storage area
- Warehouses
- Container Yard

Building
- Operation and Administration Building

Access Road

Navigation aids
### General Information on the Proposed Samalaju Port

<table>
<thead>
<tr>
<th>Port water limit:</th>
<th>Gazetted area</th>
<th>12 nautical mile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land reclamation:</td>
<td>Phase 1</td>
<td>19.1 hectares</td>
</tr>
<tr>
<td>Dredging volume:</td>
<td>Interim Phase</td>
<td>1,308,700 m³</td>
</tr>
<tr>
<td></td>
<td>Phase 1</td>
<td>17,830,000 m³</td>
</tr>
<tr>
<td></td>
<td>Phase 2</td>
<td>1,851,880 m³</td>
</tr>
<tr>
<td></td>
<td>Phase 3</td>
<td>118,750 m³</td>
</tr>
<tr>
<td>Breakwater:</td>
<td>Length</td>
<td>3.5 km (S = 1.67km, N = 1.96km)</td>
</tr>
<tr>
<td></td>
<td>Volume of rock</td>
<td>3.1 million tonnes</td>
</tr>
<tr>
<td>Navigational channel:</td>
<td>Length</td>
<td>5.29 km from port entrance</td>
</tr>
<tr>
<td></td>
<td>Dredged level</td>
<td>15.5 m CD</td>
</tr>
<tr>
<td></td>
<td>Width</td>
<td>200 m</td>
</tr>
<tr>
<td>Barge berth:</td>
<td>Number of barge berth</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Length</td>
<td>160 m each</td>
</tr>
<tr>
<td></td>
<td>Dredged level</td>
<td>7 m CD</td>
</tr>
<tr>
<td></td>
<td>Maximum barge capacity</td>
<td>8,000 DWT</td>
</tr>
<tr>
<td>Handysize berth:</td>
<td>Number of Handysize berth</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Length</td>
<td>230 m</td>
</tr>
<tr>
<td></td>
<td>Dredged level</td>
<td>11 m CD</td>
</tr>
<tr>
<td></td>
<td>Maximum vessel capacity</td>
<td>20,000 DWT</td>
</tr>
<tr>
<td>Handymax berth:</td>
<td>Number of Handymax berth</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Length</td>
<td>1 nos – 250 m each; 2 nos – 210 m</td>
</tr>
<tr>
<td></td>
<td>Dredged level</td>
<td>13.5 m CD</td>
</tr>
<tr>
<td></td>
<td>Maximum vessel capacity</td>
<td>50,000 DWT</td>
</tr>
<tr>
<td>Port land:</td>
<td>Total area</td>
<td>393 hectares</td>
</tr>
<tr>
<td></td>
<td>Area to be used (Phase 1)</td>
<td>156 hectares</td>
</tr>
</tbody>
</table>
### PERTAMA FERROALLOYS: Competitiveness

#### WHY PERTAMA MAY BE CONSIDERED AS ONE OF THE MOST COMPETITIVE SMELTER ON A GLOBAL BASIS:

1. **POWER** is one of major production cost components:
   - Pertama is competitive on a global basis for electric power.
   - Major competitors to Pertama are expected to be affected by rising power costs over the next 20 years. Rising power costs are to impact producers in South Africa, India, China, Japan and South Korea to a far greater extent than Pertama.
   - To maximize the benefits of competitive power, Pertama added FeSi and EMM into its product basket.

2. **Malaysia government support:**
   - Infrastructure development in Samalaju
   - Tax incentives
   - No import duty on Mn Ore
   - No export duty on product

3. **PREFERENTIAL IMPORT DUTY** for Malaysia origin in various countries:
   - Japan, Korea, SEA countries have 0% import duty for Mn/Si alloys of Malaysian origin
   - No ADD in USA market

4. **Advantageous GEOGRAPHICAL LOCATION:**
   - Located in the port area, so inland logistics cost on imported raw materials and exported products is very low
   - Proximity to strategically important markets of Asia allows Pertama to (a) perform bulk shipment i/o containers (and save cost) in case of sizable tonnage and (b) make on-call delivery by container in case of small tonnage
   - Some raw materials (Mn Ore, Silica sand, lime, charcoal) can be sourced locally, while logistics for those to be imported is quite competitive

5. **SALES & MARKETING** of Pertama products is pre-arranged well in advance:
   - Major part of production to be off-taken by Japanese shareholders under long-term contract
   - MOU on sales of remaining tonnage is signed with various AML customers.
   - Currently total quantity of Pertama products is not enough to cover all above-mentioned off-take agreements and MOU.
CHALLENGES MALAYSIAN MN-ALLOYS PRODUCERS TO FACE

