Mine Health and Safety Inspectorate

ANNUAL REPORT

2019/2020

mineral resources & energy

Department:
Energy Mineral Resources and Energy
REPUBLIC OF SOUTH AFRICA

2030 NDP

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PREFACE

This document is a report by the Chief Inspector of Mines (CIOM) on health and safety at mines and the activities of the Mine Health and Safety Inspectorate (MHSI), compiled as required by section 49(1)(j) of the Mine Health and Safety Act, 1996 (Act 29 of 1996), as amended (MHSA).

The MHSI, established in terms of the MHSA, as amended, has the responsibility of protecting the health and safety of persons working at mines or those who are affected by mining activities.

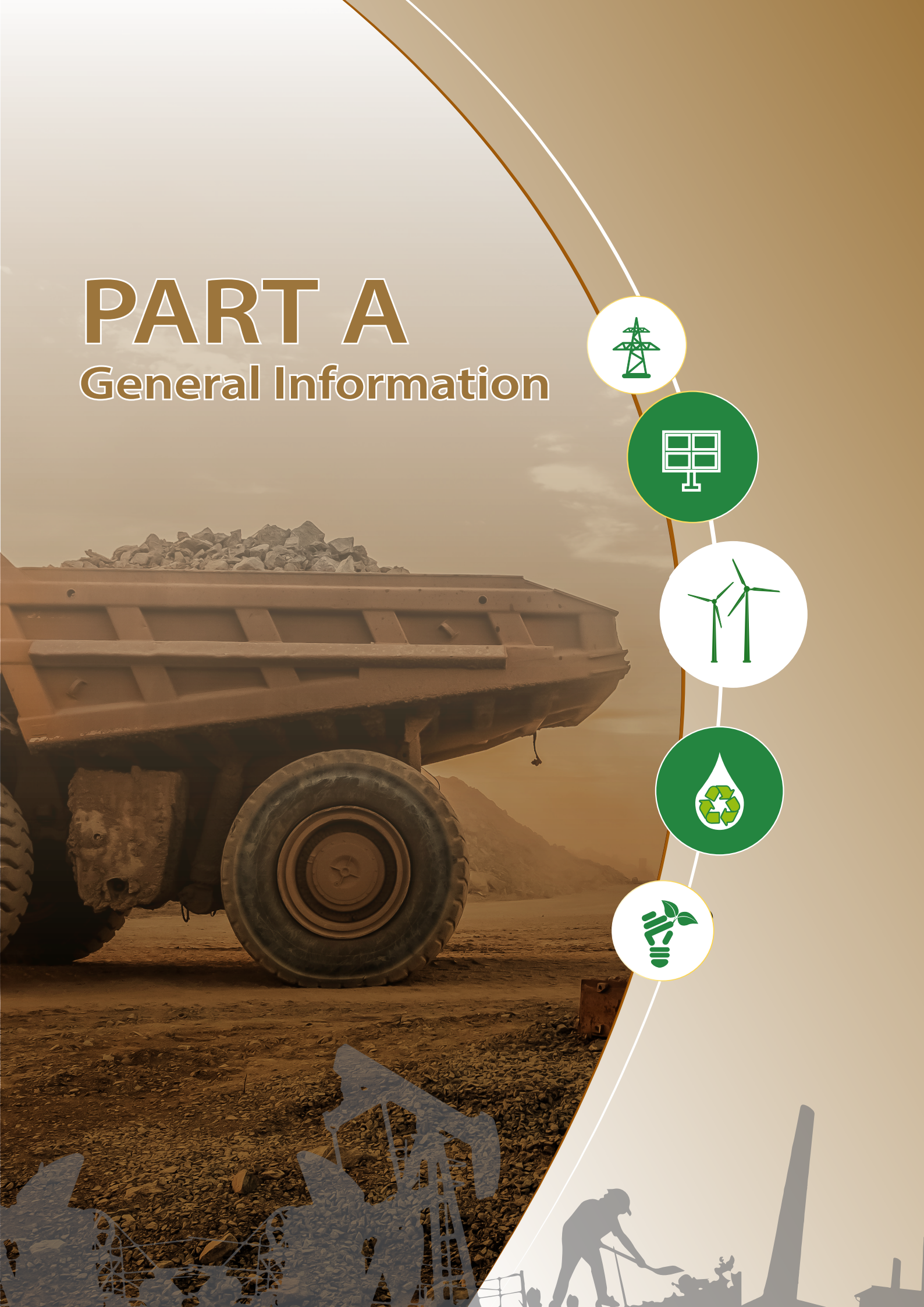
The CIOM also has the responsibility of leading the tripartite structures formed in terms of the MHSA as the Chairperson of the Mine Health and Safety Council (MHSC) and the Mining Qualifications Authority (MQA).

The MHSC consists of representatives of the state, organised labour, and employer organisations. The Council was established to advise the Minister of Mineral Resources and Energy on health and safety issues, and to promote a healthier and safer culture in the mining industry.

The MQA is the sector education and training authority for the minerals and mining sector and is responsible for the education and training needs of the mining industry. The MQA was established under the Skills Development Act, 1998 (Act 97 of 1998).

The activities of the above-mentioned two bodies are intricately linked with those of the MHSI, and their accounts are captured in their respective annual reports.

PART A
General Information



1. GENERAL INFORMATION

1.1 Submission of the annual report to the executing authority

Mr. S.G. Mantashe

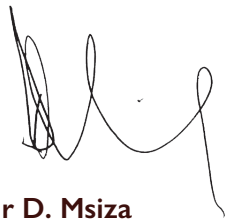
Minister of Mineral Resources and Energy

Republic of South Africa

Dear Minister

I am pleased to present to you the Annual Report of the Mine Health and Safety Inspectorate for the 2019/2020 period under review. This report is in accordance with the requirements of section 49(1)(j) of the Mine Health and Safety Act, 1996 (Act 29 of 1996), as amended.

Yours sincerely



Mr D. Msiza
Chief Inspector of Mines
Mine Health and Safety Inspectorate

1.2 Mission statement

The MHSI strives towards a safe and healthy mining industry. This is to be achieved by reducing mining-related deaths, injuries, and occupational diseases through the formulation of national policy and legislation, the provision of advice, and the application of systems that monitor and enforce compliance with the law in the mining sector.

1.3 Legislative mandate

The MHSI was established in terms of the MHSA, as amended, for the purpose of executing the statutory mandate of the MHSI in safeguarding the health and safety of mine employees and communities affected by mining operations.

1.4 Executive summary

It is with great honour and pleasure that I present this report on the state of health and safety in the South African mining industry and the activities of the MHSI for the 2019/2020 financial year.

1.4.1 Staffing

The establishment of the Inspectorate provides for 279 posts of which 253 are currently filled and 26 posts are vacant.

Gender	African	White	Asian	Coloured	Total
Male	126	17	0	0	143
Female	98	5	0	7	110

1.4.2 Implemented training

During the 2019/2020 reporting period, the MHSI developed the skills and knowledge base of its staff. A total of 49 officials from the Inspectorate attended technical and non-technical training courses as well as conferences.

1.4.3 Training interventions

1.4.3.1 Assistant Inspector Programme

The Department had 18 Assistant Inspectors at the commencement of the reporting period. One Assistant Inspector resigned. From the remaining 17 Assistant Inspectors, five obtained their Government Certificates of Competency (GCC) in their respective disciplines, while 12 Assistant Inspectors are at various stages of obtaining their GCC.

1.4.3.2 Bursary Scheme

There were no MHSI bursary holders during the reporting period.

1.4.4 Current health performance

1.4.4.1 Occupational health

Statutory compliance reports continued to increase in all stressors as compared to the 2018 reporting period. The MHSI analysed the reports and developed strategic measures aimed at ensuring compliance and remedial actions to minimise impacts associated with health hazards at mines.

The Annual Medical Reports (AMRs) submitted have shown a slight reduction of almost 2%, from 999 reports submitted by mines in 2018 to 984 reports in 2019. The AMRs submitted from Mpumalanga, Gauteng, and the Free State increased, whilst reports from North West: Klerksdorp, North West: Rustenburg, the Northern Cape, the Western Cape, Limpopo, and KwaZulu-Natal regions decreased.

Despite the above slight reduction in AMRs submitted, there was a 10% decrease in the number of occupational diseases from 3 458 in 2018 to 3 130 in 2019. Most diseases were due to pulmonary tuberculosis (PTB), noise induced hearing loss (NIHL), and silicosis as reported by the gold, platinum, and coal sectors.

A total of 176 appeal documents were received by the Medical Inspector, however only 107 of those met all the requirements for a section 20 medical appeal, and 89 documents did not meet all requirements. Of the 107 appeals, 87 were finalised and responses were sent to the appellants and their representatives.

There was an influx in the appeals received during January, May, July and November. Most mine employees were declared permanently incapacitated during retrenchment periods.

1.4.4.2 HIV/Aids and TB

The Department has aligned its work in the spheres of Human Immunodeficiency Virus (HIV) and tuberculosis (TB) to the strategies of the Department of Health (DOH). During the period under review, most mines complied with the reporting requirements. The analysis of TB and HIV matters is based on data contained in the DMR 164-form received from the mines.

The analysis presented is solely based on TB and HIV data received from the mines that submitted reports. For 2019, reports were received from 754 mines, representing 449 246 employees.

In 2019, total compliance with the integrated HIV and TB policy was at 94%, while compliance with the integrated HIV and TB programme was 59%. It is discouraging to see that the overall HIV and TB programme budget decreased from 60.2% in 2018 to 46% in 2019. The diamond sector continues to contribute to the lowest compliance for HIV and TB programme budget compared to other sectors in the mining industry, while the platinum sector was the best performer with regard compliance. Due to the COVID-19 pandemic and the lockdown, the number of mines that submitted DMR 164-forms reduced.

The total number of employees diagnosed with TB was less in 2019 compared to 2018. A very small percentage of employees who were screened for TB were positively diagnosed, and this could be attributed to the impact of TB awareness campaigns that took place in the mining industry.

The mines that did not perform well regarding health matters have been identified and will be consulted and visited accordingly. There are still mines that do not have integrated TB and HIV policies, and these policies must have guidelines regarding key strategies as well as implementation plans. Mines must also dedicate budgets for TB and HIV programmes irrespective of the sector or the size of the mine.

1.4.4.3 COVID-19

During late 2019, the first cases of a new disease, later named COVID-19 by the World Health Organization (WHO), were reported by healthcare workers from Wuhan, China. In January 2020, the WHO declared COVID-19, as a public health emergency of international concern and later in March 2020 declared it a global pandemic.

On 15 March 2020, the President of South Africa declared a national state of disaster on COVID-19, in terms of the Disaster Management Act, 2002 (Act 57 of 2002) which introduced several restrictions aimed to curb the disease. Despite these measures, the numbers of COVID-19 cases in the country increased dramatically

and a document called the *"Guiding Principles on the Prevention and Management of COVID-19 in SAMI"*, was published by the Department of Mineral Resources and Energy (DMRE).

On 26 March 2020, a nation-wide lockdown was declared in South Africa by the President.

During the nation-wide lockdown, the Minister of Mineral Resources and Energy conducted several unannounced mine visits to assess compliance by mining companies to the nationwide lockdown regulations.

All mines were required to, amongst others, conduct a risk-based assessment covering all workings at mines, reduce the numbers of employees transported on common transport per shift and where applicable, reduce the number of shifts per day. The primary objective of Government's interventions was to ensure that as many people as possible were protected from COVID-19, and that the sector could bounce back from this challenge when the lockdown is lifted.

As at 31 March 2020, there were three confirmed cases of COVID-19 in the mining and energy sectors.

Mining companies were found not to be at the same level in terms of their state of readiness to deal with the pandemic, hence the Department continues to encourage all mines to work together - employers and labour unions - and to share best practices as well as to ensure that their systems are complementary in order to pro-actively manage the risks and the spread of COVID-19 cases.

1.4.5 Current safety performance

1.4.5.1 Occupational safety

Although a decrease of 37% was recorded in the number of fatalities recorded, from 81 in 2018 to 51 in 2019, lives have been lost. The fatality frequency rate (FFR) per commodity for the mining industry decreased by 38% from 0.08 in 2018 to 0.05 in 2019.

The FFR for the platinum sector shows an increase of 65%. It is noteworthy that the number of employees at work in the platinum sector between 2018 and 2019 shows an increase of 1%, while the number of fatalities reported shows an increase of 67% from 12 fatalities reported in 2018 to 20 fatalities reported in 2019.

The gold sector recorded a 55% decrease in the number of fatalities reported from 40 in 2018 to 18 in 2019. The coal sector recorded a 22% decrease in the number of fatalities reported from nine in 2018 to seven in 2019. The other mines sector had recorded 70% decrease in the number of fatalities reported from 20 in 2018 to 6 in 2019.

The highest three fatality classification groups for 2019 were: fall of ground (FOG) with 20 fatalities in 2019 compared to 22 in 2018; transportation and mining (T&M) with 18 fatalities in 2019 compared to 16 in 2018; and general with six fatalities reported in 2019 and 16 in 2018.

The number of injuries recorded show a slight regression of 0.4%, from 2 426 recorded in 2018 to a provisional figure of 2 436 recorded in 2019. The overall injury frequency rate (IFR) decreased by 1% during 2019 when compared to 2018. The provisional total number of injuries reported in 2019 was 2 436 compared to a final figure of 2 426 reported in 2018.

The recorded injuries in the platinum, coal and other mines sectors increased by 9%, 24%, and 26% respectively. In the gold, diamond, copper, chrome, iron ore and manganese sectors a decrease of 11%, 12%, 39% 30%, 18%, and 11% respectively was recorded.

1.4.5.2 Disaster-type accidents

There has not been a disaster recorded during 2019 and this is for the first time since 2016. A disaster is an accident where five or more employees lose their lives in the same accident.

However, two separate seismic induced FOG accidents regrettably claimed the lives of four and three employees, respectively, at two different gold mines during the month of December in 2019 and in early March 2020.

1.4.6 Illegal mining

Illegal mining is a criminal activity fuelled by highly organised, dangerous, well-financed and complex local and international crime syndicates. The syndicates are taking advantage of the gold price in recent years, combining it with an increasing number of desperate, unemployed people from both South Africa and its neighbouring countries.

This needs to be decisively dealt with at the source of illicit mining and trafficking of our minerals. It remains a serious challenge as well as a danger to society. It also places the health and safety of communities at risk, particularly where public infrastructure is threatened by its activities. Illegal mining costs both the industry and our economy greatly, thereby robbing Government and the people of South Africa of the benefits that should accrue to mining.

The Department works together with, and supports, other departments on a national strategy to eliminate the illicit mining and trade of precious metals and diamonds. It also continues to collaborate with law enforcement agencies and other stakeholders to ensure the continued implementation of strategies to combat illegal mining activities.

Despite these challenges, the Department in conjunction with the land developers, affected municipalities and mining companies, have rehabilitated or cleaned up several areas that were previously infested by illegal mining activities.

1.4.7 Women in mining

Three women were fatally injured in 2019 compared to one woman in 2018 which translates to an increase of 200% year-on-year. Statistics proves that it is possible to report zero fatalities since there were no fatalities of women reported for the years 2001, 2003, 2005, 2010, and 2015.

There was a decrease in the number of injuries involving women in mining. The injuries that were reported involving women were mainly in the general classification (66%) and were due to slipping and falling, material handling, and being struck by object.

PART B
Programme Performance

2. PROGRAMME PERFORMANCE

2.1 Aim of the programme

The MHSI was established in terms of the MHSA, as amended. The aim of the programme is to carry out the constitutional mandate of the DMRE to protect the health and safety of persons working at mines, and people residing in nearby communities that are directly affected by mining activities. This is done by performing statutory inspections and audits, the enforcement of the MHSA and its regulations, as well as conducting investigations and inquiries at South African mines.

The programme also administers the GCC for the mining sector. It consists of two sub-programmes: Governance, Policy and Oversight, and Mine Health and Safety (Regions).

2.2 Purpose of the programme

To execute the statutory mandate of the DMRE to protect the health and safety of mine employees and people affected by mining activities.

2.3 Service delivery objectives and indicators

The strategic plan and achievements of the MHSI during the period under review are outlined in the table 2.3 below. This is an account of the progress achieved in the period under review against the annual targets set for achieving the strategic objectives of the MHSI.

TABLE 2.3: Progress achieved against annual targets

Perspective	Measures / Initiatives	Status	Performance Analysis	Corrective Action	Current Target	Current Actual
Transformed minerals sector (stakeholder)	Administration of GCC examinations policy	G	**Achieved.** All the steps for the certificates of competency model have been implemented. It consists of the following five steps: 1. Set the papers. 2. Write the examination. 3. Mark the examination. 4. Moderate the results. 5. Release the results. **Calculation:** 5/5*100 = 100%		100	100
	MHSI's Annual Report submitted	G	**Achieved.** The annual report was compiled by MHSI and approved by the CIOM.		1	1
	Number of audits conducted (cumulative), individual audits included	G	**Achieved.** The reason for the over-achievement is that extra audits were conducted to reduce FOG and trackless mobile machines (TMM) related accidents. The total audits conducted during the fourth quarter is 459. **Verification source:** Summary of audit reports.		396	459

Perspective	Measures / Initiatives	Status	Performance Analysis	Corrective Action	Current Target	Current Actual
	Number of inspections conducted (cumulative)	G	**Achieved.** The reason for the over-achievement is that extra inspections were carried out to reduce FOG and TMM related accidents. The total inspections conducted in the fourth quarter is 8 250. **Verification source:** Summary of inspection reports.		8 000	8 250
	Number of tripartite workshops conducted	G	**Achieved.** The total number of tripartite meetings conducted in the fourth quarter is 60. **Verification source:** Summary of tripartite workshops conducted.		60	60
	Percentage of inquiries completed (initiated vs completed)	G	**Achieved.** The number of inquiries initiated is 41 and the number of inquiries completed is 33. **Calculation:** (33/41)*100 = 80%. **Verification source:** Summary of inquiries.		80	80
	Percentage of investigations completed (initiated vs completed)	G	**Achieved.** The availability of witnesses that improved during quarter four was the reason for the over-achievement. The number of investigations initiated is 610 and the number of investigations completed is 608. **Calculation:** (608/610)*100 = 100% **Verification source:** Summary of investigation reports.		80	100

Perspective	Measures / Initiatives	Status	Performance Analysis	Corrective Action	Current Target	Current Actual
	Percentage reduction in occupational diseases (including TB	R	**Not achieved.** The reasons for the non-achievement was due to the improvement in the reporting of occupational diseases. The MHSI focussed on combating the major contributors to occupational diseases namely TB and silicosis, and as a result the above-mentioned occupational diseases were significantly reduced. The increase in NIHL cases, which were not problematic in the past, became problematic at the mines recently. There were 2 041 diseases reported between April 2019 to March 2020 compared to 2 131 diseases reported during the same period in 2018/2019. **Calculation:** (2 041-2 131)/2 131*100 = -4%. **Verification source:** Summary of occupational diseases.	Additional inspections, audits and tripartite meetings will be conducted in the first quarter of the new financial year to combat the NIHL cases.	10	4
	Percentage reduction in occupational fatalities	Y	**Partially achieved.** The reason for the partial achievement is due to the increase in seismic induced multiple fatality falls of ground accidents at the mines. There were 57 fatalities reported during 2019/2020 compared to 69 fatalities during the same period in 2018/2019. **Calculation:** (57-69)/69*100 = -17%. **Verification source:** Summary of occupational fatalities.	The MHSI will continue to monitor compliance and ensure that effective safety management systems are implemented in the mining industry. Engagements will also be held with the Chief Executive Officers (CEOs) of mining companies to ensure that appropriate measures are implemented to prevent harm to mine workers. Additional inspections, audits and tripartite meetings will be conducted to combat seismic induced FOG accidents.	20	17

Perspective	Measures / Initiatives	Status	Performance Analysis	Corrective Action	Current Target	Current Actual
	Percentage reduction in occupational injuries	R	**Not achieved.** The reason for the non-achievement is due to the improvement in reporting of accidents. The MHSI was focussing on combating the major contributors to accidents namely TMM, rail-bound equipment (RBE) and gravity induced FOG and hence these accidents were significantly reduced. The increase in general types of accidents which were not problematic in the past, became problematic at the mines recently. There were 2 361 injuries reported between April 2019 to March 2020 compared to 2 410 injuries reported during the same period in 2018/2019. **Calculation:** (2 361-2 410)/2 410*100 = -2%. Verification source: Summary of occupational injuries.	The Inspectorate will continue to monitor compliance and ensure that effective safety management systems are implemented in the mining industry. Engagements will also be held with the CEOs of mining companies to ensure that appropriate measures are implemented to prevent harm to mine workers. Additional inspections, audits and tripartite meetings will be conducted to combat the general types of accidents at the mines.	20	2
	Percentage of identified internal processes developed and/or reviewed	G	**Achieved.** Three Codes of Practice (COPs), two guidance notes and two CIOM's instructions were issued in the fourth quarter. **Calculation:** (7/7)*100=100%		100	100
	Percentage adherence to existing service level agreements (SLAs)	G	**Achieved.** SLA with Mine Rescue Services was used and honoured. **Calculation:** (1/1)*100=100%		100	100

Perspective	Measures / Initiatives	Status	Performance Analysis	Corrective Action	Current Target	Current Actual
	Percentage adherence to prescribed timeframes administrative for tasks	G	**Achieved.** 86% of the administrative tasks were processed within the prescribed time frame of 30 days in quarter four. There were 1 345 administrative tasks processed within 30 days and a total of 1 557 administrative tasks were processed in quarter four. The reason for over achievement is due to a strict monitoring strategy that has been implemented on the processing of administrative tasks. **Calculation:** (1 345/1 557)*100 = 86%. **Verification source:** Summary of administration task register.		80	86
	Percentage adherence to prescribed timeframes for CIOM appeals	G	**Achieved.** There was no CIOM's appeal in quarter four. **Calculation:** (0/0)*100 = 100%		100	100
	Percentage adherence to prescribed timeframes for medicals appeals.	G	**Achieved.** There were 90 medical appeals processed (completed) within 90 days vs 96 medical appeals processed (completed) in quarter four. The reason for the over-achievement is that all the required documents were available to process the medical appeals. **Calculation:** (90/96)*100 = 94%. **Verification source:** Summary of medical appeals April 2019 to December 2019.		80	94

Perspective	Measures / Initiatives	Status	Performance Analysis	Corrective Action	Current Target	Current Actual
	Percentage adherence to prescribed timeframes for Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA) applications	Y	**Partially achieved.** The reason for the partial achievement is due to an increase in community complaints. It necessitated the MHSI to conduct site inspections prior to processing these applications. Applicants are not available for site inspections that needs to be conducted. There were 2 033 MPRDA applications processed within 30 days vs a total of 2 083 MPRDA applications processed in quarter four. **Calculation:** (2 033/2 083)*100 = 98%. **Verification source:** Summary of MPRDA register.	The MHSI will engage with the Mineral Regulation branch of the Department to ensure that applicants are available during the site inspection.	100	98
	Percentage adherence to compliance framework	G	**Achieved.** All identified items on the compliance checklist have been achieved. **Calculation:** (5/5)*100=100%		100	100
	Percentage implementation of management action plan (external audit)	G	**Achieved.** All the Auditor-General management action plans were implemented.		100	100
	Percentage implementation of management action plan (internal audit)	G	**Achieved.** All nine internal audit management action plans were implemented. **Calculation:** (9/9)*100 =100%		100	100
	Percentage implementation of risk management plans	G	**Achieved.** All eight risk treatment management plans were implemented. **Calculation:** (8/8)*100 = 100		100	100

Perspective	Measures / Initiatives	Status	Performance Analysis	Corrective Action	Current Target	Current Actual
Sufficient and relevant skills in mining	Number of compliance reports provided	G	**Achieved.** Four MHSA compliance reports were compiled and submitted.		4	4

2.4 Service delivery improvement plan

TABLE 2.4: Progress achieved against annual targets

KEY SERVICE	SERVICE BENEFICIARY	DESIRED STANDARD (2019/2020)		Progress as at 31 March 2020
Address health and safety risks in mining through: **Number of audits conducted** **Number of inspections conducted** **Number of investigations conducted** **Reduction in occupational fatalities** **Reduction in occupational diseases**	Mining operations	Quantity	100% of planned audits as per capacity. 100% of planned inspection as per capacity. 80% of planned investigations as per capacity. 20% of planned reduction in occupational fatalities. 10% of planned reduction in occupational diseases.	116% of planned audits as per capacity. 103% of planned inspections as per capacity. 100% of planned investigations as per capacity. 17% of planned reduction in occupational fatalities. 4% of planned reduction in occupational diseases.
		Quality	Implementation and compliance to standardised policies and procedures.	Achieved
		Consultation	Quarterly consultation with mining operations.	Achieved
		Open and transparency	Policies and procedures is public documents.	Achieved
		Information	Information is shared on a monthly basis with mines.	Achieved
		Value for Money	Ensure the optimum utilisation of voted funds.	Achieved

PART C

State Of Occupational Health In The South African Mining Industry

3. STATE OF OCCUPATIONAL HEALTH IN THE SOUTH AFRICAN MINING INDUSTRY

3.1 Occupational medicine

3.1.1 AMRs

The AMRs submitted shown a reduction of about 2 % from 999 reports submitted by mines in 2018 to 984 reports submitted in 2019. Reports submitted to Mpumalanga, Gauteng and the Free State regions increased, whilst reports submitted to North West: Klerksdorp, North West: Rustenburg, the Northern Cape, the Western Cape, Limpopo and the KwaZulu-Natal regions have decreased.

A total 179 mines did not submit AMRs for 2019 due to the following reasons:

- 97 closures.
- 38 non-operational.
- 12 temporary closures.
- Four under business rescue.
- Three under rehabilitation.
- 25 non-compliance.

Regions should take the necessary corrective measures to enforce compliance on mines that failed to submit their reports during 2019.

3.1.1.1 AMRs received per region

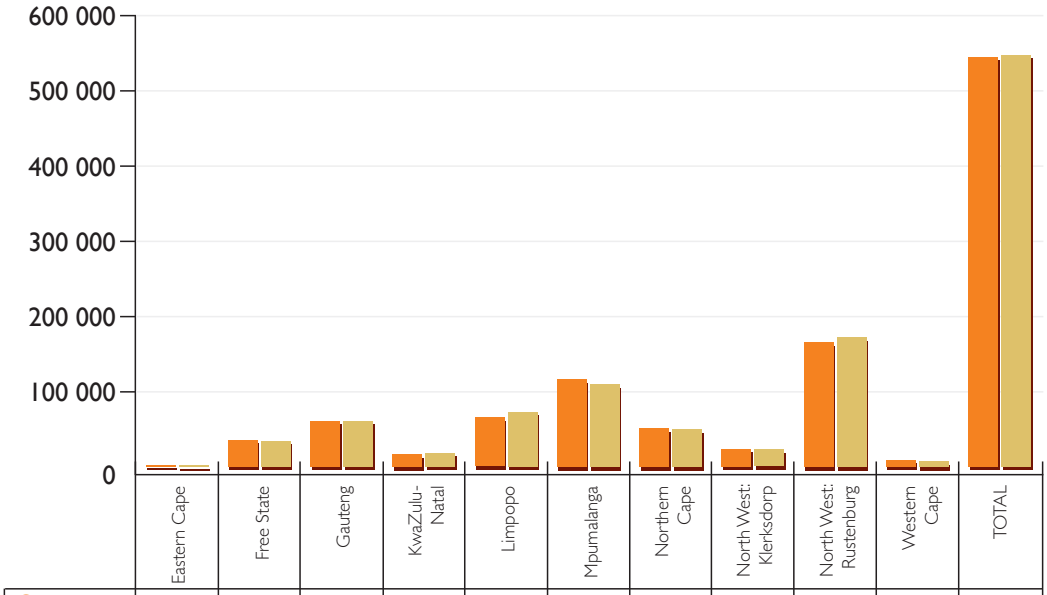
TABLE 3.1.1.1: AMRs per region and by commodity: 2018 and 2019

	Gold		Platinum		Coal		Diamonds		Copper		Chrome		Iron ore		Manganese		Other mines		Total		PERCENTAGE CHANGE
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	
Eastern Cape	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	62	62	62	0.00
Free State	20	20	0	0	2	2	4	4	0	0	0	0	0	0	0	0	24	25	50	51	2.00
Gauteng	20	16	0	0	2	0	1	1	0	0	0	0	0	0	0	0	71	82	94	99	5.32
KwaZulu-Natal	0	0	0	0	12	11	0	0	0	0	0	0	0	0	0	0	47	47	59	58	-1.69
Limpopo	1	3	13	13	4	4	2	2	1	1	17	15	1	0	0	0	48	47	87	85	-2.30
Mpumalanga	5	7	2	2	121	126	0	0	0	0	0	0	0	0	1	1	23	25	152	161	5.92
Northern Cape	0	0	0	0	0	0	68	53	0	2	0	0	8	8	19	21	28	31	123	115	- 6.50
North West: Klerksdorp	11	15	0	0	0	0	111	96	0	0	0	0	0	0	0	1	29	28	151	140	-7.28
North West: Rustenburg	0	0	71	72	0	0	1	1	0	0	20	20	2	2	0	0	32	28	126	123	-2.38
Western Cape	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	94	89	95	90	-5.26
Total	**57**	**61**	**86**	**87**	**141**	**143**	**188**	**158**	**1**	**3**	**37**	**35**	**11**	**10**	**20**	**23**	**458**	**464**	**999**	**984**	**-1.50**

3.1.1.2 Total employees covered in AMRs

The total number of employees covered in the AMRs for 2019 increased by 0.56% when compared to the previous year. The following regions showed an increase in the total number of employees covered in AMRs: KwaZulu-Natal with 12.88%; Limpopo with 11.69%; and North West: Rustenburg with 3.98%. The regions that had a reduction in the total number of employees covered are as follows: Western Cape with 23.44%; Eastern Cape with 17.43%; Mpumalanga with 5.88%; North West: Klerksdorp with 4.76%; Free State with 3.73%; Northern Cape with 2.39%; and Gauteng with 0.34%.

