



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Enquiries: Dr T Ntuli
Telephone: 051 405 9000
Reference: 6/2/2/6

MINISTER OF WATER AND SANITATION

NATIONAL ASSEMBLY: QUESTION 2751 FOR WRITTEN REPLY

A draft reply to the above mentioned question asked by Dr P J Groenewald (FF Plus) is attached for your consideration.

ACTING DIRECTOR-GENERAL

DATE: 23/10/2018

DRAFT REPLY APPROVED/AMENDED

NKWINTI GE(MP)
MINISTER OF WATER AND SANITATION

DATE: 15/11/2018

FOR WRITTEN REPLY

QUESTION NO 2751

DATE OF PUBLICATION IN INTERNAL QUESTION PAPER: 14 SEPTEMBER 2018
(INTERNAL QUESTION PAPER NO. 30)

2751. Dr P J Groenewald (FF Plus) to ask the Minister of Water and Sanitation:

- (1) Whether, with reference to his reply to question 900 on 23 April 2018 regarding the incident on 21 February 2017 at the Kareerand sludge dam near Stilfontein in North West, during which large quantities of sludge were dumped in the Vaal River, his department issued any fines to the company that is responsible for the sludge dam, fgjhjas was mentioned in his reply; if not, why not; if so, what fines were issued;
- (2) Whether he will make a statement on the matter?

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THE MINISTER OF WATER AND SANITATION

- (1) The Department did not issue any fine to the responsible company because the company followed the right procedure as outlined in section 20, "Control of emergency incidents", sub-section (3)(a) and section 20 sub-section (4)(a-c) of the National Water Act, 1998, (Act No. 36 of 1998). Further to that, the Department in the Free State Office is closely monitoring the situation to ensure that all preventative and remedial measures outlined by the company in their notification report of 21 February 2017 and the subsequent close out report, dated 19 October 2017, are timeously implemented. Follow up inspections were conducted on 14 November 2017 and 21 June 2018 which revealed significant progress in both the preventative and remedial actions implemented. Refer to the attached updated progress report in **Annexure A**.
- (2) Since the situation is under control and closely monitored, I see no reason to issue a statement.

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OUR REFERENCE: DWA/MWS/LOC-PWO/Maj/170221

19 September 2018

The Regional Chief Director: Free State
Department of Water Affairs and Sanitation Free State
P.O. Box 528
Bloemfontein
9300

Attention: Mr. Dheegan Moodley

Dear Sir,

RE: INTERIM PROGRESS REPORT – PROCESS WATER OVERFLOW AT KAREERAND TAILINGS STORAGE FACILITY RETURN WATER DAM ON 21 FEBRUARY 2017.

Following the initial incident notifications on the 21st of February 2017, Action Plan and Close Out Report dated the 19th of October 2017, herewith an Interim progress report on the proposed actions to prevent a similar occurrence.

Date, Time and Description of Incident

On the 21st of February 2017, following a heavy rainstorm event of more than 50mm in less than 3 hours, the return water dam at Kareerand overflowed into the drainage line and subsequently discharged downstream into the Vaal River.

In addition to the return water overflow, storm water and some tailings material from the area surrounding the Kareerand tailings dam also spilled towards and into the Vaal River.

Initial estimate of the total run-off from the Kareerand footprint was ~25 000m³.

The Kareerand Tailings Storage Facility remained stable during the incident and freeboard of the dam was safely maintained.



Figure 1: Drainage line towards the Vaal River



Figure 2: Spillage towards the Vaal River (21 Feb 2017)

Source of potential pollution, Impact or potential impact (water users)

Storm water from North of the Kareerand TSF (Khuma) mixed with the storm and return water from the Kareerand TSF before flowing into the Vaal River.



Water quality samples were taken at KM16, downstream of the Kareerand TSF in the unnamed tributary, and VRS23, inside the Vaal River downstream of Kareerand discharge at Vermaasdrift, on the day of the incident. The water quality results of the samples and locations is shown in Figure 3. Water quality samples on the 22nd of February 2017 were taken at KM16, VRS 23 and VRS63 inside the Vaal River upstream of Kareerand TSF at the Kromdraai Weir.

