# MINES RESCUE SERVICES South Africa

#### VERTICAL MINE SHAFT RESCUE AND RECOVERY

Operation at 1 289m - a World-First Success

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# ✓ What is difference between artisanal and illegal mining \_\_\_\_\_



Artisanal Mining

**Definition**: Small-scale mining carried out by individual to all small groups using

basic tools and techniques.

**Legal Status**: Can be **legal** or **informal**, depending the status of th

regulations.

Nillegal Mining

**Definition**: Mining activities that are a city prohibited by law or carried out without

proper authorization.

Legal Status: Always illegal egachess of the scale.

"Vala Umgodi" is a South African government operation aimed at combating illegal mining activities and related crimes.

## Copyright

#### Stilfontein Buffelsfontein Mine 11 Shaft





• 22 Nov to 10 Jan

Google Earth
Data SIO, NOAA, U.S. Navy

Stand-off scenario

246 Alive and 78 Deceased = 324 Total

#### Summary

#### **✓ FACTS**

- Huge Media Presence and International news – often sensation driven reporting
- Social Impacts Human Rights abuses, solicitation, violence, substance abuse
- Environmental Damage pollution, deforestation, infrastructure
- Economic Losses taxes, royalties and stolen minerals
- Organised Crime What illegal actions happen in the Background?



Continued collaboration and partnerships with host communities, industries, government and law enforcement is crucial

## **Shaft Descending Methodologies**



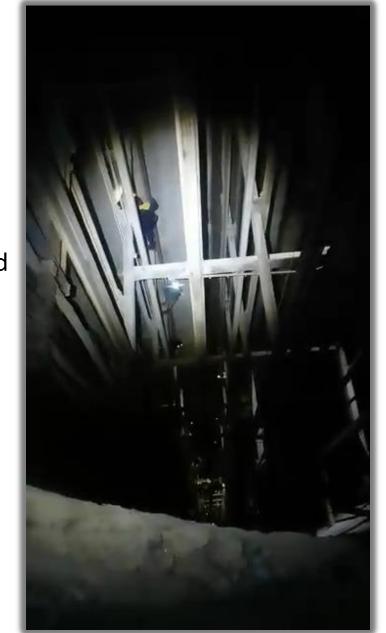


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#### Shaft Descending Methodologies



- > Depths of more than 2 000m
- Dedicated Lowering Teams
- Communication by means of cell phones and vuvuzelas and letters attached to ropes





#### **Shaft Descending Methodologies**





Sadly and unfortunatly some fall and do not survive



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#### **Shaft Ascending Methodologies**





- > 1 289 meters (4 230 feet)
- Stated +/- 480 to 550 persons UG
- +/-2 hrs hand hoist round trip
- 2 hrs per day food lowering (1 trip max 120 kg food)
- 6 hrs per day hoisting
- Self hoisted could have been @ 8 hrs /day -108 days



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#### **Initial Site Inspection**





Inaccessible with the Mobile Rescue Winder



### Camera Inspection Methodologies





- Establish facts on situation
- Possible communication and negotiations



#### Camera Inspection Findings





#### Camera Inspection Findings





- Responded +/- 550 people and all want to surface
- Many deceased and situation critical



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#### Possible Second Evacuation Option





- Holed Shafts on different elevation tunnels
- Imploded Head Gear
- Physical condition of persons



## MINES RESCUE SERVICE South Albica

#### Possible Second Evacuation Option



- +/- 5km Walk and Elevation Differences
- Physical condition of persons impossible

## yright

#### **Actual Conditions**



- Ground Preparations for safe working conditions
- Prevention of damage to equipment
- +/- 45Ton MobileRescue Winder access



## **Road Entrance Preparation**





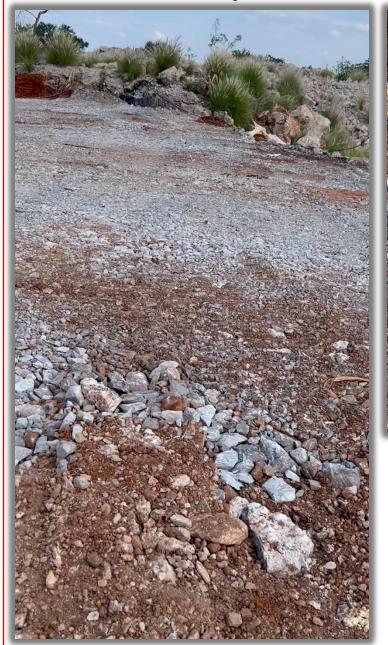
#### **Supplies During Preparation**



#### **✓ FACTS**

Last Opportunity was given to illegals to lower food and supplies underground, prior rescue operations as they did not understand that the rescue winder will send down supplies during the operation.

