LOMOTENG MINE

DUSTFALL REPORT
No. OccServ/ENV/2012-023

OCCUPATIONAL HYGIENE SERVICES
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INFORMATION PAGE

CLIENT NAME	Lomoteng Mine
PHYSICAL ADDRESS	Situated on the farm Lomoteng No.669 in the magisterial district of Postmasburg.
CONTACT ON SITE	Me L Hough
TYPE OF SURVEY	Dust Fall
REPORT NUMBER	OccServ/ENV/2012-023
SURVEY CONDUCTED BY	JC Davel
SAIOH CERTIFICATION AIA ACCREDITATION	0138 CI 082 OH

JC Davel
Occupational Hygienist

1. PURPOSE

The purpose of the dust fallout (DFO) monitoring programme is to provide the client with information with regards to dust fall concentration at the perimeters of the mine, and whether it will have an effect on any communities in the area.

2. INTRODUCTION

A dust fallout monitoring network was established on the perimeter of Lomoteng Mine to evaluate the dust fallout at neighbouring premises. The network consists of a total of eight (8) dust buckets placed at strategic positions, taking into account the accessibility of the sites. Refer to Table 1 for a description of the dust bucket positions, and to Annexure A for a map indicating the positions of the stations.

Table 1

Key	GPS Coordinates	Description	Bucket positions relative to site	
			On site	Off Site
1	S28° 01.605' E23°01.752'	In mining area	X	
2	S28° 02.215' E23°01.579'	Next to main road opposite plant	X	
3	S28° 02.097' E23°01.323'	Near the new office building	X	
4	S28° 02.018' E23°01.730'	Next to the road in front of mine office	X	
5	S28° 01.700' E23°01.747'	Opposite new plant construction site, on mine perimeter	X	
6	S28° 01.051' E23°01.614'	In the mining area, north of the plant	X	
7	S28° 01.249' E23°01.057'	On neighbouring farm		X
8	S28° 01.692' E23°01.419'	Western side at gate between mine and neighbouring farm		X

3. METHOD AND STANDARD

3.1 The method used for collecting dust fallout is the ASTM D1739 -98 "Standard Test Method for collection and Measurement of Dustfall".

- Containers of a standard size and shape are prepared and sealed in a laboratory and exposed at specific sites so that particulate matter can settle into them for periods of approximately 30 days. The containers are then closed and returned to Chemtech Laboratory Services in Pretoria, where the masses of water insoluble components of the material collected, are determined.

3.2 The results obtained from the laboratory are evaluated against the criteria in Table 8 under Section 4.10.1 of SANS 1929:2009, Edition 2.

4. RESULTS

The results obtained from the DFO for the period of 15 May 2012 to 23 June 2012 are depicted below.

Table 2.

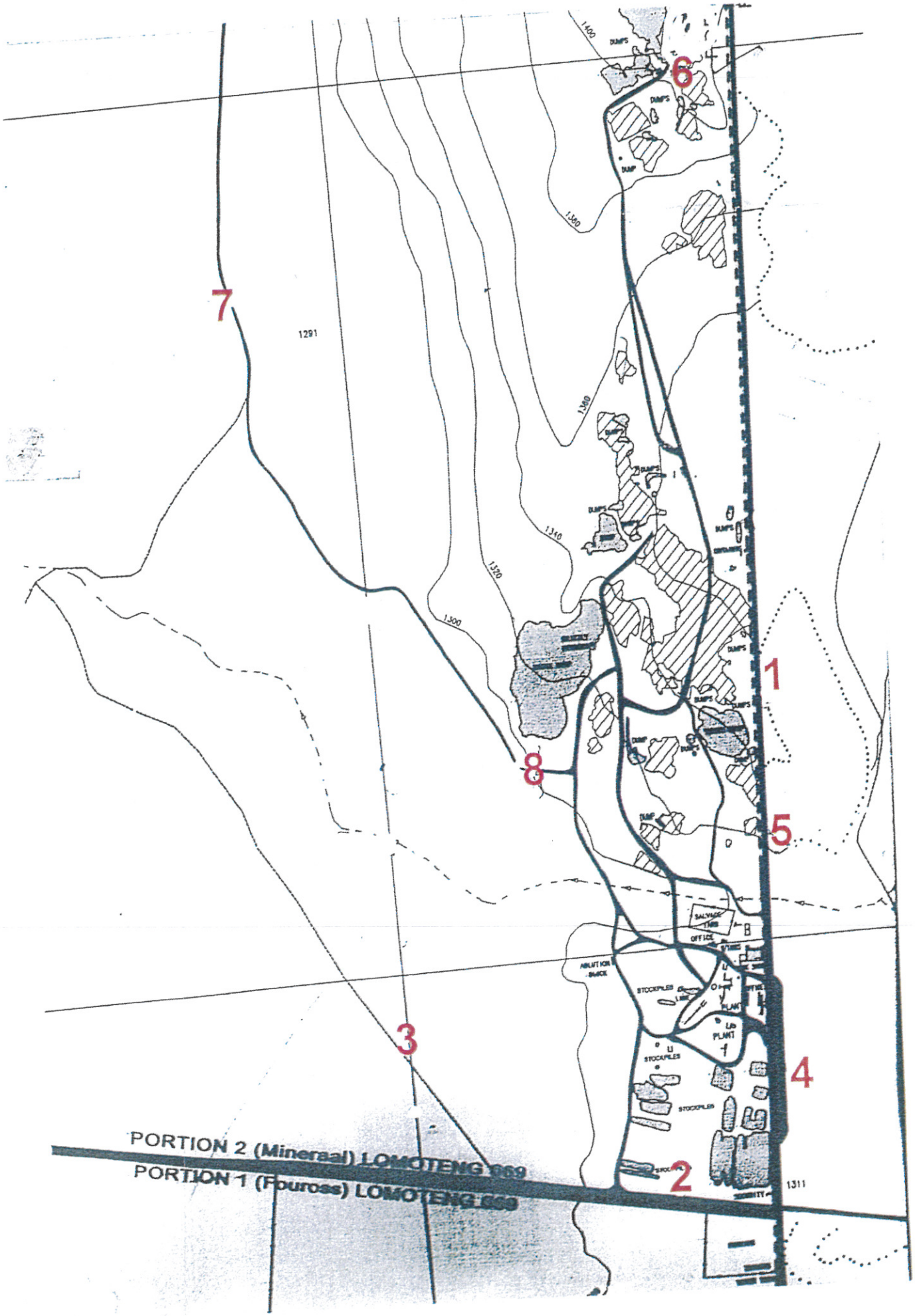
Sampling Station	Dust Fall Rate $mg.m^{-2}$-day^{-1} 30-day Average	SANS Criteria $mg.m^{-2}$-day^{-1}, 30-day ave.	Comments
1	1155	≦ 1200	
2	2256		Dust from plant on one side and main road on the other side
3	899		
4	3526		This station is situated next to a busy road leading from the main gate past the mine offices to the workshop.

