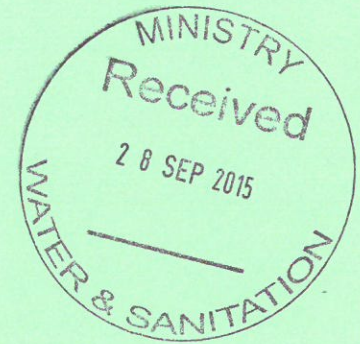




water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



EdCM

Enquiries: Mr. A Singh
Telephone: 012 336 7531
Reference: 21/22/10/2/1

MINISTER OF WATER AND SANITATION

NATIONAL COUNCIL OF PROVINCES: QUESTION 422 FOR WRITTEN REPLY

A draft reply to the above mentioned question asked by Mr J W W Julius (Gauteng: DA) is attached for your consideration.

DIRECTOR-GENERAL

DATE:

20/9/15

DRAFT REPLY APPROVED/AMENDED

MRS NP MOKONYANE
MINISTER OF WATER AND SANITATION

DATE:

05.10.15

NATIONAL COUNCIL OF PROVINCES

FOR WRITTEN REPLY

QUESTION NO 422

DATE OF PUBLICATION IN INTERNAL QUESTION PAPER: 11 SEPTEMBER 2015
(INTERNAL QUESTION PAPER NO. 33)

422. Mr J W W Julius (Gauteng: DA) to ask the Minister of Water and Sanitation:

- (1) Whether her department is conducting regular water testing in order to monitor the quality of water released from acid mine drainage treatment works in the Western Basin in Gauteng; if not, why not; if so, what are the details of the results that have been collected (a) in the (i) 2012-13, (ii) 2013-14 and (iii) 2014-15 financial years and (b) from 1 April 2015 up to the latest specified date for which information is available;
- (2) whether there are any threats of acid mine drainage water polluting the environment at the Western Basin in Gauteng; if not, what is the position in this regard; if so, what are the relevant details?

CW519E

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REPLY:

- (1) Yes, my Department conducts routine water testing of selected determinants in order to monitor the quality of neutralised acid mine drainage (AMD) discharged from the Western Basin AMD treatment works in Randfontein, Gauteng.

The monitoring show a clear improvement in the quality of AMD following neutralisation and this is affirmed by an overall ecological progress in the receiving watercourse, as well as improvement in the qualities of surface and groundwater resources on the affected site.
- (a)(i) Monitoring results for the financial year 01 April 2012 to 31 March 2013 are shown in Table 1 (Annexure A).
- (a)(ii) Monitoring results for the financial year 01 April 2013 to 31 March 2014 are shown in Table 2 (Annexure A).
- (a)(iii) Monitoring results for the financial year 01 April 2014 to 31 March 2015 are shown in Table 3 (Annexure A).
- (b) Monitoring results for the period 01 April 2015 to 10 September 2015 are shown in Table 4 (Annexure A).
- (2) No, due to the continuous operation of the Western Basin AMD treatment works, there are no imminent threats of AMD polluting the environment in the Western Basin. Further to this mitigatory intervention, additional measures entailing the construction of a new AMD pump station and the proposed installation of high-throughput clarifiers will enable the pumping of higher AMD volumes in instances of above-average rainfall and refinement in the quality of neutralised AMD discharged from the AMD treatment works.

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Annexure A: Monitoring results of selected determinants in AMD discharged from the Western Basin AMD treatment works in Randfontein, Gauteng

Table 1

Determinant	Monthly average											
	Apr 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013
pH	3.17	2.94	2.80	4.01	6.30	6.79	6.65	7.30	6.70	7.21	7.10	7.16
Conductivity (mS/cm)	428.93	426.26	412.04	408.81	395.04	399.58	390.37	372.58	380.12	376.96	374.63	379.83
Iron (mg/L)	Nt	Nt	Nt	Nt	0.55	0.72	0.70	0.56	0.69	0.36	0.98	0.58
Manganese (mg/L)	Nt	Nt	Nt	Nt	Nt	Nt	35.05	6.35	16.36	15.12	16.76	10.61

