



REPORT ON ENVIRONMENTAL ACTIVITIES AT THE UPL CHEMICAL STORAGE FACILITY LOCATED IN CORNUBIA RIDGE – KWAZULU-NATAL

The Environmental team comprises:

Vicki King – Metamorphosis Environmental Consultants - S30, project leader and coordinator.
Rupert Sebire - Geomeasure Group – contamination and spill specialists – soil ground and surface water.

Ryan Edwards – Verdant Environmental – aquatic and riverine specialist.

Nicky Forbes – MER – estuarine and marine specialist

Robin Bissett – Enviro-Ngaka – initial air quality advisory

Dr Gerhard Verdoorn – Griffin Poison Information Centre – toxins (water and air)

Tex Westgate – Water Science Pty Ltd – Water management/civil engineering

Liaising with Spilltech and Drizit.

This report relates to the activities undertaken on the 16th and 17th July. A full report will be produced for the S30 reporting.

Ryan Edwards and Nicky Forbes visited the site on Friday 16th July and took samples and visual assessment of the situation. Rupert Sebire and Tex Westgate visited the site on the 17th July to review the water situation and assess sampling requirements.

Freshwater / riverine assessment:

- Site visit of the streams and rivers to collect data on habitat impacts and collect surface water samples. (16/7/21)
- Mapping of outflow points and potential attenuation pond.
- Sample analysis results expected in about 1 week.

Key recommendations:

- Prevent any further contaminated water from entering the river system.

Engineer sent to site with Rupert Sebire on Saturday 17th July to work with Spilltech to ensure that this is undertaken.

Ryan Edwards will visit the site again on the 18th July to undertake further assessment of the stormwater outlets and establish the best site and method for the damming of the river in consultation with the engineer and Spilltech.

Water and Soil Contamination Assessment:

- Sorting and categorising of MSDS / SDS's received – In progress
- Initial site walkover and identification of soil / sediment / water sampling locations – Saturday 17/07/2021.
- Potential remediation suggestions made by the toxicologist are being considered.

Key recommendations:

- Potential sampling points were defined.



- A municipal water leak was identified, explaining some of the continual flow into the watercourse.
- Options with regard to mitigation in the river are being discussed.

Estuarine assessment:

- Site visit of the estuary to collect data on habitat impacts and do forensic sampling i.e. in-situ measurements and collect surface water samples. (16/7/21)

Key Recommendations:

- Removal of dead animals must be undertaken as quickly as possible (this commenced on 16th July and is continuing).
- No interference with the estuary mouth must be undertaken, or aeration.
- Do not collect dead animals in the blind area of the estuary behind the southern due towards Breakers Hotel. The sediment is soft and will be damaged by too much trampling.
- Dead animal collected should be weighed and photographs taken of the dead species.
- Recommendations are provided for ongoing work.

Air Quality

On notification of the incident Ms King contacted Robin Bisset from Enviro-Ngaka and Mr M Zunckel from uMoya-Nilu to ascertain whether there was any way that air quality sampling could be undertaken during the fire to establish the potential impacts. Both individuals stated that it is not possible to measure pollutants emitted by a fire, due to logistics of a moving plume and the plume being pushed up into the atmosphere as a result of the heat, changing wind directions etc. they also stated that, with so many other fires and disturbances occurring it would be impossible to identify impacts from any one source. This was confirmed by Mr Bruce Dale – Air Quality Officer - City Health. It was agreed by all parties that it would be necessary to undertake an air Quality Impact Assessment based on Dispersion Modelling. This will be undertaken as per the City Health letter dated 16 July 2021.

3. WORK TO BE UNDERTAKEN

Ms King will continue to coordinate the specialist team and liaise with the clean up teams and Authorities. She will visit the site to assess impacts and review progress. (Monday 19th July).

An environmental specialist team workshop will be convened for Monday 19th to discuss remediation options based on existing information.

Ongoing work will include:

Freshwater / riverine assessment:

- Laboratory analysis of surface water samples.
- Describe aquatic and riparian habitat impacts.
- Satisfy requirements of Section 30 initial actions and establish cause-short report.

Estuarine assessment:

- Take marine water samples as required by Authorities (awaiting clarity)
- Laboratory analysis - chemical fingerprinting of sediment/water and tissue analysis.
- Describe aquatic habitat impacts.
- Satisfy requirements of Section 30 initial actions and establish cause-short report.

Water and Soil Contamination Assessment:

- Soil / Sediment / Water sampling & submission to UIS Organic Laboratory Pretoria for detailed inorganic and organic analysis – Monday 19/07/21

- Soil / Sediment / Water sampling for submission to Eurofins Laboratories in Europe for specialised pesticide / herbicide analysis (not available in RSA) – Date will depend on feedback from Eurofins in terms of volume of sample require.
- Capturing of laboratory data
- Running of a human health risk assessment – once results are received
- Preparation of environmental site assessment and geohydrological report including recommendations for the remediation of the incident

I trust that this provides you will sufficient information for now. Further reports will be produced once additional information is available.

Yours faithfully



Ms. V King LLM, BSc, EAPASA Certified
Principle Consultant

Metamorphosis Environmental Consultants