5. DISCUSSION & RECOMMENDATIONS

The results indicate dust fall figures that are higher than the recommended levels in terms of Table 8 contained under Section 4.10.1 of SANS 1929:2009, Edition 2, especially at Stations 2 & 4 which are situated next to roads. It should, however, also be taken into account that factors such as organic material (seeds, dead insects, mineral deposits from water, etc) can have an influence on the results, although the samples are filtered before weighing.

The results discussed in this report depict the results obtained from the first month of the continuous dust fall sampling programme. Future results will be communicated in the monthly manager's report.

ANNEXURE A


6
7
8
1
5
4
3
2
1291
1311
1400
1350
1300
1310
1320
1300
PORTION 2 (Mineraal) LOMOTENG 869
PORTION 1 (Fouross) LOMOTENG 869

ANNEXURE B

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LABORATORY SERVICES

TEST REPORT

DATE OF REPORT	:	*23 July 2012*
REFERENCE NO	:	*CLS122291*
CLIENT REFERENCE NO	:	*Lomoteng*
CLIENT ORDER NO	:	*2012/021*
CONTACT PERSON	:	*Adri Cowley*
CLIENT	:	*OCCUSERV*
CLIENT ADDRESS	:	*P.O. Box 1047*
		KATHU
		8446
CLIENT TELEPHONE NO	:	*(083) 282 7503*
CLIENT FAX NO	:	*(086) 508 1152*
CLIENT e-MAIL ADDRESS	:	*kobus@occuserv.com*
ANALYSIS REQUIRED	:	*Measurement of Dustfall**
METHOD USED	:	*ASTM Designation: D1739 – 98**

CHEMTECH
LABORATORY SERVICES

TEST RESULTS : **Lomoteng**

Table 1 – Measurement of Dust Fallout.

TEST ITEM DESCRIPTION	TEST ITEM CONDITION	DATE RECEIVED	DATE OF ANALYSIS
Water Samples	Sealed in bottles. Received at ambient temperature. Contained no algae	02/07/2012	06/07/2012

RESULTS:

Sample Number	Fall Out Dust Concentration (g)	Fall Out Dust Concentration ($g/m^2/day$)
LMO 01	1.1441	1.1550
LMO 02	2.2344	2.2556
LMO 03	0.8904	0.8988
LMO 04	3.4932	3.5263

Specific Test Conditions	Samples stored at ambient temperature prior to analysis.
Limit of Detection	0.0001 g per sample.
Deviations	None.

WORK APPROVED BY:

Adri Cowley
(Laboratory Manager)
(Technical Signatory)

23/07/2012
Date

This report relates to the specific sample(s) tested as identified herein, it does not imply Chemtech Laboratory Services approval of the quality and/or performance of the item(s) in question and the test results do not apply to any similar item that has not been tested.

This report may only be reproduced in full, with the written approval of Chemtech Laboratory Services.

The acceptance of an item for test and the issue of a test report are subject to Chemtech Laboratory Services condition of test. This document is available on request.

Chemtech Laboratory Services does not accept responsibility for errors that might have arisen during sampling and transport of samples by external parties.

Results express in ppm, ppb, mg/m^3 or $\mu g/m^3$ were calculated using data supplied by the client.

** This test method is not included in the Scope of Accreditation for Chemtech Laboratory Services.*