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An analysis of disclosures prepared by listed entities undertaking mining or oil and gas activities

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University of the Witwatersrand

An analysis of disclosures prepared by listed entities undertaking mining or oil and gas activities.

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Commerce (Accounting)

Johannesburg

November, 2014

ABSTRACT

The extractive activities industry includes entities that explore for, discover, develop and extract deposits of minerals, oil and natural gases. Recent research conducted has concluded that accounting for the assets and expenditure together with the disclosure requirements in this industry are not comprehensively addressed by current International Financial Reporting Standards (IFRS).

The debate surrounding the accounting and disclosure alternatives in the industry as well as movements to standardise them have been ongoing since the 1890s. The latest movement by the International Accounting Standards Board (IASB) resulted in a project team publishing the Discussion Paper DP/2010/1 – Extractive Activities of April 2010 (Discussion Paper).

The Discussion Paper presents disclosures determined to provide the most useful information to the users of the industries financial statements. The IASB have paused this topic and it will not be added to the agenda in the near future, however, this Discussion Paper is likely to form the foundation of a new IFRS. This research report will assess how the reserves and related disclosures currently prepared by entities in the mining or oil and gas industry compare to the proposed disclosure requirements of the Discussion Paper.

This research report uses a mixed methodology. Quantitative analysis, through the use of a disclosure checklist, dominates the study which covers two years. The results of this study are then qualitatively and compared per proposed disclosure, against market capitalisation, by listing sector, by external auditor and whether the entity has a single or a dual-listing.

Overall the study shows that the current disclosures of the entities do not satisfy the proposed disclosures of the Discussion Paper. Entities in the extractive activities industry would need to invest more into financial reporting in order to achieve compliance with the disclosures should they ever form part of an IFRS. The findings do indicate that the number of disclosures provided is dependent on the size of the entity. The two entities

found to have the most disclosures are in the gold mining sector and have an alternative listing on the New York Stock Exchange.

Key words:

Disclosures, extractive activities, extractive activities industry, mining activities, oil and gas activities, mining or oil and gas activities, mining and oil and gas activities, listed entities, dual-listed entities, Johannesburg Stock Exchange, Discussion Paper March 2010, IFRS 6

DECLARATION

I, Patricia Rosemary Galbraith, hereby declare that this research report is my own unaided work, except as indicated in the references. It is submitted in partial fulfilment of the degree of Master of Commerce by Coursework and Research Report at the University of the Witwatersrand, Johannesburg. It has not been submitted elsewhere for the purpose of being awarded another degree or for examination purposes at any other university.

PRGalbraith

Patricia Rosemary Galbraith

November 2014

ACKNOWLEDGEMENTS

I wish to express my sincere thanks to:

- Professor Robert Garnett, my supervisor, for his time, encouragement and direction;
- The School of Accountancy library for providing some research materials referenced in this paper;
- Patrick and Rosemary Galbraith, my parents, for their support, encouragement and time spent proofreading;
- Andrew Scott, my fiancé, for his support, encouragement, understanding, going through the scoring for my pilot study and time spent proofreading; and
- Claudia Hazelwood for additional proofreading.

TABLE OF CONTENTS

			Page No
ABSTRACT			**i**
DECLARATION			**ii**
ACKNOWLEDGEMENTS			**iii**
LIST OF TABLES			**vii**
1	**INTRODUCTION**		**1**
	1.1	Purpose of the study	1
	1.2	Context of the study	1
	1.3	Objective of the study	5
	1.4	Significance of the study	5
	1.5	Limitations and delimitations of the study	7
	1.6	Assumptions	9
	1.7	Summary	9
2	**LITERATURE REVIEW**		**11**
	2.1	Financial reporting environment	11
		2.1.1 Introduction	*11*
		2.1.2 Objective of general purpose financial reporting	*11*
		2.1.3 Qualitative characteristics of useful financial information	*12*
		2.1.4 Constraints	*13*
		2.1.5 Other financial reporting	*13*
	2.2	Financial reporting for the extractive activities industry	16
		2.2.1 Global financial reporting for the extractive activities industry	*17*
		2.2.2 South African financial reporting for the extractive activities industry	*18*
	2.3	Road to issuing the Discussion Paper	19
	2.4	Conclusion of literature review	25

TABLE OF CONTENTS

			Page No
3	**RESEARCH DATA AND METHODOLOGY**		**27**
	3.1	Research methodology	27
	3.2	Research design	28
	3.3	Population and sample	28
		3.3.1 Population	*28*
		3.3.2 Sample and sampling method	*29*
	3.4	Research instrument	30
	3.5	Procedure for data collection	30
	3.6	Data analysis and interpretation	31
	3.7	Validity and reliability	31
		3.7.1 External validity	*31*
		3.7.2 Reliability	*32*
	3.8	Limitations of the study	32
	3.9	Conclusion of research data and methodology	33
4	**PRESENTATION OF RESULTS**		**34**
	4.1	Total disclosure score for entities by market capitalisation	34
	4.2	Total score for each disclosure	36
	4.3	Total disclosure score for entities and their sector	39
	4.4	Scores for entities with a single listing	42
	4.5	Scores for dual-listed entities	43
	4.6	Total disclosure score for entities and their external auditor	47
	4.7	Results of research data and methodology	50
		4.7.1 Research methodology and design	*50*
		4.7.2 Population and sample	*50*
		4.7.3 Procedure for data collection	*51*
		4.7.4 Validity and reliability	*52*

TABLE OF CONTENTS

			Page No
	4.7.5	*Limitations of the study*	*53*
5	**DISCUSSION OF RESULTS**		**55**
	5.1	Total disclosure score for entities by market capitalisation	55
	5.2	Total score for each disclosure	56
	5.3	Total disclosure score for entities and their sector	57
	5.4	Scores for entities with a single listing	58
	5.5	Scores for dual-listed entities	60
	5.6	Total disclosure score for entities and their external auditor	62
	5.7	Summary of results	65
6	**CONCLUSIONS AND RECOMMENDATIONS**		**68**
	6.1	Conclusion of the study	68
	6.2	Recommendations	71
	6.3	Suggestions for further research	71
	REFERENCES		**73**
	BIBLIOGRAPHY		**87**
	Appendix A	Definitions of terms	**88**
	Appendix B	Johannesburg Securities Exchange (JSE) annual report requirements	**92**
	Appendix C	Sample selection at 31 December 2010	**96**
	Appendix D	Research instrument	**98**
	Appendix E	Discussion Paper Appendix C User survey process	**101**
	Appendix F	2009 Checklist	**106**
	Appendix G	2010 Checklist	**109**

LIST OF TABLES

	Page No
Table 1: Comparative total disclosure scores for entities by market capitalisation	**35**
Table 2: Comparative high, low and average scores for all the entities and the top 15 and bottom 15 entities by market capitalisation	**36**
Table 3: Comparative total scores for each disclosure	**37**
Table 4: Comparative high, low and average total scores for all disclosures	**38**
Table 5: Percentage of entities providing disclosures 1 to 8 versus disclosures 9 to 31	**39**
Table 6: Comparative total scores for each entity sampled (grouped by sector and mineral)	**40**
Table 7: Comparative high, low and average scores for each sector (and mineral)	**41**
Table 8: Comparative total scores for each entity with a single listing	**42**
Table 9: Comparative high, low and average scores for entities with a single listing	**43**
Table 10: Comparative total scores for each entity with a dual-listing	**44**
Table 11: Comparative high, low and average scores for entities with a dual-listing	**44**
Table 12: Dual-listed entities and their primary and secondary exchanges	**45**
Table 13: Comparative high, low and average scores for entities and their primary exchanges	**46**
Table 14: Comparative high, low and average scores for entities and their secondary exchanges	**46**
Table 15: Comparative total disclosure scores for external auditors of entities with a single or primary listing on the JSE	**48**
Table 16: Comparative high, low and average scores for each external auditor of entities with a single or primary listing on the JSE	**49**
Table 17: 2010 External auditors, the high, low and average market capitalisations in South African Rand and market capitalisation positions of their clients with a single or primary listing on the JSE	**49**
Table 18: Pilot study entities and their market capitalisation position	**53**

1 INTRODUCTION

The purpose of this chapter is to provide a summary of the content that will be discussed in the research report and how they relate to the research question and objective set out in this chapter.

This chapter will describe the purpose and context of the research. It will also document the gap in research that this study will fill and thus the significance of this study. The chapter will provide the delimitations and overriding assumptions of the study. Definitions of terms used throughout the study are provided in Appendix A.

1.1 Purpose of the study

The purpose of this research is to determine whether there are significant differences between existing disclosures made by mining or oil and gas entities listed on the Johannesburg Securities Exchange (JSE) and those disclosures proposed in the Discussion Paper DP/2010/1 – Extractive Activities of April 2010 (Discussion Paper). The Discussion Paper presents the results of research performed by an international project team that was set up by the International Accounting Standards Board (IASB) in 2004 to evaluate the accounting for mining or oil and gas activities. This Discussion Paper may form part of the IASB's standard setting process should it decide to add the extractive activities topic to its active agenda.

This research report will identify the disclosure requirements of the Discussion Paper and evaluate how the disclosures currently prepared by JSE listed entities in the mining or oil and gas industry in South Africa compare to the proposed disclosure requirements of the Discussion Paper.

1.2 Context of the study

The mining or oil and gas industry includes entities that explore for, discover, develop and extract deposits of minerals, oil and natural gases (Discussion Paper, 2010: paragraph 1.6). Globally, the accounting for the assets and expenditure relating to

these activities, and the disclosure requirements are not comprehensively addressed by current International Financial Reporting Standards (IFRS) (ifrs.org: 2011(a)).

In South Africa, the mining or oil and gas industry has made use of several methods to account for and disclose useful information about their activities (South African Institute of Chartered Accountants (SAICA), 1995: 1). The accounting for the industry in South Africa has been 'multiparadigmatic' rather than an exact science (Steele, 1991: 55). This flexibility creates an environment where information prepared and disclosed may be relevant and reliable but is not comparable across entities and countries (Brown & Tarca, 2007: 440).

The debate surrounding accounting and disclosure alternatives in the mining or oil and gas industry has been ongoing since the 1890s and active since the 1960s. The need to have a standardised approach was recognised because diverse approaches resulted in inadequate disclosure practices which seemed to conceal rather than reveal information to users (Cortese, Irvine and Kaidonis, 2009: 28).

The predecessor of the IASB, the International Accounting Standards Committee (IASC) established a committee that published a paper on the extractive activities in November 2000. This paper considered a broad range of issues including reserves and resources estimation, historical and valuation based concepts of measurement of resources related assets, treatment of removal and restoration costs, impairment, revenue, inventories and arrangements to share risks and costs (iasplus.com, 2013). However, as the project was never added to the agenda of the IASB (ifrs.org, 2011(a)), IFRS 6, *Exploration for and Evaluation of Mineral Resources* (IFRS 6) was published as a temporary standard for entities adopting IFRS in 2005 (IFRS 6, 2005: Introduction 3). IFRS 6 tried to provide limited improvements to existing accounting practices.

The mining or oil and gas industry currently applies IFRS 6 to disclose its exploration and evaluation activities and applies International Accounting Standard (IAS) 16, *Property, Plant and Equipment* (IAS 16) in order to disclose property, plant and equipment used in development and production activities. Development and production

activities are excluded from the scope of IFRS 6. Neither IAS 16 nor IAS 38, *Intangible Assets* apply to mineral rights and mineral reserves; which indicates that there is no IFRS applicable to all extractive activities. IFRS 6, issued in 2004, permitted entities to continue their existing accounting treatment for their extractive activities (IFRS 6, 2005: paragraph 2(a) and Dissenting opinion 2), thus still allowing for accounting alternatives. IFRS 6 therefore did not achieve a standardised approach to the recognition, measurement and disclosure of extractive activities. IFRS 6 requires disclosure of only accounting policies for exploration expenditure and the amounts of assets, liabilities, income, expenses and cash flows arising from the exploration and evaluation activities (IFRS 6, 2005: paragraph 24). Disclosures of property, plant and equipment used in development and production activities are completed in relation to guidance provided in IAS 16, which is not industry specific and therefore subject to interpretation, allowing for divergence in form and content of disclosures.

The IASB acknowledged that these alternative accounting practices lack comparability. As a result, the IASB approved a research project to be undertaken in order to address the general accounting for extractive activities. The extractive activities project team was formed in 2004 to consider the unique accounting for mining or oil and gas activities and to address the continual divergent practices in international financial reporting, due to a lack of comprehensive IFRS literature, for mining or oil and gas activities (Discussion Paper, 2010: paragraph P1). The project team comprised staff from the national standard-setters of Australia, Canada, Norway and South Africa who were assisted by members from industry (the mining or oil and gas sectors), accounting firms, users and securities regulators from around the world (IFRS 6, 2005: Basis for Conclusions 5).

The Discussion Paper presents the findings and recommendations of research performed by the project team in an effort to develop a standard for internationally consistent disclosures within the extractive activities industry. The disclosure proposals included in this Discussion Paper are comprehensive and include extensive disclosures in relation to reserve quantities. Reserve quantities, and not values, including new discoveries of reserves and changes in the estimates of the reserve quantities, are acknowledged by the

users, of extractive activities information, to be important information about entities in the mining or oil and gas industry because the extraction of these reserves determines the economic benefits flowing from the activities. The decisions that investors, suppliers and lenders make are therefore dependent on knowing non-financial information including the quality and quantity of the reserves and resources that the entity controls rather than focusing on the values of these assets (Harris and Ohlson, 1990: 764).

It is forecast that the IASB will use this Discussion Paper and responses to it as a foundation for its initial deliberations on the extractive activities project (Discussion Paper, 2010: 7). The IASB received 139 comment letters from issuers and investors, these letters are available on the website for reading and are numbered CL2 through CL141 (ifrs.org, 2014). When the extractive activities discussion is added to the active agenda of the IASB, the IASB will make a decision of whether to proceed directly to the Exposure Draft step of the standard-setting process or to develop its own Discussion Paper (Discussion Paper, 2010: 7). In December 2012 it was expected that extractive activities would be added to the active agenda within 18 months (IASB, 2012: 11) however at the time of writing this research report the topic is paused, is not on the IASBs active agenda (ifrs.org, 2013) and it is not expected to be added to the agenda in the foreseeable future. The project has been discontinued in favour of a broader intangible assets project (iasplus.com, 2013).

The intangible assets project arose as a result of responses received by the IASB in 2011, after launching a public agenda consultation for its future work plan. The respondents to the agenda consultation suggested that the IASB consider developing one set of financial reporting requirements for investigative, exploratory and developmental activities across a wide range of research and development activities and intangible assets (IASB, 2012: 12). The IASB could follow this project or the IASB may decide to proceed directly to the Exposure Draft step of the standard-setting process for extractive activities, thus resulting in the proposals of this Discussion Paper forming the foundation for a future IFRS (Discussion Paper, 2010: 7). This means that the proposed disclosure requirements of this Discussion Paper could therefore become mandatory for entities in

the mining or oil and gas industry to comply with IFRS. This therefore poses a question as to how the reserves and related disclosures currently prepared by entities in the mining or oil and gas industry compare with the disclosure requirements proposed in the Discussion Paper?

1.3 Objective of the study

This research report will assess how the reserves and related disclosures currently prepared by entities in the mining or oil and gas industry compare to the disclosure requirements proposed in the Discussion Paper.

1.4 Significance of the study

This study fills a gap in that there has been no previous academic research addressing whether disclosures currently made by entities in the South African mining or oil and gas industries are sufficient to meet the proposed disclosure requirements of the discussion paper. The Discussion Paper was published in April 2010 (ifrs.org, 2011(b)), other research that was similar in nature, did not achieve the objective of this study. This research was conducted by Percival in 2012 – '*Financial Reporting and Inventory Disclosures in the Extractive Industry*' where the study analysed the different regulations and standards in place for disclosures.

There have been research projects in practice which have analysed the current application of IFRS in the mining or oil and gas industry. These studies, and earlier studies, identified that there has been little guidance tailored to these activities which has resulted in significant variations of practice and application of the current IFRS (Deloitte Touche Tohmatsu 2003, PricewaterhouseCoopers 2007, KPMG 2008 and KPMG 2009). Further studies have also indicated that the differences in accounting policies, terminologies used and disclosures among entities in the extractive activities industry, highlights the significant flexibility allowed by IFRS 6 (KPMG, 2012: 4).

Given the accounting flexibility, there have been studies conducted to determine whether there are patterns in the accounting policy choices made by entities based on the relative

size of the entities. These studies were conducted in 1990, 1997, 1999 and 2011 by Malmquist; Spear and Leis; Mirza; and Adere respectively. Adere (2011) indicated that in the Norwegian environment when it came to choosing an accounting policy no pattern, dependent on the size of the entity, was identified.

The studies conducted on the practical application have been completed by the audit firms. Mirza, in 1999, tried to identify if the disclosure of reserves was dependent on a quality auditor and Adere, in 2011, tried to indentify whether there were patterns in accounting policy choices that were dependent on the external auditor. Mirza's study in 1999 found that entities with a quality auditor were more likely to disclose reserves compared to their counterparts. Adere (2011: 43) however did not identify a pattern in accounting policy choice dependent on a common external auditor. Further, the research performed by Percival in 2012 validated the findings of previous research referenced in that there is significant accounting flexibility in the extractive activities industry; therefore no new considerations were created for the purpose of this study (Percival, 2012: 21 – 22).

This research paper, aimed primarily at a professional audience, will provide guidance to preparers of financial reports for South African entities undertaking mining or oil and gas activities. The results of the study will indicate to these preparers, and the IASB, whether current disclosures are sufficient to satisfy the proposed disclosure requirements of the Discussion Paper and help them identify areas where improvements in disclosures are required. The IASB have paused the extractive activities project (ifrs.org, 2013). However, the findings could indicate the need to escalate the topic to the active agenda in order to set a reporting standard; alternatively the findings could indicate that despite the research already completed there is little support from issuers and investors to continue with developing a reporting standard as they believe they already provide good disclosures.

1.5 Limitations and delimitations of the study

This study will only address disclosures made by mining or oil and gas entities in their annual reports, whether in compliance with IFRS guidance or the JSE annual report requirements, as listed in Appendix B. The study will evaluate whether these disclosures are consistent with the proposed disclosure requirements in the Discussion Paper. The study is therefore only concerned with the disclosure proposals in the Discussion Paper which are:

- Reserves quantities and related disclosures, including the definition framework used to estimate reserves; and
- Reserves measurement, revenue, costs and additional disclosures.

The Discussion Paper (2010: paragraph 5.1) states that:

> 'the primary sources of information that users rely on when analysing an entity's minerals or oil and gas properties are financial statement disclosures and other disclosures, such as management commentary or regulatory filings'.