#### **Ground Preparations**



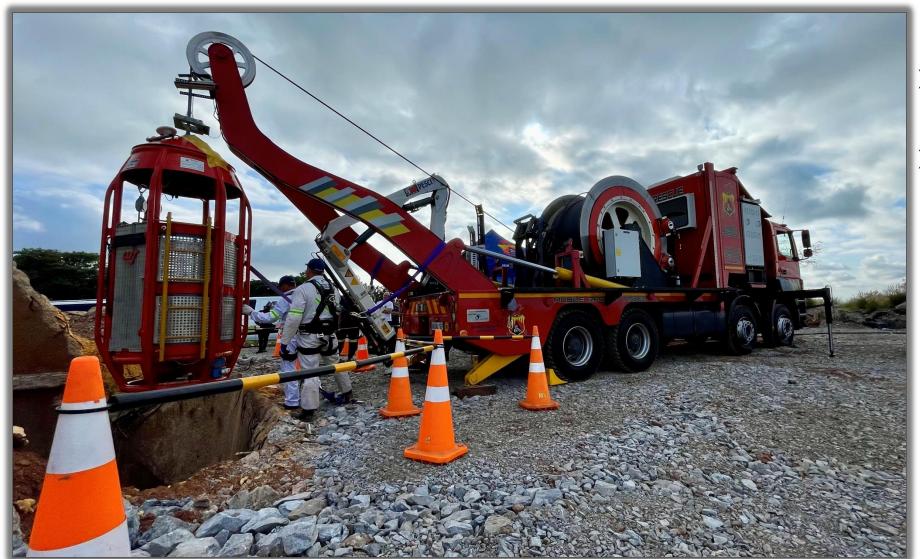


### **✓ FACTS**

Heavy Rains created safety challenges and high risks



#### **Shaft Descending Methodologies**





- At last, after 2 days groundwork
- > At risk weather

#### First Cage Hoisted





- Initial reaction from Illegals
- 6 Man cage, we loaded up to 13 persons
- Weak condition of persons

#### First Cage Hoisted





- Exact position to ensure readiness at all times
- Preparation on arrival at Surface



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## Communication Methodologies





Policed scanned all food for intel or weapons and communications



#### **Bodies Recovered**



- Body's bagged by Illegals during the night
- Loaded alternately between persons being hoisted

#### **Bodies Recovered**



- Removed asap for hygiene purposes
- Separated from "Alive" section processing

#### Were we Safe?





- Camera Surveillance
- Unknowns During Operation?

#### Summary – Fact Sheet

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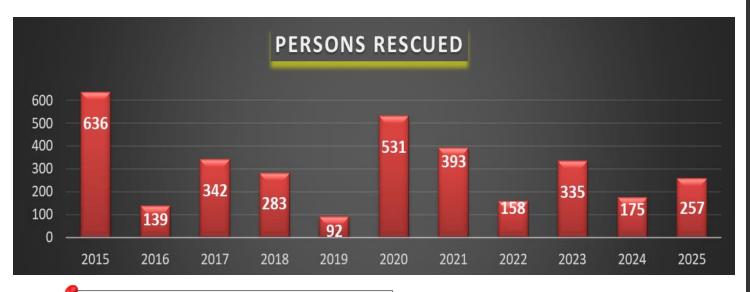
South Africa

- Day 1 = 26 Alive 9 Deceased
- Day 2 = 106 Alive 51 Deceased
- 3 Day 3 = 114 Alive 18 Deceased

Total = 34 Trips

~ 40 min round trip

~ 9 minutes Loading



3 341 persons rescued by our Rescue Team Members in 10 years

246 Alive

78 Deceased

= 324 Hoisted Total

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## WORLD FIRST



#### **✓ SALUTE**

- Dirk Odendaal
- Dawie Jacobs
- Willem Botha
- Quentin Shanahan
- Wynand Aveling
- Akhona Mthelekiso
- Danie Prinsloo
- Divan Naude
- Mannas Fourie
- William Phefo
- Donovan Williams
- Daan Smith
- Ruaan Jacobs (in front)



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