Managerial challenges faced in a South African platinum mine relating to women employment as required by the Mining Charter

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ABSTRACT

Historically, the South African mining industry was established as a male-dominated environment, which only allowed women to be employed in occupation categories on surface, but they were excluded from underground employment opportunities. The new South African democratically elected government instituted policies and legislation to facilitate the required change. Discriminatory laws, which did not allow women to work underground and in the mineral processing divisions, were repealed by the introduction of the Mining Charter. The Mining Charter has changed the face of a male dominant environment to an industry that must accommodate women. The Mining Charter and other policies were introduced in South Africa in an effort to create platforms as a means to empower women within the mining industry. Numerous barriers are in existence concerning underground employment of women which need to be managed to allow the creation of a diversified workforce.

The objective of this study was therefore to determine the effect of the Mining Charter imposed unto the mining industry with specific reference to women in mining. The field study conducted at Rustenburg operations Impala Platinum is a South African hard rock metalliferous mine. A random sample of 195 women participated in the structured interviews.

The study findings did not disclose unusual or unexpected South African issues but actually confirmed literature findings as documented internationally. The researcher has made a number of recommendations regarding the challenges raised during the field study. Essentially, it was confirmed that women have specific infrastructure requirements related to the underground environment. Women are forced to enter the mining industry for the reason of limited employment opportunities based on the high unemployment rate in South Africa and as such are willing to face all the physical and difficult requirements of the underground environment.
In conclusion, it is clear that mining companies will have to establish clear selection and employment strategies when women are introduced into the underground mining environment. Further studies are recommended, especially with regard to the impact women will have on safety performance, labour complement requirements and financial cost issues regarding women based on the effect of pregnancy and specific job grading for women working underground.
OPSOMMING

Voorheen is die Suid-Afrikaanse mynbou-industrie gevestig as 'n oorheersend manlike beroepsomgewing waar vroue alleenlik toegelaat is om bogrondse beroepe te beoefen en derhalwe van ondergrondse werksgeleenthede weerhou is. Die nuwe Suid-Afrikaanse demokratiese bestel het meegebring dat staatswetgewing en bepalings voorsiening maak vir die nodige verandering met die totstandkoming van die mynbou beleid, die "Mining Charter".

Diskriminerende wetgewing, wat vrouens voorheen verhoed het om ondergronds te werk in die mineraal prosesseringssektore, is deur die inwerkingtreding van die mynboubeleid "Mining Charter" afgeskaf. Die mynbou-handves "Mining Charter" het sodoende die aansien van 'n oorheersend manlike beroepsomgewing verander na 'n industrie wat ook voorsiening moet maak vir vroue in die beroep. Die mynboubeleid "Mining Charter" en ander bepalings is tot stand gebring met die doel om vroue in die industrie te bemagtig.

Tans is daar 'n aantal struikelblokke met verwysing na vroue in die industrie wat geadresseer en bestuur moet word om die gewenste resultaat van 'n gediversifiseerde werksmag tot stand te bring.

Die doel van hierdie navorsing was om te bepaal watter uitwerking die mynbou-beleid "Mining Charter" op die mynindustrie het met spesifieke verwysing na vroue in die mynbou-industrie.

'n Gevallestudie is onderneem by Rustenburg Impala Platinummyn. 'n Willekeurige steekproef van 195 vrouens is gedoen in die vorm van 'n gestruktureerde onderhou. Die studie het nie enige onverwagse of vreemde Suid-Afrikaanse bevindinge opgelever nie; slegs die bestaande internasionale literatuur is bevestig en beaam.

Die navorser het aanbevelings gemaak met verwysing na uitdagings opgelever tydens die gevallestudie. Die onontbeerlike bevinding was dat vroue spesifieke
infrastruktuur-behoefte het in die ondergrondse werksomgewing. Verder is vroue geforseer om die mynbouwese te betree omdat werksgeleenthede beperk is as gevolg van die hoë werkloosheidsyfer in Suid-Afrika en daarom is hulle bereid om die fisiese en moeilike omstandighede van die ondergrondse werksomgewing te trotseer.

In samevatting is dit duidelik dat mynbou-maatskappye duidelike strategieë daar moet stel wanneer vroue aan die mynbouwese bekendgestel word. Verdere studies word verlang veral met verwysing na die impak wat vrouens sal hê op veiligheidsprestasie en arbeidsmag vereistes asook die koste-implikasies met verwysing na die effek van swangerskappe en spesifieke werksgradering vir vroue in ondergrondse posisies.
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LIST OF ABBREVIATIONS

BEE: Black Economic Empowerment
DME: Department of Minerals and Energy
EEA: Employment Equity Act
ESOP: Employee Share Ownership Programme
HDSA: Historically disadvantaged South Africans
Implats: Impala Platinum
IQPC: The International Quality and Productivity Centre
JSE: Johannesburg Stock Exchange
MHSA: Mines Health and Safety Act
MPRDA: Minerals and Petroleum Resources Development Act
PGM: Platinum Group Metals
SAWIMA: South African Women in Mining Association
TWIB: Technology for Women in Business
WB: Wet bulb temperature
WIM: Women in mining
CHAPTER 1 - INTRODUCTION

1.1 ORIENTATION TO THE STUDY

Historically, in the South Africa mining industry, race and gender determined the composition of the employee base which ultimately resulted in a male dominant industry. The mining industry in South Africa has traditionally and historically been an industry in which only males were employed. These men were also mostly foreigners from countries like Lesotho, Mozambique, Botswana and Swaziland. Local and South African men saw mining as those lowly placed jobs that were not meant for them. These jobs and the environment were regarded as suitable for foreigners. Locals were therefore not eager and enthusiastic to take up jobs in the mining industry. It is for this reason that a majority of employees in the mining industry are still foreigners. Because these foreigners were non South African citizens, they could not access housing and hence the hostel system was introduced. With the advent of the homeland system, Impala Platinum became part of the then Bophuthatswana Republic. This government emphasized that, due to the high unemployment in the region, the industries in Bophuthatswana should only employ people from the region. It is for this reason that at Impala today, about 80% of the workforce is sourced from the North West Province.

The South African Government wants women to participate in jobs and industries that were previously reserved for men, as females are about 55% of the total population in South Africa. It is for this reason that the Minerals and Petroleum Resources Development Act was promulgated on 01 May 2004 by the South African Government. This act requires, amongst other issues, that the mining industry employs 10% women by 01 May 2009. This act has created many opportunities for women to access those careers that have always evaded them. In terms of current mining legislation in South Africa, the Mines Health and Safety Act of 1996 (from here referred to as MHSA) removed the restrictions for women to work underground. Transformation of this industry gave birth to
the Mining Charter which was developed by the Department of Minerals and Energy (DME) and industry in October 2002.

The rainbow nation text states that all South Africans are now equal. Impala Platinum pronounces their commitment to diversify and to transform the workplace. Impala Platinum faces a serious obstacle requiring systematic management interventions to address the deeply embedded racial and gender-based stereotype culture entrenched within the industry.

This study evaluated the various requirements needed to manage the challenges relating to transformation and gender equality of women in the platinum mines. The intention was to evaluate the compliance to achieve 10% women employment as required by the Mining Charter and the practical implementation issues regarding women in the mining industry.

The study focused on Impala Platinum Holdings Limited Rustenburg operation. Impala Platinum Holdings Limited (Implats) is the world's second largest producer of platinum group metals (PGMs). In the 2008 financial year, Implats produced 1.9Moz of platinum (approximately 25% of global supply) and 3.6Moz of PGMs. The group employs approximately 55,000 people (including contractors) across its operations and is one of the most efficient and lowest cost primary platinum producers in the world. Implats' mining interests are found on the two most significant known platinum group mineral-bearing ore bodies in the world within the Bushveld Complex in South Africa namely: on the western limb - Impala Platinum Rustenburg and the eastern limb - Marula Platinum and Two Rivers Platinum mines.

The objective of the intended study was to focus on women in the underground workplace. The main selected focus of this study was to examine and evaluate the requirements of the Mining Charter. The intention was to evaluate the implementation of the Mining Charter with specific relevance to black economic empowerment and the impact on performance and skills development to enable Impala Platinum Holdings Limited to tap into the rich source of diversity; the
impact on productivity and safety during the initial implementation phase of women into the underground environment; ethical issues that will have an impact on the overall workforce considering the new element added namely women in the workplace and finally the need to enforce and educate the employees on the relevant policies that will have to be adopted.

1.2 PROBLEM STATEMENT

The researcher would like to emphasise that employment of women is a high priority on the agenda of most mining companies as they battle to meet the government requirement to have 10% of all jobs filled with women by 2009. Ranchod (2001,23) highlighted the fact that if one makes a comparison of various different industries, the integration and active participation of women in the mining industry have been slow.

The major driving force behind compliance relates to the high risk potential that mining companies run of not converting their current mining licence to the new order mining licence as described by the Mining Charter and consolidated by the Department of Minerals and Energy.

Transformation and equality relating to women within the mining environment are both key focus areas for Impala Platinum. The challenges faced with regard to female employment in the underground mining environment will require exceptional managerial interventions and as such will have to form part of mine management key performance areas. The mining industry's success in terms of competitiveness will be highly dependable on the implementation strategies with regard to women employment into the underground mining environment. The Mining Charter requires that Impala Platinum will ensure an employment ratio of 10% women related to the total workforce employed by 2009. Prior to 1994 the platinum mining industry did not employ women in its underground operations.
Women employment creates numerous selection challenges for Impala Platinum. Scarcity of potential candidates related specifically to engineering and mining disciplines. The underground mining environment is harsh and as such requires a large degree of physical capability and will place tremendous strain on compliance in all categories of work employment seeing that legislation demands 10% women in all categories of employment. Placement and career development of women need to be expedited thus potential industrial relations issues, seeing that the women employees potentially will receive promotion preference. The mining industry as a whole faces women employment challenges thus the major challenge for Impala Platinum will be to retain its women miners.

Impala Platinum is destined to convert its operations to facilitate transformation, gender equality and empowerment of all employees. Lowering of standards cannot be allowed; therefore, selection, training and retention of skills must be incorporated into a sustainable implementation strategy.

1.3 STATEMENT OF OBJECTIVES

Evaluating the abovementioned problem statement, the following objectives were formulated for this study:

The main objective of this study was:
- Identifying the impact of women on the mining operations at Impala Platinum as required by the South African Mining Charter.

The secondary objectives of this study were:
- Evaluating the requirements of the mining charter;
- Testing specific traits required by women to work in the underground environment (if any);
- Determining the social responsibility of the mines relating to women;
- Evaluating specific codes of practices relating to women;
Identifying ethical issues of women working underground;
Evaluating policies statements (pregnancy and sexual harassment);
Evaluating skills development requirements for women employment under ground; and
Measuring the impact on safety with regard to women working underground.

1.4 RESEARCH METHODOLOGY

1.4.1 Literature review

The literature review focused specifically on:
- A holistic overview of women employment;
- Government legislation and policies;
- Ethical and cultural issues relating to women employment;
- Business code of conduct;
- Business ethics; and
- Company policies: Maternity, pregnancy, health and physical capabilities.

1.4.2 Empirical review

The research field data were collected at Impala Platinum Holdings Limited. The research was in the form of structured interviews. The structure of the questionnaire was developed to establish from the structured interviews what practical issues women face at the underground mining operations. The interviews were conducted at the Impala Platinum mine’s premises and the duration per interview was 20 minutes. The interview followed a structured question / answer conversation. Short notes on the responses to the answers were taken.
1.5 LIMITATIONS AND OBSTACLES OF THIS STUDY

1.5.1 Limitations

Given the nature of the research, the validity and value of the results of the study are, or may be, limited by the following factors:

- The research results relate to Impala Platinum specifically and not to the platinum industry in general.

1.5.2 Obstacles or factors to be considered during the interpretation of the results

- Initial implementation strategies relating to women employment into the underground workings might be challenging due to resistance to change elements.
- Education and training of employees will be required to comprehend the necessity of women employment into the underground mining environment and to gain full understanding for such measures, specifically those male employees being affected.
Women in mining could potentially fail with regard to specific employment categories purely based on the inherent physical requirements for specific jobs.

1.5.3 Scope of the study

- A brief orientation to the study;
- Describing the problem statement;
- Defining the objectives of the study;
- Describing the research methodology;
- Listing the study limitations;
- Conducting a literature study on women employment to gain academic understanding of the various challenges faced;
- Conducting a field study at Impala Platinum utilising a questionnaire;
- Reporting of the major findings; and
- Reporting conclusions and recommendations.

1.5.4 Study relevance

In terms of the requirements of the Mining Charter, all stakeholders in the mining industry must have a baseline of 10% female participation in the industry within five years of the activation of the Charter.

The significance of this study will be vital to Impala Platinum because the field study material could be utilised as a gauge to compare previous in-house study material to ensure relevance and should be used as reference when considering the reasons why the company did not achieve the 10% target setting as dictated by the Mining Charter.

The advantages of this study is clear to Impala Platinum because the mining industry as a whole faces the dilemma of not achieving the set targets related to women employment and as such with reference to the limited research material, it could be utilised to understand the limitations and ultimately the
reasons for current failure. Company performance could potentially be fast-tracked if the reasons for current failure are better understood and the necessary change strategies implemented.

1.6 PREVIEW OF CHAPTERS

Chapter 2 comprises a literature study about a holistic approach to women employment, and legislation relating to women employment as stipulated by the Mining Charter. The topics are evaluated separately, but the inter-dependency will also be highlighted.

Chapter 3 evaluates the practical management obstacles faced by Impala Platinum to comply with the requirements of the Mining Charter. The specific management interventions required by Impala Platinum relating to women employment and the current compliance are evaluated.

Chapter 4 represents the major findings related to the field study conducted at the Rustenburg operations.

Chapter 5 delivers the outcomes, conclusions and recommendations regarding management interventions required to ensure compliance to the Mining Charter.