Wright (2008: 5) indicates that the users use this qualitative information rather than the financial information which includes measurement and recognition of assets in the statement of financial position, statement of comprehensive income and the statement of cash flows. Further, Penman (2003: 89) acknowledges that 'accounting quality is … less for the inability to measure'. Therefore the study will not address the following chapters from the Discussion Paper:

- Asset recognition;
- Asset measurement; and
- Other regulatory, non reserve related disclosures such as the Publish What You Pay Proposals.

The study is only concerned with the disclosure of reserves and related information. Therefore, the study will not consider compliance, by the entities, with disclosures that do

not relate to the above. Thus disclosures in terms of the following are not considered because they do not include information relating to reserves (JSE, 2011):

- Schedule 4 (Requirements for Financial Statements) of Companies Act No. 61 of 1973 of South Africa (as amended)[1]; and
- King Code of Governance Principles and integrated and/or sustainability reporting.

The following are not considered in the study as they do not relate to South African legislation or requirements:

- Where an entity is dual-listed the national law of the country where the other listing is; and
- Where an entity is dual-listed the other exchange's listing requirements (note that the listing requirements included in Appendix B only apply to entities with a single or primary listing on the JSE).

Only a sample of entities are included in the evaluation which will limit the results of the findings to the larger entities included in the sample. The idea for the study commenced in 2009 and the sample of entities to evaluate was selected in 2010. Initially the financial years ending 31 December 2010 would be evaluated however it was determined that comparative data was necessary therefore the annual reports for the financial years ending 31 December 2009 and 31 December 2010 are evaluated. The results of the study will also be limited to a point in time.

The results of the study are reliant on the researcher remaining objective throughout the study and scoring the entities disclosures consistently between years and among all entities in the sample. The results of the study will be indicative of the sample of larger entities selected rather than indicative of entities of all sizes.

[1] The Companies Act No. 61 of 1973 is applicable for the financial years ending 31 December 2009 and 31 December 2010, the years analysed in this study. This legislation is now repealed and replaced with Companies Act No. 71 of 2008 which is effective from 1 May 2011.

1.6 Assumptions

The following assumptions have been made regarding the study:

a) The sample will provide sufficient insight into the disclosures currently prepared by the entities in the sample;
b) The McGregor BFA database and/or the entity websites will have the full and published set of audited annual reports up to 31 December 2010 for the entities included in the sample;
c) The audited annual reports will be used to gather data therefore compliance with the current IFRS applicable to mining or oil and gas activities (with respect to recognition, measurement and disclosures) is assumed;
d) Financial years up to 31 December 2009 and 31 December 2010 will be examined and therefore Companies Act No. 71 of 2008 will not be applicable as this is only effective from 1 May 2011; and
e) Changes in disclosures of an entity between 2009 and 2010 are made to improve communications to investors and lenders or are due to regulatory changes which would indicate that the preparers were indifferent to the disclosure proposals presented in the Discussion Paper.

1.7 Summary

This chapter provides a summary of the context of the study which identified the research question of how the reserves and related disclosures currently prepared by entities in the mining or oil and gas industry compare to the disclosure requirements proposed in the Discussion Paper?

The objective of this research report is to assess disclosures prepared by listed entities undertaking mining or oil and gas activities. This study is significant as it will fill a gap in research as no similar research has been performed since the publication of the Discussion Paper.

This research report makes assumptions and has limitations which this chapter provided. The next chapter provides further background which was used to develop understanding for the study.

2 LITERATURE REVIEW

Given that there is a gap in research and the topic of this research report is significant, this chapter will provide background to the extractive activities industry and the financial reporting environment as a whole. This chapter will describe the general objectives, qualitative characteristics and constraints of financial reporting. In addition, the chapter will outline the historic and existing financial reporting practices of mining or oil and gas entities and indicate why these are not necessarily consistent with the general objective of financial reporting. The chapter will also describe the events that have led to the issuing of this Discussion Paper.

2.1 Financial reporting environment

2.1.1 Introduction

The Conceptual Framework for Financial Reporting, 2010 (Conceptual Framework) specifies the concepts that underlie financial reporting. It is the foundation on which financial reporting standards are built (Barth, 2008: 1163 – 1164) and contains the goals to which the IASB and preparers strive so as to improve the usefulness of financial reporting (Conceptual Framework: OB11). The Conceptual Framework is the basis on which the standard-setters make their decisions so that financial reporting can achieve its objective (Barth, 2008: 1172).

2.1.2 Objective of general purpose financial reporting

The 1973 Trueblood Committee Report cited in Watts & Zimmerman (1986: 197 – 198) states:

> 'An objective of financial statements is to provide information useful to investors and creditors for predicting, comparing, and evaluating potential cash flows to them in terms of amount, timing and related uncertainty'.

The Conceptual Framework (OB2) identifies that the objective of the financial reporting environment is as described above. The objective is the foundation from which other

aspects of the Conceptual Framework logically flow. These aspects include (amongst others) the reporting entity concept, elements of financial statements, recognition, measurement, presentation and disclosure.

The presentation of financial statements ordinarily includes a statement of financial position, an income statement and/or a statement of comprehensive income, a statement of cash flows and a statement of changes in equity. These statements are largely numeric in nature (Lennard, 2007: 54) and are based on 'estimates, judgements and models' (Conceptual Framework: OB11). These financial statements are useful if the preparers consider the qualitative characteristics of financial reporting. The qualitative characteristics assist with ensuring that the objective of financial reporting is met (Schipper and Vincent, 2003: 104 & 108).

2.1.3 Qualitative characteristics of useful financial information

The Conceptual Framework (QC4) refers to qualitative characteristics as fundamental and enhancing attributes that make the information provided in financial statements useful to users. The fundamental attributes are relevance and faithful representation; and the enhancing attributes are comparability, verifiability, timeliness and understandability. The faithful representation of relevant and accurate information enables users of financial statements to obtain a transparent and 'non-misleading' view of the financial position and results of an operation (Baker and Hayes, 2004: 783, Largey III: 2002 154 and Wright, Botosan & Colson, 2008: 482).

The Conceptual Framework (QC11 & QC12) indicates that when financial information about an entity is material, complete, neutral and free from error it will not be misleading. However, the Conceptual Framework (QC35 & QC39) states that cost is a pervasive constraint on providing financial information. Therefore preparers of financial information have to trade-off the enhancing qualitative characteristics and the cost of preparation.

2.1.4 Constraints

The enhancing qualitative characteristics are applied in an unordered, iterative process where one characteristic may be diminished so as to maximise another. This compromise is a recognised limitation in accounting procedures and the financial statements (Verge, 1985: 46) however is worthwhile as it improves the relevance and faithful representation of the financial reporting in the longer term (Conceptual Framework, QC34).

Relevant and faithfully represented financial information assists users in making decisions with more confidence. Although financial reporting is a human creation designed to satisfy human needs, users are aware that financial reports are often too simplistic for the complex scenarios they depict (Flanagan and Clarke, 2007: 488 and Steele, 1991: 60). The users realise that financial reporting imposes costs on the entity and by implication their return, therefore the benefits that the users receive from financial reporting should justify the costs of providing the information. This information includes the numeric information as well as descriptions on the economic phenomena, explanatory materials about management's expectations and the forward-looking information. Further as Conceptual Framework (QC36) states, the users do incur additional costs of analysing and interpreting the information provided and therefore it is important for the preparers to consider these additional costs for their annual reports.

2.1.5 Other financial reporting

The Conceptual Framework (OB20) states that cash flow information and information on how the economic resources of an entity have changed due to market prices and interest rates helps users to:

> 'understand a reporting entity's operations, evaluate its financing and investing activities, assess its liquidity or solvency and interpret other information about financial performance'.

This information is largely numeric in nature, and is the central feature presented in financial reports (Lennard, 2007: 54). However, financial reports also include explanatory materials about management's expectations and strategies for the entity,

otherwise known as management commentary. The management commentary can be numerical or narrative and may include (amongst others) environmental and social disclosures and other types of forward-looking information (Conceptual Framework: QC2).

Conceptual Framework (OB11) documents that the objective of the Conceptual Framework is to improve the usefulness of financial reporting. One way to improve usefulness is through the use of historical and prospective management commentary on the entity's statements of financial position, financial performance and cash flows. The December 2010 IFRS Practice Statement – Management Commentary A framework for presentation (IFRS Practice Statement) states that 'meaningful disclosure about the most important resources, risks and relationships that can affect an entity's value' should be presented in a manner that is consistent with the economic circumstances of the business. Further, management commentary is largely voluntary however where it is directed by regulatory requirements it will be affected by the legal circumstances of the entity (ifrs.org, 2010).

Steele (1991) found that financial reporting lacked a definition for fair presentation. Management commentary is largely voluntary and would therefore also lack a clear presentation definition. The lack of a presentation definition for financial reporting that is impacted by the circumstances of the business creates flexibility in the disclosures of performance measures and indicators.

This flexibility acts as an additional constraint to financial reporting and may result in financial information that is not comparable (Flanagan & Clarke, 2007: 493). However, requirements by monitoring bodies promote compliance and comparability (Brown & Tarca, 2007: 458 – 460).

In a means to improve comparability of financial reporting the IFRS Practice Statement suggests that an explanation of relevance be made where performance measures beyond the scope of IFRS are provided. Public exchange regulations and local requirements also promote compliance for comparability. Provided the guidance in the IFRS Practice

Statement does not contradict regulatory requirements or exchange regulations it can be used by entities to provide their disclosures (IFRS Practice Statement, 2010: paragraph BC15).

Entities in South Africa are required to comply with disclosure requirements of IFRS and Schedule 4 (Requirements for Financial Statements) of Companies Act No. 61 of 1973 of South Africa (as amended)[2]. Neither IFRS nor the Companies Act has specific disclosures relevant to the extractive activities industry therefore these regulations should create no additional burden for these entities. In addition, a South African public entity, with securities listed on the JSE, is required to comply with general and specific listing requirements (JSE, 2011). These regulations should be complied with prior to following guidance in the IFRS Practice Statement.

Listing requirements can be onerous, however, when applied correctly can enhance the comparability and usefulness of the financial reporting. In the extractive activities industry, IFRS 6 does not require the disclosure of reserve quantities whereas the JSE listing requirement 8.63(l) does. Disclosures required by the JSE listing requirements (where applicable) include the definitions, reserve quantities, estimation method, assumptions, reconciliation of the changes in the reserves, exploration costs and results as well as commodity details and geographical details. The above disclosures from the JSE listing requirements are included in the research instrument (disclosures 1 to 8) that will be used to conduct the quantitative study in this research. Reserve quantities are acknowledged by users to be the most important information about entities in the extractive activities industry. The additional JSE listing requirements included reserve quantities and therefore resulted in enhancing the usefulness of the financial reporting for entities in the extractive activities industry. This finding was confirmed by Bell in a study in 1983 where he found that there was significant abnormal but positive returns after reserves were disclosed for the first time in the United States of America (USA)

[2] The Companies Act No. 61 of 1973 is applicable for the financial years ending 31 December 2009 and 31 December 2010, the years analysed in this study. This legislation is now repealed and replaced with Companies Act No. 71 of 2008 which is effective from 1 May 2011.

because the Securities and Exchange Commission (SEC) required the disclosure (Bell, 1983: 13).

2.2 Financial reporting for the extractive activities industry

The extractive activities industries have been defined as the mining or oil and gas industries (Cortese, Irvine and Kaidonis, 2009: 28) that are involved with exploring for, discovering, developing and extracting deposits of minerals, oil and natural gases (Discussion Paper: 15). These industries exert significant economic influence worldwide with many of the major entities in the extractive activities industry being richer and more powerful than the countries that seek to regulate them (IASC, 2000: 5 and Global Policy Forum, 2006 cited in Cortese, Irvine and Kaidonis, 2009: 29).

The South African extractive activities industry which holds an abundance of mineral reserves (the largest natural reserves of gold, platinum-group metals, chrome ore and manganese ore), is the world's largest platinum producer and has high levels of technical and production expertise as well as comprehensive research and development activities. The extractive activities industry makes significant contributions to economic activity and job creation. The industry is, therefore, the cornerstone of the South African economy (South Africa.info: 2012).

The extractive activities industries is a vital contributor to the South African and international capital markets. The well-being of the industry is dependent on the trust of its investors and therefore it is important for the industry to communicate effectively and transparently the risks associated with its assets – mineral deposits (SAMREC Code, 2013). However, the accounting for assets and expenditures associated with these activities is not comprehensively addressed by IFRS (ifrs.org: 2011(b)). Cortese, Irvine and Kaidonis (2009: 27) state that the financial reporting requirements for the activities these industries undertake:

> 'has been a contested issue for decades as a result of a choice of different methods of costing available and the economic impacts of these methods on companies' financial results'.

This statement made by Cortese, Irvine and Kaidonis does indicate that the costing methods applied in the industry are not comprehensively addressed by IFRS. An IFRS typically includes criteria (among others) for measurement and disclosures. By analogy if costing methods are not comprehensively addressed by IFRS neither are disclosures.

2.2.1 Global financial reporting for the extractive activities industry

The previous section of the literature review indicates the objective of the Conceptual Framework (OB2 & QC4) is to provide useful information in financial statements and this is achieved when the information is relevant, faithfully represented, comparable, timely, understandable and verifiable. The global extractive activities industry has not adhered to this objective. Unfortunately, the industry has had several available methods to account for their activities, for example in the oil and gas sector the most common cost methods are the full cost and successful efforts methods (Sunder, 1976: 1). The recognition and measurement of costs under these alternative methods results in differences in reported assets and income, which indicates a lack of comparability in the financial information of different entities.

The lack of comparability is also confirmed when it is found that some entities do not disclose the accounting method used (Percival, 2012: 21). This information would be useful to users of financial reporting because previous research by Cortese, Irvine and Kaidonis (2009: 28) has indicated that the economic impact of the full cost method, which capitalises costs, increases reported income by up to 23% when compared to the income that would be reported if the successful efforts method was used. Differences such as this provide indication as to why users in the extractive activities industry do not rely on accounting figures as much as users in other industries (Misund, Osmundsen and Asche, 2005: 3). A description of the differences in these accounting methods is beyond the scope of this report however, differences in costing methods is highlighted because it indicates, by analogy, that there are differences in disclosures provided by these entities.

2.2.2 South African financial reporting for the extractive activities industry

Globally there are alternatives for the measurement of costs in the extractive activities industry. Over the years, the South African extractive activities industry has used different methods to account for their costs, which causes a lack of comparability in financial reporting. The SAICA guide 'Accounting and Reporting Practices in the Mining Industry', issued in 1995, allowed for two costing methods – the appropriation method and amortisation method (SAICA, 1995: 1). Luther (1996: 80 – 81) states that the appropriation method conflicts with the going concern concept – an underlying assumption of the remaining text of the Framework. The appropriation method did not allow for the application of the going concern concept and the entities were increasingly using the amortisation method (Macfarlane, 2002: 40).

As indicated in section 2.2.1, a description of the differences in these accounting methods is beyond the scope of this report. Miller (1990: 25) concluded that financial statements are useful if the information in them is relevant, reliable and comparable. The characteristics that Miller determined to be important were consistent with the qualitative characteristics of the Conceptual Framework at that time. Those qualitative characteristics were relevance, reliability, comparability and understandability. The flexibility in accounting choices in the extractive activities industry creates an environment where the information prepared and disclosed in financial statements may be relevant and faithfully represented but is not necessarily comparable across companies and countries (IASC, 2000: 5). Financial statements prepared and distributed by entities in the extractive activities industry may not be useful to a wide range of users because the objective of financial reporting and the qualitative characteristics of financial statements have been undermined.

The alternatives in accounting for costs in the extractive activities industry relate primarily to recognition and measurement of numerical information which is accumulated in the statements of financial position and comprehensive income (Lennard, 2007: 54). The users of extractive activities industry prefer to use information disclosed in relation to reserves quantities. Unfortunately, disclosure of reserves is not required in

terms of IFRS 6 and IFRS 6 does not constitute an accounting policy (Karapinar, Zaif and Torun, 2012: 45) thus creating an opportunity for alternatives and information that lacks comparability. Although the alternatives result in comparability issues, users of financial statements prepared by entities in the extractive activities industry rather rely on management commentary and regulatory filings as this provides more superior information than the historic recognition and measurement information included in the financial statements (Dharan, 1984: 199).

The accounting and reporting alternatives allowed for mining or oil and gas activities under the application of IFRS 6 caused continual divergence in the financial reporting of extractive activities which raised concerns that some accounting practices were not consistent with the objectives and qualitative characteristics of the Conceptual Framework. A project team of national standard-setters from various regions was formed with the objective to create a discussion paper that details a standardised approach to financial reporting for the extractive activities industry (Discussion Paper: P1 & 7).

2.3 Road to issuing the Discussion Paper

The debate surrounding the alternatives for accounting treatments in the extractive activities industry has been the subject of research since the 1960s but the need to have a standardised approach was recognised as early as 1905 (Curle, 1905: 29 cited in Luther, 1996: 67):

> 'I hope that the time is approaching when the system of standardisation will be extended to mining costs and mining accounts. At present the methods for each of these are legion, and seem designed to conceal rather than reveal the financial position; but there must be some method, in accounts especially, which is best of all'.

The extractive activities industry is high risk and has significant economic influence both globally and in South Africa and these entities have extended their influence in relation to previous projects to standardise financial reporting as indicated by the technical director of SAICA in 1993 (Luther, 1996: 84 & 86):

> ‘you will be able to conclude that the [powerful mining houses] want to account in the same misleading manner as they have been doing for 100 years and they will oppose any form of regulation’. [words in brackets added]

The project team formed in 2004 comprised national standard-setters from Australia, Canada, Norway and South Africa. Luther (1996: 86) wrote about an industry specific standard for the extractive industry and stated that the ‘unusual economic fundamentals’ of the industry would ‘provide a persuasive case’ if ‘there was a balance of political will in favour of regulating extractive industry accounting’. The composition of the 2004 project team – national standard-setters, members from industry, accounting firms, users and securities regulators – balanced the political will of powerful entities in favour of regulating accounting in the extractive activities industry. This balance was the correct combination to achieving Luther’s 1996 suggestion. The project of 2004, was not the first project in the extractive activities industry however, the Discussion Paper itself is the first step towards a possible IFRS for extractive activities which addresses the concerns of the application of IFRS 6 (Discussion Paper, 2010: P1).