FIGURE 3.1.1.2: Total employees reported from AMRs per region: 2018 and 2019

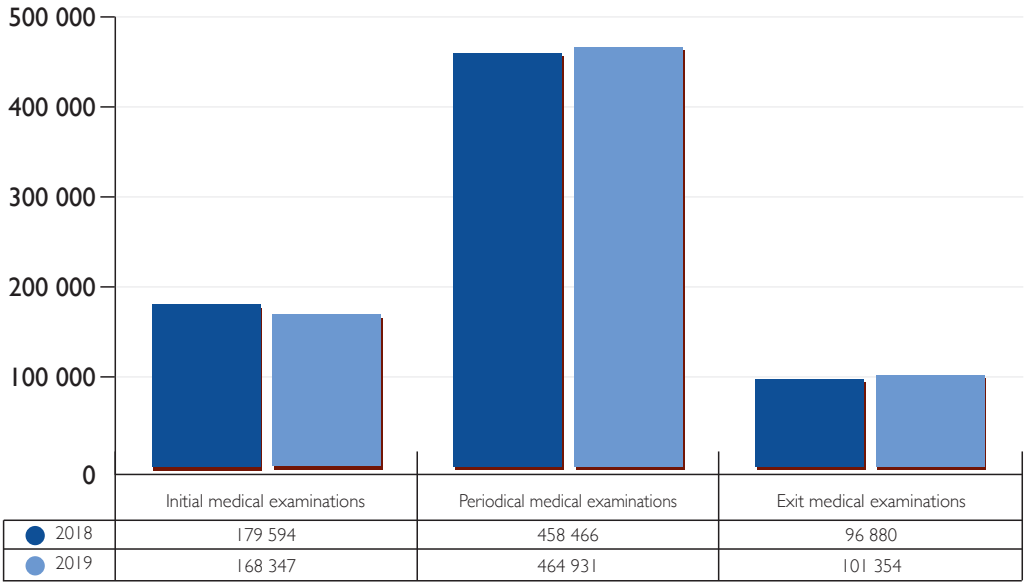


	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	Northern Cape	North West: Klerksdorp	North West: Rustenburg	Western Cape	TOTAL
Year 2018	2 129	35 469	60 772	16 007	65 128	116 128	50 957	23 638	165 508	9 043	544 779
Year 2019	1 758	34 147	60 563	18 069	72 743	109 294	49 739	22 513	172 098	6 923	547 847

3.1.1.3 Medical surveillance conducted

A reduction of 6.26% was noted in the initial examinations conducted during 2019, whilst the periodic and exit examinations increased by 1.41% and 4.62% respectively when compared to 2018.

FIGURE 3.1.1.3: Medical surveillance reported: 2018 and 2019



	Initial medical examinations	Periodical medical examinations	Exit medical examinations
2018	179 594	458 466	96 880
2019	168 347	464 931	101 354

3.1.2 Occupational diseases reported in the AMR

The total occupational diseases reported in 2019 showed a reduction of 9.49% when compared to the previous year. A reduction has been noted in the following occupational diseases reported: silicosis cases by 19.57%; PTB cases by 10.66%; silico-tuberculosis (Sil+TB) cases by 31.25%; and cases of other occupational diseases by 24.69%. The coal workers' pneumoconiosis (CWP) cases increased by 70.37%, and NIHL cases increased by 1.92%. The asbestosis cases reported remained unchanged at eight cases for both 2018 and 2019.

3.1.2.1 Analysis of medical surveillance trends

3.1.2.1.1 Occupational disease trends by region

TABLE 3.1.2.1.1: Occupational diseases reported from AMRs per region: 2018 and 2019

	Silicosis		PTB		Sil+TB		NIHL		CWP		Asbestosis		Other		Total		Percentage change
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	
Eastern Cape	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	-100
Free State	150	117	262	211	15	8	107	103	0	0	0	0	47	56	581	495	-14.80
Gauteng	114	97	434	310	3	0	126	173	0	0	0	0	62	35	739	615	-16.78
KwaZulu-Natal	0	0	17	25	0	0	10	10	2	1	0	0	3	4	32	40	25.00
Limpopo	23	5	70	47	8	0	95	77	0	0	1	4	5	8	202	141	-30.20
Mpumalanga	12	10	201	214	1	0	88	87	25	45	3	1	60	55	390	412	5.64
Northern Cape	0	0	31	41	0	0	9	17	0	0	0	0	5	6	45	64	42.22
North West: Klerksdorp	107	96	99	122	5	14	20	89	0	0	0	0	99	19	330	340	3.03
North West: Rustenburg	58	49	600	556	0	0	423	310	0	0	4	3	43	60	1 128	978	-13.30
Western Cape	0	0	0	7	0	0	8	37	0	0	0	0	0	1	8	45	462.50
Total	**465**	**374**	**1 716**	**1 533**	**32**	**22**	**886**	**903**	**27**	**46**	**8**	**8**	**324**	**244**	**3 458**	**3 130**	**-9.49**

3.1.2.1.2 Occupational disease trends per commodity

TABLE 3.1.2.1.2: Occupational diseases reported from AMRs per commodity: 2018 and 2019

	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	PERCENTAGE CHANGE
	Silicosis		PTB		Sil+TB		NIHL		CWP		Asbestosis		Other		Total		
Gold	379	319	801	648	24	22	230	351	0	0	1	0	202	109	1 637	1 449	-11.48
Platinum	76	45	596	519	8	0	445	355	0	0	5	1	39	63	1 169	983	-15.91
Coal	0	1	180	206	0	0	95	76	27	46	2	1	56	49	360	379	5.28
Diamond	0	0	17	6	0	0	7	8	0	0	0	0	0	2	24	16	-33.33
Copper	0	0	1	0	0	0	4	2	0	0	0	0	0	0	5	2	-60.00
Chrome	5	9	63	80	0	0	53	26	0	0	0	5	8	4	129	124	-3.88
Manganese	0	0	9	23	0	0	0	1	0	0	0	0	0	2	9	26	188.89
Iron ore	0	0	6	12	0	0	4	8	0	0	0	0	5	4	15	24	60.00
All other	5	0	43	39	0	0	48	76	0	0	0	1	14	11	110	127	15.45
Total	**465**	**374**	**1 716**	**1 533**	**32**	**22**	**886**	**903**	**27**	**46**	**8**	**8**	**324**	**244**	**3 458**	**3 130**	**-9.49**

Gold mines

An overall reduction of 11.48% was noted in the number of occupational diseases reported from the gold sector when compared to the previous year. Silicosis cases have decreased by 15.83% and Sil+TB cases by 8.33%, whist PTB cases have increased by 19.10% and NIHL cases by 52.61%.

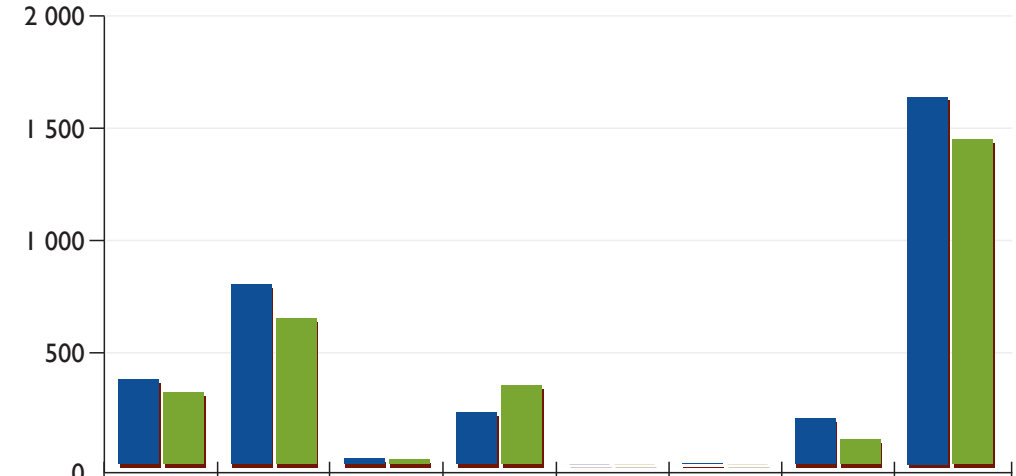
The gold sector established dust steering committees that function in a multi-disciplinary approach to oversee the implementation of dust management strategies and initiatives. Mine occupational safety and health (MOSH) initiatives such as the fogger spray systems, foot wall treatment and real time dust monitoring have been adopted by the gold sector. Isoniazid Prophylaxis Therapy (IPT) was initiated on all known silicosis cases and high-risk employees, particularly with suspected silicosis and diabetic cases, and immune-compromised employees. The implementation of mandatory COPs in the sector requires the removal of all employees with certified silicosis from hazardous exposure.

The occupational medicine inspectors ensure that TB programmes are implemented in accordance with the TB guidance note where extensive contact tracing is done at primary health care (PHC) centres, occupational health care (OHC) centres, mine accommodation and in the peri-mining communities.

The gold sector continues to implement hearing conservation programmes (HCP), which includes the demarcation of noisy areas, engineering controls, and the silencing of noise emitting equipment. The sector also implemented the standard threshold shift (STS) guidance note as a pro-active approach towards the monitoring of an early shift suggestive of early NIHL amongst employees.

The MHSA section 11.5 investigations are initiated with regard to employees with an early lag in hearing loss with percentage loss of hearing (PLH) between 5% and 10%. Customised hearing protective devices (HPDs) are provided to all noise exposed employees and noise awareness campaigns are done.

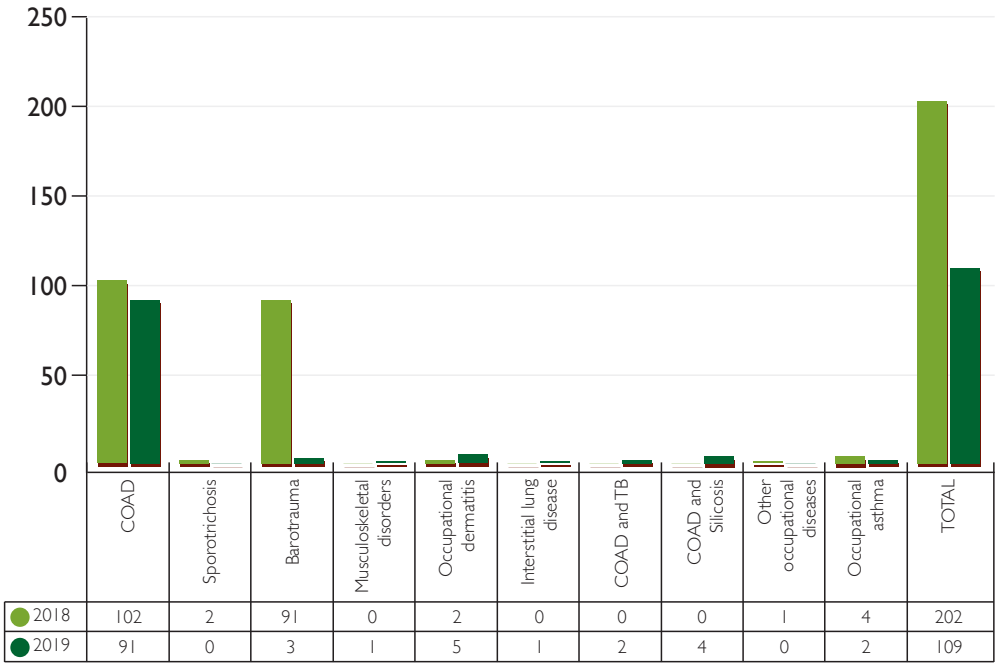
FIGURE 3.1.2.1.2 (a): Occupational diseases reported from gold mines' AMRs: 2018 and 2019



	Silicosis	PTB	Silicosis + TB	NIHL	CWP	Asbestosis	Other occupational diseases	TOTAL
2018	379	801	24	230	0	1	202	1 637
2019	319	648	22	351	0	0	109	1 449

The cases of other occupational diseases showed a reduction of 46.04% when compared to the previous year. The gold sector continues to embark on anti-smoking campaigns to create awareness and reduce the incidence of chronic obstructive airway disease (COAD) cases. Psychological debriefing is done by social workers or psychologists following any traumatic event, in order to provide emotional and psychological support aimed to prevent the development of post-traumatic stress disorder (PTSD) amongst employees. Employees working in extreme heat conditions are educated on the recognition and the early treatment of heat stress disorders.

FIGURE 3.1.2.1.2 (b): Other occupational diseases reported from gold mines' AMRs: 2018 and 2019



	COAD	Sporotrichosis	Barotrauma	Musculoskeletal disorders	Occupational dermatitis	Interstitial lung disease	COAD and TB	COAD and Silicosis	Other occupational diseases	Occupational asthma	TOTAL
2018	102	2	91	0	2	0	0	0	1	4	202
2019	91	0	3	1	5	1	2	4	0	2	109

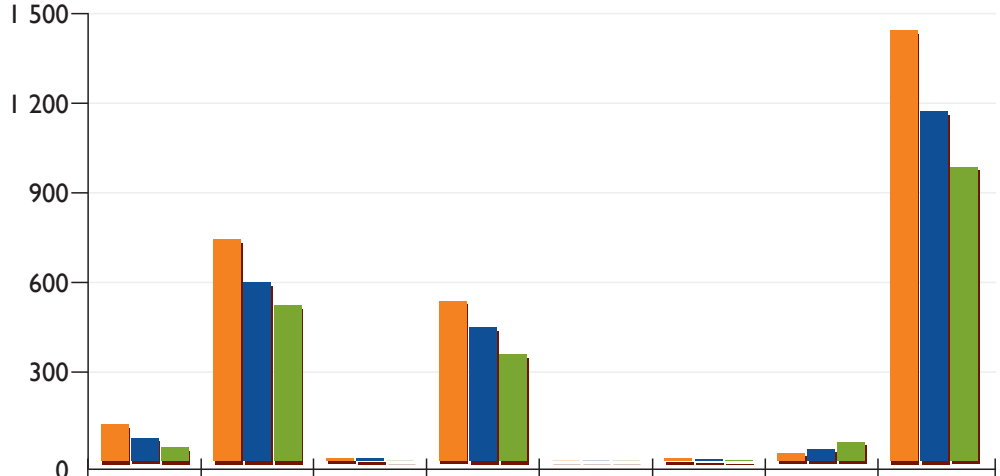
Platinum mines

A reduction of 15.91% was noted in the occupational diseases reported from the platinum sector when compared to the previous year. The occupational diseases decreased as follows: silicosis cases by 40.79%; NIHL by 20.22%; asbestosis cases by 80.00%; and Sil+TB cases by 100%, whilst the PTB cases increased by 12.92% when compared to 2018.

The platinum sector conducts active TB screening on old and current cases of occupational lung diseases during medical surveillance. This is in line with the TB guidance note and the 2017-2022 National Strategic Plan (NSP). Awareness campaigns are done during induction programmes and occupational health and safety (OHS) meetings are held. The MHSA section 11.5 investigations are conducted on diagnosed cases.

HCPs implemented by the platinum sector include the identification and demarcation of noise areas as well as awareness campaigns for employees, health and safety representatives and line managers on the dangers of exposure to excessive noise and the prevention of NIHL.

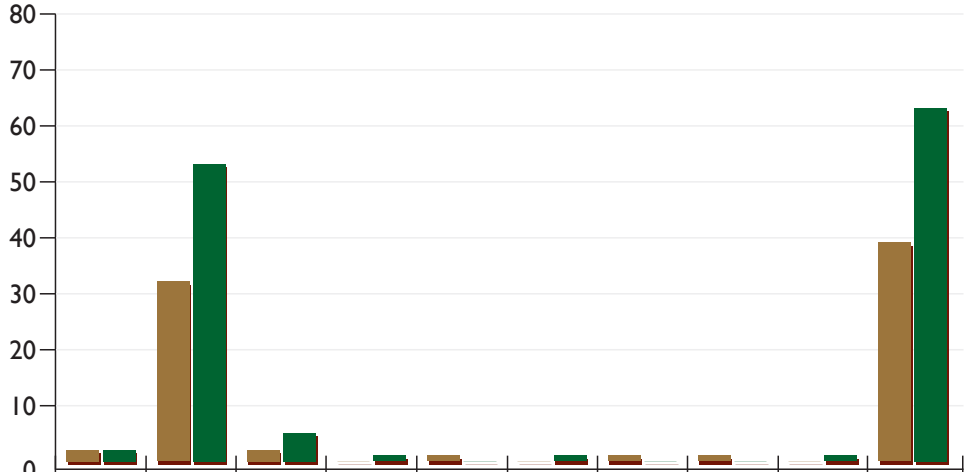
FIGURE 3.1.2.1.2 (c): Occupational diseases reported from platinum mines' AMRs: 2018 and 2019



	Silicosis	PTB	Silicosis + TB	NIHL	CWP	Asbestosis	Other occupational diseases	TOTAL
2017	121	741	9	535	0	8	26	1 440
2018	76	596	8	445	0	5	39	1 169
2019	45	519	0	355	0	1	63	983

The cases of other occupational diseases reported increased by 61.54% when compared to the previous year. Biological monitoring is done for all exposed groups where specified risks are identified. The diagnosis of platinum salt sensitivity cases is rarely reported by the platinum sector, but preventative measures are instituted to include the provision of personal protective equipment (PPE) such as gloves, overalls and boots to prevent occupational skin diseases related to platinum dust exposures. Employees identified with skin reactions to any irritant/allergen are removed from potential sources of exposure as a preventative control measure. Risk-based medical surveillance as well as physical and functional assessment is done for the placement of employees in jobs that meet their physical capabilities. Wellness campaigns including education, counselling and information sharing on non-communicable diseases (NCDs) are done to promote employees' health.

FIGURE 3.1.2.1.2 (d): Other occupational diseases reported from platinum mines' AMRs: 2018 and 2019



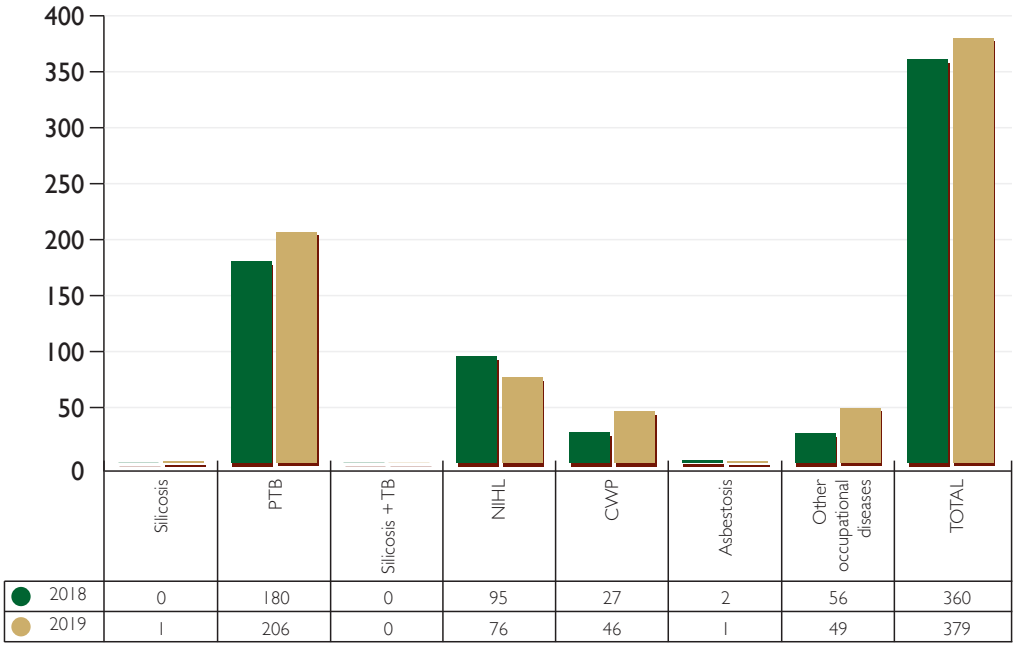
	Occupational asthma	COAD	Occupational dermatitis	Occupational lung cancer	Mesothelioma	Platinum salt sensitivity	Nickel induced dermatitis	Hand vibration syndrome	Musculoskeletal disorders	TOTAL
2018	2	32	2	0	1	0	1	1	0	39
2019	2	53	5	1	0	1	0	0	1	63

Coal mines

The occupational diseases reported from the coal sector increased by 5.28% when compared to previous year. A reduction of 20.00% was noted in NIHL cases and a 50.00% reduction in reported asbestosis cases. PTB and CWP cases increased by 14.44% and 70.37% respectively when compared to 2018.

The coal sector continues to implement effective dust action plans to reduce exposure to airborne pollutants. Initiatives include side and footwall treatment, improved dust extraction at the ground hanging facilities, improved ventilation, dust extraction at dry drilling rigs and the enforcement of PPE when required. Health promotion programmes include information on risk factors that are communicated to employees to reduce potential adverse effects of dust and smoking on the lungs. Vigilant screening is done, which includes compulsory TB questionnaires to obtain previous occupational history and to exclude respiratory related factors that might have a potential impact on the lungs due to the latency period between exposure and the manifestation of occupational lung diseases. TB contact tracing programmes are also implemented on mines.

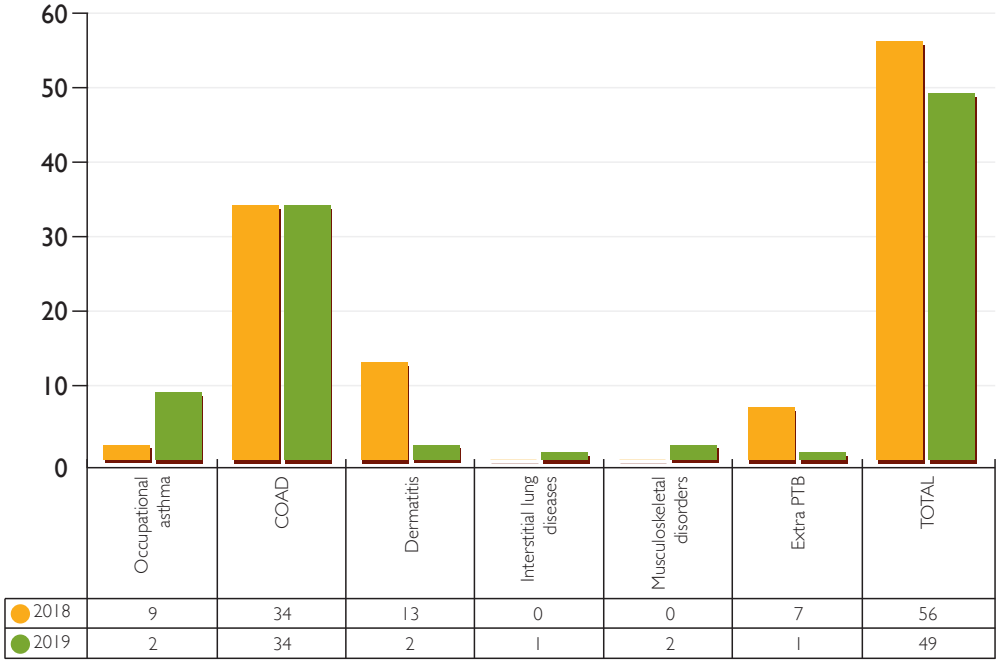
FIGURE 3.1.2.1.2 (e): Occupational diseases reported from coal mines' AMRs: 2018 and 2019



	Silicosis	PTB	Silicosis + TB	NIHL	CWP	Asbestosis	Other occupational diseases	TOTAL
2018	0	180	0	95	27	2	56	360
2019	1	206	0	76	46	1	49	379

The cases of other occupational diseases have shown a reduction of 12.50% when compared to the previous year. The coal sector embarks on education, training and awareness campaigns towards health promotion. The mines utilise a skin health surveillance questionnaire to raise awareness for the early identification of occupational skin diseases. The list of all raw materials used and the related material safety data sheets (MSDS) is kept by the coal sector. The ergonomic survey findings are used to develop manual handling training programmes which are implemented to minimise potential adverse health effects that may result from exposure to ergonomic stressors.

FIGURE 3.1.2.1.2 (f): Other occupational diseases reported from coal mines' AMRs: 2018 and 2019



	Occupational asthma	COAD	Dermatitis	Interstitial lung diseases	Musculoskeletal disorders	Extra PTB	TOTAL
2018	9	34	13	0	0	7	56
2019	2	34	2	1	2	1	49

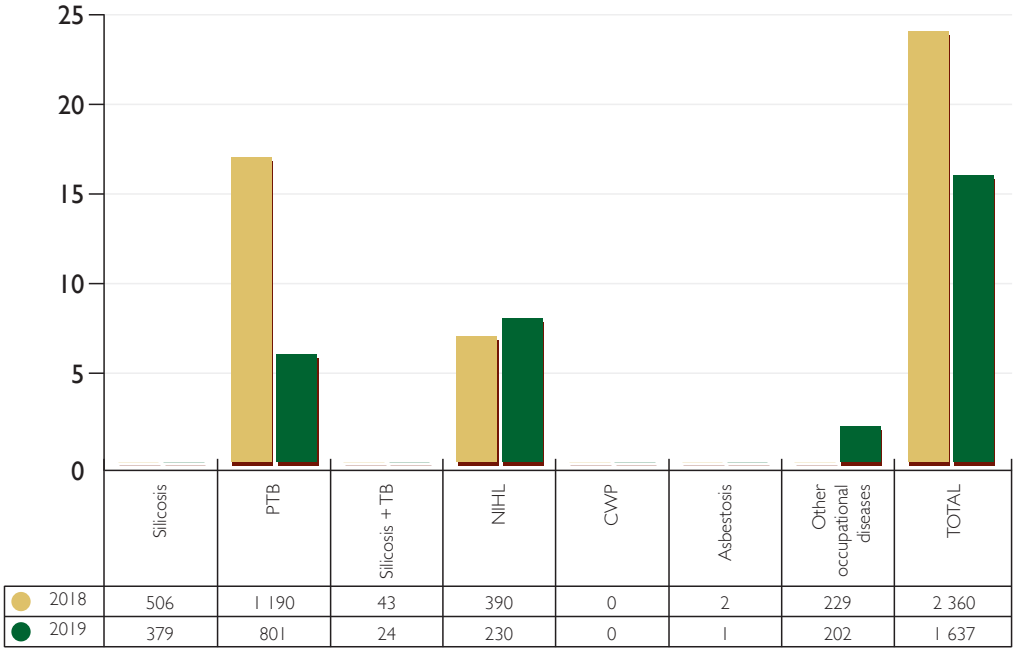
Diamond mines

The diamond sector showed a reduction of 33.33% in occupational diseases reported when compared to the previous year. PTB cases have reduced by 64.71% and NIHL cases increased by 14.29%.

The diamond sector implemented a dust action plan to reduce exposure to airborne pollutants. This includes side and footwall treatment, improved dust extraction at the ground hanging facilities, improved ventilation and dust extraction at dry drilling rigs. Suspicious lung function test (LFT) results are sent for radiological interpretation to exclude or confirm the presence of occupational lung diseases. The diamond sector also continued to embark on health education and wellness campaigns, monitoring exposures as well as the enforcement of wearing PPE, where required.

The HCP implemented by the diamond sector includes the silencing of equipment as well as the issuing of moulded earplugs, which are comfortable to wear, to promote interpersonal communication. The health promotion programmes include induction and on-going awareness campaigns, regular monitoring of exposures for linkage with medical surveillance data and close monitoring of exposed employees particularly individuals identified with shifts suggestive of early NIHL. Employee counselling is done at periodic examinations and suspected cases are referred to an audiologist or an Ear, Nose and Throat (ENT) specialist for further audiology test assessments. Hearing protection is obligatory in all areas where noise levels are equivalent to or above 85dB.

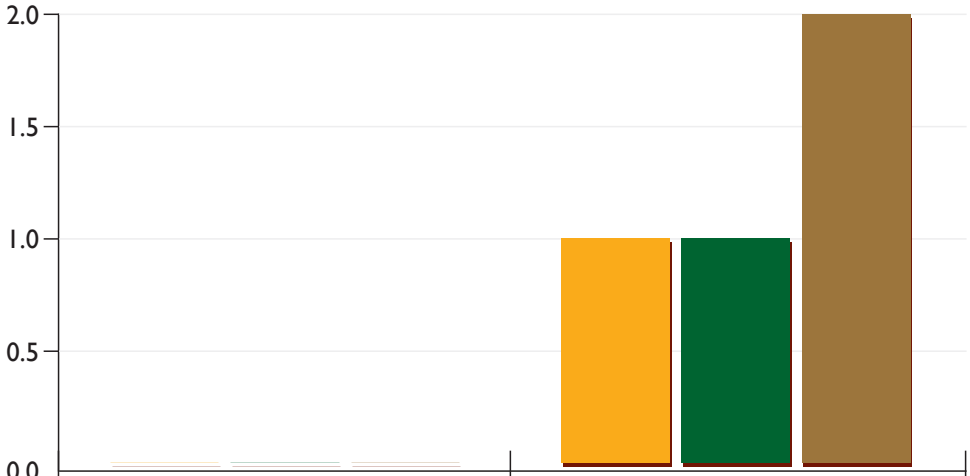
FIGURE 3.1.2.1.2 (g): Occupational diseases reported from diamond mines' AMRs: 2018 and 2019



	Silicosis	PTB	Silicosis + TB	NIHL	CWP	Asbestosis	Other occupational diseases	TOTAL
2018	506	1 190	43	390	0	2	229	2 360
2019	379	801	24	230	0	1	202	1 637

Two cases of other occupational diseases were reported during the period under review compared to no cases reported in 2018. Ergonomic surveys are done at working places to identify mobile machinery, to address potential musculoskeletal risk factors and to ensure that adequate rest time is given to persons doing repetitive work. Awareness campaigns are done to prevent adverse health effects emanating from exposure to ultraviolet (UV) rays and employees are provided with eye protection, sunscreen and referred to dermatologists for further assessments, when necessary.

FIGURE 3.1.2.1.2 (h): Other occupational diseases reported from diamond mines' AMRs: 2018 and 2019



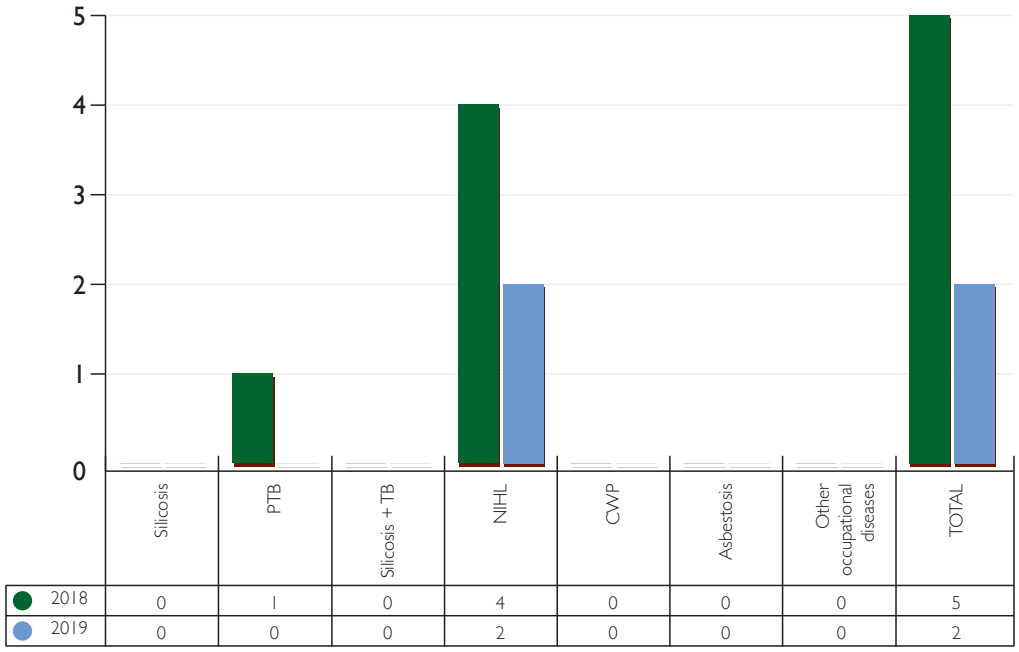
	2018	2019
Occupational asthma	0	1
Military TB	0	1
Total	0	2

Copper mines

A notable reduction of 60.00% was recorded in the occupational diseases reported from the copper sector when compared to the precious year. No PTB cases were reported in 2019, whereas one case was reported in 2018. During 2019, the sector reported two NIHL cases when compared to four cases in 2018.

