



## **ANNUAL REPORT TO STAKEHOLDERS ON HEALTH AND SAFETY FOR THE YEAR JUNE 2013 TO MAY 2014**

### **Summary**

- **OSHAS 18 001 re-certification audit completed during the year**
- **7 lost time accidents were reported during the year**
- **DIFR (Disabling Injury Frequency Rate) = 1.27**
- **Number of employees 554 - a 12.4% reduction over 2012 levels**
- **Shifts worked 643441**
- **Shifts lost 297**
- **Man hours worked 1097904**
- **Operating machines 230.**
- **Deterioration in DIFR from 1.1 to 1.27 main contributor the Free State area**



## 1. INTRODUCTION

The year under review represents the company's eleventh full year of operations. 230 machines produced an average of 48606 metres of core every month at the operations below.

- **Harmony Gold:** Bambanani Mine, Tshepong Mine, Masimong Mine, Unisel Mine, Phakisa, Target Mine, Joel Mine, Doornkop Mine.
- **Anglogold Ashanti:** Gt Nologwa Mine, Moab Khotsong, Kopanang
- **ARM:** Two Rivers Mine
- **Anglo Platinum:** Townlands Mine, Turffontein (Khuseleka and Siphumelele Mines), Bathopele, Thembelani, Union Mine
- **Petra Diamonds:** Koffiefontein, Finch Mine

### Commentary

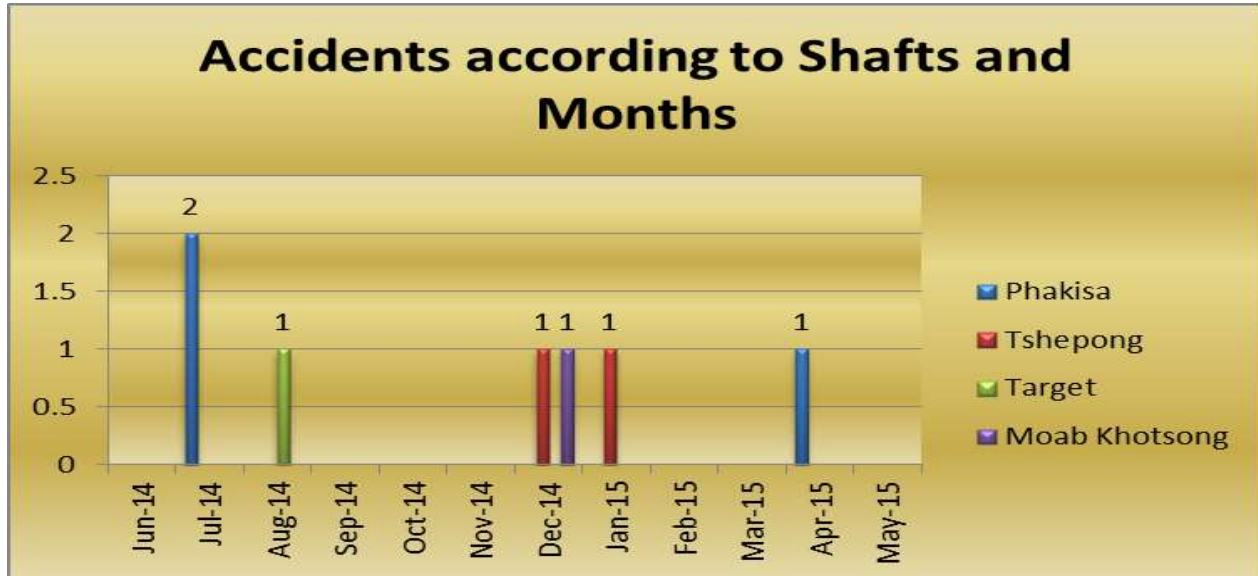
The safety performance of the company mainly will determine the future of the company and his employees.

By living our Policy values sound safety statistics can be achieved, the active participation of each employee in all aspects of the safety system will ensure a safe and productive operation

A mind set of safety awareness must be cultivated and measured on a daily basis; the remedial actions on deviations must be analysed and sound actions to be implemented.