The first movements to standardise the accounting in the extractive activities industry is noted as being between 1895 and 1915 (Vent and Milne, 1989 cited in Luther, 1996: 85). Smith and Brock (1959: 14 cited in Luther, 1996: 68) commented that accounting in the extractive activities industry presents severe problems and the accounts are not highly regarded both inside and outside the countries in which they operate as well as the industry. When accounting is problematic it would be expected that action is taken to correct the problem and there were notable studies by Field (1969), Lourens and Henderson (1972), Most (1974) and Wise and Wise (1988) (Luther, 1996: 67& 69). Field (1969: 138 cited in Luther, 1996: 70) noted that mineral reserves is an ‘off-balance sheet’ asset of importance to an investor and Wise and Wise (1988: 30 cited in Luther, 1996: 69) echoed this by indicating that progress towards more meaningful and useful information will come in the form of increased supplementary disclosure. Pratt (1990 cited in Luther, 1996: 68) noted that British users of financial statements of entities in the extractive activities industry view cash flow information, which is free of accounting policy distortions as more important, yet no requirements to increase the level of cash

flow disclosure had been required by IFRS. Accounting was problematic however no visible corrective action was taken. Since 1982 the disclosure of a standardised measure of discounted cash flows from proved reserves has been required in the USA (Luther, 1996: 70) because the SEC reasoned that this disclosure, although imprecise, was superior to the historic cost methods and more accurately reflected the risks borne by extractive activities entities (Bell, 1983: 14 and Dharan, 1984: 199). Although the discounted cash flow disclosure is required in the USA, it seems that oil and gas users treat this measure with caution as it is not perfect. It does however provide information that users find useful and that is not provided elsewhere (Bell, 1983: 14). In addition, mining users did not think that this disclosure would assist them in their analysis (IASB, 2008: 5).

The above path which has spanned over a century indicates that accounting in the extractive activities industry has been the subject of historical controversy (Cortese and Irvine, 2010: 12). In 1998, the IASC, added an extractive activities industry project to its agenda in order to address the 'disparity in accounting measurement and disclosure practices prevalent in the sector' (IASC, 2000 cited in Cortese and Irvine, 2010: 12). Nothing is known about how, by whom or why the project was initiated however, the IASC listed international prominence, economic influence and divergent practices as the contributing factors to the importance of this project, factors which are no different to those identified for the importance of this research (Cortese, Irvine and Kaidonis, 2007: 5 and IASC, 2000 cited in Cortese and Irvine, 2010: 12).

The project produced an Extractive Industries Issues paper in November 2000 and comments from constituents were required by June 2001, with 52 constituents responding. 78% – 87% of the comments received from the 52 constituents agreed with the proposals of the IASC thus creating a reasonable expectation that an IFRS requiring standardisation in the extractive activities industry would be issued (Cortese, Irvine and Kaidonis, 2007: 6 and Cortese and Irvine, 2010: 13). In April 2001, the IASC was restructured to form the IASB which took over the project and postponed consideration of the project in July 2001.

An international project team was formed in 2004 to undertake a comprehensive assessment of accounting for extractive activities (Discussion Paper, 2010: P6) however, in September 2005, the IASB decided against completing a comprehensive extractive activities industry standard for adoption in 2005. The IASB instead issued Exposure Draft 6 in January 2004, wanting comments by April 2004 and finally issued IFRS 6 in December 2004 for adoption in 2005 (Cortese, Irvine and Kaidonis, 2009: 21 and Cortese and Irvine, 2010: 12).

Six years elapsed between the IASC commencing an extractive activities industry project in 1998 and the IASB issuing IFRS 6 in 2004. Despite the length of time, the objective of a standardised approach was not achieved, as it was argued that the industry used considerable political might to persuade the IASB to postpone consideration of the sensitive subject, and IFRS 6 merely codified the established, disparate and largely unregulated practice in the industry (Van Riper, 1994: 219 cited in Cortese, Irvine and Kaidonis, 2009: 21).

The extractive activities industry is a crucial engine for many economies and 'inevitably faces unusual social and environmental accountability pressures' (Luther, 1996: 84). Users of financial statements would want to understand the entities view on these pressures and, therefore, require disclosure of these views. However, when disclosure principles are not listed in IFRS 6 these entities display an 'outstanding example of accounting flexibility' (Wise and Spear, 2000: 30 cited in Cortese, Irvine and Kaidonis, 2009: 28). In contrast, in the USA the SEC required that the oil industry disclose quantities of proved and developed reserves since 1982. It is important to note that this disclosure was not applicable to other extractive activities industries in the USA (Discussion Paper: paragraph B25 and Luther, 1996: 87).

The above contrast demonstrates a difference in disclosure requirements of the IASB and the Financial Accounting Standards Board (FASB). These differences are not uncommon and the two boards have been involved in a joint convergence project – the goal of which is to produce common, principle-based standards. The objective of the convergence project was to assist with the comparability of financial statements across various nations,

as countries adopt a single set of high-quality, understandable, enforceable and globally accepted financial reporting standards based upon clearly articulated principles (ifrs.org: 2011(a)). The convergence project is ongoing and is in its final stages however convergence between IFRS and the FASB standards has not been achieved.

The objective to create a standardised approach to financial reporting for the extractive activities industry is similar to the goals for the convergence project. The 2004 project team issued a discussion paper in March 2010. The extractive activities project is an IASB research topic and unfortunately there is no indication that the topic will be added to the agenda in the near future. When the topic is added to the agenda the IASB will, again, consult publicly. The previous project also used public comment and had a 6 year time lag yet, the objective of the project was not achieved. Similarly, the 2004 project team issued a discussion paper for comment in March 2010 and over 4 years has passed. The industry is important however it seems that history will repeat itself (Cortese, Irvine and Kaidonis, 2009: 19). Possible reason for the projects not achieving their objective is because the issuers have significant influence over the direction of the project as the costs of lobbying are probably lower than the costs of increasing disclosure. In addition, although some users want disclosure of the entities pressures so as to understand these views there are some users that believe the 'industry is almost at the boundaries of practical disclosure' (IASB, 2008: 7).

Nevertheless, the disclosure of reserve and resource quantities is important information for a user to determine the valuation of an entity in the extractive activities industry. This reserve reporting could be either numeric or narrative in nature but will still be considered useful if the information is prepared and disclosed with the qualitative characteristics in mind. Useful disclosure will include management commentary on past events as well as future actions the firm will take to increase reserve quantities (Aboody, 1996: 30). Disclosures are therefore the focus of this research report given that disclosures are the most important part of financial statements in the extractive activities industry.

The Discussion Paper (paragraph 5.18) proposes disclosures that will be an 'effective way to achieve internationally consistent reporting of information on minerals and oil and gas reserves'. The disclosures proposed are extensive but are regarded as the minimum disclosures that should be provided to enable users of the financial reports to make informed decisions about minerals and oil and gas entities engaged in extractive activities (Discussion Paper, paragraph 5.24).

There may have been reserves disclosures made voluntarily or in terms of regulatory requirements, however as these were not in terms of an IFRS there has been wide variation in the quantity and type of information disclosed, as well as how the information has been compiled and presented; this has resulted in disclosures that lack comparability and do not meet the objectives and qualitative characteristics of financial reporting (Discussion Paper, 2010: paragraph 5.18). In South Africa, listed entities involved in extractive activities have additional disclosures that are required in terms of section 8.63(l) of the JSE Listing Requirements, as included in Appendix B. Any additional disclosure attracts extra costs which are the constraint of the Conceptual Framework (2010: QC35).

Anglo American plc in its comment letter to the IASB, in response to the Discussion Paper proposals, notes that they are (Anglo American plc, 2010: 1):

> 'supportive of initiatives which seek to bolster the financial reporting process for extractive activities through the elimination of unwarranted divergence in practice and the improvement of disclosure requirements that meet the needs of users of the financial statements, subject to the cost benefit ... tests'.

This cost concern of Anglo American plc is shared by other entities in the extractive activities industry. If the disclosures required by the Discussion Paper 2010 are vastly different from those which the entities already prepare, whether voluntarily or in order to comply with securities regulations, there can be a significant impact on the costs of preparing financial reports.

2.4 Conclusion of literature review

The literature review reveals that annual report reserve disclosures by mining or oil and gas entities are more important to users than the recognition and measurements in the traditional financial statements. Mining or oil and gas activities also require comprehensive commentary so that the annual reports are able to somewhat meet the objectives and qualitative characteristics of financial reporting.

The literature review also indicated that there have been previous attempts to standardise financial reporting in the extractive activities industry. Despite these projects there is one area in which significant progress needs to be made (Luther, 1996: 87):

> 'disclosure of proved and probable physical reserves and a standardised discounted cash flow valuation of proved reserves'.

Although these disclosures have been required in the USA oil industry since 1982 they are not required for other extractive activities industries (Luther, 1996: 87). The Discussion Paper is a step to achieving internationally consistent disclosure of useful extractive activities information (Discussion Paper, 2010: paragraph 5.18) and is a positive outcome for the IASB members who had dissenting opinions with the accounting options within IFRS 6. These members were of the opinion that by allowing the variety of measurement bases, the IFRS failed to consider the Framework and provided possibilities for inappropriate recognition of exploration and evaluation assets (IFRS 6, 2005 paragraph DO2).

The literature review indicates that some entities may provide the recommended disclosures as a result of regulatory requirements or voluntary disclosures. However, the literature review does not indicate to what extent JSE listed entities already comply with the disclosure requirements proposed in the Discussion Paper.

The literature review further revealed that when extractive activities gets added to the agenda of the IASB, this Discussion Paper and responses received in the form of comment letters will form the basis for the IASB's initial deliberations on the extractive activities project. The IASB will also make a decision of whether to develop its own

discussion paper or to proceed directly to the Exposure Draft step of the standard-setting process. If the IASB decides to proceed directly to an Exposure Draft, the proposals of this Discussion Paper will form the foundation for a future IFRS. The proposed disclosure requirements of this Discussion Paper can therefore become mandatory for entities in the extractive activities industry to comply with IFRS. Entities listed on the JSE are supportive of the initiatives to improve financial reporting in the extractive activities industry – subject to the cost benefit test.

In conclusion, the literature review has revealed that the Discussion Paper could form the new IFRS for extractive activities. The Discussion Paper proposes extensive disclosures which would need to be prepared, potentially at additional cost to the preparers of the financial information. Users would also incur additional costs to analyse the disclosures however they do find the reserve disclosures the most useful information. The literature review reveals that it is appropriate to analyse the current disclosures made by entities within the extractive activities industry and assess the extent to which they comply with the proposed disclosures. The literature review also provides a framework for the development of the research instrument.

3 RESEARCH DATA AND METHODOLOGY

The literature review provided further background which indicates the significance of this study and it provides a framework to develop the research instrument to be used in this study. This chapter sets out the research data and methodology needed to achieve the objective of assessing whether the reserves and related disclosures currently prepared by entities in the mining or oil and gas industry are sufficient to satisfy and comply with the disclosure requirements proposed in the Discussion Paper. The purpose of research has the most influence on the use of methods for data collection and data analysis (Henning, van Rensburg and Smit, 2010: 1). This study will analyse the current disclosures made by entities within the extractive activities industry and assess the extent to which they comply with the proposed disclosures.

3.1 Research methodology

This research will follow a mixed methodology where a combination of quantitative and qualitative methods will be used in order to gather sufficient and appropriate data to achieve the objective of this research. A quantitative method involves looking at amounts of specific variables of interest through the use of a checklist (Leedy and Ormrod, 2010: 94 – 97 & 189). The quantitative study in this research report will make use of a disclosure checklist (the research instrument) to document the extent to which the current disclosures by entities listed on the JSE meet the disclosure requirements of the Discussion Paper. The disclosure checklist is developed from the disclosures included in Chapter 5 of the Discussion Paper. The disclosure checklist is created by the researcher. A qualitative method involves obtaining knowledge and understanding by analysing the characteristics of the results of the quantitative test to identify patterns in the sample selected and provide comparisons amongst the entities sampled (Henning, van Rensburg and Smit, 2010: 15 and Leedy and Ormrod, 2010: 94 – 97). The sample selected, includes entities on the JSE with either a single or a dual-listing. As an example, a pattern may be identified, during the qualitative study, when the extent of the

disclosures prepared by entities with a single listing is compared to the extent of the disclosures prepared by the entities with a dual-listing.

3.2 Research design

The research design will be in the form of a quantitative *interpretive study* and qualitative *content analysis* (Leedy and Ormrod, 2010: 136 & 182). An *interpretive study* is where the current characteristics of disclosures is identified and quantified or scored (Leedy and Ormrod, 2010: 182); and a *content analysis* is where a detailed analysis of the material is performed in order to identify patterns within the material (Leedy and Ormrod, 2010: 144) and provide comparisons of the results between years, categories and amongst entities sampled (Makiwane, 2012: 50).

The interpretive study is appropriate as the research will provide insight into the current reserves and related disclosures of entities and is not intended to determine a cause-and-effect relationship (Leedy and Ormrod, 2010: 136, 182 & 204). The content analysis is also suitable to this research study as the results of the quantitative study will be qualitatively analysed to identify any patterns (Leedy and Ormrod, 2010: 144). The interpretive study is performed over two years in order to allow comparative data to be used in the qualitative content analysis. This will allow for more patterns of meaning to be identified from the "raw data" collected in the quantitative study (Henning, van Rensburg and Smit, 2010: 102).

3.3 Population and sample

3.3.1 Population

The population is the mining or oil and gas entities with an active listing on the JSE. This population includes all the listed entities in the following sectors:

- Mining; and
- Oil & Gas Producers.

These entities are listed in Appendix C and are those listed on the JSE at 31 December 2010. There are 58 entities included in the above sectors, three of which had their listing suspended prior to 31 December 2010, thus leaving 55 entities in the population at 31 December 2010. When the population is large it is appropriate to select a sample (Leedy and Ormrod, 2010: 144).

3.3.2 Sample and sampling method

These 55 entities have an active single or dual-listing. A random sample could be selected however it is more appropriate for these entities to be sampled based on their market capitalisation in South African Rand as at 31 December 2010. Market capitalisation which determines the total value of an entity and its relative size against other entities (Investing, 2011) is used as the criterion for sampling in this research. This is because the larger mining or oil and gas entities commit significant human and capital resources to making their annual reports informative, communicative and compliant (Report Watch, 2010: 31). These entities already provide meaningful disclosures (The Extractive Activities Working Group, 2010: 17) and are therefore expected to be the leaders in disclosures for their annual reports and appropriate examples for the entities with smaller market capitalisation.

The sample will comprise 30 entities with the highest market capitalisation, at 31 December 2010, which represents 55% of the 55 entities with an active listing in the population. This sample represents 54% and 67% of the total number of entities in the mining or oil & gas sectors respectively. During the qualitative content analysis, the results of the interpretive study will be summarised, analysed and patterns identified. The sample provides 13 entities with a single listing and 17 entities with a dual-listing.

The annual reports used in the quantitative sample will be obtained through the use of the McGregor BFA database which includes the full set of published audited annual reports of the entities. If the audited annual reports for the entities are not available on McGregor BFA then the entity websites will be used to obtain the annual reports. Should neither McGregor BFA nor the entity website hold the annual reports then the entity will

be excluded from the sample. If this happens no additional entities will be added to the sample. All annual reports for the entities sampled were available except where two entities were not listed in 2009, in this instance only the reports for 2010 were analysed.

3.4 Research instrument

An interpretive design is being followed and therefore a checklist will be generated and used to document and evaluate the research. This checklist will list the proposed 'reserves definition framework' and reserves disclosures contained in the Discussion Paper – see Appendix D. Each set of annual reports will be reviewed and the researcher will determine whether the disclosure item is currently provided (Leedy and Ormrod, 2010: 189) which will provide an indication of current compliance with the extensive disclosures proposed in the Discussion Paper. The advantage of a standard checklist for the quantitative study is that each set of annual reports will be reviewed in the same manner thus ensuring objectivity, reliability and internal validity.

The results of the quantitative study will form the foundation for the qualitative content analysis. The disclosure checklists will be analysed in several categories which will include market capitalisation, disclosure item, sector (Mining or Oil & Gas Producers) on the JSE, single or dual–listing and by external auditor. If any patterns are identified these will be documented and interpreted.

3.5 Procedure for data collection

Annual reports were obtained from the McGregor BFA database or the entity website. Financial years of the entities in the sample do differ. For the purpose of comparability, only the annual reports for the financial years ending up to 31 December 2009 and 31 December 2010 will be examined. In other words if an entity has a financial year ending on 30 June 2010, the annual report for the year ended 30 June 2010 will be examined.

3.6 Data analysis and interpretation

The annual reports will be reviewed against the research instrument/disclosure checklist (Leedy and Ormrod, 2010: 189). Where a disclosure per the checklist is provided it will be marked as true and given a score of one; where a disclosure is not provided it will be marked as false and given a score of zero.

Thereafter, the data will be categorised and then evaluated and compared for the purposes of the content analysis and patterns (if any) identified (Leedy and Ormrod, 2010: 144). The data will be evaluated by mathematically summarising and examining the scores of zero and one by market capitalisation, per listing type, per sector (Mining or Oil & Gas Producers), per auditor and per disclosure on the checklist. This quantity and category evaluation will enable identification of patterns or trends per sector and further, these patterns will be compared across the sectors and years (Bell, 2005).

Qualitative data obtained from a small sample (such as the sample used in this study) can be converted into useful decision-making information through the use of nonparametric statistical tests (Hanke and Reitsch, 1994). Although, nonparametric tests are generally easy to use and understand (Hanke and Reitsch, 1994) for an academic audience, the results of this study need to remain relevant and understandable for a professional audience as indicated in the significance of the study. Therefore a statistical analysis of the data will not be undertaken during this study. The mathematical analysis is easier to deal with for the professional audience (Bell, 2005).

3.7 Validity and reliability

3.7.1 External validity

A research study is externally valid if the results can be applied to situations beyond the study itself or the conclusions can be generalised to other contexts (Leedy and Ormrod, 2010: 99). Due to the nature of extractive activities this study cannot be extended beyond these activities and South Africa. However, to the extent that the entity has a primary

listing that is not the JSE the results of this research could be used to assist in representing the facts of the region of that alternative primary listing.

3.7.2 Reliability

The reliability of a study is the 'extent to which the instrument yields consistent results' when the characteristics being measured remain the same (Leedy and Ormrod, 2010: 93). Reliability within this study, which assesses current disclosure practices, is assured through the use of a well-designed and standard accurate research instrument. The research instrument is developed based on the reserves disclosure requirements of Chapter 5 – Disclosure of the Discussion Paper. The proposed disclosures in the Discussion Paper are based on the findings of the user survey performed by the IASB's project team (Discussion Paper, 2010: paragraph 5.1). For ease of reference the user survey process, Appendix C of the Discussion Paper, is included in this research report as Appendix E.

