

WASTE KHORO 2019: Asbestos and Land Remediation Summit

18-20 September 2019

"Good Green Deeds towards a Recycling Economy and Sustainable Land Remediation"



TRANSNET



Case study on evaluation of Asbestos fibres across railway lines



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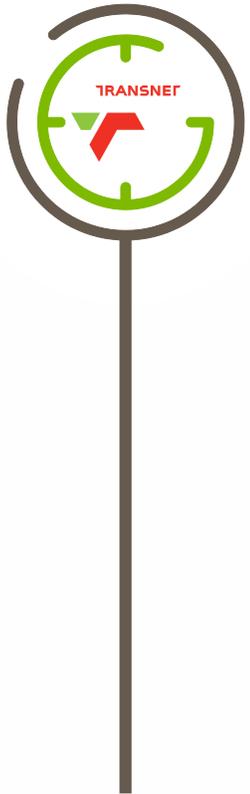
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Who is Transnet?



Rail		Ports		Pipelines	Supporting
<p>Transnet Freight Rail (TFR)</p>  <ul style="list-style-type: none"> • 30 400 km of railway track. General freight & 2 heavy haul export lines 	<p>Transnet Engineering (TE)</p>  <ul style="list-style-type: none"> • Support TFR for rolling stock and TPT for lifting-equipment maintenance 	<p>Transnet National Ports Authority (TNPA)</p>  <ul style="list-style-type: none"> • 8 Commercial ports along 2 798 km of coastline 	<p>Transnet Port Terminals (TPT)</p>  <ul style="list-style-type: none"> • 16 Cargo Terminals operating across 7 SA ports 	<p>Transnet Pipelines (TPL)</p>  <ul style="list-style-type: none"> • 3 800 km of pipelines 	<p>Transnet Group Capital Transnet Foundation Transnet Property</p>  <ul style="list-style-type: none"> • Projects execution • CSI • Property Management

Transnet International Holdings is a subsidiary of Transnet SOC Limited. Recently incorporated as a vehicle through which the company participates in international business activities.

The history of asbestos in Transnet



- Asbestos is an indigenous **fibrous mineral** that has been mined in a number of sites in Southern Africa.
- The handling of Asbestos Ores and processed Asbestos Containing Products for export market through Transnet's railway transportation networks, over time resulted in the **historical contamination**.
- Transnet used to transport asbestos ores and Asbestos Containing Products from mines to harbours for exports and to various customers through rail networks in the early years.
- Coupled with that, Asbestos Containing Material was removed during the servicing of locomotives, and was incorrectly disposed of.
- The majority of the asbestos was buried at various locations within Transnet operations. Moreover, asbestos ore spillages en-route and during shunting processes occurred due to incorrect loading profile patterns and derailments. This resulted in contamination.
- The problem was further exacerbated by dispersal of asbestos fibres caused by run-off from rain and prevailing windy conditions.
- **Affected Areas include:**
 - Main lines at corner bends along the railway lines;
 - Depots or shunting yards and the ports;
 - Historical derailment sites where asbestos ores were involved;
 - Historical coaches stripping areas; and
 - Historical locomotives servicing stations.

Legislative Context



- **1. Constitution of South Africa (Act 108 of 1996), Section 24**
 - Provides that "everyone should have an environment that is not harmful to their health or well-being".
- **2. Asbestos Regulations promulgated in terms of Section 20 of the Environment Conservation Act, 1989**
 - Requires the phasing out of asbestos.
 - Prohibits the use, imports and export of asbestos containing material.
 - Provides regulatory requirements on disposal, packaging and transportation of asbestos containing material.
- **3. Asbestos Regulations 55 published in terms of Occupational Health and Safety Act, 1993**
 - Regulates the undertaking of Asbestos Remediation Work.
- **4. National Environmental Management Act 107 of 1998 ("NEMA")**
 - Section 28 (Duty of Care) requires remediation of contaminated land and prevention of pollution.
- **5. National Environmental Management: Waste Act 53 of 2008 ("NEMWA")**
 - Part 8 - Remediation of Contaminated Land
 - A legal obligation is placed on an owner of land, which land is significantly contaminated or a person who undertakes an activity that caused the land to be significantly contaminated, to notify Department of Environmental Affairs ("DEA") in writing. After notification, DEA may issue a Section 37 Directive to undertake a site assessment and ultimately rehabilitate the land.
- **6. Occupational Health and Safety Act, 1993**
 - A Prohibition Notice may be issued in terms of Section 30 of the Act, resulting in work stoppage.

