

1.7 Total area of 'property' on which waste is disposed

| | | | | |
|--|--|---|---|---|
| | | 1 | 9 | 3 |
|--|--|---|---|---|

hectares

1.8 Area of actual waste body (footprint area)

| | | | | |
|--|---|---|---|---|
| | 0 | ' | 1 | 8 |
|--|---|---|---|---|

hectares

1.9 Dimensions of waste site

Height or depth

Length

Breadth

a) At commencement

| | | | | |
|--|--|---|--|---|
| | | 2 | | 5 |
|--|--|---|--|---|

| | | | | |
|--|--|---|---|---|
| | | 2 | 2 | 5 |
|--|--|---|---|---|

| | | | | |
|--|--|--|--|---|
| | | | | 8 |
|--|--|--|--|---|

meters

b) After rehabilitation

| | | | | |
|--|--|--|--|---|
| | | | | 0 |
|--|--|--|--|---|

| | | | | |
|--|--|--|--|---|
| | | | | 0 |
|--|--|--|--|---|

| | | | | |
|--|--|--|--|---|
| | | | | 0 |
|--|--|--|--|---|

meters

c) Available air space

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

cubic meters

d) Total volume already used for waste disposal

| | | | | |
|--|--|--|--|---|
| | | | | 0 |
|--|--|--|--|---|

cubic meters

e) Accuracy of above volumes

Surveyor

Estimate

1.10 Buffer Zone

a) Actual distance to the boundary of the nearest:

• Formal residential area

| | | | | |
|---|---|---|---|---|
| 1 | 3 | 0 | 0 | 0 |
|---|---|---|---|---|

m

• Informal residential area

| | | | | |
|--|---|---|---|---|
| | 1 | 0 | 0 | 0 |
|--|---|---|---|---|

m

• Industrial Area

| | | | | |
|---|---|---|---|---|
| 1 | 3 | 0 | 0 | 0 |
|---|---|---|---|---|

m

b) Buffer zone determination done by

Scientific method

Actual distance

1.11 Location of Waste Management Facility

1.11.1 Geographical location for each of the external corner points of the waste management facility:

Latitude S 2 7 ° 1 2 ' 5 9 . 7 " or S ° or S ° ,

Longitude E 3 0 ° 1 8 ' 5 5 . 8 " or E ° or E ° ,

Datum Type: Cape (Modified Clarke 1880) WGS-84

Latitude S 2 7 ° 1 2 ' 6 0 . 0 " or S ° or S ° ,

Longitude E 3 0 ° 1 8 ' 5 5 . 9 " or E ° or E ° ,

Datum Type: Cape (Modified Clarke 1880) WGS-84

Latitude S 2 7 ° 1 3 ' 0 4 . 1 " or S ° or S ° ,

Longitude E 3 0 ° 1 8 ' 5 2 . 0 " or E ° or E ° ,

Datum Type: Cape (Modified Clarke 1880) WGS-84

Latitude S 2 7 ° 1 3 ' 0 4 . 6 " or S ° or S ° ,

Longitude E 3 0 ° 1 8 ' 4 9 . 9 " or E ° or E ° ,

Datum Type: Cape (Modified Clarke 1880) WGS-84

Latitude S 2 7 ° 1 3 ' 0 4 . 4 " or S ° or S ° ,

Longitude E 3 0 ° 1 8 ' 4 9 . 8 " or E ° or E ° ,

Datum Type: Cape (Modified Clarke 1880) WGS-84

1.11.2 **Drainage Region Details:** Quaternary Drainage Region

| | | | |
|---|---|---|---|
| W | 5 | 1 | A |
|---|---|---|---|

1.12 **Climatic water balance**

The wettest six months of the year are November to April May to October

The wettest years during the past thirty years were (populate at least one year's details with both rainfall and evaporation detail completed)

