

Monitor Phase 54

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Monitor Phase 54

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Monitor Phase 54

Sample ID	Depth	Sample Date	Final Instruction Date	Report Completed Date	Method Units SDG LOD	Actinolite* SUB (ASB)	Amosite* SUB (ASB)	Anthophyllite/Chrysotile* SUB (ASB)	Crocidolite* SUB (ASB)	Tremolite* SUB (ASB)	Fibres Detected SUB (ASB)	Quantification - % Grainmetric - % TM 304	PCCM Evaluation - % TM048	Components (Using TM048)	Comments	Analysts Comments TM 304	(White) Asbestos TM048	(Brown) Asbestos TM048	Quantification - (Blue) Total - % TM 304	Fibrous Anthophyllite TM048	Fibrous Tremolite TM048	Fibrous Actinolite TM048	Asbestos Fibre TM048
RBSL 1% Commercial																							
NSW0470	1.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0470	2.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0470	3.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0471	0.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0471	1.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0471	2.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0471	3.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0472	0.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0472	1.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0472	2.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0472	3.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0472	4.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0473	0.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0473	1.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0473	2.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0473	3.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0473	4.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0474	0.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0474	1.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0474	2.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0474	3.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0474	4.40	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0475	0.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0.0023	-	-	-	-
NSW0475	1.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0475	2.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0475	3.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0475	4.40	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0476	0.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0.0066	-	-	-	-
NSW0476	1.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0476	2.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0476	3.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0476	4.30	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW0476	4.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-90	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW438	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0.0037	-	-	-	-
NSW438	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW440	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW440	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0.161	-	-	-	-
NSW441	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW442	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0.0071	-	-	-	-
NSW442	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW442	2.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW443	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0.001	-	-	-	-
NSW443	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0.001	-	-	-	-
NSW443	2.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW444	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW444	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW444	2.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW447	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0.001	-	-	-	-
NSW447	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW447	2.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW447	3.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW447	4.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW448	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0.001	-	-	-	-
NSW448	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW448	2.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW448	3.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW448	4.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW449	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0.001	-	-	-	-
NSW449	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW449	2.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW449	3.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW449	4.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW450	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0.001	-	-	-	-
NSW450	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW450	2.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
NSW451	0.50																						

Monitor Phase 54

Monitor Phase 51						Asbestos										Quantification - Additional Asbestos		Chrysotile		Amosite		Asbestos		Crocidolite		Fibrous		Fibrous		Non-Asbestos	
Customer Sample ID	Depth	Sampled Date	Sample Received Date	Final Instruction Date	Report Completed Date	Test Method Units	Actinolite* SUB (ASB)	Amosite* SUB (ASB)	Anthophyllite* SUB (ASB)	Chrysotile* SUB (ASB)	Crocidolite* SUB (ASB)	Tremolite* SUB (ASB)	Fibres Detected SUB (ASB)	Asbestos Grammetric - % TM 304	Date of Analysis TM048	Analysed By TM048	PCOM Evaluation - % TM 304	Additional Asbestos Components (Using TM048)	Comments TM048	Analysts TM 304	Chrysotile (White) Asbestos TM048	Amosite (Brown) Asbestos TM048	Asbestos Quantification - Total - % TM 304	Crocidolite Asbestos TM048	Fibrous Anthophyllite TM048	Fibrous Tremolite TM048	Fibrous Actinolite TM048	Non-Asbestos Fibre TM048			
						RSLS 1.0 Commercial											0.001	0.001		0.001											
NSW519	0.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-		
NSW519	1.40	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW520	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW520	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW520	2.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW521	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	Not Detected	Not Detected	Not Detected	Detected	Not Detected	Not Detected	Not Detected	0.006	-	-	0.0012 (Loose fibres in soil)	-	N/C	-	-	0.0072	-	-	-	-	-	-			
NSW521	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW521	2.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW521	3.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW521	4.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW522	0.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW522	1.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW522	2.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW522	3.50	03/10/2014	06/10/2014	23/10/2014	11/11/2014	141006-47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW523	0.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW523	1.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW523	2.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW523	3.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW523	4.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW524	0.40	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW524	1.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW524	2.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW524	3.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW524	4.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW525	0.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	Not Detected	Not Detected	Not Detected	Not Detected	Detected	Not Detected	Not Detected	0.0051	-	-	0.001	None	-	N/C	-	0.0052	-	-	-	-	-	-			
NSW525	1.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW525	2.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW525	3.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW525	4.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW528	0.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW528	1.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW528	2.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW528	3.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW528	4.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW529	0.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW529	1.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW529	2.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW529	3.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW529	4.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW530	0.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	Not Detected	Not Detected	Not Detected	Detected	Detected	Not Detected	Not Detected	0.0027	-	-	0.0019 (Loose fibres in soil)	-	N/C	-	0.0028	-	-	-	-	-	-	-			
NSW530	1.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW530	2.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW530	3.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW530	4.50	02/10/2014	06/10/2014	17/10/2014	29/10/2014	141006-52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW531	0.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW531	1.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW531	2.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW531	3.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW531	4.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW532	0.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	Not Detected	Not Detected	Not Detected	Not Detected	Detected	Not Detected	Not Detected	0.001	-	-	0.001	None	-	N/C	-	0.0016	-	-	-	-	-	-			
NSW532	1.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW532	2.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW532	3.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW532	4.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-			
NSW533	0.50	01/10/2014	06/10/2014	29/10/2014	19/11/2014	141006-50	Not Detected	Not Detected	Not Detected	Detected	Detected	Not Detected	Not Detected	0.0036	-	-	0.0012	None	-	N/C	-	0.0048	-	-	-	-	-	-			
NSW533	1.50	01/10/2014	06/10/2014	29/10																											

[illegible]

Monitor Phase 54

Customer Sample ID	Depth	Sampled Date	Sample Received Date	Final Instruction Date	Report Completed Date	Test Method Units SDG LOO	Asbestos SUB (ASB)	Amosite SUB (ASB)	Anthrophyllite SUB (ASB)	Chrysotile SUB (ASB)	Crocidolite SUB (ASB)	Tremolite SUB (ASB)	Fibres Detected SUB (ASB)	Quantification - Gravimetric - % TM 304	Date of Analysis TM048	Analysed By TM048	PCCM Evaluation - % TM 304	Components (Using TM048)		Comments TM048	Analysts Comments TM 304	(White) Asbestos TM048	(Brown) Asbestos TM048	Quantification - Total - % TM 304	(Blue) Asbestos TM048	Fibrous Asbestos TM048	Fibrous Asbestos TM048	Fibrous Asbestos TM048	Asbestos Fibre TM048
																		TM 304	TM 304										
RBSL 1% Commercial																													
NSW423	1.50	07/10/2014	14/10/2014	23/10/2014	07/11/2014	141014-10	-	-	-	-	-	-	-	0.001	-	-	-	0.001	-	-	-	-	-	0	-	-	-	-	-
NSW423	2.50	07/10/2014	14/10/2014	23/10/2014	07/11/2014	141014-10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSW424	0.60	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	-	24/10/14 in Postlewhite	-	-	-	0	-	-	-	0	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW425	0.70	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	0.013	24/10/14 vis Swindells	-	0.001	Crocidolite fibres in soil	Loose fibres	Detected	Not Detected	-	-	0.0131	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW426	0.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	0.0046	27/10/14 vis Swindells	-	0.0012	None fibres in soil	N/C	Detected	Not Detected	-	-	0.0058	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW426	1.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW427	0.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	0.0046	24/10/14 vis Swindells	-	0.001	Crocidolite fibres in soil	Loose fibres	Detected	Not Detected	-	-	0.0052	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW427	1.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW427	2.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW428	0.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	0.001	27/10/14 Kevin Gill	-	0.001	None fibres in soil	N/C	Detected	Not Detected	-	-	0.001	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW428	1.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	-	27/10/14 Kevin Gill	-	-	0	-	-	-	-	0	Not Detected	Not Detected	Not Detected	Not Detected	Detected	
NSW430	0.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW430	1.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW432	0.50	08/10/2014	10/10/2014	23/10/2014	06/11/2014	141010-103	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSW432	1.50	08/10/2014	10/10/2014	23/10/2014	06/11/2014	141010-103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW432	2.50	08/10/2014	10/10/2014	23/10/2014	06/11/2014	141010-103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW432	3.50	08/10/2014	10/10/2014	23/10/2014	06/11/2014	141010-103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW432	4.50	08/10/2014	10/10/2014	23/10/2014	06/11/2014	141010-103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW433	0.50	08/10/2014	10/10/2014	23/10/2014	06/11/2014	141010-103	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW433	1.50	08/10/2014	10/10/2014	23/10/2014	06/11/2014	141010-103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW433	2.50	08/10/2014	10/10/2014	23/10/2014	06/11/2014	141010-103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW433	3.50	08/10/2014	10/10/2014	23/10/2014	06/11/2014	141010-103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW433	4.50	08/10/2014	10/10/2014	23/10/2014	06/11/2014	141010-103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW445	0.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	0.0042	27/10/14 vis Swindells	-	0.001	None fibres in soil	N/C	Not Detected	Not Detected	-	-	0.0045	Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW445	1.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW445	2.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW446	0.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	0.001	27/10/14 vis Swindells	-	0.0015	hrysotile and Amosite fibres in soil	Loose fibres	Not Detected	Not Detected	-	-	0.0017	Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW446	1.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW446	2.50	06/10/2014	13/10/2014	29/10/2014	18/11/2014	141013-24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW456	1.50	09/10/2014	29/10/2014	19/11/2014	141010-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW456	2.50	10/10/2014	29/10/2014	19/11/2014	141010-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW459	0.50	07/10/2014	14/10/2014	23/10/2014	07/11/2014	141014-10	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	0.0012	Chrysotile	Loose fibres	-	-	-	0.0061	-	-	-	-	-
NSW459	1.00	07/10/2014	14/10/2014	23/10/2014	07/11/2014	141014-10	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW460	0.50	07/10/2014	14/10/2014	23/10/2014	07/11/2014	141014-10	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	0.0013	0.001 (Loose fibres in soil)	N/C	-	-	-	0.0016	-	-	-	-	-
NSW503	0.70	10/10/2014	29/10/2014	19/11/2014	141010-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW504	0.50	10/10/2014	29/10/2014	19/11/2014	141010-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW505	0.50	10/10/2014	29/10/2014	19/11/2014	141010-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW506	0.30	10/10/2014	29/10/2014	19/11/2014	141010-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW506	0.50	10/10/2014	29/10/2014	19/11/2014	141010-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW507	0.50	10/10/2014	29/10/2014	19/11/2014	141010-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW508	0.50	10/10/2014	29/10/2014	19/11/2014	141010-100	-	-	-	-	-	-	-	-	0.001	-	-	0.001	None	N/C	N/C	-	-	-	0.001	-	-	-	-	-
NSW508	1.00	10/10/2014	29/10/2014	19/11/2014	141010-100	-	-	-	-	-	-	-	-	0.0019	-	-													