1.7 SUMMARY

Chapter 1 is the building foundation of this study. It gave guided direction parameters for the researcher to gain the full intended outcome, namely managerial challenges that Impala Platinum will face and are faced with regarding the 10% target setting for women employment by the Mining Charter. This chapter content is the road map of the intended study direction.
The following chapter will be the literature study. The intention with this chapter is to gain understanding of the various acts governing women employment as well as other related academic material available with reference to policies and employment barriers for women employment underground.
2 CHAPTER 2 - WOMEN EMPLOYMENT AND LEGISLATION

2.1 INTRODUCTION

Post-1994, but South Africa has a history of exclusion of many different categories of people. Women were excluded from employment in the South African mining industry based on various exclusion practices, specifically through legislation. Other exclusion factors were attitudes and stereotype opinions. This has lead to the current state of poor representation of women in the mining sector.

The concept of women employment in the mining industry needs to be divided into women at mining which can be defined as non-underground occupations, i.e. in support services such as administration and human resources, and women in mining (WIM) defined as women employed in the underground occupations, i.e. women working underground as miners, hoist and locomotive drivers, winding engine drivers, engineers and conveyor belt attendants.

Minister of Minerals and Energy, Ms. Buyelwa Sonjica (2007a) at the 10th anniversary of Women in Mining and Technology for Women in Business (TWIB) Awards exclaimed, “If we fail to advance women empowerment, we shall have failed the masses of women who, in the preamble to the Women Charter of 1954, declared: ‘We, the women of South Africa, wives, mothers, working women and housewives, Africans, Indians, Europeans and Coloured, hereby declare our aim of striving for the removal of all laws, regulations, conventions and customs that discriminate against us as women, and that deprive us in any way of our inherent right to the advantages, responsibilities and opportunities that society offers to any one section of the population’. This being the required outcome as stipulated by the minister will be the driving force for Impala Platinum to ensure advancement and empowerment of women within the mining industry and hence the required literature study.
This chapter focuses on women employment in the mining industry with specific reference to legislation required by the Mining Charter. Understanding the various acts and legislation relating to women employment has a twofold managerial challenge for Impala Platinum Holdings Limited management; firstly, what are the actual requirements of the acts, and secondly, how do these ensure compliance with regard to the relevant acts. This will be a vital managerial challenge for Impala Platinum to ensure convergence of the current mining licence to the new order mining licence as described by the Department of Minerals and Energy.

The researcher has reviewed the literature under the following headings: Mining Charter, employment equity, transformation, affirmative action, skills development, black economic empowerment, ethical and cultural issues relating to women employment, selection, policies, safety and retention.

The researcher finally reviewed the current Impala Platinum statistical data performance relating to women employment. This was used as a barometer to evaluate Impala Platinum Holdings Limited performance relative to the Mining Charter's 10% requirement of women employment by May 2009.

2.2 MINING CHARTER

In terms of current mining legislation in South Africa, the Mines Health and Safety Act (MHSA) of 1996 removed the restrictions for women to work underground. The Minerals and Petroleum Resources Development Act of 1991 (MPRDA) has the objective to expand opportunities for historically disadvantaged persons to enter the mining and minerals industry or benefit from the exploitation of the nation’s mineral resources.

The broad-based socio-economic Charter for the Mining Industry (the Mining Charter) was developed in consultation between the mining industry and Government, and was ratified in October 2002. The Charter itself was finalised
on October 11, 2002; its enabling legislation, the Mineral and Petroleum Resources Development Act of 1991, only came into effect on May 1, 2004, meaning that the Charter baseline target should have been achieved by the start of May 2009.

The objective of the Charter is to create better opportunities and benefits for women and their dependents, a group identified as HDSA (historically disadvantaged South Africans). In terms of this Charter, the stakeholders in the mining industry aspire to having a baseline of 10% female participation in the industry within five years of the activation of the Charter. Government produced measures to assess the progress made by mining companies in respect of a number of key areas as they relate to socio-economic goals, known as the mining scorecard.

The nine elements of the mining scorecard are listed below. Each element has a number of sub-requirements:

- Human resource development
- Employment equity
- Migrant labour
- Mine community and rural development
- Housing and living conditions
- Procurement
- Ownership and joint ventures
- Beneficiation
- Reporting
2.3 EMPLOYMENT EQUITY

The Employment Equity Act (EEA) of 1998 relating to women employment is driving equality of gender, and this law has placed women on an equal footing with their male counterparts in the employment arena.

The Employment Equity Act of 1998 (Act 55 of 1998) has the objective to identify and eliminate all employment barriers currently existing in the work situation. The above act places emphasis on the experiences and representation of designated groups, black people, women and the disabled.

The Employment Equity Act of 1998 requires the employer to identify barriers for equitable relations and optimum performance by their employees as well as a draft programme which can address and eliminate the identified employment barriers. The target audience will be designated groups, i.e. black people, women and disabled people.

While the legislation calls for the elimination of discriminatory practices, and practices do not appear to embrace the gender issue with similar vigour, important lessons can also be drawn from the United States of America. Kanter’s (1997) research on women in predominantly male organisations identified a phenomenon of tokenism; that is, due to the small numerical representation of women within these organisations, that they were subjected to treatment that compromised the professional contributions they could make to their organisations.

The Employment Equity Act (Act 96 of 1998 is an effort by Government to empower people from the previously disadvantaged groups with the aim to bind the business sector by enforcing the act by law. Since 1997, the Constitution of South Africa (Act 108 of 1996) has been accommodating change in legislation removing all barring practices of women in the underground mining operations of the South African mining industry (Singer, 2002:1). The reality remains that
although legislation calls for women employment in the South African mining industry, it seems to remain a male dominant industry. Ranchod (2001:25) highlighted the fact that by making a comparison of various different industries, the integration and active participation of women in the mining industry have been slow. McCulloch (2003:413) indicated that the explanation could be the contribution factor of specific imperatives within the apartheid system with a specific reference to the policies of segregation of mine sites by gender, which ultimately shaped the South African mining industry. This has lead to a situation where women were forced out of the labour force, and family work units, which were the foundation of the industry since its inception, were broken. Graham and Hotchkiss (2003:11) indicated the parallel between gender-related occupational segregation and the current inhospitable climate towards women in the mining industry and as such the indication for males to oppose the large-scale introduction of women into the underground work occupations.

Ilic (1996:1387) emphasised that, due to increased demands and external pressure, most mining companies are under severe compliance pressure to ensure they achieve their equity targets and as such there is a definite increase in the numbers of women being employed in the industry, and they also represent a wide spectrum of different employment. Ilic (1996:1402) also emphasised the enhancement of the overall technological level in the industry, which arguably facilitated the employment of women in greater numbers and in a broader range of jobs.

While law and law reform have been the most successful tools for creating better conditions for gender equality, the law has its limits. Impala Platinum will have to initiate measurements to empower women at the mining operations and must fast-track employment equity at all the operations. The major driving force behind compliance relates to the high risk potential that mining companies run of not converting their current mining licence to the new order mining licence as described by the Mining Charter and consolidated by the Department of Minerals and Energy.
2.4 TRANSFORMATION

Transformation aims to ensure that all structures at mining operations are in accordance to the Constitution of South Africa. Transformation is aimed to ensure that the labour force at the mining operations represents the demographical dispensation of the South African population. The rainbow nation text deems that all South Africans are now equal.

Smit and Cronje (2002:229) indicated that diversity management as a result of transformation can lead to the following:

- Increases in company cost are inevitable because the focus will be more on retaining equity employees by boosting their salaries, benefits and training.
- Company image will improve. Companies with solid equity policies will ensure business stability as more companies will do business with companies within the required employment equity regulation, hence creating a beneficial marketing image. This too will induce other equity candidates to apply for jobs at such companies; hence, increasing acquisition opportunities.
- An increase in a creative and motivated workforce that indicates that employees will be less influenced by past norms and allows higher levels of creative thinking. Problem solving will be influenced too as employees with different backgrounds allow for a wider scope of thinking when approaching problems. Equality always equals motivation.
- An increase in company performance flexibility by ensuring employment equity implementation will initially not allow for equity employees to be flexible with regard to multi-skilling; however, this should stabilise within the next decade allowing a stable workforce.
Transformation of the workforce and equal representation on all levels of employment, especially related to women, will have a meaningful impact on Impala Platinum's performance. Thus the researcher is of the opinion that compliance has the added competitive advantage by utilising the diversity aspect.

2.5 AFFIRMATIVE ACTION

The Government of post-1994 aimed to redress the race and gender imbalances inherited from apartheid by giving opportunities to previously disadvantaged groups. Employers must give preference to "suitably qualified people" from designated groups. Designated groups are defined as women, black and coloured men, and people with disabilities.

Affirmative action is driven by the Employment Equity Act of 1998. The objectives of the act were later infused into the broad-based economic empowerment (BEE) scorecard and given a range of targets spanning a period of 10 years from the date of inception.


Minerals and Energy Minister, Buyelwa Sonjica (Sonjica, 2007b), indicated at the fourth SAWIMA annual general meeting on 19 October 2007 that empowerment of women in the industry was slower than she had expected. Black people and women remain underrepresented, especially at senior levels.
## TABLE 2.1: IMPALA PLATINUM ANNUAL GENDER RESULTS (2009)

<table>
<thead>
<tr>
<th>Position</th>
<th>Total</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Management</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Senior Management</td>
<td>78</td>
<td>7</td>
<td>85</td>
</tr>
<tr>
<td>Professionally qualified and experienced specialists and mid-management</td>
<td>448</td>
<td>96</td>
<td>544</td>
</tr>
<tr>
<td>Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents</td>
<td>3567</td>
<td>269</td>
<td>3836</td>
</tr>
<tr>
<td>Semi-skilled and discretionary decision-making</td>
<td>4358</td>
<td>418</td>
<td>4776</td>
</tr>
<tr>
<td>Unskilled and defined decision-making</td>
<td>20549</td>
<td>978</td>
<td>21 527</td>
</tr>
<tr>
<td>Total Permanent Employees</td>
<td>29004</td>
<td>1770</td>
<td>30774</td>
</tr>
<tr>
<td>Non-Permanent Employees</td>
<td>20</td>
<td>16</td>
<td>36</td>
</tr>
<tr>
<td>Grand Total</td>
<td>29024</td>
<td>1786</td>
<td>30810</td>
</tr>
</tbody>
</table>


According to the statistical data attachment, it is clear that Impala Platinum should focus on the severe skills shortages. To address affirmative action, Impala Platinum Holdings Limited should ensure empowerment of the workforce, especially women, through training programmes to address the skills shortage.

### 2.6 SKILLS DEVELOPMENT

The scarcity of relevant skills has been identified as one of the barriers to entry into the mining sector by historically disadvantaged South Africans (HDSAs). Smangele Mngomezul, the general secretary of the South African Women in Mining Association (SAWIMA), on 18 December 2006 stated that, “The early mining industry was built on back-breaking labour by poorly paid black men, who were prohibited from rising to skilled and professional posts. Smatterings of women were relegated to low-level posts like clerks. In our culture, a person who was working at the mines was a person who was not educated. Our mothers warned us if you don’t want to go to school, you’ll end up in the mines.”
Cynthia Carroll highlighted in her keynote speech at the Business for Social Responsibility Annual Conference, San Francisco, 24 October 2007, 'Reflections on Corporate Responsibility from the Extractive Sector' that; “The mining industry has had a poor record of employing women and this must change. I have met some very impressive women at our operations - driving 240 tonne trucks at an open pit mine in Chile or leading teams underground at mines in South Africa and Australia, as well as in technical and professional roles. But, at only 10% of the workforce, there are simply too few of them. At a time when the mining sector is facing a major skills shortage, reaching out to the other 50% of the population is not only politically correct, it is pragmatically and morally simply the right thing to do. So, not only will Anglo lead in safety and health, it will also be a leader in diversity. It is not only a case of meeting legislative requirements or being politically correct, but that women can add real value to the organisation at all levels of operation.” She emphasised that in meeting the current skills shortage in mining, Anglo Platinum will gain a competitive advantage if it can attract women with skills and potential into the company.

Thomas and Robertshaw (1999) predicted that an environment prone to job-hopping will be created due to available skill levels being lower. This will result in a situation of a “Jack of all trades” workforce with inadequate experience. This will increase the burden on managers to achieve production targets and to sustain productivity and quality as well as maintaining positive growth. Company costs will be highly affected and mostly due to training and restructuring costs.

The impact of employment equity will affect the levels of skilled employees and will need evaluation, as this will be impacted on with the turnover in personnel that will be experienced (Thomas & Robertshaw, 1999).

According to the statistical data as presented in table 2.1 and statements by Minerals and Energy Minister Buyelwa Sonjica, it is clear that Impala Platinum should focus on women skills development to attract and to retain candidates with potential.
2.7 BLACK ECONOMIC EMPOWERMENT

Historical race division in South Africa resulted in black South Africans and women largely excluded from participating in the mainstream economy. The mining industry has adopted a proactive strategy of change to foster and encourage black economic empowerment (BEE) in the form of ownership, management, employment equity, procurement and rural development.

In addition to structural gender divisions within the South African mining industry, racial divisions persist in terms of where in the organisation women are employed. Although the current South African labour employment environment demands a fair representation of the demography of the country, the South African mining industry still reflects aspects of racial divisions, specifically in an industry dominated by men. Ranched (2001:27) is of the opinion that the mining industry still indicates tendencies and preferences to employ white women in the professional and more elite positions, whereas the positions in the industry relating to underground occupations are more likely still occupied by black women.