The HCP implemented by the copper sector includes the monitoring of exposures in identified high-risk areas on mines and the provision of HPDs. Health education, the enforcement of PPE usage and the implementation of other noise reduction interventions has contributed to a notable reduction on the incidence of NIHL cases reported.

FIGURE 3.1.2.1.2 (i): Occupational diseases reported from copper mines' AMRs: 2018 and 2019



	Silicosis	PTB	Silicosis + TB	NIHL	CWP	Asbestosis	Other occupational diseases	TOTAL
2018	0	1	0	4	0	0	0	5
2019	0	0	0	2	0	0	0	2

No cases of other occupational diseases were reported from the copper sector for both 2018 and 2019.

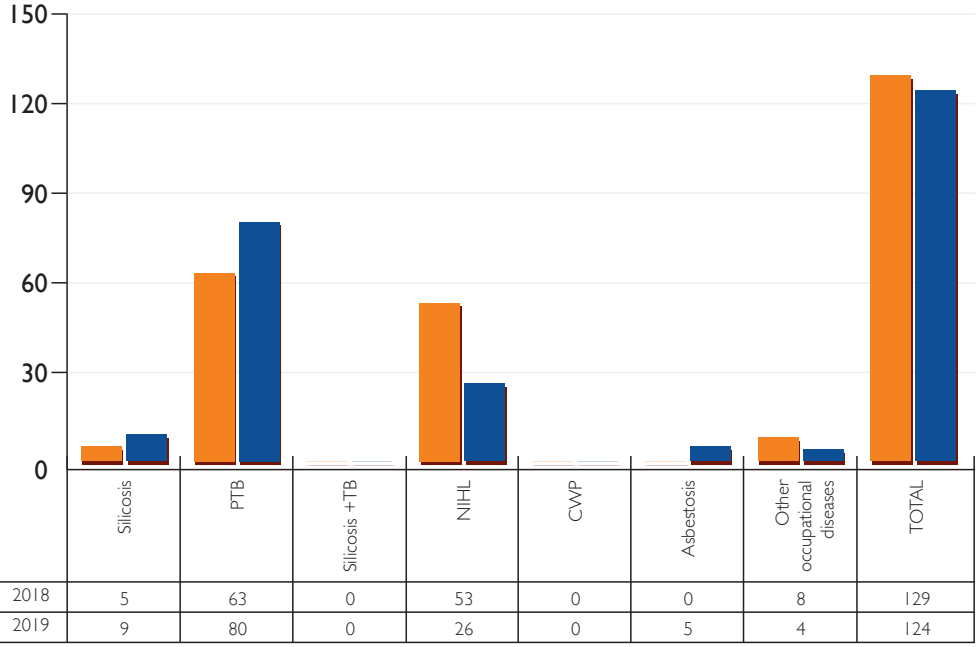
Chrome mines

The chrome sector had a reduction of 3.88% in occupational diseases reported in 2019 when compared to the previous year. The silicosis cases reported have increased by 80.00% and the PTB cases increase by 26.98%. A notable reduction of 50.94% has been noted in the NIHL cases reported.

The chrome sector conducts monthly silica quartz measurements and implements dust suppression to prevent excessive exposure to airborne pollutants. The sector embarks on regular awareness campaigns and health promotion briefings at the workplace OHS meetings. TB screening and regular monitoring is done at periodic examinations and IPT is initiated on all susceptible mine employees, either with HIV co-infection or with known silicosis.

The HCP implemented by the chrome sector includes the regular monitoring of exposures in identified high-risk areas on mines and the provision of maximum hearing protection devices such as custom built HPDs. The health promotion programmes, such as education, training and awareness, addressed the potential effects of exposure to workplace excessive noise levels, the enforcement of PPE usage and other noise reduction interventions, contributed to a notable decrease in the incidence of NIHL cases.

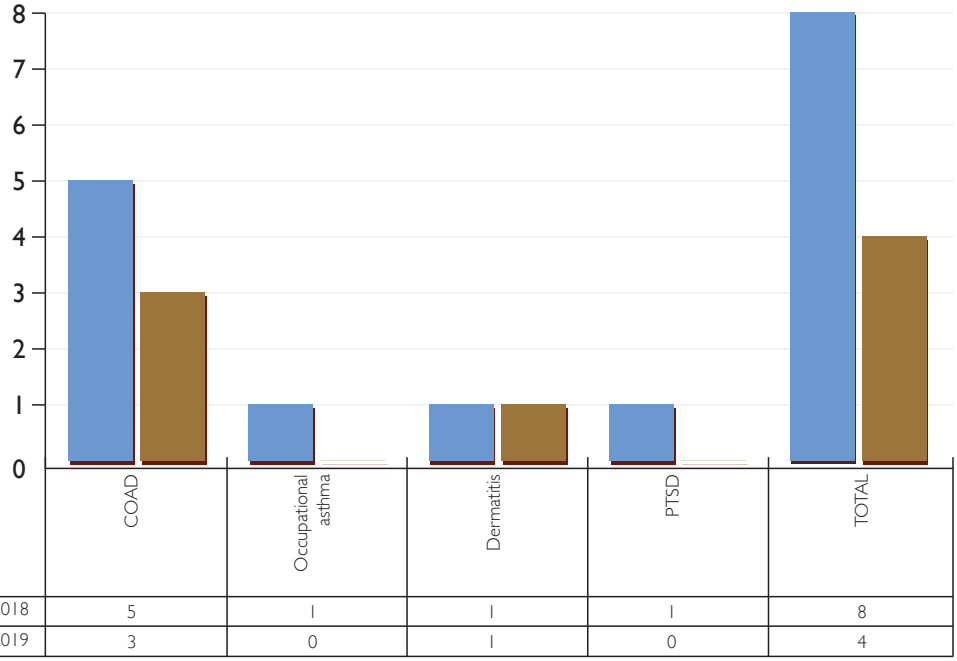
FIGURE 3.1.2.1.2 (j): Occupational diseases reported from chrome mines' AMRs: 2018 and 2019



	Silicosis	PTB	Silicosis +TB	NIHL	CWP	Asbestosis	Other occupational diseases	TOTAL
2018	5	63	0	53	0	0	8	129
2019	9	80	0	26	0	5	4	124

The cases of other occupational diseases showed a notable reduction of 50.00% when compared to the previous year. The chrome sector implemented and developed a specific task standard operating procedures (SOPs), and employees underwent periodic training to promote awareness. The sector also embarked on the monitoring of chrome allergies as well as the issuing of relevant PPE. Biological monitoring is conducted on all exposed groups and screening tests are conducted when it is clinically indicated for early detection, management and referral to a dermatologist for further assessment and treatment, where necessary.

FIGURE 3.1.2.1.2 (k): Other occupational diseases reported from chrome mines' AMRs: 2018 and 2019



	COAD	Occupational asthma	Dermatitis	PTSD	TOTAL
2018	5	1	1	1	8
2019	3	0	1	0	4

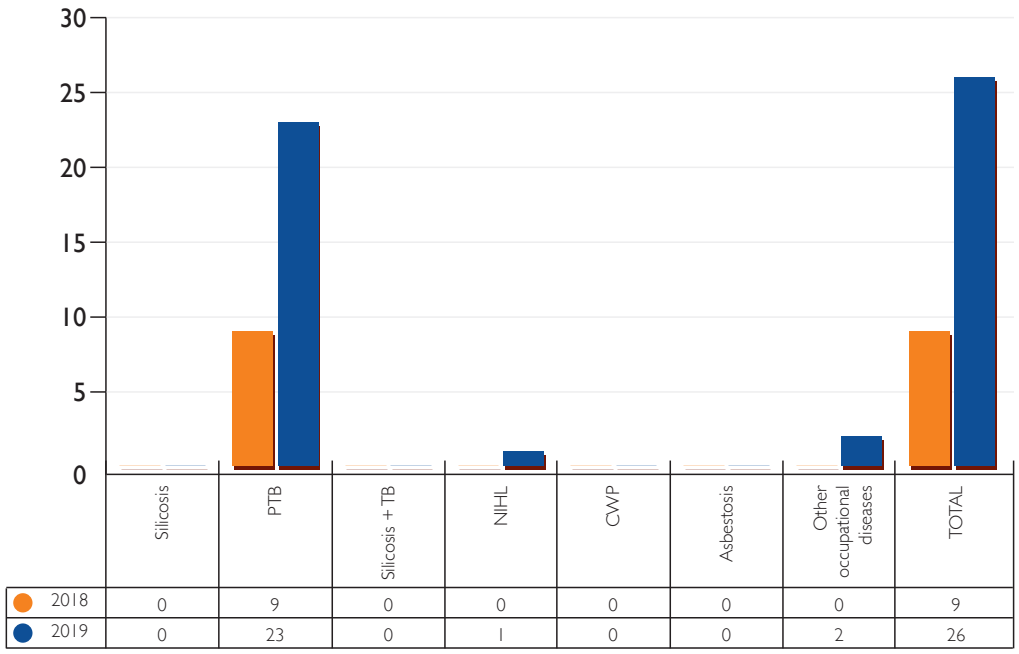
Manganese mines

An increase of 188.89% was noted in the occupational diseases reported from the manganese sector, from nine cases in 2018 to 26 cases in 2019. The PTB cases increased by 155.56% from nine cases reported in 2018 to 23 cases in 2019. One case of NIHL was reported in 2019 when compared to no cases reported in 2018.

The manganese sector continues to implement dust suppression methods and the regular monitoring of ventilation systems in order to mitigate airborne pollutants' related risks to prevent potential adverse health effects. Induction programmes include awareness campaigns with regard to TB. Monthly follow-ups of all TB cases are done in line with the TB guidance note and the national TB management guidelines of the DoH.

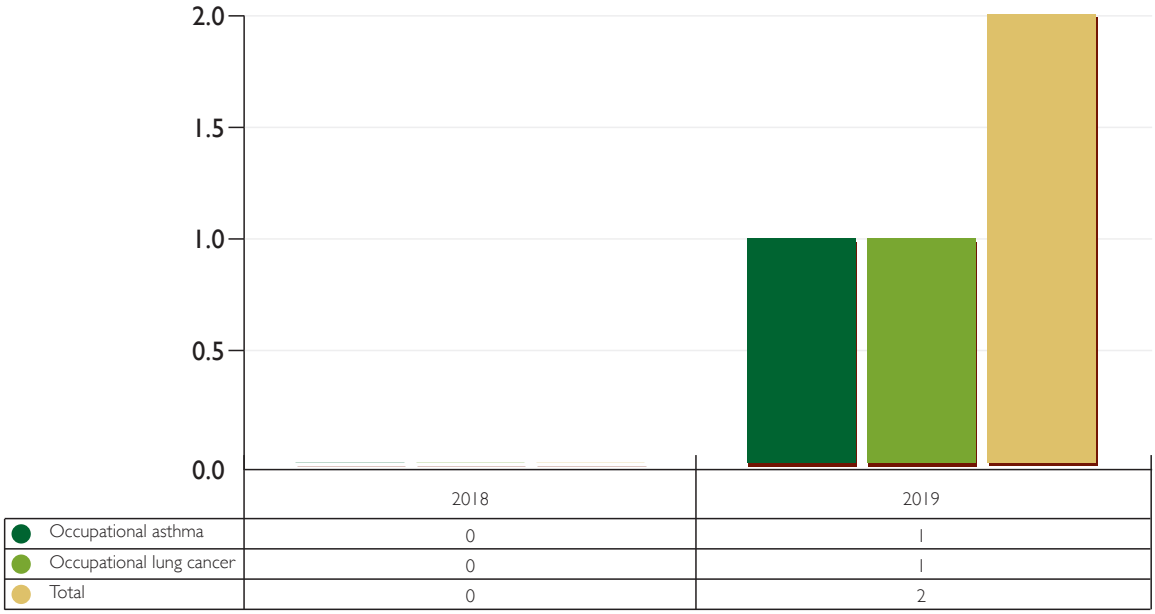
The risk management programmes implemented by the manganese sector include the silencing of fans to reduce noise exposure. HCP prioritises awareness campaigns with regard to identified noise zones, the implementation of the STS guidance note and adherence to the use of HPDs to reduce the incidence of NIHL.

FIGURE 3.1.2.1.2 (I): Occupational diseases reported from manganese mines' AMRs: 2018 and 2019



The manganese sector reported two cases of other occupational diseases compared to no cases reported in 2018. The sector continues to ensure the implementation of manganese exposure monitoring protocols, which is used to create awareness on manganese toxicity and specific manganese related neurological adverse health effects.

FIGURE 3.1.2.1.2 (m): Other occupational diseases reported from manganese mines' AMRs: 2018 and 2019



	2018	2019
Occupational asthma	0	1
Occupational lung cancer	0	1
Total	0	2

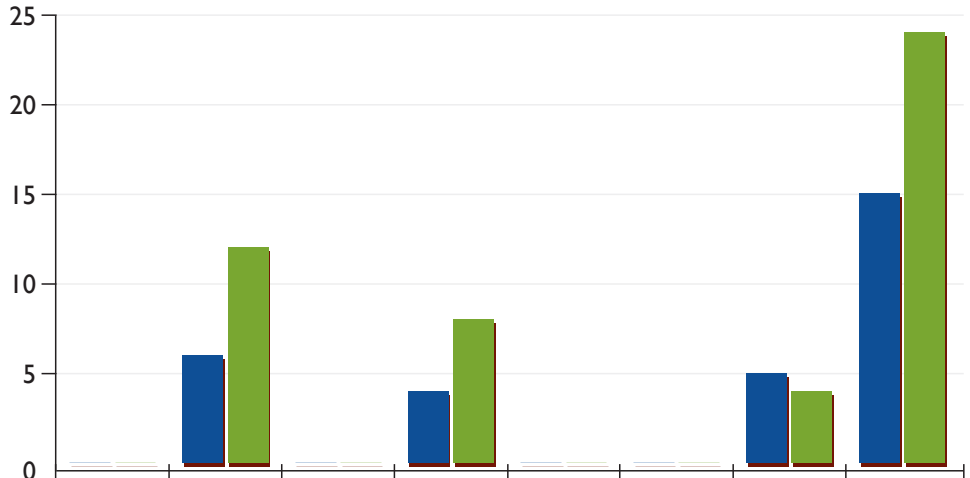
Iron ore mines

The iron ore sector showed an increase of 60.00% in the occupational diseases reported when compared to the previous year. The PTB cases reported increased by 100.00% from six cases reported in 2018 to 12 cases in 2019. The NIHL cases also increased by 100.00% from four cases reported in 2018 to eight cases in 2019.

The iron ore sector continued to implement the provisions of the TB guidance note for TB programmes, and extensive contact tracing is done at PHC, OHC, mine accommodation and in the peri-mining communities.

The HCP implemented by the iron ore sector includes the identification and demarcation of noise areas, awareness campaigns and the education of employees on the potential health effects of exposure to excessive workplace noise levels, as well as other initiatives in place towards the prevention of NIHL.

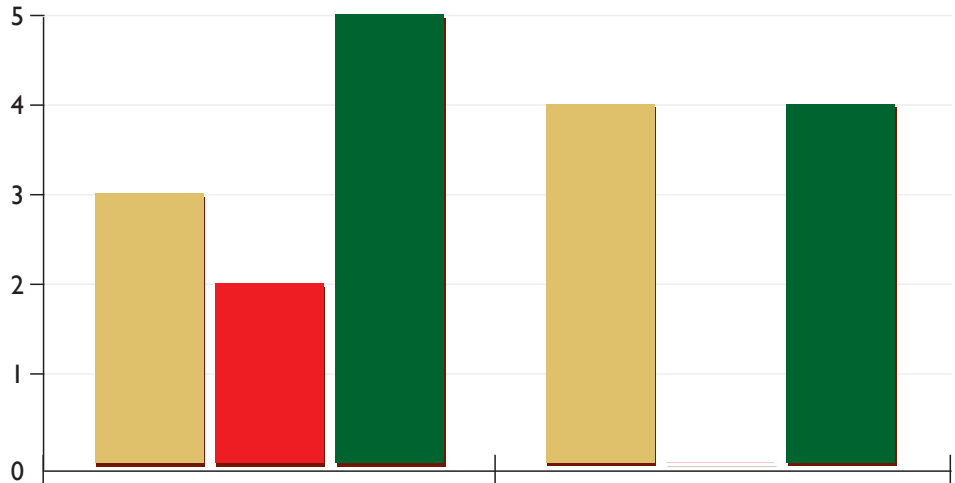
FIGURE 3.1.2.1.2 (n): Occupational diseases reported from iron ore mines' AMRs: 2018 and 2019



	Silicosis	PTB	Silicosis + TB	NIHL	CWP	Asbestosis	Other occupational diseases	TOTAL
2018	0	6	0	4	0	0	5	15
2019	0	12	0	8	0	0	4	24

The cases of other occupational diseases reported from the iron ore sector have shown a slight reduction of 20.00% from five cases reported in 2018 to four cases in 2019. The iron ore sector continues to embark on implementing health promotion programmes which include information sharing during structured OHS meetings and the regular posting of safety flashes on identified relevant topics. Wellness campaigns are done and it includes education, counselling and information sharing on NCDs to promote employees' health.

FIGURE 3.1.2.1.2 (o): Other occupational diseases reported from iron ore mines' AMRs: 2018 and 2019



	2018	2019
Musculoskeletal disorders	3	4
PTSD	2	0
Total	5	4

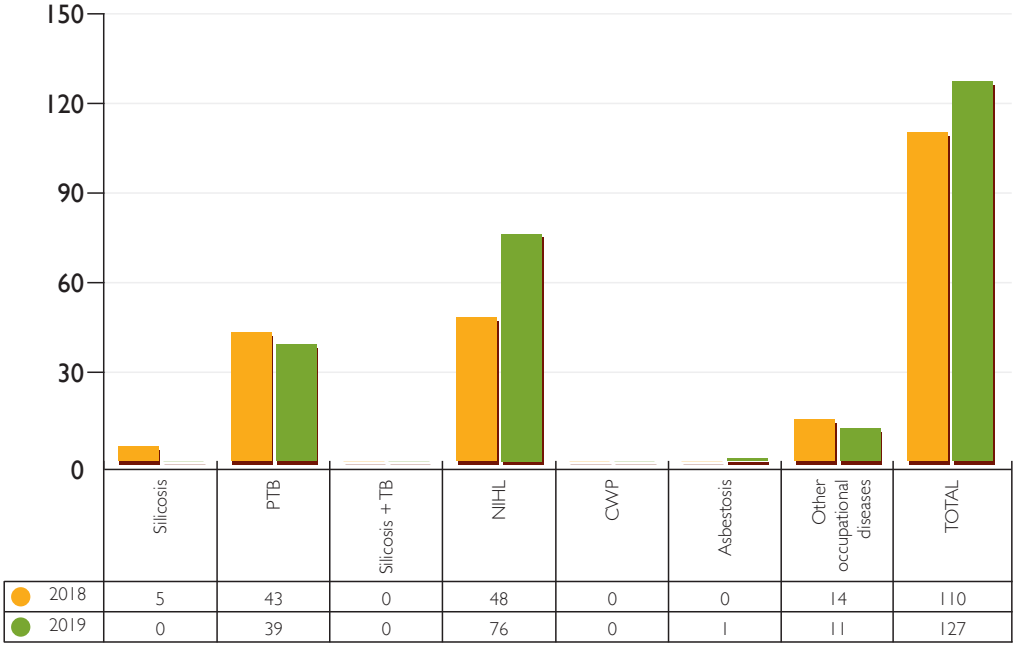
Other mines

The occupational diseases reported from other mines showed an increase of 15.45% when compared to the previous year. No silicosis cases were reported in 2019 compared to five cases reported in 2018. The PTB cases have shown a reduction of 9.30% whilst the NIHL cases have increased by 58.33% when compared to 2018.

The dust action plans implemented at the other mines include the demarcation of dusty areas, continuous watering down and using water carts to reduce exposure to airborne pollutants. It also includes health education and counselling on the adverse health effects of dust as well as the wearing of dust masks. The other mines continue to work in collaboration with the DoH in the implementation of TB programmes and ensure the implementation of health incident investigation programmes where early deviations in health or exposures are identified for the necessary control measures.

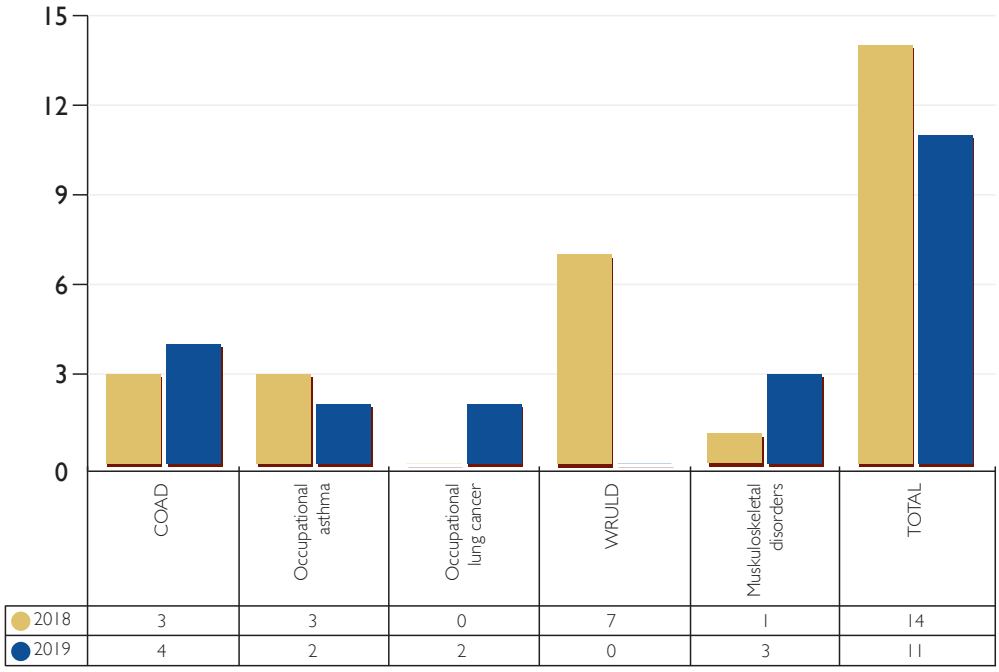
All noise areas at other mines are demarcated with noise hazardous signs. The risk management at other mines includes controlling noise at source by ensuring that no machinery emits noise >107db(A). The STS guidance note is also implemented as a pro-active measure, which includes the monitoring of STS and the necessary actions taken on identified early NIHL incidents to prevent further deterioration. Employees are issued with custom made hearing protection. Ongoing employee education is done on the use of HPDs, its maintenance and the potential health effects from the exposure to workplace hazards.

FIGURE 3.1.2.1.2 (p): Occupational diseases reported from other mines' AMRs: 2018 and 2019



A reduction of 21.43% was noted in the other occupational diseases' cases reported from other mines when compared to the previous year. An ergonomic analysis of job specific tasks is undertaken at mines where rehabilitation programmes are initiated, when necessary. Radiation (radon gas) exposure is kept to as low as reasonably achievable at some mines by supplying fresh intake air for radon dilution, and by preventing the recirculation of air underground.

FIGURE 3.1.2.1.2 (q): Other occupational diseases reported from other mines' AMRs: 2018 and 2019



3.1.2.2 Medical incapacity due to occupational and non-occupational diseases

3.1.2.2.1 Medical incapacity due to occupational diseases

There is a 15.14% reduction in cases of medical incapacity due to occupational diseases when compared to 2018. A reduction of 14.77% was noted in cases reported from the gold sector and a 48.76% reduction from cases in the platinum sector. The cases reported from the coal sector increased by 75.86% from 29 cases in 2018 to 51 in 2019. The cases from the chrome sector increased by 150.00% from two cases in 2018 to five cases in 2019. During 2018, no cases were reported from the manganese and iron ore sectors whilst each sector reported two cases in 2019 each, which is a 100% increase in both sectors. The cases reported from other mines increased by 23.08% from 13 cases in 2018 to 16 cases in 2019. No cases were reported from the copper and diamond sectors for both reporting years.

TABLE 3.1.2.2.1: Medical incapacity cases due to occupational diseases by commodity: 2018 and 2019

	GOLD	COAL	COPPER	CHROME	MANGANESE	IRON ORE	OTHER MINES	TOTAL
2018	535	29	0	2	0	0	13	700
2019	456	51	0	5	2	2	16	594

3.1.2.2.2 Medical incapacity due to non-occupational diseases

The cases of medical incapacity due to non-occupational diseases have increased by 23.24% when compared to 2018. An increase in cases reported by each sector are as follows: gold with 14.47%; platinum with 21.36%; coal with 54.92%; chrome with 74.71%; copper with 16.66%; manganese with 52.38%; and other mines with 93.06%. The cases reported from the diamond and iron ore sectors have shown a reduction of 25.00% and 55.17% respectively when compared to 2018.

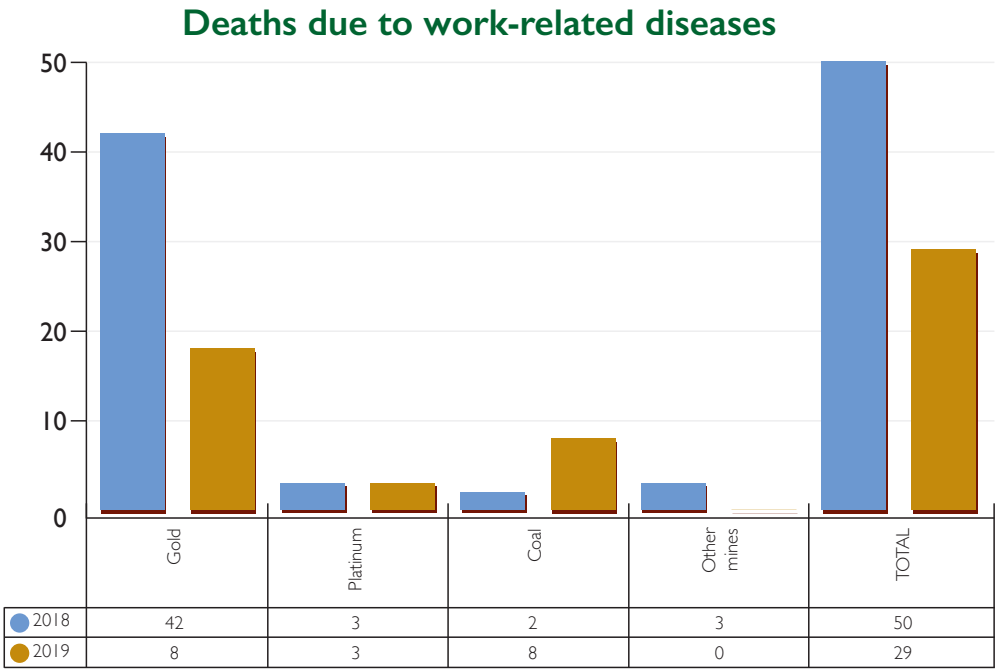
TABLE 3.1.2.2.2: Medical incapacity cases due to non-occupational diseases by commodity: 2018 and 2019

	GOLD	PLATINUM	COAL	DIAMOND	COPPER	CHROME	MANGANESE	IRON ORE	OTHER MINES	TOTAL
2018	919	1 203	122	28	6	87	21	29	72	2 487
2019	1 052	1 460	189	21	7	152	32	13	139	3 065

3.1.2.3 Fatalities due to occupational diseases

The total number of fatalities due to work-related diseases showed a reduction of 42.00%, from 50 cases reported in 2018 to 29 cases in 2019. The cases reported from the gold sector have decreased by 57.14% from 42 cases in 2018 to 18 cases in 2019. The cases reported from the platinum sector have remained unchanged at three cases for both 2018 and 2019. The cases reported from the coal sector increased by 300.00% from two cases reported in 2018 to eight cases in 2019. No cases were reported from the other mines when compared to three cases reported in 2018, which is a reduction of 100.00%. No cases were reported from the diamond, chrome, copper, iron ore and manganese sectors for both reporting years.

FIGURE 3.1.2.3: Fatalities due to work-related diseases by commodity: 2018 and 2019

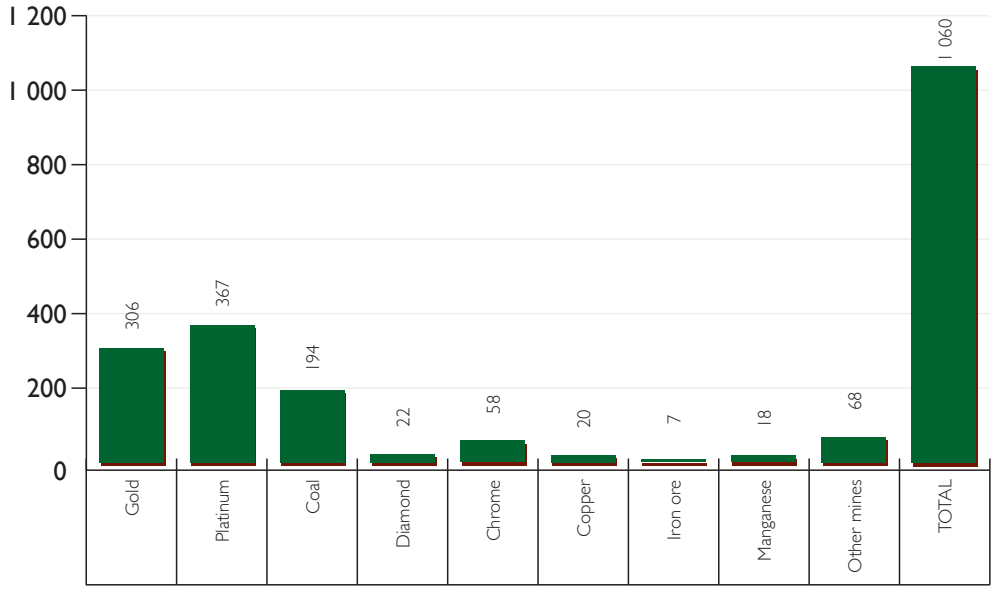


3.1.2.4 Natural deaths

The AMR form was revised in 2019 to include reporting on natural deaths by the mining industry. There is a total of 1 060 cases of natural deaths that were reported by all mines in 2019. Most cases of natural deaths were reported by the platinum sector, followed by the gold, coal, other mines, chrome, diamond, copper, manganese and iron ore sectors.

The analysis of medical conditions reported as contributing factors to natural deaths included cardiovascular diseases, chronic respiratory diseases, auto immune diseases, endocrine and metabolic system disorders, genitourinary disorders, cancer and gastrointestinal diseases, whilst the majority of cases reported were unspecified. Some cases were reported as unknown.