The external validity can be enhanced by three common strategies, one of which is conducting research over a representative sample (Leedy and Ormrod, 2010: 99). The research instrument used in this study was tested through the use of a pilot study. The purpose of the pilot study was to ensure that the researcher was scoring the entities appropriately and fairly rather than wanting to interpret and extrapolate the results as done in Makiwane, 2012. During the pilot study, the scoring for a sample of entities for both years was completed by the researcher. The task of an independent review of the scoring was shared between a mining or oil and gas expert as well as a professional accountant. Following detailed conversations with both reviewers it was determined that the score provided by the researcher was appropriate and that the same methodology should be continued to score the remaining entities. Once all entities had been scored the results would be interpreted and analysed.

3.8 Limitations of the study

Due to the nature of the procedure to collect data the annual reports for the financial years ending up to 31 December 2009 and 2010 will be evaluated. The results of this study are

therefore only indicative of disclosures made by entities at the time the sample is selected. Therefore this study is limited to a point in time. Further, the research is reliant on the researcher scoring current disclosures consistently and the scoring method could be determined to be subjective however, the researcher will maintain every effort to remain objective in the scoring.

3.9 Conclusion of research data and methodology

This chapter set out that the researcher will follow a mixed methodology and use a well designed research instrument, as included in Appendix D, on a sample of entities, as included in Appendix C to conduct the research. Results are presented in Chapter 4 and analysed or discussed in Chapter 5.

4 PRESENTATION OF RESULTS

A mixed methodology is followed in this research report and this chapter will present the results of the quantitative interpretive study performed. The quantitative research was performed using the research instrument, included as Appendix D, was created by the researcher using the disclosures included in Chapter 5 of the Discussion Paper, as described in the previous chapter. The detailed results of the research are documented in Appendix F and Appendix G for the financial years ending in 2009 and 2010 respectively. This chapter will also provide a mathematical summary of the results for both years and against market capitalisation, per disclosure, by listing sector, whether the entity has a single or a dual-listing and by external auditor.

4.1 Total disclosure score for entities by market capitalisation

The entities were sampled based on their market capitalisation which is the total value of an entity and its relative size against other entities. The larger entities are expected to have higher disclosures because their annual reports are already informative and communicative (Report Watch, 2010: 31).

There are 30 entities in the sample selected from 2010. Two of these entities were not listed in 2009 and therefore did not report publicly in 2009. The sample in 2009 therefore contains 28 entities. The maximum score for each entity in both 2010 and 2009 can be 31 as there are 31 disclosures included on the checklist. A score of 31 for an entity would indicate that the entity already provides all the proposed disclosures as recommended by the Discussion Paper. Table 1 lists the entities in the order of their market capitalisation at 31 December 2010 together with their scores for their disclosures for the relevant financial years ending in 2010 and 2009. The two entities that were not listed in 2009 received a not applicable (N/A) result in order to prevent unfair distortion of the results. Table 2 provides comparative high, low and average scores for all the entities and the top 15 and bottom 15 entities by market capitalisation.

Table 1: Comparative total disclosure scores for entities by market capitalisation

Market Capitalisation Position in 2010	Entity	2010 Score	2009 Score
		maximum score = 31	
1	BHP BILLITON PLC	23	23
2	ANGLO AMERICAN PLC	18	18
3	SASOL LTD	22	22
4	ANGLO PLATINUM LTD	19	19
5	IMPALA PLATINUM HLGS LTD	19	19
6	ANGLOGOLD ASHANTI LTD	23	25
7	GOLD FIELDS LTD	22	22
8	EXXARO RESOURCES LTD	16	16
9	AFRICAN RAINBOW MINERALS	18	18
10	LONMIN PLC	18	20
11	HARMONY G M CO LTD	24	23
12	ASSORE LTD	15	14
13	URANIUM ONE INC	16	16
14	AQUARIUS PLATINUM LTD	21	21
15	NORTHAM PLATINUM LTD	15	15
16	ROYAL BAFOKENG PLATINUM	20	N/A
17	MVELAPHANDA RESOURCES LTD	10	11
18	GREAT BASIN GOLD LTD	18	18
19	EASTERN PLATINUM LTD	12	11
20	OPTIMUM COAL HLDGS LTD	11	N/A
21	COAL OF AFRICA LTD	13	13
22	PLATMIN LTD	15	14
23	MERAFE RESOURCES LTD	16	15
24	OANDO PLC	7	12
25	ANOORAQ RESOURCES CORP	15	15
26	GOLD ONE INTERNATIONAL LTD	15	14
27	WESIZWE PLATINUM LTD	14	12
28	WITWATERSRAND CONS GOLD	13	9
29	SENTULA MINING LTD	5	5
30	PETMIN LTD	12	11

Table 2: Comparative high, low and average scores for all the entities and the top 15 and bottom 15 entities by market capitalisation

Group		**2010**	**2009**
All entities	Highest Score	24.0	25.0
	Lowest Score	5.0	5.0
	Average Score	16.2	16.1
Top 15	Highest Score	24.0	25.0
	Lowest Score	15.0	14.0
	Average Score	19.3	19.4
Bottom 15 (13)	Highest Score	20.0	18.0
	Lowest Score	5.0	5.0
	Average Score	13.1	12.3

4.2 Total score for each disclosure

There were 30 entities sampled based on 2010 market capitalisations and of those 30 entities two of them were not listed in 2009. The proposed disclosures have been determined from the results of the project team's findings during the research they conducted (Discussion Paper, 2010: 7). The recommendations from this research included 31 disclosures.

These disclosures are included in the checklist used in the quantitative analysis – refer to Appendix D. The maximum score for each disclosure in 2010 and 2009 can be 30 and 28 respectively as this is the number of entities sampled in the study in those respective years. A score of 30 or 28 for a disclosure in 2010 and 2009 respectively would indicate that all the entities sampled already provide the relevant disclosure. If the entity already provides a disclosure this would indicate that no extra effort or cost would be incurred by the entity should that disclosure be required in a future IFRS. Table 3 lists the disclosures as included in the Discussion Paper and disclosure checklist together with their scores for the number of entities that provide the proposed disclosure for the relevant financial years ending in 2010 and 2009. Tables 4 and 5 provide additional analysis of these disclosures

based on 30 entities for 2010 and 28 entities for 2009. Table 4 indicates the highest, lowest and average total scores for all the disclosures and Table 5 indicates the percentage of entities that provide disclosure for the definitions and reserves as well as the percentage of entities that provide disclosure for the current and fair value measurement, revenue, costs and additional information. Table 5 is useful as it shows the percentage of entities already providing reserves disclosures deemed to be the most useful by the users of the financial statements.

Table 3: Comparative total scores for each disclosure

Disclosure Number	Disclosure	2010 Score	2009 Score
		maximum score = 30/28	
Proposed Disclosures (paragraph 5.24 of Discussion Paper)			
	Definitions		
1	CRIRSCO or PRMS	27	25
	Reserve Quantities		
2	Proved and Probable Reserves	24	21
3	Estimation Method	27	25
4	Price and other assumptions	20	20
5	Sensitivity analysis	7	5
6	Reserves reconciliation	12	9
7	Commodity detail	23	21
8	Project or Country detail	25	24
	Measurement – Current Value		
9	a) Range of fair values	2	2
10	b) Standardised Measure of proved and probable reserves	2	2
11	Preparation Basis	21	20
12	Main Assumptions	17	16
13	Current Value Reconciliation	2	3
14	Geographical detail	9	9
	Measurement – Fair Value		
15	Fair Value Estimate	1	1
16	Main Assumptions	11	11
17	Sensitivity analysis	1	1
18	Reserves reconciliation (value)	0	0

Disclosure Number	Disclosure	2010 Score	2009 Score
		maximum score = 30/28	
19	Other Fair Value Disclosures	1	0
20	Geographical detail	2	3
	Revenue		
21	Production Revenues by Commodity	25	23
	Costs		
22	Exploration Costs	28	26
23	Development Costs	28	25
24	Production Costs	26	22
25	Commodity detail	23	22
26	Project or Country detail	24	24
27	5 year time series	10	8
Additional Disclosures (paragraph 5.25 of Discussion Paper)			
28	Carrying amount of assets/properties in production	23	21
29	Other properties with reserves not in production	17	16
30	Exploration properties	28	26
31	Recoverability of exploration properties	21	20

Table 4: Comparative high, low and average total scores for all disclosures

		2010	2009
All disclosures	Highest Score	28.0	26.0
	Lowest Score	0.0	0.0
	Average Score	15.7	14.5

Table 5: Percentage of entities providing disclosures 1 to 8 versus disclosures 9 to 31

		2010	2009
		30 entities	**28 entities**
Disclosures 1 to 8 (definitions and reserves)	Total possible score	240	224
	Total actual score	165	150
	Total actual score as a percentage of total possible score	69%	67%
Disclosures 9 to 31 (measurement, revenue, costs and additional disclosures)	Total possible score	690	644
	Total actual score	321	301
	Total actual score as a percentage of total possible score	47%	47%

4.3 Total disclosure score for entities and their sector

The entities sampled were selected because they were included in the mining or oil and gas sectors on the JSE. The Discussion Paper scope includes the upstream activities of minerals, oil and natural gas because the main business activities, geological and other risks and uncertainties are very similar in mining or oil and gas. Further there is a high degree of comparability in the classification logic that reserve evaluators apply in determining quantities of their respective materials that are available for extraction (Discussion Paper, 2010: 17 & 32). As the activities, risks and reserve quantification techniques are similar, disclosures about a mining or oil and gas entities operations and reserves should be similar. These sectors make up the extractive activities industry.

Table 6 summarises the total scores for the entities sampled from the mining or oil and gas sectors for both 2010 and 2009. Table 7 provides a highest, lowest and average score analysis by sector and by (mineral).

Table 6: Comparative total scores for each entity sampled (grouped by sector and mineral)

Number	Sector and entity	2010 Score	2009 Score
		maximum score = 31	
	Mining		
	Coal		
1	EXXARO RESOURCES LTD	16	16
2	OPTIMUM COAL HLDGS LTD	11	N/A
	General Mining		
3	ANGLO AMERICAN PLC	18	18
4	AFRICAN RAINBOW MINERALS	18	18
5	ASSORE LTD	15	14
6	BHP BILLITON PLC	23	23
7	COAL OF AFRICA LTD	13	13
8	MERAFE RESOURCES LTD	16	15
9	MVELAPHANDA RESOURCES LTD	10	11
10	PETMIN LTD	12	11
11	SENTULA MINING LTD	5	5
12	URANIUM ONE INC	16	16
	Gold Mining		
13	ANGLOGOLD ASHANTI LTD	23	25
14	GREAT BASIN GOLD LTD	18	18
15	GOLD ONE INTERNATIONAL LTD	15	14
16	GOLD FIELDS LTD	22	22
17	HARMONY G M CO LTD	24	23
18	WITWATERSRAND CONS GOLD	13	9
	Platinum & Precious Metals		
19	ANGLO PLATINUM LTD	19	19
20	AQUARIUS PLATINUM LTD	21	21
21	ANOORAQ RESOURCES CORP	15	15
22	EASTERN PLATINUM LTD	12	11
23	IMPALA PLATINUM HLGS LTD	19	19
24	LONMIN PLC	18	20
25	NORTHAM PLATINUM LTD	15	15
26	PLATMIN LTD	15	14
27	ROYAL BAFOKENG PLATINUM	20	N/A
28	WESIZWE PLATINUM LTD	14	12

Number	Sector and entity	2010 Score	2009 Score
		maximum score = 31	
	Oil & Gas		
	Oil & Gas Producers		
	Integrated Oil & Gas		
29	OANDO PLC	7	12
30	SASOL LTD	22	22

Table 7: Comparative high, low and average scores for each sector (and mineral)

Sector		2010	2009
Mining	Highest Score	24.0	25.0
	Lowest Score	5.0	5.0
	Average Score	16.3	16.0
Coal	Highest Score	16.0	16.0
	Lowest Score	11.0	16.0
	Average Score	13.5	16.0
General Mining	Highest Score	23.0	23.0
	Lowest Score	5.0	5.0
	Average Score	14.6	14.4
Gold Mining	Highest Score	24.0	25.0
	Lowest Score	13.0	9.0
	Average Score	19.2	18.5
Platinum & Precious Metals	Highest Score	21.0	21.0
	Lowest Score	12.0	11.0
	Average Score	16.8	16.2
Oil & Gas Producers			
Integrated Oil & Gas	Highest Score	22.0	22.0
	Lowest Score	7.0	12.0
	Average Score	14.5	17.0

4.4 Scores for entities with a single listing

The entities sampled were selected because they are listed on the JSE in the mining or oil and gas sectors. Further, the sample was selected based on market capitalisation and not whether the entity had a single or dual-listing. The sample resulted in 13 entities with a single listing being selected. The remaining entities in the sample were dual-listed. All the entities selected are required to comply with the JSE listing requirements, examples of which are provided in Appendix B. Entities with a primary listing that are not the JSE will need to comply with the requirements of that primary listing in addition to those of the JSE. Compliance with those other primary listing requirements is beyond the scope of this paper.

Table 8 summarises the total scores for the entities with a single listing for both 2010 and 2009. Table 9 provides an analysis of the highest, lowest and average scores for the entities with a single listing.

Table 8: Comparative total scores for each entity with a single listing

JSE Only	Listed Entity	2010 Score	2009 Score
		maximum score = 31	
	Mining		
	Coal		
1	EXXARO RESOURCES LTD	16	16
2	OPTIMUM COAL HLDGS LTD	11	N/A
	General Mining		
3	ASSORE LTD	15	14
4	MERAFE RESOURCES LTD	16	15
5	MVELAPHANDA RESOURCES LTD	10	11
6	PETMIN LTD	12	11
7	SENTULA MINING LTD	5	5
	Gold Mining		
8	GOLD ONE INTERNATIONAL LTD	15	14
9	WITWATERSRAND CONS GOLD	13	9
	Platinum & Precious Metals		
10	NORTHAM PLATINUM LTD	15	15
11	PLATMIN LTD	15	14

JSE Only	Listed Entity	2010 Score	2009 Score
		maximum score = 31	
12	ROYAL BAFOKENG PLATINUM	20	N/A
13	WESIZWE PLATINUM LTD	14	12

Table 9: Comparative high, low and average scores for entities with a single listing

		2010	2009
JSE Listing Only	Highest Score	20.0	16.0
	Lowest Score	5.0	5.0
	Average Score	13.6	12.4

4.5 Scores for dual-listed entities

Section 4.4 provided the results for the 13 entities in the sample that had a single listing. The remaining 17 entities were dual-listed, however, this does not mean that they are only listed on two exchanges. These entities could have multiple listings and the more listings an entity has, the more disclosure requirements it may need to comply with (especially if the disclosure requirements of the alternative listings are more onerous than those of the JSE). Without mentioning the exact disclosure requirements of these other exchanges, as this is beyond the scope of this paper, it is expected that the more listings an entity has the higher their score will be.

Table 10 summarises the total scores for the entities with a dual-listing for both 2010 and 2009. Table 11 provides an analysis of the highest, lowest and average scores for the entities with a dual-listing. These tables are to be used together with Table 8 and Table 9 indicating the results for the entities with a single listing.

Further useful information is provided in Table 12 which indicates the entities with their primary and secondary listings. Table 13 then provides an analysis of the highest, lowest and average scores for the primary exchanges while Table 14 provides a similar analysis for the secondary exchanges. This analysis could indicate which exchange (other than the JSE) is requiring extensive reserves disclosures.

Table 10: Comparative total scores for each entity with a dual-listing

Dual-Listed	Listed Entity	2010 Score	2009 Score
		maximum score = 31	
	Mining		
	General Mining		
1	ANGLO AMERICAN PLC	18	18
2	AFRICAN RAINBOW MINERALS	18	18
3	BHP BILLITON PLC	23	23
4	COAL OF AFRICA LTD	13	13
5	URANIUM ONE INC	16	16
	Gold Mining		
6	ANGLOGOLD ASHANTI LTD	23	25
7	GREAT BASIN GOLD LTD	18	18
8	GOLD FIELDS LTD	22	22
9	HARMONY G M CO LTD	24	23
	Platinum & Precious Metals		
10	ANGLO PLATINUM LTD	19	19
11	AQUARIUS PLATINUM LTD	21	21
12	ANOORAQ RESOURCES CORP	15	15
13	EASTERN PLATINUM LTD	12	11
14	IMPALA PLATINUM HLGS LTD	19	19
15	LONMIN PLC	18	20
	Oil & Gas		
	Oil & Gas Producers		
	Integrated Oil & Gas		
16	OANDO PLC	7	12
17	SASOL LTD	22	22

Table 11: Comparative high, low and average scores for entities with a dual-listing

		2010	2009
Dual-Listed	Highest Score	24.0	25.0
	Lowest Score	7.0	11.0
	Average Score	18.1	18.5

Table 12: Dual-listed entities and their primary and secondary exchanges

Dual-Listed	Listed Entity	Primary Exchange	Alternative Exchange	2010 Score	2009 Score
				maximum score = 31	
1	COAL OF AFRICA LTD	Australian	JSE	13	13
2	AQUARIUS PLATINUM LTD	Australian	JSE, London	21	21
3	AFRICAN RAINBOW MINERALS	JSE	London	18	18
4	ANGLOGOLD ASHANTI LTD	JSE	Australian, Brussels, Paris, Ghana, London, New York	23	25
5	GOLD FIELDS LTD	JSE	Brussels, Paris, London, New York, Swiss Bourse	22	22
6	HARMONY G M CO LTD	JSE	Berlin, Brussels, Paris, London, New York	24	23
7	ANGLO PLATINUM LTD	JSE	London	19	19
8	ANOORAQ RESOURCES CORP	JSE	Toronto	15	15
9	IMPALA PLATINUM HLGS LTD	JSE	London	19	19
10	SASOL LTD	JSE	New York	22	22
11	ANGLO AMERICAN PLC	London	Botswana, JSE, Namibia, Nasdaq, Swiss Bourse	18	18
12	BHP BILLITON PLC	London	Australian, JSE	23	23
13	LONMIN PLC	London	JSE	18	20
14	OANDO PLC	Nigerian	JSE	7	12
15	URANIUM ONE INC	Toronto	JSE	16	16
16	GREAT BASIN GOLD LTD	Toronto	JSE	18	18
17	EASTERN PLATINUM LTD	Toronto	JSE	12	11

Table 13: Comparative high, low and average scores for entities and their primary exchanges

Primary Exchange		**2010**	**2009**
Australian	Highest Score	21.0	21.0
	Lowest Score	18.0	18.0
	Average Score	19.5	19.5
JSE	Highest Score	24.0	25.0
	Lowest Score	15.0	15.0
	Average Score	20.3	20.4
London	Highest Score	23.0	23.0
	Lowest Score	7.0	12.0
	Average Score	16.0	18.3
Nigerian	Highest Score	16.0	16.0
	Lowest Score	16.0	16.0
	Average Score	16.0	16.0
Toronto	Highest Score	18.0	18.0
	Lowest Score	12.0	11.0
	Average Score	15.0	14.5

Table 14: Comparative high, low and average scores for entities and their secondary exchanges

Secondary Exchange		**2010**	**2009**
One secondary exchange (11 entities)			
JSE	Highest Score	18.0	20.0
	Lowest Score	7.0	11.0
	Average Score	14.0	15.0
London	Highest Score	19.0	19.0
	Lowest Score	18.0	18.0
	Average Score	18.7	18.7
Toronto	Highest Score	15.0	15.0

Secondary Exchange		2010	2009
	Lowest Score	15.0	15.0
	Average Score	15.0	15.0
New York	Highest Score	22.0	22.0
	Lowest Score	22.0	22.0
	Average Score	22.0	22.0
Two secondary exchanges (two entities)			
JSE + Other	Highest Score	23.0	23.0
	Lowest Score	21.0	21.0
	Average Score	22.0	22.0
More than two secondary exchanges (four entities)			
American (SEC regulated)	Highest Score	24.0	25.0
	Lowest Score	18.0	18.0
	Average Score	21.8	22.0

4.6 Total disclosure score for entities and their external auditor

The entities were sampled based on their market capitalisation where the larger entities were expected to have higher disclosures. The pattern of the larger entities having (on average) higher scores for their disclosures was identified. It is interesting to note that in some instances the entities with the lower scores do have the same external auditor as the entities with the higher scores, which perhaps indicates (as in previous studies) that an external auditor has no impact on the level of disclosure.