Monitor Phase 54

Customer Sample ID	Depth	Sampled Date	Sample Received Date	Final Instruction Date	Report Completed Date	Test Method Units SDG LOO	Actinolite* SUB (ASB)	Amosite* SUB (ASB)	Anthophyllite* SUB (ASB)	Chrysotile* SUB (ASB)	Crocidolite* SUB (ASB)	Tremolite* SUB (ASB)	Fibres Detected SUB (ASB)	Quantification - Gravimetric - % TM 304	Date of Analysis TM048	Analysis By TM048	TM 304 Evaluation - %	Components (Using TM048)		Comments	Analysts Comments TM 304	(White) Asbestos TM048	(Brown) Asbestos TM048	Quantification (Blue) Total - % TM 304	Fibrous Anthophyllite TM048	Fibrous Tremolite TM048	Fibrous Actinolite TM048	Asbestos Fibre	
																		TM 304	TM 304										
RBSL 1% Commercial																													
NSW307	1.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	0.001	-	-	0.001	-	-	-	-	-	-	0	-	-	-	-	-
NSW308	0.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	0.0175	3/11/14 Kevin Bowron	-	0.001	-	None I ACM debris	N/C	Detected	Detected	0.0178	Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW308	1.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW308	2.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW311	0.50	09/10/2014	14/10/2014	03/11/2014	141014-77	-	-	-	-	-	-	-	-	0.001	29/10/14 Kevin Bowron	-	0.001	-	None I fibres in soil	N/C	Detected	Not Detected	0.001	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW311	3.50	09/10/2014	14/10/2014	03/11/2014	141014-77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW314	0.25	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	0.001	-	-	0.001	-	None	N/C	-	-	0.001	-	-	-	-	-	
NSW314	1.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW314	2.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW315	0.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	0.054	-	-	0.001	-	None	N/C	-	-	0.0541	-	-	-	-	-	
NSW316	0.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	4.88	-	-	0.0022	-	Amosite	- I ACM debris	-	-	4.89	-	-	-	-	-	
NSW316	1.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW317	0.20	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	0.0504	-	-	0.0023	-	(Loose fibres in soil)	N/C	-	-	0.0527	-	-	-	-	-	
NSW318	0.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	0.001	-	-	0.001	-	None	N/C	-	-	0.001	-	-	-	-	-	
NSW319	0.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	0.0232	-	-	0.001	-	None	N/C	-	-	0.0236	-	-	-	-	-	
NSW319	1.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW319	2.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW319	3.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW326	0.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	0.001	-	-	0.001	-	Crocidolite	- Loose fibres	-	-	0.001	-	-	-	-	-	
NSW326	1.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW326	2.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW326	3.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW327	0.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	0.001	-	-	0.001	-	None	N/C	-	-	0.001	-	-	-	-	-	
NSW327	1.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW327	2.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW327	3.50	16/10/2014	17/10/2014	28/10/2014	141017-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW334	0.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	0.0122	3/11/14 Kevin Bowron	-	0.0016	-	None I fibres in soil	N/C	Detected	Not Detected	0.0138	Detected	Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW334	1.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW334	2.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW335	0.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW340	0.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	0.0021	3/11/14 Kevin Bowron	-	0.001	-	None I fibres in soil	N/C	Detected	Not Detected	0.0029	Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW340	1.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW341	0.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	0.0106	3/11/14 Kevin Gill	-	0.001	-	None I fibres in soil	N/C	Detected	Not Detected	0.0111	Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW341	1.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW342	0.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	0.0017	3/11/14 Kevin Bowron	-	0.001	-	None I fibres in soil	N/C	Detected	Not Detected	0.0027	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW342	1.50	21/10/2014	06/11/2014	27/11/2014	141021-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW343	0.50	09/10/2014	14/10/2014	03/11/2014	141014-77	-	-	-	-	-	-	-	-	0.0014	29/10/14 Kevin Bowron	-	0.001	-	None I ACM debris	N/C	Detected	Not Detected	0.0015	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW343	1.50	09/10/2014	14/10/2014	03/11/2014	141014-77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW344	0.80	09/10/2014	14/10/2014	03/11/2014	141014-77	-	-	-	-	-	-	-	-	0.0174	29/10/14 Kevin Bowron	-	0.001	-	None I ACM debris	N/C	Detected	Not Detected	0.0179	Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW345	0.50	09/10/2014	14/10/2014	03/11/2014	141014-77	-	-	-	-	-	-	-	-	0.0021	28/10/14 Paul Fenney	-	0.001	-	None I fibres in soil	N/C	Detected	Not Detected	0.0022	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW345	1.50	09/10/2014	14/10/2014	03/11/2014	141014-77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	
NSW347	0.50	09/10/2014	14/10/2014	03/11/2014	141014-77	-	-	-	-	-	-	-	-	0.0914	28/10/14 ren Sargeant	-	0.0039	-	None I fibres in soil	N/C	Detected	Detected	0.0953	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW347	1.50	09/10/2014	14/10/2014	03/11/2014	141014-77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	

Monitor Phase 54

Customer Sample ID	Depth	Sample Date	Sample Received Date	Final Instruction Date	Report Completed Date	Test Method Units SOG LOD	Actinolite* SUB (ASB)	Amosite* SUB (ASB)	Anthrophyllite* SUB (ASB)	Chrysotile* SUB (ASB)	Crocidolite* SUB (ASB)	Tremolite* SUB (ASB)	Fibres Detected SUB (ASB)	Quantification - Comments - % TM 304	Date of Analysis TM048	Analyzed by ECOL TM048	ECOL Evaluation - % TM 304	Components (Using TM048)	Comments TM048	Analysts Comments TM 304	(White) Asbestos TM048	(Brown) Asbestos TM048	Quantification Total - % TM 304	(Blue) Asbestos TM048	Fibrous Anthrophyllite TM048	Fibrous Tremolite TM048	Fibrous Actinolite TM048	Asbestos Fibre TM048	RSL: % Commercial					
																														0.001	0.001	0.001	0.001	0.001
NSW104	0.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	Not Detected	Not Detected	Not Detected	Detected	Not Detected	Not Detected	Not Detected	0.001				0.001	None		N/C			0.001										
NSW104	1.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	-	-	-	-	-	-	-					0						0										
NSW104	2.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	-	-	-	-	-	-	-					0						0										
NSW104	3.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	-	-	-	-	-	-	-					0						0										
NSW105	0.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	Not Detected	Not Detected	Not Detected	Detected	Not Detected	Not Detected	Not Detected	0.001				0.001	None		N/C			0.001										
NSW105	1.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	-	-	-	-	-	-	-					0						0										
NSW105	2.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	-	-	-	-	-	-	-					0						0										
NSW105	3.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	-	-	-	-	-	-	-					0						0										
NSW106	0.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	Not Detected	Not Detected	Not Detected	Detected	Not Detected	Not Detected	Not Detected	0.001				0.001	None		N/C			0.001										
NSW106	1.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	-	-	-	-	-	-	-					0						0										
NSW106	2.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	-	-	-	-	-	-	-					0						0										
NSW106	3.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	-	-	-	-	-	-	-					0						0										
NSW107	0.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0						0										
NSW107	1.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW107	2.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW107	3.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW107	4.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW108	0.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0						0										
NSW108	1.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW108	2.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW109	0.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0						0										
NSW109	1.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW109	2.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW109	3.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW109	4.40	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW110	0.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0						0										
NSW110	1.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW110	2.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW110	3.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW111	0.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0						0										
NSW111	1.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW111	2.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW111	3.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	-	-	-	-	-	-	-					0						0										
NSW112	0.50	02/12/2014	29/10/2014	18/11/2014	09/12/2014	141029-55								13/11/14	Levin Hughes			0		- Not Detected	Not Detected			0	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					
NSW112	1.50	02/12/2014	29/10/2014	18/11/2014	09/12/2014	141029-55																												
NSW112	2.50	02/12/2014	29/10/2014	18/11/2014	09/12/2014	141029-55																												
NSW113	0.50	02/12/2014	29/10/2014	29/10/2014	14/11/2014	141029-46								11/11/14	n Postlewhite			0		- Not Detected	Not Detected			0	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					
NSW113	1.50	02/12/2014	29/10/2014	29/10/2014	14/11/2014	141029-46	-	-	-	-	-	-	-					0						0										
NSW113	2.50	02/12/2014	29/10/2014	29/10/2014	14/11/2014	141029-46	-	-	-	-	-	-	-					0						0										
NSW113	3.50	02/12/2014	29/10/2014	29/10/2014	14/11/2014	141029-46	-	-	-	-	-	-	-					0						0										
NSW113	4.50	02/12/2014	29/10/2014	29/10/2014	14/11/2014	141029-46	-	-	-	-	-	-	-					0						0										
NSW114	0.50	02/12/2014	29/10/2014	18/11/2014	09/12/2014	141029-55								13/11/14	Levin Hughes			0		- Not Detected	Not Detected			0	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					
NSW114	1.50	02/12/2014	29/10/2014	18/11/2014	09/12/2014	141029-55	-	-	-	-	-	-	-					0						0										
NSW114	2.50	02/12/2014	29/10/2014	18/11/2014	09/12/2014	141029-55	-	-	-	-	-	-	-					0						0										
NSW114	3.50	02/12/2014	29/10/2014	18/11/2014	09/12/2014	141029-55	-	-	-	-	-	-	-					0						0										
NSW115	0.50	02/12/2014	29/10/2014	18/11/2014	09/12/2014	141029-55								13/11/14	Levin Hughes			0		- Not Detected	Not Detected			0	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					
NSW115	1.50	02/12/2014	29/10/2014	18/11/2014	09/12/2014	141029-55	-	-	-	-	-	-	-					0						0										
NSW115	2.50	02/12/2014	29/10/2014	18/11/2014	09/12/2014	141029-55	-	-	-	-	-	-	-					0						0										
NSW115	3.50	02/12/2014	29/10/2014	18/11/2014	09/12/2014	141029-55	-	-	-	-	-	-	-					0						0										
NSW116	0.50	02/12/2014	29/10/2014	17/11/2014	10/12/2014	141029-2	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0						0										
NSW116	1.50	02/12/2014	29/10/2014	17/11/2014	10/12/2014	141029-2	-	-	-	-	-	-	-					0						0										
NSW117	0.50	02/12/2014	29/10/2014	17/11/2014	10/12/2014	141029-2	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0						0										
NSW117	1.50	02/12/2014	29/10/2014	17/11/2014	10/12/2014	141029-2	-	-	-	-	-	-	-					0						0										
NSW117	2.50	02/12/2014	29/10/2014	17/11/2014	10/12/2014	141029-2	-	-	-	-	-	-	-					0						0										
NSW118	0.50	02/12/2014	29/10/2014	17/11/2014	10/12/2014	141029-2	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0						0										
NSW118	1.50	02/12/2014	29/10/2014	17/11/2014	10/12/2014	141029-2	-	-	-	-	-	-	-					0						0										
NSW118	2.50	02/12/2014	29/10/2014	17/11/2014	10/12/2014	141029-2	-	-	-	-	-	-	-					0						0										
NSW118	3.50	02/12/2014	29/10/2014	17/11/2014	10/12/2014	1																												