Although the accident trend is lower than previous years the severity is much higher.

**Year June 2013 – May 2014 trends in health and safety at Lesedi**



**Accidents during operational year: 2013-2014**

The accident frequency over the previous year was not improved and the severity of the accidents was higher than the previous year.

| Name       | Mine          | Date of Accident | Task Performed                                | Circumstances   | Injury sustained                           | Shifts Lost |
|------------|---------------|------------------|---|---|--|-------------|
| JM Thinane | Phakisa Mine  | 02/07/2013       | End of shift procedure                        | Operator released air compression through the rod puller  | Fracture and amputation left little finger | 64          |
| H Manusse  | Phakisa Mine  | 22/07/2013       | Material Handling                             | Struck by blank flange and 100mm clamp which dislodged under pressure   | Fractured left lower arm                   | 165         |
| V Mohlafu  | Target Mine   | 14/08/2013       | Drilling and chucking                         | Whilst closing the face clamp 25mm water hose dislodged from the hose fitting and struck the injured on his right eye   | Contused right eye                         | 18          |
| OM Madiba  | Moab Khotsong | 17/12/2013       | Travelling/material handling                  | Whilst carrying full core box to the station he slip and fell, the core box on his shoulder then struck him on his left hand cutting his left forefinger                                    | Laceration left forefinger                 | 9           |
| R Phume    | Tshepong Mine | 17/12/2013       | Rod handling pulling rods from 70 degree hole | Whilst pulling rods the rods slipped in the face clamp and pinched his finger between the pipe wrench and the machine casing  | Laceration left index finger               | 14          |
| B Mungoi   | Tshepong Mine | 29/01/2014       | Rod handling                                  | Pushing rods into the hole 90 degrees, Operator removed the rod catcher prematurely before the last rod was installed the rods slipped pinching his thumbs between the wrench and the chuck | Fractured right and left thumb             | 122         |



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|                 |                     |                   |                              |   |                                 |           |
|-----------------|---------------------|-------------------|------------------------------|---|---------------------------------|-----------|
| <i>S Jomane</i> | <i>Phakisa Mine</i> | <i>08/04/2014</i> | <i>Drilling and Chucking</i> | <i>Whilst Mr Sello was busy manually reversing feed screw the operator engaged the machine causing the machine starting to rotate with the pipe wrench attached to the hand wheel</i> | <i>Contused right upper leg</i> | <i>22</i> |
|-----------------|---------------------|-------------------|------------------------------|---|---------------------------------|-----------|

Table 1: Lost Shift Accidents 2013 - 2014

The Free State operations and in particular Tshepong and Phakisa Mine, experienced major problems in achieving their safety targets with 6 accidents resulting in 405 lost shifts.

Orkney operation had one accident at Moab Khotsong (Slip and fall) whilst carrying a core box to the station with 9 lost shifts.

Rustenburg operations and Steelpoort is clear of accidents and well done to all the employees.

Northern Cape is new area and currently is clear of accidents.

### REVIEW OF THE PERIOD: 2012 - 2013

It is important to classify the lost shift accidents. The table below documents the accidents between 29<sup>th</sup> May 2013 and 28<sup>th</sup> May 2014

|   |                              | Frequency of incidents | Severity(Lost Shifts) |
|---|------------------------------|------------------------|-----------------------|
| 1 | Transport of equipment       | 1                      | 9                     |
| 2 | Rigging of equipment         | 1                      | 165                   |
| 3 | Drilling operations          | 2                      | 40                    |
| 4 | Pulling and Lowering of rods | 2                      | 136                   |
| 5 | End of shift procedure       | 1                      | 64                    |
|   | Total                        | 7                      | 414                   |

Table 2: Accidents between May 2013 - 2014

### Pulling and Lowering Rods

The Free State operations Tshepong Mine had two accidents whilst drillers were pulling or lowering rods. The investigations revealed in both cases the face clamp was not utilised as per SOP. In both cases disciplinary action resulted in the dismissal of the operators. By utilising the hydraulic machines all rod handling accidents can be eliminated and Area Managers need to aggressively promote the Adder and Mamba machines at all areas.

