

## UPL Media Response 1

### Questions from Tony Carnie

11 May 2022

#### QUESTIONS IN RELATION TO DIOXINS AND FURANS

1. Nearly 10 months after the incident, can UPL please confirm whether the specialist consultants it has appointed to investigate the incident have taken ANY samples of dioxins, furans and dioxin-like compounds in the air, water or soil surrounding the UPL Cornubia warehouse - or any biological tissue samples from humans, animals or vegetation potentially exposed to dioxins/furans since the July incident?

Yes, the team of specialists appointed by UPL on the 13<sup>th</sup> of July, took a number of samples during and after the fire.

During the fire, Skyside collected 5 samples for air testing for persistent organic pollutants known as POP that might have been present in the air as result of combustion or condensation following combustion. These were analysed for polyaromatic hydrocarbons (PAH), polycyclic chlorinated biphenyls (PCB) and dioxin and furan-like compounds (PCDD/F). Examples included air samples on a Tenax-trap, fallout samples collected in water traps and surface soils, receptive of atmospheric deposition from airborne contaminants.

Further air and soil samples were collected from July through to early September 2021.

2. If so, how many of these samples were collected on behalf of UPL?

	Total		
	PCDDs	PAH	PCB
Samples collected			
In air	5	71	5

In soil	17	46	6	
Totals	22	117	11	150
<b>Samples analysed</b>				
In air	5	44	-	
In soil	6	32	6	
Totals	11	76	6	93

### **3. What are the laboratory-certified measurement results reported so far in this specific regard?**

The results of the air samples have been sent to the project toxicologists for interpretation in terms of anticipated background levels and also human risk. The results will then be included in a report that will be made available.

However, these results have revealed that the highest concentration levels of POP's were found further away from the Cornubia warehouse fire than closer. This possibly indicates that these levels resulted from a different event that occurred at the same time, more than likely also as a result of the riots, or before as dioxins and furans can stay around in the air for a while.

When it comes to the soil samples. As shown by the dispersion model, the specialist teams would've expected to see a reduction in ground level concentrations with the samples further removed from the fire. The predicted maximum fallout rates nearby the fire were in the order of about 100 ng TEQ/m<sup>2</sup> and reduces to around 0.1 ng TEQ/m<sup>2</sup> at about 2 to 2.5 km (east, west, and south) and 5 km north-northeast.

These fallout rates, equate to a range between 0.002 ng TEQ/kg and 2 ng TEQ/kg, which can be used for comparison with the measurements. This assumed a sample depth of 2 cm and a particle density of 2100 kg/m<sup>3</sup>.

All the samples indicated a concentration below 2 ng TEQ/kg and took the undetected dioxins & furans into account. If the non-detected dioxins & furans were excluded, the

highest observed concentration of  $\pm 1.2$  ng TEQ/kg was seen to be in a southwest direction at the Mt Edgecombe driving range, which is further away from the fire rather than closer, which possibly indicates a different source of impact. The model also predicted lower fallout rates in this area.

It would have been expected that the samples to the north may have had higher dioxin levels, if the fire was the major contributor and given the predominant wind direction during the fire.

The specialists therefore suspect that the dioxins & furans that could have been produced during the fire and smouldering phases may not have contributed significantly to the exiting levels in the soil.

#### **4. What were the precise locations of the sampling points for the analysed samples above?**

See below table and map of locations.

### 3 SAMPLING LOCATIONS

#### 3.1 PCDD's, PCDF's and PCB Sampling Locations

Table 1: Sample Location descriptors

SITE DESCRIPTION	LATITUDE	LONGITUDE
North	29°42'23.48"S	31° 3'47.45"E
South	29°42'27.95"S	31° 3'57.45"E
East	29°42'23.26"S	31° 3'52.13"E
West	29°42'28.20"S	31° 3'48.28"E
Cornubia South Side	29°42'41.74"S	31° 3'15.68"E
4A- Township	29°41'30.97"S	31° 4'10.42"E
5A- EWS Water Works	29°41'51.94"S	31° 4'50.63"E
Makro Liquor Bulk Entrance/Entrance (South)	29°42'33.17"S	31° 3'48.23"E
Reddam ELS	29°42'25.91"S	31° 4'8.54"E
7A- Reddam South	29°42'42.30"S	31° 4'4.06"E
Blackburn Community	29°41'44.00"S	31° 4'18.00"E
Location 1 (East Fenceline)	29°42'23.23"S	31° 3'53.63"E
Location 2 (Between South and West Fenceline)	29°42'28.03"S	31° 3'52.42"E
Blackburn 2	29° 41' 44.34"S	31° 4' 20.064"E
Hawke's Place	29° 41' 55.96"S	31° 3' 51.55"E
Ottawa South	29° 40' 44.02"S	31° 3' 24.67"E
Minor Catchment	29° 42' 4.56"S	31° 3' 16.81"E
Mt Edgcombe Driving Range	29° 43' 9.75"S	31° 2' 33.39"E
Portland Drive	29° 42' 57.43"S	31° 5' 18.61"E
Cornubia Island 2	29°42'36.15"S	31° 3'20.20"E
Bowling Club	29°42'59.68"S	31° 4'7.32"E



Figure 1: Map of sampling locations at Cornubia and surrounding areas



Figure 2: Zoomed in map of sampling locations around the UPL warehouse and surrounds

5. If no samples of dioxins and furans have been taken, why not? On what scientific basis did UPL or its consultants decide that such tests were not justified/merited? If the decision was based on advice received from its appointed specialist consultants, what is the name of the consultancy/expert who tendered this advice (and can UPL kindly furnish a written copy of their advice in this regard - i.e. that dioxin tests were not necessary for whatever stated reasons)?