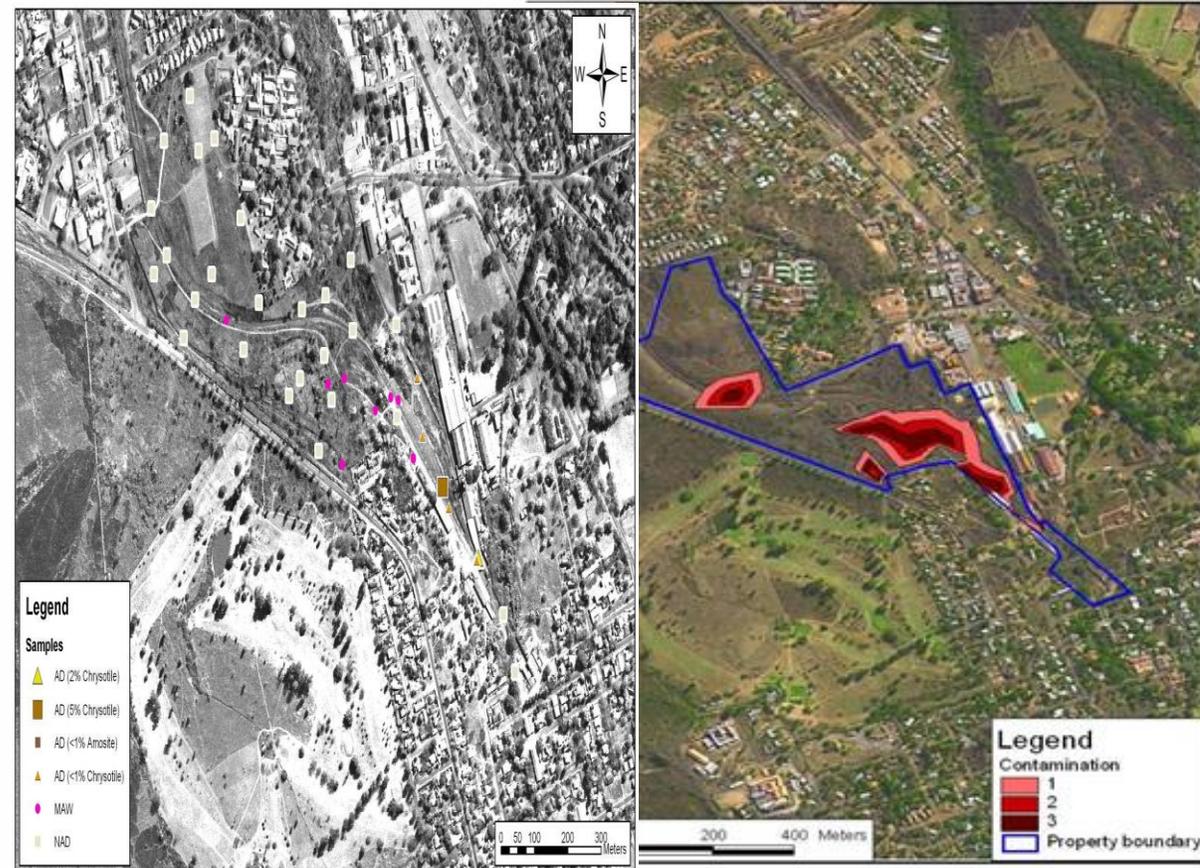




Transnet approach to understanding and managing asbestos



- Studies have described a link between occupational exposure to various types of asbestos and lung cancer and associated diseases.
- In response to Asbestos Regulations promulgated and the Occupational Health and Safety Act, Transnet initiated the phasing out of the use of Asbestos and Asbestos Containing Products, and instituted a moratorium on the transportation thereof.