In comparing various industries on a similar basis of racial division, the conclusion is that the similarities do exist. Price (2002:88) studied employment trends in the highway and construction fields with very much the same conclusion that white women and men tend to work in the higher status employment brackets with definite less physical trades, whilst black women and men are employed in the more manual trade occupations. If one considers this study as factual and representative of the mining industry, it is clearly exposed towards various forms of discrimination. Price (2002:102) concluded that race should be reflected in the design and measurement of the impact of employment schedules and programmes for both female and male contra-parts alike.
2.8 ETHICAL AND CULTURAL FACTORS INFLUENCING FEMALE EMPLOYMENT

Campbell (2007:8) reported that University of the Witwatersrand (Wits) School of Mining Engineering senior lecturer, Cathy Reichardt, cautioned that, “In South Africa, across the cultural spectrum, there is still a social expectation that women should have children early, but if they do this, they will have no time to establish themselves professionally and it is not clear whether they will afterwards be employable in their original speciality.” Campbell (2007:8) continued to report on Reichardt, stating that, “There is strong social support for women to get university education, but once they have graduated, the pressures to marry and have children pile up again; this is a cultural issue and so difficult to overcome.”

Gouws (2005:27) stated that, “The social and cultural diversity amongst South African women, the vast inequalities in livelihoods and social capital, the array of political-ideological positions and the violently-imposed, radicalised fissures of apartheid. Women are divided by race, class, ethnicity, region, religion, sexuality, and generation.” Gouws (2005:1) further stated that, “Women have expressed a great gender awareness and activism during the transition period to democracy and have managed extremely high levels of gender based violence such as rape and domestic violence.”

Gouws (2005:36) also indicated that, “African women living under customary law and traditional law are deeply associated in terms of equality rights and cultural rights. The Constitution recognizes customary law but its applications are limited by the fundamental rights guaranteed in the Bill of Rights where the right to equality with respect to race and sex are listed as non-derivable by the Commission on Gender Equality.” She also argues the opposite of equality is inequality. Ignoring women’s differences with men reinforces and reintroduces inequality; these differences can lead to another form of exclusion through which non-dominant groups or groups within non-dominant groups, such as black women could be excluded from development. Deveaux (2003:1) has argued that
the tension between cultural and gender rights should be framed in pragmatic, political terms, rather than moral terms. This was the basis of the development legislation to address inequality and subordination of women in general.

Globally, "rights" have become the "archetypal" language of democratic transition (Wilson, 2001:25). "Rights" have come to signify the terms of democracy, morality and social justice, the notion of "equality", the rhetorical theme of the "Women's Chapter" now phrased more formally as the "Equality Clause" of the Constitution's Bill of Rights, which is a focus and rallying point for feminist citizenship studies in South Africa. Women in the world, who are lacking rights, are more oppressed and subordinated within familial and cultural relations (Kaplan, 2001:221).

Ram (2000:63), in her discussion of the "instabilities of rights discourses", stated that South Africa is increasing poverty levels and growing material disparities between the rich and poor in South Africa. These are largely women who have absorbed the effects of globalised market economies. The sex/gender system, together with the division of labour in the family in which care is a central labour burden, often determines to what extent women are free to exercise their citizenship as a rights based notion or as practice. Maternal feminists such as Ruddick and Elshtain have argued that values of mothering such as care, nurturance and morality should be projected into political life (Lister, 2003:7).

Women's inclusion into the public sphere means that women have to negotiate inequalities in power hierarchies between women and men in the political sphere as well as in the labour force. But women also have to be represented in large numbers in order to gain parity with men mechanisms such as quotas or special representations highlighting the difficulties of changing existing structural relations of power as well as attitudes and prejudices. Traditional or working class women are buried within that generic notion of women's rights. Policies of affirmative action for black South Africans, for example, do not address specific discrimination faced by black women, while they tend to
privilege middle-class black women violable and vulnerable to men (Alexander, 2007; Brown, 2002:420).

Geurts and Demerouti (2003) indicated that the wide variety of disciplines from which the work/non-work interface has been studied is reflected in a wide range of topics that have been addressed (e.g. time schedule conflicts, household and care-giving responsibilities, marital conflict, children’s development problems, and even community involvement). Singer (2002:1) indicated that social responsibility remains a big challenge for women because the majority of WIM are single mothers, and often these women have limited schooling. He also refers to income comparisons and states that women working underground potentially earn up to two-thirds more money in wages than compared had they been employed as maids in households or as farm workers.

Forastieri (2002) indicated that women’s responsibility towards their own households involves that they need to perform a large part of household duties on their own and as such, these women suffer from excessively long working hours per day inclusive of the underground shift work. Forastieri (2002) stated that women, if exposed to the abovementioned working hours, can suffer the following effects: health problems such as stress, chronic fatigue, premature ageing and other psychosocial and health effects. Dawson (1990:691) reaffirms that women’s economic dependency encouraged their participation in collective action to protest to the male wage-earners’ position.

2.9 SELECTION CRITERIA FOR UNDERGROUND FEMALES

The underground mining environment has unique challenges even if one considers an industry without the females, thus the legislation enforcing the quotas of women will create much more demands on management to actually manage these polarities. The mining sector was not seen or marketed as a good career choice for professional women and at the lower levels; the industry has traditionally drawn its labour from a largely male workforce.
CSIR Mining Competency Occupational Health and Ergonomics Research Group principal researchers Schutte et al. (2002) indicated that there are, of course, physiological issues to be taken into consideration, “Women are not physically identical to men; specifically for mining, the differences in physiological make-up must be accommodated. These are not insurmountable, but they must be managed.” If this is then considered, it will be a management requirement to evaluate work categories on the basis of physical requirements.

Schutte et al. (2002) also indicated the following:

- There are four categories of physical constraints facing people working in South African deep-level mines: aerobic capacity; heat tolerance; functional strength; and body dimensions. These all affect the ability to do work, especially in hot conditions.
- Aerobic capacity is the capacity to perform work in which the body uses oxygen, such as high physical intensity work lasting more than five minutes. “Women’s maximum aerobic capacity is 15% to 30% less than men’s,” he reports. As a result, women doing the same physical task as men will tire more quickly. Women are also less tolerant of heat than men on average; 35% of women are heat intolerant, as against only 5% of men.
- Concerning functional body strength - important in an industry where many tasks are still manual - women have less than that of men. Women also have less lift and carry capacity, because they are generally smaller, shorter, and lighter, with shorter arms than men. The hand and arm strength of women are on average, 70% of that of men. However, when it comes to whole body pushing and pulling, women are at less of a disadvantage, averaging 80% to 90% of what men can do.
- Body dimensions are important with regard to the design of mining equipment, and its efficient operation. Much of the equipment used in South African mines is designed overseas for use by men (and, indeed, women) who tend to be significantly taller than the average South African woman.
All these issues can be addressed, as a number of companies are proving by good management and the introduction of new technology. However, for young women graduate professionals, there is a complication that is outside the control of the mining companies. In countries like the UK and the US, professional women now get married and have children in their 30s, spending their 20s building their careers. Most engineers, for example, whether men or women, tend to have moved into office jobs by then, making it relatively easier to drop out for a few years to have children and then resume a career.

The underground environment can be defined as dark and damp, and with an increase in temperature relative to an increase in depth (Anon., 2000; Singer, 2002:1). It is an environment in which employees are often required to work alone, in confined spaces and even without any communication technology available as well as the requirement to work in the form of self-directed teams with little direction from senior supervisors (Anon, 2000; Singer, 2002:1). Working conditions are difficult and sometimes vary hazardous. Singer (2002:2) explains that the workload required is often gruelling.

As indicated, the mining industry is physically very demanding on all underground employees on a daily basis for extended periods of time, requiring employees to spend the majority of their underground shift to perform physical tasks. The workload can be divided into many different activities such as blasting activities, in which a rock drill operator is required to drill holes into the rock, then filling these holes with detonators and explosives; and support activities to prevent falls of ground (FOG) in the underground workplace by means of transporting, cutting and installing pre-stressed elongated timber units. Cleaning operations are performed in the form of removing the broken rock by means of scraper winches or in mechanised sections by means of load haul dumpers (LHD), and geological drilling to confirm actual reef positions, and engineering departments that perform maintenance and installation work on all engineering equipment, to mention but a few of the numerous physical activities underground. The requirement to install air and water pipes, the
scaling of loose rocks and secondary support by means of timber support and
cribbing of large excavations also take place (Anon., 2000:823).

Wynn (2001) considered the underground environment as harsh and indicates to
women that if they want to achieve independency and credibility with their co­
workers and if women want to compete with their male contra-parts, they will
be required to have a high level of overall fitness. Specifically, physical
capability will also be a requirement for the female employees to perform tasks
such as having to lift or carry relatively heavy objects, the ability to pull objects
at various inclines or flat rough surfaces, and the ability to install heavy objects
considering all the mentioned requirements, with the added on degree of
difficulty to perform these tasks in areas where the ergonomics is likely to be
against the employee because most of the working areas are confined spaces in
which the humidity is high and sometimes very hot temperatures. Finally
considering all these aspects, most of these physically draining requirements are
to be performed daily for the majority of the underground shift and for
extended periods of time.

Physical facilities are a major challenge related to the actual introduction of
women into the underground mining environment. This being stated it clearly
highlights some constraints for women to participate effectively within the
underground production unit. Singer (2002:2) mentioned some of these physical
facilities and challenges related to it. He referred to toilets as a basic constraint
as it used to be constructed as a shed with a bucket, the man ridding
conveyance also known as an elevator or lift which is very confined in which up
to sixty people per deck are transported to the underground workings as well as
other transport mechanisms such as chairlifts that can be a very horrifying trip.

Ranchod (2001:31) stipulated certain basic physical facilities to be considered
when mining companies want to employ women in the actual underground
environment. Ablution facilities and change rooms specifically designed and
equipped for women and bi-sexual toilet facilities which must have basic
functions such as flash units with chemical basins and water points in the
underground environment. Wynn (2001) stated that women working in physical environments such as mineral processing plants and in the underground workings of a mine do perform routine tasks; for example, conducting sample tests and carrying them through the processing plant by means of carrying bags and in doing so, require them to open ventilation doors which are under pressure. He continued to say that women do require some degree of physical fitness and strength to perform these mentioned tasks. Although physical fitness and strength are certainly a requirement, it is also clear that different equipment requires different techniques and skills which may even vary in complexity. It is also eminent that in these environments a high degree of focus must be placed on safety and skills training.

The management challenges faced to employ women into the underground mining environment is directly linked to the women’s heat tolerance ability and as such the initial selection screening methodology is to physically test such women for underground heat tolerance at all mining operations. Despite legislation and various other initiatives, female miners are not given any privileges. Singer (2002:2) highlighted that female underground employees must also pass the same meticulous induction and other screening tests as the male employees. The selection criteria consist of numerous physical testing such the requirement to climb up and down steps for half an hour in an acclimatising room heated to a predetermined temperature, equal to the temperature underground to test employees’ capacity to perform work in high temperatures. Singer (2002:2) indicated the basic requirement to ensure employment is based on the fact that the potential test candidate successfully completes the acclimatisation step test without fainting, and as such qualifies for the physical examination and is then eligible for employment. These pre-employment selection criteria place tremendous challenges on management to find suitable women that can be placed into all underground mining occupations.

Schutte et al. (2002:817) referred to findings indicating that initially the screening of female mineworkers to evaluate them on the basis of heat tolerance concluded that the women had difficulty in passing the standard heat
tolerance test used by mining companies in South African. The consequences of high environmental heat loads can be expressed in terms of impaired work capacity, errors of judgement, and the occurrence of heat disorders, especially heat stroke, which is often associated with severe and irreversible tissue damage and high mortality rates. Schutte et al. (2002:817) also concluded that the female body is significantly less adaptable to hot environments, specifically if she is in the premenstrual cycle. They continued with a generalisation that it is believed that, under conditions of high ambient temperature and low humidity, thermoregulation in women is ‘less efficient’ than in men. The implications for mine management is that certain work categories do require a minimum heat tolerance and if the pass rate for women are low it will ultimately mean that the blanket 10% placement of women into all underground mining occupations will not be realistic and the companies will have to engage all stakeholders to gain solutions. The implications for mine management is that certain work categories do require a minimum output level in terms of physical capability and if the females do not deliver the required outcome the potential impact will be: potential loss of production, it could increase the risk of injury, and ultimately, it could require more employees to perform the same output levels as previously achieved by the male employees, thus a higher labour cost component.

Robinson (1998:24) highlighted that because mining is deemed to be a ‘naturally’ masculine occupation, people do not evaluate the real effect on women. McCulloch (2003:418) referred to history as reference and indicated that mining and hard manual labour has always been associated with masculinity. Singer (2002:2) evaluated male and female workload output and indicated that females in general find it difficult to complete certain tasks on the basis of physiological differences. Specific reference is being made to hauling of rock and clear indications are that women cannot haul as much rock as most of the male workers do.

Ranched (2001:28) indicated that women differ from men both physically and physiologically, and a workplace or work system, including technology, designed
for men would in some respects be unsuitable for women. Ilic (1996:1387) highlighted that the effect of rapid economic expansion placed unprecedented demands on the labour force, which necessitated the employment of women in a whole range of tasks, many of which had previously been reserved for men.

The current process at Impala Platinum regarding recruitment, as discussed by transformation manager Johanna Tau, includes the following:

- Careful planning and implementation. “Women are introduced on a step-by-step basis.”
- The first women were all recruited using the databases of the unemployed in the districts where the company’s mines are located (Rustenburg and Phokeng), meaning that they had dwellings and families in the area, which, in turn, meant that they would not have to live in hostels, and so their families would not be disrupted.
- Potential women mineworkers were processed through a pre-employment induction programme, to familiarise them with the mining environment.
- Then they go through the legally required medical tests for fitness and heat tolerance screening.
- Finally, the women are taken on an underground visit to introduce them to the stopes and to allow them to ‘try out’ some of the underground equipment. The result is that, before they sign up with the company, they have a very good idea of what is in store for them.
2.10 HARASSMENT AND PREGNANCY CHALLENGES FACED BY EMPLOYING FEMALES

The mining industry faces serious challenges related to harassment of women, specifically those entering the underground workings. Coburn (1997:2) indicated that sexual harassment is not an isolated challenge to specific industries, because it exists in all industries, but he placed emphases that sexual harassment occurs more regularly in areas where females enter traditional male dominated fields.