FIGURE 3.1.2.4: Natural deaths by commodity: 2019



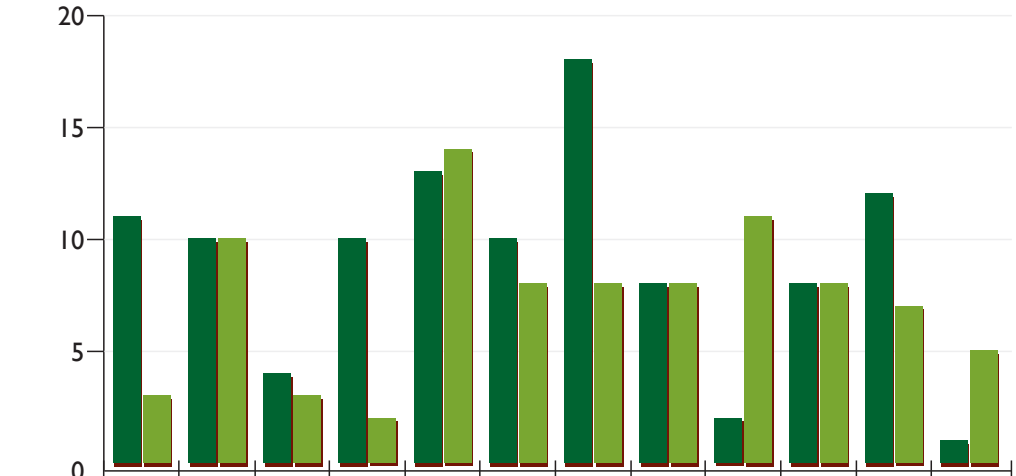
3.2 Medical Inspector's report

The Medical Inspector, who is legally appointed in terms of section 49(1)(a)(b) of the MHSA is responsible for adjudication on section 20 of the act. Section 20 allows employees to dispute the decision of the Occupational Medical Practitioners (OMP) or the findings of an exit, by lodging a medical appeal to the Medical Inspector. It means that an employee may not lodge an appeal if the employee was found to be fit, or states any other reason not mentioned above. Many employees tend to use the appeal process to complain about compensation and labour relations issues. These complaints cannot be processed as medical appeals, since it would not be meeting the requirements specified. Findings in an exit do not cover issues of unfitness, thus if an employee's appeal is based on the exit certificate, the reasons should be about the findings in the certificate and not the unfitness.

3.2.1 Medical appeals

For 2019, the Medical Inspector handled 176 appeal documents and only 107 of those met all requirements for section 20 medical appeals, whilst 89 documents did not meet all the requirements for a section 20 medical appeal. Of the 107 appeals that met the requirements, 87 were finalised and responses were sent to the appellants and their representatives.

FIGURE 3.2.1: Appeals received and finalised for 2019



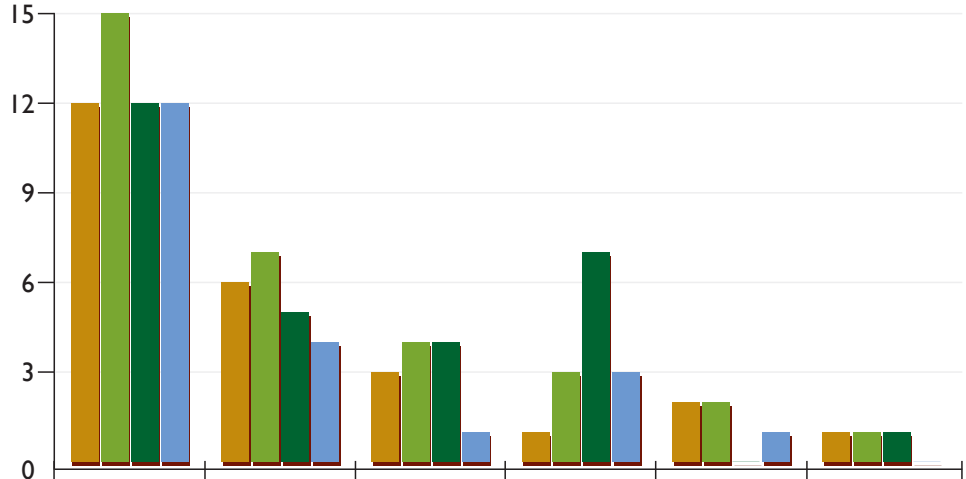
	January	February	March	April	May	June	July	August	September	October	November	December
Received	11	10	4	10	13	10	18	8	2	8	12	1
Finalised	3	10	3	2	14	8	8	8	11	8	7	5

During the months of January, May, July and November 2019, there was an influx of appeals received by the Medical Inspector. Most employees were declared permanently incapacitated during retrenchment periods.

3.2.2 Appeals received per region

Regions contributing to appeals remained the same, however Mpumalanga had an increase in appeals when compared to the previous reporting years. The coastal regions have not been contributing to appeal statistics.

FIGURE 3.2.2: Number of appeals per region from January to December 2019



	North West	Free State	Mpumalanga	Gauteng	Northern Cape	Limpopo
January - March	12	6	3	1	2	1
April - June	15	7	4	3	2	1
July - September	12	5	4	7	0	1
October - December	12	4	1	3	1	0

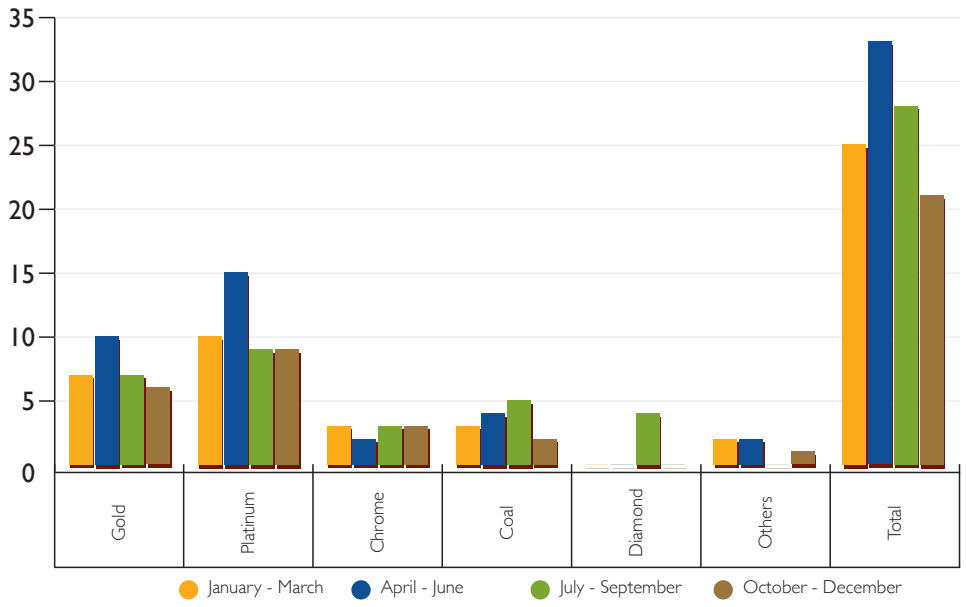
3.2.3 Appeals received per commodity

The main commodities contributing to medical appeals for 2019 remain the gold and platinum sectors. Unlike in 2018, most of the appeals were received between April and September 2019. Gold corresponds with the Free State and Gauteng regions combined, while the platinum commodity corresponds to the North West: Rustenburg region.

TABLE 3.2.3: Appeals received per commodity

	GOLD	PLATINUM	COAL	DIAMOND	CHROME	OTHER	TOTAL
January - March	7	10	3	0	3	2	25
April - June	10	15	4	0	2	2	33
July - September	7	9	5	4	3	0	28
October - December	6	9	2	0	3	1	21
TOTAL	30	43	14	4	11	5	107

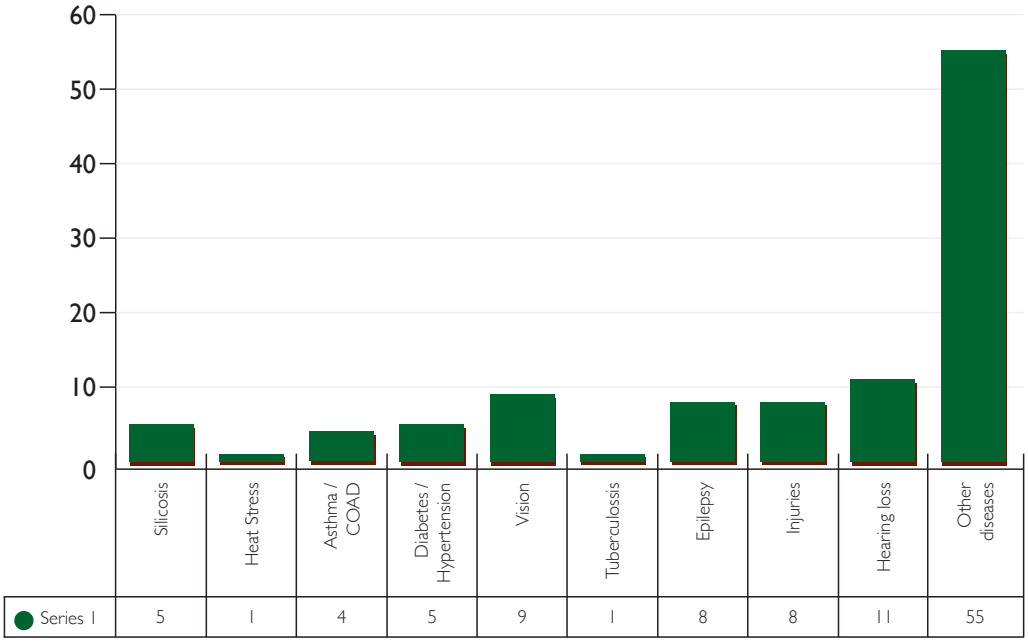
FIGURE 3.2.3: Appeals received per commodity from January to December 2019



3.2.4 Diseases associated with appeals received for 2019

Occupational diseases such as silicosis, TB, asthma and heat stress were reduced in terms of the appeals lodged in 2019, however there was an increase in asthma appeal cases from one case to four cases when compared to 2018. With reference to figure 3.2.4 below, other diseases included psychiatric, cardiac and renal conditions, amongst others.

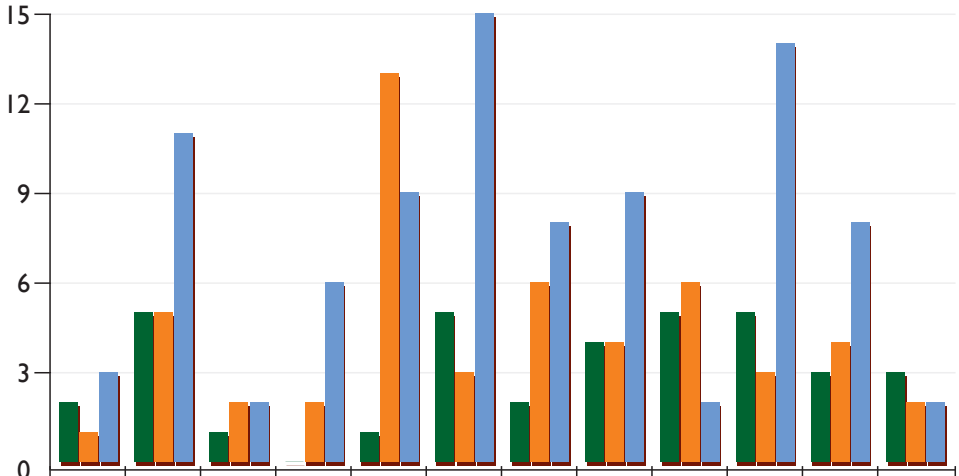
FIGURE 3.2.4: Diseases associated with appeals received for 2019



3.2.5 Appeals findings

As indicated under section 3.2.1, a total of 176 appeal documents were handled by the Medical Inspector during 2019. After determining which documents met the requirements for section 20 appeals, the Medical Inspector had to rule on the fitness of the employees who appealed. The decision is usually based on holistic factors considered and the Medical Inspector has the authority to vary, confirm or set aside the decision of the OMP. For 2019, approximately 20% of appellants were found to be fit, indicating the decisions of the OMPs were set aside and 29% were found to be unfit, indicating the decisions of the OMP were confirmed. The rest of the cases, at 51%, were varied, handled differently and concluded as it did not require the Medical Inspector to comment on the fitness status of the employees.

FIGURE 3.2.5: Appeal findings from January to December 2019



	January	February	March	April	May	June	July	August	September	October	November	December
FIT	2	5	1	0	1	5	2	4	5	5	3	3
UNFIT	1	5	2	2	13	3	6	4	6	3	4	2
OTHER (Complaint, compensations & withdrawals)	3	11	2	6	9	15	8	9	2	14	8	2

A lot of employees use the appeal forms to lodge complaints based on labour relations issues. Despite presentations on the requirements for a section 20 appeal, a lot of the cases do not meet the requirements. This interferes with and delays the processing of authentic section 20 appeal cases.

3.2.6 Challenges to the appeal process

Challenges pertaining to the appeal process are bound to occur when different stakeholders are involved and not in agreement. There are new challenges as well as those that remain constant as indicated below:

3.2.6.1 Employees

- Appealing and then leaving the mine, not being accessible.
- Still appealing against unfair labour processes, instead of against unfitness.
- Believing that appealing through a private practitioner will be successful.
- Being desperate and paying for services provided free by the MHSI.
- Not accepting unfavourable outcomes, despite being supported by facts.

3.2.6.2 Employers (OMPs)

- Not explaining to employees that section 20 appeals should be lodged within 30 days.
- Not providing adequate reasons to support the decisions made on the fitness of the employees.
- Delays in responding to the MHSI when required to provide clarity.
- Being faced with an ethical dilemma when making decisions pertaining to fitness.

3.2.6.3 Second opinion doctors sourced by employees

- Wanting to give the Medical Inspector instructions on how to process appeals.
- Threatening the Medical Inspector with legal action.
- Not up to date in terms of the latest guidelines and occupational health processes.
- Misinterpreting section 20 of the MHSA, thus misrepresenting employees.
- Querying the ***Medical Bureau for Occupational Diseases*** (***MBOD***) decisions through the Medical Inspector, instead of using the channels provided by the MBOD to lodge a dispute.

3.2.6.4 Section 20 of the MHSA

- Outdated and not in sync with medical developments and ethics.
- Not clear, thus open to misinterpretation.

3.3 Reporting on HIV and TB

The analysis presented is solely based on TB and HIV data received as submitted by the mines during the reporting period. For 2019, reports were received from 754 mines representing 449 246 employees when compared to 850 mines with 493 054 employees in 2018.

3.3.1 Compliance for all mines

TABLE 3.3.1(a): Compliance for all mines per commodity: 2019

MEASURE	GOLD	COAL	PLATINUM	DIAMOND	OTHER COMMODITIES	Total
	Number of mines: 52	Number of mines: 132	Number of mines: 70	Number of mines: 146	Number of mines 354	Total mines: 754
	Employees: 105 844	Employees: 109 877	Employees: 120 156	Employees: 15 725	Employees: 97 644	Employees: 449 246
Integrated HIV and TB policy	47 (90.3%)	128 (96.9%)	70 (100%)	137 (93.8%)	327 (92.4%)	709 (94.0%)
Integrated HIV and TB programme	47 (90.3%)	118 (89.3%)	69 (98.6%)	10 (6.8%)	202 (57.1%)	446 (59.2%)
HIV and TB programme budget	42 (80.7%)	87 (65.9%)	69 (98.6%)	10 (6.8%)	136 (38.4%0	344 (45.6%)
Monitoring and evaluation systems for TB and HIV programmes	42 (80.7%)	119 (90.2%)	69 (98.6%)	4 (2.7%)	199 (56.2%)	433 (57.4%)

In 2019, the total compliance for integrated HIV and TB policy was 94.0% and compliance for integrated HIV and TB programmes was 59.2%. The overall HIV and TB programme budget is lower than the previous year at 45.6%. Once again, the diamond sector did not perform well in terms of compliance relating to HIV and TB programmes, the budget, the monitoring and the evaluation while the platinum sector was the best performer with regard to compliance. The number of mines that have submitted the DMR 164-forms reduced because of COVID-19 and the lockdown, resulting in an overall decline in compliance measures.

TABLE 3.3.1(b): HIV counselling and testing services and TB programme data elements for all commodities in 2019

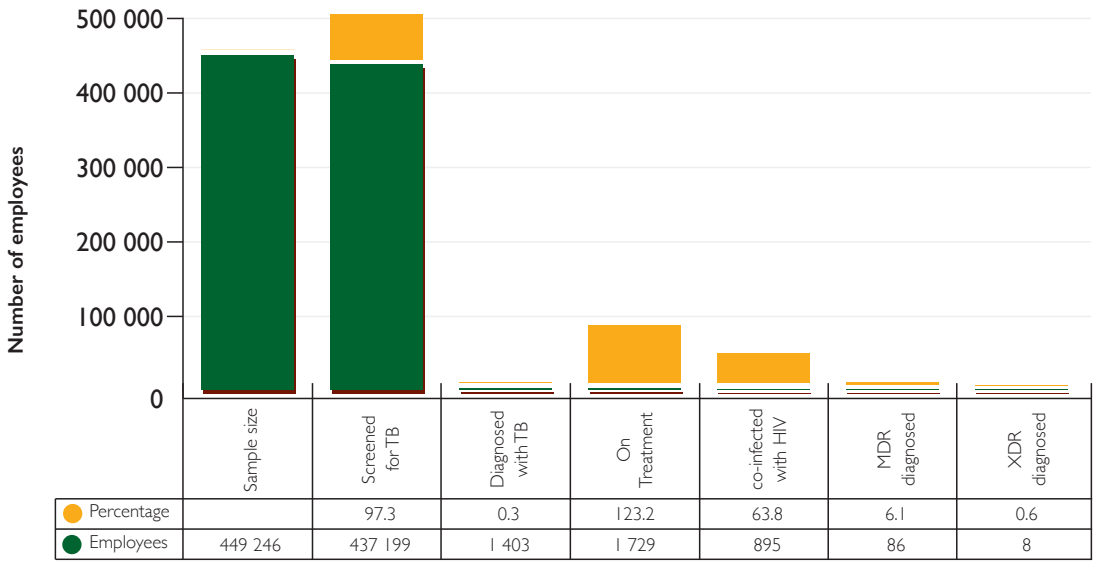
Data Elements	GOLD	COAL	PLATINUM	DIAMOND	OTHER COMMODITIES	TOTAL
	Number of mines: 52	Number of mines: 132	Number of mines: 70	Number of mines: 146	Number of mines: 354	Total mines: 754
	Employees: 105 844	Employees: 109 877	Employees: 120 156	Employees: 15 725	Employees: 97 644	Employees: 449 246
Counselled for HIV	69 825 (66.0%)	63 291 (57.6%)	110 740 (92.2%)	12 508 (79.5%)	59 017 (60.4%)	315 381 (70.2%)
Tested for HIV	49 410 (70.7%)	32 133 (50.8%)	84 254 (76.1%)	6 740 (53.9%)	37 919 (64.3%)	210 456 (66.7%)
HIV-positive	2 704 (5.4%)	1 496 (4.7%)	7 967 (9.5%)	89 (0.7%)	845 (2.2%)	13 101 (6.2%)
Co-infected with TB and HIV	453 (74.4%)	76 (0.24%)	296 (67.9%)	4 (21.1%)	66 (37.7%)	895 (63.8%)
Living with HIV and on antiretroviral (ARV)	2 674	1 496	7 665	88	2 652	14 575
Screened for TB	104 329 (98.6%)	104 371 (95.0%)	119 720 (99.6%)	15 467 (98.6%)	93 312 (95.6%)	437 199 (97.3%)
Diagnosed with TB	609 (0.6%)	164 (0.2%)	436 (0.4%)	19 (0.1%)	175 (0.2%)	1 403 (0.3%)
On TB treatment	826 (135.6%)	166 (0.2%)	496 (113.8%)	17 (89.5%)	224 (128.0%)	1 729 (123.2%)
Diagnosed with multi-drug-resistant TB (MDR-TB)	44 (7.2%)	8 (0.0%)	28 (6.4%)	0 (0.0%)	6 (3.4%)	86 (6.1%)
Diagnosed with extremely drug-resistant TB (XDR-TB)	6 (1.0%)	0 (0.0%)	2 (0.5%)	0 (0.0%)	0 (0.0%)	8 (0.6%)

In 2019, 0.3% of employees were diagnosed with TB, whereas 0.4% were diagnosed with TB in 2018. The decrease in TB cases could be based on less DMR164-form submissions, the impact of TB awareness campaigns in the mining industry and the guidelines promulgated by the MHSI.

3.3.2 TB programme and TB/HIV co-infection in all mines

For 2019, the total number of employees screened for TB complied with the Joint United Nations Programme on HIV and AIDS (UNAIDS) 90:90:90 strategy for TB. The co-infection rate has however remained constant at 63.8%.

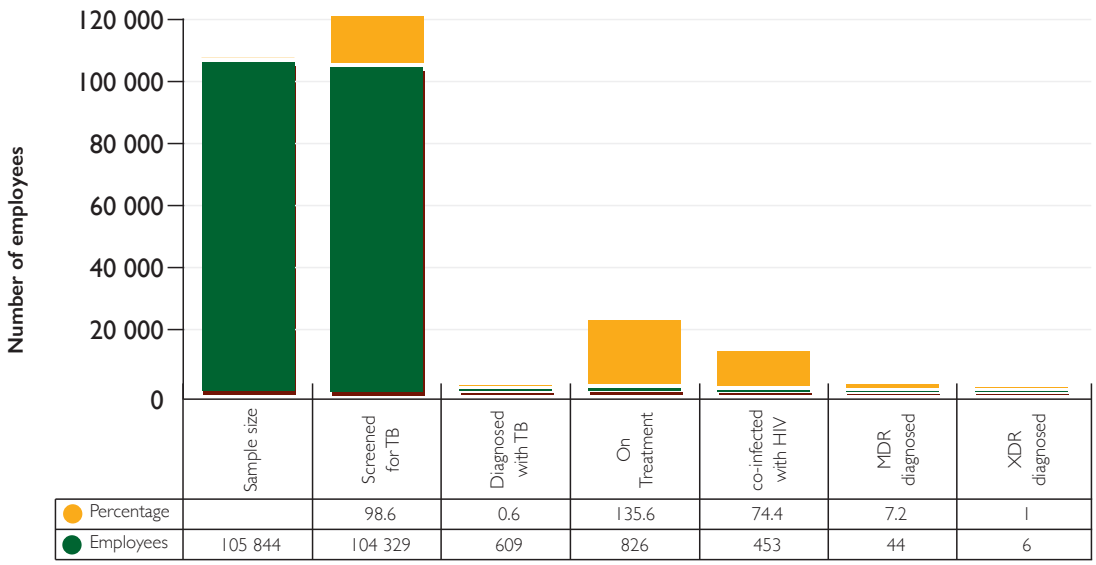
FIGURE 3.3.2: TB programme and TB/HIV co-infection in all mines



	Sample size	Screened for TB	Diagnosed with TB	On Treatment	co-infected with HIV	MDR diagnosed	XDR diagnosed
Percentage		97.3	0.3	123.2	63.8	6.1	0.6
Employees	449 246	437 199	1 403	1 729	895	86	8

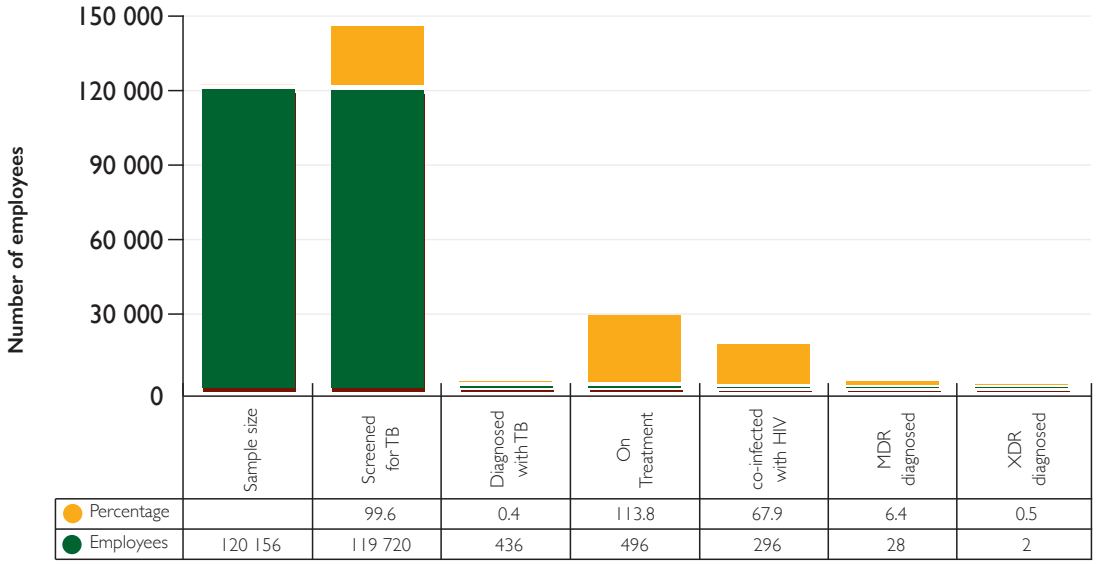
3.3.3 TB programme and TB/HIV co-infection per commodity

FIGURE 3.3.3(a): Gold sector



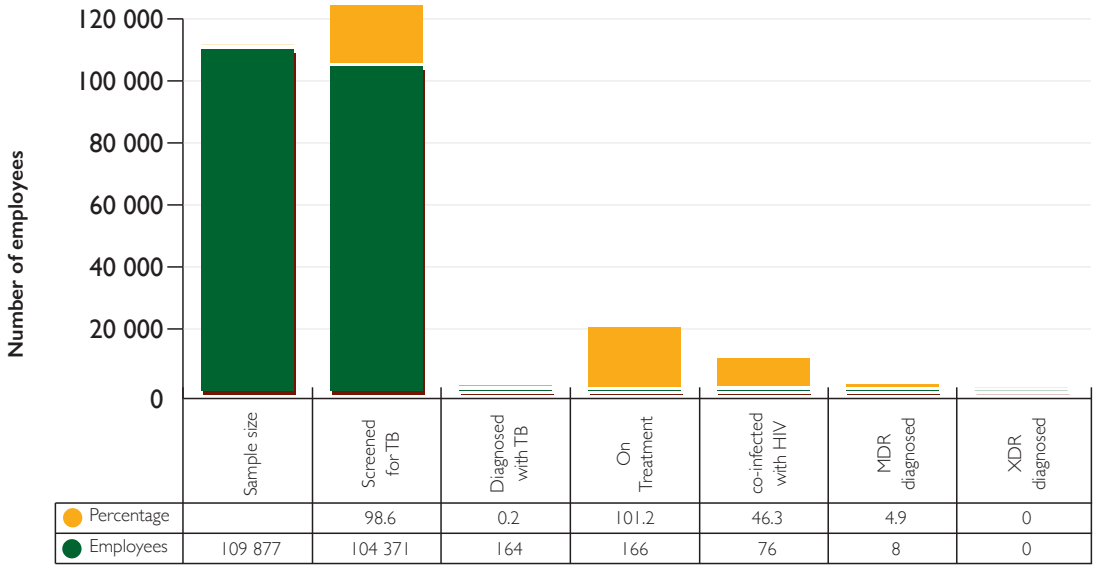
TB screening in the gold sector increased from 92.8% in 2018 to 98.6% in 2019. Employees diagnosed with TB were 0.6% in 2019, which is a decline from 0.9% recorded in 2018. The co-infection rate remains at approximately 74.4%, and employees diagnosed with MDR-TB increased from 3.9% to 7.2%.

FIGURE 3.3.3(b): Platinum sector



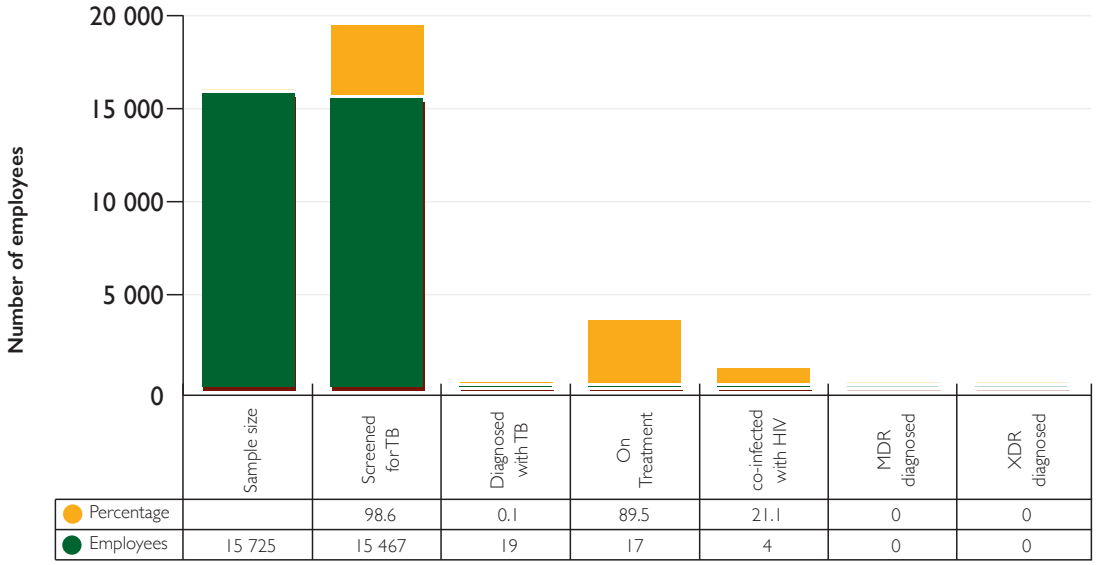
TB screening in the platinum sector increased from 98.9% in 2018 to 99.6% in 2019, and of those screened only 0.4% were diagnosed with TB. TB treatment included those treated for MDR-TB and XDR-TB, hence more people were treated than those diagnosed.