- Transnet has identified several sites countrywide that pose a risk.
- To reduce the risk of Transnet-induced spread of occupational illnesses, these sites have been identified and will be remediated and rehabilitated.
- To date, initiatives to rehabilitate contaminated areas have been focusing on the cleaning of asbestos in high risk areas.



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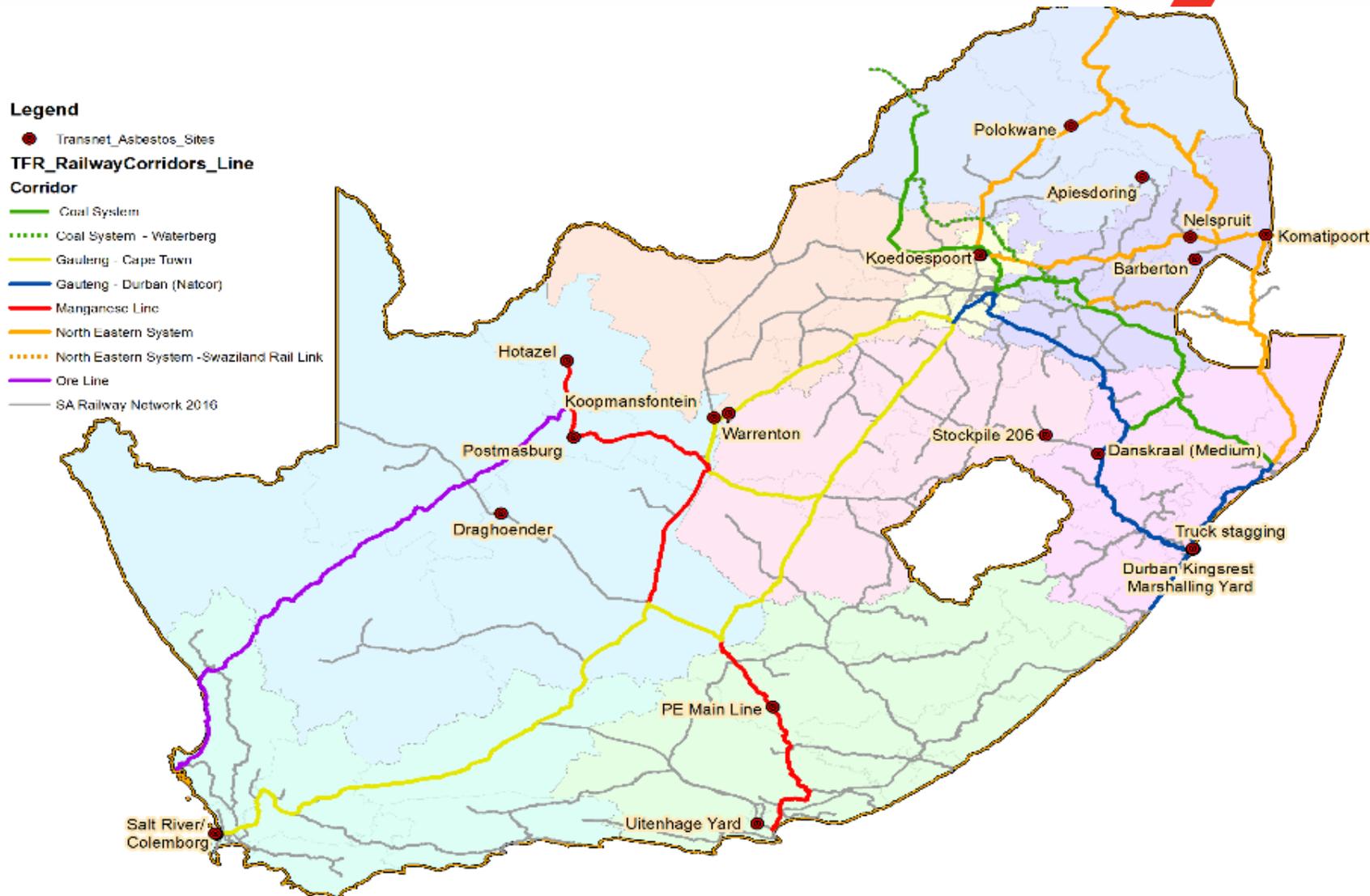


