AL MASANE MINING PROJECT
(SAUDI ARABIA)

Arabian Shield Development Company
P. O. Box 1516
Jeddah 21441
Saudi Arabia
Figure 1. Location of the Al Masane Project.
HISTORY OF DISCOVERY AND DEVELOPMENT

1967 Deposits discovered during aerial reconnaissance by Hatem El-Khalidi, President ASDC*
1971 Exploration license granted to ASDC
1972-78 Exploration continued in license area
1979 WGM** retained to implement underground development and drilling
1983 Positive feasibility study issued by WGM after the completion of 3,800 meters of underground development, (decline and tunnels) and 45,000 meters of underground and surface diamond core drilling
1993 Mining Lease issued to ASDC, for 30 years, which can be renewed for another 20 years
1994-96 Positive updated feasibility study issued by WGM, with “Economic Evaluation” Addendum by The Carlyle Group***
1998 Joint venture formed, financing arranged, and bids issued and received
1999 Project implementation delayed due to severe slump in metal prices worldwide
2004-05 Feasibility study of capital and operating costs being updated

* Arabian Shield Development Company, Dallas Texas
** Watts Griffis & McOuat Ltd., Toronto, Canada
*** The Carlyle Group, Washington, D.C.
PROJECT SUMMARY

• Process consists of:
  * Mining 2,000 tonnes of ore per day
  * Crushing and grinding ore
  * Floatation to produce copper and zinc concentrates
  * Cyanidication of tailings to produce gold/silver Dore

• Yearly commercial production of:
  * 34,900 tonnes of copper concentrate containing 8,700 tonnes of copper, 13,000 ounces of gold, and 361,600 ounces of silver
  * 58,000 tonnes of zinc concentrate containing 30,750 tonnes of zinc
  * 7,650 ounces of gold and 375,000 ounces in silver, in dore

• Transportation of concentrates to the Port of Gizan on the Red Sea for export and dore for treatment in the gold/silver refining plant in Jeddah
GEOLOGY

Regional Geology

The Al Masane massive sulfide deposits are located in the southern part of the Arabian pre-Cambrian Shield at an elevation of 6,000 feet above sea level and occur within a marginal ore complex of volcanic, sedimentary, and intrusive rocks belonging to the Upper Proterozoic.

Al Masane Geology and Mineralization

Three mineralized zones with massive sulfide mineable reserves have been discovered to date and outlined by 45,000 meters of diamond drilling from the surface and underground tunnels. The principal sulfide minerals in all the zones are pyrite, sphalerite, and chalcopyrite. The precious metals occur chiefly in tetrahedrite and as tellurides and electrum.
RESERVES

SUMMARY PROVED AND PROBABLE ORE RESERVES

(Mineable and Diluted)

<table>
<thead>
<tr>
<th>Zone</th>
<th>Tonnes</th>
<th>Cu (%)</th>
<th>Zn (%)</th>
<th>Au (g/t)</th>
<th>Ag (g/t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saddah</td>
<td>3,872,400</td>
<td>1.67</td>
<td>4.73</td>
<td>1.00</td>
<td>28.36</td>
</tr>
<tr>
<td>Al Houra</td>
<td>2,465,230</td>
<td>1.22</td>
<td>4.95</td>
<td>1.46</td>
<td>50.06</td>
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<tr>
<td>Moyeath</td>
<td>874,370</td>
<td>0.88</td>
<td>8.92</td>
<td>1.29</td>
<td>64.85</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>7,212,000</strong></td>
<td><strong>1.42</strong></td>
<td><strong>5.31</strong></td>
<td><strong>1.19</strong></td>
<td><strong>40.20</strong></td>
</tr>
</tbody>
</table>

(Note: all zones open at depth)
## RESOURCE ESTIMATE

### INFERRRED RESOURCES

<table>
<thead>
<tr>
<th>Zone</th>
<th>Tonnes</th>
<th>Cu (%)</th>
<th>Zn (%)</th>
<th>Au (g/t)</th>
<th>Ag (g/t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saddah</td>
<td>157,320</td>
<td>1.34</td>
<td>4.48</td>
<td>0.81</td>
<td>28.42</td>
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<tr>
<td>Al Houra</td>
<td>136,240</td>
<td>1.25</td>
<td>7.07</td>
<td>2.26</td>
<td>56.14</td>
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<tr>
<td>Moyeath A</td>
<td>130,000</td>
<td>1.30</td>
<td>10.16</td>
<td>1.40</td>
<td>73.75</td>
</tr>
<tr>
<td>Moyeath B</td>
<td>529,000</td>
<td>1.05</td>
<td>10.47</td>
<td>1.54</td>
<td>76.03</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>952,560</strong></td>
<td><strong>1.16</strong></td>
<td><strong>8.95</strong></td>
<td><strong>1.50</strong></td>
<td><strong>60.79</strong></td>
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</tbody>
</table>
RESOURCE POTENTIAL