FIGURE 3.3.3(c): Coal sector



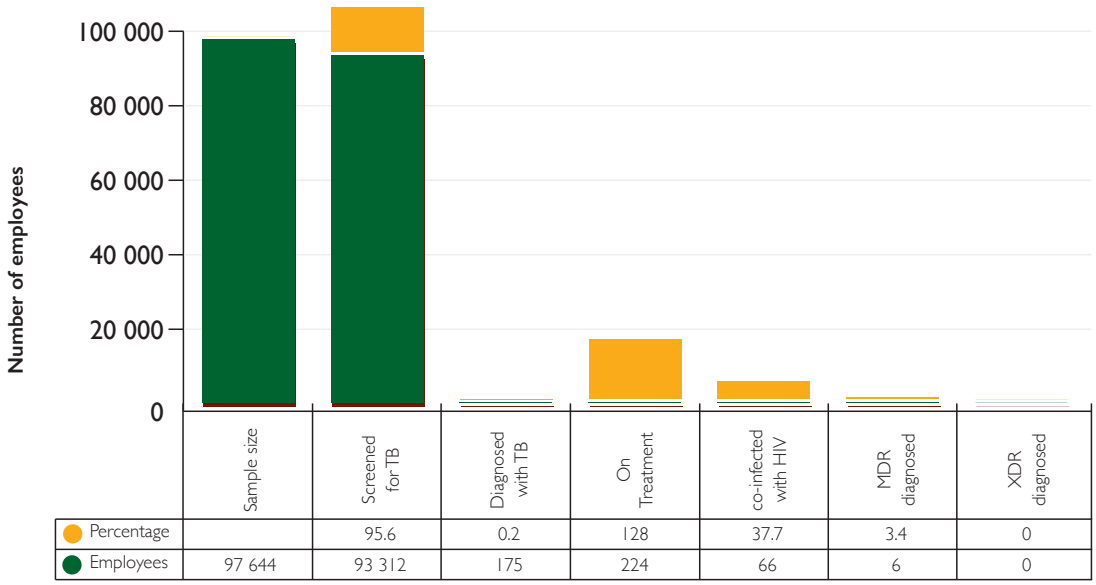
The coal sector achieved the first 90 of the UNAIDS 90:90:90 end TB strategy. Only 0.2% of employees were diagnosed with TB and the co-infection rate decreased from 49% in 2018 to 46.3% in 2019.

FIGURE 3.3.3(d): Diamond sector



TB screening in the diamond sector improved from 92.4% to 98.6%. Only 0.1% of employees were diagnosed with TB when compared to 0.5% in 2018. The co-infection rate decreased from 75% in 2018 to 21.1% in 2019. The sessions held with small diamond diggers assisted in the improvement with TB and HIV data.

FIGURE 3.3.3(e): Other commodities

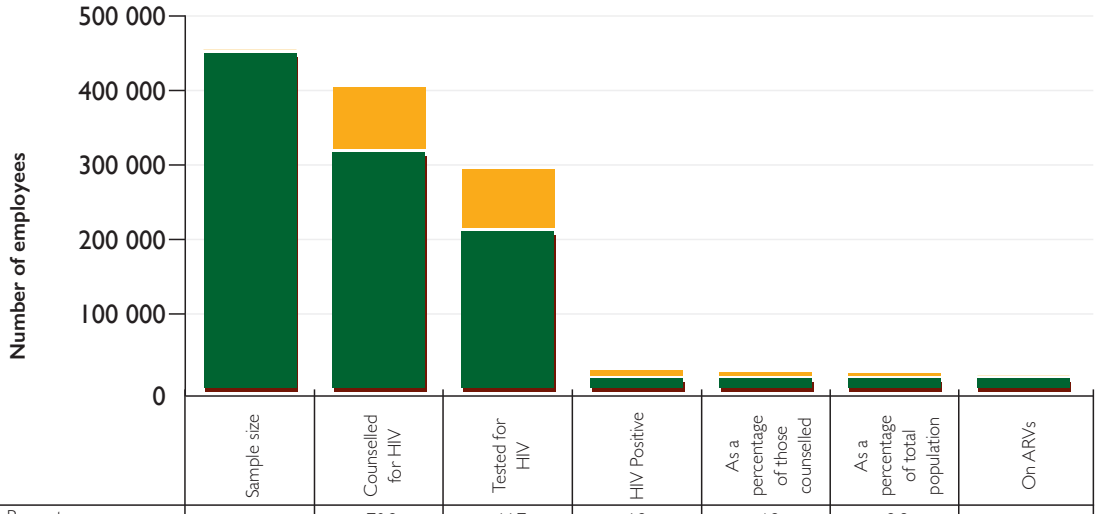


	Sample size	Screened for TB	Diagnosed with TB	On Treatment	co-infected with HIV	MDR diagnosed	XDR diagnosed
Percentage		95.6	0.2	128	37.7	3.4	0
Employees	97 644	93 312	175	224	66	6	0

Other commodities, which comprise mostly of small mines, showed that good collaboration between the mines and public services can be effective in the management of TB and HIV. This is evident in that TB screening remained above 90% and only 0.2% of employees were diagnosed with TB.

3.3.4 HIV counselling and testing (HCT) services in all mines for 2019

FIGURE 3.3.4: HCT services in all mines for 2019

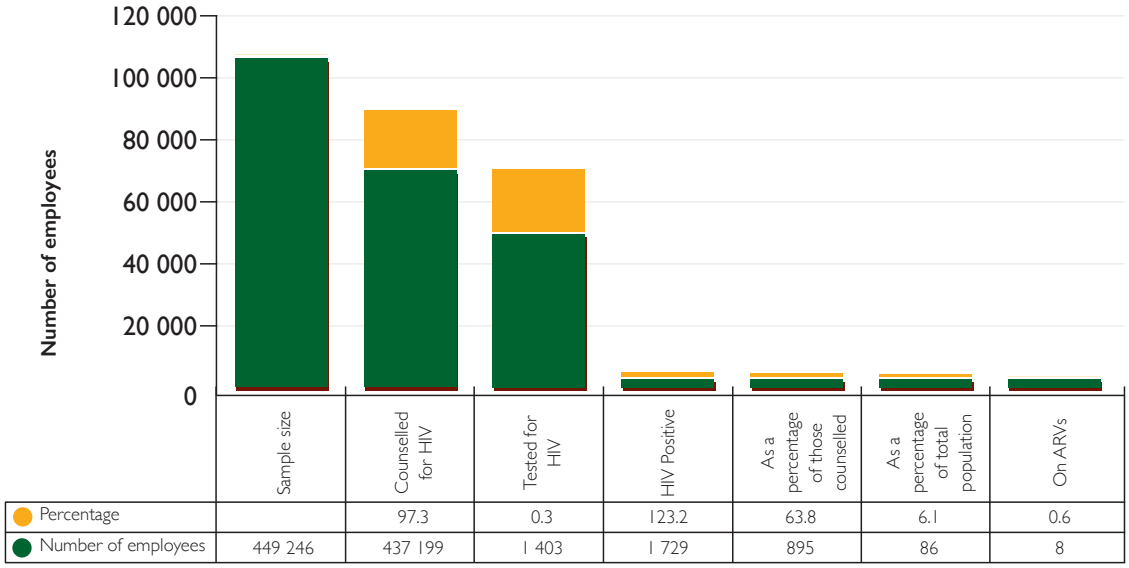


	Sample size	Counselled for HIV	Tested for HIV	HIV Positive	As a percentage of those counselled	As a percentage of total population	On ARVs
Percentage		70.2	66.7	6.2	4.2	2.9	
Number of employees	449 246	315 381	210 456	13 101	13 101	13 101	12 858

3.3.5 HCT services per commodity

From a sample of 449 246 employees, 70.2% were counselled for HIV testing and 66.7% opted to get tested. This is below 90% towards achieving the UNAIDS 90:90:90 HIV strategy. Strategies have been put in place to improve the percentage. The fact that employees cannot be forced to get tested also contributed to the HIV testing not achieving 90%.

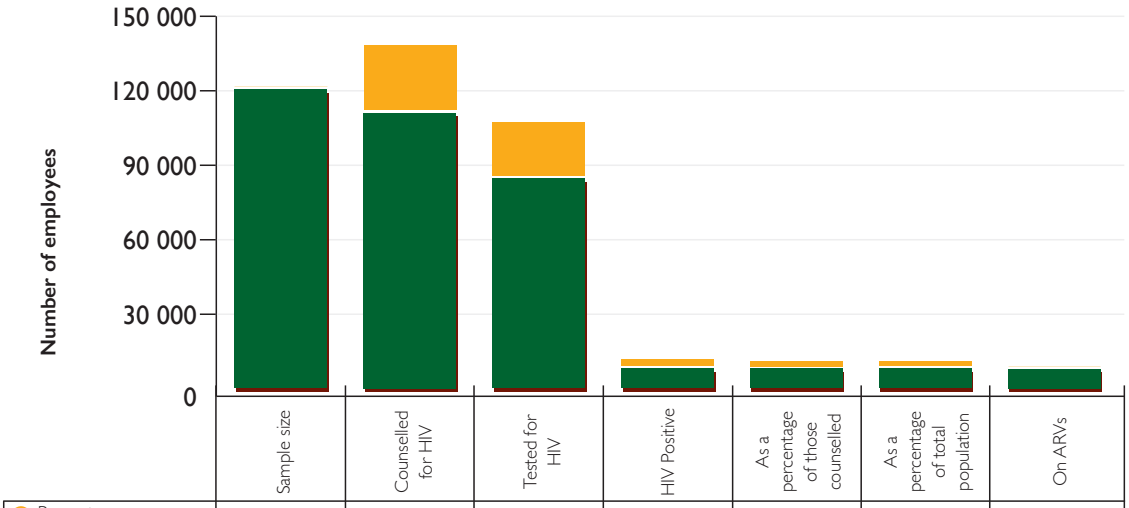
FIGURE 3.3.5(a): Gold sector



	Sample size	Counselled for HIV	Tested for HIV	HIV Positive	As a percentage of those counselled	As a percentage of total population	On ARVs
Percentage		97.3	0.3	123.2	63.8	6.1	0.6
Number of employees	449 246	437 199	1 403	1 729	895	86	8

Employees who were tested for HIV in 2019 were at 70.7% which is an improvement from 46.8% tested in 2018. Only 5.4% of the employees were HIV positive when compared to 7.8% in 2018.

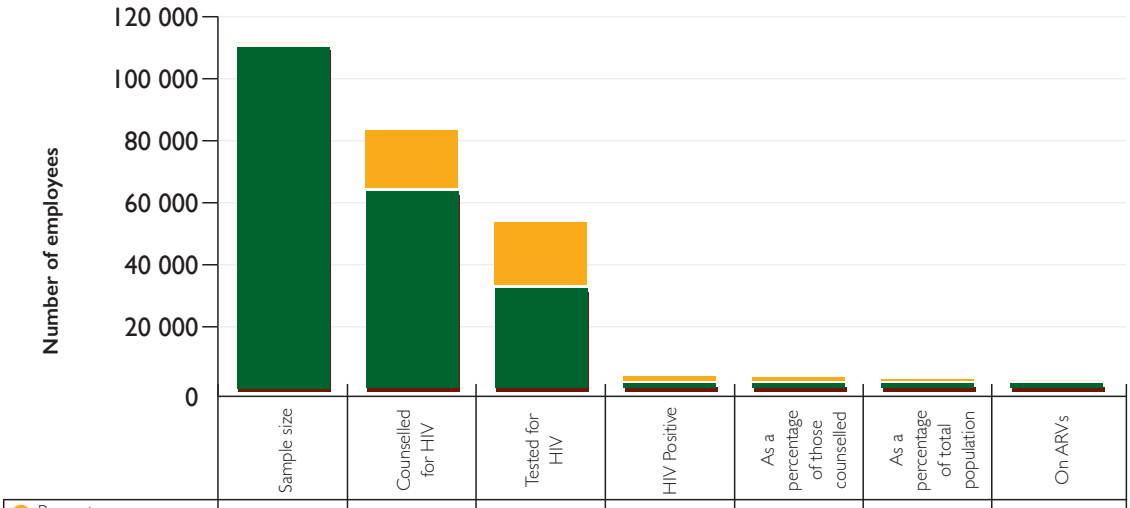
FIGURE 3.3.5(b): Platinum sector



	Sample size	Counselled for HIV	Tested for HIV	HIV Positive	As a percentage of those counselled	As a percentage of total population	On ARVs
Percentage		92.2	76.1	9.5	7.2	6.6	
Number of employees	120 156	10 740	84 254	7 967	7 967	7 967	7 665

HIV counselling in the platinum sector remained high at 92.2% in 2019. More employees opted to be tested at 76.1% of those counselled and 9.5% of these employees were found to be HIV positive. The platinum sector continues to perform well and can be referred to for best practice in managing TB and HIV in the mining industry.

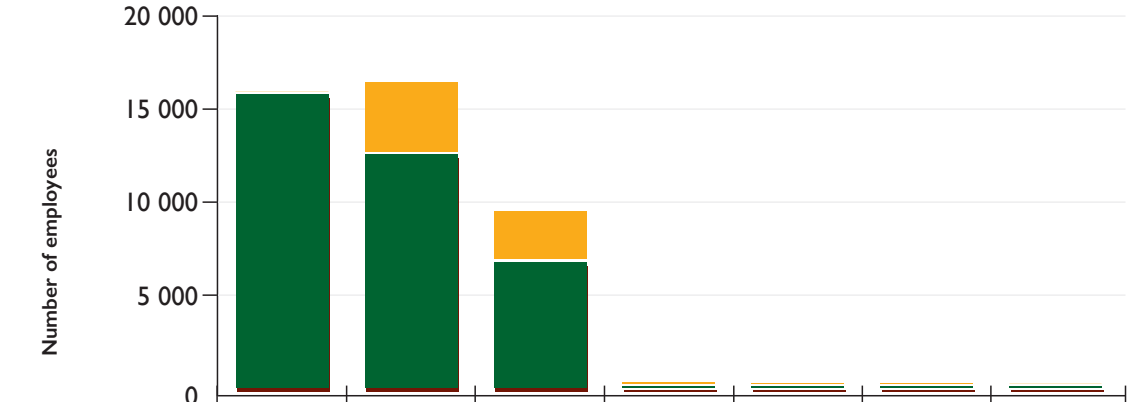
FIGURE 3.3.5(c): Coal sector



	Sample size	Counselled for HIV	Tested for HIV	HIV Positive	As a percentage of those counselled	As a percentage of total population	On ARVs
Percentage		65.8	70.7	5.4	3.8	1.4	
Number of employees	109 877	63 291	32 133	1 496	1 496	1 496	1 496

Employees in the coal sector who tested for HIV in 2019 amounted to 70.7%, which is a marked improvement from 51.8% in 2018. Despite the higher sample size in 2019, there is a decrease in employees who tested positive at 5.4%, when compared to 7.5% in 2018. TB and HIV programmes in place are working in reducing and preventing HIV infections.

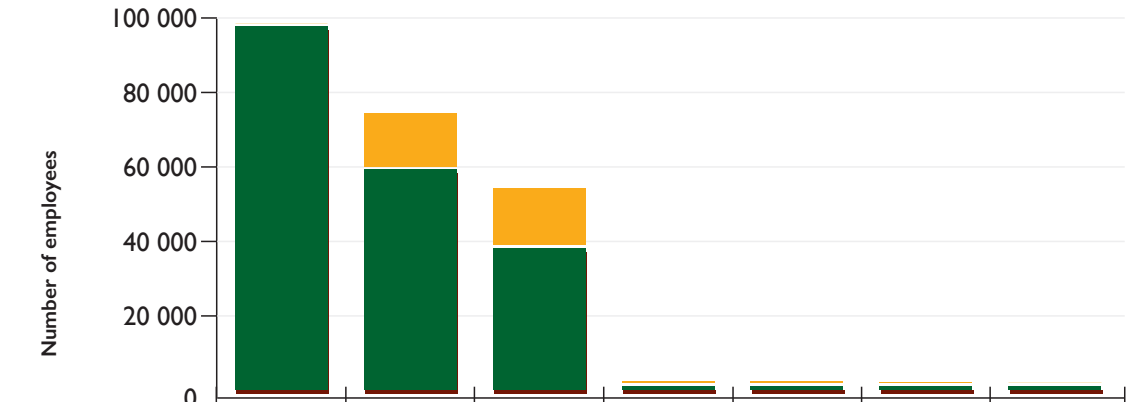
FIGURE 3.3.5(d): Diamond sector



	Sample size	Counselled for HIV	Tested for HIV	HIV Positive	As a percentage of those counselled	As a percentage of total population	On ARVs
Percentage		79.5	53.9	1.3	0.7	0.6	
Number of employees	15 725	12 508	6 740	89	89	89	88

HIV counselling in the diamond sector improved during 2019, at 79.5%. Only 53.9% of the employees opted to be tested for HIV and 1.4% tested positive. HIV testing services are mainly outsourced. Improved collaboration between the diamond sector and key-partners resulted in better co-ordination of data, which was a challenge during previous reporting periods.

FIGURE 3.3.5(e): Other commodities



	Sample size	Counselled for HIV	Tested for HIV	HIV Positive	As a percentage of those counselled	As a percentage of total population	On ARVs
Percentage		60.4	64.3	2.2	1.4	0.9	
Number of employees	97 644	59 017	37 919	845	845	845	935

Other mines counselled 60.4% of their employees and 64.3% of those counselled opted to be tested for HIV. Employees who tested HIV positive in 2019 decreased to 2.2% when compared to 3.7% in 2018. Other commodities mostly consist of small mines that rely on mobile clinics for HIV testing services.

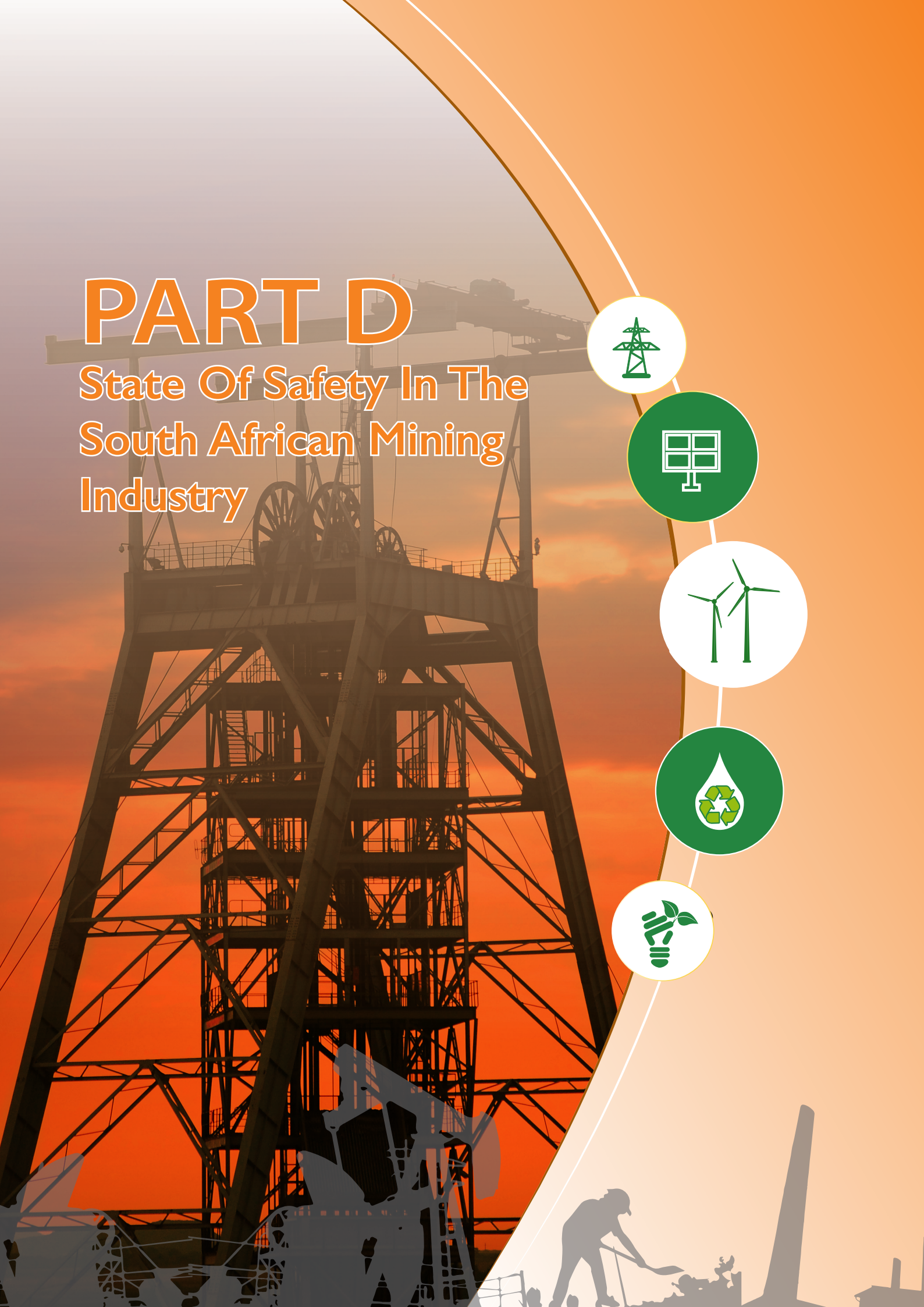
TABLE 3.3.5: Trends of data elements for reporting years: 2013 to 2019

DATA ELEMENTS	2013	2014	2015	2016	2017	2018	2019
	TOTAL LABOUR FORCE						
	423 032	465 923	476 625	455 681	473 972	493 054	449 246
Counselled for HIV	229 151 (54.2%)	259 297 (55.7%)	299 566 (62.9%)	299 444 (65.7%)	329 562 (69.5%)	360 994 (73.2%)	315 381 (70.2%)
Tested for HIV	192 557 (84%)	183 202 (70.7%)	191 333 (64.1%)	192 517 (64.3%)	206 033 (62.5%)	205 596 (57.0%)	210 456 (66.7%)
HIV positive	17 384 (9.0%)	19 084 (10.4%)	21 913 (11.3%)	16 243 (8.4%)	16 293 (7.9%)	15 630 (4.3%)	13 101 (6.2%)
Co-infected with TB and HIV	2 905 (80.8%)	2 820 (63.2%)	3 063 (72.7%)	2 359 (62.0%)	1 719 (66.6%)	1 441 (69.7%)	895 (63.8%)
Living with HIV and on ARVs	28 887	24 740	27 272	38 804	39 308	42 002	12 858
Screened for TB	308 403 (72.9%)	376 718 (80.8%)	422 670 (88.7%)	437 436 (96.0%)	455 242 (96.0%)	474 429 (96.2%)	437 199 (97.3%)
Diagnosed with TB	3 593 (1.2%)	4 461 (1.2%)	4 211 (1.0%)	3 799 (0.9%)	2 581 (0.6%)	2 066 (0.4%)	1 403 (0.3%)
On TB treatment	3 483	3 999	4 367	3 687	2 414	1 899	1 729
Diagnosed with MDR-TB	149 (4.1%)	190 (4.3%)	112 (2.7%)	123 (3.2%)	114 (4.4%)	71 (3.4%)	86 (6.1%)
Diagnosed with XDR-TB	11 (0.3%)	18 (0.4%)	14 (0.3%)	13 (0.3%)	12 (0.5%)	8 (0.4%)	8 0.6%

Nationally, there was an improvement in terms of TB and HIV management in the mining industry. The number of employees diagnosed with TB decreases annually. TB screening continues to improve, and it remains above 90% in line with the UNAIDS 90:90:90 end TB strategy. Mines that did not perform well were identified and will be engaged accordingly. It is important that mines dedicate budgets for TB and HIV programmes, irrespective of their size. Some mines do this through the provision of medical aid to employees.

PART D

State Of Safety In The South African Mining Industry



4. STATE OF SAFETY IN THE SOUTH AFRICAN MINING INDUSTRY

4.1 Accident statistics

The South African mining industry is still plagued by challenges of injuries and fatalities resulting from mining activities, as indicated by the accidents statistics of 2019. Although a decrease of 37% was recorded in the number of fatalities recorded, from 81 in 2018 to 51 in 2019, lives have been lost. The South African mining tripartite stakeholders consisting of Government that regulates the mining sector, mine employers and mine employees continue to work towards an enviable state of zero harm. The number of injuries recorded show a slight regression of 0.4% from 2 426 recorded in 2018 to a provisional figure of 2 436 recorded in 2019.

4.1.1 The number of employees at work in the South African mining industry

Statistics show that there was an increase of 2% in the number of employees at work in the South African mining industry from 433 412 in 2018 to 439 982 in 2019. Table 4.1.1 shows a decrease of 7% in both the diamond and other mines sectors, while increases of 64%, 20% and 8% are shown in the copper, manganese and chrome sectors respectively.

TABLE 4.1.1: Number of employees at work

	2018	2019	Percentage change
All Mines	433 412	439 982	2
Gold	93 928	89 918	-4
Platinum	151 874	153 701	1
Coal	81 560	87 222	7
Diamonds	16 954	15 778	-7
Copper	3 890	6 362	64
Chrome	18 473	19 958	8
Iron Ore	18 406	19 619	7
Manganese	9 337	11 202	20
Other Mines	38 990	36 222	-7

*provisional

4.2 Analysis of accident rate trends

4.2.1 Fatality and injury frequency rates per million hours worked

The FFR and IFR per million hours worked is a number calculated using a rounded off figure conversion factor of 2 200 per person, per year, since the mines do not report the actual hours worked. The assumption is that each mine employee works for an average of 48.9 weeks in a calendar year, when discounting weekends, public holidays and annual leave days. The Basic Conditions of Employment Act, 1997 (Act 75 of 1997), requires a person not to work in excess of 45 hours a week. The rate is annualised therefore it must be for a full year:

$$\text{Fatality/Injury rate} = \left\{ \frac{\text{Number of fatalities/injuries for calendar year}}{(\text{Number of persons at work} \times 2\,200)} \right\} \times 10^6 \text{ hours}$$

4.2.2 Fatality frequency rates per region

In terms of section 47(2) of the MHSA, the Minister of Mineral Resources and Energy has, by notice in the Government Gazette, established regions in South Africa for the purpose of administering this act. Table 4.2.2 shows the number of fatalities reported in each of the regions of the MHSI, as well as the FFR during 2018 and 2019. There was a decrease in the number of fatalities reported to the regions year-on-year and a slight increase in the number of employees at work. The fatality rate decreased from 0.08 in 2018 to 0.05 in 2019.

TABLE 4.2.2: Fatality frequency rates per region

	2018			2019*			PERCENTAGE CHANGE
	Fatalities	At Work	FFR	Fatalities	At Work	FFR	
All mines	81	433 412	0.08	51	439 982	0.05	-38
Eastern Cape	0	1 582	0.00	0	1 411	0.00	0
Free State	8	31 008	0.12	5	29 144	0.08	-33
Gauteng	26	60 020	0.20	7	54 632	0.06	-70
KwaZulu-Natal	0	11 289	0.00	1	11 835	0.04	0
Limpopo	10	46 722	0.10	4	50 715	0.04	-60
Mpumalanga	8	82 340	0.04	8	86 650	0.04	0
Northern Cape	3	38 668	0.04	1	41 134	0.01	-75
North West: Klerksdorp	8	16 959	0.21	5	17 675	0.13	-38
North West: Rustenburg	15	138 827	0.05	20	141 026	0.06	20
Western Cape	3	5 997	0.23	0	5 760	0.00	-100

* provisional

4.2.3 Injury frequency rates per region

The overall IFR decreased by 1% during 2019 when compared to 2018. The total provisional number of injuries reported in 2019 was 2 436 compared to 2 426 reported in 2018. Table 4.2.3 indicates the injuries reported in each region and the IFR during 2018 and 2019.

TABLE 4.2.3: Injury frequency rates per region

	2018			2019*			Percentage change
	Injuries	At Work	IFR	Injuries	At Work	IFR	
All mines	2 426	433 412	2.54	2 436	439 982	2.52	-1
Eastern Cape	3	1 582	0.86	1	1 411	0.32	-63
Free State	268	31 008	3.93	226	29 144	3.52	-10
Gauteng	490	60 020	3.71	399	54 632	3.32	-11
KwaZulu-Natal	20	11 289	0.81	32	11 835	1.23	52
Limpopo	173	46 722	1.68	162	50 715	1.45	-14
Mpumalanga	164	82 340	0.91	223	86 650	1.17	29
Northern Cape	96	38 668	1.13	90	41 134	0.99	-12
North West: Klerksdorp	160	16 959	4.29	165	17 675	4.24	-1
North West: Rustenburg	1 028	138 827	3.37	1 126	141 026	3.63	8
Western Cape	24	5 997	1.82	12	5 760	0.95	-48

* provisional

4.2.4 Fatality frequency rates per commodity

The FFR per commodity for the mining industry decreased by 38% from 0.08 in 2018 to 0.05 in 2019, while the number of employees at work shows a slight increase of 2% when comparing 2018 and 2019. The decrease in the number of fatalities of 37% between 2018 and 2019 also contributed to the decreased FFRs. Table 4.2.4 below shows the FFRs per commodity for 2018 and 2019. The FFR for the platinum sector shows an increase of 65%.

It is noteworthy that the number of employees at work in the platinum sector between 2018 and 2019 shows a slight increase of 1% while the number of fatalities reported shows an increase of 67% from 12 fatalities reported in 2018 to 20 fatalities reported in 2019.

The gold sector recorded a 55% decrease in the number of fatalities reported from 40 in 2018 to 18 in 2019. The coal sector recorded a 22% decrease in the number of fatalities reported from nine in 2018 to seven in 2019. The other mines sector recorded a 70% decrease in the number of fatalities reported from 20 in 2018 to six in 2019.

TABLE 4.2.4: Fatality frequency rates per commodity

	2018			2019*			Percentage change
	FATALITIES	At Work	FFR	FATALITIES	At Work	FFR	
All mines	81	433 412	0.08	51	439,982	0.05	-38
Gold	40	093 928	0.19	18	89 918	0.09	-53
Platinum	12	151 874	0.04	20	153 701	0.06	50
Coal	9	81 560	0.05	7	87 222	0.04	-20
Diamonds	2	16 954	0.05	0	15 778	0.00	-100
Copper	7	3 890	0.82	0	6 362	0.00	-100
Chrome	4	18 473	0.10	4	19 958	0.09	-10
Iron ore	0	18 406	0.00	0	19 619	0.00	-
Manganese	0	9 337	0.00	0	11 202	0.00	-
Other mines	7	38 990	0.08	2	36 222	0.03	-63

* provisional

4.2.5 Injuries frequency rates per commodity

The overall IFR per commodity decreased by 1% from 2.54 in 2018 to 2.52 in 2019. Table 4.2.5 shows that the platinum, coal and other mines sectors increased by 9%, 24% and 26% respectively, while gold, diamond, copper, chrome, iron ore and manganese sectors show a decrease of 11%, 12%, 39% 30%, 18% and 11% respectively.