Asbestos Management Programme: High-Risk Transnet Sites Requiring Remediation



Legend

- Transnet_Asbestos_Sites
- TFR_RailwayCorridors_Line
- Corridor
- Coal System
- Coal System - Waterberg
- Gauleng - Cape Town
- Gauteng - Durban (Natcor)
- Manganese Linc
- North Eastern System
- North Eastern System -Swaziland Rail Link
- Ore Line
- SA Railway Network 2016



Summary of Sites:

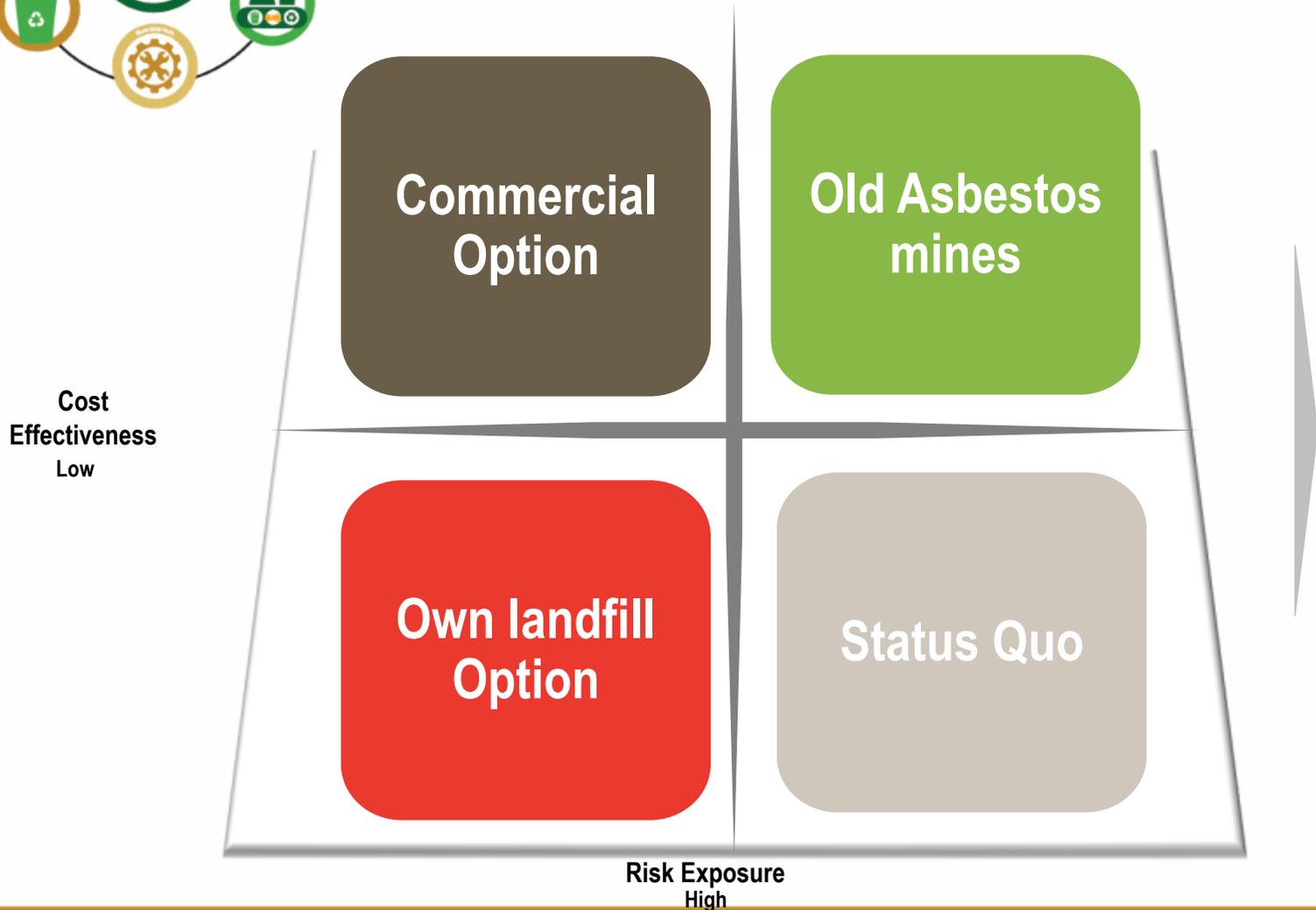
- **24 sites** (13 – TFR; 5 – TE; 4 – TNPA; 2 - TP)
- Estimated Area Contaminated: **365 ha**
- Estimated Volumes: **792562 m3**
- Approximately **1 Million Tonnes**