Monitor Phase 54

Monitor Phase 54						Asbestos Fibres Detected SUB (ASB)	Asbestos Quantification - % TM 304	Date of Analysis TM048	Analysed By TM048	Quantification PCCM Evaluation - % TM 304	Additional Asbestos Components (Using TM 304)	Comments	Analysts TM 304	Chrysotile (White) Asbestos TM048	Amosite (Brown) Asbestos TM048	Asbestos Quantification Total - % TM 304	Crocidolite (Blue) Asbestos TM048	Fibrous Anthophyllite TM048	Fibrous Tremolite TM048	Fibrous Actinolite TM048	Non-Asbestos Fibre TM048
Customer Sample ID	Depth	Sampled Date	Sample Received Date	Final Instruction Date	Report Completed Date	Test Method Units SDO LOO	RBSL 1% Commercial														
NSW83	1.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44											0				
NSW83	2.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44											0				
NSW84	0.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0				
NSW84	1.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44											0				
NSW84	2.50	24/10/2014	29/10/2014	19/11/2014	12/12/2014	141029-44											0				
NSW85	0.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45						11/11/14 n Postlewhite	0	-	Not Detected	Not Detected	0	Not Detected	Not Detected	Not Detected	Not Detected
NSW85	1.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW85	2.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW85	3.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW86	0.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45						11/11/14 n Postlewhite	0	-	Not Detected	Not Detected	0	Not Detected	Not Detected	Not Detected	Not Detected
NSW86	1.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW86	2.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW87	0.50	21/10/2014	29/10/2014	17/11/2014	10/12/2014	141029-2	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0				
NSW87	1.50	21/10/2014	29/10/2014	17/11/2014	10/12/2014	141029-2											0				
NSW87	2.50	21/10/2014	29/10/2014	17/11/2014	10/12/2014	141029-2											0				
NSW88	0.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45						11/11/14 n Postlewhite	0	-	Not Detected	Not Detected	0	Not Detected	Not Detected	Not Detected	Not Detected
NSW88	1.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW88	2.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW88	3.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW89	0.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45						11/11/14 n Postlewhite	0	-	Not Detected	Not Detected	0	Not Detected	Not Detected	Not Detected	Not Detected
NSW89	1.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW89	2.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW89	3.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW89	4.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW93	0.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45						11/11/14 n Postlewhite	0	-	Not Detected	Not Detected	0	Not Detected	Not Detected	Not Detected	Not Detected
NSW93	1.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW93	2.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW93	3.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW93	4.50	22/10/2014	29/10/2014	29/10/2014	14/11/2014	141029-45											0				
NSW95	0.40	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0				
NSW95	1.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4											0				
NSW95	2.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4											0				
NSW96	0.40	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0				
NSW96	1.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4											0				
NSW96	2.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4											0				
NSW96	3.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4											0				
NSW96	4.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4											0				
NSW97	0.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	Not Detected	Not Detected	Not Detected	-	-	-					0				
NSW97	1.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4											0				
NSW97	2.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4											0				
NSW97	3.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4											0				
NSW98	0.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected					0				
NSW98	1.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4											0				
NSW98	2.50	23/10/2014	29/10/2014	29/10/2014	17/11/2014	141029-4											0				
NSW 321	0.50	13/10/2014	04/11/2014	24/11/2014	29/12/2014	141104-15	Not Detected	Not Detected	Not Detected	-	-	-	Crocidolite	-	fibres in soil		0.0063	-	-	-	-
NSW 321	1.50	13/10/2014	04/11/2014	24/11/2014	29/12/2014	141104-15											0				
NSW 321	2.50	13/10/2014	04/11/2014	24/11/2014	29/12/2014	141104-15											0				
NSW 321	3.50	13/10/2014	04/11/2014	24/11/2014	29/12/2014	141104-15											0				
NSW 332	0.10	15/10/2014	01/11/2014	19/11/2014	17/12/2014	141101-73				0.0034	14/11/14 levin Hughes	0.001	None	-	fibres in soil	N/C	Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW 332	0.40	15/10/2014	01/11/2014	19/11/2014	17/12/2014	141101-73				0.0075	17/11/14 levin Hughes	0.001	None	-	1 ACM debris	N/C	Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW 332	2.00	15/10/2014	01/11/2014	19/11/2014	17/12/2014	141101-73											0				
NSW 332	3.00	15/10/2014	01/11/2014	19/11/2014	17/12/2014	141101-73											0				
NSW 333	0.50	15/10/2014	01/11/2014	19/11/2014	17/12/2014	141101-73				0.0112	14/11/14 levin Hughes	0.0014	None	-	fibres in soil	N/C	Detected	Not Detected	Not Detected	Not Detected	Not Detected
NSW 333	1.50	15/10/2014	01/11/2014	19/11/2014	17/12/2014	141101-73											0.0126	-	-	-	-
NSW 333	2.50	15/10/2014	01/11/2014	19/11/2014	17/12/2014	141101-73											0				
NSW004	0.50	04/11/2014	07/11/2014	07/11/2014	21/11/2014	141107-13						18/11/14 n Postlewhite	0	-	Not Detected	Not Detected	0	Not Detected	Not Detected	Not Detected	Not Detected
NSW004																					

Monitor Phase 54

Customer Sample ID	Depth	Sample Date	Sample Received Date	Final Inspection Date	Report Completed Date	T. Method Units SDG LOO	Ascidinate* SUB (ASB)	Amosite* SUB (ASB)	Anthrophyllite* SUB (ASB)	Chrysotile* SUB (ASB)	Crocidolite* SUB (ASB)	Tremolite* SUB (ASB)	Fibres Detected SUB (ASB)	Quantification - % Comments - %	Date of Analysis TM048	COI Evaluation - % TM 304	Components (Using TM048) TM 304	Comments TM048	Analysts Comments TM 304	(White) Asbestos TM048	(Brown) Asbestos TM048	Quantification - Total - % TM 304	(Blue) Asbestos TM048	Fibrous Anthrophyllite TM048	Fibrous Tremolite TM048	Fibrous Actinolite TM048	Asbestos Fibre TM048
NSC091	2.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	0.001	-	0.001	-	-	-	0	-	-	-	-	-	
NSC091	3.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC092	0.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC092	1.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC093	0.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC093	1.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC094	0.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC094	1.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC094	2.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC094	3.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC095	0.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC095	1.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC095	2.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC095	3.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC096	0.50	14/11/2014	17/11/2014	17/11/2014	08/12/2014	141117-10	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC096	1.50	14/11/2014	17/11/2014	17/11/2014	08/12/2014	141117-10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC096	2.50	14/11/2014	17/11/2014	17/11/2014	08/12/2014	141117-10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC096	3.50	14/11/2014	17/11/2014	17/11/2014	08/12/2014	141117-10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC098	1.50	14/11/2014	17/11/2014	17/11/2014	08/12/2014	141117-10	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC099	0.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC099	1.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC099	2.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC100	0.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC100	1.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC100	2.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC100	3.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC101	0.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC101	1.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC101	2.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC101	3.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC102	0.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC102	1.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC103	0.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC103	1.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC103	2.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC103	3.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC104	0.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC104	1.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC104	2.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC104	3.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC105	0.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC105	1.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC105	2.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC105	3.50	17/11/2014	20/11/2014	20/11/2014	13/12/2014	141120-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC106	0.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC106	1.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC106	2.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC106	3.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC107	0.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC107	1.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC108	0.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC108	1.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC108	2.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC108	3.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC109	0.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC109	1.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC109	2.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
NSC109	3.50	18/11/2014	20/11/2014	20/11/2014	12/12/2014	141120-61	-	-</																			

