



REGULATORY FRAMEWORK ON REMEDIATION OF CONTAMINATED LAND IN SOUTH AFRICA

Land Remediation Stakeholder
Workshop
06 March 2024



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Presentation outline

- ❖ Legislative Framework
- ❖ Part 8 of the Waste Act Process
- ❖ Norms and Standards for Remediation of Contaminated Land and Soil Quality
- ❖ Conclusion



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Legislative Framework

- ❖ **RSA Constitution Bill of Rights:** states that ‘Everyone has a right to an environment that is not harmful to their health and well-being’
- ❖ **National Environmental Management: Waste Act (2008):** Part 8 of the Waste Act provide a detailed approach for the management of contaminated land in the country.
- ❖ **National Norms and Standards for the Remediation of Contaminated land and Soil Quality (2014):**
 - provide uniform national approach to determine the contamination status of an investigation area;





Part 8 of the Waste Act

- ❖ Part 8 came into effect on the 2nd May 2014.
- ❖ Part 8-
 - Outlines the processes that must be followed in management of contaminated land in the country
 - It applies to historic and current contaminated land
 - It applies Source-Pathway Receptor Model
 - Governed by Polluter-Pay, Duty of Care and Sustainability Principles





Approaches for identification and notification of investigation area

- High risk activities (Consultative processes in terms of S72 and 73)
- An owner of the land that is **likely** to be contaminated, or a person who undertakes an activity that caused the land to be contaminated.
- The department may issue written notice to person who caused contamination.





Consequence of identification and notification of investigation area

- ❖ Compilation and submission of a site assessment report (SAR) and **Remediation Plan (if applicable)**. The SAR must at least contain information on whether—
 - the contamination has already impacted on health or the environment;
 - the substances present in or on the land are toxic, persistent or bioaccumulative or are present in large quantities or high concentrations or occur in combinations;
 - there are exposure pathways available;





Consequence of identification and notification investigation area

- the acceptable exposure for human and environmental receptors in that environment have been exceeded;
- Contaminants have migrated or likely to migrate
- any applicable standards have been exceeded; and
- the area should be remediated, or any other measures should be taken to manage or neutralise the risk.





Consideration of Site Assessment Report

- ❖ On receipt of a site assessment report and **Remediation Plan (if applicable)** the department may, after consultation with the Department Water and Sanitation and any other organ of state concerned, decide that—
 - (a) the investigation area is contaminated, presents a risk to health or the environment, and must be remediated urgently;
 - (b) the investigation area is contaminated, presents a risk to health or the environment, and must be remediated within a specified period
 - (c) the investigation area is contaminated and does not present an immediate risk, but that measures are required to address the monitoring and management of that risk; or
 - (d) the investigation area is not contaminated.





Transfer of remediation site

No person may transfer contaminated land without informing the person to whom that land is to be transferred that the land is contaminated and without notifying the Department and complying with any conditions that are specified by the Department, as the case may be



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National Contaminated Land Register

- ❖ The National Department must keep a national contaminated land register of **contaminated sites** that includes information on—
 - (a) the owners or any users of contaminated sites;
 - (b) the location of investigation areas;
 - (c) the nature and origin of the contamination;
 - (d) whether an investigation area—
 - (i) is contaminated, presents a risk to health or the environment, and must be remediated urgently;





National Contaminated Land Register

- (ii) is contaminated, presents a risk to health or the environment, and must be remediated within a specified period;
- (iii) is contaminated and does not present an immediate risk, but measures are required to address the monitoring and management of that risk
- (e) the status of any remediation activities on contaminated site.