External auditors provide their clients with disclosure checklists for their financial statements; therefore there could be a pattern where entities with a single or primary listing on the JSE and the same external auditor have the same or similar scores because they are working from the same disclosure checklist. This research can identify which audit firm's disclosure checklist results in the highest scores and this would be the checklist that can be used as a guide for other audit firms. This analysis is limited to the 13 entities with a single listing and the 8 entities with a primary listing on the JSE. This is because entities with other primary listings would be subject to different regulations

which would generally not be included in the South African auditors' disclosure checklist.

Table 15 summarises the scores by external auditor for both 2010 and 2009. As in the sections above, a score of 31 would indicate that the external auditors' checklist already requires all the proposed disclosures and the entities are providing the information. Table 16 provides an analysis of the highest, lowest and average scores for the external auditor and for information purposes. Table 17 provides the high, low and average market capitalisation in South African Rand for the external auditors' client portfolio as well as the highest, lowest and average market capitalisation position for those client portfolios.

Table 15: Comparative total disclosure scores for external auditors of entities with a single or primary listing on the JSE

External auditor	Entity	2010 Score	2009 Score
		maximum score = 31	
Deloitte	EXXARO RESOURCES LTD	16	16
Deloitte	ANGLO PLATINUM LTD	19	19
Ernst & Young	AFRICAN RAINBOW MINERALS	18	18
Ernst & Young	ASSORE LTD	15	14
Ernst & Young	ANGLOGOLD ASHANTI LTD	23	25
Ernst & Young	NORTHAM PLATINUM LTD	15	15
KPMG	OPTIMUM COAL HLDGS LTD	11	N/A
KPMG	MERAFE RESOURCES LTD	16	15
KPMG	PETMIN LTD	12	11
KPMG	SENTULA MINING LTD	5	5
KPMG	WITWATERSRAND CONS GOLD	13	9
KPMG	ANOORAQ RESOURCES CORP	15	15
KPMG	WESIZWE PLATINUM LTD	14	12
KPMG	SASOL LTD	22	22
PwC	MVELAPHANDA RESOURCES LTD	10	11
PwC	GOLD ONE INTERNATIONAL LTD	15	14
PwC	GOLD FIELDS LTD	22	22
PwC	HARMONY G M CO LTD	24	23
PwC	IMPALA PLATINUM HLGS LTD	19	19

External auditor	Entity	2010 Score	2009 Score
		maximum score = 31	
PwC	PLATMIN LTD	15	14
PwC	ROYAL BAFOKENG PLATINUM	20	N/A

Table 16: Comparative high, low and average scores for each external auditor of entities with a single or primary listing on the JSE

External auditor		2010	2009
Deloitte	Highest Score	19.0	19.0
	Lowest Score	16.0	16.0
	Average Score	17.5	17.5
Ernst & Young	Highest Score	23.0	25.0
	Lowest Score	15.0	14.0
	Average Score	17.8	18.0
KPMG	Highest Score	22.0	22.0
	Lowest Score	5.0	5.0
	Average Score	13.5	12.7
PwC	Highest Score	24.0	23.0
	Lowest Score	10.0	11.0
	Average Score	17.9	17.2

Table 17: 2010 External auditors, the high, low and average market capitalisations in South African Rand and market capitalisation positions of their clients with a single or primary listing on the JSE

External auditor		Market capitalisation (South African Rand)	Market capitalisation position
Deloitte	Highest	182 827 956 471.00	4.0
	Lowest	48 786 669 339.00	8.0
	Average	115 807 312 905.00	6.0
Ernst & Young	Highest	124 614 655 608.00	6.0
	Lowest	16 365 010 050.00	15.0

External auditor		Market capitalisation (South African Rand)	Market capitalisation position
	Average	53 022 660 618.00	10.5
KPMG	Highest	222 069 404 168.00	3.0
	Lowest	1 673 033 745.00	30.0
	Average	30 336 175 645.00	23.1
PwC	Highest	147 164 098 099.00	5.0
	Lowest	1 936 502 368.00	26.0
	Average	42 572 166 071.86	14.9

4.7 Results of research data and methodology

4.7.1 Research methodology and design

This research followed a mixed methodology where a combination of an interpretive study and a content analysis was used in order to gather sufficient and appropriate data to achieve the objective of the study. The quantitative study, which involved looking at amounts of specific variables of interest through the use of a checklist, was the dominant part of the research. The qualitative method was an effective method to mathematically summarise and analyse the results of the quantitative study.

4.7.2 Population and sample

The population selected was the mining or oil and gas entities with an active listing on the JSE. As the research related to the financial years ending up to 31 December 2009 and 31 December 2010 the population was selected based on the listing information at 31 December 2010.

At 31 December 2010 there were 58 entities in the mining or oil & gas sectors of which three entities had their listings suspended prior to 31 December 2010 and were therefore excluded from the population, thus leaving a population of 55 entities with active listings on the JSE. Since 31 December 2010 (JSE 2013(a) & JSE 2013(b)):

- Anooraq Resources Corporation (ARQ) changed its name to Atlatsa Resources Corporation (ATL);
- Gold One International Limited went from being listed only on the JSE to being listed on the Australian Stock Exchange as well and is now a dual-listed entity;
- Great Basin Gold Limited (a dual-listed entity) has had their listing suspended;
- Impala Platinum Holdings Limited no longer has an alternative listing on the London Stock Exchange and is now an entity with a single listing rather than a dual-listing;
- Mvelaphanda Resources Limited is no longer listed; and
- Platmin Limited is no longer listed.

Although Great Basin Gold Limited, Mvelaphanda Resources Limited and Platmin Limited would not be included in the sample, if it were selected at the time of writing, the results are still useful to answering the research question as entities that are not listed and want to comply with IFRS would still need to make the same disclosures. The researcher is not entitled to change the sample once it is selected and therefore no additional entities were chosen to be included in the sample.

Further, if the sample were to be selected at the time of writing the mix between dual-listed entities and entities with a single listing would remain the same as one entity, Impala Platinum Holdings Limited, is no longer a dual-listed entity however, another entity, Gold One International Limited, became a dual-listed entity.

4.7.3 Procedure for data collection

Annual reports, for the financial years ending up to 31 December 2010, were obtained from the McGregor BFA database or the entities websites. Annual reports, for the financial years ending up to 31 December 2009, were obtained from the entities websites. Other documents such as: Mineral Resources and Mineral Reserve Statements, Management Discussion and Analysis of Financial conditions and results of operations, and Regulatory filings were also obtained from the entities websites or the System for Electronic Document Analysis and Retrieval (SEDAR) for both financial years.

Platmin Limited changed their financial year end during 2009 and therefore reported on 28 February 2009 and 31 December 2009 – the 31 December 2009 report was included in the sample to ensure that comparability was maintained with the 31 December 2010 annual report.

4.7.4 Validity and reliability

Due to the nature of extractive activities this study cannot be extended beyond these activities and South Africa. However, to the extent that the entity has a dual-listing the results of this research could be used to represent the facts of the region of the alternative listing.

Reliability within this study is assured through the use of a standard accurate research instrument which is based on the disclosure requirements of Chapter 5 of the Discussion Paper. The reliability is also assured as the researcher performed the check of the annual reports and then compared the results of the two years as disclosures between the years are not expected to differ. Understanding this, the annual reports of the entities with initial differing scores were re-reviewed so as to obtain reasons why the scores differed.

Further, the research was reliant on the researcher scoring published disclosures consistently and the scoring method could be determined to be subjective however, the researcher maintained every effort to remain objective and consistent in the scoring. Objectivity was maintained by the researcher making comments, most of the time, as to where the disclosure was found. This assisted with the justification of the scoring. Consistent scoring was also maintained in that the researcher gave scores for disclosure of current value preparation basis and main assumptions when impairment methodology and assumptions were disclosed, this could be viewed as soft scoring, however, the researcher tried to do this consistently. Scores were not given where disclosure was included in the annual report for the prior year and it was not applicable in the current year.

In addition, a pilot study was reviewed in order to ensure that the scoring was consistent and justifiable. A mining or oil and gas expert independently reviewed the scoring of two

entities for both years and a professional accountant, Certified Public Accountant (Oklahoma), independently scored four entities for both years and discussed their results with the researcher. Both parties determined that the researchers' scoring was consistent with their scoring for the entities selected. To ensure an objective range of annual reports was selected for the pilot study, the market capitalisation was used as the basis for determination of the sample and then every fifth entity was included in the pilot. The entities selected are listed in Table 18.

Table 18: Pilot study entities and their market capitalisation position

Pilot study number	Entity	Market capitalisation position (out of 30)
1	IMPALA PLATINUM HLGS LTD	5
2	LONMIN PLC	10
3	NORTHAM PLATINUM LTD	15
4	OPTIMUM COAL HOLDINGS LTD	20
5	ANOORAQ RESOURCES CORP	25
6	PETMIN LTD	30

4.7.5 Limitations of the study

The results of this study are indicative of disclosures made by entities at the time the annual reports were published. This study is, therefore, limited to a point in time. The researcher acknowledges that disclosures made by the selected entities could have changed since the years sampled; however this limitation is mitigated by the fact that the extractive activities industry project has not been added to the agenda of the IASB at the time of writing. The findings of this research project therefore remain useful and relevant. The IASB has yet to decide to add this topic to its agenda.

Other information that is available was referred to if the annual report indicated that it was available and not otherwise. An example of this is the requirement for mining or oil and gas companies listed in Canada to complete the NI 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101) and NI 51-101 – Standards of Disclosure for oil and gas activities (NI 51-101) forms respectively (TMX Dual-Listing Guide, 2010: 10). These reports incorporate the standards adopted by the Canadian Institute of Mining, Metallurgy

and Petroleum and the Canadian Oil and Gas Evaluation Handbook, and have required disclosures of net present values using different discount rates as well as undiscounted future net revenue (Alberta Securities Commission, 2010: part 5). Entities that need to comply with the NI 43-101 or NI 51-101 could have higher scores than those identified in this study had the annual report referred to this extra information. It is worth noting that although these standards require the disclosure of undiscounted future net revenue, this does not represent fair market value (Alberta Securities Commission, 2010: part 5.6).

Another limitation of this study is due to the method chosen to score the results. A score of one was given if the disclosure was provided and zero was given if the disclosure was either not applicable or not provided. Therefore, the method used for scoring penalised entities that had omitted disclosures that were either not applicable or not material.

5 DISCUSSION OF RESULTS

A mixed methodology has both a quantitative and qualitative component. Chapter 4 presented the results of the qualitative study. This chapter will provide the qualitative analysis and comparison on the quantitative results to determine how current disclosures compare to the disclosure requirements in the Discussion Paper. The purpose of this chapter is to evaluate, discuss and explain the results of the study presented in Chapter 4. This analysis is performed in order to identify possible areas of non-compliance with the Discussion Paper and the possible effects thereof. Further a qualitative content analysis, with reference to the results of the quantitative analysis, will be performed and comparisons made or patterns identified.

5.1 Total disclosure score for entities by market capitalisation

Table 1 lists the entities in the order of their market capitalisation at 31 December 2010 together with their scores for their disclosures for the relevant financial years ending in 2010 and 2009. The maximum score for each entity in each year could be 31. Table 2 groups the entities into the top 15 and bottom 15 entities by market capitalisation and provides the highest, lowest and average scores for those groups.

This study tries to identify if, in the South African environment, the level of current disclosure is dependent on the size of the extractive activities industry entity. If there was such a pattern the scores in Table 1 would decrease as the entities position in market capitalisation decreased. Similar to the findings of Adere (2011) there is no pattern evident for disclosures based on the size of the entity. However as indicated in Table 2, the average score for the top 15 entities was 19.3 and 19.4 for 2010 and 2009 respectively whereas the average score for the bottom 15 entities was 13.1 and 12.3 for 2010 and 2009 respectively. This indicates that on average the larger entities did provide more of the proposed disclosures than the smaller entities. The researcher did not try to identify patterns based on the composition of those disclosures.

There are only 13 entities in the bottom 15 group in 2009 because two entities were not listed during 2009 and they were given a N/A score so as not to distort the results. The highest scores for the top 15 entities were 24.0 and 25.0 for 2010 and 2009 respectively. The highest score for the bottom 15 entities in 2010 was 20.0 and for the bottom 13 entities in 2009 was 18.0. The lowest scores for the top 15 entities were 15.0 and 14.0 for 2010 and 2009 respectively. The lowest score for the bottom 15 entities in 2010 was 5.0 and for the bottom 13 entities in 2009 was also 5.0. The difference between the average scores for the top 15 and bottom 15 (13) entities was 6.2 and 7.1 for 2010 and 2009 respectively. This scoring for the different groups confirms that the larger entities are on average providing more meaningful disclosures and can be considered examples for the smaller entities.

5.2 Total score for each disclosure

Table 3 lists the 31 disclosures as included in the Discussion Paper and disclosure checklist together with their scores for the number of entities that provide the recommended disclosure for the relevant financial years ending in 2010 and 2009. There were 30 and 28 entities in 2010 and 2009 therefore the maximum score for each disclosure in 2010 and 2009 could be 30 and 28 respectively.

This study tries to identify if listed extractive activities entities in South Africa already provide information on the specific disclosure proposed. This would indicate that preparers of financial statements are aware of what their users perceive to be useful economic information even though it may not have been required by an IFRS. The higher the score associated with a disclosure the larger the number of entities providing the disclosure.

Table 4 indicates the average score for the disclosures in 2010 and 2009 was 15.7 and 14.5 respectively with no entity providing all the disclosures. With the maximum possible score being 30 and 28 in 2010 and 2009 respectively, the average scores indicate that the entities sampled are providing just more than half of the proposed disclosures in both years.

With reference to Table 3 the higher scores were in the definitions, reserve quantities, revenue, costs and additional disclosures; the lower scores were in the measurement disclosures for both current value and fair value; and the scores for current value measurement were slightly higher than the scores for fair value measurement which confirms the findings of Bell; Dharan; and Misund, Osmundsen and Asche that indicates users think measuring these assets in either method would provide only limited relevant information.

The Discussion Paper indicates that the reserve quantities are viewed by users as the most important information for an extractive activities industry entity, thus it is appropriate to focus on the reserve related disclosures as provided in Table 5. The results of the research indicate that only 69% and 67% of the entities sampled in 2010 and 2009 respectively are providing the reserves information that the users find the most meaning in. The above findings do not consider that some entities may not have reserves to report yet and would in fact have disclosed them had they had any. Nevertheless, should the IFRS require all the proposed disclosures the entities will need to increase their investment in the preparation of their annual financial reports. The costs of preparation will increase however, the users will benefit from these additional disclosures.

5.3 Total disclosure score for entities and their sector

Table 6 summarises the total disclosure scores for the entities sampled from the mining or oil and gas sectors for both 2010 and 2009 with a maximum score being 31 in each year ending up to 31 December 2010 and 31 December 2009. Table 7 provides an analysis of these total scores by summarising them by sector and by mineral.

The mining or oil and gas entities are similar in nature, hence the collective name of the extractive activities industry. The results of this study also confirm that within the South African environment the disclosures provided by mining or oil and gas entities are similar with the highest scores being 24.0 and 25.0 for mining and 22.0 and 22.0 for oil and gas in 2010 and 2009 respectively. It is interesting to note that the mining sector had 28 (of 52) entities sampled whereas the oil and gas sector had two (of three) entities sampled in

2010. Table 7 indicates that the gold mining entities produced the highest scores for the mining sector and there were six gold mining entities included in the sample.

In 2009 the average score for oil and gas entities was 17.0 whereas the average score for mining was 16.0 and in 2010 the average scores were 14.5 and 16.3 for oil and gas and mining respectively. The sample of oil and gas entities is smaller in number, as indicated in Appendix C, which can impact the average scores. The higher scores in the oil and gas sector could be due to the fact that one of the two entities sampled, Sasol Limited, could have borrowed from the rules prescribed by the SEC for the USA oil industry where the disclosure of proved and probable physical reserves and a standardised discounted cash flow valuation for the proved reserves has been required since 1982. Further discussion on the listing locations of the entities is made in the next two sections of this research report.

5.4 Scores for entities with a single listing

Table 8 presents the total scores for the entities with a single listing for both 2010 and 2009. Table 9 provides an analysis of the highest, lowest and average scores for the entities with a single listing which can be used together with Table 11 which is a similar analysis for entities with a dual-listing. The maximum scores would be 31 in both years.

Two entities, Optimum Coal Holdings Limited and Royal Bafokeng Platinum, were not listed in 2009 but were included in the top 30 market capitalisation in 2010. These entities were given a score of N/A in 2009 so that a score of nil would not impact the comparability of the findings.

The scores of some entities increased and some remained the same, however, there was one entity where the disclosure score decreased by one point. The reasons for the increases in disclosure were not consistent across the entities. Reasons for increases in disclosure included improved accounting policies which provided more information on the current values; alternative segment reporting which provided ore information as against activity information and additional reporting which allowed the production costs to be calculated. The additional information provided by Assore Limited, Merafe

Resources Limited, Petmin Limited and Platmin Limited related to measurement rather than reserves (refer to Appendix F and Appendix G).