| Rating | Year | Total rainfall for 6 months | | Total evaporation (A-pan) for 6 months | | Official use |
|--------------------------|----------------------|-----------------------------|----|--|----|----------------------|
| Wettest year | <input type="text"/> | <input type="text"/> | mm | <input type="text"/> | mm | <input type="text"/> |
| 2 nd wettest | <input type="text"/> | <input type="text"/> | mm | <input type="text"/> | mm | <input type="text"/> |
| 3 rd wettest | <input type="text"/> | <input type="text"/> | mm | <input type="text"/> | mm | <input type="text"/> |
| 4 th wettest | <input type="text"/> | <input type="text"/> | mm | <input type="text"/> | mm | <input type="text"/> |
| 5 th wettest | <input type="text"/> | <input type="text"/> | mm | <input type="text"/> | mm | <input type="text"/> |
| 6 th wettest | <input type="text"/> | <input type="text"/> | mm | <input type="text"/> | mm | <input type="text"/> |
| 7 th wettest | <input type="text"/> | <input type="text"/> | mm | <input type="text"/> | mm | <input type="text"/> |
| 8 th wettest | <input type="text"/> | <input type="text"/> | mm | <input type="text"/> | mm | <input type="text"/> |
| 9 th wettest | <input type="text"/> | <input type="text"/> | mm | <input type="text"/> | mm | <input type="text"/> |
| 10 th wettest | <input type="text"/> | <input type="text"/> | mm | <input type="text"/> | mm | <input type="text"/> |

Site-specific water balance factors **TOTAL GAINS: 194 702.91 M3/A AND TOTAL LOSSES: 193 981.47**

If leachate is visible (for existing facilities only) mark with an X

Other site specific water balance factors (specify)

PLEASE REFER TO IWMMP P.152-157

1.13 **Details of the person in control of the site**

Surname

Initials &/or First Name

Title **ID No.**

Phone Number **Ext**

Fax Number **Cellphone**

E-mail Address

Highest Educational Qualification

Grade 8 / Std 6 Grade 10 / Std 8 Matric
 Diploma Higher Diploma Degree

2. OPERATION OF THE WASTE MANAGEMENT FACILITY

2.1 Type of operation

- Landfill or Landbuild Transfer station Recycling facility Incinerator
 Composting plant Storage area Treatment plant
 Encapsulation Other (specify)

Road within the mining footprint

2.2 Length of time of the operation

Start Date
(ccyymmdd)

2 | 0 | 1 | 6 | 0 | 3 | 2 | 0

End Date
(ccyymmdd)

2 | 0 | 3 | 2 | 0 | 1 | 2 | 0

2.3 Is sufficient cover material on site?

- Yes No

2.4 Covering and burning of waste (mark applicable options with an X)

- Daily compaction and covering Weekly compaction and covering
 Burning of waste

2.5 Is leachate management system present?

- Yes No

2.6 Storm water management (mark the applicable options with an X)

- Upstream cut-off trenches Contaminated storm water storage facility

3. MANAGEMENT PRACTICES OF THE WASTE MANAGEMENT FACILITY

Tick the options that describe the management practices for the waste facility or site

| | | | |
|-------------------------------|--|------------------------------|-----------------------------|
| Artificial Wetlands | Facility is generally lined (clay liners typically) and are designed to receive 120l/m ² /d at a depth of 30 cm. | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Stormwater and seepage drains | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Any other practice: | _____ | |
| Ash Dams/Dumps | Facility is lined (synthetic or clay) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Side slopes stabilized to minimize erosion | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Rainfall runoff collected into a dirty water storage facility | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Collection of percolated storm water via under drains into collection sumps, which should pump the water to a dirty water storage facility | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | For pits, ingress of water is prevented | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Any other practice: | _____ | | |
| Coal Dams | Lined facility (synthetic or clay liners) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Seepage drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Storm water drains in place & connected to the polluted storm water system | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Effluent in the dam is not of acidic pH | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Dam is covered to prevent contact with oxygen | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Facility does not maintain anaerobic conditions | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Any other practice: | _____ | | |
| Effluent Dams | Lined facility (synthetic or clay) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Facility has seepage drains | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Splitting of facility into 2 separate compartments for the purposes of cleaning and management | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Any other practice: | _____ | | |
| Evaporation Dams/Ponds | Lined facility (synthetic or clay) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Facility is of sufficiently large size to ensure that full evaporation of effluent is achieved | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Seepage drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Storm water collection drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Any other practice: | _____ | | |
| Forced Evaporation | Evaporation only with wind speeds less than 2m/sec | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | No evaporate pre-dawn as humidity is high | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Any other practice: | _____ | | |