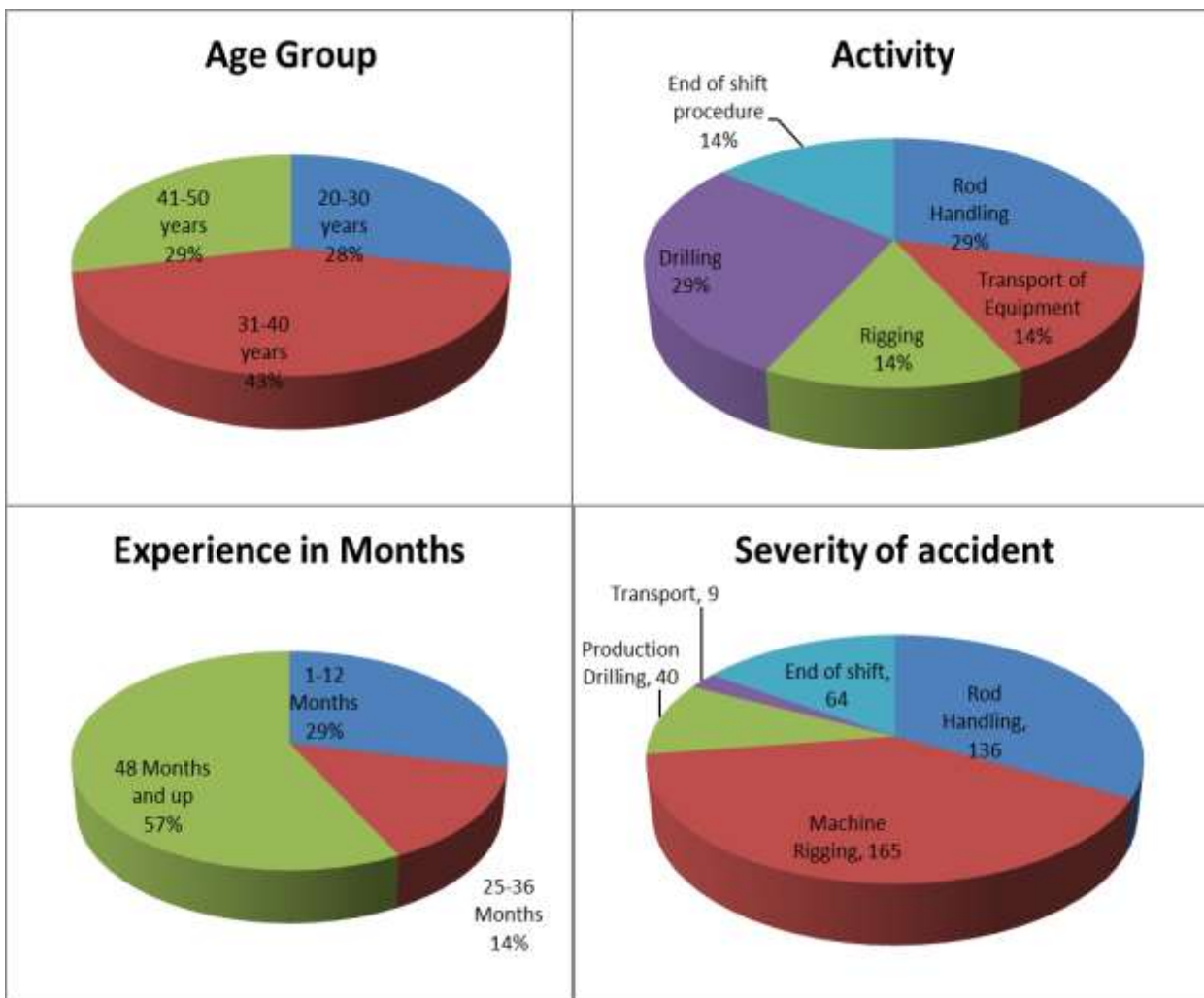
### **Production Drilling**

Two accidents were recorded one at Target mine and one at Phakisa Mine, The Target accident was a hose that dislodged whilst the assistant climbed on the platform supporting himself by pulling on an 25mm water hose attached to the face clamp. This resulted in the decision to install safety slings at all hose connections. At Phakisa the assistant was reversing the feed screw with a pipe wrench and the operator engaged the machine before the assistant was clear of the machine and the pipe wrench was still attached to the drill string. A secondary safety valve was installed on the machine inlet to give the assistant control of the machine whilst work is done near the machine.