1. World Economy:
   • China economy risks
   • Slower than expected growth of India, Brazil, Indonesia

2. Market Environment:
   • Revised GSP policy in EU & USA regarding Malaysia
   • Oversupply

3. Raw Materials:
   • Major part is to be imported

4. Human Resources:
   • No human resources with ferroalloy production background

5. Logistics Capacity:
   • Samalaju port capacity
   • Bintulu-Samalaju road limitations
AML Group Structure

Company Structure

Asia Minerals Limited

(Trading)
- AML Japan Ltd.
- AML Korea Ltd.
- AML Europe SAS
- Asia Minerals India Private Ltd.
- Asia Minerals North America, LLC
- Asia Minerals South Africa (Pty) Ltd.
- AML Ukraine

(Smelting)
- IMA Resource Ltd.
- Pertama Ferroalloys Sdn. Bhd.
- Sarda Energy & Minerals Ltd.
- 中信錦州金屬股份有限公司

(Mining)
- Kudumane Manganese Resources (Pty) Ltd.

= wholly-owned
= invested company
= joint-venture
AML GROUP: Kudumane Manganese Resources

Kudumane Manganese Resource ("KMR") is very essential asset as it makes AML Group vertically integrated

Ownership:

KMR: 49% KIH + 51% BEE
KIH: 75% AML + 25% NDK

KIH is exclusive distributor and exclusive technical partner of KMR. KIH assigned its right to AML.

- **Farm of York**
  - The project is a greenfield manganese mine in Kalahari region, 98 mln.mt of proven Mn Ore resources.
  - Open pit mine and 1st blasting was done on May 8, 2012.
  - Commercial production commenced in 4Q 2012.
  - Produce 1.5mtpa 37.5% Mn and increase gradually.

- **Farm of Telele**
  - Drilling result indicates average Mn 37.27% and Fe 4.01% with thickness of Mn layer 7.9m. Continue to drill to prove reserve.

- **Farm of Hotazel**
  - Indication of 4mil tons of average Mn 43.25% and Fe 5.30% with thickness of 12.85m. Continue drilling.

- **Sintering plant**
  - Planned capacity is 1.0mil mt p.a., to be installed in 2014.
  - Grade to be Mn 44-45%

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**Chemical analysis**

<table>
<thead>
<tr>
<th></th>
<th>Mn</th>
<th>Fe</th>
<th>SiO2</th>
<th>CaO</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>York/ Telele</td>
<td>37.60%</td>
<td>4.60%</td>
<td>5.50%</td>
<td>15.54%</td>
<td>0.03%</td>
</tr>
<tr>
<td>Hotazel</td>
<td>43.25%</td>
<td>5.30%</td>
<td>3.30%</td>
<td>6.60%</td>
<td>0.03%</td>
</tr>
<tr>
<td>Sinter</td>
<td>44.50%</td>
<td>5.50%</td>
<td>6.00%</td>
<td>16.95%</td>
<td>0.04%</td>
</tr>
</tbody>
</table>
# KMR: Sales Records & Plans

<table>
<thead>
<tr>
<th></th>
<th>FY 12-13</th>
<th>FY 13-14</th>
<th>FY 14-15</th>
<th>FY 15-16</th>
<th>FY 16-17</th>
<th>FY 17-18</th>
<th>FY 18-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>York</td>
<td>5</td>
<td>720</td>
<td>2,000</td>
<td>2,000</td>
<td>2,000</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Hotazel</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>Sinter</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>500</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Telele</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>5</td>
<td>720</td>
<td>2,000</td>
<td>2,800</td>
<td>3,300</td>
<td>3,300</td>
<td>3,300</td>
</tr>
</tbody>
</table>

![Bar chart showing sales records and plans for FY 12-13 to FY 18-19 for York, Hotazel, Sinter, and Telele.](AML.committed_to_manganese.png)
AML VISION IS “TO BE THE PREFERRED GLOBAL INTEGRATED-SUPPLIER OF MANGANESE”

AML will produce and supply Mn and Si alloys our customers need.

AML will keep developing further its global customers network.

AML will widen its product line to provide more and better quality products.

AML will strive for continuous improvement of production cost.

AML will continue off-taking Mn-alloys from smelters.

AML will keep developing further its global customers network.
THANK YOU