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| | | | |
|-------------------------|--|------------------------------|-----------------------------|
| Maturation Ponds | Facility lined (synthetic or clay) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Facility designed to ensure at least 5 days retention time | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Storm water and seepage collection drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Any other practice: | _____ | |

| | | | |
|--------------------------|--|------------------------------|-----------------------------|
| Waste Water Ponds | Lined facility (synthetic or clay) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Storm water collection drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Seepage drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Any other practice: | _____ | |

| | | | |
|------------------------|--|------------------------------|-----------------------------|
| Open Cast Voids | Diversion of upslope storm water around the void | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Upstream diversion berms or management measures to prevent inflow of water into the void | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Prevention of water flowing into the void by using highball drains where necessary | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Ensure any water within the void is contained | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Any other practice: | _____ | |

| | | | |
|------------------------|---|------------------------------|-----------------------------|
| Oxidation Ponds | Lined facility (synthetic or clay) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Adequate structures in place to ensure capture of a 1:50 year storm event | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Seepage drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Storm water collection drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Any other practice: | _____ | |

| | | | |
|-----------------------------------|--|---|-----------------------------|
| Polluted Stormwater System | Storm water discharged directly to the resource | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Collection system incorporating the plant, raw material stockpiles and waste disposal facilities | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Clean stormwater separated from stormwater draining "dirty" sites or facilities | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Polluted stormwater collected & stored in dams | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Any other practice: | _____ | |

| | | | |
|--------------------------|--|------------------------------|-----------------------------|
| Return Water Dams | Sizing to accept seepage from the under drainage systems and decant systems for up to the 1:50 year rainfall event, over and above normal operating conditions | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Any other practice: | _____ | |

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| | | | |
|-------------------------------|---|------------------------------|-----------------------------|
| Sewage Treatment Works | Pump stations operational | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Emergency storage dam(s) available | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Adequate capacity in emergency storage dams | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Compliance with minimum discharge standards | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Stormwater collection system in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Adequate capacity to contain total volume | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Any other practice: _____

| | | | |
|------------------|---------------------------------------|------------------------------|-----------------------------|
| Silt Dams | Lined facility (synthetic or clay) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Stormwater collection system in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Seepage drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Any other practice: _____

| | | | |
|-------------------|---|------------------------------|-----------------------------|
| Slag Dumps | Stormwater collection system in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Seepage drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Separation of clean & dirty water | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Capacity to handle the 1:50 year storm event | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Collection of rainfall run-off into the dirty water storage facility | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | After decommissioning, the top surface is shaped to suit drainage requirements and re-vegetated | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Implementation of under drainage systems to collect seepage for re-use as process water | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Any other practice: _____

| | | | |
|-----------------------------|---|------------------------------|-----------------------------|
| Slimes/Tailings Dams | Stormwater collection system in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Seepage drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Separation of clean & dirty water | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Capacity to handle the 1:50 year storm event | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Collection of rainfall run-off into the dirty water storage facility | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | After decommissioning, the top surface is shaped to suit drainage requirements and re-vegetated | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Implementation of under drainage systems to collect seepage for re-use as process water | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Covering of side slopes with soil during the operational phase to assist in reducing any contact of rainfall runoff with the tailings | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Vegetation of side slopes to minimise erosion | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Any other practice: _____

Continued on next page

| | | | |
|---------------------------|--|------------------------------|-----------------------------|
| Sludge Drying Beds | Facility is lined (synthetic or clay) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Seepage drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Storm water drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Moisture reduction of sludge | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Incorporation of sludge into soil | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Leachate management system in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Mixing of high moisture content or liquid waste with dry waste | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Any other practice: _____

| | | | |
|-----------------------------|--|------------------------------|-----------------------------|
| Sludge Ponds/Lagoons | Facility is lined (synthetic or clay) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Seepage drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Storm water drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Capacity to handle the 1:50 year storm event | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Any other practice: _____

| | | | |
|------------------------|--|------------------------------|-----------------------------|
| Waste Rock Dump | Stabilisation of side slopes to minimise erosion | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Rainfall runoff collected into a dirty water | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Covering of terraces or step-ins with a soil layer, followed by paddocking & vegetation to minimise ingress of water into the dump | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Collection of percolated stormwater via under drains into collection sumps which should pump the water to a dirty water storage facility | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Any other practice: _____

| | | | |
|----------------------|--|------------------------------|-----------------------------|
| Waste Storage | Lined facility (synthetic or clay) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Leachate management system in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Leachate detection layer in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Leachate collection layer in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Seepage drains in place | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Stormwater drains in place & connected to the polluted stormwater system | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| | For pits, ingress of water is prevented | | |

Any other practice: _____

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