[illegible]

Monitor Phase 54

[illegible]

Monitor Phase 54

[illegible]



Final Report

Report Number: 15-09852 Issue-1

Initial Date of Issue: 01-May-2015

Client: Enverity

Client Address: Quarry Farm View
Bowbridge Lane
Newark
Nottinghamshire
NG24 3BZ

Contact(s): Claire Reynolds

Project: RMA 14 - Trial Pits - Coed Darcy

Quotation No.: **Date Received:** 29-Apr-2015

Order No.: **Date Instructed:** 29-Apr-2015

No. of Samples: 6

Turnaround: (Wkdays) 3 **Results Due Date:** 01-May-2015

Date Approved: 01-May-2015

Approved By:

Details: Robert Monk, Technical Development
Chemist

Results Summary - Soil

Project: RMA 14 - Trial Pits - Coed Darcy

Client: Enverity	Chemtest Job No.:				15-09852	15-09852	15-09852	15-09852	15-09852	15-09852
Quotation No.:	Chemtest Sample ID.:				134555	134556	134557	134558	134559	134560
Order No.:	Client Sample Ref.:									
	Client Sample ID.:				NSW0865	NSW0864	NSW716	NSW716	NSW660	NSW711
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.5	0.5	0.5	1.5	0.5	0.5
	Bottom Depth(m):									
	Date Sampled:				23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15
Determinand	Accred.	SOP	Units	LOD						
ACM Type	U	2192			-	-	-		-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected	No Asbestos Detected
Asbestos by Gravimetry	U	2192	%	0.001	-	-	-		-	-
Total Asbestos	N	2192	%	0.001	-	-	-		-	-
Moisture	N	2030	%	0.02	15	13	13	14	20	16
pH	U	2010			8.6	9.7	6.6	7.2	6.9	6.4
Arsenic	U	2450	mg/kg	1	16	19	12	34	33	19
Cadmium	U	2450	mg/kg	0.1	0.59	0.87	0.28	0.99	1.5	0.34
Chromium	U	2450	mg/kg	1	26	32	22	23	30	24
Copper	U	2450	mg/kg	0.5	35	43	24	96	72	30
Mercury	U	2450	mg/kg	0.1	0.19	0.41	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	U	2450	mg/kg	0.5	35	35	22	21	30	18
Lead	U	2450	mg/kg	0.5	58	83	41	170	130	35
Selenium	U	2450	mg/kg	0.2	< 0.20	< 0.20	< 0.20	0.42	0.49	0.44
Vanadium	U	2450	mg/kg	5	19	23	16	19	24	17
Zinc	U	2450	mg/kg	0.5	230	270	77	200	240	59
Organic Matter	U	2625	%	0.4	2.8	2.8	2.1	5.3	5.3	2.4
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	9.5	< 0.10	2.6	< 0.10
Aliphatic TPH >C8-C10	U	2675	mg/kg	0.1	< 0.10	< 0.10	140	< 0.10	9.3	< 0.10
Aliphatic TPH >C10-C12	U	2675	mg/kg	1	< 1.0	39	450	< 1.0	20	< 1.0
Aliphatic TPH >C12-C16	U	2675	mg/kg	1	< 1.0	120	600	5.7	150	< 1.0
Aliphatic TPH >C16-C21	U	2675	mg/kg	1	< 1.0	150	93	38	200	2.6
Aliphatic TPH >C21-C35	U	2675	mg/kg	1	< 1.0	180	< 1.0	120	250	290
Aliphatic TPH >C35-C44	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	3.0	1.4	29
Total Aliphatic Hydrocarbons	U	2675	mg/kg	5	< 5.0	480	1300	160	640	320
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	2.3	< 0.10
Aromatic TPH >C8-C10	U	2675	mg/kg	0.1	< 0.10	< 0.10	5.7	< 0.10	7.2	< 0.10
Aromatic TPH >C10-C12	N	2675	mg/kg	1	< 1.0	< 1.0	85	< 1.0	11	< 1.0
Aromatic TPH >C12-C16	U	2675	mg/kg	1	< 1.0	20	270	2.2	45	< 1.0
Aromatic TPH >C16-C21	U	2675	mg/kg	1	< 1.0	45	29	3.8	17	1.4

Results Summary - Soil

Project: RMA 14 - Trial Pits - Coed Darcy

Client: Enverity	Chemtest Job No.:					15-09852	15-09852	15-09852	15-09852	15-09852	15-09852
Quotation No.:	Chemtest Sample ID.:					134555	134556	134557	134558	134559	134560
Order No.:	Client Sample Ref.:										
	Client Sample ID.:					NSW0865	NSW0864	NSW716	NSW716	NSW660	NSW711
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					0.5	0.5	0.5	1.5	0.5	0.5
	Bottom Depth(m):										
	Date Sampled:					23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15
Determinand	Accred.	SOP	Units	LOD							
Aromatic TPH >C21-C35	N	2675	mg/kg	1	< 1.0	54	< 1.0	18	22	18	
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	1.9	< 1.0	2.6	
Total Aromatic Hydrocarbons	U	2675	mg/kg	5	< 5.0	120	390	26	110	22	
Total Petroleum Hydrocarbons	U	2675	mg/kg	10	< 10	600	1700	190	740	340	
Naphthalene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthylene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Fluorene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Phenanthrene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Anthracene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Fluoranthene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Pyrene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[a]anthracene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Chrysene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[b]fluoranthene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[k]fluoranthene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[a]pyrene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[g,h,i]perylene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Total Of 16 PAH's	U	2700	mg/kg	2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	
Benzene	U	2760	µg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	U	2760	µg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	U	2760	µg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
m & p-Xylene	U	2760	µg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	U	2760	µg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at our Coventry laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.co.uk

Appendix D. Laboratory Analytical Results – Remedial Works



Atkins Global Ltd
Project Jonah site office
Llan Coed House
Suite 24
Coed Darcy
Llandarcy
SA10 6HJ

Attention: Barney Irlam

CERTIFICATE OF ANALYSIS

Date: 25 September 2015
Customer: H_ATKINS_LDC
Sample Delivery Group (SDG): 150401-78
Your Reference: RMA14: NSW84
Location: Coed Darcy
Report No: 331134

This report has been revised and directly supersedes 309035 in its entirety.

We received 8 samples on Wednesday April 01, 2015 and 8 of these samples were scheduled for analysis which was completed on Wednesday April 15, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:

Sonia McWhan

Operations Manager





SDG:	150401-78	Location:	Coed Darcy	Order Number:	CD1173
Job:	H_ATKINS_LDC-333	Customer:	Atkins Global Ltd	Report Number:	331134
Client Reference:	RMA14: NSW84	Attention:	Barney Irlam	Superseded Report:	309035

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11116740	NSW84_1			31/03/2015
11116744	NSW84_2			31/03/2015
11116748	NSW84_3			31/03/2015
11116752	NSW84_4			31/03/2015
11116756	NSW84_5			31/03/2015
11116760	NSW84_6			31/03/2015
11116764	NSW84_7			31/03/2015
11116768	NSW84_8			31/03/2015

Only received samples which have had analysis scheduled will be shown on the following pages.



SDG: 150401-78
Job: H_ATKINS_LDC-333
Client Reference: RMA14: NSW84

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Barney Irlam

Order Number: CD1173
Report Number: 331134
Superseded Report: 309035

SOLID Results Legend  Test  No Determination Possible	Lab Sample No(s)		11116740	11116744	11116748	11116752	11116756	11116760	11116764	11116768
	Customer Sample Reference		NSW84_1	NSW84_2	NSW84_3	NSW84_4	NSW84_5	NSW84_6	NSW84_7	NSW84_8
	AGS Reference									
	Depth (m)									
	Container		60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar	60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar	60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar	60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar	60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar	60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar	60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar	60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar 60g VOC (ALE215) 250g Amber Jar 60g VOC (ALE215) 400g Tub (ALE214) 250g Amber Jar
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 8		X	X	X	X	X	X	X
pH	All	NDPs: 0 Tests: 3	X			X				X
Sample description	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X
Total Organic Carbon	All	NDPs: 0 Tests: 3	X			X				X
TPH CWG GC (S)	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X



SDG: 150401-78
Job: H_ATKINS_LDC-333
Client Reference: RMA14: NSW84

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Barney Irlam

Order Number: CD1173
Report Number: 331134
Superseded Report: 309035

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
11116740	NSW84_1		Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	None
11116744	NSW84_2		Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	None
11116748	NSW84_3		Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	None
11116752	NSW84_4		Dark Brown	Stone/Soil	2 - 10 mm	N/A	N/A
11116756	NSW84_5		Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	Vegetation
11116760	NSW84_6		Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11116764	NSW84_7		Dark Brown	Sandy Clay	0.1 - 2 mm	Stones	None
11116768	NSW84_8		Dark Brown	Sandy Clay	0.1 - 2 mm	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Order Number: CD1173
Report Number: 331134
Superseded Report: 309035

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Order Number: CD1173
Report Number: 331134
Superseded Report: 309035

Page 6 of 11



SDG: 150401-78
Job: H_ATKINS_LDC-333
Client Reference: RMA14: NSW84

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Barney Irlam

Order Number: CD1173
Report Number: 331134
Superseded Report: 309035

TPH CWG (S)