There were two entities, Gold One International Limited and Witwatersrand Consolidated Gold Limited that increased the disclosure of their reserves information. The financial year end of these entities is December and February respectively therefore the Discussion Paper cannot be said to have persuaded the disclosures prepared by Witwatersrand Consolidated Gold Limited. Although the score of Wesizwe Platinum Limited increased, they disclosed less reserve information than in the prior year however increased the disclosure of both current value and fair value measurement information. Therefore the increase in Wesizwe Platinum Limited's score from 12 to 14 was not due to providing more information that the users of the financial statements would find useful.

The scores of Exxaro Resources Limited, Sentula Mining Limited and Northam Platinum Limited remained the same. Sentula reduced the disclosure over assets already in production but provided new information on properties with reserves. Exxaro Resources Limited and Northam Platinum Limited however did not make any changes to their disclosures.

Mvelaphanda Resources Limited's score decreased in 2010. The current value reconciliation was not provided in the 2010 year although it was provided in 2009. This was because in the 2009 year there was an impairment of an acquired asset and a reconciliation from the acquisition fair value to the current book value was provided. This disclosure was included in the 2010 annual report however no mark was awarded as there was no impairment during 2010 and no marks were given for comparative disclosures.

The results above indicate the scores for the entities that are only listed on the JSE. The next section compares these results with the results of the dual-listed entities that have a primary listing on the JSE.

5.5 Scores for dual-listed entities

Table 10 summarises the total scores for the entities with a dual-listing for both 2010 and 2009. Table 11 provides an analysis of the highest, lowest and average scores for the dual-listed entities which can be used with Table 6 and Table 7 which provide a similar analysis for entities with a single listing. The maximum scores would be 31 in both years.

There were no dual-listed entities that had scores of nil in 2009 and 2010. Further as seen in Table 8 there are some entities where the disclosure scores increased and some remained the same. The scores of Harmony Gold Mining Company Limited and Eastern Platinum Limited increased because of providing a reserves sensitivity analysis and details of exploration properties respectively.

The score for Great Basin Gold Limited remained the same however additional reserves information was provided and less current value information was provided. Great Basin Gold Limited provided a reconciliation of reserves but did not provide a range of fair values in 2010. All other entities where the score remained the same did not alter their disclosures at all. These entities included: Anglo American Plc, African Rainbow Minerals Limited, BHP Billiton Plc, Coal of Africa Limited, Uranium One Inc, Gold Fields Limited, Anglo Platinum Limited, Aquarius Platinum Limited, Anooraq Resources Corporation, Impala Platinum Holdings Limited and Sasol Limited.

In Table 10 it is evident that there were three entities, AngloGold Ashanti Limited, Lonmin Plc and Oando Plc, where the disclosure score decreased. The reasons for the decrease were not consistent across the entities. Reasons for the decrease in disclosure included: no reserve disclosure provided; segment note disclosure changing and no longer providing geographic details; and finally, because scores are not provided in 2010 for information that only relates to 2009 (refer to Appendix F and Appendix G).

Table 8 and Table 10 provide an analysis of the scores for entities with a single listing and entities with a dual-listing. The entities with more than one listing are likely to have higher disclosure scores because they are likely to have to comply with more listing

requirements. The results do indicate that the dual-listed entities in the extractive activities industry, irrespective of size, have better disclosure. The average scores for 2010 and 2009 were 13.6 and 12.4 respectively for entities with a single listing whereas the average scores for 2010 and 2009 were 18.1 and 18.5 respectively for entities with a dual-listing.

Table 9 and Table 13 provide an analysis of the scores for entities with a single listing and entities with a dual-listing but with a primary listing on the JSE. The highest scores for entities with a single listing on the JSE were 20.0 and 16.0 in 2010 and 2009 respectively yet the highest scores for dual-listed entities with a primary listing on the JSE were 24.0 and 25.0 in 2010 and 2009 respectively. The lowest score for a single listed entity was 5.0 in both 2010 and 2009 and for a dual-listed entity with a primary listing on the JSE the lowest score was 15.0 in both years. The average scores for dual-listed entities with a primary listing on the JSE (2010 – 20.3 and 2009 – 20.4) are higher than their fellow companies with only a single listing (2010 – 13.6 and 2009 – 12.4). This statement is true for both years because the maximum and minimum scores were greater for the entities with a primary listing on the JSE than those with a single listing. The South African reporting requirements for both the entities with a single listing and a primary listing on the JSE are identical. Therefore it appears that the entities with more than one listing, irrespective of size, are persuaded by other reporting requirements which results in enhanced disclosures for the users of their financial statements.

Table 13 provides information on the scores for the entities with common primary exchanges, while Table 14 provides scores for the entities based on common secondary exchanges. Table 14 splits out entities with two listings and entities with more than two listings. The entities that have more than two listings also have a common factor – all these entities have a listing in the USA and are therefore regulated by the SEC.

Table 13 indicates that entities with a primary listing on the JSE have the better disclosures as the scores are higher than the other entities that have different primary exchanges. Table 13 indicated that the results for the Nigerian and Toronto Stock

Exchanges were the weakest. The average scores of the dual-listed entities with a primary listing on the JSE are 20.3 and 20.4 for 2010 and 2009 respectively (refer to Table 13) whereas the average scores for all the dual-listed entities are 18.1 and 18.5 for 2010 and 2009 respectively (refer to Table 11).

When the scores of the entities are grouped by the number of alternative listings they have, it is evident that the more listings an entity has the higher the scores. The location of the alternative listing provides interesting results as well, the highest scores are for the American group of companies – AngloGold Ashanti Limited, Gold Fields Limited, Harmony Gold Mining Company Limited and Anglo American Plc. These entities have an alternative listing on a USA exchange, either the Nasdaq or the New York Stock Exchange – refer to Table 12 and Table 14 and are therefore regulated by the SEC.

The results of the USA Exchanges are probably higher because the listing requirements are more onerous. This indicates that if the information is required to be disclosed it is possible for the entities to provide the information. In this situation the disclosure is required so that the listing requirements are met.

The effect of regulatory requirements was excluded from the scope of this paper however the results of this section indicate that the entities with multiple listings are providing more of the proposed disclosures than the entities with only one listing. These disclosures are in the financial statements or in the management commentary accompanying the financial statements. The results of this section infer that the more an entity is required to do, the more they can disclose. The results of this section indicate that the IASB could issue an Exposure Draft without spending further time on research and consultation with investors and issuers because if issuers are required to provide a disclosure it will likely be disclosed.

5.6 Total disclosure score for entities and their external auditor

Table 15 summarises the scores by external auditor for entities with a single or primary listing on the JSE for both 2010 and 2009. The maximum score for an entity and their external auditor in both 2010 and 2009 can be 31 which would indicate that the external

auditors' disclosure checklist includes all the proposed disclosures and the entity provided all the disclosures. There are 21 entities with a single listing or primary listing on the JSE in the sample and four auditors. From the findings discussed above, it is evident that no entities achieved 100% score and therefore no auditor would achieve the maximum score either.

Table 16 provides an analysis of the highest, lowest and average scores for the external auditor and for information purposes Table 17 provides the highest, lowest and average market capitalisation in South African Rand for the external auditors' clients with a single or primary listing on the JSE as well as the respective average market capitalisation positions for those clients.

Scores for some of the entities changed over the two years analysed and the reasons for changes in disclosure are discussed in section 5.4 and 5.5 above. Over the two years analysed none of the entities had a change in external auditors and therefore increases in scores would not have been caused by a change in external auditor. A change in the disclosures could have been either because the audit firm included extra disclosures in its disclosure checklist or because the preparers of the financial statements were trying to disclose additional information that would provide further useful information to the users.

There is limited possibility that the audit firm checklist includes all the disclosures proposed in the Discussion Paper and that the entities included in the sample decided not to disclose that information because it was either not applicable or a valid reason for non-disclosure was provided to the auditors. Analysis of the external audit firm disclosure checklists is beyond the scope of this study and the inability to score for non-applicable disclosures is acknowledged to be a limitation of this study.

In the South African environment, entities with the same external auditor should have the same or similar scores because they are working from the same disclosure checklist. This assumption is similar to the 1999 findings of Mirza where he found that entities with a quality auditor will have more reserves disclosures. The 21 entities with a primary listing on the JSE are included in the South African environment. All these entities have

Deloitte, Ernst & Young, KPMG or PwC as their auditor. The other nine entities are not included in the South African environment as they would be required to comply with additional local regulations. The highest average score for the external auditors in the South African environment was achieved by PwC with 17.9 in 2010 and by Ernst & Young with 18.0 in 2009 whereas the lowest average score for these 21 entities was achieved by KPMG with 13.5 and 12.7 in 2010 and 2009 respectively.

The largest disparity between the highest score and the lowest score was for KPMG in both 2010 and 2009 at 17.0 points. It was expected that entities in the same environment have similar scores when they have the same auditor. However the results indicate that the auditors' clients have a range of high and low scores for their disclosures. Adere (2011) indicated that common external auditors did not impact the accounting policy choices of their clients and by analogy this study confirms that a common external auditor has no effect on the disclosure results. These findings contrast the findings of Mirza (1999).

The results of KPMG are pulled down because they have more clients with lower market capitalisations than the other audit firms as indicated in Table 17 where the average market capitalisation for KPMG clients is approximately R30 billion whereas the average market capitalisation for PwC and Ernst & Young clients is R42 billion and R53 billion respectively. The results confirm the findings documented in Table 1 and Table 2 where the average scores for the top and bottom 15 entities are calculated. This finding is that the larger entities are on average providing better disclosure than their smaller counterparts.

The results summarised by external auditor confirms that the entities with a higher market capitalisation are achieving higher disclosure scores. This holds true as the larger entities are able to invest more into their financial reporting and are therefore leaders in disclosure in their annual reports. The proposed disclosures are an important issue for the larger entities however it is more important for the smaller entities as the smaller entities need to disclose a lot more to meet the proposed disclosure requirements.

5.7 Summary of results

A mixed research methodology was undertaken to determine whether current disclosures by mining or oil and gas entities would be sufficient to comply with proposed disclosures included in the Discussion Paper. The results of the quantitative analysis are included in Appendix F and Appendix G and the summary of these results is provided in Chapter 4. The qualitative study is performed in Chapter 5 where the quantitative results are analysed to determine if the current disclosures by entities in the extractive activities industry are comparable to the Discussion Paper's proposed disclosures.

The results of the sample selected provide information about the entire population. The disclosure scores are listed in Table 3. Table 4 provides the average of these scores for the 28 entities in 2009 and 30 entities in 2010 at 14.5 and 15.7 respectively. The entities provide more than half the proposed disclosures however none of the entities achieved 100% compliance. The researcher went on to determine which entities would have the higher scores and be the best examples for other entities.

The researcher analysed the scores by market capitalisation, sector, listing and external auditor in order to identify any patterns. The larger entities did on average provide more disclosure than the smaller entities. This finding is indicated in Table 2 where the scores for the top 15 and bottom 15 entities grouped by market capitalisation were determined.

The mining or oil and gas entities are expected to be similar because of their similar nature. The scores in Table 7 indicate that the gold mining companies are providing the better disclosures even though the literature review indicated that oil and gas entities might have had the upper hand on disclosures because of the reserves disclosure requirements of the SEC.

Upon analysing the scores based on whether an entity had a single listing or a dual-listing it is evident from the average disclosure scores included in Table 8 and Table 10 that dual-listed entities provided more of the proposed disclosures than the entities with a single listing. The results included in Table 13 also indicate that dual-listed entities with

a primary listing on the JSE on average provide more disclosures than the dual-listed entities.

Although the dual-listed entities with a primary listing on the JSE provide on average more disclosures than dual-listed entities, Table 14 indicates that entities with a listing on an exchange located in the USA provide on average more disclosures. This indicates that the scores are higher for entities that have multiple listings.

The results grouped by auditor were analysed for only those entities with a single or primary listing on the JSE. The results in Table 17, which provide the 2010 market capitalisation in South African Rand, confirm that the larger entities are providing more of the proposed disclosures. This is confirmed by the fact that the average disclosure scores for PwC in 2010 are the highest and their South African based clients have the second highest market capitalisation. This also indicates that the larger the entity the higher their scores for the proposed disclosures. Although the entities did not provide all the disclosures, the results in Table 5 do indicate that the disclosures of definitions, reserve quantities, revenue, costs and additional disclosures are provided more often than the measurement of the assets whether for the current value method or the fair value method.

Overall, the findings indicate that issuers will need to work to comply with the proposed disclosures as none of them achieved 100% results. However, the findings indicate that a larger gold mining entity that has an alternative listing on an exchange in the USA have the best scores. AngloGold Ashanti Limited provide more of the disclosures than any of the other entities included in the sample and therefore would be the example for the other entities in the population. The entities audited by PwC in 2010 and Ernst & Young in 2009 provide more disclosures than the entities with other auditors. Therefore this would indicate that the financial statements of Harmony Gold Mining Company Limited and AngloGold Ashanti Limited for 2010 and 2009 respectively should be the example for the remaining entities in the sample and the population. AngloGold Ashanti Limited provided more disclosures; rather than looking at the scores for auditors in isolation, the

total results indicate that Ernst & Young is the better auditor, or has the most detailed disclosure checklist.

6 CONCLUSIONS AND RECOMMENDATIONS

The mixed methodology provided a good way to conduct this research. This chapter will conclude on the research objective, answer the research question and provide some recommendations for further research. A summary of the research report will also be provided.

6.1 Conclusion of the study

Mining is one of South Africa's primary industries and the sector accounts for roughly one-third of the market capitalisation of the JSE, and continues to act as a magnet for foreign investment in the country. With the growth in South Africa's secondary and tertiary industries, the relative contribution of mining to South Africa's gross domestic product (GDP) has declined over the past 10 to 20 years. Nonetheless, mining in South Africa remains a cornerstone of the economy, making a significant contribution to economic activity, job creation and foreign exchange earnings (South Africa.info, 2012). Globally, the entities in the extractive industry are often richer and more powerful than the countries that seek to regulate them (Global Policy Forum, 2006 cited in Cortese, Irvine and Kaidonis, 2009: 29). As a result of the size and power of the entities in the industry they have been able to ensure that the IASB allows them to continue their existing practices and as a result there is a lack of comprehensive IFRS literature for the extractive activities industry (Luther, 1996: 84 & 86).

Barth (2008) indicated that the Conceptual Framework is the foundation on which financial reporting standards are built. The financial reporting standards together aim to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors so that they are able to make economic decisions about providing financial resources to the entity. The Conceptual Framework describes that the usefulness of the financial information is enhanced if it considers one or more of the qualitative characteristics.

Disclosures included in financial reporting in the extractive activities industry have been inadequate and conceal rather than reveal information to users (Cortese, Irvine and Kaidonis, 2009: 28). This resulted in the disclosure of information that is relevant and reliable but not comparable across entities and countries as indicated in the previous research conducted by Deloitte Touche Tohmatsu 2003, PricewaterhouseCoopers 2007, KPMG 2008, KPMG 2009, KPMG 2012 and Percival 2012. The users of financial reports in this industry regard information on reserves quantities as the most important information. The reserves quantities are found to be more relevant than both the measurement of assets in the statement of financial position and the numerical information provided in the statement of comprehensive income. Information that is provided in the financial reports has an associated cost to providing the disclosure and this cost is an inherent constraint in the Conceptual Framework. Entities in the extractive activities industry are prepared to provide useful information, provided that there are benefits to the additional costs incurred.

The Discussion Paper includes proposed disclosures which were determined through the research of the project team which was put together by the IASB in an attempt to address the age old debate surrounding accounting and disclosure alternatives in the extractive activities industry. Report Watch (2010: 31) found that the larger mining or oil and gas entities commit significant human and capital resources to making their annual reports informative and communicative and can therefore be considered to be leaders in financial reporting. It is therefore appropriate for this study to determine if entities in the extractive activities industry already provide the proposed disclosures included in the Discussion Paper.

This study therefore filled a gap in research in the extractive activities industry. There has been no previous research addressing whether disclosures currently made by entities in the South African mining or oil and gas industry are sufficient to meet the proposed disclosure requirements of the Discussion Paper. In order to achieve the objective of the study – how do current disclosures compare with the Discussion Paper's proposed disclosures – a mixed research methodology is followed. The quantitative analysis which

is performed through the use of a disclosure checklist dominated the study. This analysis involved identifying whether the selected entities provide the disclosures or not. Thereafter a qualitative analysis is performed in order to compare and analyse the results of the quantitative study so as to obtain knowledge, understanding and identify any patterns. The results are summarised and categorised by proposed disclosure, against market capitalisation, by sector, by external auditor and whether the entity has a single or a dual-listing.

None of the entities disclosed all the proposed disclosures. However, the entities did disclose the reserve related information more often than the measurement information. The mixed methodology used in this study allowed the researcher to determine which entities have the better reports. The results indicate that a larger gold mining entity with an alternative listing on an exchange in the USA should be the examples for the other entities. The results determined that the annual reports of Harmony Gold Mining Company Limited and AngloGold Ashanti Limited provide more of the proposed disclosures than any other entity. The results of the research are also analysed by auditor and this reveals that entities audited by PwC and Ernst & Young have the highest scores. The above findings indicate that in 2010 and 2009 the most disclosures are provided by Harmony Gold Mining Company Limited and AngloGold Ashanti Limited respectively. Both these entities are gold mining companies with an alternative listing on the New York Stock Exchange. They are audited by PwC and Ernst & Young respectively and those were the quality auditors who had the highest results. The average scores for the auditors over both years indicate that Ernst & Young is the stronger auditor or has the most detailed disclosure checklist.

This research indicates to preparers of financial reports for South African entities in the extractive activities industry and to the IASB, that current disclosures are not sufficient to comply with the Discussion Paper's proposed disclosures. Although the IASB has paused the extractive activities project (ifrs.org, 2013), perhaps this research indicates the need to escalate the topic to the active agenda in order to set a reporting standard.

6.2 Recommendations

The study indicates in Appendix F and Appendix G that the entities would need to improve disclosure across all the categories should the proposals of the Discussion Paper form a financial reporting standard. Understanding that providing extra disclosures will entail additional effort it is recommended that the preparers look into collecting the necessary information so that they are able to provide the proposed disclosures.

The IASC published a paper on the extractive activities industry and 52 comment letters were received – however the project was never added to the agenda of the IASB. The IASB could not change the *status quo* with the issuance of IFRS 6. Due to the economic strength of the extractive activities industry the constituents are able to achieve their desired outcome – continue with their existing standards.

The Discussion Paper received 139 comment letters and in 2013 the IASB paused this project (ifrs.org, 2014). It is likely that the constituents will still have significant influence over the direction of the project because the costs of lobbying are likely to be lower than the costs of increasing disclosure and history will repeat itself in the extractive activities industry. The findings of this study should urge the accounting regulators to formulate an industry specific accounting standard. The study also indicates that the users find the most value in the disclosure of reserve information. Therefore the IASB and FASB should consider issuing a financial reporting standard with minimum compulsory disclosures. The IASB and FASB could issue these minimum disclosures without further public consultation.