**Material Handling:** One accident was recorded at Phakisa Mine where an instruction was given to the operator to install a reducers and valve on the main air column. The operator did not have the authority or training to do the work.

**The High Risk activities as identified in the issue based risk assessment still remain.**

- **Rod Handling**
- **Material Handling**
- **Production Drilling**



Reviewing the above information, we learn that:

- 43% of Lesedi accidents happen to workers who have been with the organisation for less than three years.
- 57% of accidents happen to employees with less than 5 years service with the company.
- In terms of age, almost 71% of our accidents happen to workers who are less than 40 years old.
- Drilling and Rod handling of material totals to 58% of the accidents.
- The severity(actual days lost) is also drilling and rod handling with(301 days) 72%

## 2. YEAR LOST SHIFT TRENDS (2009 – 2014)

The table below shows the trends in our safety failures over the last 5 years. The trend from 2008 to 2011 was fairly consistent with between two and four accidents per year. However, from mid-2010 to 2012 there was a rapid expansion in the company and the need for a formal accredited Safety system was recognised. OHSAS 18001: 2007 was thus obtained during 2011.

This year was the re-certification and three minor non-conformances were recorded at 5 shafts audited.

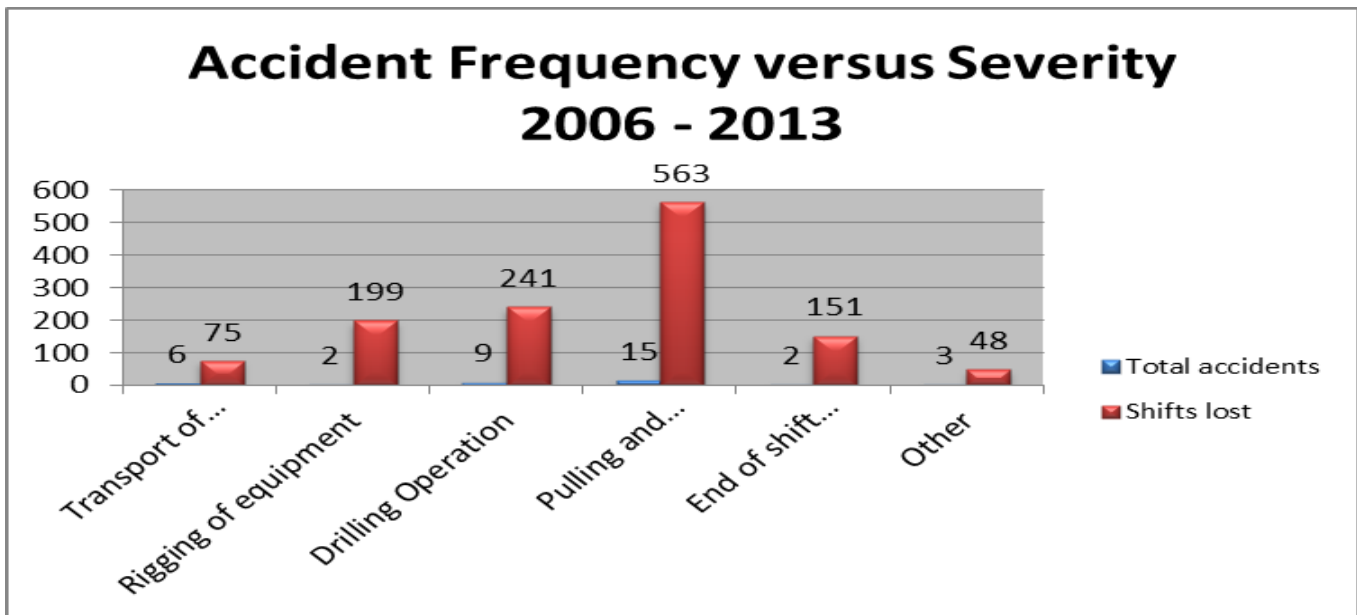


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During this year the rod handling accidents reduced but production drilling accidents increased again. The severity of the injuries sustained was much higher than previous years and is a major concern. The accidents during 2014 were mainly in the Free State area and alack in over inspection and active participation in the safety system resulted in the poor safety performance, this can also be seeing in the production results where a direct comparison can be seeing between accidents and production. During the last quarter the accident rate came down due to active performance measurement of production and safety results.