Whittock (2002:449) indicated that existing studies refer to numerous harassment manifestations such as threats, demands and even bodily contact. Women are often abused in the form of verbal harassment by their male counterparts who use unacceptable language and comments. Frey (1997:2) indicated that women are being abused in various areas. This includes physical and verbal abuse, sexual harassment, sexual harassment comments, physical contact and initiation rites.

Campbell (2007) warned that issues that may cause women working underground to leave include the social environment underground, which is very macho (which is not the same thing as masculine), and so hostile to women; fear, or experience of sexual harassment and/or sexual intimidation or assault; the inability to cope with the physical challenges of working underground; and, even if they can cope, finding the physical working environment just too unpleasant.

Then there is the question of pregnancy. The South African Constitution clearly bans unfair discrimination, whether direct or indirect, on a number of grounds, including gender, and pregnancy. The Basic Conditions of Employment Act 75 of 1997 explicitly forbids employers to make, or allow, a pregnant (or nursing) employee to do work that is hazardous to her health or the health of her child.
The WIM task team will be instrumental in shaping policy, investigating, understanding and addressing barriers faced by women in the mining industry as well as creating a greater awareness of WIM issues in the workplace. Impala has introduced a pregnancy policy, which gives four months paid maternity leave, and provides alternative employment in a non-risk area while the employee is pregnant (Implats pregnancy policy, Annexure B).

2.11 SAFETY AND HEALTH

The South African mining industry remains a commodity sector faced with numerous safety challenges. Appel (2009) reported that President Thabo Mbeki in 2008 instructed the DME to conduct a presidential audit on all the mining commodity sectors. The result of that audit was published and made public in January 2009; the audit findings indicated 66% compliance to safety systems being audited and thus an industry in the public domain being perceived as very dangerous with 34% non-compliance.

Mcgwin et al. (2002:1306) referred to statistical data released by the Department of Minerals and Energy and concluded that more than one hundred miners are killed every year in the South African mining industry. They also indicated that the mining industry has the highest fatality rate per occupation and industry. Ranchod (2001:32) indicated that the industry will face major challenges regarding the integration of women into the underground workings and he warned that specific occupational health and safety requirements will have to be considered by the mining industry. Considering the current safety statistics and accident statistics, it can be concluded that safety is directly proportional to the degree of mental alertness. One of the beliefs existing in industry - if you want to counteract poor safety trends - implement safety training modules and enforce various safety equipment. The aim of such programmes is to make people more alert of the various hazards in their immediate surroundings.
The concern relating to personal protective equipment design criteria (PPE) as raised by Forastieri (2002) is that the current PPE and tools are being designed and supplied specifically for the use of the male population. This results in women not being adequately equipped with the right gear and as such a higher potential realises for women to be more accident prone. Ilic (1996:1387) cautioned the industry that, based on studies done in the Soviet Union during the 1930s which emphasised that the deployment of women in the underground workings of a mine whether long term or short term, can have harmful effects on women’s reproductive functions. The actual effect on the person’s health varies, depending on the specific mining methodology being deployed; for example, opencast or underground mining operations. Other considerations could include, but are not limited to, technology being employed, the type of mineral being mined, depth below surface and the actual size of the mining operation.

The most known diseases that people are exposed to in the mining industry are dust from coal mines, tuberculosis, pneumoconiosis and other lung related diseases caused by inhaling quartzite dust, coughs and colds, malaria, quite a number of different skin diseases, diarrhoea, teeth discoloration, aching joints, arthritis, lethargy and hearing loss due to extended periods of time being exposed to high noise levels from specific equipment utilised in the underground environment. The main cause of health challenges in specific geographical mining regions are in existence due to the unregulated pollution and high levels of toxic mineral processing plant tailing dams and other mining disasters (Anon., 2003). Arvidsson et al. (2003:309) stipulated that physical hard labour could cause lower back pain and it has been found that the effects of lumbar curvature on lower back pain risk factors during repetitive postural upper extremity musculoskeletal disorders in the neck and upper limbs are common among industrial workers with women specifically being prone to this phenomenon.

Wilkinson (1985:25) stated that numerous dangers and hazards exist within the underground workings of a mine and as such most critics are highly opposed to
women being introduced into the country’s most dangerous employment sector. Considering the above statement, women do have the potential diversity injection to contribute positively and to make the unsafe workplace a more tolerable and less risky environment. Singer (2002:2) referred to women’s behaviour as being more careful towards unsafe conditions. Wilkinson (1985:40) embraced women’s attitude towards safety and concluded that women in general will not hesitate to consult if conditions are unsafe, whereas their male colleagues placed in the same unsafe environment will not report deviations because they are afraid as being seen as weak and cowardly.

The enforcement of the Mining Charter related to changes in the South African legislation which requires that women must be introduced into South Africa’s underground mining environment (SA, 1991, Mines and Works Act of 1959). It places enormous challenges and demands on the mining industry to continuously improve on safety targets with the added angle: the safety of women in the mining industry. It is also eminent that in these environments a high degree of focus must be placed on safety and skills training. Keegan et al. (2001) made it clear that such a reform process must impact on changing the culture of the industry as a priority, but in doing so emphasis must be placed on the number one priority, being achieving mining safety milestone targets.

**TABLE 2.2: IMPALA PLATINUM HOLDINGS LIMITED INJURIES**

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. Injuries</td>
<td>No. Injuries</td>
<td>No. Injuries</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>FY2006</td>
<td>28</td>
<td>302</td>
<td>330</td>
<td>8%</td>
<td>92%</td>
</tr>
<tr>
<td>FY2007</td>
<td>59</td>
<td>276</td>
<td>335</td>
<td>18%</td>
<td>82%</td>
</tr>
<tr>
<td>FY2008</td>
<td>79</td>
<td>243</td>
<td>322</td>
<td>25%</td>
<td>75%</td>
</tr>
<tr>
<td>FYTD2009</td>
<td>36</td>
<td>79</td>
<td>115</td>
<td>31%</td>
<td>69%</td>
</tr>
</tbody>
</table>

Source: Impala Platinum Holdings Limited safety department, 2009

A major concern relating to the statistics in table 2.2 is that the percentage of female injuries since 2006 has increased constantly on an annual basis from a base of 8% to 31%.
2.12 RETENTION

The percentage of women working in the mining industry is increasing because of the broad-based socioeconomic empowerment charter of the South African mining industry. Campbell (2007:8) reported that Cathy Reichardt, senior lecturer at the University of the Witwatersrand School of Mining Engineering at the Women in Mining Conference in June 2007, organised by the IQPC - International Quality and Productivity Centre, indicated the following:

- “Mining companies employ lots of women, but they are currently overwhelmingly concentrated in support functions, such as administration, human resources, public and investor relations, finance, audit and legal.”
- “The consensus of opinion at the Women in Mining Conference was that participation referred to women employed in technical positions and in the productive workforce. That seems to be the spirit of the legislation.”
- “There are two aspects to this - getting women into technical mining and mining-related professions, and getting women into the mineworker force.”
- The mining industry needs geologists, process engineers, and mining engineers. “Geology has long had a significant presence of women; it is a more family-friendly profession, and geologists do not have to work underground full time: rather, they visit underground, perhaps, three or four times a week; and there are many on-surface work options for geologists, but there are much fewer women mining engineers”.
- Considerable progress has been made in attracting young women to study mining engineering at university. At Wits, women comprised just 7% of mining engineering undergraduates in 2000; this year they make up 26%. In fact, they comprise 25% to 26% for each undergraduate year.
"They get poached. It's not that women mining engineering graduates and especially black women are being poached by other mining companies, for they would still be within the industry. The problem is that they are being poached by companies in completely different sectors of the economy, which offer them less physical, more comfortable jobs, with higher salaries and higher social status that are more family-friendly, and based in the major cities and not in mining towns or rural areas."

"And part of this problem is that many mining companies do not use the vacation jobs required of their bursars to properly introduce them into the realities of life and work on the mines. Thus, when the students graduate and arrive on the mines, the shock can be considerable, and unpleasant, and so tempt the new mining engineers to jump ship at the first suitable opportunity. "Companies must invest in skills development of women indeed, all students, not just academic training; some companies are very good at this; others seem to treat students with benign neglect."

Another potential problem is that the Charter, intended to help women, may hinder them. "Because of the legislatively mandated targets, you could argue that women now entering the mining industry are actually under more pressure to perform than the women who entered the industry before the Charter came into effect," she argues. Women who arrived on the mines pre-Charter were assumed to be appointed on merit and so were treated with respect, despite the macho culture. Women arriving under the Charter are in danger of being seen as 'quotas' and not being taken seriously, and thus having to prove themselves from scratch. And they must do so, so as not to let down the women who come after them.

"But the fact is that overseas experience shows that women have benefited every other industry and profession they have entered. Women fly high-performance spacecraft and aircraft, command major ships, and fight in wars. They can certainly work in deep-
level mines. There are many challenges in deploying women in deep-level mining; there are constraints around the child-bearing years but our strengths outweigh our weaknesses: women are not a problem, women are an opportunity”.

External factors such as the high unemployment rate being in the excess of 30% do contribute to people’s willingness to enter the mining sector even if they are informed of the potential dangers and very harsh conditions of the underground working environment, and in addition to this it is often the best employment opportunity available (Singer, 2002:2). Ranchod (2001:29-33) referred to survival, and as such the main reason why women will enter into small scale mining operations as it is potentially the primary source of income. Ranchod continued and identified that poverty, education, the economy, power and decision-making, health, violence, armed conflict, institutional mechanisms for the advancement of women, human rights, media and the environment are all critical areas of concern identified as empowerment barriers. Most of these empowerment barriers have direct links to the mining sector specifically. Ranchod concluded with a specific emphasis that if a company wants to ensure sustainable development in regions where mining companies are operational, such operations must increase female participation to ensure that the local economies of those regions benefit by a reduction in poverty specifically amongst women. Other contributions could include access to education, empowering of women and the involvement of women in the decision-making of such a region.

To this end, for example, Anglo Coal South Africa has established a divisional Women in Mining (WIM) task team, as well as operational WIM initiatives on the respective operations to ensure that women are fully engaged in all aspects of the business through the attraction and retention of women in mining. The Sowetan (Anon., 1996:4) Anglo-American Corporation representative James Duncan said, “Statistics show that it takes a minimum of 10 years to take a carefully selected candidate through university and the necessary development stages in the workplace into management positions.”
2.13 RESISTANCE TO CHANGE

The mining industry has been a predominantly male occupation due to the nature of hard physical labour and the requirement for heavy machinery and equipment (McCulloch, 2003:420). Robinson (1998:25) emphasised that over many decades males have dominated the mining industry. The mining industry was a symbol of male dominance and endeavour rather than connotations to the existence of female links.

Singer (2002:2) alluded to the fact that the physical capability related to strength requirements in the underground workings indicated a basic exclusion factor of women and the expectation that women could play an active role in the underground environment seemed far-fetched, although women have been involved in the pre-apartheid era in the South African mining industry. The mining industry has been shaped into a character of well-established beliefs and practices (Keegan et al., 2001). On this basis of deeply embedded practices the industry will therefore be very reluctant to change certain practices with specific reference to the female employment in this historical male-dominant arena of the mining industry.

The employment of women in the underground workings creates numerous challenges. Lazcano (2003:4) discussed the existence of discrimination against women for reasons related to beliefs that women contaminate work processes. Whittock (2002:449) described the phenomenon of stereotype male beliefs indicating that women do not pass the mental and physical endurance to perform the inherent job requirements of underground work because women are too weak and thus promulgate legislation to exclude women from the underground workings. Whittock (2002:450) emphasised that assumptions related to rules, behaviour, ability and needs of women are still existing within organisations; this being said, it is clear that organisations must prioritise challenges that exist with specific references to sex stereotyping.
Lazcano (2003:1) indicated that mines are bastions of resistance to change. Culture is an important facet of organisations in that it can assist the leader to manage resistance to change or it can be a major contributing factor to resistance in itself. A culture characterised by trust, supported by openness and innovation is more conducive to success than a culture of blaming, mistrust and bureaucracy. The last mentioned culture does not provide the impetus for change, and leadership has to take over. The manager then has to take care of the day-to-day running of the firm as well as the processes associated with change. Not having the leadership skill to lead change can then cause resistance.

A healthy, functional culture provides the structure that supports and encourages the change process, while leadership and culture provide the energy that drives the process. Leadership and culture then are partners in the process of guiding an organisation through change. At times one may be more influential than the other.

2.14 STATISTICAL DATA REVIEW

McCulloch (2003:413) referred to statistical data published in the Department of Minerals and Energy and indicated that industry annual reports of the South African mining industry in 1954 employed 274 women with a drastic annual growth to 594 in 1963. Singer (2002:2) highlighted that although the industry did employ women over many decades and even in the pre-apartheid era which left a distinct impact of discrimination against women; for example, in the form of barring females from the underground mining environment. South Africa has made significant progress with regard to women's representation - after the 2004 election, it is 11\textsuperscript{th} in the world with regard to numbers of women in parliament with women holding 131 seats. South Africa presently has a 40\% unemployment rate in certain areas, and with women bearing the brunt of unemployment it has become a priority for Government.
When evaluating Impala Platinum’s current performance it is clear that it will require major interventions to gain legal compliance of 10%.