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Asbestos Management Programme: Plausible Options



Commercial Option:

Low Risk Exposure, Low Cost Effectiveness

The transfer of risk to the private sector would come at a high cost. However, it will mitigate most of the risk exposure facing Transnet.

Own Landfill Option:

High Risk Exposure, Low Cost Effectiveness

Onerous process of obtaining authorisations and high risk of community uproar. Cost effectiveness is low due to ongoing monitoring actions required to operate and manage the landfill. There is no transfer of risk, and legal liability remains with Transnet.

Status Quo Option:

High Risk Exposure, High Cost Effectiveness

Maintain a minimum requirement of *Adhoc* clean up with high probability of risk exposure and continued reputational risk.

Old Asbestos mines:

Low Risk Exposure, High Cost Effectiveness

Transfer of risk to current old asbestos mines Programme and increase cost effectiveness due to leveraging existing landfill sites and tried and tested already existing methodologies.

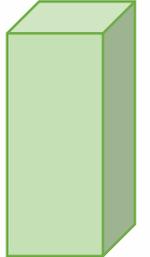
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Asbestos Management Programme: Transnet's Asbestos Journey to Date



3393.05 tonnes



2014

- TFR lodges EIA application for the conversion of De Aar Quarry into an Asbestos Landfill Site with the DEA.

- TRF lodges application for Waste Licence

- Transnet Group issues a RFI to gather information from potential service providers to establish the availability of suitable options for remediation of asbestos contaminated sites.
- RFI yields poor results, with only 1 technological option in the responses. However, the option has not been tried and tested in a similar environment.

2015

- TFR receives positive Environmental Authorisation and Waste License.
- Interested and Affected Parties lodge an appeal against De Aar Quarry conversion.

- TE lodges EIA application for Landfill site at Koedoespoort.
- TE lodges a Notification for remediation in terms of NEMWA Part 8.
- TE prepares and submits a Site Assessment report to the DEA.

2016

- TE requested to revise Site Assessment Report and investigate other options by the DEA.

- Transnet initiates a process to investigate collaboration in the Derelict Asbestos Mine Rehabilitation Programme.

2017

- Possibility of collaboration on railway lines and derelict asbestos mine rehabilitation programme.

- Possibility of utilizing existing municipal landfill sites (cells).

2018 - 2019



Challenges

- Adequate funding
- Extreme weather events
- Legislative compliance
- Insurance claims
- Availability of hazardous landfill sites across South Africa
- High cost of disposal at private landfill site
- Classification of asbestos as hazardous waste
- Unproven technologies for asbestos treatment technologies options in the market



Thank you