|   | Critical Activities          | 2008-2009 |                           | 2009-2010 |                           | 2010-2011 |                           | 2011-2012 |                           | 2012-2013 |                           | 2013-2014 |                           |
|---|------------------------------|-----------|---------------------------|-----------|---------------------------|-----------|---------------------------|-----------|---------------------------|-----------|---------------------------|-----------|---------------------------|
|   |                              | Freq      | Severity<br>(Lost shifts) | Freq      | Severity<br>(Lost shifts) | Freq      | Severity<br>(Lost shifts) | Freq      | Severity<br>(Lost shifts) | Freq      | Severity<br>(Lost shifts) | Freq      | Severity<br>(Lost shifts) |
| 1 | Gas Measuring                | 0         | 0                         | 0         | 0                         | 0         | 0                         | 0         | 0                         | 0         | 0                         | 0         | 0                         |
| 2 | Start of Shift Procedure     | 0         | 0                         | 0         | 0                         | 0         | 0                         | 0         | 0                         | 0         | 0                         | 0         | 0                         |
| 3 | Transport of equipment       | 0         | 0                         | 0         | 0                         | 0         | 0                         | 2         | 33                        | 2         | 98                        | 1         | 9                         |
| 4 | Rigging of equipment         | 0         | 0                         | 0         | 0                         | 0         | 0                         | 0         | 0                         | 1         | 31                        | 1         | 165                       |
| 5 | Beginning of hole operations | 0         | 0                         | 0         | 0                         | 0         | 0                         | 0         | 0                         | 0         | 0                         | 0         | 0                         |
| 6 | Drilling operations          | 2         | 49                        | 1         | 16                        | 0         | 0                         | 0         | 0                         | 3         | 117                       | 2         | 40                        |
| 7 | Pulling and Lowering of rods | 2         | 65                        | 0         | 0                         | 3         | 71                        | 5         | 132                       | 2         | 51                        | 2         | 136                       |
| 8 | End of shift procedure       | 0         | 0                         | 0         | 0                         | 1         | 87                        | 0         | 0                         | 0         | 0                         | 1         | 64                        |
| 9 | Other                        | 0         | 0                         | 1         | 5                         | 0         | 0                         | 4         | 73                        | 0         | 0                         | 0         | 0                         |
|   | Total                        | 4         | 114                       | 2         | 21                        | 4         | 158                       | 11        | 238                       | 8         | 297                       | 6         | 414                       |

Table 3: Lost Shift Trends 2009 – 2014



If we review the trends evident in the information above, we could deduce that we have not managed to contain accidents which occur during drilling operations and rod handling. Both the two categories of activities can be improved by phasing out the old feed screw type machines and replace them with hydraulic machines that remove the employee from the machine

### 3. ANALYSIS OF CRITICAL PLANNED TASK OBSERVATIONS 2013

| PTO Conducted  | Amount done | Deviations | Percentage deviations |
|--|-------------|------------|-----------------------|
| Lamp Room- Gas Detection Instrument (inspection & calibration)       | 261         | 11         | 0.03                  |
| Flammable Gas Testing  | 227         | 29         | 0.13                  |
| Start of Shift / Drill Site Inspection                               | 263         | 24         | 0.09                  |
| Material Handling (Loading & Offloading)                             | 262         | 36         | 0.14                  |
| Machine Rigging (Conventional)                                       | 226         | 12         | 0.05                  |
| Casing Installation  | 201         | 9          | 0.04                  |
| Drilling and Chucking  | 205         | 14         | 0.07                  |
| Rod Handling (pulling and lowering of rods and using the rod puller) | 305         | 42         | 0.04                  |
| Re-chucking Procedure  | 124         | 4          | 0.03                  |
| Installing Wedge Bolts, Eye Bolts and Face Clamps                    | 136         | 11         | 0.08                  |
| End of Shift Procedure   | 204         | 13         | 0.06                  |
| Core Handling(Underground)   | 192         | 32         | 0.17                  |
| Rigging Down   | 123         | 17         | 0.14                  |
| Drilling wedge bolts at an inclination                               | 37          | 3          | 0.08                  |
|  | 2769        | 257        | 0.092                 |