Table 2

Determinant	Monthly average											
	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014
pH	6.55	7.32	7.31	7.35	7.65	6.71	7.70	7.93	7.46	7.70	7.20	4.11
Conductivity (mS/cm)	373.39	390.31	394.29	412.89	423.48	417.67	397.48	389.36	386.31	390.96	373.95	415.08
Iron (mg/L)	4.59	0.55	0.55	1.73	1.27	0.93	0.31	0.31	0.28	0.18	0.32	0.70
Manganese (mg/L)	19.04	10.32	11.03	22.64	16.4	13.88	4.93	13.90	5.56	4.57	6.24	40.39

Table 3

	Monthly average											
	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015
pH	3.53	3.41	3.94	3.78	6.52	18.56	7.46	6.87	3.64	3.84	4.28	6.26
Conductivity (mS/cm)	414.35	416	406.88	397.73	395.15	396.85	398.8	383.46	390.6	389.46	384.33	381.25
Iron (mg/L)	63.25	68.06	30.64	13.79	0.35	0.15	0.15	0.19	6.54	2.21	1.91	0.28
Manganese (mg/L)	35.43	31.94	21.39	23.28	11.82	5.99	5.35	5.35	29.43	24.33	24.92	15.54

Table 4

Determinant	Monthly average						
	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015	
pH	6.58	7.29	7.47	7.50	7.64	7.75	
Conductivity (mS/cm)	371.67	376.32	377.10	377.73	376.62	372.86	
Iron (mg/L)	0.27	0.12	0.06	0.14	0.01	0.09	
Manganese (mg/L)	12.51	8.24	8.27	5.78	6.42	5.89	

Nt – not tested

Annexure A: Monitoring results of selected determinants in AMD discharged from the Western Basin AMD treatment works in Randfontein, Gauteng

Table 1

Determinant	Monthly average											
	Apr 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013	Feb 2013	Mar 2013
pH	3.17	2.94	2.80	4.01	6.30	6.79	6.65	7.30	6.70	7.21	7.10	7.16
Conductivity (mS/cm)	428.93	426.26	412.04	408.81	395.04	399.58	390.37	372.58	380.12	376.96	374.63	379.83
Iron (mg/L)	Nt	Nt	Nt	Nt	0.55	0.72	0.70	0.56	0.69	0.36	0.98	0.58
Manganese (mg/L)	Nt	Nt	Nt	Nt	Nt	Nt	35.05	6.35	16.36	15.12	16.76	10.61

Table 2

Determinant	Monthly average											
	Apr 2013	May 2013	Jun 2013	Jul 2013	Aug 2013	Sep 2013	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014
pH	6.55	7.32	7.31	7.35	7.65	6.71	7.70	7.93	7.46	7.70	7.20	4.11
Conductivity (mS/cm)	373.39	390.31	394.29	412.89	423.48	417.67	397.48	389.36	386.31	390.96	373.95	415.08
Iron (mg/L)	4.59	0.55	0.55	1.73	1.27	0.93	0.31	0.31	0.28	0.18	0.32	0.70
Manganese (mg/L)	19.04	10.32	11.03	22.64	16.4	13.88	4.93	13.90	5.56	4.57	6.24	40.39

Table 3

	Monthly average											
	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014	Oct 2014	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015
pH	3.53	3.41	3.94	3.78	6.52	18.56	7.46	6.87	3.64	3.84	4.28	6.26
Conductivity (mS/cm)	414.35	416	406.88	397.73	395.15	396.85	398.8	383.46	390.6	389.46	384.33	381.25
Iron (mg/L)	63.25	68.06	30.64	13.79	0.35	0.15	0.15	0.19	6.54	2.21	1.91	0.28
Manganese (mg/L)	35.43	31.94	21.39	23.28	11.82	5.99	5.35	5.35	29.43	24.33	24.92	15.54

Table 4

Determinant	Monthly average				
	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015
pH	6.58	7.29	7.47	7.50	7.64
Conductivity (mS/cm)	371.67	376.32	377.10	377.73	376.62
Iron (mg/L)	0.27	0.12	0.06	0.14	0.01
Manganese (mg/L)	12.51	8.24	8.27	5.78	6.42

Nt – not tested