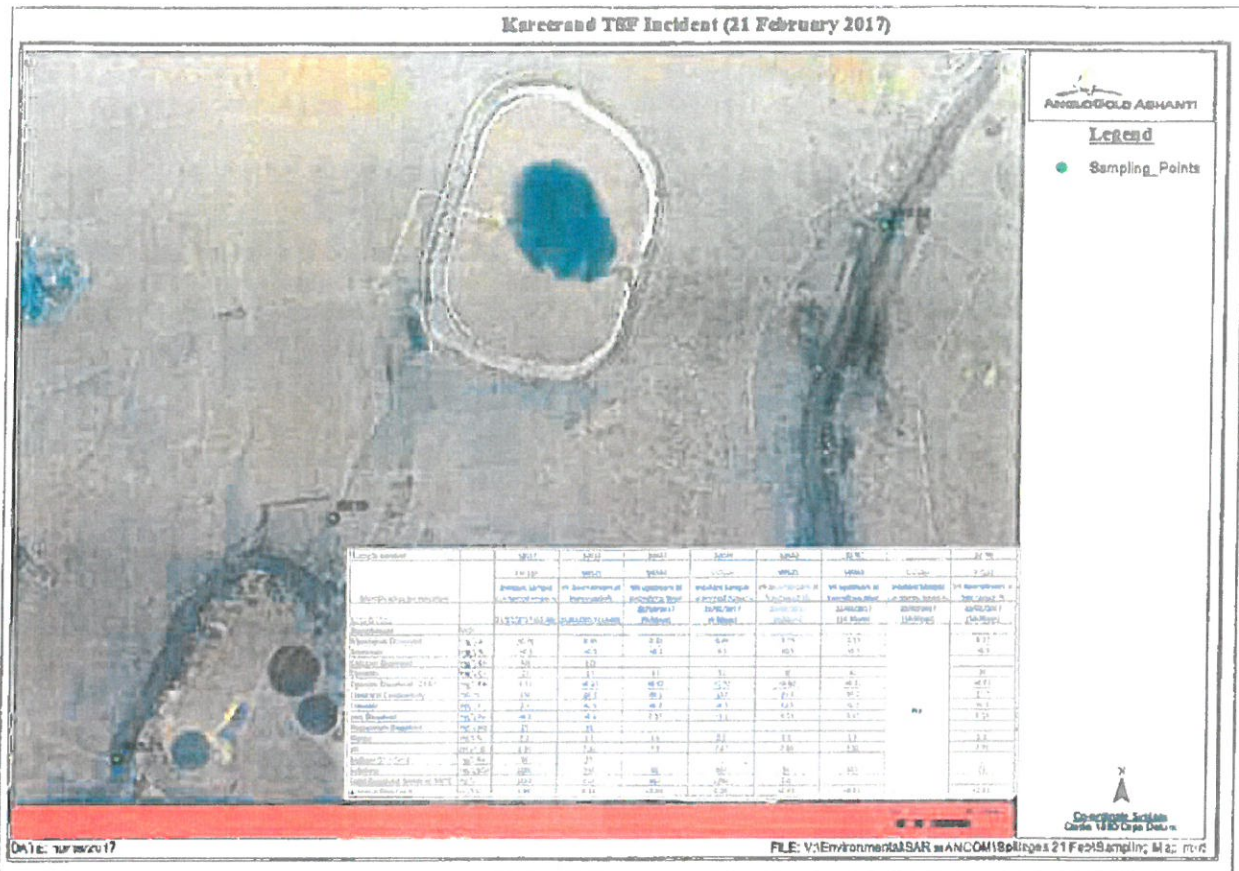


Figure 3: Kareerand Incident Sampling locations and Water Quality Results

Vaal River sample analysis indicated that Total Dissolved Solids (TDS) and Sulfate exceeded the regulatory instream water quality objectives, 585mg/l (vs 560mg/l limit) and 346mg/l (vs 160 mg/l limit) respectively during the incident.

The cyanide levels in the discharge and the Vaal River remained within limits.

Remedial Action

The immediate remedial action(s) taken on the 21st of February 2017 included:

- Operations at Kareerand TSF was suspended;
- Extensive downstream water sampling was initiated (see Figure 3);
- Midvaal Water Company (downstream of discharge) was notified to ensure monitoring frequency was continuing; and
- The Department of Water and Sanitation and the National Nuclear Regulator was notified.