**TABLE 2.3: PERCENTAGE WOMEN PER EMPLOYMENT LEVEL**

<table>
<thead>
<tr>
<th>Position</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Management</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Senior Management</td>
<td>7</td>
<td>85</td>
</tr>
<tr>
<td>Professionally qualified and experienced specialists and mid-management</td>
<td>96</td>
<td>544</td>
</tr>
<tr>
<td>Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents</td>
<td>269</td>
<td>3836</td>
</tr>
<tr>
<td>Semi-skilled and discretionary decision-making</td>
<td>418</td>
<td>4776</td>
</tr>
<tr>
<td>Unskilled and defined decision-making</td>
<td>978</td>
<td>21527</td>
</tr>
<tr>
<td>Total Permanent Employees</td>
<td>1779</td>
<td>30774</td>
</tr>
<tr>
<td>Non-Permanent Employees</td>
<td>16</td>
<td>36</td>
</tr>
<tr>
<td>Grand Total</td>
<td>1786</td>
<td>30810</td>
</tr>
</tbody>
</table>

Source: Impala Platinum Limited - Human resource department, 2009

**TABLE 2.4: PERCENTAGE WOMEN PER EMPLOYMENT LEVEL**

<table>
<thead>
<tr>
<th>Year</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
<th>% Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2006</td>
<td>503</td>
<td>22911</td>
<td>23414</td>
<td>2.15</td>
</tr>
<tr>
<td>FY2007</td>
<td>696</td>
<td>23220</td>
<td>23916</td>
<td>2.91</td>
</tr>
<tr>
<td>FY2008</td>
<td>1204</td>
<td>23409</td>
<td>24613</td>
<td>4.89</td>
</tr>
<tr>
<td>FYTD2009</td>
<td>1357</td>
<td>25237</td>
<td>26594</td>
<td>5.10</td>
</tr>
<tr>
<td>FCAST</td>
<td>1357</td>
<td>25237</td>
<td>26594</td>
<td>5.10</td>
</tr>
</tbody>
</table>

Source: Impala Platinum Holdings Limited - Human resource department, 2009

**2.15 SUMMARY OF THE LITERATURE REVIEW AND FINDINGS**

The basic findings of the literature review that are applicable to the empirical study are summarised in this section. At the end of the discussion of each finding, reference is made to the specific section of this study on which the findings is based:
The Mining Charter requirement that 10% women must be employed in the mining industry is a prerequisite for mining companies to convert the existing mining licence into the new order mining licence (section 2.2).

Mining companies should identify employment barriers specifically regarding women to ensure compliance to the Employment Equity Act (section 2.3).

Mining companies should aspire to transform the industry to be representative and as such calls for a transformation strategy (section 2.4).

Mining companies should aspire to reduce the historical gaps that exist within employment ratios in the industry by virtue of an affirmative action policy (section 2.5).

Managing women in mining to ensure targets are achieved will have to be reinforced by a skills development programme (section 2.6).

Women being employed in a professional capacity could give rise to various cultural and ethical issues, and a greater understanding of this impact will have to be evaluated when mining companies are considering target setting strategies (section 2.8).

Certain pre-requisite selection regarding physical capability should be met by aspiring women candidates who want to enter the underground mining environment. The underground mining environment was defined as warm and damp with numerous physical challenges (section 2.9).

In the context of introducing women into a previously male dominated industry it will create polarity management challenges; for example, sexual harassment and pregnancy issues (section 2.10).

Basic challenges were outlined regarding the introduction of women into the underground mining environment with regard to safety and health challenges (section 2.11).

Managing the 10% target setting with respect to women in mining as described by the Mining Charter, will require managerial interventions such as retention strategies (section 2.12).
Basic resistance to change were described, specifically when a male dominated industry are to be converted, with the introduction of women into the underground mining environment (section 2.13).

The literature review is concluded with a statistical analysis and it is clear that the 10% target setting will not be achieved at Impala Platinum within the intended period as prescribed by the Mining Charter (section 2.14).

The following chapter will define the research methodology that was utilised. The intention of this chapter is to give clear direction for the intended field study that will be conducted by defining the research questionnaire, the research objectives, the research sample size and the data collection methodology.
3 CHAPTER 3 - RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

This study was designed on the principle of a qualitative design methodology. Qualitative research makes it possible for the researcher to determine the individual experience of women working in the platinum mining industry underground (McMurty, 1988:136). Woods and Catanzaro (1988) have indicated the validity of utilising qualitative research. This study was also designed as a descriptive study to assess the managerial challenges faced by the platinum mining industry when women are introduced into the underground mining environment. Utilising a descriptive study enabled the researcher to discover associations among different variables (Cooper & Schindler, 2003: 161).

The main aim is to establish “What obstacles/hurdles/challenges mine management face in transforming the workplace to comply with legislation related to women employment at Impala Platinum”.

Research questions will focus on:

- Is the set target (10%) of women employment achievable?
- Are the employment targets sustainable?
- What are the practical limitations, if any, to employ women in all areas of the employment sphere (e.g. winch drivers, loco drivers, rock drill operators, production equipment helpers, engineering disciplines)?
- Do women in the underground workplace impact negatively/positively on productivity?
- What should management do regarding selection of women employers to make the underground environment more attractive for women?
- What should management do regarding training of women employers to make the underground environment more attractive for women?
What physical requirements do women employees require from the employer that are additional requirements as compared to their male colleagues?

What fiscal requirements do women employees require, if any, from the employer that are additional requirements as compared to their male colleagues?

The objective was to determine what discourages women from selecting the mining industry as a permanent career opportunity. If it can be determined, what discourages women from entering the mining sector, specifically the underground mining environment? Then only mine management can develop future strategies to attract and to retain the current women employees. It is important to get a clear understanding of the frustrations those women employees are faced with. Although the act requires 10% women employees within the mining industry, it is also clear that the added benefit of introducing women will enlarge the human capital of such mining companies.

The following section will reflect on the research objectives.

3.2 RESEARCH OBJECTIVES

The primary objective was to evaluate whether women in the underground workplace can be utilised in all areas of employment by evaluating the response of the participants on questions such as their willingness to work in warm, damp and confined workplaces underground. Furthermore, to establish whether women actually see the underground workplace as a permanent career opportunity, or rather an entry to surface employment opportunity, by questioning the participants on the said statement.
3.3 RESEARCH QUESTIONNAIRE

3.3.1 The questionnaire

The questionnaire content was drafted in accordance with the guidelines described by Coetsee (2002:39) and Peppas (2002:57-59). The best practice for questionnaire design requiring three basic types of questions were also included (Cooper & Schindler, 2003:364).

- Administrative questions, for the identification reference of the individuals interviewed, i.e. name, specific location.
- Classification questions, i.e., age, position in the organisation, work class.
- Target questions—to establish knowledge and perceptions of specific attribute issues.

Target questions were drafted to evaluate candidates' views on the following:

- What are the practical limitations, if any, to employ women in all areas of the employment sphere (e.g. winch drivers, loco drivers, rock drill operators, production equipment helpers, engineering disciplines)?
- Are the current policies / standards applicable to women employment?
- Do women in the underground workplace impact negatively or positively on productivity?
- What should management do regarding the selection of women employers to make the underground environment more attractive for women?
- What should management do regarding the training of women employees to make the underground environment more attractive for women?
What should management do regarding the retention of women employees to make the underground environment more attractive for women?

What physical requirements do women employees require from the employers that are additional requirements as compared to their male colleagues?

What fiscal requirements do women employees require, if any, from the employers that are additional requirements as compared to their male colleagues?

The questionnaire was developed on a multiple questions basis. In order to determine the validity of the questions, a panel of middle and senior management employees at Impala was asked to review the questions for content and subject matter coverage. The questionnaire is included in Annexure A.

3.3.2 Sample size design

The study population consisted of an availability sample of women working at Impala Platinum (N = 195). Black women constituted 97% of the sample. Of the participants, 5% had minimal underground experience but 29% had more than two years' underground experience. Participants in possession of a grade 12 certificate were 67%, post graduates were 2% and 6% were semi-skilled. The response rate or the success rate of unspoiled participant responses was maximised through the process of a one-on-one interview with all the participants.

3.3.3 The specific characteristics of the participants

Descriptive information on the sample is given in Table 3.1.
<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation</td>
<td>Miner</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Winch driver</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Engineering helper</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Production official helper</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Production Equipment helper</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Locomotive driver</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Battery attendant</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Clerks</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>195</td>
</tr>
<tr>
<td>Experience</td>
<td>Less than 6 months</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>6 - 12 months</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>Between 1 and 2 years</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Between 3 and 5 years</td>
<td>57</td>
</tr>
<tr>
<td>Education</td>
<td>Primary Education</td>
<td>13</td>
</tr>
<tr>
<td>level</td>
<td>Secondary Education</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>Tertiary Education</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Post Graduate</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>195</td>
</tr>
<tr>
<td>Race</td>
<td>White</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Black</td>
<td>190</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>195</td>
</tr>
</tbody>
</table>

### 3.3.4 Data collection

The sample frame was limited to Impala Platinum, Rustenburg operations. An interview questionnaire was used as guidance to the researcher and it provided consistency amongst all the participants. The interview was conducted with a human resource practitioner present who acted as a translator/interpreter should that need arise.

The interviews were conducted at different operating sites at Impala Platinum. The data collection was obtained from women employees employed by Impala Platinum at Rustenburg operations. The target audience was women from the underground employee ranks. The participants selected varied from various categories of employment underground: mining disciplines such as winch drivers, engineering disciplines, battery attendants and mining services employees such as survey helpers. The data collection method utilised was through a process of interviews utilising a structured interview schedule. The questionnaire was specifically designed to evaluate the research question:
Managerial challenges faced in South-African platinum mines relating to women employment as required by the Mining Charter

The interviews were scheduled at the start of the participants' working shifts to ensure the best possible response could be gained as not to be influenced by exhaustion after the women's underground shift. The use of a qualitative interview questionnaire guided the in-depth interviews collecting both structured and unstructured data. Personal, in-depth interviews are characterised by a one-on-one, two-way communication between interviewer and participant. Due to the sensitivity of the topic and to avoid misunderstanding of the questions, the interviewer was able to ask probing questions to the participants. The use of an interpreter assisted the researcher not to lose any detail when language was considered a barrier to collect the correct information.

Three human resource officers at the various operations were inducted by the researcher on the content of the questionnaire as well as the interview intend. The reason for the required assistance was the selected sample size (195) and the fact that Impala Platinum operations are geographically spread over a large area. Finally, it was the intention of the researcher to gain information from various operations and not a specific site only, and as such, this workload was divided amongst three human resource officials, who assisted the researcher. The researcher trained the human resource officers to follow a prescribed method during the interviews consistently by practical training whereby these human resources officials first formed part of five interviews, which were conducted by the researcher, requiring them to visually observe the proceedings.

The following methodology was followed during the interviews:

- The researcher introduced himself at the beginning of each interview and explained the context of the interview.
- The participants were set at ease and it was explained to the participants what was expected of them.
The interviews took place in a room with enough ventilation and lighting, and comfortable chairs.

The interviewer asked the questions consistently to the participant and then after every response made the necessary entry unto the questionnaire.

The researcher had to spend enough time with each participant to establish the correct answer and it was required to make notes of additional information given by the participants.

The structured responses from the participants were acquired from multiple-choice questions.

After the final question was compiled, final comments were encouraged.

Each interview lasted approximately 20 minutes depending on the level of education and understanding of the participant.

3.3.5 Summary

Chapter 3 concludes the intended research methodology that was utilised for this study. The focus was to discuss the layout and development of the questionnaire, the identification of the sample population, the interview methodology and finally the data collection methodology that was utilised.

The following chapter will highlight the findings of the field study. The field study was designed with seven main criteria that were evaluated.
4  CHAPTER 4 - REPORTING OF MAJOR FINDINGS

4.1  INTRODUCTION

In this chapter, the findings of the field study was concluded on the basis of evaluating women working in the mining industry with the following seven main criteria namely: people relations, company procedures, opportunities, favourable working conditions, remuneration, safety and personal issues, which the women employees working underground would be faced with on a daily basis. Each of the data presentations commences with a short introduction and description of the questions used in the interviewing questionnaire. A fair amount of discussion and explanation is given to clarify certain aspects and anomalies concerning the classification of the findings. The responses to the target or investigative questions are discussed in detail as they appeared in the interviewing questionnaire.

Each question is introduced by explaining what it was intended to measure and then, if necessary, the response is represented by a graphical picture and / or a table. The researcher has also made various comments regarding the issues pertaining to each question.

