19 September 2014

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Project No. 43218429

Dear Ben

Botany Groundwater Project – Consolidated Human Health Risk Assessment Monitoring Program - Air Monitoring Program 2015 - 2019

1 INTRODUCTION

Orica Botany's Voluntary Management Proposal (VMP) is due to expire in 2014 and is currently undergoing review. The performance schedule for the updated VMP is understood to take effect from 2015 through to 2019. To ensure the future requirements of the VMP are considered, specifically, relevant data to support the Assessment of Risk to Human Health, a suitable sampling program is required.

This document provides a summary of requirements for ongoing air and vapour monitoring to support the quantification of human health risks as presented in the Consolidated Human Health Risk Assessment - 2010 (CHHRA) (ERS 2011[1]). The monitoring is aimed at building on historical data trends and providing information that would trigger more specific additional sampling and assessment relevant to the quantification of exposure. The additional data would then be used to enable revision (if required) of the assessment of exposures and risk presented in the CHHRA.

The air and vapour data considered within the CHHRA is split into two key areas relevant to the assessment of exposure, namely: the Western Margin and the Main Plumes. Section 2 provides a summary of data currently collected and reviewed for the purpose of assessing risks to human health in each of these areas. Section 3 summarises the monitoring requirements for the ongoing assessment of risks.

This letter has been prepared for consideration of air and vapour samples necessary for incorporation into the CHHRA. URS understand that where increases in Chemicals of Potential Concern are identified in groundwater, the information will be made available to URS to establish whether additional air or vapour assessment is required.

[1] ERS 2011 Consolidated Human Health Risk Assessment – 2010. Prepared for Orica Australia Pty Ltd.

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2 CURRENT DATA COLLECTION AND ASSESSMENT

2.1 Western Margin

2.1.1 Key Receptors:

- Residential areas located along the western margin of the Northern Plumes.

2.1.2 Key data used directly in quantification of risk:

- Flux Emissions data collected from locations AS08 and AS11. Data is collected from these locations every 15 months and is used to quantify potential vapour migration and inhalation exposures.

2.2 Main Plumes

2.2.1 Key Receptors:

- Workers above the main plumes and adjacent to Springvale Drain; and
- Recreational users of Botany Golf Course.

2.2.2 Key data used directly in quantification of risk:

Flux Emissions data collected from locations AS05, AS06, AS09, AS12, AS13, AS14 and AS15 in commercial/industrial areas and from AS08, AS17, AS18 and AS88 on Botany Golf Course. In addition, a soil gas sample is collected from AS88 on Botany Golf Course. Data is collected from these locations every 15 months and is used to quantify potential vapour migration and inhalation exposures.

It should be noted that location AS09, previously on Australian Rail Track Corporation (ARTC) property, was moved approximately 20 metres onto the grassed area (at Southlands) adjacent to the boundary of these two properties. This was done, due to a change in surface conditions at the ARTC. Specifically, the original grassed area at AS09 was sealed with bitumen, thus negating the ability to collect representative surface emission samples from that area.

Ambient air samples are collected from locations AS20 and AS62 adjacent to Springvale Drain. The samples are proposed to be collected from these locations every 15 months unless review of other data suggests more frequent monitoring. The data will be used to quantify potential inhalation exposures in work areas adjacent to the drain.

2.2.3 Key data reviewed to establish whether exposures might have changed and additional sampling and assessment might be required:

- Surface water samples are collected from Springvale Drain when ambient air data is collected (every 15 months) from locations AS20 and AS62. The data is reviewed to identify whether surface water concentrations are elevated (above derived trigger levels) and to establish whether additional ambient air data might be required.

3 SUMMARY OF ONGOING AIR & VAPOUR SAMPLING REQUIREMENTS FOR CHHRA

The key data collected as part of ongoing assessment and review of risks to human health is proposed in the following table.

Samples required for input to CHHRA

Sample Location	Area	Flux Emissions	Ambient Air	Soil Gas	Surface Water
AS05	Main Plume	✓			
AS06	Main Plume	✓			
AS08	Western Margin / Main Plume	✓			
AS09	Main Plume	✓			
AS11	Western Margin	✓			
AS12	Main Plume	✓			
AS13	Main Plume	✓			
AS14	Main Plume	✓			
AS15	Main Plume	✓			
AS17	Main Plume	✓			
AS18	Main Plume	✓			
AS20	Main Plume		✓		
AS62	Main Plume		✓		
AS88	Main Plume	✓			
AS88	Main Plume			✓	
SW065	Main Plume				✓

4 REVIEW OF RISKS AND REPORTING REQUIREMENTS

Data collected by URS as part of the ongoing sampling programs will be provided to Orica for incorporation into the CHHRA and reviewed with respect to risks to human health.

Should you have any questions, please do not hesitate to contact the undersigned on (02) 8925 5500.

Yours sincerely
URS Australia Pty Ltd

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