The NCLR can be accessed on www.sawic.environment.gov.za



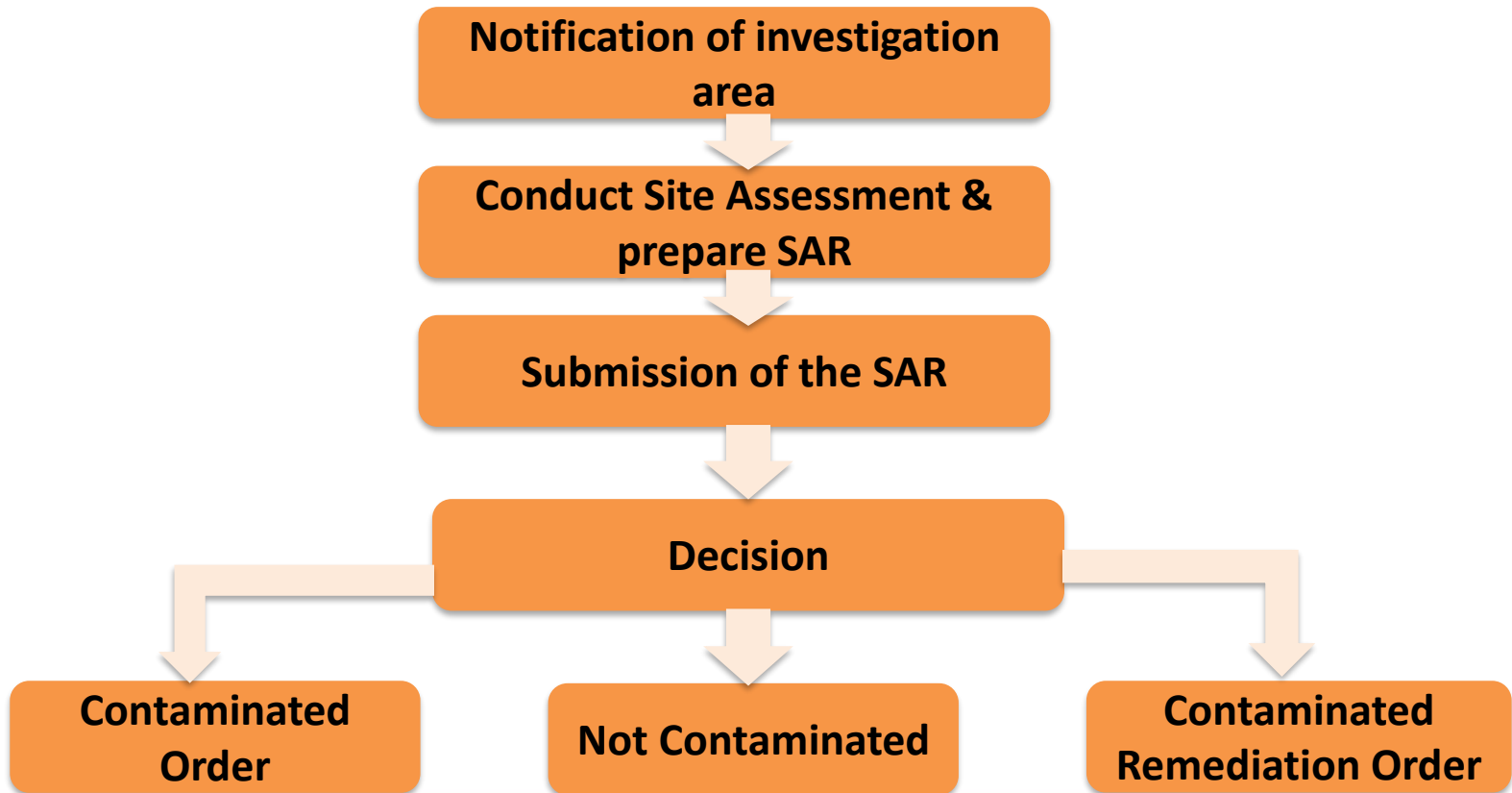
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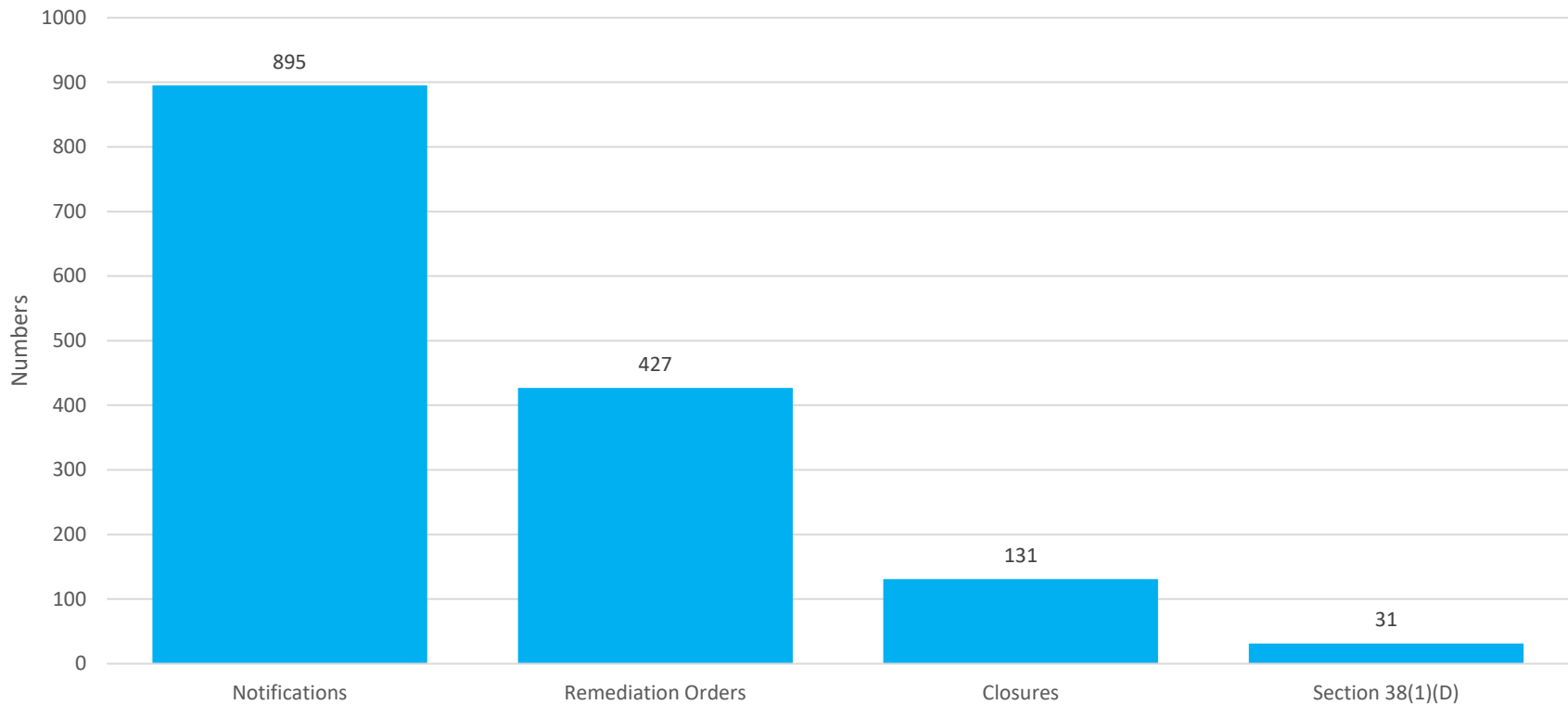
Process flow of Part 8 of Waste Act