Samples have been collected. These were certainly deemed necessary.

**6. In a report dated August 23, 2021, Skyside consultants reported that dioxin sampling was conducted from at least from two points on the leased UPL property on July 21 and were to be analysed at the X-Lab and SGS laboratories. What levels of dioxins were recorded by the two laboratories following these test samples? (It is noted that the test results of these samples were due on September 1, 2021),**

The detection limits calculated for the samples are such that the absence of PCCD/F at the reported levels does not exclude the possibility that similar compounds could have been present below the limits that we were able to measure at on the day.

**7. If fewer than 20 dioxin/furan samples have been collected and analysed from the environment and people in the vicinity of UPL over the past 10 months, was UPL's decision to limit the number of such samples influenced in any way by the relatively high analysis costs for dioxins in relation to other chemical compounds, or due to a UPL policy decision to deliberately refrain from measuring and discovering the levels of very toxic pollutants that might result in high levels of public concern?**

UPL has conducted testing at locations and at frequencies advised by its consultants. There has been no limiting of the scope or number of the tests. Samples have been taken on an ongoing basis, and the results speak for themselves. All of the results have been included in the weekly and monthly reports submitted to the authorities.

The philosophy that guided the team of specialists approach to PCCD/F testing was as follows:

- a) Collect library samples that could be analysed once the strategy for testing was agreed.
- b) Analyse samples for PAH as an indicator of the presence of POP in the areas around the warehouse. These have been reported in the weekly and monthly progress reports.
- c) Using the air dispersion model and the public complaints data, sample the potentially most-affected areas and submit these samples for comprehensive analysis of POP and pesticides/herbicides.
- d) Identify one laboratory comprehensively accredited that could process the samples for all.

the tests

## **QUESTIONS RELATED TO THE STORAGE OF UPL AGRO-PRODUCTS IN SOUTH AFRICA**

**1. UPL South Africa (Jan Botha) has previously indicated that UPL is the “fifth-biggest crop protection company in the world” and that it has an annual turnover of \$5-billion a year. It operates in 138 countries, holds 1,300 chemical patents and has a sales revenue of nearly \$100-million in South Africa alone and employs 300 people in this country.**

**In light of the above, how has UPL South Africa sustained itself commercially in terms of pesticide and other agro-chemical manufacture and sales since the Cornubia disaster? Specifically, since the July arson attack, has UPL SA completely discontinued the manufacture/sale/distribution of its products in South Africa?**

**2. If not, to which specific location/locations in South Africa has UPL switched its warehousing/storage/distribution operations?**

**3. In respect of relocation of such operations away from Cornubia, has UPL obtained all the relevant permissions (MHI/EIAs/Scheduled Trade permits etc) to store large quantities of dangerous pesticides and other toxic or hazardous chemical products at this/these new alternative storage/distribution centre/s in South Africa?**

**4. On what date/s did these facilities receive the relevant permissions and authorisations to store and handle UPL’s specifically listed products - if at all?**

**5. Given the bitter experience of the UPL Cornubia Disaster in July last year, what additional measures has UPL SA put in place at this/these alternative storage/distribution facilities to avoid a repetition of similar outcomes in the event of future flooding, earthquakes or other natural /human disasters - especially in regard to fire-fighting safety procedures and on-site containment of liquid effluents in the event of a similar disaster?**

UPL South Africa has managed to source sufficient replacement products to support the agricultural sector during the past growing season. That effort has been critical for the sustainability of their farming operations, and in turn, ensuring food security in the country and the economic wellbeing of the agricultural sector. All goods supplied to farmers are

proprietary products approved for use in South Africa by the Health Department and by the Department of Agriculture in terms of Act No.36 of 1947.

UPL has a number of other operational facilities in the country. All these facilities operate in accordance with the applicable laws. It must be borne in mind that UPL SA did not manufacture products at the Cornubia Warehouse and was thus subject to laws different from manufacturing operations. As regards insuring against emergencies, sight must not be lost of the fact that the Cornubia fire was an arson event which occurred in the midst of an unprecedented and comprehensive breakdown of law and order. Normal firefighting and emergency responses were crippled, resulting in the fire becoming unmanageable. UPL has, however, spared no expense since the arson attack on efforts to mitigate the impact of the chemical spill and continues with its remediation and rehabilitation efforts.