4.2  THE EXPERIENCE OF WOMEN WORKING IN THE PLATINUM MINING INDUSTRY

The experiences of women working in the platinum mining industry are reported in Table 4.1 according to specific topics. The total number of participants per topic has been included.
### TABLE 4.1: RESPONSES OF WOMEN EMPLOYEES REGARDING THE UNDERGROUND MINING ENVIRONMENT WITH REGARD TO SPECIFIC INTERVIEW RESEARCH TOPICS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Topic description</th>
<th>Number of participants'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. People relations</td>
<td>This topic questioned the participants' general perception regarding acceptance of their co-workers</td>
<td>195</td>
</tr>
<tr>
<td>2. Company procedures</td>
<td>This topic questioned the participants' general perception regarding the company policies specifically sexual harassment</td>
<td>195</td>
</tr>
<tr>
<td>3. Opportunities</td>
<td>This topic questioned the participants' general perception regarding the promotion within the company being a female</td>
<td>195</td>
</tr>
<tr>
<td>4. Favourable working environment</td>
<td>This topic questioned the participants' general perception regarding physical facilities to accommodate women underground</td>
<td>195</td>
</tr>
<tr>
<td>5. Basic condition of employment</td>
<td>This topic questioned the participants' general perception regarding the company reward scheme</td>
<td>195</td>
</tr>
<tr>
<td>6. Safety</td>
<td>This topic questioned the participants' general perception regarding the company policies and procedures to ensure a safe working environment</td>
<td>195</td>
</tr>
<tr>
<td>7. Personal</td>
<td>This topic questioned the participants' general perception if she regarded herself as being able to perform her daily underground tasks</td>
<td>195</td>
</tr>
</tbody>
</table>

### 4.3 PEOPLE RELATIONS

#### 4.3.1 Finding - Male colleagues' acceptance of females underground

The majority of women (79%) indicated that their co-workers do not accept them. It could be an indication that males working in the mining industry will remain stereotyped by nature of an attitude that indicates positive correlations in that women do not belong underground. This will be representative of the mining environment and is not a new phenomenon for mine management. This will remain part of the mining industry for some time into the future. It was indicated by the participants that men perceive certain promotion practices as negative. The concern would be valid as most of the women do have a grade 12 certificate and hence the potential is higher for expedited career advancement.
4.3.2 Finding - Language

It appears from the interview question related to communication between co-workers that 51% believed it is relatively poor. The questionnaire did not include various cultures that exist on the mine. From the interviews, it could be established that language did influence the effective functionality within the team and the participants indicated that the language used by co-workers was either not acceptable because of the excessive use of vulgar language, or there were no clear understanding because the team composition was made up of different cultures. It must also be indicated that the current accepted norm by the majority of males working in the underground environment is that they prefer communicating in "fanakalo", which traditionally was a dialect consisting of Zulu and Xhosa. From an Impala Platinum management perspective, it will be addressed within the next decade, as most of the newly recruited employees need a minimum school classification of grade 12. The practice of using "fanakalo" to conduct underground communication has been addressed and it is expected of supervisors to communicate predominantly in English.
4.3.3 Finding - Sexual harassment

It was also clear from the responses by the participants that they experience problems with sexual harassment by their co-workers and 45.6% of participants indicated that sexual favours for co-workers are indeed a regular occurrence. The questionnaire did not question reasons why women had to perform sexual favours, although some of the participants did indicate that it was an accepted practice at various departments. This correlates with the literature review indicating that this will be a standard practice when women are introduced into a male dominated environment. From an Impala management perspective, the opposite is also evident relating to the participants’ responses in that 54% women indicated that they have not been sexually harassed and this could be a positive response by males by virtue of the implemented sexual harassment policy. Numerous training and education programmes are currently running at Impala Platinum to educate men and women on this specific issue; it also forms part of the initial training of all employees when they are recruited for the first time to the mining industry as well as a refresher course on an annual basis to re-emphasise the harassment policy after employees come back from their annual leave.
The most alarming issue in terms of participant feedback regarding sexual favours is that their direct supervisors are aware of it and they actually also practice sexual favouritism. Some 59% of participants reacted positively on this question. This is a concern to Impala management and it will be addressed by virtue of the sexual harassment policy.
4.3.4 Finding - Treatment of women by direct supervisors

The perception of the majority of the respondents is that their direct supervisors do not treat them fairly and their behaviour was not acceptable as 71% ranged from poor to low. It was also indicated by 64% of the participants that their direct supervisors did not make them part of the team. The information given by direct supervisors were understandable and the use of language was acceptable as 54% of the participants indicated a positive response to this question.

This can be a true reflection of the current performance relating to supervisors at Impala Platinum. The norm in the industry reflects that men are currently occupying the majority of supervisory positions, but with the accelerated programmes regarding training and women proving their worth in various occupation groups, this picture will definitely change in the next five years.
4.4 COMPANY PROCEDURES

The findings are represented graphically below.
4.4.1 Finding - Sexual harassment

The concern is that 55% of participants did not know that Impala Platinum has a sexual harassment policy in place. This should be seen in the context of the participants selected: 41% participants had limited work experience, which varied from one to twelve months of actual employment at Impala Platinum.

From a management viewpoint, it can be considered being successful because 44% had a clear knowledge of the existence of such a policy. This indicates that the awareness drives at Impala Platinum do indeed create value and the implementation strategy regarding training and communication propaganda did create a positive spin-off.
4.4.2 Finding - Employment equity

The majority of the participants indicated that they knew that Impala Platinum has an employment equity policy in place. The main driving force is the actual knowledge of the communities surrounding Impala Platinum regarding employment equity legislation, which informs potential employees that the company should have an employment equity policy in place; hence, the acquaintance of the newly recruited participants who claims that the policy should be available. Although the contents of the document were not tested, some of the participants indicated that Impala Platinum’s employment equity plan is unclear and does not cater for specific detail.

The employment equity plan is part of a centralised management union forum. The employment equity policy utilised at Impala Platinum indicates specific numbers and timeframes per job grading to achieve milestones. This document is displayed at all shafts at Impala Platinum. The main concern raised by most of the women was the lack of patience and that more specific detail should be assigned at the workplace to ensure people keep track of such identified candidates. The majority of the participants (91%) know that Impala Platinum
has a training policy in place. The other relief from a management perspective was that 80% of the participants were aware of the company procedure regarding individual development programmes.

4.4.3 Finding - Pregnancy

FIGURE 4.8: PREGNANCY POLICY

Based on the results analysed the indications are that 58% of the participants are fully aware that Impala Platinum do have a pregnancy policy in place. The participants questioned, highlighted that the current practice at Impala Platinum with regard to maternity leave is a major frustration to the pregnant women and it affects their households negatively in more than one way. The participants with the required knowledge of the pregnancy policy indicated that the frustration for women working underground is twofold. Firstly, they do not have the same employment benefits as their female counterparts employed above surface, because underground is defined as a hazardous environment and a woman that becomes pregnant must at the earliest knowledge of such pregnancy report it to management. Then the women is restricted from going underground and she must be considered for alternative employment above surface; if alternative arrangements cannot be made, the woman will be sent on maternity leave. Secondly, she will only be paid four months’ leave payment
and the remainder of the pregnancy period will be without salary payments, and this creates tremendous stress on such households.

The participants indicated that Impala Platinum is mismanaging this because the participants felt that most of the white women were employed above surface and they benefited in that they are allowed to work their full maternity period and then receive a four months' fully paid maternity leave benefit.

This is a major controversial issue for Impala Platinum management with serious financial consequences regarding labour strength management and is currently under review.

4.5 OPPORTUNITIES

The perception of the participants is that the industry does offer sufficient variations in terms of different job categories. It was also indicated by 84% of the participants that they do have opportunities to work in different spheres of employment.

The participants responded positively regarding the evaluation to determine whether women are given the same opportunities as their male colleagues regarding opportunities for advancement. It was also indicated by 39% of the participants that Impala Platinum offers sufficient opportunities for women to develop themselves.
The advancement of women will be a direct result of the degree of training and on this basis, it was also established that 94% of the participants indicated that sufficient training programmes are in place to ensure that women are indeed fast-tracked to gain access to the various job categories being offered at Impala Platinum. The participants indicated that they believe that they do have sufficient experience to perform their current tasks successfully; this could also be a result of the type of tasks being performed underground, which are actually repetitive routine type tasks.

4.6 FAVOURABLE WORKING ENVIRONMENT

This section evaluated the specific infrastructure requirements for the introduction of women into the underground mining environment. Initially, the availability of physical facilities made it difficult to accommodate women underground and the lack thereof made it a site-specific nightmare to allow the women the opportunity to be employed underground. The basic equipment such as toilets, showers and change rooms would be an absolute minimum requirement.
The participants (34%) indicated that the underground environment, although traditionally a male environment, have been converted to cater for the actual basic needs of women. The majority (61%) of the participants indicated that much still need to be done to cater for all the basic needs required by women working underground.
Toilets and specifically designed ablution facilities currently in use at Impala Platinum do indicate positive acceptance by 41% of the respondents.

This is no surprise for Impala Platinum Holdings Limited management and they continuously engage with various union forums to rectify and to assist women with shaft specific issues regarding facilities.

4.7 BASIC CONDITIONS OF EMPLOYMENT

4.7.1 Finding - Working hours

The numerical sample measured on participant knowledge of working hours to gain understanding of employees' perception of the conditions of employment indicated sufficient positive correlation in that 50% of the participants had a clear knowledge base of what the weekly and daily working hours are.

Most of the participants working underground indicated that the working hours as such are not a concern, but rather indicated that the beginning time of such shifts are a concern to the women, in that they find it difficult to assist in the household context, because most of the cycle shift workers have problems with the morning shift start time (approximately 04:00).

FIGURE 4.12: CONDITIONS OF EMPLOYMENT POLICY
Although Impala Platinum management does consider these issues raised by the women, it is clear that the mining cycle remains a process and it has its limitations in that such a cycle needs to be completed within a 24-hour cycle. Management consistently reviews new technology to speed up such processes.

4.7.2 Finding - Remuneration

Basic conditions of employment include remuneration, and the perceptions of the participants were tested to understand if they earn the same monetary value for a specific job category as their male colleagues. The questioning also tested whether the women’s direct supervisors were exercising informal recognition.

FIGURE 4.13: INFORMAL AND FORMAL RECOGNITION

As indicated in the table above, it is clear that the majority (73%) of the participants indicated that they perceive recognition as unfair and not applied consistently. The majority (73%) of the women indicated that they felt that most men are recruited on a higher basic salary. This is in line with most of the on-mine climate surveys conducted previously.

Impala mine management consistently runs industry salary comparatives to ensure that all the employees are rewarded competitively compared to other
Impala Platinum recently (2008) introduced an employee share scheme named Morokotso - “Bearing the fruits of our transformation” (ESOP) - Employee Share Ownership Programme that will be paid to all employees after five years since its inception date. The targeted audience are employees employed at the A, B and C level on the Paterson grading; this programme is equal to a 3% stake of Impala Platinum.

4.8 SAFETY

This feedback analysis covers physical safety hazards as well as perceptions of the candidates in relation to the underground mining environment. Apparent from the literature study is that the underground environment is often in confined spaces and it is associated with small narrow reef extraction. The response to this is that 53% of the candidates responded positively and that they deem the confinement as an obstacle for women to enter the actual stoping environment. Confinement in the men hoisting conveyances was also highlighted as a risk towards safety and health.

FIGURE 4.14: SAFETY AND HEALTH RISKS RELATED TO CONFINEMENT
The literature indicated that underground conditions are directly linked to hot temperatures. The candidates' responses to this question indicated that 52% did not regard temperature as a barrier for women to enter the underground environment.

Environmental management regarding temperature will remain a high priority at Impala Platinum and the aim is to ensure that all employees working underground pass the acclimatisation test to ensure that such individuals can tolerate hot working conditions. Impala Platinum further endeavours to control its underground environmental conditions regarding temperature to a maximum allowable temperature of 28° Celsius (WB) wet bulb temperature. This allows for a sufficient barrier as the legal limit prescribed in the Mines Health and Safety Act is 32.5° Celsius wet bulb temperature.

The participants' perception and response regarding underground transportation systems seemed to be an accepted safe practice. The response of confinement in the cage when up to 60 people loaded per hoisting cycle was not tested and should be developed especially when one considers issues of sexual harassment.

The candidates were also tested to evaluate the effectiveness of training programmes with regard to safety. Although 5% of the participants indicated that they are not aware of the procedure it is clear that 95% do understand to some extent the safety policy. The concern is that 5% of participants did not know that Impala Platinum has a policy in place to equip all employees with protective clothing and that the policy also indicated that such clothing will be at the expense of the company and not the individual.

It must also be indicated that of all the participants questioned, 5% of them had limited experience (6 months). Evaluation of safe practices regarding the underground workplace is commendable seeing that 84% of the participants indicated that they do believe that the underground workplace is safe. This is a positive correlation taken into account specific safety action programmes are implemented at Impala Platinum to improve safety performance.
The findings from the internal safety department audits recently conducted at Impala operations indicated that poor safety trends at specific operations are not related to the conditions of the working places underground but rather a direct relation to actual human behaviour.

The Department of Minerals and Energy in the North West region recently embarked on serious actions to improve mine safety in the form of issuing Section 54, which forced shutdown of the mining operations when workplaces are found to be sub standard, hence the major focus by Impala Platinum to maintain high standard compliance of the underground workplaces. Impala management implemented a visibly felt leadership programme called "Tsiboga" aimed at focusing on behaviour of people whilst they perform their daily tasks.

4.9 PERSONAL

In this section a more general approach was taken to evaluate specific issues that may or may not influence the employment of women in the mining industry. The mining industry does require to a large degree that the employees perform physical tasks, whether it is lifting or carrying of heavy equipment or
the need to perform maintenance tasks. The candidates were also evaluated with specific job categories being evaluated such as loco drivers, winch drivers, conveyor belt operators and using heavy equipment as well as vibrating equipment to determine whether the women regard these specific tasks as too physical. In all instances the response was that on average 54% indicated that these tasks can be performed by women. The selection of employable candidates does require that these individuals are heat tolerant and have some degree of physical strength. The majority of the candidates (64%) indicated that they do have the physical ability to perform their daily tasks.

**FIGURE 4.16: PHYSICAL ABILITY**

The mining industry, being a previously male dominated industry, had been designed with men as the targeted labour force and as such all equipment and clothing are designed accordingly. It was noted that 96% of the candidates indicated their acceptance of the protective clothing being supplied.

The mining industry functions predominantly on a two-shift basis. Considering night shift employment, it seems that 24% of the candidates indicated a concern to work night shift not purely on the basis of a safety aspect but also considering family responsibility. It is clear that 60% of the candidates do encounter
obstacles to perform specific family responsibilities. A good example is that the female underground shift starts at 04:00 in the morning and she will not be able to ensure preparation for her children going to school. It was also indicated that 48% of the candidates indicated that they encounter marital conflict because of the stigma associated with employment within the mining industry. The candidates were questioned to create a better understanding of the reasons why women will want to make the mining industry a permanent career.

**FIGURE 4.17: REASONS FOR WOMEN SELECTING THE MINING INDUSTRY AS A CAREER**

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Difficult to get another job</td>
<td>10%</td>
</tr>
<tr>
<td>2 Poverty</td>
<td>61%</td>
</tr>
<tr>
<td>3 Close to home</td>
<td>29%</td>
</tr>
</tbody>
</table>

The main driving force for selecting the mining industry as a career was poverty, as indicated by 61% of the participants. The unemployment rate in South Africa indicates to be more than 30% and thus it is clear why women will endeavour to enter at all risk.

From the evaluation of the candidates, it is clear that women enter the mining environment on the basis that underground employment will be a temporary arrangement as 68% of the candidates indicated that they do not see their current work status as a permanent arrangement.

