



TRIPLE 7
HOLDINGS



MUISVLAK
DIAMOND MINE

**PROCEDURES
AND SAFETY**

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OBJECTIVE

The purpose of this procedure is to outline the safe and efficient methods and procedures of performing manual bedrock sweepings.

SCOPE

This procedure applies to employees who are responsible for bedrock operations as specified in this procedure.

PROCEDURE

a) **Type and Number of equipment being used.**

The Bedrock sweeping operations will be centred on the use of two Atlas Copco XAS Compressor Trailers attached to 4 x 4 Cab Bakkie and operating with two RTEX Breakers per trailer compressor.

The material will then be loaded with a Bobcat S850 Skid Steer Loader onto a Volvo 10m³ Tipper Truck to then be hauled to the processing plant.

9 x Shovel and 9x Picks will be used to loosen material and 12 x Shovel and 12x Wheelbarrows will be used to transport material for loading.

Later operations will include an 18ton excavator with a flat blade bucket to increase productivity in sweeping operations.

b) **Proposed number of employees (bedrock teams, 1=about 10).**

The teams will consist of:

- A Ganger,
- 2x Jack Hammer operators,
- 3x Clearing Shovel men or "Navvies",
- 4x Loaders and Wheelbarrow men.

c) **METHODOLOGY: to extract diamondiferous material/gravel from the bedrock, i.e. shovels, picks, jackhammers etc.**

Jack Hammer Teams will loosen all solid compacted material on the surface of the bedrock. Navvies will then remove all loose material with pick and shovel to be loaded by Loader onto wheelbarrows to be transported for processing by means of waiting Skid Steer Loader and Tipper Truck.

d) **LOADING & TRANSPORTING OF MATERIALS**

Material will be loaded onto the waiting tipper truck by means of a Bobcat Skid Steer Loader as this will improve efficiency and reduce downtime on production teams.

**e) SHIFTS.**

We plan on having day shifts initially.

Shifts will run from Monday – Saturday.

Each Shift will accommodate for two teams thus having a team operational per compressor and we will want to employ two shifts a day to reach optimum productivity.

On reaching full production we plan to be operational 24hours a day to achieve maximum results. The three shifts we will have in place by then will ensure that we have operations running 7 days a week with enough rest times for the teams to ensure maximum productivity.

SAFETY

- a) In all mines the site foreman, together with the team leader and safety representative shall undertake a risk assessment before any sweeping operations commence.
- b) In all faces where the height of the high wall is greater than 8 metres, no person may enter the area 5 metres from the high wall. This area (safety barrier zone) will be clearly demarcated using drums or danger tape. No person may work in this area unless under the supervision of at least the team leader.
- c) The team leader, together with the safety representative shall examine the working place and high walls for any unsafe conditions at the start of every shift. Any unsafe conditions found are to be noted in the safety representative's report book and all unsafety conditions must be dealt with immediately.
- d) The team leader must explain to his team what safety equipment they must wear whilst working, e.g. hard hats, goggles, safety boots, gloves, earmuffs/earplugs and aprons.

NB: This safety equipment must be checked on a daily basis.

- a) Never wear loose or torn clothing to work – it could causes in serious injury.
- b) The four steps to safety must be adhered to at all times and applied to prevent accidents as well as incidents.
- c) Is this a dangerous situation?
- d) Are there tools or equipment being used dangerous?
- e) Are the men doing anything dangerous?
- f) What am I going to do it now?
- g) Unless specifically authorised no one may drive any vehicle or operate any earthmoving machine.
- h) If a person is injured whilst on duty, no matter how light, it must be reported to the site foreman immediately.
- i) All injuries must be treated.



- j) Horseplay is strictly forbidden.
- k) Team leaders must be in possession of a valid first aid certificate.
- l) In case of emergency – injury – accident report to the site foreman who will notify the paramedic on duty.
- m) Any person who is under the influence of alcohol or drugs must be reported immediately to the site foreman – do not ignore or cover – up for such persons they pose a danger to themselves and to their fellow workers.

GOOD HOUSEKEEPING

- (a) This means keeping the work place and equipment neat and tidy, and everything in its place.
- (b) Rubbish must be placed in the bins provided.
- (c) Equipment that is not being used must be stored in a proper place.

HYGIENE FACILITIES

- (a) Tea room – is supplied for use during breaks and lunch.
- (b) A drinking water tank will be provided for drinking water.
The team leader must see that the tank is cleaned on regular intervals; it must be covered to avoid insects from entering.
- (c) Rubbish bins will be placed conveniently near the caravan.
- (d) Toilet must be within a reasonable distance of the work place. The team leader must see that it is kept clean and tidy and that there is enough toilet paper and sanitary liquids available.

GENERAL RULES

- (a) Working hours Monday to Saturday : 07h00 – 16h00
- (b) Breaks are allowed from 10h00 – 10h30 and from 13h00 – 13h30

START OF SHIFT

Before commencing work, the team leader must always ensure that the work place is safe by doing the following:

- (a) Give 5 minutes safety talk at the start of shift
- (b) Ensure that if there is a new member of the team that induction has been given and that the person is aware of the work place procedures.
- (c) Ensure that the safety zone in high wall areas is clearly marked out according to this procedure.
- (d) Check that the high walls are safe and then sign the team leader's high wall inspection book,
- (e) Check for any accessible overhangs and bar them down as any loose or dislodged rocks.
- (f) Remove all loose material from sidewalls
- (g) Check all equipment namely: picks, shovels, moil points, hammers, crowbars, blowpipes, pavement breakers and pipe joints.



- (h) Report any faulty equipment immediately to the site foreman.
- (i) See that the compressors are checked and the checklists are completed.
- (j) Check that all safety chains on pipe connections are secured.
- (k) Check the first aid box: it must be fully equipped, it should be locked and the key must be kept by the team leader or first aider.
- (l) Check that all personnel are present and the time sheets are completed.
- (m) The team leader must check that his team is sober.
- (n) Check the work space of the sweepers – sweepers must not work too close to each other.
- (o) Never allow open fires in the work place.

HAND TOOLS AND EQUIPMENT USED FOR SWEEPING

- (a) Shovel – used to shovel gravel and sand forward
- (b) Pick – used to break up partially loose bedrock, calcrete and thin layers of conglomerate
- (c) Crowbar – used to work heavy rocks or conglomerate if laying on gully edges it is also used to levering boulders.
- (d) Hammer – used to break up small conglomerate.
- (e) Blowpipe – is used to blow loose material from the bedrock.
- (f) When using the abovementioned equipment always use the correct personal protective equipment.
- (g) When using the blowpipe always work up wind of the dust.

COMPRESSORS

- (a) The compressor is used to supply compressed air to the pavement breakers and blowpipe
- (b) The team leader must ensure that the pre start check is completed before the machine is started at the beginning of the shift.
- (c) Compressors must be parked on level ground and chocks placed under both wheels.

NB Compressed air must not be used to clean clothing or applied to dust off workers

PAVEMENT BREAKERS

- (a) The function of the pavement breaker is to break up larger patches of conglomerate or loosen hard and compacted material that can be removed without blasting.
- (b) Before operating check all pipe connection and ensure it is secured.
- (c) Inspect for loose bolts, nuts and cracks.
- (d) Blow compressed air through the air hose before connecting pavement breaker.
- (e) Compressed air hoses must be secured to the pavement breakers with safety chains and to the pipe joints and compressor.