Interim actions taken:

- Follow up water samples were taken and sent for analysis (see Figure 3 for results);
- An incident investigation was conducted;

The following committed actions are complete:

- The clean-up of residue around the offices and workshops (see Figures 4 to 12);
- Construction and maintenance of the toewall on the TSF side slope to contain slurry and storm water (Construction complete & maintenance ongoing) (see Figure 13);
- Construction of a rolled edge at the Kareerand offices and workshops to prevent surface water from flooding the offices and leaving the site, clean / dirty water separation. (see Figure 14);
- Installation of clean storm water diversion culverts at the entrance to Kareerand, to prevent clean water from entering the TSF footprint (see Figures 15 to 16);
- Construction of temporary storm water containment inside Kareerand TSF footprint to attenuate storm water. (see Figures 17 to 18);
- Review current pollution control dam's containment capacity to contain a 1 in 50 year rain storm event;
- Designs for additional storm water containment (East Storm Water Dam) inside the Kareerand TSF footprint (see Figures 19 to 20) and;
- Secure funding for the construction of the additional storm water containment.



Figure 4: Clean-up in progress around Kareerand TSF (inside containment area)



Figure 5: Cleanup completed around Kareerand TSF (inside containment area) - September 2018



Figure 6: Cleanup completed around Kareerand TSF (inside containment area) - September 2017



Figure 7: Cleanup completed around Kareerand TSF (outside containment area) - March 2018



Figure 8: Cleanup completed around Kareerand TSF (outside containment area) - March 2018



Figure 9: Cleanup completed **around Kareerand TSF** (outside containment area) - August 2018



Figure 10: Cleanup completed around Kareerand TSF (outside containment area) - August 2018



Figure 11: Cleanup completed around Kareerand TSF (outside containment area) - August 2018



Figure 12: Cleanup completed around Kareerand TSF (outside containment area) - August 2018