In line with the Company’s Occupational Health and Safety Management System, compliance with Standard Operating Procedures is monitored through a Planned Task Observation programme. The results of the P.T.O conducted are analysed and stored in a data base in the IMS System, this give management the tool to measure the knowledge of the employee, the trend of the employees training and the training needs.

**Gas Testing:** Testing for the presence of methane gas is a vital aspect of a diamond driller’s responsibilities and an accident here produces the highest level of loss possible. 227 PTO`s had been conducted with a failure rate of 0.13% Methane procedure vigilance is a crucial aspect of what we measure in our safety system.

**Transport of Material:** Two accidents occurred whilst transporting material. Total number of observations was 262 with a failed rate of 0.14%. Focus on this area remains a priority.

**Rod Handling:** Given that pulling rods also has a very high accident potential it is lamentable that two accidents were recorded. A total number of 305 PTO`s were recorded with a failure rate of 0.04%. This is a very high failure rate for an activity already identified as dangerous and training in this area has been increased.

**Production Drilling:** Three accidents were recorded in the actual drilling process. Use of the stuffing box resulted in the injuries. A Total of 205 PTO`s were conducted with a 0.07% failure rate. The main reason for the accidents has been due to workers taking shortcuts.

**Total PTO`s conducted:** The PTO`s conducted are at the same rate as the previous year. An extra level of supervision was introduced by means of the safety leaders who also conduct Pto`s.

