

## APPENDIX 1

Estimate of Capital cost include both Direct and Indirect costs

### 2Mtpa plant capacity capital cost estimate

Area	A\$ Million
<b>Direct cost</b>	
Crushing	13.8
Beneficiation	2.3
Leaching and CCD	32.5
Metal extraction and purification	24.1
Vanadium precipitation, drying and packing	12.3
Acid regeneration and precipitation of iron oxide	131.2
Reagent and utilities	26.9
<b>Direct cost sub-total</b>	<b>243.0</b>
<b>Indirect cost</b>	
Field indirects	29.2
EPCM	36.4
Vendor reps	1.8
Capital spares	6.0
Commissioning spares	1.8
Insurance	3.7
<b>Indirect cost sub-total</b>	<b>79.0</b>
<b>Total cost</b>	
Contingency	48.3
<b>Grand total</b>	<b>370.3</b>

### 5Mtpa plant capacity capital cost estimate (includes existing 2Mt, ie upgrade is \$307.5M)

Area	A\$ Million
<b>Direct cost</b>	
Crushing	25.2
Beneficiation	4.2
Leaching and CCD	59.4
Metal extraction and purification	44.2
Vanadium precipitation, drying and packing	22.5
Acid regeneration and precipitation of iron oxide	240.1
Reagent and utilities	49.2
<b>Direct cost sub-total</b>	<b>444.8</b>
<b>Indirect cost</b>	
Field indirects	53.4
EPCM	66.7
Vendor reps	3.3
Capital spares	11.2
Commissioning spares	3.3
Insurance	6.7
<b>Indirect cost sub-total</b>	<b>144.6</b>
<b>Total cost</b>	
Contingency	88.4
<b>Grand total</b>	<b>677.8</b>