Figure 13: Toewall at bottom TSF sideslopes



Figure 14: Rolled edge constructed to protect pump station and office



Figure 15: Clean storm water diversion culvert at entrance to Kareerand T&F



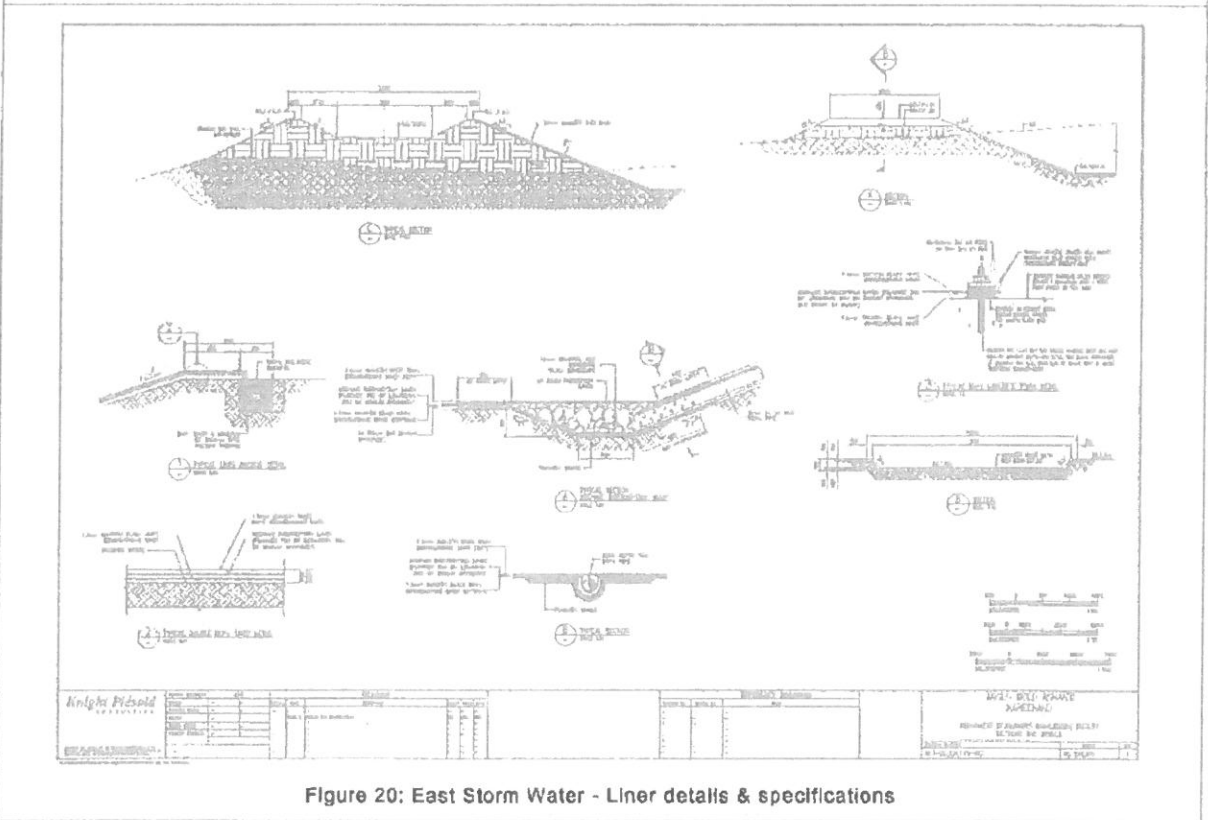
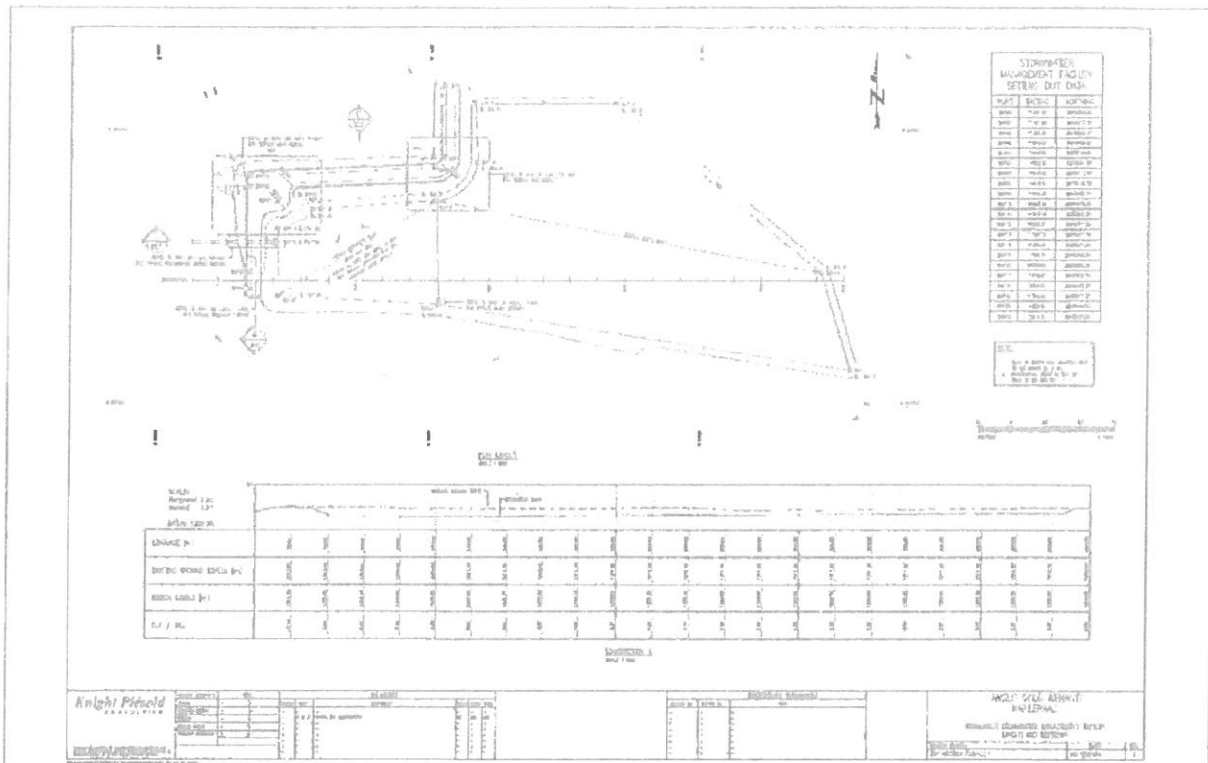
Figure 16: Clean storm water diversion culvert at entrance to Kareerand TSF



Figure 17: Temporary storm water containment next to return water dams (till East Storm Water Dam constructed)



Figure 18: Temporary storm water containment next to return water dams (till East Storm Water Dam constructed)





The planned actions outstanding to prevent recurrence of the incident include:

- The continual clean-up and rehabilitation of impacted areas in the South-West side of Kareerand
- Construction of additional storm water containment (East Storm Water Dam) inside Kareerand Tailings Dam footprint (Estimate completion date – 3rd Quarter of 2019);

These actions planned and completed will reduce the risk of spillage and recurrence.

Yours faithfully

**DURAN ARCHERY
ACTING GENERAL MANAGER
CHEMWES PTY LIMITED
ANGLOGOLD ASHANTI**