If this is representative, it can be assumed that women utilize the underground job employment as a springboard for alternative employment above surface.
This highlights the initial hypothesis that the mining industry will encounter difficulty to ensure compliance with regard to 10% women employment in all job categories.

4.10 SUMMARY

The experiences of women working in the platinum mining industry as established in the field study are summarised in this section. At the end of each finding, reference is made to the specific section of this field study on which the findings are based:

People Relations:

- The majority of women indicated that they were not accepted by their male colleagues (section 4.1.1).
- The women indicated that the use of “fanakalo” seemed to be an exclusion barrier as it was the main language used to conduct daily communication (section 4.1.2).
- Sexual harassment by co-workers and supervisors was a regular occurrence (section 4.1.3).
- The majority of the women indicated that the current treatment by their supervisors was unfair (section 4.1.4).

Company Procedures:

- Limited knowledge was displayed regarding the company sexual harassment policy (section 4.2.1).
- The majority of women indicated that they were aware of the existence of the employment equity policy (section 4.2.2).
- The women indicated that they were aware of the pregnancy policy but serious management interventions will have to be investigated to make such a policy more acceptable for women employed underground (section 4.2.3).
Opportunities:

- The women participants indicated that the mining industry offers sufficient variations in terms of job categories not to stifle them (section 4.3).

Favourable working conditions:

- The majority of participants indicated that the underground mining environment majorly lacked physical facilities to cater for their needs (section 4.4).

Basic conditions of employment:

- The participants indicated sufficient knowledge of the working hours; however, it seemed that starting times of such shifts were a major constraint to them (section 4.5.1).
- The majority of the participants indicated that the current remuneration was not sufficient (section 4.5.2).

Safety:

- The participants indicated that they found the underground mining environment very physical and demanding. The hot temperatures could have a negative effect on women and this could increase the potential for injuries. They indicated that underground working places seemed to be safe and that the training on the mine was acceptable (section 4.6).

Personal:

- Although the participants indicated their ability to perform certain physical work underground, it seemed clear that the physical requirement of specific jobs would be an exclusion barrier for women (section 4.16).
- Personnel protective clothing was accepted by the women but various alterations could be considered.
The participants indicated that night shifts and early morning shifts are an employment barrier in the sense that they would not be able to perform certain family responsibilities.

The majority of the participants indicated that the mining industry was considered only because of poverty reasons.

The main concern was that the majority of the participants indicated that the underground employment sphere was only seen as temporary and they would use the employment opportunity to ultimately gain access to a surface employment (section 4.17).

This concludes the analysis of the field study obtained from the interviews, the questionnaire analysis and the notes made during the interviews with the 195 women participants. The following chapter will be the fifth and final chapter, which will drill down to the conclusions, and possible recommendations for Impala Platinum to manage the challenges that still exist in the operations concerning women in the underground workings.
5  CHAPTER 5 - CONCLUSION AND RECOMMENDATIONS

5.1  INTRODUCTION

In this chapter, the study is concluded and recommendations highlighted. The problem area is addressed, followed by the results, recommendations, and implementation of specific management strategies. Finally, suggestions are made for possible topics for future studies.

5.2  PROBLEM AREA

The mining industry in South Africa faces the dilemma of forcing mining companies concerning government legislation to implement 10% women into the underground mining environment. The legislation makes it difficult to comply with if the intend is seen as a blanket approach with regard to all occupations underground.

Various physiological aspects make the selection and placement of women an absolute nightmare for mine management. Women might have the right education levels, skills and physical strength to be employed underground, but the required infrastructure to accommodate women might be lacking, or the required safety equipment has not been specifically designed for women. One then concludes that a coordinated and continued action plan is required to integrate women into the underground mining environment.

Only limited research material could be found pertaining to the actual employment philosophies/strategies regarding employment of women in the South African mining context. No actual implementation strategies could be evaluated to measure actual company performances as most statistical information supplied by most of the major mining houses only supply total figures and do not refer to specific occupation progress.
Mining houses will have to monitor all employment occupations to track compliance to the required 10% women in all categories, to ensure equal representation.

### 5.3 RESULTS AND CONCLUSIONS

This study aimed to explore the managerial challenges with regard to the implementation of women into the underground mining environment.

The results and conclusions of this study can be summarised as follows:

- **Women are not accepted by their male co-workers.** It could be an indication that men working in the mining industry will remain stereotyped. Organisations should implement education programmes, and regular surveys should be conducted to evaluate progress made.

- **Communication seems to be a specific barrier** as most of the underground communication is being conducted in the so-called “fanakalo” which has an exclusion factor with regard to women. This gap will have to be managed by specific management interventions such as “English in the workplace” campaigns. This will be addressed with the recruitment policies that only allow the employer to employ grade 12 candidates.

- **Sexual harassment in a previously male dominated environment** remains a major challenge. Organisations will have to implement policies and education programmes to address this.

- **Knowledge of in-house policies is required** to ensure women understand all procedures and thus better compliance regarding successful employment. Organisations should implement induction training programmes to communicate policies and regular briefs to emphasise changes or to re-energise understanding.

- **Physical facilities regarding specific infrastructure requirements** for the introduction of women into the underground mining
environment make it difficult to accommodate women underground. The basic amenities such as toilets, showers and change rooms would be an absolute minimum requirement and mining companies must ensure a proper planned implementation strategy regarding infrastructure to be coordinated similarly as the actual initial employment of females. This must be managed as a high-level strategy for all operations to ensure standardisation.

Underground conditions are directly linked to hot temperatures and confined working spaces. Environmental management could be by means of a selection criteria based on acclimatisation of the selected women as a pre-screening employment criteria.

Working hours regarding shift times indicate family responsibility challenges due to constraints placed on the women regarding starting times of shift workers. Mine management will have to evaluate the placement of females to assist those regarding zoning times.

The mining industry does require to a large degree that the employees perform physical tasks, whether it is lifting or carrying of heavy equipment or the need to perform maintenance tasks. The mining industry will have to adopt basic employment selection criteria such as physical ability /strength testing as a minimum requirement.

5.4 RECOMMENDATIONS FOR FURTHER STUDIES

The following recommendations are listed for further studies that may be used to improve or enhance effective management of women in the underground mining environment:

1. Results obtained can be used to assess the influence women will have on continuous improvement strategies.
II. Research can be conducted to evaluate team performance regarding acceptance of women relating to specific cultural groupings.

III. Research can be conducted to evaluate safety performance of teams utilising women.

IV. Research needs to be conducted to determine which specific underground employment categories will be best suited for female employment.

5.5 RECOMMENDATIONS FOR IMPALA PLATINUM MANAGEMENT

- Impala Platinum will have to investigate the possibility to establish childcare facilities for the women working underground to assist them with current social liability barriers.
- The creation of women-only toilet facilities will have to be established to cater for the women's specific needs.
- The development of an acceptable code of practice for pregnancy in the workplace will have to be developed that will be acceptable for underground risk employees as well as surface women employees.
- The appointment of women structures will have to be implemented for health and safety issues pertaining to women specifically, with the aim to consider safety equipment, e.g. Availability of the right sizes of safety equipment.
- The fast tracking of women candidates will have to be managed on a high level by a specialised recruiting department and it will require the appointment of mentors to assist women in the various specialised disciplines, e.g. engineering.
Impala Platinum will have to implement attraction initiatives to encourage women to participate in mining.

The company will have to address the structural barriers to the employment of women in mining, including physical and health issues, working culture, and workplace environment and facilities.

Women candidates must be promoted to senior management levels within the organisation by virtue of their ability and this will promote equal opportunities for all.

Promoting gender equality will have to remain part of Impala Platinum's commitment to human rights and the empowerment of women.

5.6 CONCLUDING REMARKS

This study embarked on the managerial challenges faced with regard to the inclusion of women into the underground mining environment.

Conclusively, one will have to embrace the legislation and ensure that effective planning, selection and placement criteria form part of a high-level strategic management philosophy regarding the phasing in of women into the underground mining environment.

Managers, leaders and individuals will have to be held accountable for the successful phasing in of women into the mining arena. The ultimate gain for the mining industry will be to ensure that mining companies maintain their new order mining licences but ultimately changing the face of the industry to be more representative. The South African mining industry must be developed into a sector in which women will also reap the benefits of democratic change by empowerment.

It is the researcher's opinion that these factors are critical for management to have a clear understanding of the challenges faced to achieve the Mining Charter requirements. Although WIM is a process dictated by legislation it is also
morally and socially correct for an organisation like Impala Platinum to ensure an effective process of transforming its workforce.

The benefits for Impala Platinum are enormous; not only the mere fact that the new-order mining rights conversion as required by the DME is dependable on it (Impala Platinum group investor relations officer Alice Lourens said, "All significant mining rights have been converted or granted - both Impala Platinum's and Marula Platinum's mining rights were converted, while Leeuwkop was granted mining rights during 2008."), but also the employee potential selection pool are enlarged.
REFERENCES


CAMPBELL, K. 2007. Woman miners “No better industry”, but retaining women after recruiting them seen as challenge. Mining weekly, 8, August.


IMPALA PLATINUM SAFETY DEPARTMENT. 2009. All injuries for all occupations statistics.


SONJICA, B. 2007a. The 10th anniversary of Women in Mining and Technology for Women in Business (TWIB) Awards. 30 August.

SONJIICA, B. 2007b. The fourth SAWIMA annual general meeting. 19 October.


# ANNEXURE A - Questionnaire

## Interview schedule: Woman in mining:

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>What position do you hold in your company?</td>
<td>0 - 6 months</td>
</tr>
<tr>
<td>Employed at Impala Platinum?</td>
<td>0 - 6 months</td>
</tr>
<tr>
<td>Experience in a mining environment?</td>
<td>None</td>
</tr>
<tr>
<td>How long have you been working underground?</td>
<td>0 - 6 months</td>
</tr>
<tr>
<td>Highest educational level?</td>
<td>Primary</td>
</tr>
<tr>
<td>Race</td>
<td>White</td>
</tr>
<tr>
<td>Description</td>
<td>Procedures</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>People relations</td>
<td></td>
</tr>
<tr>
<td>Behaviour / treated</td>
<td></td>
</tr>
<tr>
<td>Part of the team</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
</tr>
<tr>
<td>Sexual favouritism</td>
<td></td>
</tr>
<tr>
<td>Sexual harassment</td>
<td></td>
</tr>
<tr>
<td>Employment Equity policy</td>
<td></td>
</tr>
</tbody>
</table>

1. yes accommodated without restrictions  
2. yes with limited restrictions  
3. no, not accommodated

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Procedures</th>
<th>Direct management</th>
<th>Co-Workers</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Different job categories</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment at Impala Platinum Ltd</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

85
<table>
<thead>
<tr>
<th>3</th>
<th>Favourable working environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic needs (ablution facilities, changing rooms)</td>
</tr>
<tr>
<td></td>
<td>Underground ablution facilities</td>
</tr>
<tr>
<td></td>
<td>Underground transport (cages, chairlift)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4</th>
<th>Remuneration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bonuses</td>
</tr>
<tr>
<td></td>
<td>Housing</td>
</tr>
<tr>
<td></td>
<td>Medical aid</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5</th>
<th>Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Medical assistance (clinic / hospital)</td>
</tr>
<tr>
<td></td>
<td>Health hazards</td>
</tr>
<tr>
<td></td>
<td>Temperature (underground)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6</th>
<th>Personal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Working hours</td>
</tr>
<tr>
<td></td>
<td>Clothing</td>
</tr>
<tr>
<td></td>
<td>Pregnancy policy</td>
</tr>
<tr>
<td></td>
<td>Physical ability to do work</td>
</tr>
</tbody>
</table>
### B

**Why are you working on the mine?**
- How did your household change after being employed at the mine?
- How do you see your current career?

<table>
<thead>
<tr>
<th>Mark with X</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty to get other job</td>
<td>Poverty</td>
</tr>
<tr>
<td>No change</td>
<td>No change</td>
</tr>
<tr>
<td>Permanent</td>
<td>Entry to surface employment</td>
</tr>
</tbody>
</table>

### C

**Do you feel safe when working on night shift?**
- Do you feel safe at your workplace?
- Do you find it easy to work in confined spaces?
- Do you feel accepted by your male counterparts?

<table>
<thead>
<tr>
<th>Mark with X</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

### D

**How did your career influence the following:**
- Care-giving responsibilities
- Marital conflict
- Children's development problems
- Community involvement

<table>
<thead>
<tr>
<th>Mark with X</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>No influence</td>
<td>Moderate influence</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Do you feel comfortable whilst performing the following tasks:

<table>
<thead>
<tr>
<th>Task</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving a locomotive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driving a winding engine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winch driving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating a conveyer belt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using heavy and vibrating power tools</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ANNEXURE B - PREGNANCY POLICY

IMPALA PLATINUM
(RUSTENBURG OPERATIONS)

IMPALA PROCEDURE 15
EMPLOYMENT AND PROTECTION OF EMPLOYEES
DURING PREGNANCY AND AFTER BIRTH OF A CHILD

Approved : PJ Visser
Operations Executive - Rustenburg

Date approved : 30/03/2005
Compiled By : Carla Radloff
Approved By : Impala Rustenburg Operations Committee
Next Revision Date : March 2006
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8. MANAGEMENT RESPONSIBILITIES
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   9.1 Alternative employment
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ANNEXURES
Annexure A: Acknowledgement
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Annexure C: Maternity Leave Application
1. **INTRODUCTION:**

Impala Platinum commits itself to the Code of Good Practice on the protection of employees during Pregnancy and after birth of a child in accordance with the Notice issued under Section 87(b) of the Basic Conditions of Employment 1997. To this end Implats recognises that there is:

- A duty to provide a safe working environment for women of reproductive age, their unborn children and to all breastfeeding mothers.

- A potential of exposure to hazards at the workplace which poses specific risk to women and requires clear rules, procedures and policies.

Pregnancy is not an illness and the provisions of the company’s Sick Leave Policy will not apply in circumstances where this policy is or becomes applicable.