6.3 Suggestions for further research

This study has several constraints and limitations – however these provide opportunity for future researchers to improve upon and add to this research. The sample size could be increased to obtain a better representation of the population. Nonparametric statistical analysis can be performed over the same or larger sample to provide interesting results for an academic audience. The Discussion Paper topic – Publish What You Pay

Proposals – was excluded from the scope of this research however it would be interesting to determine the level of disclosures for these payments for the same or different sample. Further, more recent sets of annual reports for these entities could be analysed taking into account that entities with a single or primary listing on the JSE would apply integrated reporting from 1 March 2010 (Institute of Directors Southern Africa, 2009: 17)

The results of the study provide findings for the South African environment and the above recommendations are also focused on the South African environments. IFRS is used globally and because the global extractive activities industry is powerful this research can be conducted with the top 30 (or more) global entities in the extractive activities industry. The sample could be drawn based on market capitalisation determined in United States dollars.

Further, the IASB and FASB convergence project, where the goal has been to try to produce common principle-based standards, is drawing to a close therefore a study could be undertaken to compare the disclosures of entities reporting under IFRS and the disclosures of entities reporting under the US Generally Accepted Accounting Principles.

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  a) Australasian Code for Reporting of Mineral Resources and Ore Reserves;
  b) Canada - CIM Definition Standards on Mineral Resources and Mineral Reserves;
  c) Chile - Certification Code for Exploration Prospects, Mineral Resources and Ore Reserves;
  d) Pan-European Code for Reporting of Exploration Results, Mineral Resources and Reserves;
  e) Peru - the Code for Reporting of Mineral Resources and Ore Reserves;
  f) Philippine Mineral Reporting Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves;
  g) South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves; and
  h) United States - A Guide for Reporting Exploration Information, Mineral Resources, and Mineral Reserves;

- Petroleum Resource Management System (PRMS) - reporting code for oil and gas reserves which was developed by the SPE Oil and Gas Reserves Committee (Discussion Paper, 2010: paragraph B1 & B14);

- Prospecting - 'researching and analysing historical geological data and carrying out topographical, geological and geophysical studies' (Discussion Paper, 2010: Appendix A);

Definitions of terms Appendix A

- Exploration - detailed examination of a geographical area of interest that has, during prospecting, shown sufficient mineral-producing potential to merit further exploration (Discussion Paper, 2010: Appendix A);

- Evaluation - determination of the 'technical feasibility and commercial viability of mineral deposits that have been found through exploration' (Discussion Paper, 2010: Appendix A);

- Development - establishment of access to the mineral reserve, identified during evaluation, and other preparations for economic/commercial production (Discussion Paper, 2010: paragraph 2.30 & Appendix A);

- Production - 'extraction of the natural resources for the earth and the related processes necessary to make the produced resource marketable or transportable' (Discussion Paper, 2010: Appendix A);

- Mine plan - An indication that the extraction of the minerals would be technically achievable and economically viable (Discussion Paper, 2010: paragraph B9);

- Competent person - individual who is suitably qualified and experienced to prepare the estimates of mineral resources and reserves and who is subject to an enforceable professional code of ethics and conduct (Discussion Paper, 2010: paragraph B13);

- Resources - a concentration or occurrence of mineral or oil and gas (material) of economic interest in or on the crust of the

earth which has been determined from geographical evidence, sampling and knowledge and is in such a form, quality and quantity that there are reasonable prospects for the *eventual* economic extraction of this material;

a realistic inventory of materials that are contingent on future feasibility studies and might, in whole or part, become economically extractable under assumed and justifiable technical and economic conditions (Discussion Paper, 2010: paragraph 2.40, B5, B6 & B21);

- Feasibility study - assessments to develop a mine plan and which enable a resource to be classified as a reserve; these assessments include the consideration and modification of the following realistic factors: mining; metallurgical; economic; marketing; legal; environmental; social; and government (Discussion Paper, 2010: paragraph B8 & B9);

- Reserves - quantities of minerals or oil and gas (materials) that are discovered, available for extraction, recoverable with available technology and are economically justifiable (Discussion Paper, 2010: paragraph 2.29);

- Proved and Probable Reserves - the remaining recoverable quantities of minerals or oil and gas that have not been classified as reserves due to the varying degrees of confidence for recoverability (*high* level for proved and *reasonable* level for probable); these reserves are disclosed either as an incremental amount or a cumulative amount (2P) (Discussion Paper, 2010:

paragraph 2.36);

- 2P - the sum of proved and probable oil and gas reserves (Discussion Paper, 2010: paragraph B19);

- Inferred Resources/ Possible Reserves - resources that are included in the inventory of resources but are less likely to be recovered than probable reserves and for which information regarding the resource can be estimated with a *low* level of geographical confidence (Discussion Paper, 2010: paragraph 2.43, B7 & B19);

- Exploration Results - data and information generated by the early phases of exploration programmes that may be of use to investors but do not satisfy the definitions of resources and reserves (Discussion Paper, 2010: paragraph B12);

- Dual-listing - a primary or secondary listing on the JSE in addition to a listing on another exchange (JSE 2014: xix);

- Single listing - the listing of a security on only one exchange, being the JSE;

- Market capitalisation - cost to purchase all the shares that an entity has in issue at 31 December 2010 (Investing, 2011); and

- Mining or oil and gas activities or industry - mineral, oil and natural gas extractive activities as defined in the scope of Discussion Paper (Discussion Paper, 2010: 8).

8.63(l)	Disclosure **(annual report)** Mineral entity – 8.63(l)(iii) for mining companies and 8.63(l)(iii) and (iv) also required for exploration companies	8.63(l)(i)(1) Mineral Resources and Mineral Reserves Scope 8.63(l) applies to Mineral Companies. The JSE could require non-mineral companies with substantial mineral assets (as defined in section 12) to comply with these requirements. 8.63(l)(i)(2) Mineral Companies (which for purposes of this listings requirement, includes subsidiaries, joint ventures, associates and investments), are required to disclose the details contained in 8.63(l) on an attributable beneficial interest basis (ie beneficial "see through" basis). 8.63(l)(i)(3) Mineral Companies may report on an aggregated attributable beneficial interest basis ("total basis") where the required disclosure details in 8.63(l) have been previously disclosed and published by separately listed Mineral Companies in compliance with this listing requirement. If disclosure is made on a total basis, then the attributable beneficial interest percentage must also be clearly stated. 8.63(l)(i)(4) Mineral Companies' disclosure in accordance with 8.63(l) must be compliant with the SAMREC Code and parts of Table 1 and Section 12. The applicable relevant SAMREC Code Table 1 (checklist and guidelines of reporting and assessment criteria) paragraphs are referred to throughout this requirement as follows: [refer to Tx, xA, B or C]. Where the disclosure is not in accordance with a Section 12 or Table 1 paragraph, or incorporates a number of such paragraphs, it will be referred to as follows [stand alone]. 8.63(l)(i)(5) Mineral Companies must disclose the full name, address, professional qualifications and relevant experience (including the name and address of the body recognised by SAMREC of which the Competent Person is a member) of the Lead Competent Person authorising publication of the information disclosed in terms of 8.63(l) [refer to T 11.]. 8.63(l)(i)(6) Mineral Companies must include a statement that they have written confirmation from the Lead Competent Person that the information disclosed in terms of 8.63(l) is compliant with the SAMREC Code and where applicable, the relevant Section 12 and Table 1 requirements , and that it may be published in the form and context in which it was intended [stand alone]. 8.63(l)(ii)(1)(aa) Disclosure compliance Where individual operations, projects or exploration

		activities are material to: Mining Companies, then 8.63(l)(iii) must be complied with in full (if any sub paragraph or paragraphs is/are not applicable, an appropriate statement(s) must be made); or 8.63(l)(ii)(1)(bb) Exploration Companies, then 8.63(l)(iii) and 8.63(l)(iv) must be complied with in full (if any sub paragraph or paragraphs is/are not applicable, an appropriate statement or statements must be made). 8.63(l)(ii)(2) Where individual operations, projects or exploration activities are not material to Mineral Companies, then only 8.63(l)(iii)(6) and 8.63(l)(iii)(8) require compliance disclosure. 8.64(l)(iii)(1) Mining Companies annual disclosure requirements Mining Companies must disclose the following information, where applicable, for the financial year/period under review as part of their annual reports: a brief description of any exploration activities, exploration expenditures, exploration results and feasibility studies undertaken; [stand alone but refer to T4 and T5 for guidance.]; 8.64(l)(iii)(2) a brief description of the geological setting and geological model; [refer to T 4.1]; 8.64(l)(iii)(3) a brief description of the type of mining and mining activities, including a brief history of the workings or operations [refer to T 1.3]; 8.64(l)(iii)(4) production figures, including a comparison with the previous financial year/period [stand alone]; 8.64(l)(iii)(5) a statement that the company has the legal entitlement to the minerals being reported upon [refer to T 1.7 and T 5.1] together with any known impediments [stand alone]; 8.64(l)(iii)(6) the estimated Mineral Resources and Mineral Reserves ("Mineral Resource and Reserve Statement") [refer to T 8]; 8.64(l)(iii)(7) description of the methods and the key assumptions and parameters by which the Mineral Resources and Mineral Reserves [refer to T 7] were calculated and classified; 8.64(l)(iii)(8) a comparison of the Mineral Reserve and Mineral Resource estimates with the previous financial year/period's estimates together with explanations of material differences [stand alone]; 8.64(l)(iii)(9) whether or not the Inferred Mineral Resource category has been included in feasibility studies,

		and if so the impact of such inclusion [refer to T 8(C)]; 8.64(l)(iii)(10) any material risk factors that could impact on the Mineral Resource and Reserve Statement [refer to T 6 and T 9]; 8.64(l)(iii)(11) a statement by the directors on any legal proceedings or other material conditions that may impact on the company's ability to continue mining or exploration activities, or an appropriate negative statement [refer to T 1.7]; 8.64(l)(iii)(12) appropriate locality maps and plans [refer to T 1.5]; and 8.64(l)(iii)(13) a summary of environmental management and funding [refer to T 5.2]. 8.64(l)(iv)(1) Exploration Companies – annual disclosure requirements. In addition to the disclosure requirements in 8.63(l)(iii), Exploration Companies must disclose the following information as a part of their annual report, where applicable: summary information of previous exploration work done by other parties on the property [refer to T 1.3]; 8.64(l)(iv)(2) summary information on the data density and distribution [refer to T 4.1(A)(iii)]; 8.64(l)(iv)(3)(aa) exploration results not incorporated in the Mineral Resource and Reserve Statement including the following, where applicable, or a qualified negative statement: the relationship between mineralisation true widths and intercept lengths [refer to T 3.2(A)(iii)]; 8.64(l)(iv)(3)(bb) data and grade compositing methods and the basis for mineral equivalent calculations [stand alone but refer to T 4.2(B)(i)and T 5.7(B)(iv)]; 8.64(l)(iv)(3)(cc) for poly-metallic mineralisation or multi-commodity projects, separate identification of the individual components[stand alone]; 8.64(l)(iv)(3)(dd) the representivity of reported results [refer to T 8(A)(i)]; 8.64(l)(iv)(3)(ee) other substantive exploration data and results [refer to T 2.3(A)(ii)]; 8.64(l)(iv)(3)(ff) comment on future exploration work stand alone but refer to Section 12.9 (h)(ii) and (iii)]; 8.64(l)(iv)(3)(gg) the basic tonnage/volume, grade/quality and economic parameters for the exploration target [refer to SAMREC Code paragraph 19 and 20)]; and 8.64(l)(iv)(3(h) sample and assay laboratory quality

		assurance and quality control procedures [refer to T 3.4];
12.9(h)(ii)	Mining company disclosure **(annual report)**	project Outline;
12.9(h)(iii)	Mining company disclosure **(annual report)**	location map indicating area of interest;

Johannesburg Stock Exchange (JSE) Share Tables								
	Company	Short name	Code	Market Capitalisation (Market Cap) South African Rand	Dual Listing	Suspended	Market Cap Position	Top 30 Sampled
Mining								
Coal								29%
1	EXXARO RESOURCES LTD	EXXARO	EXX	48,786,669,339.00			8	✔
2	HWANGE COLLIERY LD ORD	HWANGE	HWA	430,669,296.00	✔		42	✘
3	KEATON ENERGY HLDGS LTD	KEATON	KEH	661,746,135.00			36	✘
4	OPTIMUM COAL HLDGS LTD	OPTIMUM	OPT	7,264,031,466.00			20	✔
5	RESOURCE GENERATION LTD	RESGEN	RSG	-			57	✘
6	SOUTH AFRICAN COAL MIN	SACMH	SAH	185,506,223.00			49	✘
7	WESCOAL HOLDINGS LTD	WESCOAL	WSL	200,161,633.00			48	✘
Diamonds & Gemstones								0%
8	BRC DIAMONDCORE LTD	BRC	BCD	-	✔		56	✘
9	ROCKWELL DIAMONDS INCOR	ROCKWELL	RDI	126,485,227.00	✔		50	✘
10	TAWANA RESOURCES NL	TAWANA	TAW	105,939,846.00	✔		52	✘
11	THABEX LTD	THABEX	TBX	8,395,410.00		✔	55	✘
12	TRANS HEX GROUP LTD	TRNSHEX	TSX	254,523,060.00	✔		44	✘
General Mining								63%
13	ANGLO AMERICAN PLC	ANGLO	AGL	460,624,921,057.00	✔		2	✔
14	AFRICAN RAINBOW MINERALS	ARM	ARI	44,722,461,674.00	✔		9	✔
15	ASSORE LTD	ASSORE	ASR	26,388,515,140.00			12	✔
16	BHP BILLITON PLC	BHPBILL	BIL	590,439,424,962.00	✔		1	✔
17	COAL OF AFRICA LTD	COAL	CZA	5,082,330,471.00	✔		22	✔
18	FIRESTONE ENERGY LTD	FIRESTONE	FSE	495,873,097.00			41	✘
19	INFRASORS HOLDINGS LTD	INFRASORS	IRA	109,457,443.00			51	✘
20	MIRANDA MINERAL HLDGS LD	MIRANDA	MMH	204,847,608.00			47	✘
21	MERAFE RESOURCES LTD	MERAFE	MRF	4,111,249,031.00			24	✔
22	MVELAPHANDA RESOURCES LD	MVELA RES	MVL	10,889,697,427.00			17	✔
23	PETMIN LTD	PETMIN	PET	1,673,033,745.00			30	✔
24	SALLIES LTD	SALLIES	SAL	94,192,241.00			53	✘
25	SEPHAKU HLDGS LTD	SEPHAKU	SEP	514,157,694.00			40	✘
26	SENTULA MINING LTD	SENTULA	SNU	1,701,021,624.00			29	✔
27	URANIUM ONE INC	URONE	UUU	24,727,288,934.00	✔		13	✔
28	WHITE WATER RESOURCES LT	WHTWATER	WWR	-			58	✘
Gold Mining								46%
29	ANGLOGOLD ASHANTI LTD	ANGGOLD	ANG	124,614,655,608.00	✔		6	✔
30	CENTRAL RAND GOLD LTD	CENRAND	CRD	250,006,142.00	✔		45	✘
31	DRDGOLD LTD	DRDGOLD	DRD	1,308,606,888.00	✔		32	✘
32	GREAT BASIN GOLD LTD	GB GOLD	GBG	8,155,827,266.00	✔		18	✔
33	GOLD ONE INTERNATIONAL L	GOLDONE	GDO	1,936,502,368.00			26	✔
34	GOLD FIELDS LTD	GFIELDS	GFI	86,914,375,106.00	✔		7	✔
35	HARMONY G M CO LTD	HARMONY	HAR	35,649,049,294.00	✔		11	✔
36	JCI LTD	JCI	JCD	604,881,474.00		✔	37	✘
37	PAN AFRICAN RESOURCE PLC	PAN-AF	PAN	1,641,646,410.00	✔		31	✘
38	PAMODZI GOLD LTD	PZGOLD	PZG	46,772,337.00		✔	54	✘
39	RANDGOLD AND EXP CO	RANGOLD	RNG	538,654,521.00	✔		39	✘
40	SIMMER AND JACK MINES	SIMMERS	SIM	1,191,120,764.00			33	✘
41	WITWATERSRAND CONS GOLD	WITS GOLD	WGR	1,897,309,477.00			28	✔
Platinum & Precious Metals								71%
42	ANGLO PLATINUM LTD	ANGLOPLAT	AMS	182,827,956,471.00	✔		4	✔
43	AQUARIUS PLATINUM LTD	AQUARIUS	AQP	17,226,238,819.00	✔		14	✔

Johannesburg Stock Exchange (JSE) Share Tables								
	Company	Short name	Code	Market Capitalisation (Market Cap) South African Rand	Dual Listing	Suspended	Market Cap Position	Top 30 Sampled
44	ANOORAQ RESOURCES CORPOR	ANOORAQ	ARQ	2,058,293,414.00	✔		25	✔
45	BAUBA PLATINUM LTD	BAUBA	BAU	217,223,011.00			46	✘
46	EASTERN PLATINUM LIMITED	EASTPLATS	EPS	8,035,783,259.00	✔		19	✔
47	IMPALA PLATINUM HLGS LD	IMPLATS	IMP	147,164,098,099.00	✔		5	✔
48	JUBILEE PLATINUM PLC	JUBILEE	JBL	854,265,186.00	✔		35	✘
49	LONMIN P L C	LONMIN	LON	41,267,658,780.00	✔		10	✔
50	NORTHAM PLATINUM LTD	NORTHAM	NHM	16,365,010,050.00			15	✔
51	PLATFIELDS LTD	PLATFIELD	PLL	355,318,652.00			43	✘
52	PLATMIN LTD	PLATMIN	PLN	4,498,084,608.00			23	✔
53	ROYAL BAFOKENG PLATINUM	RBPLAT	RBP	10,953,355,601.00			16	✔
54	VILLAGE MAIN REEF G M CO	VILLAGE	VIL	602,495,703.00			38	✘
55	WESIZWE PLATINUM LTD	WESIZWE	WEZ	1,915,062,235.00			27	✔
Oil & Gas								
Oil & Gas Producers								
Integrated Oil & Gas								67%
56	OANDO PLC	OANDO	OAO	5,883,050,082.00	✔		24	✔
57	SACOIL HOLDINGS LD	SACOIL	SCL	934,861,378.00			42	✘
58	SASOL LTD	SASOL	SOL	222,069,404,168.00	✔		3	✔

Number of JSE Listed entities	**58**	Entities per sector exluding suspended listing	**55**
Entities with Dual Listing	**27**	Mining	**52**
Entities with Single Listing	**28**	Oil & Gas	**3**
Entities with Suspended Listing	**3**		

Entities sampled and percentage of population	30	52%	Entities sampled and percentage of population	30	55%
Number of Entities with Dual Listing	17	63%	Mining	28	54%
Number of Entities with Single Listing	13	46%	Oil & Gas	2	67%
Number of Entities with Suspended Listing	0	0%			

Note:

Details of Other Listing obtained from: http://www.jse.co.za/How-To-List-A-Company/Main-Board/Dual-listed-companies.aspx (viewed 28 December 2010 and confirmed on 23 May 2011).

