




environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

RISK MANAGEMENT PLAN IN TERMS OF REGULATION 10 OF WASTE EXCLUSION REGULATIONS

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|---------------------------------|---|
| APPLICANT | Anglo American Platinum– Rustenburg Platinum Mines Limited |
| SOURCE(S) OF WASTE | Slag generated in the Smelter by the pyro-metallurgical processing, of PGM Concentrates from a variety of Anglo American Platinum Concentrators |
| WASTE TO BE BENEFICIATED | Slag contained in the waste facility located at the Mortimer Smelter |
| BENEFICIAL USE/S | Dust suppression on unsurfaced areas |
| | Abrasive for pneumatic air blasting |
| | <ul style="list-style-type: none"> • Mining materials <ul style="list-style-type: none"> ○ Rock Support (replacement of wood packs) ○ Insulation ○ Thin skin liners (rigid and flexible) |
| | <ul style="list-style-type: none"> • Building materials <ul style="list-style-type: none"> ○ Bricks (light and heavy) ○ Roofing (insulated or plain) ○ Walling (hollow core and insulated) ○ Castable insulation slabs ○ Castable /machinable profiles ○ Aggregate in standard building products ○ Light building products |
| | <ul style="list-style-type: none"> • Environmental <ul style="list-style-type: none"> ○ Cement foam for thermal or acoustic insulation ○ Thermal insulation |
| | Road aggregate, surfacing and underburden |
| | Construction fill |
| | Backfill |

| | | | |
|--|-----------------------------|---|-----------------|
| | Mineral fibres | | |
| | Rock wool | | |
| MSDS ATTACHED IF HAZARDOUS | YES |  | |
| WASTE GENERATING FACILITY | Mortimer Smelter | | |
| PHYSICAL ADDRESS | Blackwell Highway | | |
| | Swartklip | | |
| | North West | | |
| GPS CO-ORDINATES OF WASTE GENERATING FACILITY (EG. 60° 29' 30" Latitude; 34° 20' 15" Longitude) | NUMBER OF CORNERS | LONGITUDE | LATITUDE |
| | 1 | 27° 8'26.26"E | 24 24°58'4.72"S |
| | 2 | 27° 8'35.48"E | 24°57'59.46"S |
| | 3 | 27° 8'42.48"E | 24°57'59.89"S |
| | 4 | 27° 8'45.90"E | 24°58'8.25"S |
| | 5 | 27° 8'39.38"E | 24°58'12.82"S |
| | 6 | 27° 8'28.80"E | 24°58'10.52"S |
| POSTAL ADDRESS | P.O. Box 8208 | | |
| | Rustenburg | | |
| | 0300 | | |
| CONTACT PERSON | Sam Ngaka | | |
| TELEPHONE | 014 786 1091 | CELL: | |
| EMAIL | Sam.ngaka@angloamerican.com | FAX: | |

RISK MANAGEMENT PLAN

| Activity | Risk Description | Action(s) to minimise/ manage the risk | Responsibility (Who is responsible to carry out the action) |
|---|---|--|---|
| Deterioration of workers health if the appropriate Personal Protective Equipment (dust mask, overall and eye protection) is not utilised when working with Slag | Deterioration of workers health if the appropriate Personal Protective Equipment is not utilised when working with Slag | <p>Access to the site to be limited only to authorised personnel</p> <p>Workers to utilise all required PPE to limit dermal exposure and risks to eyes as specified in the SDS when potentially exposed to slag</p> | Receiving site. |
| Transportation between generator and users, generating dust | Other road users and communities along the transport route may experience a deterioration of health if repeatedly exposed for a sufficiently long period | Slag transportation is to occur with vehicles equipped with covers with no tears or significant deterioration. Covers must be secured around the perimeter to reduce the potential air contact with slag transported | Receiving sites transport contractor |
| Raw material storage at site of reuse | Slag is not appropriately stored, and runoff managed with the result that sediments wash from the stockpile onto adjacent soils and into adjacent water courses | <p>Slag to be stored on a low permeability base capable of limiting infiltration into the underlying soils.</p> <p>Storage area to be equipped with storm water control mechanisms to contain runoff as per statutory requirements</p> | Receiving site |

| Activity | Risk Description | Action(s) to minimise/ manage the risk | Responsibility (Who is responsible to carry out the action) |
|---|--|---|---|
| <p>Manufacturing using slag</p> | <p>Slag particulates actuated during manufacturing processes using slag, which then come into dermal contact or contact with eyes, with a subsequent deterioration in workers' health</p> | <p>Access to the site to be limited only to authorised personnel</p> <p>Workers to utilise all required PPE as specified in the SDS when potentially exposed to slag</p> | <p>Receiving site</p> |
| <p>Storage of slag at users premise potentially generating leachate during rainfall</p> | <p>Although the leach testing undertaken on slag indicates that the leachable fractions are below the Leachate Concentration Threshold 1 of the Norms and Standards, mobilisation of low concentrations of salts and metals during rainfall may accumulate in the soils underlying the storage site</p> <p>Although the leach testing undertaken on slag indicates that the leachable fractions are below the Leachate Concentration Threshold 1 of the Norms and Standards, mobilisation of low concentrations of salts and metals during rainfall may migrate into the aquifer below the storage site</p> <p>Although the leach testing undertaken on slag indicates that the leachable fractions are below the Leachate Concentration</p> | <p>Slag to be stored on a low permeability base capable of limiting infiltration into the underlying soils.</p> <p>Storage area to be equipped with storm water control mechanisms to</p> | <p>Receiving site</p> <p>Receiving site</p> <p>Receiving site</p> |


| Activity | Risk Description | Action(s) to minimise/ manage the risk | Responsibility (Who is responsible to carry out the action) |
|----------|---|--|---|
| | Threshold 1 of the Norms and Standards, mobilisation of low concentrations of salts and metals during rainfall into runoff that is then discharged to an adjacent water course may increase salt load of the water course | contain runoff as per statutory requirements | |

DECLARATION

I, GORDON LESLIE SMITH, hereby declare that I have read the completed Risk Management form and hereby confirm that the information is to the best of my knowledge true and correct.

Furthermore, I declare that I am fully aware of my responsibilities in terms of the Waste Exclusion Regulations, and that failure to comply with these Regulations may constitute an offence in terms of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008).

Applicant (Full names) ANCIO AMERICAN PLATINUM - RUSTENBURG PLATINUM MINES LTD
Designation EXECUTIVE: TECHNICAL

Signature  G. SMITH
Date 21 AUGUST 2018 Place JOHANNESBURG

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|------------------|------------|--|------------------------------------|--|
| Date Received | | | | |
| Decision Taken | Authorised | | Not authorised (provide reason) | |
| Reference Number | | | | |