EMISSION ASSESSMENTS
HAZARDOUS MATERIALS

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CERTIFICATE OF ANALYSIS
FIBRE IDENTIFICATION (Soils/Aggregate)

Job No.: HL1819-206 **Date of Report:** 15/10/2018 **Samples Taken by:** Client **Sample Received** 12/10/2018

Client: Capital Recycling, 19 Felspar St, Welshpool WA 6106 **Attention:** Paul Marinelli **Email/Tel. No:** paul@capitalperth.com.au

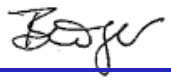
Client Reference: Welshpool

METHODOLOGY SUMMARY

Test Specification(s) Employed: In-House Test Procedure *LPH-01* based on *AS 4964-2004* and the analytical procedures and reporting recommendations in WA ***Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia - May 2009.*** Samples of material are examined to determine the presence of asbestos fibres using *AS4964 (2004)* & In-House Procedure *LPH-01* i.e. Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by **Polarised Light Microscopy** (**PLM**) in conjunction with **Dispersion Staining** (**DS**). Unequivocal identification of asbestos minerals present is made by assessing fibre properties to see whether the values are typical and consistent with published data. This provides a reasonable degree of certainty to determine whether a fibre under investigation is asbestiform or not. Careful application of the test procedure provides sufficient diagnostic clues to allow unequivocal identification of asbestos types, and so, to determine whether a sample contains asbestos or not. If sufficient diagnostic clues are absent, then positive identification of fibrous asbestos is not possible.

Sample No.	Client Ref	Physical Structure	Sample Location	Asbestos Detected	Trace Analysis	Analysis of Fibrous Content	DoH Group	Est. Conc. (%)
W9850		Sand	Stockpile	No Asbestos found at LOR of 0.1g/kg	Respirable Fibres Not Detected	No Asbestos Detected	None	n/a

Note: Reporting of concentrations *below* 0.01% w/w is outside the scope of our NATA Accreditation for Fibre Identification

Analyst Details	Name	Signature
Approved Identifier	Monika Bürger	
Approved Signatory	Monika Bürger	

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian and national standards.

CERTIFICATE OF ANALYSIS
ASBESTOS FIBRE IDENTIFICATION
(Soils/Aggregate)

CLIENT SUPPLIED SAMPLES

EAPL is not responsible for the accuracy or competence of sampling carried by third parties. Sample location(s) and/or sample type(s) of third party samples delivered to the laboratory are given by the client at the time of delivery. Under these circumstances, EAPL cannot be held responsible for the interpretation of the results shown. EAPL takes responsibility of information reported only when an EAPL staff member takes the sample(s). Soil samples analysed by the requirements in ***Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia - May 2009*** must have a volume of 500ml or more.

REPORTING OF RESULTS

'Asbestos Detected': Asbestos detected by **Polarised Light Microscopy** (**PLM**), including **Dispersion Staining** (**DS**)

'No Asbestos Detected': No Asbestos detected by **PLM**, including **DS** reported as "**No Asbestos found at LOR of 0.1g/kg**"

'UMF Detected': Mineral fibres of unknown type detected by **PLM**, including **DS**. Confirmation by another independent analytical technique may be necessary

"Respirable Fibres Detected" or "**Respirable Fibres Not Detected**". **"Respirable Fibre"** or **"Free Asbestos Fibre"** is defined as a fibre that is >**5** µm long x <**3** µm wide

Limit of Detection (LOD) & Limit of Report (LOR)

Known limitations of the test procedure using **Polarised Light Microscopy** (**PLM**) are:

- **PLM** is a qualitative technique only;
- It does not cover identification of airborne or water-borne asbestos;
- The less encountered asbestos mineral fibres *actinolite*, *anthophyllite* and *tremolite* exhibit a wide range of optical properties that preclude unequivocal identification by **PLM** and **DS**. Thus, the method is used to positively identify the three major asbestos minerals: *amosite* ("brown"), *chrysotile* ("white") and *crocidolite* ("blue");
- Valid identification requires that the sample material contains a sufficient quantity of the unknown fibres in excess of the practical detection limit used (in this case, **PLM** and **DS**, which has a calculated practical detection limit of **0.01 - 0.1% w/w** equivalent to **0.1 - 1g/kg** (*AS4964-2004:App.A4*).
- **Limit of Reporting** (**LOR**) for ***asbestos-in-soil*** is **1,000 to 1 in 10,000** parts, *or* **0.1 to 0.01%,** *or* **1 to 0.1 g/kg** (*AS4964-2004:App.A4*).

NB: reporting of concentrations *below* 0.01% w/w is outside the scope of our NATA Accreditation for Fibre Identification

Results relate only to the sample(s) submitted for testing. Test report must not be reproduced except in full. Test report is consistent with the analytical procedures and reporting recommendations in ***Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia - May 2009***

Samples were sieved and the **>2mm** fraction analysed, and the **<2mm** fraction sub-sampled and analysed: Sub-Sample size will be **50g** unless otherwise stated.

Estimated Asbestos Concentration is in relation to **0.001 %** weight for weight (w/w) asbestos for **Fibrous Asbestos** (**FA**) and **Asbestos Fines** (**AF**)

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