2. **OBJECTIVE OF POLICY:**

The objective of this policy is to set out guidelines that will assist all operating units in dealing with, and effectively managing pregnancy and post pregnancy related issues.

To provide action steps that will prevent the exposure of pregnant and breastfeeding employees to hazards.

To promote continued risk assessments and awareness in the workplace and to provide sufficient protection without deviating from the principles of fairness, equality and equity; and

To comply fully with the requirements of the Mining Charter in the employment of women at all levels of the organisation.

3. **RISK WORK:**

Risk work can be summarised as follows:

- All underground occupations
- Physical exposure, such as radiation and thermal stresses
4. **LEGAL REQUIREMENTS:**

Various pieces of legislation are in place which entitles employees to fair treatment in the workplace by imposing certain specific obligations on both the employer and employee. It must be noted that in certain respects "employee" includes job applicants.

The legislation referred hereto is as follows:

- The Basic Conditions of Employment Act of 1997. (Section 26 (1)(2)
- The Employment Equity Act No. 55 of 1998. (Chapter II – Section 6)
- The Labour Relations Act No. 66 of 1995. (Section 189)

Central to the protection of pregnant and nursing employees is Section 26(1) of the Basic Conditions of Employment Act which states as follows: "No employer may require or permit a pregnant employee or an employee who is nursing her child to perform work that is hazardous to her health or the health of her child".

Section 26(2) states that during an employee's pregnancy and for a period of six months after the birth of her child, her employer must offer her suitable, alternative employment on terms and conditions that are no less favourable than her ordinary terms and conditions of employment if:

- The employee is required to perform night work or work that poses a danger to her health or safety or that of her child; and
- It is practicable for the employer to do so

**The above clause means:-**

Pregnant and nursing employees may not and will not be permitted to perform work underground or shift work and or any other work where there are hazards that pose a risk.
5. **PRE-EMPLOYMENT ORIENTATION:**

Information regarding the mining work environment and risks to pregnant females and their fetuses will be communicated by the Transformation Department to applicants prior to pre-employment testing.

6. **PREGNANCY TESTING**

Due to health risks associated with Heat Tolerance Screening, pregnancy testing will be done on all pre-employment and ex-leave underground employees, prior to undergoing Heat Tolerance screening. (See Annexure A)

7. **EMPLOYEE OBLIGATIONS:**

Employees have a duty to take all reasonable steps to protect their own, as well as other’s health and safety.

The onus rests on the employee to inform her immediate supervisor as soon as her pregnancy is confirmed.

Failure on the part of the female employee to immediately disclose her pregnancy will be viewed by the company as misconduct. Such failure will be dealt with in accordance with Impala’s Disciplinary Procedure and may lead to dismissal.

No employee will be allowed to resume hazardous work whilst breast feeding. (Also refer to 9.2.2, General rules).

Prior to the commencement of maternity leave (paid/unpaid) the employee must inform the employer in writing of the date on which she intends to resume her normal duties.

Failure to resume normal duties as stipulated will be dealt with as being absent without permission and could result in termination of the employee’s services.
8. MANAGEMENT RESPONSIBILITIES:

The Company will assist pregnant employees as far as it is reasonably practicable. Management will under no circumstances knowingly allow pregnant employees to perform work that is a risk to the health or safety of the pregnant/breastfeeding woman or to her unborn child.

8.1 Non-risk occupations

Most service occupations are not regarded as risk occupations. However should the immediate supervisor suspect that there is a risk associated with the said occupation, he/she should immediately request the Safety department for advice whether it is a risk occupation or not (Annexure C - Declaration).

The employee must report to the relevant HR officer. The Human Resources Officer to follow appropriate action. (See point 9.2.2 - General rules).

8.2 Risk occupations

Upon notification from the employee that she is pregnant, Management shall immediately withdraw the employee from the workplace if she works in an identified risk occupations.

The Supervisor must inform the employee of the risk and required controls by using the ‘New and expectant mothers at work risk assessment form’ (Ann. B). The forms can be obtained from relevant HR Official. The relevant HR Official will make the necessary arrangements for a thorough medical assessment to be conducted at the OHB to determine the employee’s health condition.

The pregnant female must report to the OHB with the ‘New and expectant mothers at work risk assessment form’ (Ann. B). The OHB shall certify whether the employee is capable of performing her normal duties as per Annexure B, in an operational area. If not the OHB will issue a temporary change of fitness document to the relevant HR Official & clinics. Employees must report back to HR Official with the change of fitness document. HR Official to follow appropriate action. (See point 9.2.2 – General rules).
9. **PROVISION OF BENEFITS DURING PREGNANCY:**

9.1 **Alternative Employment**

Where a woman is withdrawn from a particular job on grounds of health and safety the Company will not guarantee alternative ("risk free") employment, unless it is reasonable and practicable to do so.

Should alternative employment be available it will be on terms and conditions no less favourable than the ordinary terms and conditions of employment.

Should alternative employment not be available, the relevant Manager can allow the employee to proceed on leave as per the provisions of this policy.

It is not a legal requirement nor is it a legal obligation that Implats creates a position to accommodate such an employee.

9.2 **Paid, Unpaid Maternity Leave and Unpaid Insurance Fund(UIF)**

Note: This procedure distinguishes between the following leave types:

- Paid Maternity Leave
- Unpaid Maternity Leave

9.2.1 **Definitions**

9.2.1.1 **Paid Maternity Leave**

- 124 consecutive calendar days’ maternity leave where employee receives normal pay (Risk & non-risk)
- Company contributions will continue to be paid as if the employee is still at work
- Bonus payments will be regulated by the bonus scheme relevant to the employee
- Employees in risk occupations will:
  - immediately after confirmation of pregnancy be placed on 4 months company paid maternity leave
  - pay double employee contributions towards medical and retirement funding, company accommodation
9.2.1.2 rental and water & lights (where applicable) whilst on paid maternity leave

- this affords her the opportunity to remain a member of the medical and retirement fund, and remain in current company provided accommodation whilst on unpaid maternity leave
- also have deducted from their salaries the company contributions for medical and retirement funding whilst on paid maternity leave to afford her the opportunity to remain a member of the medical and retirement fund whilst on unpaid maternity leave.

- Employees in non-risk occupations:
  - will be advised to commence on paid maternity leave approximately 4 weeks before the expected date of birth.
  - this affords the employee approximately 3 months paid maternity leave after the birth of the child.
  - will be entitled to 2 months unpaid maternity leave. Should the employee choose to take 2 months unpaid maternity leave after her paid maternity leave, company contributions and employee contributions toward medical funding, retirement funding, company accommodation rental and water & lights (where applicable) will be deducted in the last 2 months of paid maternity leave.

Unpaid Maternity Leave (Risk occupations)

- When the employees’ 4 months paid maternity leave is over, she may proceed on unpaid maternity leave.
- Unpaid maternity leave may only be taken up to 3 months after the birth of the child.
- Deductions made during paid maternity leave will only cover medical and retirement funding, company accommodation rental and water & lights for 4 months.
- During this period the employee will receive NO payment whatsoever from the company.
- The employees will be responsible for the employee and the company contributions towards medical and retirement funding.
- Failing to do so will result in the termination of membership to these funds and the benefits they provide.
- The employee will be responsible for company accommodation rental.

- Example:

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Eg. Employee in risk occupations' pregnancy is confirmed in month 1. She will be placed on paid maternity leave for months 2-5. Then she will be placed on unpaid maternity leave for months 6-9 (thus including the birth of her child, ensuring membership of both medical and retirement funds over this period).

9.2.1.3 Unemployment Insurance Fund (UIF)

- Employee may claim Unemployment Insurance during her time on unpaid maternity leave according to the UIF Act.
- According to the Act the contributor's entitlement to benefits accrues at a rate of one day's benefit for every six days of employment as a contributor subject to a maximum accrual of 238 days benefit in the four year period immediately preceding the date of application for the benefits. This means you can enjoy this benefit only twice in four years.
- It is the employees' responsibility to claim the benefit from the Department of Labour (1st floor, Shoprite Checkers Building, Corner Church and Oliver Thambo Streets, Rustenburg.
- The following forms need to be completed:
o UI 2.8 completed by the bank
o UI 2.3 completed by the medical doctor
o UI 2.7 completed by the employer

- The Prescribed time for receiving this benefit is 2 weeks before confinement date and 14 weeks after giving birth.

9.2.2 General rules regarding Leave Entitlement & Benefits

- The employee must complete Annexure C, obtainable from relevant Human Resources Officer and hand in at Time Office.
- The employee should inform the HR Officer and Time Office of expected date of birth when pregnancy is confirmed (Medical practitioner should indicate on medical certificate).
- Employees may not return to work for six weeks after the birth of her child, unless a medical practitioner or midwife certifies that she is fit to do so.
- The employee may return to work once her paid/unpaid leave has ended and she does not wish to make use of the remainder of the unpaid portion after the birth of her child, provided that she is not breast-feeding (risk occupations).
- An employee who has a miscarriage during the third trimester of pregnancy or bears a still-born child is entitled to paid maternity leave for six weeks after the miscarriage or stillbirth - a medical certificate to be provided.
- The period of authorised maternity leave will not accrue as qualifying service for purposes of accruing future leave.
- If an employee has accumulated annual leave due, she may elect to use these days.

9.3 Medical Care

- Pregnant females will not be treated for pregnancy related conditions at Impala Hospital or clinics unless they are members of the Impala Medical Plan.
The medical provision will include:

- Where the medical benefits accruing to the pregnant employee during her paid maternity are exhausted, the pregnant employee should be encouraged to utilise all facilities availed by the Department of Health at State Hospitals and Primary Health Centres as no medical care will be provided by the Company. (Note: The state provides for free pre-natal as well as post-natal care).

9.4 Contributions to Retirements

- Employees who proceed on paid maternity leave shall contribute to the applicable retirement fund to which they belong for the duration of their paid maternity leave. Similarly the Company will pay the required amounts into the employee’s fund during the paid leave period. Additional deductions for the funding of employee and employer contributions will be made during the four month paid maternity leave period in order to ensure continued membership during the unpaid maternity leave period. This will ensure cover for four months when on unpaid leave. Thereafter the Company shall cease to make any contributions to the fund for the entire period of unpaid maternity leave. The effect of the ceasing to pay contributions is the following:

  - In the case of employees belonging to the Impala Workers Provident Fund the portion allocated for Risk Cover from Company contributions ceases as well as the cover for deaths and incapacity benefits.

9.5 Accommodation

- Where the Company provides accommodation the employee continues to enjoy these benefits during the unpaid maternity leave. However, these benefits would only be provided where the employee pays in full for such benefits at the applicable rates.
9.6 *Bonuses and Gainshare*

The applicable bonus procedure for that area or specific class of work will be applicable.
ACKNOWLEDGEMENT

I, the undersigned

Identity number: __________________________

hereby acknowledge that I have been informed by Impala Platinum Limited of all the risks associated with being pregnant whilst working underground, and therefore I consent to a pregnancy test being conducted on me.

These risks include, but are not limited to:

1. Risks associated with undergoing Heat Tolerance Screening, while pregnant;
2. The physical demands of the underground environment, including potential slip and fall and fall of ground;
3. Exposure to airborne pollutants;
4. Exposure to dust and heat;
5. Vibration risks;
6. Noise pollution;
7. Exposure to chemicals;
8. Exposure to lead;

Impala Platinum Limited will keep the results of such pregnancy test confidential and only disclose these to myself.

SIGNED ON THIS _____ DAY OF _______________ 2004 AT RUSTENBURG.

_________________________  __________________________
Signature                               Signature: Medical Officer in attendance
NEW & EXPECTANT MOTHERS AT WORK RISK ASSESSMENT

Risk assessments per occupation can be obtained from the Intranet:

Or click on Risk Assessment below and select relevant occupation.

RISK ASSESSMENT
MATERNITY LEAVE APPLICATION
(Paid Maternity Leave, Unpaid Maternity Leave, Annual Leave)

PERSONAL INFORMATION

Initials & Surname: ____________________ Shaft/Unit: ____________________

Industry Number: ____________________ Occupation: ____________________

Expected birth date: ____________________

ATTACHMENTS

The following information is attached: (tick off √)

- Medical certificate (compulsory)
- Leave form - Paid maternity leave (compulsory)
- Leave form - Unpaid maternity leave
- Leave form - Accumulated annual leave

LEAVE PERIODS

<table>
<thead>
<tr>
<th>January</th>
<th>February</th>
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Mark as follows:
1 = Paid Maternity leave, 2 = Unpaid Maternity Leave, 3 = Accumulated annual leave

Expected date to return to work: ____________________ COMPULSORY!!

DECLARATION

I am working in a RISK [ ] NON-RISK [ ] area and/or occupation

To be confirmed by safety department

This section is applicable to employees in RISK areas and/or occupations only: Attach risk assessment
________________________ (full names) acknowledge that I work in a Risk area and/or occupation. I further acknowledge and approve additional deductions for employee and employer contributions from my monthly salary whilst on paid maternity leave in order to retain my membership of the medical and retirement funds applicable whilst on unpaid maternity leave.

I also acknowledge that should I choose to take normal unpaid leave after my unpaid maternity leave, I will be able for the employee and employer contributions towards medical and retirement funds should I wish to retain membership, since I will receive NO salary/contributions from the company.

Signed: ____________________________ Date: ________________

FOR OFFICE USE

R Officer: ____________________________ Date: ________________

Time Office: _________________________ Date: ________________
ANNEXURE C - PHOTOS

PHOTO 1: WOMEN MINER CONNECTING THE INITIATION SYSTEM TO BLAST THE UNDERGROUND PANEL

PHOTO 2: UNDERGROUND STORE BEING MANAGED BY A FEMALE
PHOTO 3: UNDERGROUND LOCOMOTIVE FEMALE BATTERY ATTENDANT

PHOTO 4: UNDERGROUND FEMALE ENGINEERING ASSISTANT