TABLE 4.2.5: Injury frequency rates per commodity

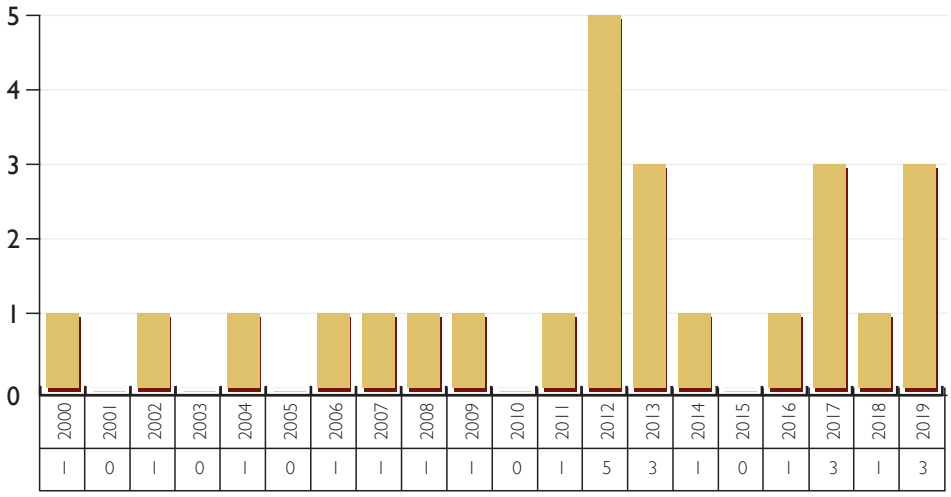
	2018			2019*			Percentage change
	Injuries	At Work	IFR	Injuries	At Work	IFR	
TOTAL	2 426	433 412	2.54	2 436	439 982	2.52	-1
Gold	895	93 928	4.33	759	89 918	3.84	-11
Platinum	1 041	151 874	3.12	1 149	153 701	3.40	9
Coal	169	81 560	0.94	224	87 222	1.17	24
Diamonds	55	16 954	1.47	45	15 778	1.30	-12
Copper	6	3 890	0.70	6	6 362	0.43	-39
Chrome	100	18 473	2.46	76	19 958	1.73	-30
Iron ore	24	18 406	0.59	21	19 619	0.49	-17
Manganese	29	9 337	1.41	31	11 202	1.26	-11
Other mines	107	38 990	1.25	125	36 222	1.57	26

* provisional

4.2.6 Fatalities: Women in mining

Three women were fatally injured in 2019 compared to one woman in 2018. This translates to an increase of 200% year-on-year. Although a fatality of a mine worker is regrettable, irrespective of gender, figure 4.2.6 shows that since 2000, there were no women fatalities reported for the years 2001, 2003, 2005, 2010 and 2015.

FIGURE 4.2.6: Actual fatalities - women in mining from 2000 to 2019



4.2.7 Injuries: Women in mining

There has been an increase in the number of injuries involving women in mining. The injuries that were reported involving women were mainly in the general classification (66%). These accidents were linked to slipping and falling, material handling and being struck by object.

FIGURE 4.2.7(a): Number of injuries to women in mining from 2001 to 2019

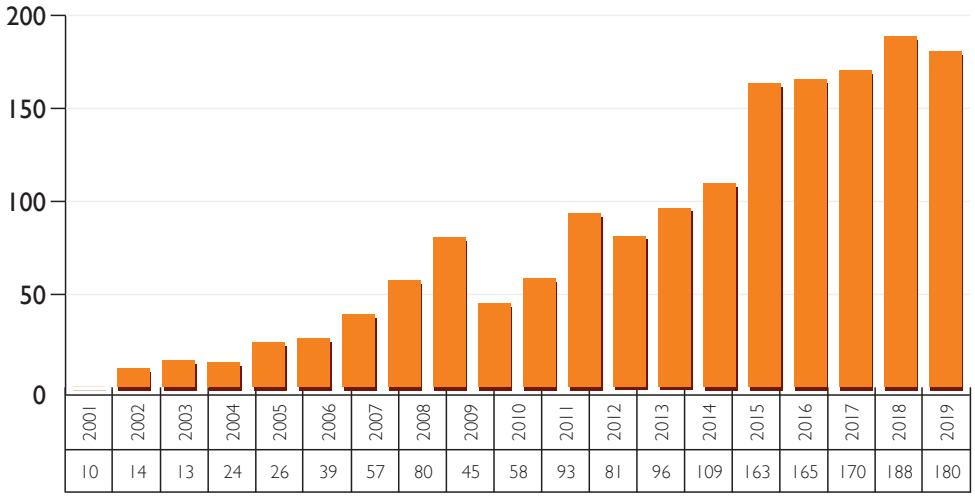
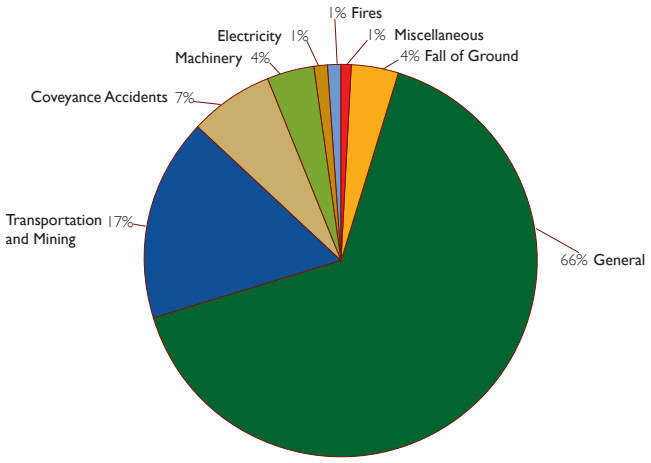


FIGURE 4.2.7(b): Classification of injuries to women in mining from 2001 to 2019



4.2.8 Fatalities classified by casualty classification

The 51 fatalities that were reported in 2019 are indicated in table 4.2.8. The total number of fatality classification groups for the year 2019 followed the same trend as that of the preceding year, 2018. The highest three fatality classification groups for 2019 were: FOG (20 in 2019 vs 22 in 2018), T&M (18 in 2019 vs 16 in 2018) and general (six in 2019 vs 16 in 2018).

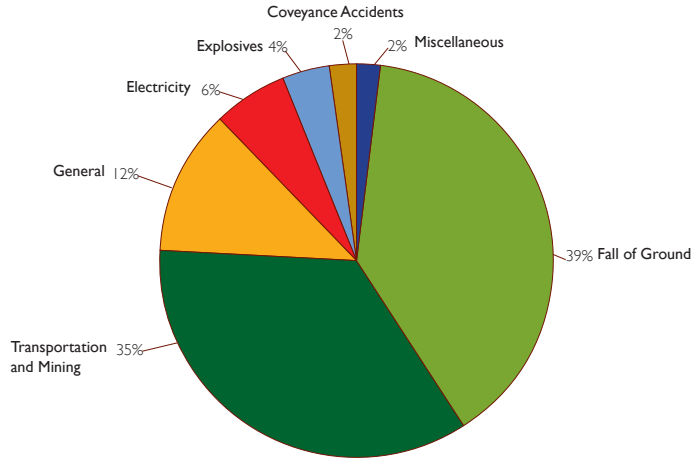
TABLE 4.2.8: Fatalities classified by casualty classification

	FATALITIES		
	1 January to 31 December 2018	1 January to 31 December 2019*	Percentage change
FOG	22	20	-9
Rockburst	6	2	-67
Strainburst	1	2	100
Gravity	15	16	7
MACHINERY	3	1	-67
Conveyor belts	2	1	-50
Drives, belts and chains	0	0	0
Portable power tools	0	0	0
Other machinery (not included in TMM)	1	0	-100
T&M	16	18	13
RAILBOUND	4	5	25
Locomotive	1	2	100
Locomotive drawn vehicle	0	1	100
Rerailing	2	0	-200
Coupling/uncoupling	1	2	100

	FATALITIES		
	1 January to 31 December 2018	1 January to 31 December 2019*	Percentage change
Rocker arm shovel	0	0	0
Personnel transport	0	0	0
Other transport	0	0	0
WINCHES	5	3	-40
Scraper winch installation	3	3	0
Single drum winch	1	0	-100
Double drum winch	1	0	-100
Mono rope/rail	0	0	0
Hand trammed	0	0	0
TMM	7	10	43
Coal mining machines	2	0	-200
Mechanical loaders	1	1	0
Transporters	2	7	250
Motor vehicles	1	1	0
Other TMM	1	1	0
GENERAL	16	5	-69
Fall of material/rolling rock	3	0	-300
Manual handling of material	1	0	-100
Falling in/from	5	4	-20
Slipping and falling	2	1	-50
Burning and scalding	1	0	-100
Dust, gas and fumes	1	0	-100
Inundation/drowning	2	0	-200
Struck by any object manual handling	1	0	-100
Conveyance accidents (shaft/winze)	0	1	100
Electricity (not causing fires)	2	3	50
Fires	6	0	-600
Explosives	1	2	100
Heat sickness	6	0	-600
Miscellaneous	9	1	-89
All Mines	81	51	-37

* provisional

FIGURE 4.2.8: Fatalities classified by casualty classification



4.2.8.1 Analysis of fatalities by casualty classification

4.2.8.1.1 Breakdown of fatalities classified under FOG (39%)

There were 20 fatalities classified under FOG in 2019 compared to 22 reported in 2018. This translates to a decrease of 9% year-on-year. Four of the FOG fatalities reported in 2019 were seismic-related, compared to seven reported in 2018, while 16 FOG fatalities reported in 2019 were gravity related, compared to 15 reported in 2018.

4.2.8.1.2 Breakdown of fatalities classified under T&M (35%)

There were 18 fatalities classified under T&M in 2019 compared to 16 reported in 2018. This translates to an increase of 13% year-on-year. Fatalities reported in this classification in 2019 included five that were related to RBE, three related to winches and 10 related to TMM.

4.2.8.1.3 Breakdown of fatalities classified under general (12%)

The general classification of accidents is detailed under item 4.2.9.

4.2.8.1.4 Breakdown of fatalities classified under electricity (6%)

There were three fatalities classified under electricity in 2019 compared to two reported in 2018. This translates to an increase of 50% year-on-year.

4.2.8.1.5 Breakdown of fatalities classified under explosives (4%)

There were two fatalities classified under explosives in 2019 compared to one reported in 2018. This translates to an increase of 100% year-on-year.

4.2.8.1.6 Breakdown of fatalities classified under conveyance accidents (2%)

There was one fatality classified under conveyance accidents in 2019 compared to none reported in 2018. This translates to an increase of 100% year-on-year.

4.2.8.1.7 Breakdown of fatalities classified under miscellaneous (2%)

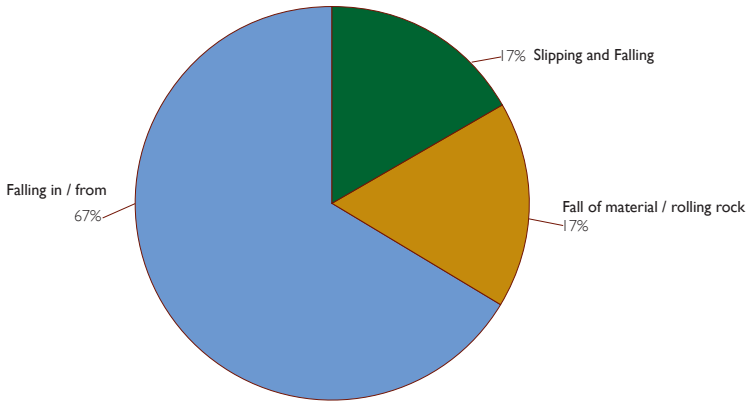
There was one fatality classified under miscellaneous in 2019 compared to nine reported in 2018. This translates to a decrease of 89% year-on-year. The miscellaneous classification of fatalities refers to fatalities that are still pending the outcomes of investigations, inquiries or post-mortem examinations.

4.2.9 Accidents classified by casualty classification

The classification of general accidents (12%) shows an improvement of 63% from the 16 reported in 2018 to six reported in 2019.

There were six fatalities classified under general in 2019. Four were sub-classified under falling in/from, one was sub-classified under fall of material/rolling rock and one was sub-classified under slipping and falling.

FIGURE 4.2.9: Sub-classification of general-type accidents



4.2.10 Injuries classified by casualty classification

The total number of injuries recorded in 2019 show a slight decrease of 0.4% to the total number of injuries recorded in 2018. Most of these injuries are repeat incidents which can be prevented.

TABLE 4.2.10: Injuries recorded per incident classification for the years 2018 and 2019

	INJURIES		
	1 January to 31 December 2018	1 January to 31 December 2019*	Percentage change
FOG	408	385	-6
Seismic	93	115	24
Gravity	315	270	-14
Machinery	171	153	-11
Conveyor belts	42	28	-33
Drives, belts and chains	10	19	90
Portable power tools	93	75	-19
Other machinery (not included in TMM)	26	31	19
T&M	706	734	4
Track-bound transport	156	133	-15
Locomotive	37	33	-11
Locomotive drawn vehicle	35	27	-23
Rerailing	25	15	-40
Coupling/uncoupling	42	40	-5
Rocker arm shovel	6	5	-17
Personnel transport	8	7	-13
Other transport (specify)	3	6	100
Winches	114	127	11
Scraper winch installation	77	93	21
Mono-rope/rail	8	11	38
Hand trammed	10	9	-10
Single drum winch	7	5	-29
Double drum winch	12	9	-25
TMM	95	130	37
Tractor/trailer	3	2	-33
Coal mining machines	3	2	-33
Mechanical loaders	9	13	44
Transporters	26	36	38
Motor vehicles	14	15	7
T&M lifting machines	16	16	0
T&M mobile drilling machines	20	34	70
Other transport and mining equipment	4	12	200
General	1023	1068	4

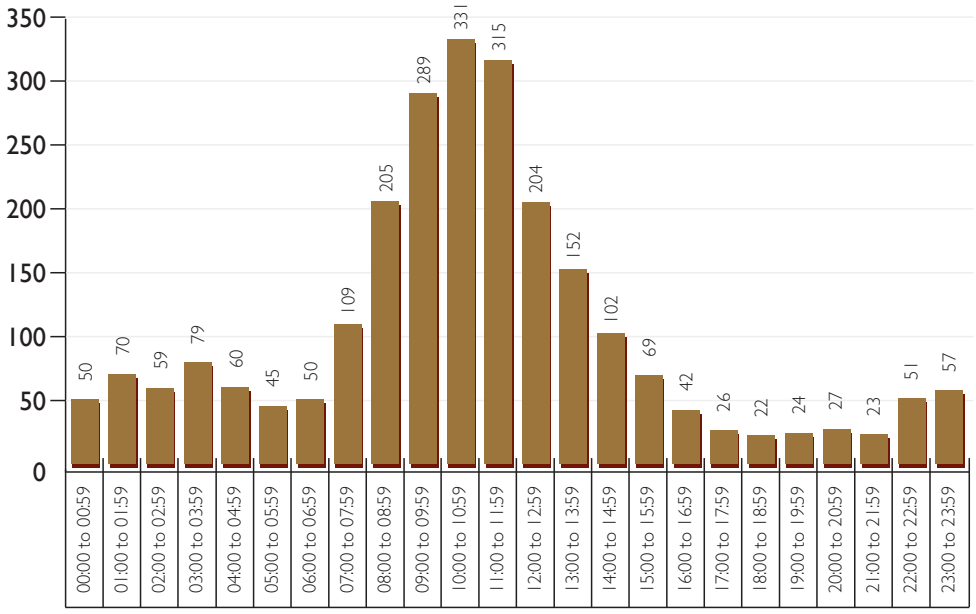
	INJURIES		
	1 January to 31 December 2018	1 January to 31 December 2019*	Percentage change
Fall of material/rolling rock	179	179	0
Manual handling of material	213	206	-3
Manual handling of mineral	61	52	-15
Falling in/from	39	48	23
Slipping and falling	298	315	6
Burning and scalding	29	38	31
Splinters	47	39	-17
Dust, gas and fumes	27	55	104
Inundation/drowning	0	2	200
Struck by ventilation door	23	16	-30
Struck by object - manual handling	107	118	10
Conveyance accidents	24	41	71
Electricity (not causing fires)	14	16	14
Fires	21	2	-90
Explosives	14	10	-29
Subsidence or caving	1	0	-100
Occupational diseases (non-diving)	1	2	100
Heat sickness	3	4	33
Miscellaneous	40	21	-48
Total	2426	2436	0.4

* provisional

4.2.11 Accidents classified by time of occurrence

Statistics show that accidents in 2019, when classified by time of occurrence, mainly took place between 07:00 and 14:00. This period is during the day shift when there are more people at work. Most underground workers start the morning shift at 06:00, and number of accidents peak at mid-shift between 10:00 and 11:00.

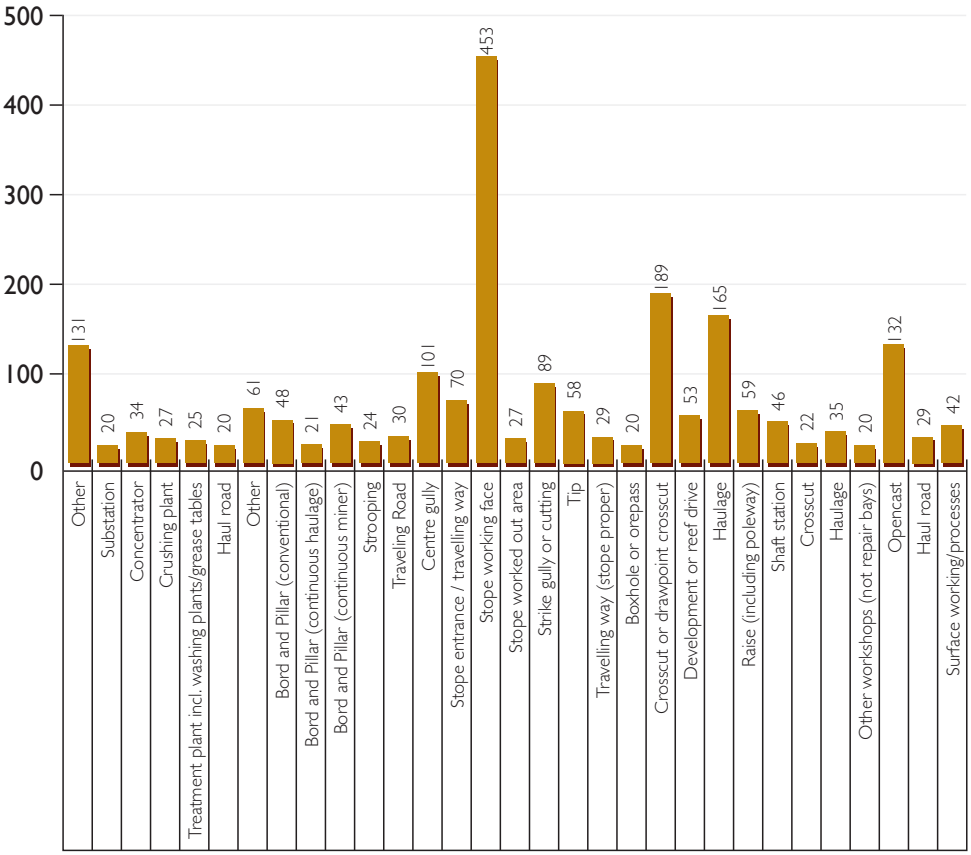
FIGURE 4.2.11: Accidents classified by time of occurrence



4.2.12 Accidents classified by location

Most accidents occurred at the stope working face, crosscut or drawing point, haulage and opencast. These are areas with considerable concentration working towards the set production targets.

FIGURE 4.2.12: Accidents classified by location



4.3 Enforcement

4.3.1 Section 54 instructions to deal with dangerous conditions

SECTION 54 OF MHSA	
Number of notices issued	812
Number of transgressions identified	5 886
Number of instructions issued	3 882

NO	CATEGORIES OF SECTION 54 TRANSGRESSIONS	SECTION 54 TRANSGRESSIONS IDENTIFIED
1	FOG	809
2	TMM	672
3	Standard operating procedure	569
4	RBE	502
5	Conveyor belts	350
6	Winches	330
7	Machinery	312
8	Safe declaration	227
9	Emergency preparedness	218
10	COPs	173
11	Explosives	149
12	Ventilation	138
13	Supervision	137
14	Legal appointments	123
15	Mining practices	120
16	Shafts	112
17	Training	92
18	Electricity	82
19	Risk assessment	71
20	Airborne pollutants	55
21	Occupational hygiene	40
22	Medical surveillance	37
23	Drilling	36
24	Work conditions	34
25	Statutory reporting	29
26	Fires	23
27	Exemptions/permissions/approvals/authorisations	17
28	PPE	16

NO	CATEGORIES OF SECTION 54 TRANSGRESSIONS	SECTION 54 TRANSGRESSIONS IDENTIFIED
29	Safety devices	13
30	Mud-rush	12
31	Hazardous substances	11
32	Lamp room	10
33	Waiting place	9
34	Noise	3
35	Fencing	1
TOTAL		5 886

4.3.2 Section 55 instructions to order compliance

SECTION 55 OF MHSA	
Number of notices issued	935
Number of transgressions identified	2 932
Number of instructions issued	2 353

No.	CLASSIFICATION OF SECTION 55 TRANSGRESSIONS	NUMBER OF SECTION 55 TRANSGRESSIONS IDENTIFIED
1	COPs	422
2	TMM	318
3	Legal appointments	254
4	Conveyor belts	201
5	Occupational hygiene	175
6	Machinery	161
7	Risk assessment	157
8	Training	147
9	Electricity	132
10	FOG	109
11	Supervision	91
12	Medical surveillance	91
13	RBE	66
14	Dust	63
15	Emergency Preparedness	62
16	Statutory Reporting	59
17	PPE	54
18	Explosives	53
19	Working conditions	53
20	Standard operating procedure	37

No.	CLASSIFICATION OF SECTION 55 TRANSGRESSIONS	NUMBER OF SECTION 55 TRANSGRESSIONS IDENTIFIED
21	Ventilation	34
22	Shafts	30
23	Safe declaration	25
24	Mining practices	24
25	General	24
26	Noise	21
27	Mine plans	14
28	Health and safety policy	12
29	Surveying	7
30	Logbooks	6
31	Fires	6
32	Exemptions/permissions/approvals/authorisation	5
33	Winches	5
34	Health and safety representatives	4
35	Inspector's instructions	4
36	Fatigue management	2
TOTALS		**2 932**

During this period five administrative fines were imposed and five cases were recommended for prosecution.

PART E

Mine Surveying In The South African Mining Industry

5. MINE SURVEYING IN THE SOUTH AFRICAN MINING INDUSTRY

5.1 Activities of the Mine Surveying Directorate

TABLE 5.1: Completed tasks for the financial year as compared with the previous financial year

Activities	Planned	Completed	Performance analysis
Mine surveying inspections (underground and surface mines)	400	415	The planned target was exceeded, because of queries received or close-out inspections required, and a different competent person would be managing the different requests.
	Received	**Completed**	
Permissions and exemptions	68	68	The applications are prioritised as it needs to be processed within 30 days of receipt.
Surface utilisation applications			
	Received	**Completed**	**Performance analysis**
	278	239	The remaining 39 applications were received towards the end of the reporting period and attempts are made to process these applications within the stipulated timeframe of 30 days.

5.2 Surveying matters

The Directorate continues to monitor mine surveying standards and practices in order to promote a culture of safety and health at mines. It gives guidance on the safe utilisation of undermined land for surface development purposes and renders mapping and draughting services. The Directorate also promotes the mine surveying profession by giving talks aimed at meeting of the Institute of Mine Surveyors of South Africa (IMSSA).

The Directorate works closely with regional offices in maintaining surveying and mapping standards, monitoring compliance by mines to the relevant mine health and safety regulations, and the administration of departmental copies of the statutory mine plans that the mines deposit at the regional offices. The Directorate comments and makes recommendations regarding the safe utilisation of land for township development and processes applications for permissions and exemptions in the provision of the MHSA.

Furthermore, it performs underground check measurements in restricted mining areas where surface structures require protection and of underground workings to determine the accurate representation of plans of such workings. The Directorate has been giving special attention to underground refuge bays to determine whether it comply with the safely standards as set by the mines.

5.3 Special surveys

The Directorate performed volume calculations required to calculate financial guarantees needed for the holder of a mining right in the Northern Cape region. The Directorate has also been requested to assist with or verify mining permit and/or mining right boundary disputes.

5.4 Section 55 instructions issued

A total of 29 section 55 instructions were issued for different transgressions.

5.5 Mapping services

The Sub-directorate responsible administers the archiving, retrieval and safe-keeping of prescribed mine plans, departmental copies and survey records of mines that have closed. It provides these mine plans of closed-down mines to mine owners or their representatives upon request.

Furthermore, it provides information regarding the undermining status of land for township development and other purposes. The Sub-directorate is in the process of replacing the hard copy topographical plans with electronic topographical plans which will reduce the turnaround time for comments and recommendations on proposed township developments.

PART F

Training And Examinations

6. TRAINING AND EXAMINATIONS

6.1 Implemented training

During the reporting period, the MHSI developed the skills and knowledge base of its staff as follows:

- A total of 49 MHSI officials attended technical and non-technical training courses as well as conferences during the reporting period.

6.2 Training interventions

6.2.1 Assistant inspector programme

- The Department had 18 Assistant Inspectors at the commencement of the reporting period.
- One of the Assistant Inspectors passed away during the reporting period and another resigned.
- Five of the remaining 16 Assistant Inspectors passed their respective GCC during the reporting period.
- There are nine Assistant Inspectors who are at various stages of obtaining their GCC in their respective disciplines.

6.2.2 Bursary scheme

- There were no MHSI bursary holders during the reporting period.

6.3 Examinations

6.3.1 Number of written candidates vs certificates issued per examination category

TABLE 6.3.1: Number of written candidates and certificates issued per examination category

TYPE OF CERTIFICATE	NUMBER OF CANDIDATES	CERTIFICATES ISSUED
Mine Engineers (electrical and mechanical)	343	64
Mine Managers	848	113
Mine Overseers	656	82
Mine Surveyors	563	5
Winding Engine Drivers	32	18
Total	2 442	282

PART G

Activities of the Inspectorate

7. ACTIVITIES OF THE INSPECTORATE

7.1 Regional operations: Central and Coastal Regions

The Central and Coastal Regional operations consist of the Eastern Cape, Gauteng, KwaZulu-Natal and the Northern Cape regions. The major commodities mined are gold, diamonds, iron-ore, coal, manganese, copper and industrial minerals. Numerous base minerals are also mined and there are crushers, quarries and borrow pits. The total number of employees in these regions was 109 012 in 2019 employed at 330 operating mines.

Occupational health performance

Employees are still over-exposed to airborne pollutants which leads to silicosis and CWP, amongst others. Most employees are also over-exposed to high noise levels which leads to a high number of NIHL cases reported in the sector.

The total number of occupational diseases reported decreased from 819 cases in 2018 to 719 cases reported in 2019. The main occupational diseases in 2019 were PTB, NIHL and silicosis, which were 376, 200 and 97 cases respectively. It is concerning to note that there was an increase in NIHL cases reported in the Gauteng and Northern Cape regions, year-on-year. The Gauteng region had the second highest number of reported occupational diseases which were 615 cases accounting for approximate 20% of the total national occupational diseases reported in the mining sector.

Occupational safety performance

Regrettably, a total of 16 mine fatalities occurred during the period under review compared to 29 fatalities during the same period the previous year. This resulted in an improvement of 45% year-on-year. A total of 835 mine injuries were reported in 2019 compared to 617 injuries in 2018, translating into a 35% year-on-year regression in mine injuries over the reporting period.

In dealing with the above mine fatalities and injuries, the Central and Coastal Operations completed nine fatal inquiries and 122 mine investigations during the period under review. The outstanding mine inquiries and investigations could not be completed, because of the non-availability of the mines and organised labours' legal representatives. The outstanding inquiries will be prioritised in the next financial year.

Enforcement

During the period under review, 2 362 inspections and 176 audits were conducted at mines in the Central and Coastal regions.

As part of the enforcement measures during the inspections and audits, 231 section 54 notices and 298 section 55 notices were issued in terms of the MHSA. The notices issued under section 54 deal with dangerous conditions at mines, while those issued under section 55 order compliance to the provisions of the MHSA.

Strategies adopted for improving status-quo

The MHSI will increase visibility at the mines as a pro-active measure to enforce compliance at the mines. Strategies will focus on increased inspections, audits and investigations with the aim of revealing system failures in terms of the MHSA and, where applicable, appropriate enforcement action will be taken if necessary.

- Implement engineering controls to reduce exposure levels to air-borne pollutants.
- Implement the buy quiet policy to ensure that employees are not exposed to high levels of noise.

- Implement national HIV and TB strategies to achieve the UNAIDS 90:90:90 targets, especially because it had the highest number of reported occupational diseases cases.
- Mines must put strategies in place to ensure the elimination of employee over-exposure and fatalities by 2021.
- Each mine should reduce fatalities and injuries by at least 20% per annum and ensure that there will be no fatalities in the mining sector by 2021.

7.1.1 Eastern Cape

The Eastern Cape Region is situated in the south-eastern part of South Africa and is surrounded by the following provinces: Western Cape, Northern Cape, Free State and KwaZulu-Natal. It is the second largest of the nine provinces in South Africa in terms of area (approximately 169 580 square kilometres) and the fourth largest in terms of population. The province includes the former homelands of Transkei and Ciskei and is inhabited by almost seven million people who speak mainly IsiXhosa, Afrikaans and English.

There are approximately 400 registered mines in the Eastern Cape with approximately 2 300 people in medium and high-risk operations. Operational mining takes place in 45 hard rock quarries, and many gravel and clay quarries to provide the necessary materials for the construction industry. The underground coal mining operation near Indwe remained unproductive during the reporting period due to the change of ownership.

The total number of AMRs submitted was 68 in 2014, 61 in 2015, 64 in 2016, 66 in 2017, 62 in 2018, and 56 in 2019. These have decreased by the same number of non-operational mines for the period under review. During 2018, one case of occupational asthma and one case of PTB was reported and in 2019 there was one case of PTB and one case of silicosis. The DoH provides awareness programmes to all employees at mines on HIV, TB and other health issues.

Although the occupational hygiene database was incomplete to supply the correct average exposure to airborne and noise exposures for the period under review, captured data reveals a 12.8%, 23.4% and 63.8% for the homogenous exposure group (HEG) A, B and C for airborne pollutants respectively. Exposures to noise were 6.5%, 27.4%, and 67.1% for the HEG A, B and C respectively.

No fatalities were reported in 2018 and 2019. In 2018, three reportable injuries were reported compared to two reported in 2019.

The learner mine equipment inspector qualified with a GCC in mechanical engineering shortly after joining the DMRE in March 2016, however the individual resigned at the end of February 2019. The interviews were conducted in May 2019 and the appointment of the successful candidate to this post is finalised.

7.1.1.1 Topical issues and matters of interest

Illegal mining operations continue to spread within the region and during the period under review inspectors continuously face threats of violence from the illegal miners. Licensed mine operators have been requested to report illegal operations to their nearest South African Police Service (SAPS) for further handling. The community in the Port St. Johns area have taken the matter into their own hands with the support of their local municipality.

7.1.1.2 Inspections and audits

CATEGORY	INSPECTIONS	AUDITS
Planned	174	44
Actual	206	45
Percentage compliance	118	102

7.1.1.3 Total accidents reported

Fatal accidents	0
> 14-day accidents	2
1 to 13-day reportable accidents	12

7.1.1.4 Investigations and inquiries

	INVESTIGATIONS	INQUIRIES	TOTAL
Initiated	2	0	2
Completed	2	0	2
Percentage completed	100	0	100

7.1.1.5 Disaster-type accidents

No disaster-type accidents were reported.

7.1.1.6 Statutory notices

During the reporting period, four section 54 notices to stop dangerous conditions, occurrences or practices, and 122 notices for non-compliance with the provisions of the MHSA was issued.