Disclosure Checklist for the purposes of quantitative descriptive observation design

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										A. Current Value						B. Fair Value														
		CRIRSCO or PRMS	Proved and Probable Reserves	Estimation Method	Price and other assumptions	Sensitivity analysis	Reserves reconciliation	Commodity detail	Project or Country detail	Range of fair values	Standardised Measure of proved and probable reserves	Preparation Basis	Main Assumptions	Current Value Reconciliation	Geographical detail	Fair Value Estimate	Main Assumptions	Sensitivity analysis	Reserves reconciliation	Other Fair Value Disclosures	Geographical detail	Production Revenues by Commodity	Exploration Costs	Development Costs	Production Costs	Commodity detail	Project or Country detail	5 year time series	Carrying amount of assets/properties in production	Other properties with reserves not in production	Exploration properties	Recoverability of exploration properties
Mining																														
Coal																														
1	EXXARO RESOURCES LTD																													
2	HWANGE COLLIERY LD ORD																													
3	KEATON ENERGY HLDGS LTD																													
4	OPTIMUM COAL HLDGS LTD																													
5	RESOURCE GENERATION LTD																													
6	SOUTH AFRICAN COAL MIN																													
7	WESCOAL HOLDINGS LTD																													
Diamonds & Gemstones																														
8	BRC DIAMONDCORE LTD																													
9	ROCKWELL DIAMONDS INCOR																													
10	TAWANA RESOURCES NL																													
11	THABEX LTD																													
12	TRANS HEX GROUP LTD																													
General Mining																														
13	ANGLO AMERICAN PLC																													
14	AFRICAN RAINBOW MINERALS																													
15	ASSORE LTD																													
16	BHP BILLITON PLC																													
17	COAL OF AFRICA LTD																													
18	FIRESTONE ENERGY LTD																													
19	INFRASORS HOLDINGS LTD																													
20	MIRANDA MINERAL HLDGS LD																													
21	MERAFE RESOURCES LTD																													
22	MVELAPHANDA RESOURCES LD																													
23	PETMIN LTD																													

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	24	SALLIES LTD																												
	25	SEPHAKU HLDGS LTD																												
	26	SENTULA MINING LTD																												
	27	URANIUM ONE INC																												
	28	WHITE WATER RESOURCE LT																												
Gold Mining																														
	29	ANGLOGOLD ASHANTI LTD																												
	30	CENTRAL RAND GOLD LTD																												
	31	DRDGOLD LTD																												
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Platinum & Precious Metals																														
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	44	ANOORAQ RESOURCES CORPOR																												
	45	BAUBA PLATINUM LTD																												
	46	EASTERN PLATINUM LIMITED																												
	47	IMPALA PLATINUM HLGS LD																												
	48	JUBILEE PLATINUM PLC																												

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	52 PLATMIN LTD																													
	53 ROYAL BAFOKENG PLATINUM																													
	54 VILLAGE MAIN REEF G M CO																													
	55 WESIZWE PLATINUM LTD																													
Oil & Gas																														
Oil & Gas Producers																														
	Integrated Oil & Gas																													
	56 OANDO PLC																													
	57 SACOIL HOLDINGS LD																													
	58 SASOL LTD																													

Discussion Paper Appendix C
User survey process Appendix E

Purpose of the user survey

C1 The survey was conducted to seek input from financial reporting users on:

(a) how historical cost information on reserves and resources currently included in financial statements is used by users;

(b) how current value information on minerals and oil and gas reserves and resources included in financial statements might be used by users;

(c) attributes that should be included in a current value measurement of a minerals or oil and gas deposit for financial reporting purposes so that it would be useful to users;

(d) information that should be disclosed in financial statements to provide support for a current value measurement; and

(e) usefulness of a current value measurement relative to existing historical cost measurement models.

Number of responses

C2 A total of 34 users were surveyed over the period from late February 2007 to early May 2007. All surveys were conducted either as face-to-face interviews or as telephone interviews.

User profile

C3 The following types of users were interviewed:

(a) users who cannot command tailored financial reporting information—specifically:

(i) buy-side analysts/fund managers: six interviews;

(ii) sell-side analysts: 21 interviews; and

(b) users who can command tailored financial reporting information but usually begin their analysis with publicly available information—specifically:

(i) venture capital: two interviews;

(ii) lenders: three interviews; and

(iii) debt-ratings agencies: two interviews.

C4 The user survey interviewees were drawn from Australia, Canada, South Africa, the United Kingdom and the United States. The responses from the users surveyed therefore provide insights to the usefulness of the different types of information generated by minerals and oil and gas entities reporting in different jurisdictions. The users surveyed have a mix of backgrounds (eg as a geologist or a finance professional), and market specialisations (minerals or oil and gas, large producers or small explorers, specific minerals etc) and generally have 10 or more years' experience in analysing minerals or oil and gas entities.

C5 As part of the user survey, the research project team also had informal discussions with certain market and securities regulators including staff from the United States Securities and Exchange Commission, the Ontario and Alberta Securities Commissions, and the Johannesburg Stock Exchange.

Survey questions

C6 The user survey questions addressed the following topics:

(a) the investment and lending decision process, including:

(i) the minimum information that users need to make informed investment or lending decisions in relation to a mining or oil and gas entity;

(ii) the extent to which the information needs differ depending on:

(A) whether the entity is involved only in exploration activities, upstream activities or upstream and downstream activities; and

(B) the type of mineral, oil or gas involved;

(iii) the sources of this information, such as financial statements, management commentary and the entity's website;

(b) the usefulness of existing reporting practices, including:

(i) whether measuring mineral or oil and gas property assets in the statement of financial position at their historical costs provides useful information; and

(ii) whether measuring mineral or oil and gas property assets acquired in a business combination at their fair value provides useful information;

(c) the current value measurement of mineral or oil and gas property assets, including:

(i) the advantages and disadvantages of presenting a current value measurement in the statement of financial position (and which would be supplemented by disclosures to help users understand the measurement) compared with providing only value-based information disclosures;

(ii) the most appropriate model for valuing these assets (eg discounted cash flow models);

(iii) whether the current value measurement should assign value to the entire deposit or exclude value attributable to some categories of reserves or resources;

(iv) whether development works and infrastructure assets should be recognised separately from the minerals or oil and gas property asset;

(d) when the mineral or oil and gas property assets should initially be measured at current value (eg at acquisition of the exploration rights, discovery or project approval) and how frequently should the asset be remeasured (eg each reporting period, each annual reporting period or only when a significant event has occurred);

(e) the level of detail (or disaggregation) associated with presenting the current value measurement and disclosing the supporting information and assumptions, such as reserve and resource volumes, that provides useful information and should be practical to prepare;

(f) the disclosure of supporting information and assumptions, including:

(i) which categories of minerals or oil and gas reserve and resource quantities should be disclosed;

(ii) whether the assumptions used for commodity prices, exchange rates and discount rates should be either a market participant's assumptions, entity-specific assumptions or standardised assumptions, and whether the assumptions used should be disclosed;

(iii) whether the following types of information should be disclosed in the notes to the financial statements:

(A) development and production schedules;

(B) development and production costs; and

(C) taxation and royalty obligations;

(g) whether the disclosure of reconciliations of changes in reserve and resource quantity estimates and changes in current value measurements would provide useful information;

(h) whether the reserve and resource quantity estimates and the current value measurement should be required to be audited, prepared by an independent consultant or prepared by a competent person (as determined by relevant professional bodies), noting that the competent person may be either an employee or external to the entity; and

(i) for users of oil and gas entity financial reports, whether they currently use the US GAAP standardised measure of proved oil and gas reserves in their analysis and, if so, how they use it and what are the deficiencies (if any) in the standardised measure.

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Mining																															
Coal																															
1	EXXARO RESOURCES LTD	1	1	1	0	0	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	1	1
2	HWANGE COLLIERY LD ORD																															
3	KEATON ENERGY HLDGS LTD																															
4	OPTIMUM COAL HLDGS LTD	Not listed in 2009																														
5	RESOURCE GENERATION LTD																															
6	SOUTH AFRICAN COAL MIN																															
7	WESCOAL HOLDINGS LTD																															
Diamonds & Gemstones																															
8	BRC DIAMONDCORE LTD																															
9	ROCKWELL DIAMONDS INCOR																															
10	TAWANA RESOURCES NL																															
11	THABEX LTD																															
12	TRANS HEX GROUP LTD																															
General Mining																															
13	ANGLO AMERICAN PLC	1	1	1	1	0	0	1	1	0	0	1	1	0	0	0	1	0	0	0	0	1	1	1	1	1	0	0	1	1	1	1
14	AFRICAN RAINBOW MINERALS	1	1	1	1	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1
15	ASSORE LTD	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	0
16	BHP BILLITON PLC	1	1	1	1	0	1	1	1	0	1	1	1	1	1	0	1	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1
17	COAL OF AFRICA LTD	1	0	1	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0	1	1	1
18	FIRESTONE ENERGY LTD																															
19	INFRASORS HOLDINGS LTD																															
20	MIRANDA MINERAL HLDGS LD																															
21	MERAFE RESOURCES LTD	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	1	0	0
22	MVELAPHANDA RESOURCES LD	0	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	1	0	1	0	1	0
23	PETMIN LTD	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	0	1	0

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24	SALLIES LTD																													
25	SEPHAKU HLDGS LTD																													
26	SENTULA MINING LTD	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	0
27	URANIUM ONE INC	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1
28	WHITE WATER RESOURCE LT																													
Gold Mining																																
29	ANGLOGOLD ASHANTI LTD	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
30	CENTRAL RAND GOLD LTD																													
31	DRDGOLD LTD																													
32	GREAT BASIN GOLD LTD	1	1	1	1	1	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1	0	0	1	1	1
33	GOLD ONE INTERNATIONAL L	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	1	1
34	GOLD FIELDS LTD	1	1	1	1	1	0	1	1	0	0	1	1	0	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	0	1	1
35	HARMONY G M CO LTD	1	1	1	1	0	1	1	1	0	0	1	1	0	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
36	JCI LTD																													
37	PAN AFRICAN RESOURCE PLC																													
38	PAMODZI GOLD LTD																													
39	RANDGOLD AND EXP CO																													
40	SIMMER AND JACK MINES																													
41	WITWATERSRAND CONS GOLD	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	1
Platinum & Precious Metals																																
42	ANGLO PLATINUM LTD	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1
43	AQUARIUS PLATINUM LTD	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	1	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1
44	ANOORAQ RESOURCES CORPOR	1	1	1	1	0	0	1	1	0	0	1	1	0	1	0	1	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1
45	BAUBA PLATINUM LTD																													
46	EASTERN PLATINUM LIMITED	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	0	1
47	IMPALA PLATINUM HLGS LD	1	1	1	1	0	1	1	1	0	0	1	1	0	0	0	1	0	0	0	0	1	1	1	1	0	1	1	1	0	1	1
48	JUBILEE PLATINUM PLC																													

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49	LONMIN P L C	1	1	1	1	0	0	1	1	0	0	1	1	0	1	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	0
50	NORTHAM PLATINUM LTD	1	1	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	1	1	1	0	1	1	1	0	1	0
51	PLATFIELDS LTD																															
52	PLATMIN LTD	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0	1	1	1
53	ROYAL BAFOKENG PLATINUM	Not listed in 2009																														
54	VILLAGE MAIN REEF G M CO																															
55	WESIZWE PLATINUM LTD	1	0	1	1	1	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1
Oil & Gas																																
Oil & Gas Producers																																
	Integrated Oil & Gas																															
56	OANDO PLC	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	1	1	0	0	0	1	1	1	0
57	SACOIL HOLDINGS LD																															
58	SASOL LTD	1	1	1	1	0	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1

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Mining																															
Coal																															
1	EXXARO RESOURCES LTD	1	1	1	0	0	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	1	1
2	HWANGE COLLIERY LD ORD																															
3	KEATON ENERGY HLDGS LTD																															
4	OPTIMUM COAL HLDGS LTD	1	1	1	0	0	0	1	1		0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0	0	1	0	0	0
5	RESOURCE GENERATION LTD																															
6	SOUTH AFRICAN COAL MIN																															
7	WESCOAL HOLDINGS LTD																															
Diamonds & Gemstones																															
8	BRC DIAMONDCORE LTD																															
9	ROCKWELL DIAMONDS INCOR																															
10	TAWANA RESOURCES NL																															
11	THABEX LTD																															
12	TRANS HEX GROUP LTD																															
General Mining																															
13	ANGLO AMERICAN PLC	1	1	1	1	0	0	1	1	0	0	1	1	0	0	0	1	0	0	0	0	1	1	1	1	1	0	0	1	1	1	1
14	AFRICAN RAINBOW MINERALS	1	1	1	1	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1
15	ASSORE LTD	1	1	1	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	0
16	BHP BILLITON PLC	1	1	1	1	0	1	1	1	0	1	1	1	1	1	0	1	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1
17	COAL OF AFRICA LTD	1	0	1	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0	1	1	1
18	FIRESTONE ENERGY LTD																															
19	INFRASORS HOLDINGS LTD																															
20	MIRANDA MINERAL HLDGS LD																															
21	MERAFE RESOURCES LTD	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	0	0
22	MVELAPHANDA RESOURCES LD	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	1	0	1	0
23	PETMIN LTD	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0	0	1	0

Disclosure Checklist for the purposes of quantitative descriptive observation design

		Definitions	Disclosure Types (paragraph 5.24)																								Additional Disclosures (paragraph 5.25)			
			1. Reserve Quantities							2. Measurement												3.	4. Costs								
										A. Current Value					B. Fair Value															
		CRIRSCO or PRMS	Proved and Probable Reserves	Estimation Method	Price and other assumptions	Sensitivity analysis	Reserves reconciliation	Commodity detail	Project or Country detail	a) Range of fair values	b) Standardised Measure of proved and probable reserves	Preparation Basis	Main Assumptions	Current Value Reconciliation	Geographical detail	Fair Value Estimate	Main Assumptions	Sensitivity analysis	Reserves reconciliation (value)	Other Fair Value Disclosures	Geographical detail	Production Revenues by Commodity	Exploration Costs	Development Costs	Production Costs	Commodity detail	Project or Country detail	5 year time series	Carrying amount of assets/properties in production	Other properties with reserves not in production	Exploration properties	Recoverability of exploration properties
24	SALLIES LTD																													
25	SEPHAKU HLDGS LTD																													
26	SENTULA MINING LTD	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0
27	URANIUM ONE INC	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1
28	WHITE WATER RESOURCE LT																															
Gold Mining																																
29	ANGLOGOLD ASHANTI LTD	1	1	1	1	1	1	1	1	1	0	1	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1
30	CENTRAL RAND GOLD LTD																															
31	DRDGOLD LTD																															
32	GREAT BASIN GOLD LTD	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1	0	0	1	1	1
33	GOLD ONE INTERNATIONAL L	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	1	1
34	GOLD FIELDS LTD	1	1	1	1	1	0	1	1	0	0	1	1	0	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	0	1	1
35	HARMONY G M CO LTD	1	1	1	1	1	1	1	1	0	0	1	1	0	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
36	JCI LTD																															
37	PAN AFRICAN RESOURCE PLC																															
38	PAMODZI GOLD LTD																															
39	RANDGOLD AND EXP CO																															
40	SIMMER AND JACK MINES																															
41	WITWATERSRAND CONS GOLD	1	1	1	1	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	1
Platinum & Precious Metals																																
42	ANGLO PLATINUM LTD	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1
43	AQUARIUS PLATINUM LTD	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	1	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1
44	ANOORAQ RESOURCES CORPOR	1	1	1	1	0	0	1	1	0	0	1	1	0	1	0	1	0	0	0	0	1	0	0	1	1	0	0	0	0	1	1
45	BAUBA PLATINUM LTD																															
46	EASTERN PLATINUM LIMITED	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1
47	IMPALA PLATINUM HLGS LD	1	1	1	1	0	1	1	1	0	0	1	1	0	0	0	1	0	0	0	0	1	1	1	1	0	1	1	1	0	1	1
48	JUBILEE PLATINUM PLC																															

Disclosure Checklist for the purposes of quantitative descriptive observation design

		Definitions	Disclosure Types (paragraph 5.24)																								Additional Disclosures (paragraph 5.25)			
			1. Reserve Quantities							2. Measurement												3.	4. Costs								
										A. Current Value						B. Fair Value															
		CRIRSCO or PRMS	Proved and Probable Reserves	Estimation Method	Price and other assumptions	Sensitivity analysis	Reserves reconciliation	Commodity detail	Project or Country detail	a) Range of fair values	b) Standardised Measure of proved and probable reserves	Preparation Basis	Main Assumptions	Current Value Reconciliation	Geographical detail	Fair Value Estimate	Main Assumptions	Sensitivity analysis	Reserves reconciliation (value)	Other Fair Value Disclosures	Geographical detail	Production Revenues by Commodity	Exploration Costs	Development Costs	Production Costs	Commodity detail	Project or Country detail	5 year time series	Carrying amount of assets/properties in production	Other properties with reserves not in production	Exploration properties	Recoverability of exploration properties
49	LONMIN P L C	1	1	1	1	0	0	1	1	0	0	1	1	0	0	0	1	0	0	0	0	1	1	1	1	1	0	1	1	1	0
50	NORTHAM PLATINUM LTD	1	1	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	1	1	1	0	1	1	1	0	1	0
51	PLATFIELDS LTD																															
52	PLATMIN LTD	1	1	1	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	1	1	1
53	ROYAL BAFOKENG PLATINUM	1	1	1	1	0	1	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1
54	VILLAGE MAIN REEF G M CO																															
55	WESIZWE PLATINUM LTD	1	0	1	0	1	0	0	0	1	0	1	1	0	0	1	1	1	0	0	0	0	1	1	0	0	1	0	0	0	1	1
Oil & Gas																																
Oil & Gas Producers																																
	Integrated Oil & Gas																															
56	OANDO PLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	1	0	1	0
57	SACOIL HOLDINGS LD																															
58	SASOL LTD	1	1	1	1	0	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1