Results Legend			Customer Sample Ref.					
#	ISO17025 accredited.		NSW84_1		NSW84_2		NSW84_3	
M	mCERTS accredited.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
1-5&*&@	Sample deviation (see appendix)							
			Depth (m)		Soil/Solid		Soil/Solid	
			Sample Type		31/03/2015		31/03/2015	
			Date Sampled					
			Sample Time					
			Date Received		01/04/2015		01/04/2015	
			SDG Ref		150401-78		150401-78	
			Lab Sample No.(s)		11116740		11116748	
			AGS Reference					
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM089	106		105		131	
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	58900		52200		167000	
			M		M		#	
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<20		<20		<20	
			M		M		#	
Benzene	<10 µg/kg	TM089	<40		46		<40	
			M		M		#	
Toluene	<2 µg/kg	TM089	<8		<8		<8	
			M		M		#	
Ethylbenzene	<3 µg/kg	TM089	<12		<12		184	
			M		M		#	
m,p-Xylene	<6 µg/kg	TM089	<24		<24		<24	
			M		M		#	
o-Xylene	<3 µg/kg	TM089	<12		<12		<12	
			M		M		#	
sum of detected mpo xylene by GC	<9 µg/kg	TM089	<9		<9		<9	
sum of detected BTEX by GC	<24 µg/kg	TM089	<24		46		184	
Aliphatics >C5-C6	<10 µg/kg	TM089	50.7		40.2		<40	
Aliphatics >C6-C8	<10 µg/kg	TM089	3900		3790		37000	
Aliphatics >C8-C10	<10 µg/kg	TM089	19700		17900		4140	
Aliphatics >C10-C12	<10 µg/kg	TM089	13200		11100		928	
Aliphatics >C12-C16	<100 µg/kg	TM173	1130		3860		191000	
Aliphatics >C16-C21	<100 µg/kg	TM173	<100		1690		68000	
Aliphatics >C21-C35	<100 µg/kg	TM173	<100		3060		275000	
Aliphatics >C35-C44	<100 µg/kg	TM173	<100		813		22200	
Total Aliphatics >C12-C44	<100 µg/kg	TM173	1130		9430		556000	
Aromatics >EC5-EC7	<10 µg/kg	TM089	<40		<40		46	
Aromatics >EC7-EC8	<10 µg/kg	TM089	<40		<40		<40	
Aromatics >EC8-EC10	<10 µg/kg	TM089	13200		11900		47400	
Aromatics >EC10-EC12	<10 µg/kg	TM089	8830		7380		4770	
Aromatics >EC12-EC16	<100 µg/kg	TM173	584		922		13200	
Aromatics >EC16-EC21	<100 µg/kg	TM173	<100		<100		24500	
Aromatics >EC21-EC35	<100 µg/kg	TM173	<100		<100		178000	
Aromatics >EC35-EC44	<100 µg/kg	TM173	<100		<100		19200	
Aromatics >EC40-EC44	<100 µg/kg	TM173	<100		<100		5190	
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	584		922		234000	
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	60600		62500		958000	



SDG: 150401-78
Job: H_ATKINS_LDC-333
Client Reference: RMA14: NSW84

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Barney Irlam

Order Number: CD1173
Report Number: 331134
Superseded Report: 309035

TPH CWG (S)

Results Legend		Customer Sample Ref.	NSW84_7	NSW84_8				
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference						
M	mCERTS accredited.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
1-5&*\$@	Sample deviation (see appendix)							
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM089	92	86				
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	5580	3830				
			M	M				
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<20	<20				
			M	M				
Benzene	<10 µg/kg	TM089	<40	<40				
			M	M				
Toluene	<2 µg/kg	TM089	<8	<8				
			M	M				
Ethylbenzene	<3 µg/kg	TM089	28.5	<12				
			M	M				
m,p-Xylene	<6 µg/kg	TM089	<24	<24				
			M	M				
o-Xylene	<3 µg/kg	TM089	<12	<12				
			M	M				
sum of detected mpo xylene by GC	<9 µg/kg	TM089	<9	<9				
sum of detected BTEX by GC	<24 µg/kg	TM089	28.5	<24				
Aliphatics >C5-C6	<10 µg/kg	TM089	<40	<40				
Aliphatics >C6-C8	<10 µg/kg	TM089	699	1190				
Aliphatics >C8-C10	<10 µg/kg	TM089	1670	1160				
Aliphatics >C10-C12	<10 µg/kg	TM089	1230	402				
Aliphatics >C12-C16	<100 µg/kg	TM173	<100	<100				
Aliphatics >C16-C21	<100 µg/kg	TM173	<100	<100				
Aliphatics >C21-C35	<100 µg/kg	TM173	847	1660				
Aliphatics >C35-C44	<100 µg/kg	TM173	<100	<100				
Total Aliphatics >C12-C44	<100 µg/kg	TM173	847	1660				
Aromatics >EC5-EC7	<10 µg/kg	TM089	<40	<40				
Aromatics >EC7-EC8	<10 µg/kg	TM089	<40	<40				
Aromatics >EC8-EC10	<10 µg/kg	TM089	1140	773				
Aromatics >EC10-EC12	<10 µg/kg	TM089	816	269				
Aromatics >EC12-EC16	<100 µg/kg	TM173	365	161				
Aromatics >EC16-EC21	<100 µg/kg	TM173	193	418				
Aromatics >EC21-EC35	<100 µg/kg	TM173	610	1280				
Aromatics >EC35-EC44	<100 µg/kg	TM173	<100	<100				
Aromatics >EC40-EC44	<100 µg/kg	TM173	<100	<100				
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	1170	1860				
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	7590	7350				



SDG:	150401-78	Location:	Coed Darcy	Order Number:	CD1173
Job:	H_ATKINS_LDC-333	Customer:	Atkins Global Ltd	Report Number:	331134
Client Reference:	RMA14: NSW84	Attention:	Barney Irlam	Superseded Report:	309035

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.



SDG: 150401-78
Job: H_ATKINS_LDC-333
Client Reference: RMA14: NSW84

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Barney Irlam

Order Number: CD1173
Report Number: 331134
Superseded Report: 309035

Test Completion Dates

Lab Sample No(s) Customer Sample Ref.	11116740	11116744	11116748	11116752	11116756	11116760	11116764	11116768
	NSW84_1	NSW84_2	NSW84_3	NSW84_4	NSW84_5	NSW84_6	NSW84_7	NSW84_8
AGS Ref.								
Depth								
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
EPH CWG (Aliphatic) GC (S)	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015
EPH CWG (Aromatic) GC (S)	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015
GRO by GC-FID (S)	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015
pH	15-Apr-2015			11-Apr-2015				13-Apr-2015
Sample description	02-Apr-2015	02-Apr-2015	02-Apr-2015	02-Apr-2015	02-Apr-2015	02-Apr-2015	02-Apr-2015	02-Apr-2015
Total Organic Carbon	09-Apr-2015			09-Apr-2015				09-Apr-2015
TPH CWG GC (S)	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015



SDG: 150401-78
Job: H_ATKINS_LDC-333
Client Reference: RMA14: NSW84

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Barney Irlam

Order Number: CD1173
Report Number: 331134
Superseded Report: 309035

Appendix General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
\$	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.



Final Report

Report Number: 15-09852 Issue-1

Initial Date of Issue: 01-May-2015

Client: Enverity

Client Address: Quarry Farm View
Bowbridge Lane
Newark
Nottinghamshire
NG24 3BZ

Contact(s): Claire Reynolds

Project: RMA 14 - Trial Pits - Coed Darcy

Quotation No.: **Date Received:** 29-Apr-2015

Order No.: **Date Instructed:** 29-Apr-2015

No. of Samples: 6

Turnaround: (Wkdays) 3 **Results Due Date:** 01-May-2015

Date Approved: 01-May-2015

Approved By:

Details: Robert Monk, Technical Development
Chemist

Results Summary - Soil

Project: RMA 14 - Trial Pits - Coed Darcy

Client: Enverity	Chemtest Job No.:				15-09852	15-09852	15-09852	15-09852	15-09852	15-09852
Quotation No.:	Chemtest Sample ID.:				134555	134556	134557	134558	134559	134560
Order No.:	Client Sample Ref.:									
	Client Sample ID.:				NSW0865	NSW0864	NSW716	NSW716	NSW660	NSW711
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.5	0.5	0.5	1.5	0.5	0.5
	Bottom Depth(m):									
	Date Sampled:				23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15
Determinand	Accred.	SOP	Units	LOD						
ACM Type	U	2192			-	-	-		-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected	No Asbestos Detected
Asbestos by Gravimetry	U	2192	%	0.001	-	-	-		-	-
Total Asbestos	N	2192	%	0.001	-	-	-		-	-
Moisture	N	2030	%	0.02	15	13	13	14	20	16
pH	U	2010			8.6	9.7	6.6	7.2	6.9	6.4
Arsenic	U	2450	mg/kg	1	16	19	12	34	33	19
Cadmium	U	2450	mg/kg	0.1	0.59	0.87	0.28	0.99	1.5	0.34
Chromium	U	2450	mg/kg	1	26	32	22	23	30	24
Copper	U	2450	mg/kg	0.5	35	43	24	96	72	30
Mercury	U	2450	mg/kg	0.1	0.19	0.41	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	U	2450	mg/kg	0.5	35	35	22	21	30	18
Lead	U	2450	mg/kg	0.5	58	83	41	170	130	35
Selenium	U	2450	mg/kg	0.2	< 0.20	< 0.20	< 0.20	0.42	0.49	0.44
Vanadium	U	2450	mg/kg	5	19	23	16	19	24	17
Zinc	U	2450	mg/kg	0.5	230	270	77	200	240	59
Organic Matter	U	2625	%	0.4	2.8	2.8	2.1	5.3	5.3	2.4
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	9.5	< 0.10	2.6	< 0.10
Aliphatic TPH >C8-C10	U	2675	mg/kg	0.1	< 0.10	< 0.10	140	< 0.10	9.3	< 0.10
Aliphatic TPH >C10-C12	U	2675	mg/kg	1	< 1.0	39	450	< 1.0	20	< 1.0
Aliphatic TPH >C12-C16	U	2675	mg/kg	1	< 1.0	120	600	5.7	150	< 1.0
Aliphatic TPH >C16-C21	U	2675	mg/kg	1	< 1.0	150	93	38	200	2.6
Aliphatic TPH >C21-C35	U	2675	mg/kg	1	< 1.0	180	< 1.0	120	250	290
Aliphatic TPH >C35-C44	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	3.0	1.4	29
Total Aliphatic Hydrocarbons	U	2675	mg/kg	5	< 5.0	480	1300	160	640	320
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	2.3	< 0.10
Aromatic TPH >C8-C10	U	2675	mg/kg	0.1	< 0.10	< 0.10	5.7	< 0.10	7.2	< 0.10
Aromatic TPH >C10-C12	N	2675	mg/kg	1	< 1.0	< 1.0	85	< 1.0	11	< 1.0
Aromatic TPH >C12-C16	U	2675	mg/kg	1	< 1.0	20	270	2.2	45	< 1.0
Aromatic TPH >C16-C21	U	2675	mg/kg	1	< 1.0	45	29	3.8	17	1.4