SECTION 54 NOTICES	SECTION 55 NOTICES
4	122

7.1.1.7 Administrative fines

One pending administrative fine from the previous reporting period was paid in April 2019.

Number of fines recommended by Inspector	0
Value of fines recommended by Inspector	0
Number of fines set aside by Principal Inspector	0
Value of fines set aside by Principal Inspector	0
Number of fines imposed by Principal Inspector	0
Value of fines imposed by Principal Inspector	0
Appeals	0
Value of fines paid	R 50 000.00

7.1.1.8 Land-use applications and complaints

	RECEIVED	COMPLETED	PERCENTAGE
Township developments	5	5	100
Mining and prospecting rights	17	17	100
Mining permits	183	183	100
Closure certificates	14	14	100
Environmental management	66	66	100
Complaints	2	2	100

7.1.1.9 Strategies adopted for improving status-quo

Regional tripartite forums and forums on matters pertaining to women in mining were held quarterly. These meetings were held at different locations in the province to discuss matters of mutual interest and were attended by mine employers, the Minerals Council of South Africa, trade unions and safety personnel.

Regional newsletters were distributed quarterly.

The group audits conducted during the year continue to identify areas where employers need to focus their attention and inspections are used to follow up on these identified problem areas at the mines. In order to improve the health and safety performance at mines, the following aspects will be addressed:

- Milestone targets.
- COPs.
- Statutory appointments.
- Guarding of machinery.
- Safety berms at quarry crests.
- Medical surveillance and AMRs.
- Updating of mine plans.
- Compliance with quarterly reporting on hygiene measurements.
- Investigation of occupational diseases.
- Implementation of integrated HIV and TB programmes.

7.1.2 Gauteng

The Gauteng province is the economic hub of South Africa and it is divided into urban, peri-urban, agricultural, industrial and mining areas. The population is the largest in the country resulting in many communities encroaching into mining lease areas.

The region has 110 active mines ranging from small, medium and large-scale mining operations. These operations are underground and surface operations as well as mine rehabilitation projects and reclamation operations in the mining of slime dumps and waste rock dumps. Several minerals are mined in Gauteng namely gold, uranium, coal, diamonds, aggregate, sand, iron ore, fluorspar, clay and silica.

Underground gold mining operations are amongst the deepest mines in the world and it represents the largest health and safety risk in the Gauteng region. In addition to the depth of some of these mines the orebody is characterised by narrow tabular, steep and massive formations. It is also influenced by major geological features, radioactive material and high quartzite silica contents. These elements present major safety challenges regarding FOG accidents from seismicity, rock and strain burst, as well as rock mass failures.

Transportation also has major risks associated with it due to horizontal and decline transportation, and vertical shafts hoisting including complex conveyor belt networks. Another area with major risks is the electrical, mechanical and civil maintenance of heavy equipment such as conveyance, TMM, RBE, surface ventilation fans and compressors.

Silicosis and TB are the largest respiratory diseases encountered in the region due to the mineral composition of the host rock. The high temperatures associated with the depth of the workings results in heat stressors such as heat stroke and exhaustion. Rock drilling percussion machinery operated in confined spaces, ventilation fans and the use of compressed air results in NIHL. Lifestyle related diseases have also been prominent in the Gauteng region.

A significant amount of rehabilitation and reclamation projects took place in the region during the reporting period and the high volumes of mobile equipment loading and transporting secondary ad by-products put enormous strain on the communities in close proximity to these areas.

Illegal mining operations and scrap metal collectors increased during the reporting period and poses major health and safety challenges in the region.

7.1.2.1 Topical issues and matters of interest

Health and safety engagements within the bilateral and tripartite forums:

- Attendance of regional tripartite forums of surface and underground operations.
- Engagements with the executives and management of mine employers.
- Engagements with organised labour and workplace safety representatives.
- Attendance of health and safety committee meetings.

Health and safety campaigns:

- Annual health and safety days.
- Attendance and promoting of health and safety campaigns.
- Employers conducting regular visible felt leadership (VFL) programmes.
- Engagements by inspectors at the different health and safety meetings at the mines.
- Attending to odd, early and late shifts.

Inspections focusing on physical conditions and underground challenges:

- Hauling, transport and tramming inspections.
- Effective, proper use and poor appointment of personnel responsible for machinery and equipment.
- Focusing on elements that are inducing seismicity and FOG accidents.
- Major challenges with regard to clean mining, over-breaking and offline mining.

- Ventilation and environmental conditions.
- Medical fitness and readiness of employees.

Audits focusing predominantly on health and safety systems:

- Health and safety planning regimes.
- Labour, staffing and manning of allocation in working places.
- Frequency and quality of service department inspections and audits.
- Service department reports and recommendation adherence by stakeholders.
- Legal appointments, standards and policy evaluation.

Illegal mining and plant invasions:

- Illegal mining operations in operational mines, the sabotaging of ventilation systems, fires, explosives, the disruption of services and random blasting underground have an adverse effect on health and safety at mines.
- Revenge attacks and assaults by illegal miners on underground employees.
- Robberies and invasions of processing plants by illegal miners during working hours.
- Pollution, the disruption of water resources, the illegal dumping of waste material, the use of mercury and illegal electricity connections is the result of the processing of gold bearing material by illegal miners in residential areas.
- Rival gang wars within the communities by illegal miners.

7.1.2.2 Inspections and audits

CATEGORY	INSPECTIONS	AUDITS
Planned	1 120	40
Actual	1 232	47
Percentage compliance	110	118

7.1.2.3 Total accidents reported

Fatal accidents	7
> 14-day accidents	415
1 to 13-day reportable accidents	280

7.1.2.4 Investigations and inquiries

	INVESTIGATIONS	INQUIRIES	TOTAL
Initiated	95	7	102
Completed	95	7	102
Percentage completed	100	100	100

7.1.2.5 Disaster-type accidents

No disaster-type accidents were reported.

The following serious accidents that were reported had the potential of being disaster-type accidents:

- On 8 April 2019 at approximately 10:00 the crew from 197 South 11 West 7 at Harmony Gold Doornkop mine reported multiple injuries. The team was in the process of installing hydra bolt support units when a seismic related FOG accident occurred. A rockdrill operator and a team leader were trapped whilst five other employees, who were working in the same panel, sustained injuries. The team leader succumbed to her injuries.
- At Gold Fields' South Deep mine at approximately 03:00 on 2 June 2019 during the shift, a team was busy drilling the last holes at 100-2BW Cut 3 SAD 6E when there were four seismic events in rapid succession ranging between 1.9 - 0.1 magnitude on the Richter Scale. The epicentre of these events were not direct on SAD 6E, but the secondary damages in the form of face ejection was realised at SAD 6E. Four employees that were approximately 8m from the face were affected and unfortunately the miner who was with them was fatally injured by an ejected rock.
- During the first quarter of 2020 at 12:10 on Thursday, 5 March 2020 a seismic event with a 2.0 magnitude on the Richter scale occurred at 123/48 W10 panel at Anglo Ashanti Mponeng mine resulting in a FOG accident. At the time of the incident the day shift crew was busy with normal mining operations and several employees were adversely affected by the FOG accident. An emergency protocol was activated and four employees with non-life-threatening injuries were rescued. Regrettably three other workers succumbed to their injuries.

7.1.2.6 Statutory notices

SECTION 54 NOTICES	SECTION 55 NOTICES
161	114

7.1.2.7 Administrative fines

Number of fines recommended by Inspector	3
Value of fines recommended by Inspector	R 45 000.00
Number of fines set aside by Principal Inspector	0
Value of fines set aside by Principal Inspector	0
Number of fines imposed by Principal Inspector	3
Value of fines imposed by Principal Inspector	R 45 000.00
Appeals	2
Value of fines paid	R 15 000.00

7.1.2.8 Land-use applications and complaints

	RECEIVED	COMPLETED	PERCENTAGE
MPRDA files including township developments, mining and prospecting rights, closure certificates and environmental management.	203	203	100
Complaints, exemption, permissions and approvals	107	94	88

7.1.2.9 Strategies adopted for improving status-quo

- Duty of care amongst managers and supervisors is lacking or inadequate.
- Day-to-day entries and risks that should be identified by line supervision and safety officers were not recorded.
- Water control and management is very poor if pumping is not done and this results in excessive water and mud accumulations.
- Ventilation and environmental controls are a key focus area to prevent the average increase of ambient temperatures in the atmosphere.
- Inspectors are unable to be pro-active when many inspections and follow-up audits result in instructions being issued. The focus shifts to boardroom engagements and discussions with regard to the instructions issued.
- Although mining operations have fair health and safety systems in place, there is a lack of ownership and implementation. As a result of this, the functions and responsibilities of the section 4.1 appointees have been taken over by the safety departments of the mines.
- Responsible personnel are unable to account for the deviations and challenges since the safety department has taken ownership of the documentation without proper plans being developed by the responsible managers or supervisors.
- Health and safety committee structures are unable to have meaningful pro-active participation, due to boardroom discussions in preparation for either a section 11.5 presentation or an accident investigation.
- Managers not visible at the working place where their skills and expertise are most needed since they are engaged in boardroom discussions.

7.1.3 KwaZulu-Natal

7.1.3.1 Topical issues and matters of interest

The KwaZulu-Natal Province is situated along the borders of Lesotho, Swaziland and Mozambique.

Most mineral resources are found in rural areas in the region and the land is predominantly owned by rural communities and structured tribal authorities. Mining in these areas often give rise to challenges ranging from corporate social responsibilities to health and safety matters.

The mineral resources in the region consist mainly of sand and aggregates where most mining operations are in these commodities. Ilmenite, rutile and zircon are mined on a large scale for their titanium and zirconium contents from aeolian beach dunes in the northern parts of the province. The region is also rich in other minerals such as aluminium, anthracite, limestone, shale and calcitic marbles. The quality of coal mined in the province is of a viable quality and it is mined by both opencast and underground mining methods.

Blasting within close proximity of residential properties remains a challenge in the region. In most instances, scheduled blasting by mining operations becomes unsuccessful as a result of dysfunctional stakeholder engagement within that mining community. The Principal Inspector in the KwaZulu-Natal region continues to mediate engagements between parties in order to ensure a sustainable and economically viable mining environment.

The region has also noticed a growing concern between employers, employee and labour union relations during the last two quarters of the reporting period. The challenges are a result of non-agreements on

measures taken by the employer to prevent health and safety hazards at the respective mining operations. A prominent dispute is over the relevant application of section 23 of the MHSA. The region has made an effort during routine inspections and audits, to empower and educate employees on the correct application of the right to refuse to work in a dangerous working place to prevent potential harm to any employee while at the mine.

7.1.3.2 Inspections and audits

CATEGORY	INSPECTIONS	AUDITS
Planned	560	44
Actual	580	42
Percentage compliance	104	95

7.1.3.3 Total accidents reported

Fatal accidents	1
> 14-day accidents	31
1 to 13-day reportable accidents	13

7.1.3.4 Investigations and inquiries

	INVESTIGATIONS	INQUIRIES	TOTAL
Initiated	9	0	9
Completed	9	0	9
Percentage completed	100	0	100

7.1.3.5 Disaster-type accidents

No disaster-type accidents were reported.

7.1.3.6 Statutory notices

SECTION 54 NOTICES	SECTION 55 NOTICES
21	50

7.1.3.7 Administrative fines

No administrative fines were recommended by the Principal Inspector.

7.1.3.8 Land-use applications and complaints

	RECEIVED	COMPLETED	PERCENTAGE
Township developments	0	0	0
Mining and prospecting rights	453	453	100
Closure certificates	6	6	100
Environmental management	0	0	0
Complaints	14	8	57

7.1.3.9 Strategies adopted for improving status-quo

The staff at the region remains committed to a co-operative effort with all stakeholders in ensuring a healthy and safe mining environment in KwaZulu-Natal. During November 2019, the region held a two-day statutory reporting workshop with all OMPs, occupational health nurse professionals and occupational hygienists in the region. This workshop was initiated as a result of the discrepancies identified after the analysis of captured data from the quarterly reporting by both part- and full-time occupational hygienists and medical practitioners.

The workshop also focused on contractor management and the challenges encountered at the respective operations, together with improvement strategies in ensuring quality of information reported to the region. Due to the success of the workshop, it will be a recurring annual event in the region. The quality of the reports submitted has improved significantly after the workshop.

Furthermore, the effective use of administrative fines in terms of section 55A of the MHSA will be applied where non-compliance has been identified at mining operations. Many mines are considering reducing their human resources compliment as a result of the COVID-19 pandemic. The possibility of a compromised safety management system should be expected. As such, the region will continuously embark on collaborative efforts with all stakeholders to ensure that the health and safety of all employees remains a priority.

7.1.4 Northern Cape

7.1.4.1 Topical issues and matters of interest

The Northern Cape region is the largest of the nine provinces of South Africa in terms of area and smallest in terms of population. The province covers a total area of 372 889 km2 with a population of 1 237 217 as of the census of 2011/2015. Mining in the region is dominated by opencast mines. These mines require machines to haul waste and ore to the dumping site and plant respectively. Because machines are used in most of the operations, accidents in the region are commonly machinery related.

The region has five underground operations. The dominant mining method used at these mines is board and pillar, and sub-level open caving. These operations are not as labour intensive as compared with those in the gold and platinum sectors. Minerals that are mined in this region are manganese, iron ore, diamonds, base metals, rose quarts, gypsum, tiger's eye, granite, feldspar and salt.

The Northern Cape region has established forums to discuss the trends and the inspection findings as part of education and information sharing with the mining industry. Information gathered during inquiries and investigations is also shared with the industry at these forums.

7.1.4.2 Inspections and audits

CATEGORY	INSPECTIONS	AUDITS
Planned	240	39
Actual	344	42
Percentage compliance	143	108

7.1.4.3 Total accidents reported

Fatal accidents	1
> 14-day accidents	82
1 to 13-day reportable accidents	97

7.1.4.4 Investigations and inquiries

	INVESTIGATIONS	INQUIRIES	TOTAL
Initiated	16	2	18
Completed	16	2	18
Percentage completed	100	100	100

7.1.4.5 Disaster-type accidents

No disaster-type accidents were reported.

7.1.4.6 Statutory notices

SECTION 54 NOTICES	SECTION 55 NOTICES
45	12

7.1.4.7 Administrative fines

Number of fines recommended by Inspector	2
Value of fines recommended by Inspector	R 500 000
Number of fines set aside by Principal Inspector	1
Value of fines set aside by Principal Inspector	0
Number of fines imposed by Principal Inspector	1
Value of fines imposed by Principal Inspector	R 500 000
Appeals	1
Value of fines paid	0

7.1.4.8 Land-use applications and complaints

	RECEIVED	COMPLETED	PERCENTAGE
Township developments	50	50	100
Mining and prospecting rights	179	179	100
Closure certificates	20	20	100
Environmental management	0	0	0
Complaints	38	38	100

7.1.4.9 Strategies adopted for improving status-quo

Key to the strategies that the region adopted, is stakeholder participation and the recognition of those that continuously strive to ensure that mine workers in the region are unharmed. The regional office hosted a health and safety summit that was attended by all industry stakeholders, labour, employers and the state. This summit was held over a period of two days. Ms Mase Manopole, the Member of the Executive Council of the Northern Cape for health, attended the session to present awards in recognition of health practitioners who contributed to ensuring a healthier workforce.

The regional office organised a health and safety representative summit that was hosted at Petra Finsch mine. The main purpose of the summit was to re-emphasise the powers that health and safety representatives have in ensuring that mines are safe. The session was attended by representatives from both inland and coastal mines of the region. The Northern Cape region remains resolute that health and safety representatives hold the key to achieving zero harm and will continuously empower them to discharge their responsibilities without fear or favour.

The region and the MHSC organised a World AIDS Day commemorative event at United Manganese of Kalahari mine. The purpose of the event was to shed light on the havoc caused by the Acquired Immune Deficiency Syndrome (AIDS) pandemic in the mining sector and to give support to employees that are suffering from the pandemic. Strategies to address the health of the employees have been adopted and implemented by the region and is of the firm view that a healthy workforce is a safe workforce.

7.2 Regional operations: Central and North-eastern Regions

The Regional Operations: Central and North-eastern Regions consists of the Free State, Limpopo and Mpumalanga regions. The major commodities mined are coal, platinum, gold, copper and industrial minerals. Numerous base minerals are also mined and there are many crushers, quarries and borrow pits in these regions.

The total number of employees in the Free State, Limpopo and Mpumalanga regions was approximately 167 000 during 2019, which is a 4% increase when compared to the 2018 labour figures.

Occupational Health Performance

The total number of occupational diseases reported in these regions were 1 173 cases in 2018 compared to 1 051 cases in 2019. There was a decrease of 10% or 122 cases in the number of occupational diseases reported.

The main occupational diseases reported by mines were PTB with 533 cases in 2018 and 472 cases in 2019, NIHL with 290 cases in 2018 and 267 cases in 2019 and CWP with 25 cases in 2018 compared to 45 cases in 2019. This translates to an 80% increase for CWP and a 29% decrease in NIHL cases. PTB continues to be the highest reported occupational disease in these regions. The mining companies must improve their respective case findings and procure mine equipment that generates less noise and dust levels to ensure compliance with legislation. Programmes should be implemented to ensure that employees that are diagnosed with TB complete their treatment. It must be aligned to the national TB Strategy of 90:90:90.

Occupational Safety Performance

There were 26 fatalities in 2018 compared to 17 in 2019 and this corresponds to a 35% decrease year-on-year. The decrease in the number of fatalities in the Free State and Limpopo were 38% and 60% respectively. The analysis of fatalities indicated that transportation and machinery was the highest contributor to fatalities in the region followed by FOG fatalities and these classifications contributed to 77% of the fatalities in the region.

The number of injuries reported was 605 in 2018 compared to 611 in 2019. This corresponded to an increase of 1%. The major contributors for these injuries were general accidents, T&M and FOG with 47%, 18% and 12% respectively. General accidents include manual handling of material, drowning and inundation and slipping and falling.

The three regions successfully implemented the OHS Improvement Strategy Action Plan to enforce compliance with health and safety measures. The strategy addresses the issue of unacceptable loss of life and injuries at mines by emphasising roof fall accidents, T&M-related accidents, investigations and inquiries.

Safety Achievements

Overall there were mines that performed well on safety and did not have any fatalities during the reporting period. These mines are true examples that zero harm can be achieved in the sector and all stakeholders must work together on the journey to zero harm.

Topical issues and matters of interest

During the reporting period a number of complaints were received due to mines blasting close to communities and township developments. The complaints normally include damages to properties due to ground vibration, air blasting and dust.

The number of candidates who wrote the Legal Knowledge and Plant Engineering examinations in June and November 2019 were 150 and 193, respectively. There were 49 registered candidates that did not write any of the subjects. The number of candidates that passed the Legal Knowledge and Plant Engineering examinations in June and November 2019 were 67 and 62 respectively. The corresponding pass rate for the two subjects was 67% and 62%. The total number of GCC issued were 54. A total of 20 certificates were issue for electrical engineering and 34 for mechanical engineering. The number of GCC issued to women in mining were three and totals 6% of the certificates in 2019.

This is important to ensure transformation in the mining sector and compliance to the MPRDA for women in the mining sector. The mining sector is therefore urged to recruit more women in the field of engineering to ensure gender balance in the industry.

Illegal Mining

The Director-General of the DMRE and the Mpumalanga Provincial Commissioner established a task team to address the scourge of illegal mining in the Mpumalanga region. This task team focusses on precious metals and coal mining. Consequently, the Mpumalanga Illicit Mining Stakeholder Forum was suspended to prevent a possible overlap or duplication of functions and resources.

The stakeholder forum consists of the DMRE, the Department of Home Affairs and Immigration, the Directorate: Priority Crime Investigation (Hawks), SAPS Barberton, Crime Intelligence, the State Security Agency, the Department of Justice, local municipalities, Community Policing Forums, organised labour and the following mining companies: Galaxy Gold Reefs Mining Gold, Barberton Mines, Evander Gold Mines, Transvaal Gold Mines Estates and Vantage Goldfields.

The Central and North-eastern regional operations will continue to embark on a zero tolerance to non-compliance through the implementation of the OHS Improvement Strategy Action Plan. This will be achieved through the following:

- Convene meetings with CEOs of mining companies, professional associations in the mining sector and labour leadership to ensure that health and safety strategies are implemented.
- Implementation of the guideline for the compilation of a mandatory COP on the mitigation and management of the COVID-19 outbreak.

- Focussing on strategies to reduce noise levels as well as exposure levels to respirable crystalline silica by implementing effective engineering controls.
- Focussing on the mines with employees in the HEG A exposure group ensuring that these companies develop engineering controls to reduce the occupational exposure levels of those employees. This will also lead to the withdrawal of employees who are over-exposed to noise and silica dust.
- Improve TB case findings and encourage and monitor employees to complete their treatment courses.
- Mining companies must be more vigilant about transportation and machinery accidents since the coal mining sector is relatively mechanised.

7.2.1 Free State

Although gold is the major commodity that is mined in the Free State region, other commodities such as coal, diamonds, aggregates, bentonite and sand are also mined at a lesser scale. The major gold mining companies are Harmony Gold with 20 399 employees and Sibanye Stillwater with 6 518 employees including contractors which is a total 26 917 employees. The labour force from the other mines in the region is 5 821 employees. The total number of employees in the Free State region is 32 738 employees. Mining takes place in Sasolburg, Welkom, Odendaalsrus, Virginia, Theunissen, Allanridge and Koffiefontein.

During the reporting period, there were five fatalities in 2019 compared to eight in the previous year. The reportable injuries were 226 in 2019 compared to 268 in 2018. There was an improvement of 4% in health incidents when comparing 403 incidents in 2018 to 389 in 2019. AMRs submitted in 2019 were 50. There is still a challenge in small operations, either closing, relocating, or working seasonally. Medical separations still happen though there is huge decrease compared to previous years. TB, HIV and AIDS policies are being implemented by mines in the region especially bigger companies where majority of employees are employed.

7.2.1.1 Topical issues and matters of interest

- COVID-19 pandemic

The mines in the region closed at the end of the financial year due to the lockdown that was imposed at end of March 2020 because of the COVID-19 pandemic. Inspectors were on standby for mines that were on care and maintenance during the duration of the lockdown.

- Illegal mining activities

Illegal mining activities have decreased since many old shafts have been filled with rubble and slime. This resulted in denying ventilation as well as access to food and the underground workings at these shafts. The majority of the illegal miners have possibly moved to other provinces.

- Highlights

Regional tripartite forums and different sub-committees are working well, including the recently established Women in Mining sub-committee.

7.2.1.2 Inspections and audits

CATEGORY	INSPECTIONS	AUDITS
Planned	960	39
Actual	945	46
Percentage compliance	98	118

7.2.1.3 Total accidents reported

Fatal accidents	5
> 14-day accidents	216
1 to 13-day reportable accidents	120

7.2.1.4 Investigations and inquiries

	INVESTIGATIONS	INQUIRIES	TOTAL
Initiated	195	4	199
Completed	195	4	199
Percentage completed	100	100	100

7.2.1.5 Disaster-type accidents

No disaster-type accidents were reported.

7.2.1.6 Statutory notices

SECTION 54 NOTICES	SECTION 55 NOTICES
44	55

7.2.1.7 Administrative fines

No administrative fines were recommended by the Principal Inspector.

7.2.1.8 Land-use applications and complaints

	RECEIVED	COMPLETED	PERCENTAGE
Township developments	6	6	100
Mining and prospecting rights	59	59	100
Closure certificates	12	11	92
Environmental management	34	34	100
Complaints	11	11	100

7.2.1.9 Strategies adopted for improving status-quo

- Ongoing regional stakeholder meetings are held monthly (tripartite fora).
- Continued robust engagement by all stakeholders in tripartite meetings and sub-committee meetings.
- MOSH - enforcement of in stope roof bolting and netting at mines.
- MOSH - enforcement of the use of winch covers for dust.
- Continued intensified inspections and audits by inspectors.
- Enforcement and monitoring of the mines' respective occupational hygiene and medicine programmes, through auditing and inspections.
- Participating in working groups to monitor and mitigate occupational diseases.

- Close partnerships with other government departments, trade unions and key stakeholders.
- Focused audits and inspections of safety management systems and the implementation thereof.
- Quarterly workshops on health and safety matters with key stakeholders.
- Enforcement instructions (stoppages of unsafe practices and workplaces).

7.2.2 Limpopo

In the Limpopo region a wide variety of minerals are mined with coal, copper, chrome and platinum being the main commodities. Numerous base minerals are also mined in this region.

A significant reduction in the number of fatalities during the reporting period was recorded and there was a small improvement in the number of reportable injuries reported during 2019.

There was an increase in the number of occupational diseases reported when compared to 2018. The occupational health impacts are not immediate and hence difficult to quantify.

7.2.2.1 Topical issues and matters of interest

- Grootegeluk mine is a surface coal mining operation that had been in operation since 1980 and the life of mine covers an area that will be mined for at least another 30 years which is supported by the long-term coal supply agreements with Eskom.

  A series of parallel benches are advanced progressively across the deposit via a process of drilling, blasting, loading and hauling with truck and shovel fleets. Pre-stripping of the overburden in weathered areas, consisting of weathered shale and coal, is accomplished through the deployment of hydraulic shovels, while areas containing un-weathered shale are drilled and blasted.

  The coal deposit has been subdivided into geological units based on the physical and chemical properties of the unit, to form 14 mining benches for both saleable products and waste. In this way the run of mine for each bench is reserved for specific beneficiation destinations to produce products with specific coal characteristics and at specific coal quality control specifications.

  The largest portion of the beneficiated product is power station coal with an average ash content of 35%. This coal is continuously dispatched to the Matimba and Medupi Power Stations via a conveyer belt system. Several sized metallurgical coal products at 15% ash and 11.25% ash, semi-soft coking coal at 10.3% ash, as well as steam coal at 12.5% ash are railed to various customers and shipped to international clients via export harbours. A small portion of the total product is sold on site to smaller customers and dispatched by road.

- Mogalakwena Platinum is a platinum group metals (PGM)-bearing base metal sulphide mine in Mokopane in Limpopo. The legendary Dr Hans Merensky discovered the Platreef in the Mokopane area at the beginning of the last century and small-scale mining started soon after for a short period of exploration. In 1990 Rustenburg Platinum Mines approved a feasibility study and an application was made to commence large scale opencast mining operations. During that period all mining activities were outsourced to a contractor before a decision was taken to an owner-operated mining operation.

  To-date over 179Mt of ore material has been excavated by a highly mechanized truck and shovel operation. Currently the mine operates three opencast pits, viz Zwartfontein; Central Pit and North Pit. Initial mining took place in the Sandsloot Pit and mining in this area will be revisited in 2027.

Mining operations are planned to commence further north if viable, but it is currently forecasted to commence in the year 2066. Infill drilling on the properties north of Drenthe and Witrivier commenced in 2017 to assist in extending the resource further north and ultimately incorporate them into the current mine plan. The possibility of mining underground will be considered at a later stage.

- Ivanplats' Platreef Project has completed the 950m level station development. The current shaft bottom is at 975,3m with 24,7m left to end of sinking at 1 000,3m. The 950m station construction is currently underway. The shaft 1-850 level station and the shaft 2 boxcut were completed in July 2019.

7.2.2.2 Inspections and audits

CATEGORY	INSPECTIONS	AUDITS
Planned	800	39
Actual	814	44
Percentage compliance	102	113

The frequency of inspections and audits are determined from the analysis of accident statistics at mines as well as the instructions issued over the period. More inspections and audits were conducted focusing on measures to eliminate fatalities and injuries.

7.2.2.3 Total accidents reported

Fatal accidents	4
> 14-day accidents	162
1 to 13-day reportable accidents	193

Four fatalities were reported during the reporting period. There has been a decrease in the number of reportable accidents with 162 injuries reported during 2019. Mines are commended for reporting all accidents as required in the regulations.

Although the numbers reported are high, there has been an improvement in the reporting of occupational health incidents. A total of 105 occupational diseases were reported during 2019 compared to 30 occupational diseases in 2018. The most common occupational diseases reported in the health incidents reports continue to be PTB followed by NIHL, silicosis and COAD.

7.2.2.4 Investigations and inquiries

	INVESTIGATIONS	INQUIRIES	TOTAL
Initiated	75	4	79
Completed	75	0	75
Percentage completed	100	0	95

Mines are encouraged to ensure that the South African Mines Reportable Accidents Statistical System (SAMRASS) forms are duly completed as required by the regulations.

7.2.2.5 Disaster-type accidents

No disaster-type accidents were reported.

7.2.2.6 Statutory notices

SECTION 54 NOTICES	SECTION 55 NOTICES
151	76

A total of 151 section 54 notices were issued with 475 transgressions observed resulting in 716 instructions being issued. A total of 76 section 55 notices were issued and 170 transgressions were observed, resulting in 236 instructions being issued.

The major challenge at mines continues to be poor application of mine standards and procedures in the working places. Section 54 and section 55 instructions were issued on issues relating to:

- Poor use of safety declaration books / unsafe areas declared safe.
- FOG / substandard support in face areas and brows.
- Face preparations not conducted.
- TMM.
- Explosives management / drilling closer to sockets.
- Conveyor belt installations substandard (locking out, pre-start alarms, trip wires).
- Substandard winch installations (rigging, locking out, signalling arrangements).
- Recirculation / ventilation inadequate.
- Service department reports and recommendations disregarded / no action plan.
- Legal appointments overstretched.
- Emergency preparedness.
- Risk assessments conducted very poorly.
- Training inadequate.
- Provision of PPE.
- Non-submission of statutory reports.
- Medical surveillance not conducted.
- COPs not compiled and /or submitted.
- Inadequate supervision.

Most section 54 instructions that were issued resulted in parts of working places, activities or equipment being stopped until remedial measures were put in place and presented to the Principal Inspector or a plan of action was implemented.

7.2.2.7 Administrative fines

No administrative fines were recommended by the Principal Inspector.

Even though no administrative fines were imposed during the reporting period, there has been a noticeable improvement when working places are stopped.

7.2.2.8 Land-use applications and complaints

	RECEIVED	COMPLETED	PERCENTAGE
Township developments	29	29	100
Mining and prospecting rights	152	152	100
Closure certificates	46	45	98
Environmental management	9	8	89
Complaints	8	8	100

In addition to the above, a total of 96 mining permit applications were processed and finalised within the prescribed timeframes.

7.2.2.9 Strategies adopted for improving status-quo

The region believes that the visibility of inspectors, through regular inspections and audits, is a pro-active way to ensure compliance with health and safety standards. We will continue to support mines in their respective health and safety campaigns and other initiatives.

The region will strive for co-operation with mine employers, mine employees, labour unions and communities affected by mining operations to ensure that there are effective and efficient ways in dealing with health and safety relating to mining operations.

7.2.3 Mpumalanga

The Mpumalanga region is surrounded by Gauteng, KwaZulu-Natal, the Free State and the Limpopo provinces as well as the neighbouring countries of Mozambique and Swaziland. A wide variety of minerals are mined in the Mpumalanga region with coal as the main commodity. The region also has many brickworks, crushers and quarries.