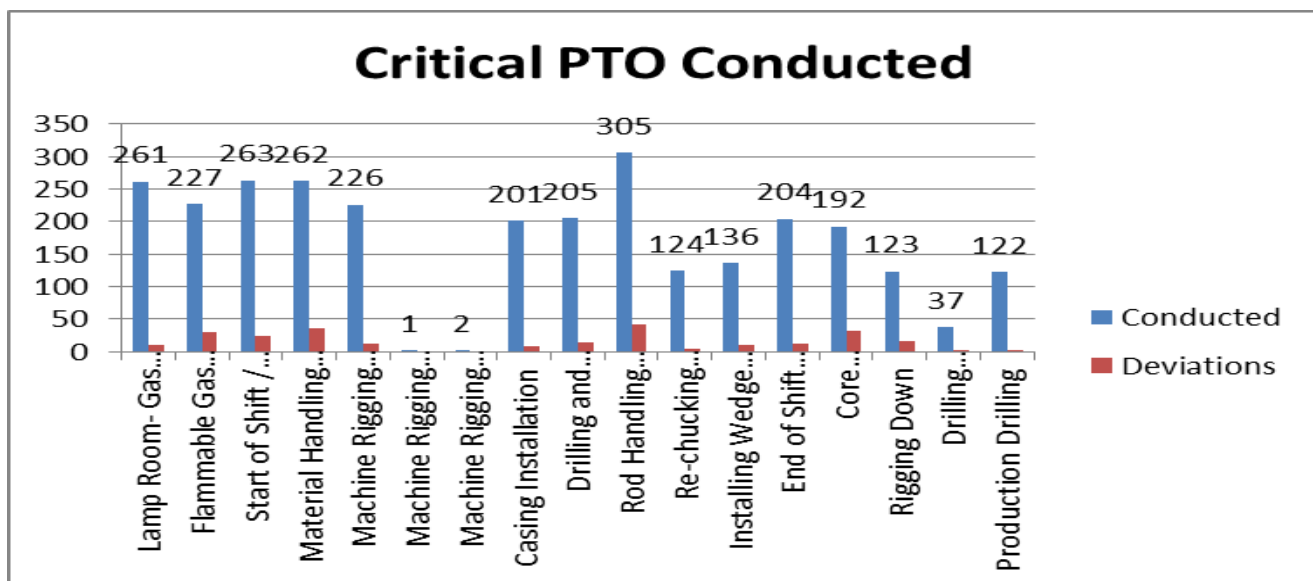


Figure 2: Planned Task Observation Results 2012

A Trend of between 350 and 300 PTO`s are conducted monthly.  
 Months where a decrease is experienced is December and April during the holidays.

The PTO`s are saved in a central data base and they are also used during the performance appraisals of the employees. This is used as the foundation in determining the action to be used to improve the level of skills of the employee. It drives our training and coaching efforts.

#### 4. RISK MAP: PNEUMATIC DIAMOND DRILLING

A risk map has been included (below) so that an interested reader can gauge the severity of the risk for any given work activity.

