

ICS 73.040

SANS 10320:2004

ISBN 0-626-16174-6

Edition 1

SOUTH AFRICAN NATIONAL STANDARD

South African guide to the systematic evaluation of coal resources and coal reserves

Published by Standards South Africa
1 dr lategan road groenkloof ☒ private bag x191 pretoria 0001
tel: 012 428 7911 fax: 012 344 1568 international code + 27 12
www.stansa.co.za
© Standards South Africa

standards
SouthAfrica
(a division of SABS)

SANS 10320:2004
Edition 1

Table of changes

Change No.	Date	Scope

Abstract

Provides a detailed framework for reporting on coal resources and coal reserves for the purposes of the Securities Exchange and the National Coal Inventory.

Keywords

coal, coal inventory, coal mining, coal products, coal reserves, coal resources, documentation, mineral resources, minerals, reports, specifications.

Acknowledgement

Standards South Africa wishes to acknowledge the permission granted by the Department of Minerals and Energy to reproduce the National Coal Inventory data capture forms given in annex A.

Foreword

This South African standard was approved by National Committee StanSA SC 5140.20C, *South African committee for solid mineral fuels – Coal classification*, in accordance with procedures of Standards South Africa, in compliance with annex 3 of the WTO/TBT agreement.

A reference is made in 3.1 to “national regulations and statutory requirements” on reporting of coal resources and reserves. In South Africa this means the listings requirements of the Johannesburg Securities Exchange of South Africa and the following Acts (as amended from time to time):

- a) the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965);
- b) the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983);
- c) the Environmental Conservation Act, 1989 (Act No. 73 of 1989);
- d) the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002); and
- e) the National Water Act, 1998 (Act No. 36 of 1998).

This standard should be read in conjunction with the *SAMREC Code*.

Annex A forms an integral part of this standard. Annexes B, C, D, E, F, G and H are for information only.

Introduction

General concepts for reporting coal resources and coal reserves were established with the publication of the South African Code for Reporting of Mineral Resources and Mineral Reserves (The *SAMREC Code*), prepared by the South African Mineral Resource Committee under the auspices of the South African Institute of Mining and Metallurgy. The *SAMREC Code* provides the framework and standards for public reporting for the Johannesburg Securities Exchange and contains a clause “commodity specific reporting for coal”. The *SAMREC Code* has been adopted by the South African Institute of Mining and Metallurgy (SAIMM) and SAMREC member organizations and is incorporated in the Johannesburg Securities Exchange listing requirements and continuing reporting obligations.

It was, however, apparent that additional guidelines and parameters were necessary to standardize the reporting of coal resources and coal reserves for both Securities Exchange requirements and for the South African National Coal Resource and Coal Reserve Inventory (also called the “National Coal Inventory”).

The standard was prepared in conjunction with the *SAMREC Code* by the SAMREC Coal Commodity Specific Subcommittee. This standard is the coal commodity’s specific equivalent to the check list in appendix 1 of the *SAMREC Code*, the “Check list of assessment and reporting criteria”.

SANS 10320:2004

Edition 1

Contents

	Page
Abstract	
Keywords	
Acknowledgement	
Foreword	
Introduction.....	1
1 Scope.....	7
2 Normative references.....	7
3 Definitions	8
4 Reporting for Securities Exchange purposes (The public report)	31
4.1 Introduction.....	31
4.2 Scope of the <i>SAMREC Code</i>	31
4.3 Competence and responsibility	31
4.4 Reporting on coal resources and coal reserves.....	32
4.4.1 Introduction	32
4.4.2 General requirements	33
4.4.3 Reporting of coal resources.....	34
4.4.4 Reporting of coal reserves.....	35
4.5 Reporting of exploration results.....	35
4.6 Reporting of coal in remnants, coal in pillars, discards and reject coal in stockpiles, dumps and tailings ponds.....	36
5 Reporting for the South African National Coal Inventory.....	36
5.1 Introduction.....	36
5.2 Data capture forms.....	36
5.3 Classification of coal resources and coal reserves	37
5.4 Schematic decision tree	38
5.4.1 General	38
5.4.2 The geological study.....	38
5.4.3 The economic study.....	38
5.5 Coal resource and reserve blocks.....	40
5.6 Coal reserve exploitation and reconciliation.....	40
5.7 Seam characteristics	40
5.8 In situ coal resource raw coal quality	41
5.9 Run of mine coal reserve coal quality	41
5.10 Saleable coal reserve coal quality.....	41
5.11 Coal discards.....	41
5.12 Obligations by information provider.....	42
6 Coal resource and coal reserve calculation and reporting	42
6.1 Introduction.....	42
6.2 Coal resource estimation confidence	42

Contents *(continued)*

	Page
6.3 Coal resource reporting categories	43
6.3.1 Introduction to reporting categories	43
6.3.2 Coal occurrence	43
6.3.3 Reconnaissance coal resource	43
6.3.4 Inferred coal resource.....	45
6.3.5 Indicated coal resource	45
6.3.6 Measured coal resource	45
6.3.7 Pre-feasibility coal resource	46
6.3.8 Feasibility coal resource	46
6.4 Coal reserve reporting categories	46
6.4.1 Introduction	46
6.4.2 Probable coal reserve.....	47
6.4.3 Proven coal reserve.....	47
6.5 Calculation of coal resources and coal reserves.....	47
6.5.1 General.....	47
6.5.2 Calculation of coal resources	49
6.5.3 In situ coal resources.....	60
6.5.4 Mineable in situ coal resources	61
6.5.5 Calculation of coal reserves	62
6.5.6 ROM coal reserves.....	68
6.5.7 Saleable coal reserves	75
7 Evaluation methods and procedures	78
7.1 Introduction.....	78
7.2 Preliminary surveys	79
7.2.1 Collation of available information.....	79
7.2.2 Remote sensing surveys	79
7.2.3 Regional mapping.....	79
7.2.4 Land survey	80
7.3 Geological drilling	80
7.3.1 Small diameter borehole core drilling	80
7.3.2 Open hole drilling.....	80
7.3.3 Borehole down-hole geophysics.....	80
7.3.4 Large diameter borehole core drilling.....	81
7.3.5 Directional and angled borehole drilling	81
7.4 Coal sampling.....	81
7.4.1 Small diameter borehole core samples	81
7.4.2 Sample preparation, storage and analysis	82
7.4.3 Coal quality	82
7.4.4 Density	84
7.5 Computer processing and coal deposit modelling	84
7.6 Coal processing.....	85
7.7 Geotechnical aspects	85
7.8 Geohydrology	85