7.2.3.1 Topical issues and matters of interest

During the reporting period several mines in the region operated near the hosting communities. Some of these mines were conducting blasting operations within 500 meters from the communities without permission granted in terms of chapter 4 of the MHSA. Some community members lodged complaints with the DMRE about these operations that were exposing them to excessive noise, dust, blast vibrations and damages to their houses as a result of the mining operations.

Mine employers were advised to apply for permission from the Department prior to conducting blasting operations within 500 meters from structures. The application requirements include amongst others, a copy of the risk assessment, a copy of a signed mine plan and proof of consultation with the affected stakeholders.

The community complaints received by the office also includes affected community members who reside outside of the 500-meter radius but who are also affected by the blasting operations. Due to the scale of the community complaints the region was receiving, a directive namely the opencast mines operating within close proximity of the community within a radius of 500m to 2km was issued by the Principal Inspector on 27 February 2020. The aim of this instruction was to make mines aware that blasting operations affect communities outside the 500-meter radius and as per section 5(b) of the MHSA. The employer must ensure that persons who are not employees, but who may be directly affected by the activities at the mine, are not exposed to any hazard to their health and safety. Mines were advised to have a risk assessment done for all the communities that are residing in close proximity to their respective operations, compile a procedure on

how the health and safety of the communities will be protected and how the community complaints will be handled. Mines have submitted a copy of their procedures to the region and inspectors are encouraged to continue to check whether these mines do have this procedure in place during their routine inspections.

Since the lockdown was announced and the publishing of the Disaster Management Regulations, the Department took measures to protect the health and safety of mine employees and prevent the spread of COVID-19. Directives were issued to the mines with the aim to assist mines during this period and to reduce the exposure and infection rate of COVID-19 at mines.

A guideline for the compilation of a mandatory COP for the mitigation and management of the COVID-19 outbreak was issued and mines are expected to draft and implement this COP. Furthermore, the CIOM released the following documents to the mines: the request for protocol on the prevention and management of COVID-19 in the South African mining industry; the guiding principles on the prevention and management of COVID-19 in the South African mining industry and the start-up procedure of mines by employers and employees following the national lockdown.

7.2.3.2 Inspections and audits

CATEGORY	INSPECTIONS	AUDITS
Planned	1 280	44
Actual	1 495	47
Percentage compliance	117	107

7.2.3.3 Total accidents reported

Fatal accidents	8
> 14-day accidents	165
1 to 13-day reportable accidents	28

7.2.3.4 Investigations and inquiries

	INVESTIGATIONS	INQUIRIES	TOTAL
Initiated	257	14	271
Completed	257	12	269
Percentage completed	100	86	99

7.2.3.5 Disaster-type accidents

No disaster-type accidents were reported.

7.2.3.6 Statutory notices

SECTION 54 NOTICES	SECTION 55 NOTICES
141	55

7.2.3.7 Administrative fines

No administrative fines were recommended by the Principal Inspector.

7.2.3.8 Land-use applications and complaints

	RECEIVED	COMPLETED	PERCENTAGE
Township developments	1	1	100
Mining and prospecting rights	226	226	100
Closure certificates	43	43	100
Environmental management	0	0	0
Complaints	4	4	100

7.2.3.9 Strategies adopted for improving status-quo

Compliance information, regional challenges and areas of excellence are shared at the regional tripartite forums. The region identified that general accidents are still a major contributor to reportable accidents. A high number of FOG and TMM accidents, particularly at coal mines, is still a great concern.

The Inspectorate will increase visibility at the mines as a pro-active way of enforcing compliance at the mines. Focused inspections, audits and investigations will be conducted with the aim of revealing system failures in terms of mine health and mine safety. Appropriate enforcement actions will be taken if necessary.

The activities of the region will focus on the prevention of FOG, slope failures, transportation in mining and machinery related accidents. The emphasis will be on the enforcement of the new regulations and the implementation of new COPs, housekeeping and material handling.

It has been noted with concern that some mines do not have integrated TB and HIV/AIDS programmes. Mines are encouraged to have such programmes in place. The on-site wellness programmes remain a challenge in the small mines. These mines are encouraged to use the local municipal clinic where possible. TB infection and NIHL remains high in the Mpumalanga region and continuous collective engagements at tripartite forums and occupational dialogues were held. The regional occupational health engagement forum was established in 2019 where challenges and best practises are shared amongst health professionals, safety officers and human resources staff. Although occupational diseases are still reported in high numbers in the region, it should be noted that most of these employees have been working in the mining industry for 20 years or more. Mines are encouraged, as per the 2024 MHSC occupational health milestones, to improve the current preventive measures.

Mines are audited on the implementation of COPs. Exit medical examinations are still problematic, especially amongst contractors as these contractors exit mines without the required exit medical examinations. Mines are encouraged to ensure that employees have an exit medical examination since the Mpumalanga region had an increase in CWP. Employees working without having undergone initial and periodic medical surveillance will be withdrawn from workings and appropriate action will be taken against employers. The region will endeavour to ensure that mines put strategies in place to curb the increasing number of cases of TB and other occupational diseases amongst employees in the region.

In terms of exposure to airborne pollutants and noise, there is still a sizeable number of employees who are still exposed to HEG A and HEG B. The inspectorate will continue to engage with the mines who have challenges and assist them to reduce further airborne pollutants exposures. Mines are encouraged to continue to research and implement known strategies to reduce over-exposure to noise and airborne pollutants.

7.3 Regional operations: Western Regions

The Regional Operations: Western Regions consists of North-West: Klerksdorp, North-West: Rustenburg and the Western Cape. A wide variety of minerals are mined in this region with most of the commodities being PGMs, chrome, gold, diamonds, granite, dimension stones, sand and aggregates. The mining activities are conducted on surface, underground and offshore with a combined workforce of about 200 000 employees employed at 292 operating mines.

During the period under review, the Western region conducted 2 414 inspections and 148 audits at mines in the North-West and the Western Cape provinces.

As part of the enforcement measures during the said inspections and audits, 294 section 54 notices and 561 section 55 notices were issued. The notices issued under section 54 deal with dangerous conditions at mines, while those issued under section 55 order compliance to the provisions of the MHSA.

A total of 25 mine fatalities occurred during the period under review compared to the same number of fatalities in 2018, meaning that there was no improvement which was targeted. A total of 1 720 mine injuries were reported in 2019 compared to 1 781 reported in 2018, translating into a 3% year-on-year marginal reduction in mine injuries over the reporting period.

In dealing with the above mine fatalities and injuries, the region completed 15 inquiries and 184 mine investigations during the period under review. The outstanding mine inquiries and investigations could not be completed mainly because of the non-availability of the mines and organised labour's legal representatives.

7.3.1 North West: Klerksdorp

The North-West: Klerksdorp region is surrounded by Gauteng, the Free State, the Northern Cape provinces and the North-West: Rustenburg region. Gold is the predominant mineral being mined with underground operations which are labour intensive.

Most of the mines in the region are surface diamond diggings around the Wolmaransstad, Bloemhof, Schweizer-Reneke, Vryburg, Taung, Ottosdal and Christiana areas. Other minerals that are being mined in the region include uranium, limestone, sand and clay.

7.3.1.1 Topical issues and matters of interest

- Surface diamond diggings and other mines that exploit other minerals such as uranium, limestone, fluorspar, sand, aggregate stones and clay have not reported a fatal accident since 2018.
- During the reporting period the North West: Klerksdorp region noted that two underground gold mining companies achieving improved safety performance. Harmony's Moab Khotsong Gold Mine achieved over two-million fatality-free shifts and Village Main Reef's Kopanang Gold Mine achieved over one-million fatality-free shifts.

7.3.1.2 Inspections and audits

CATEGORY	INSPECTIONS	AUDITS
Planned	880	44
Actual	883	47
Percentage compliance	100	107

7.3.1.3 Total accidents reported

Fatal accidents	5
> 14-day accidents	164
1 to 13-day reportable accidents	137

7.3.1.4 Investigations and inquiries

	INVESTIGATIONS	INQUIRIES	TOTAL
Initiated	111	4	115
Completed	111	3	114
Percentage completed	100	75	99

7.3.1.5 Disaster-type accidents

On Friday, 6 December 2019, four employees were fatally injured whilst one employee was seriously injured during a seismic-induced FOG accident, at Tau Lekoa Gold mine. The FOG accident appears to have been caused by two successive seismic events of 2.3 and 2.1 magnitude on the Richter scale which occurred milliseconds apart, in the proximity of a wide raise which was being worked.

7.3.1.6 Statutory notices

SECTION 54 NOTICES	SECTION 55 NOTICES
104	318

7.3.1.7 Administrative fines

No administrative fines were recommended by the Principal Inspector.

7.3.1.8 Land-use applications and complaints

	RECEIVED	COMPLETED	PERCENTAGE
Township developments	19	19	100
Mining and prospecting rights	23	23	100
Closure certificates	37	37	100
Environmental management	0	0	0
Complaints	19	19	100

7.3.1.9 Strategies adopted for improving status-quo

- Monitoring and enforcement of the directives and instructions issued by the CIOM.
- Appropriate statutory instructions are issued to mines, where health and safety transgressions are identified.
- Senior Inspectors are conducting follow-up audits and inspections to monitor progress of action plans presented to the Principal Inspector.
- Verifications or follow-ups on the implementation of presentation commitments made by the mines.

- Mines are required to profile all underground pillars and/or isolated blocks of grounds intended to be mined and conduct comprehensive risk management to be presented to the Principal Inspector for comments.
- Mines are encouraged to adopt leading health and safety practices of the mining industry.
- Involvement of the service departments of mines on all health and safety related matters.
- Empowering of Health and Safety Representatives by engaging them during inspections, audits, accident investigations and inquiries.
- Mines are encouraged to have wellness programmes to address healthy lifestyles and non-occupational diseases including HIV. At some mine employees are questioned and tested on the signs and symptoms of TB whenever they visit the health facility i.e. medical stations, hospital and during health campaigns at different mines.
- The mines (medium operations) conduct wellness campaigns in accordance with the South African health awareness calendar.
- Mines are encouraged to deal with lifestyle conditions at the mine hospitals or medical stations for employees who are not on medical aid schemes.
- During these awareness campaigns mine employees are counselled and with their consent HIV testing is done. It should be noted that this is managed at the primary healthcare and not at the occupational health-care centres.
- Mines are encouraged to conduct health and safety campaigns once each quarter.
- The mines without a second outlet must give written commitments regarding the speedily establishment on the availability of a second shaft outlet.

7.3.2 North West: Rustenburg

The North-West: Rustenburg region is bordered by the Limpopo and Gauteng provinces, the North West: Klerksdorp region and Botswana. A wide variety of minerals are being mined in this region with PGMs and chrome being the main commodities. Mining operations in this region are mainly made up of labour-intensive underground mining operations with numerous surface slate and granite quarries. This region still accounts for most of the mine employees in the country.

7.3.2.1 Topical issues and matters of interest

On 10 June 2019, the Lonmin operations became part of the Sibanye-Stillwater group. During the time of the transition, there was uncertainty from Lonmin management and the organised labour regarding massive job losses.

It appears that after the integration process was concluded, a lot of fears from the former Lonmin employees were allayed as most jobs were secured. The combined PGM production from Sibanye-Stillwater operations is now considered the largest primary producer of palladium in the world.

From 13 February 2020 until 25 March 2020, Lanxess Chrome Mine employees embarked on in an unprotected underground sit-in which lasted for weeks. This appeared to be the strategy used by the protesting employees to get mine management to agree to their demands. Despite the lengthy unprotected underground strike by some mineworkers, the situation remained relatively calm with no major acts of violence reported during the strike.

7.3.2.2 Inspections and audits

CATEGORY	INSPECTIONS	AUDITS
Planned	880	40
Actual	934	46
Percentage compliance	106	115

7.3.2.3 Total accidents reported

Fatal accidents	20
> 14-day accidents	1 032
1 to 13-day reportable accidents	367

7.3.2.4 Investigations and inquiries

	INVESTIGATIONS	INQUIRIES	TOTAL
Initiated	39	17	**56**
Completed	39	12	**51**
Percentage completed	100	71	**91**

7.3.2.5 Disaster-type accidents

No disaster-type accidents were reported.

7.3.2.6 Statutory notices

SECTION 54 NOTICES	SECTION 55 NOTICES
183	212

7.3.2.7 Administrative fines

Number of fines recommended by Inspector	5
Value of fines recommended by Inspector	0
Number of fines set aside by Principal Inspector	4
Value of fines set aside by Principal Inspector	0
Number of fines imposed by Principal Inspector	1
Value of fines imposed by Principal Inspector	R 1 000 000.00
Appeals	0
Value of fines paid	R 1 000 000.00

7.3.2.8 Land-use applications and complaints

No land-use applications and complaints were received.

7.3.2.9 Strategies adopted for improving status-quo

- Monitoring and enforcement of CIOM directives and instructions.
- Monitoring and enforcement of the Principal Inspector's directive on the appropriate ratio of employees to an OMP.
- Most inspections and audits are conducted at high risk mines based on the 2019 mine health and safety performance.
- Mines are encouraged to conduct health and safety campaigns once each quarter.
- Withdrawal of incompetent or negligent operators, mining machines and supervisors for re-training purposes.
- Withdrawal of employees from unsafe or dangerous working places until it was made safe.
- Encourage the adoption of the leading health and safety practices by mines.
- Enforcement of areal support in underground mines.
- Scrutiny of pre-planning minutes and mine plans.
- Presentation to the region about any change of mining layouts.
- Enforcement of the guideline for the compilation of the mandatory code of practice for minimum standard of fitness.
- Joint occupational hygiene and medical audits/inspections.

7.3.3 Western Cape

7.3.3.1 Topical issues and matters of interest

The Western Cape Region dominantly has small surface mines and quarries with approximately 5 355 employees and contractors working at 206 mines.

The larger mines employing more than hundred employees are:

- The PetroSA refinery and one offshore platform producing gas at Mossel Bay.
- PPC Riebeeck producing cement.
- PPC De Hoek producing cement.
- Namakwa Sands producing ilmenite.
- Tormin Mine producing ilmenite.
- Peninsula Quarry producing aggregates.
- Philippi Sand mining silica sand for Consol Glass.

The smaller mines produce sea diamonds, limestone, sand, stone and clay for the construction industry. The region also has one small underground mine, Steenkampskraal, which has been dormant for a very long time but may be re-opened depending on international markets for monazite and other rare earth metals.

Mining commenced at Elandsfontein Phosphate Mine in the Langebaan area but was stopped after problems with the process plant were experienced. The mine is currently on care and maintenance until the plant production issues can be solved.

7.3.3.2 Inspections and audits

CATEGORY	INSPECTIONS	AUDITS
Planned	560	40
Actual	597	55
Percentage compliance	107	138

7.3.3.3 Total accidents reported

Fatal accidents	0
> 14-day accidents	12
1 to 13-day reportable accidents	8

7.3.3.4 Investigations and inquiries

	INVESTIGATIONS	INQUIRIES	TOTAL
Initiated	36	0	**36**
Completed	34	0	**34**
Percentage completed	94	0	**94**

7.3.3.5 Disaster-type accidents

No disaster-type accidents were reported.

7.3.3.6 Statutory notices

SECTION 54 NOTICES	SECTION 55 NOTICES
7	31

7.3.3.7 Administrative fines

Number of fines recommended by Inspector	1
Value of fines recommended by Inspector	R 10 000
Number of fines set aside by Principal Inspector	1
Value of fines set aside by Principal Inspector	R 10 000
Number of fines imposed by Principal Inspector	R 10 000
Value of fines imposed by Principal Inspector	R 10 000
Appeals	0
Value of fines paid	R 10 000

7.3.3.8 Land-use applications and complaints

	RECEIVED	COMPLETED	PERCENTAGE
Township developments	70	70	100
Mining and prospecting rights	19	19	100
Closure certificates	44	44	100
Environmental management	13	13	100
Complaints	3	3	100

7.3.3.9 Strategies adopted for improving status-quo

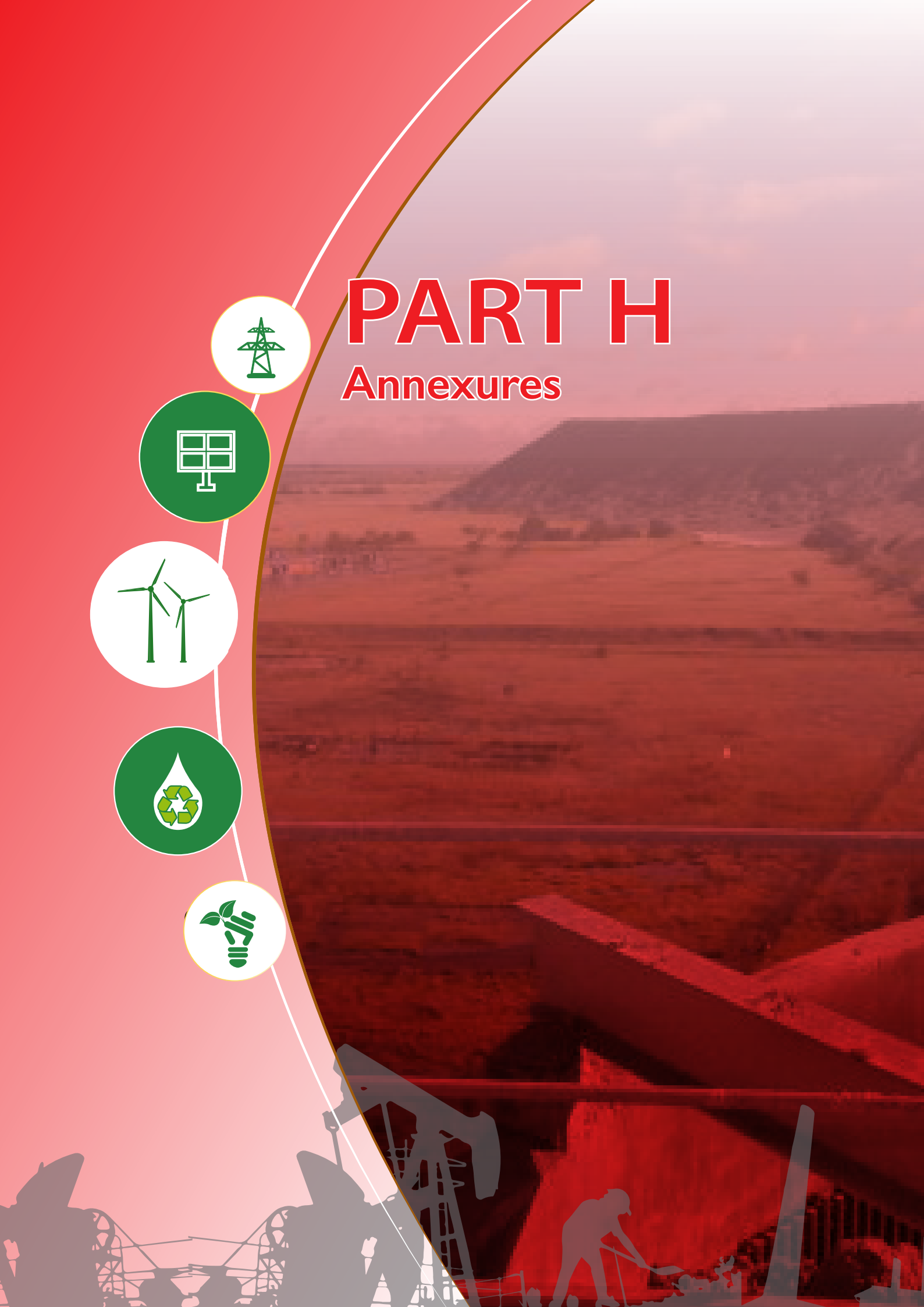
Although the Western Cape region did very well for the past year, inspectors will attempt to improve on the excellent performance of the past year. The majority of mines in the Western Cape region are small mines.

Inspectors are mindful of the fact that no minimum qualification is prescribed for the owner or manager of a small mine, hence they will endeavour to assist small mines where possible. Inspectors will encourage owners and managers of mines not just to comply with legislation but to establish a health and safety culture on these mines.

Tri-partite meetings with active participation were held on regional scale and were attended by employers, employee representatives and inspectors. These meetings will be promoted in the future.

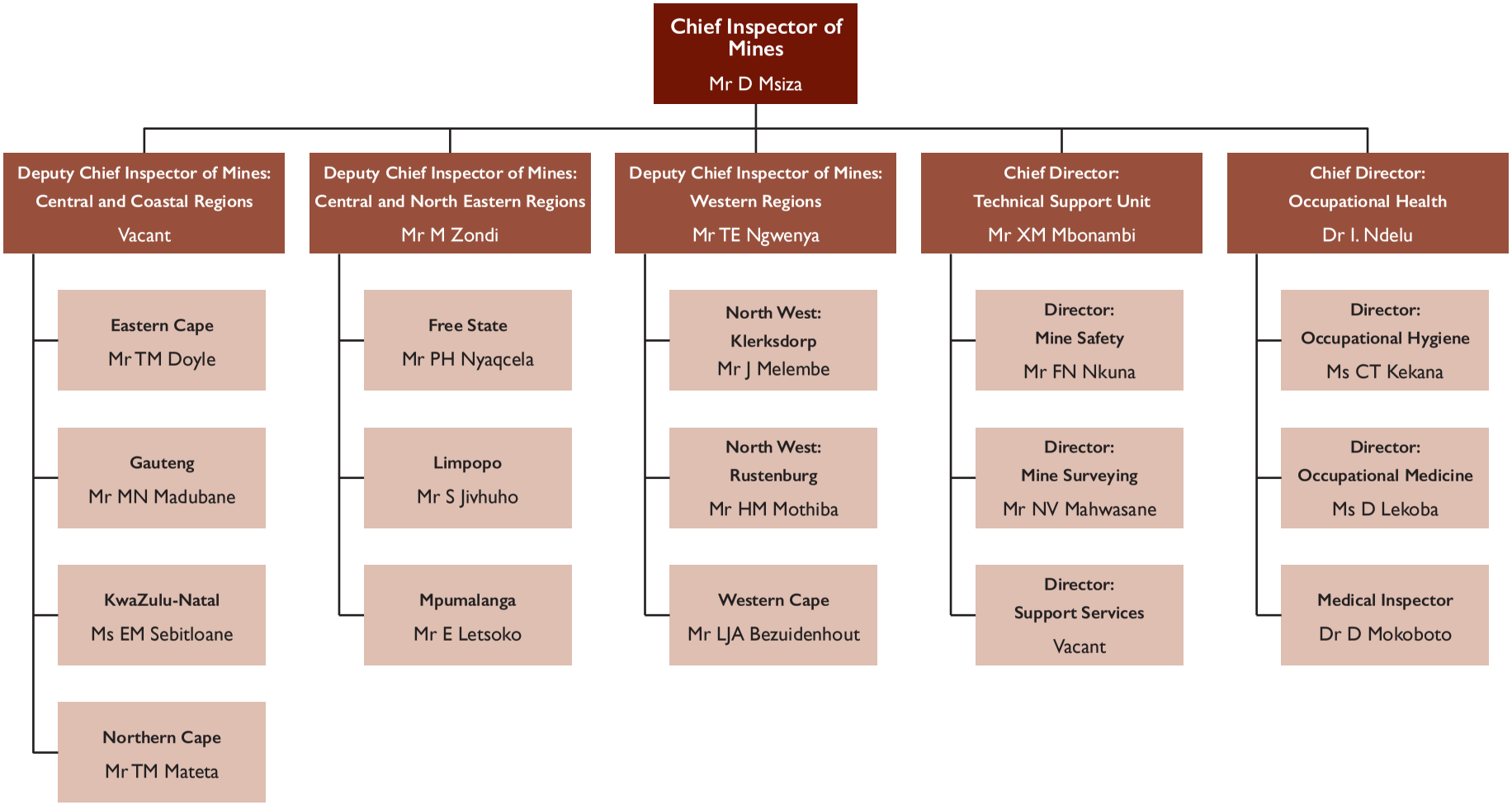
PART H

Annexures



8. ANNEXURES

ANNEXURE A: Organogram of the MHSI for the period ending 31 March 2020



ANNEXURE B: Contact list for the period ending 31 March 2020

POSITION	OFFICIAL	WORK TEL	POSTAL ADDRESS	E-MAIL
Chief Inspector of Mines	**Mr D Msiza**	012 444 3639 012 444 3970	Private Bag X59 ARCADIA 0007	phumudzo.rambau@dmre.gov.za sithembile.nzimande@dmre.gov.za
Deputy Chief Inspector of Mines: Central and Eastern Northern Region	**Mr MMA Zondi**	012 444 3663	Private Bag X59 ARCADIA 0007	lindiwe.sekwati@dmre.gov.za
Deputy Chief Inspector of Mines: Western Region	**Mr TE Ngwenya**	012 444 3547	Private Bag X59 ARCADIA 0007	daphney.sekgobela@dmre.gov.za
Deputy Chief Inspector of Mines: Central and Coastal Region	**Vacant**	012 444 3649	Private Bag X59 ARCADIA 0007	freda.seema@dmre.gov.za
Chief Director: Occupational Health	**Dr L Ndelu**	012 444 3667	Private Bag X59 ARCADIA 0007	trevia.kungoane@dmre.gov.za
Chief Director: Technical Support	**Mr XM Mbonambi**	012 444 3676	Private Bag X59 ARCADIA 0007	arista.muller@dmre.gov.za
Medical Inspector	**Dr D Mokoboto**	012 444 3614	Private Bag X59 ARCADIA 0007	pertunia.makhubela@dmr.gov.za
Director: Occupational Medicine	**Ms D Mahlaba**	012 444 3785	Private Bag X59 ARCADIA 0007	rudzani.moshapo@dmre.gov.za
Director: Occupational Hygiene	**Ms CT Kekana**	012 444 3646	Private Bag X59 ARCADIA 0007	anesia.matjokane@dmre.gov.za
Director: Mine Safety	**Mr FN Nkuna**	012 444 3612	Private Bag X59 ARCADIA 0007	portia.sokhulu@dmre.gov.za
Director: Mine Surveying	**Mr NV Mahwasane**	012 444 3789	Private Bag X59 ARCADIA 0007	goitsemang.sekwati@dmre.gov.za
Director: MHSI Legal Services	**Mr G Ndamse**	012 444 3274	Private Bag X59 ARCADIA 0007	mmasello.maimela@dmre.gov.za
Principal Inspector of Mines: Eastern Cape	**Mr TM Doyle**	041 403 6640	Private Bag X6076 PORT ELIZABETH 6000	megan.singh@dmre.gov.za
Principal Inspector of Mines: Free State	**Mr PH Nyaqcela**	057 391 1372	Private Bag X33 WELKOM 9460	anna.charley@dmre.gov.za
Principal Inspector of Mines: Gauteng	**Mr MN Madubane**	011 358 9776	Private Bag X5 BRAAMFONTEIN 2017	nokhaya.magudumana@dmre.gov.za
Principal Inspector of Mines: KwaZulu-Natal	**Ms EM Sebitloane**	031 335 9626	Private Bag X54307 DURBAN 4000	sindy.dlamini@dmre.gov.za

POSITION	OFFICIAL	WORK TEL	POSTAL ADDRESS	E-MAIL
Principal Inspector of Mines: Limpopo	**Mr S Jivhuho**	015 287 4705	Private Bag X9467 POLOKWANE 0700	nancy.montana@dmre.gov.za
Principal Inspector of Mines: Mpumalanga	**Mr E Letsoko**	013 653 0514	Private Bag X7279 WITBANK 1035	Sbongile.mokoena1@dmre.gov.za
Principal Inspector of Mines: Northern Cape	**Mr T M Mateta**	053 807 1735	Private Bag X6093 KIMBERLEY 8300	dorothy.goliath@dmre.gov.za
Principal Inspector of Mines: North West: Klerksdorp	**Mr J Melembe**	018 487 4316	Private Bag A1 KLERKSDORP 2570	elizabeth.mmota@dmre.gov.za
Principal Inspector of Mines: North West: Rustenburg	**Mr HM Mothiba**	014 594 9240	P O Box 150 TLHABANE 0309	tintswalo.baloyi@dmre.gov.za
Principal Inspector of Mines: Western Cape	**Mr LJA Bezuidenhout**	021 427 1004	Private Bag X9 ROGGE BAY 8012	ntombikayise.ntlenzi@dmre.gov.za
Mining Qualifications Authority Chief Executive Officer	**Mr T Mmotla**	011 547 2600	7 Anerley Road PARKTOWN 2193	Rochelle.m@mqa.org.za
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ANEXURE C: Acronyms

AIDS	Acquired Immune Deficiency Syndrome
AMR	Annual Medical Report
ARV	Antiretroviral
CEO	Chief Executive Officer
CIOM	Chief Inspector of Mines
COAD	Chronic obstructive airway disease
COP	Code of Practice
CWP	Coal workers' pneumoconiosis
DMRE	Department of Mineral Resources and Energy
DoH	Department of Health
ENT	Ear, Nose, and Throat specialist
FFR	Fatality frequency rate
FOG	Fall of ground
GCC	Government Certificate of Competency
HCP	Hearing conservation programmes
HCT	HIV counselling and testing
HEG	Homogenous exposure group
HIV	Human Immunodeficiency Virus
HPD	Hearing protection device
IFR	Injury frequency rate
IPT	Isoniazid Prophylaxis Therapy
IMSSA	Institute of Mine Surveyors of South Africa
LFT	Lung function test
MBOD	*Medical Bureau for Occupational Diseases*
MDR-TB	Multi-drug-resistant TB
MHSA	Mine Health and Safety Act, 1996 (Act 29 of 1996), as amended
MHSC	Mine Health and Safety Council
MHSI	Mine Health and Safety Inspectorate
MOSH	Mine occupational safety and health
MPRDA	Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)
MQA	Mining Qualifications Authority
MSDS	Material safety data sheets
NCD	Non-communicable diseases
NIHL	Noise-induced hearing loss
NSP	National Strategic Plan
OHC	Occupational health care
OMP	Occupational Medical Practitioner

OHS	Occupational health and safety
PGM	Platinum group metals
PHC	Primary health care
PLH	Percentage loss of hearing
PPE	Personal protective equipment
PTB	Pulmonary tuberculosis
PTSD	Post-traumatic stress disorder
RBE	Rail-bound equipment
SAMRASS	South African Mines Reportable Accidents Statistical System
SAPS	South African Police Service
Sil+TB	Silico-tuberculosis
SLA	Service level agreement
SOP	Standard operating procedure
STS	Standard threshold shift
T&M	Transportation and mining
TB	Tuberculosis
TMM	Trackless mobile machines
UNAIDS	United Nations Programme on HIV and AIDS
UV	Ultraviolet
VFL	Visible felt leadership
WHO	World Health Organization
XDR-TB	Extremely drug-resistant TB

Notes:

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RP324/2020
ISBN: 978-0-621-48805-0

Title of Publications: Mine Health and Safety Inspectorate Annual Report 2019/2020