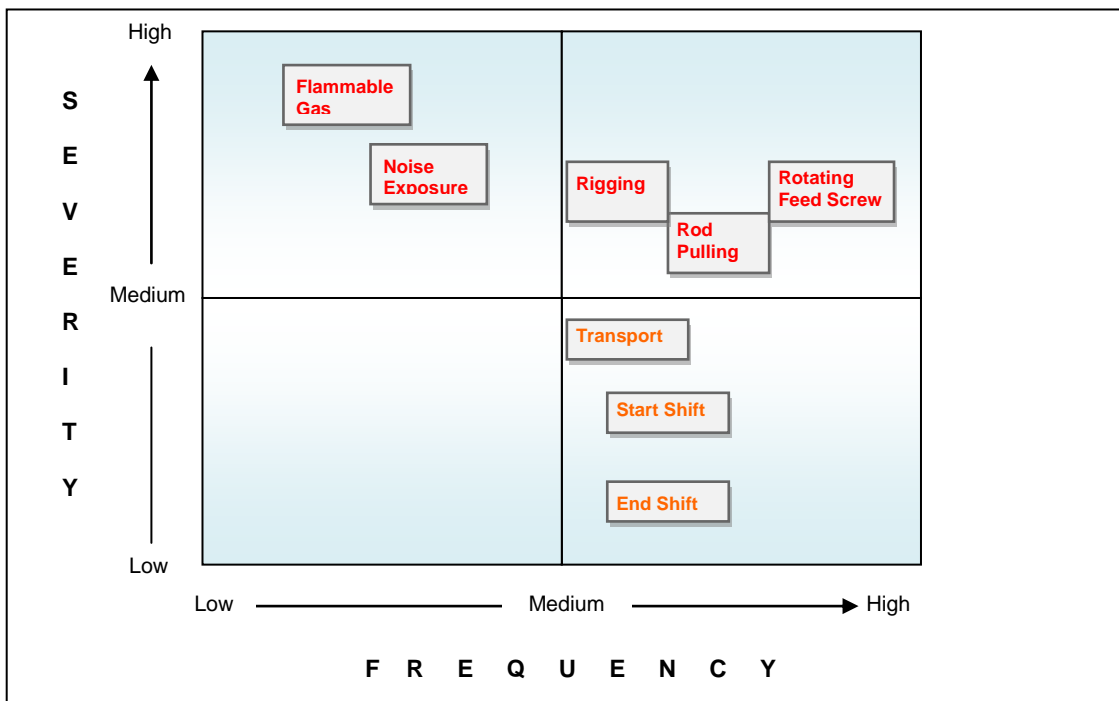


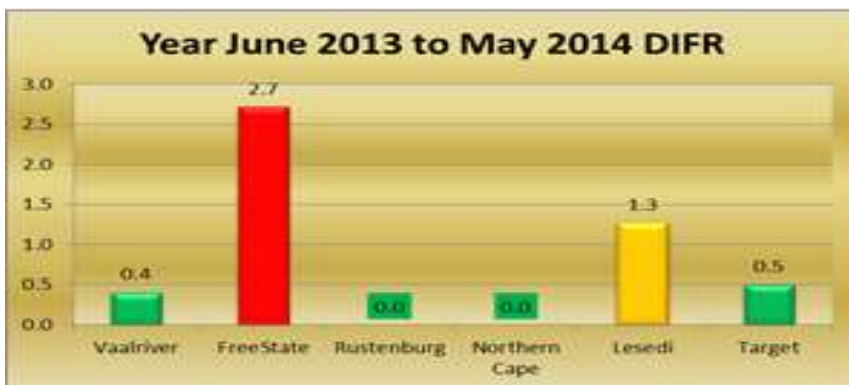
Figure 3: Risk Map

## 5. DIFR

The *DIFR* (disabling injury frequency rate) for 2013 – 2014 is: 1.27

**The calculation is performed thus: LTI X 200 000/Total Man hours**

$$7 \times 200000 / 1097904 = 1.27$$



It was a major disappointment that we did not achieve our goal of a DIFR rate of below 0.5.

This is the area where Lesedi employees and management need to focus their efforts to ensure that the company meets its goals and objectives.

The Free State is a major concern and constant hard work need to be done to improve the accident rate.

All remedial action is checked by the area manager and safety manager.

Monthly safety meetings are conducted on all safety aspects and participation by all employees are insisted on.

### **The Company response to accidents and incidents during the year.**

As already highlighted during the report, it became obvious that by the end of 2013 our safety strategy complete with the OSHAS 18 001 certification was simply not yielding the desired results.

In order to improve this undesirable situation, at the end of the 2013 a new approach to get the company back in line with the Policy and set targets was set.

Performance measurements on production and safety is actively conducted and training needs set.



Safety reviews on all employees are done on a monthly basis to determine the training needs and to ensure that the employee is appointed in a suitable position.

In cases where disciplinary action needs to be done strict rules apply and consistency is the main parameter.

## **6. HEALTH**

### **Exposure to Noise**

As indicated in Figure 3: Risk Map, noise exposure is a high risk in the underground drilling industry. The company had three employees with hearing loss which has started before the company employed them; claims were submitted to RMA for compensation. The company has operated its 230 air drills with silencers since its start of operations in 2002.

### **HIV**

The company has a training module on HIV incorporated in the induction programme and employees are urged to check their status to ensure their family health.

## **7. ACHIEVEMENT OF OBJECTIVES FOR THE 2013-2014 YEAR**

1. OSHAS 18 001 re-certification audit was conducted at the Orkney operation, Rustenburg and Free State operations and three minor non-conformances were recorded and closed out during the audit.
2. Performance reviews are conducted on the Operators, supervisors, foreman on a regular basis to determine the safety performance of each individual.
3. All non-conformances and "A" Hazards recorded are fully investigated to determine the root cause and then the action plan are implemented according to the needs specified.
4. Production and safety results is measured on a weekly basis to determine shortcomings and addressed accordingly.

## 8) PLANNING & OBJECTIVES 2013 – 2014

Our strategic objectives for the next year are:

- 1) We must maintain our DIFR below 0.5.
  - 1.1) Measure safety performance of all employees and evaluate training needs
  - 1.2) Rod Handling: Remove the employee from the machine by introducing hydraulic machine with automated chuck.
  - 1.3) Transport of core boxes: Communicate the hazards with core box carrying with the clients to get mines to transport core boxes
- 2) We must improve the employee skills and competence in respect of drilling operations and OH&S management.
  - 2.1) Assessors training to be continued to improve skill levels of the supervision
  - 2.2) Safety system to be actively promoted and rules to be applied by managers
  - 2.3) Mini risk assessment concept to be done on all sites and areas
- 3) All incidents and accidents to be recorded to ensure we can prevent an incident before it happens
- 4) All “A” Hazards and non-conformances to be investigated by a team at the site to determine the root cause of the accident and then to implement the actions needed to prevent the same deviation from happening
- 5) Maintain OH&S 18001 certificate in all areas.
- 6) Maintain the company noise policy and check on hearing protection daily.

**S Malema**

*Chief Executive Officer*

May 2014



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