EXCELLENT POTENTIAL FOR EXPANDING RESERVES

• Within the existing mining lease area along the strike length of the presently known deposits, of app. 10 kilometers as outlined by geochemical and geophysical anomalies

• Within the presently known mine area, laterally and down plunge
Figure 4. Geological cross section 4935 N, Sandah Zone.
Figure 5. Geological cross section 3615 N, Al Huura Zone.
Figure 6. Geological cross section, Maycath Zone.
MINING

- Mining of 2,000 tonnes of ore per day
- Mine access by existing 700m long access decline
- Use of existing lateral tunnels and drifts of 3200 meters for access to deposits
- Trackless mining using decline access to mining area
- Cut and fill for Saadah Zone for safety under the wadi
- Blasthole open stopping in other areas
- Underground crushing and conveying to processing plant
Figure 9. Cross sections showing cut-and-fill mining method proposed for the Saadah zone.
Figure 10. Cross section showing open stoping method with residual pillars.
Al Masane Mine
Commercial Production Per Year

AL MASANE MINE
2000 tonnes of ore/day
(700,000) tonnes/year

From cyanidization tailings plant Dore
containing 7,650 Ozs. Gold and 375,000 Ozs.
Silver, per year

To refining plant
Jeddah

From floatation plant (per year) 34,900
 tonnes of copper concentrates (25% copper),
also containing 13,000 Ozs. Gold and
361,600 Ozs. Silver

For export to copper smelters and refineries
in Europe and Far East, later to copper
smelter and refinery in Yanbu

From flotation plant (per year) 58,000
 tonnes of zinc concentrates (54% zinc)

For export to zinc smelters and refineries
in Europe and Far East
later to zinc smelter and refinery in
Yanbu
Figure 11. Process Flowsheet, Al Masane Project.
INFRASTRUCTURE

- 300-Man single status camp for employees
- accommodation for expatriate and Saudi employees
- on-site medical facility
- service building for 200 employees
- on-site diesel generation consisting of our 3.2 MW generators with three in operation, until connection to National Grid
- potable water supply
- sewage treatment plant
- assay laboratory
WATER SUPPLY

- Initial studies completed by BRGM, Gentle Geophysics and Aqua Data Systems

- Shahen and Peaker* prepared report used for feasibility study

- Surface water reservoir and groundwater supply considered

- Three (3) existing groundwater wells have capability of supplying the 40 cubic meters per hour required for the site. More can be drilled, if needed.

- Construction of low level water retention barriers recommended to improve groundwater supply availability, if needed.

* Shaheen & Peaker, Consulting Engineers, Etobicoke, Canada
ENVIRONMENTAL STUDY

- Initial environmental assessment completed by HBT Agra*
- Plant tailings will be filtered and water recycled to process
- Tailings solids will be impounded in a specified area
- Treated potable water supply from wells
- Mine water will be used in the process
- Sewage treatment for plant site
- Spillage containment has been incorporated into design
- Reclaim at end of mine life will involve removal of all buildings, grading of site and stabilization of tailings

* HBT Agra Ltd., Engineering & Environmental Services, Mississauga, Canada
CONCLUSIONS

- Proved and probable ore reserves (mineable and diluted)
  
  7,212,000 tonnes containing 1.42% Cu, 5.31% Zn, 1.19 g Au/t, 40.2 g Ag/t, per tonne

- Inferred resources
  
  953,000 tonnes containing 1.16% Cu, 8.95% Zn, 1.50 g Au/t, 60.79 g Ag/t, per tonne

- Excellent potential to increase reserves considerably in mine and mining Lease areas

- Reserves will now sustain mining operations for 10 years, at the rate of 700,000 tonnes per year
Al Masane Project by Revenue of Metal (Revised 1998)