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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: 200 N/18

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

<u>DATE OF PUBLICATION IN INTERNAL QUESTION PAPER: 11 SEPTEMBER 2015</u> (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;
- 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?

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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

Manganese Nt (mg/L)		(mS/cm) 428.93	+	2012	Determinant Apr	
Z	Z.	426.26	+-	2012		
Z	N.	412.04	2.80	2012	Jun	
Z	Z.	408.81	4.01	2012	Jul	
Z	0.55	395.04	6.30	2012	Aug	
Z	0.72	399.58	6.79	2012	Sep	Monthly
35.05	0.70	390.37	6.65	2012	Oct	/ average
6.35	0.56	372.58	7.30	2012	Nov	
16.36	0.69	380.12	6.70	2012	Dec	
15.12	0.36	376.96	7.21	2013	Jan	
16.76	0.98			2013		
10.61	0.58	379.83	7.16	2013	M ar	

Table 2

						Monthly	Monthly average					
Determinant	Apr	May	Jun 2013	Jul 2013	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
	1010	2010			2013	2013	2013	2013	2013	2014	2014	2014
рн	6.55	7.32			7.65	6.71	7.70	7.93	7.46	7.70	7.20	4 11
Conductivity (mS/cm)	373.39	390.31			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 33	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

(mg/L)	Mangallese	Mangango	iron (mg/L)	1 1 1 1	(mS/cm)	Common Airy	Conductivity	7::	D.H.				
	33.43	35 43	63.25			11.00	111 25	0.00	2 72	2014	2	Apr	
	31.94		68.06			4	140	3.4	3	2014	MINITE	240	
	21.39	00.0	30 64			406.88	10000	3.94		2014	Jun		
i	23 28	10.10	12 70			397 73		3.78		2014	Jul		
11.02	11 83	0.00	0 35		000	305 15	0.01	מת	1100	2014	Aug		
0.88	E 00	0.15			090.00	306 95	10.00	18 56	4107	304.	Sep	worting average	Monthle
5.35	ו ו ו	0.15								000		average	
5.35		0.19			383.46		0.8/	200	2014	200	NON		
29.43	0.0	6 54 54			390.6		3.64		2014	רפכ	700		
24.33	17.7	3 34			389.46	0.0	သ 20 40		2015	Jan			
24.92		404			384.33	7.70	4 28	2010	2017	Feb	1		
15.54	0.20				381.25	0.20	30.30	6107	3046	Mar			

Table 4

			Monthly	y average		
Determinant	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug	Sep
H	0 10	1	10.0	POIC	6107	CLOZ
71-	0.00	62.7	7.47	7.50	7 64	7 75
Conductivity	271 67	270 00	0			-:-
(mS/cm)	3/1.0/	3/0.32	3//.10	377.73	376.62	372.86
(
Iron (mg/L)	0.27	0.12	0.06	0 14	001	0 00
Manganese	10 11	0			0.0	0.00
(ma/l)	10.21	8.24	8.27	5.78	6.42	5.89
13.						

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

						Monthly average	average					
Determinant	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
=	71.07	2012	2012	2012	2012	2012	2012			2013	2013	2013
PH	3.17	2.94	2.80	4.01	6.30	6.79	6.65			7.21	7.10	7 16
(mS/cm)	428.93	426.26	412.04	408.81	395.04	399.58	390.37			376.96	374.63	379.83
Iron (mg/L)	N.	Z.	Z.	Z.	0.55	0.72	0.70	0.56	0.69	0.36	0.98	0 58
Manganese (mg/L)	Z	Z	Z.	Z	Z	Z	35.05	6.35	16.36	15.12	16.76	10.61

Table 2

						Monthly	Monthly average					
Determinant	Apr	May		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
	2013	2013		2013	2013	2013	2013	2013	2013	2014	2014	2014
PH	6.55	7.32	7.31	7.35	7.65	6.71	7 70	7 93	7 46	7 70	7 20.	7 1 1
Conductivity	20000	200								-:-	1.20	
Conductivity	3/3.39	390.31		412.89	423.48	417.67	397.48	389.36	386.31	390.96	373.95	415.08
(mo/cm)												
iron (mg/L)	4.59	0.55	0.55	1.73	1.27	0.93	0.31	0.31	0.28	0.18	0.33	0.70
Manganese	19 04	10 33	11 02	73 67	16 /	4000	3	2000	וו			0
(mg/L)	0.0	0.00		40.22	10.4	13.00	4.93	13.90	5.56	4.5/	6.24	40.39

Table 3

(mg/L)	wanganese	Monaro	Iron (mg/L)	(mo/cm)		Conductivity	7:	EH				
	35.43	00000	63.25		1.00	414 35	0.00	2 7.2	2014	2	Apr	
	31.94	00.00	88 08		5	116	0.4	3	2014	MAIN	Mari	
	21 39	00.04	30 64		400.00	100 00	3.94		2014	Jun		
7.01	22 28	13.79	40 70		397.73	2011	3.78	100	2014	Jul I	•	
11.02	22 00	0.35			395.15	0.01	מת	4101	2014	Aug		
0.99	000	0.15			396 85	10.00	18 56	2014	3044	Sen	Monthly	
5.35	1 0	0.15		000.0	308 8	7.40	7 10	2014		0	average	
5.35	0.10	0 10		303.40	302 40	0.87	2001	2014	NOV	Now		
29.43	40.0	8 5/		390.6	2000	3.64		2014	Dec	7		
24.33	17.7	3		389.46		3.84		2015	Jan			
24.92	1.91			384.33		4 28	1010	2015	Feb			
15.54	0.28			381.25	0.2.0	808	C107	3045	Mar			

Table 4

	•		Monthly	Monthly average		
Determinant	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug	Sep
3E	0 70			100	C107	CTUS
פון	0.58	7.29	7.47	7.50	7 64	7 75
Conductivity	371 67	270 20	01110			
(mS/cm)	0/1.0/	3/0.32	3//.10	377.73	376.62	372.86
ron (ma/l)	200					
11.011 (11.01L)	0.27	0.12	0.06	0.14	0.01	0 09
Ivianganese	12.51	200	700	1 10		0.00
(mg/L)	1	47.0	0.27	5.78	6.42	5.89

Nt - not tested