Land Remediation at Glance - 2014 to date

Land Remediation since 2014



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Norms and Standards for remediation of contaminated land and soil quality

- ❖ Has Table 1 (**Soil Screening Values for Metals and Organics**) and Table 2 (**Soil Screening Values for Anions**).
- ❖ Where a contaminant is not listed in Table 1 or Table 2, International guidelines are being used for screening and development of remediation objectives.
- ❖ The standards do not apply in circumstances where natural background concentration exceeds the values provided in the standards.





Table 1: Soil Screening Values for Metals and Organics

Parameter	Units	SSV1 All Land-Uses Protective of the Water Resource	SSV2 Informal Residential	SSV2 Standard Residential	SSV2 Commercial/ Industrial
<i>Metals and metalloids</i>					
Arsenic	mg/kg	5,8	23	48	150
Cadmium	mg/kg	7,5	15	32	260
Chromium (III)	mg/kg	46 000	46 000	96 000	790 000
Chromium (VI)	mg/kg	6,5	6,5	13	40
Cobalt	mg/kg	300	300	630	5 000
Copper	mg/kg	16	1 100	2 300	19 000
Lead	mg/kg	20	110	230	1 900
Manganese	mg/kg	740	740	1 500	12 000
Mercury	mg/kg	0,93	0,93	1,0	6,5
Nickel	mg/kg	91	620	1 200	10 000
Vanadium	mg/kg	150	150	320	2 600
Zinc	mg/kg	240	9 200	19 000	150 000
Alkanes					
C7-C9	mg/kg	2 300	2 300	2 400	23 000
C10-C14	mg/kg	440	440	500	4 400
C15-C36	mg/kg	45 000	45 000	91 000	740 000



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Table 1: Soil Screening Values for Metals and Organics

Benzo(a)pyrene	mg/kg	0,34	0,34	0,71	1,7
MTBE	mg/kg	0,0036	360	370	5 800
Organics					
Carbon Tetrachloride	mg/kg	0,25	0,27	0,26	4
Chlorobenzene	mg/kg	620	620	1 200	10 000
Chloroform	mg/kg	0,11	0,11	0,11	1,7
2 Chlorophenol	mg/kg	140	150	320	2 600
1,2 Dichlorobenzene	mg/kg	89	2 700	5 800	47 000
1,4-Dichlorobenzene	mg/kg	26	1 100	1 200	19 000
1,2-Dichloroethane	mg/kg	0,23	0,23	0,24	3,7
1,1 Dichloroethene	mg/kg	10	10	10	150
1,2,3-Trimethylbenzene	mg/kg	0,28	53	55	860
1,2 Dichloroethene	mg/kg	0.4	620	1,200	10,000
Trichlorobenzenes (total)	mg/kg	0,069	310	650	5 300
Nitrobenzene	mg/kg	2,8	2,8	2,9	45
1,1,2,2 Tetrachloroethane	mg/kg	0,32	0,32	0,34	5
2,4,6-Trichlorophenol	mg/kg	4	210	320	1 800
Vinyl Chloride	mg/kg	0,0037	0,10	0,11	1,5
PCBs	mg/kg	0,61	1,7	3,6	11
Cyanide	mg/kg	14	620	1 200	10 000



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Table 2: Soil Screening Values for Anions

Anions	Soil Screening Level (mg/kg)
Chlorides	12 000
Fluorides	30
Nitrates-nitrite	120
Sulphates	4 000



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Transitional Arrangement

- ❖ Waste Management License
- ❖ DWS or DFFE Directives



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Conclusion

- ❖ Management of contaminated site contributes towards conservation of greenfield
- ❖ Improve quality of life of people



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THANK YOU!

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Thank You



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