Results Summary - Soil

Project: RMA 14 - Trial Pits - Coed Darcy

Client: Enverity	Chemtest Job No.:					15-09852	15-09852	15-09852	15-09852	15-09852	15-09852
Quotation No.:	Chemtest Sample ID.:					134555	134556	134557	134558	134559	134560
Order No.:	Client Sample Ref.:										
	Client Sample ID.:					NSW0865	NSW0864	NSW716	NSW716	NSW660	NSW711
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					0.5	0.5	0.5	1.5	0.5	0.5
	Bottom Depth(m):										
	Date Sampled:					23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15	23-Apr-15
Determinand	Accred.	SOP	Units	LOD							
Aromatic TPH >C21-C35	N	2675	mg/kg	1	< 1.0	54	< 1.0	18	22	18	
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	1.9	< 1.0	2.6	
Total Aromatic Hydrocarbons	U	2675	mg/kg	5	< 5.0	120	390	26	110	22	
Total Petroleum Hydrocarbons	U	2675	mg/kg	10	< 10	600	1700	190	740	340	
Naphthalene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthylene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Fluorene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Phenanthrene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Anthracene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Fluoranthene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Pyrene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[a]anthracene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Chrysene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[b]fluoranthene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[k]fluoranthene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[a]pyrene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[g,h,i]perylene	U	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Total Of 16 PAH's	U	2700	mg/kg	2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	
Benzene	U	2760	µg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	U	2760	µg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	U	2760	µg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
m & p-Xylene	U	2760	µg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	U	2760	µg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at our Coventry laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.co.uk



Final Report

Report Number: 15-09538 Issue-1

Initial Date of Issue: 05-May-2015

Client: Enverity

Client Address: Quarry Farm View
Bowbridge Lane
Newark
Nottinghamshire
NG24 3BZ

Contact(s): Claire Reynolds
Barney Irlam

Project: RMA14 - COED Darcy

Quotation No.: **Date Received:** 27-Apr-2015

Order No.: **Date Instructed:** 28-Apr-2015

No. of Samples: 22

Turnaround: (Wkdays) 5 **Results Due Date:** 05-May-2015

Date Approved: 05-May-2015

Approved By:

Details: Darrell Hall, Laboratory Director

Results Summary - Soil

Project: RMA14 - COED Darcy

Client: Enverity	Chemtest Job No.:					15-09538	15-09538	15-09538	15-09538	15-09538	15-09538	15-09538	15-09538	15-09538	15-09538
Quotation No.:	Chemtest Sample ID.:					133045	133046	133047	133048	133049	133050	133051	133052	133053	133055
Order No.:	Client Sample Ref.:					578/595	578/595	578/595	578/595	578/595	578/595	578/595	578/595	578/595	578/595
	Client Sample ID.:					B1	B2	E1	E2	E3	E4	E5	E6	N1	N2
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):														
	Bottom Depth(m):														
	Date Sampled:					17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15
Determinand	Accred.	SOP	Units	LOD											
Moisture	N	2030	%	0.02	7.4	7.5	11	9.9	9.4	9.8	11	10	7.0	6.7	7.1
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	8.4	< 0.10	< 0.10
Aliphatic TPH >C8-C10	U	2675	mg/kg	0.1	4.1	5.0	5.4	18	14	34	< 0.10	6.9	120	47	2.8
Aliphatic TPH >C10-C12	U	2675	mg/kg	1	55	62	57	140	140	200	< 1.0	61	1100	520	49
Aliphatic TPH >C12-C16	U	2675	mg/kg	1	200	100	170	370	450	520	< 1.0	160	2700	1300	160
Aliphatic TPH >C16-C21	U	2675	mg/kg	1	26	41	81	110	340	260	< 1.0	47	200	98	64
Aliphatic TPH >C21-C35	U	2675	mg/kg	1	< 1.0	4.3	29	29	210	120	< 1.0	3.9	< 1.0	< 1.0	2.0
Aliphatic TPH >C35-C44	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	U	2675	mg/kg	5	280	220	340	670	1100	1100	< 5.0	280	4100	1900	280
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	2.7	< 0.10	< 0.10
Aromatic TPH >C8-C10	U	2675	mg/kg	0.1	1.4	1.4	1.8	8.8	6.9	12	< 0.10	3.3	63	21	1.9
Aromatic TPH >C10-C12	N	2675	mg/kg	1	31	9.4	12	54	63	74	< 1.0	26	340	150	24
Aromatic TPH >C12-C16	U	2675	mg/kg	1	52	18	27	55	71	61	< 1.0	48	350	230	28
Aromatic TPH >C16-C21	U	2675	mg/kg	1	9.6	6.3	13	23	40	27	< 1.0	20	36	20	12
Aromatic TPH >C21-C35	N	2675	mg/kg	1	< 1.0	< 1.0	4.9	4.3	26	22	< 1.0	2.0	< 1.0	< 1.0	1.4
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	U	2675	mg/kg	5	94	35	58	140	210	200	< 5.0	100	790	420	67
Total Petroleum Hydrocarbons	U	2675	mg/kg	10	380	250	400	820	1400	1300	< 10	380	4900	2400	350

Results Summary - Soil

Project: RMA14 - COED Darcy

Client: Enverity	Chemtest Job No.:					15-09538	15-09538	15-09538	15-09538	15-09538	15-09538	15-09538	15-09538	15-09538
Quotation No.:	Chemtest Sample ID.:					133056	133057	133058	133059	133060	133061	133062	133063	133064
Order No.:	Client Sample Ref.:					578/595	578/595	578/595	578/595	578/595	578/595	578/595	578/595	578/595
	Client Sample ID.:					N4	S1	S2	S3	S4	W1	W2	W3	W4
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):													
	Bottom Depth(m):													
	Date Sampled:					17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15	17-Apr-15
Determinand	Accred.	SOP	Units	LOD										
Moisture	N	2030	%	0.02	11	8.8	7.8	8.9	8.8	7.4	7.8	7.9	8.1	8.4
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10	8.6	2.5	< 0.10	< 0.10	< 0.10	< 0.10	0.24	< 0.10	< 0.10
Aliphatic TPH >C8-C10	U	2675	mg/kg	0.1	18	280	470	33	12	< 0.10	79	260	93	1.4
Aliphatic TPH >C10-C12	U	2675	mg/kg	1	100	2300	900	260	240	< 1.0	540	1700	550	41
Aliphatic TPH >C12-C16	U	2675	mg/kg	1	170	3300	3500	460	2000	< 1.0	1100	2700	1400	280
Aliphatic TPH >C16-C21	U	2675	mg/kg	1	34	220	5300	79	2100	< 1.0	200	200	140	22
Aliphatic TPH >C21-C35	U	2675	mg/kg	1	< 1.0	2.4	100	< 1.0	1400	< 1.0	2.1	1.5	< 1.0	< 1.0
Aliphatic TPH >C35-C44	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	7.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	U	2675	mg/kg	5	320	6200	10000	830	5800	< 5.0	1900	4800	2200	350
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10	6.2	2.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	U	2675	mg/kg	0.1	7.2	160	300	13	< 0.10	< 0.10	9.4	28	3.9	1.1
Aromatic TPH >C10-C12	N	2675	mg/kg	1	29	470	1100	90	33	< 1.0	170	490	150	28
Aromatic TPH >C12-C16	U	2675	mg/kg	1	24	670	1300	60	800	< 1.0	460	950	410	49
Aromatic TPH >C16-C21	U	2675	mg/kg	1	12	78	39	7.3	1500	< 1.0	92	100	50	11
Aromatic TPH >C21-C35	N	2675	mg/kg	1	< 1.0	2.3	< 1.0	< 1.0	680	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	U	2675	mg/kg	5	73	1400	2700	170	3000	< 5.0	740	1600	620	89
Total Petroleum Hydrocarbons	U	2675	mg/kg	10	400	7500	13000	1000	8800	< 10	2700	6400	2800	440

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at our Coventry laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.co.uk



Final Report

Report Number: 15-09295 Issue-1

Initial Date of Issue: 01-May-2015

Client: Enverity

Client Address: Quarry Farm View
Bowbridge Lane
Newark
Nottinghamshire
NG24 3BZ

Contact(s): Barney Irlam

Project: RMA14 - Coed Darcy 15-09295

Quotation No.: **Date Received:** 23-Apr-2015

Order No.: **Date Instructed:** 24-Apr-2015

No. of Samples: 75

Turnaround: (Wkdays) 99 **Results Due Date:** 01-Apr-2015

Date Approved: 01-May-2015

Approved By:

Details: Darrell Hall, Laboratory Director

Results Summary - Soil

Project: RMA14 - Coed Darcy 15-09295

Client: Enverity	Chemtest Job No.:					15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295
Quotation No.:	Chemtest Sample ID.:					131820	131821	131822	131823	131824	131825	131826	131827	131828	131829
Order No.:	Client Sample Ref.:					Combi	Combi	Combi	Combi	Combi	Combi	Combi	Combi	Combi	Combi
	Client Sample ID.:					B1	B2	B3	B4	B5	E1	E2	E3	E4	E5
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):														
	Bottom Depth(m):														
	Date Sampled:					15-Apr-15	15-Apr-15	15-Apr-15	15-Apr-15	15-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15
Determinand	Accred.	SOP	Units	LOD											
Moisture	N	2030	%	0.02	11	9.7	16	14	12	5.6	9.6	9.5	7.4	4.7	8.0
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	U	2675	mg/kg	0.1	110	210	13	230	7.3	690	210	16	14	1.9	0.39
Aliphatic TPH >C10-C12	U	2675	mg/kg	1	300	1300	42	480	39	1700	370	31	180	58	35
Aliphatic TPH >C12-C16	U	2675	mg/kg	1	310	790	19	640	82	360	160	28	380	190	36
Aliphatic TPH >C16-C21	U	2675	mg/kg	1	88	45	< 1.0	490	17	30	32	12	80	45	6.5
Aliphatic TPH >C21-C35	U	2675	mg/kg	1	80	72	< 1.0	410	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	U	2675	mg/kg	5	890	2400	73	2300	140	2800	770	86	650	290	78
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	U	2675	mg/kg	0.1	5.7	8.8	3.3	17	3.6	47	0.53	4.6	0.57	3.8	< 0.10
Aromatic TPH >C10-C12	N	2675	mg/kg	1	63	290	18	110	12	300	35	12	76	46	9.4
Aromatic TPH >C12-C16	U	2675	mg/kg	1	92	300	5.3	220	10	110	98	9.0	240	61	11
Aromatic TPH >C16-C21	U	2675	mg/kg	1	18	12	< 1.0	300	3.8	6.9	9.9	3.5	86	14	1.5
Aromatic TPH >C21-C35	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	56	< 1.0	< 1.0	< 1.0	< 1.0	35	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	U	2675	mg/kg	5	180	610	27	710	30	470	140	29	430	120	22
Total Petroleum Hydrocarbons	U	2675	mg/kg	10	1100	3000	100	3000	170	3300	910	120	1100	420	100

Results Summary - Soil

Project: RMA14 - Coed Darcy 15-09295

Client: Enverity	Chemtest Job No.:					15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295
Quotation No.:	Chemtest Sample ID.:					131831	131832	131833	131834	131835	131836	131837	131838	131839	131840
Order No.:	Client Sample Ref.:					Combi	Combi	Combi	Combi	Combi	Combi	Combi	Combi	Combi	Combi
	Client Sample ID.:					E7	E8	E9	E10	N1	N2	N3	N4	N5	N6
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):														
	Bottom Depth(m):														
	Date Sampled:					13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	15-Apr-15	15-Apr-15	15-Apr-15	15-Apr-15	15-Apr-15	15-Apr-15
Determinand	Accred.	SOP	Units	LOD											
Moisture	N	2030	%	0.02	10	9.5	7.9	7.6	7.0	6.9	8.0	7.9	6.6	9.6	5.8
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	7.2	< 0.10	< 0.10	< 0.10	8.8	27	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	U	2675	mg/kg	0.1	770	120	15	82	820	2700	260	76	620	250	52
Aliphatic TPH >C10-C12	U	2675	mg/kg	1	2600	690	220	430	1500	4200	690	310	1600	520	90
Aliphatic TPH >C12-C16	U	2675	mg/kg	1	1200	600	260	350	1100	2900	760	440	1300	440	110
Aliphatic TPH >C16-C21	U	2675	mg/kg	1	44	37	24	29	160	720	290	180	540	120	95
Aliphatic TPH >C21-C35	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	1.4	75	52	5.3	240	3.4	32
Aliphatic TPH >C35-C44	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	U	2675	mg/kg	5	4600	1500	520	890	3500	11000	2000	1000	4300	1300	380
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	U	2675	mg/kg	0.1	80	8.2	2.2	2.7	70	210	73	0.28	28	13	26
Aromatic TPH >C10-C12	N	2675	mg/kg	1	710	200	61	110	270	880	160	42	180	84	24
Aromatic TPH >C12-C16	U	2675	mg/kg	1	590	350	96	130	480	1400	150	150	340	110	29
Aromatic TPH >C16-C21	U	2675	mg/kg	1	35	56	24	4.5	150	530	39	44	300	120	16
Aromatic TPH >C21-C35	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	44	9.1	< 1.0	33	7.3	5.4
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	U	2675	mg/kg	5	1400	620	180	240	980	3100	420	240	880	330	100
Total Petroleum Hydrocarbons	U	2675	mg/kg	10	6000	2100	700	1100	4500	14000	2500	1300	5200	1700	480

Results Summary - Soil

Project: RMA14 - Coed Darcy 15-09295

Client: Enverity	Chemtest Job No.:				15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295
Quotation No.:	Chemtest Sample ID.:				131842	131843	131844	131845	131846	131847	131848	131849	131850	131851	131852
Order No.:	Client Sample Ref.:				Combi	Combi	Combi	Combi	Combi	Combi	Combi	Combi	Combi	Combi	Combi
	Client Sample ID.:				S1	S2	S3	S4	S5	S6	S7	W1	W2	W3	W4
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):														
	Bottom Depth(m):														
	Date Sampled:				13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	14-Apr-15	14-Apr-15	14-Apr-15	14-Apr-15
Determinand	Accred.	SOP	Units	LOD											
Moisture	N	2030	%	0.02	9.8	9.1	7.0	3.7	4.1	8.8	9.5	11	13	9.1	7.9
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	U	2675	mg/kg	0.1	11	59	89	52	170	1.2	< 0.10	< 0.10	390	54	3.0
Aliphatic TPH >C10-C12	U	2675	mg/kg	1	64	230	700	390	1100	33	19	30	2500	290	68
Aliphatic TPH >C12-C16	U	2675	mg/kg	1	460	510	1200	1200	3600	120	94	69	2700	500	150
Aliphatic TPH >C16-C21	U	2675	mg/kg	1	83	77	170	210	580	55	24	10	200	320	140
Aliphatic TPH >C21-C35	U	2675	mg/kg	1	< 1.0	< 1.0	160	430	5500	< 1.0	< 1.0	< 1.0	< 1.0	860	120
Aliphatic TPH >C35-C44	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	5.6	910	< 1.0	< 1.0	< 1.0	< 1.0	1.1	< 1.0
Total Aliphatic Hydrocarbons	U	2675	mg/kg	5	620	880	2400	2300	12000	210	140	110	5800	2000	490
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	U	2675	mg/kg	0.1	1.7	23	33	28	55	< 0.10	< 0.10	< 0.10	150	27	< 0.10
Aromatic TPH >C10-C12	N	2675	mg/kg	1	28	72	180	100	240	12	5.0	11	420	51	21
Aromatic TPH >C12-C16	U	2675	mg/kg	1	64	120	170	210	630	33	22	16	340	62	30
Aromatic TPH >C16-C21	U	2675	mg/kg	1	12	19	29	46	120	12	6.2	2.1	21	31	27
Aromatic TPH >C21-C35	N	2675	mg/kg	1	< 1.0	< 1.0	25	36	200	< 1.0	< 1.0	< 1.0	< 1.0	32	15
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	16	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	U	2675	mg/kg	5	110	230	440	420	1300	57	33	29	930	200	93
Total Petroleum Hydrocarbons	U	2675	mg/kg	10	720	1100	2800	2700	13000	270	170	140	6800	2200	580

Results Summary - Soil

Project: RMA14 - Coed Darcy 15-09295

Client: Enverity	Chemtest Job No.:					15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295
Quotation No.:	Chemtest Sample ID.:					131853	131854	131855	131856	131857	131858	131859	131860	131861
Order No.:	Client Sample Ref.:					Combi	Combi	Combi	Combi	263	263	263	263	263
	Client Sample ID.:					W5	W6	W7	W8	E1	E2	E3	E4	N1
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):													
	Bottom Depth(m):													
	Date Sampled:					14-Apr-15	14-Apr-15	14-Apr-15	14-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15
Determinand	Accred.	SOP	Units	LOD										
Moisture	N	2030	%	0.02	8.6	7.3	8.4	6.6	15	13	15	17	9.8	9.4
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	17	4.7
Aliphatic TPH >C8-C10	U	2675	mg/kg	0.1	13	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	550	240
Aliphatic TPH >C10-C12	U	2675	mg/kg	1	120	1.5	< 1.0	5.8	< 1.0	< 1.0	< 1.0	< 1.0	1200	950
Aliphatic TPH >C12-C16	U	2675	mg/kg	1	190	42	22	110	< 1.0	< 1.0	< 1.0	< 1.0	310	310
Aliphatic TPH >C16-C21	U	2675	mg/kg	1	18	16	15	100	< 1.0	< 1.0	< 1.0	< 1.0	7.5	9.3
Aliphatic TPH >C21-C35	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	4.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	U	2675	mg/kg	5	340	59	36	220	< 5.0	< 5.0	< 5.0	< 5.0	2100	1500
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	15	< 0.10
Aromatic TPH >C8-C10	U	2675	mg/kg	0.1	7.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	170	68
Aromatic TPH >C10-C12	N	2675	mg/kg	1	29	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	230	240
Aromatic TPH >C12-C16	U	2675	mg/kg	1	40	9.2	6.2	23	< 1.0	< 1.0	< 1.0	< 1.0	69	51
Aromatic TPH >C16-C21	U	2675	mg/kg	1	3.3	2.9	2.5	12	< 1.0	< 1.0	< 1.0	< 1.0	3.3	1.7
Aromatic TPH >C21-C35	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	U	2675	mg/kg	5	78	12	8.7	36	< 5.0	< 5.0	< 5.0	< 5.0	500	360
Total Petroleum Hydrocarbons	U	2675	mg/kg	10	420	72	45	260	< 10	< 10	< 10	< 10	2600	1900

Results Summary - Soil

Project: RMA14 - Coed Darcy 15-09295

Client: Enverity	Chemtest Job No.:					15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295
Quotation No.:	Chemtest Sample ID.:					131864	131865	131866	131867	131868	131869	131870	131871	131872	131874
Order No.:	Client Sample Ref.:					263	263	263	263	263	263	263	263	385	385
	Client Sample ID.:					N4	S1	S2	S3	S4	W1	W2	W3	W4	E1
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):														
	Bottom Depth(m):														
	Date Sampled:					20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15
Determinand	Accred.	SOP	Units	LOD											
Moisture	N	2030	%	0.02	10	13	12	12	13	8.3	8.3	9.4	17	9.1	8.8
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	27	< 0.10
Aliphatic TPH >C8-C10	U	2675	mg/kg	0.1	< 0.10	11	< 0.10	< 0.10	11	1.5	4.2	< 0.10	< 0.10	1900	110
Aliphatic TPH >C10-C12	U	2675	mg/kg	1	< 1.0	22	< 1.0	< 1.0	13	11	16	< 1.0	< 1.0	3300	370
Aliphatic TPH >C12-C16	U	2675	mg/kg	1	< 1.0	19	< 1.0	< 1.0	1.0	13	6.0	< 1.0	< 1.0	2600	440
Aliphatic TPH >C16-C21	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.7	< 1.0	< 1.0	< 1.0	240	14
Aliphatic TPH >C21-C35	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2	< 1.0
Aliphatic TPH >C35-C44	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	U	2675	mg/kg	5	< 5.0	52	< 5.0	< 5.0	25	28	26	< 5.0	< 5.0	8000	930
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	11	< 0.10
Aromatic TPH >C8-C10	U	2675	mg/kg	0.1	< 0.10	4.5	< 0.10	< 0.10	4.7	0.63	2.7	< 0.10	< 0.10	390	1.9
Aromatic TPH >C10-C12	N	2675	mg/kg	1	< 1.0	8.0	< 1.0	< 1.0	4.3	5.5	5.8	< 1.0	< 1.0	860	100
Aromatic TPH >C12-C16	U	2675	mg/kg	1	< 1.0	3.6	< 1.0	< 1.0	< 1.0	2.5	1.1	< 1.0	< 1.0	450	340
Aromatic TPH >C16-C21	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	18	10
Aromatic TPH >C21-C35	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	U	2675	mg/kg	5	< 5.0	16	< 5.0	< 5.0	9.3	9.4	9.6	< 5.0	< 5.0	1700	460
Total Petroleum Hydrocarbons	U	2675	mg/kg	10	< 10	68	< 10	< 10	34	37	36	< 10	< 10	9700	1400

Results Summary - Soil

Project: RMA14 - Coed Darcy 15-09295

Client: Enverity	Chemtest Job No.:					15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295	15-09295
Quotation No.:	Chemtest Sample ID.:					131875	131876	131877	131878	131879	131880	131881	131882	131883	131884
Order No.:	Client Sample Ref.:					385	385	385	385	385	385	385	385	385	877
	Client Sample ID.:					E2	E3	N1	N2	N3	S1	S2	S3	W2	W3
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):														
	Bottom Depth(m):														
	Date Sampled:					20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	20-Apr-15	16-Apr-15
Determinand	Accred.	SOP	Units	LOD											
Moisture	N	2030	%	0.02	12	19	9.1	9.7	8.6	11	9.2	9.0	8.4	10	10
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	5.9	< 0.10	1.3	< 0.10	0.53	< 0.10	3.5	0.28	3.4
Aliphatic TPH >C8-C10	U	2675	mg/kg	0.1	< 0.10	< 0.10	1000	420	1100	< 0.10	770	280	1300	230	360
Aliphatic TPH >C10-C12	U	2675	mg/kg	1	< 1.0	< 1.0	1800	730	930	< 1.0	1800	820	2900	680	1800
Aliphatic TPH >C12-C16	U	2675	mg/kg	1	< 1.0	< 1.0	1100	430	43	< 1.0	1400	820	2600	690	4300
Aliphatic TPH >C16-C21	U	2675	mg/kg	1	< 1.0	< 1.0	96	33	< 1.0	< 1.0	15	17	140	58	590
Aliphatic TPH >C21-C35	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	16
Aliphatic TPH >C35-C44	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	U	2675	mg/kg	5	< 5.0	< 5.0	4100	1600	2100	< 5.0	4000	1900	6900	1600	7000
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	U	2675	mg/kg	0.1	< 0.10	< 0.10	320	72	100	< 0.10	160	58	400	53	140
Aromatic TPH >C10-C12	N	2675	mg/kg	1	< 1.0	< 1.0	580	420	930	< 1.0	390	210	750	160	380
Aromatic TPH >C12-C16	U	2675	mg/kg	1	< 1.0	< 1.0	200	440	1500	< 1.0	280	200	640	130	470
Aromatic TPH >C16-C21	U	2675	mg/kg	1	< 1.0	< 1.0	7.8	3.5	52	< 1.0	1.4	2.8	11	4.8	33
Aromatic TPH >C21-C35	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	U	2675	mg/kg	5	< 5.0	< 5.0	1100	930	2600	< 5.0	830	480	1800	350	1000
Total Petroleum Hydrocarbons	U	2675	mg/kg	10	< 10	< 10	5300	2500	4700	< 10	4800	2400	8700	2000	8000

Results Summary - Soil

Project: RMA14 - Coed Darcy 15-09295

Client: Enverity	Chemtest Job No.: 15-09295 15-09295 15-09295 15-09295 15-09295 15-09295 15-09295 15-09295 15-09295 15-09295 15-09295												
Quotation No.:	Chemtest Sample ID.: 131886 131887 131888 131889 131890 131891 131892 131893 131972												
Order No.:	Client Sample Ref.: 877 877 877 877 877 877 877 877 263												
	Client Sample ID.: E1 E2 N1 N2 S1 S2 W1 W2 B												
	Sample Type: SOIL SOIL SOIL SOIL SOIL SOIL SOIL SOIL SOIL												
	Top Depth (m):												
	Bottom Depth(m):												
	Date Sampled: 16-Apr-15 16-Apr-15 16-Apr-15 16-Apr-15 16-Apr-15 16-Apr-15 16-Apr-15 16-Apr-15 16-Apr-15 20-Apr-15												
Determinand	Accred.	SOP	Units	LOD									
Moisture	N	2030	%	0.02	9.7	11	10	11	10	10	8.8	15	11
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.55	< 0.10	< 0.10
Aliphatic TPH >C8-C10	U	2675	mg/kg	0.1	75	5.2	120	43	2.9	2.3	1500	200	1.9
Aliphatic TPH >C10-C12	U	2675	mg/kg	1	410	41	580	300	520	390	6600	2000	80
Aliphatic TPH >C12-C16	U	2675	mg/kg	1	1000	210	1300	740	2300	2100	11000	3900	270
Aliphatic TPH >C16-C21	U	2675	mg/kg	1	120	27	330	75	340	600	1500	410	8.6
Aliphatic TPH >C21-C35	U	2675	mg/kg	1	< 1.0	< 1.0	120	< 1.0	6.7	350	21	3.9	< 1.0
Aliphatic TPH >C35-C44	U	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	U	2675	mg/kg	5	1600	280	2500	1200	3200	3400	21000	6500	360
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	U	2675	mg/kg	0.1	22	2.9	41	19	< 0.10	< 0.10	340	6.8	< 0.10
Aromatic TPH >C10-C12	N	2675	mg/kg	1	78	12	110	61	58	82	1400	310	18
Aromatic TPH >C12-C16	U	2675	mg/kg	1	130	28	160	100	680	720	1500	1400	42
Aromatic TPH >C16-C21	U	2675	mg/kg	1	7.8	2.2	28	6.5	150	180	96	240	< 1.0
Aromatic TPH >C21-C35	N	2675	mg/kg	1	< 1.0	< 1.0	12	< 1.0	1.4	85	1.5	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	U	2675	mg/kg	5	240	46	350	190	900	1100	3300	1900	61
Total Petroleum Hydrocarbons	U	2675	mg/kg	10	1900	330	2800	1300	4100	4500	24000	8400	430

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at our Coventry laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.co.uk



Atkins Global Ltd
Project Jonah site office
Llan Coed House
Suite 24
Coed Darcy
Llandarcy
SA10 6HJ

Attention: Barney Irlam

CERTIFICATE OF ANALYSIS

Date: 06 October 2015
Customer: H_ATKINS_LDC
Sample Delivery Group (SDG): 150926-42
Your Reference: NSW734-735
Location: Coed Darcy
Report No: 332440

We received 18 samples on Saturday September 26, 2015 and 18 of these samples were scheduled for analysis which was completed on Tuesday October 06, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:

Sonia McWhan

Operations Manager





SDG:	150926-42	Location:	Coed Darcy	Order Number:	CD1418
Job:	H_ATKINS_LDC-476	Customer:	Atkins Global Ltd	Report Number:	332440
Client Reference:	NSW734-735	Attention:	Barney Irlam	Superseded Report:	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
12132137	NSW734-735_1		0.00 - 0.00	25/09/2015
12132173	NSW734-735_2		0.00 - 0.00	25/09/2015
12132177	NSW734-735_3		0.00 - 0.00	25/09/2015
12132180	NSW734-735_4		0.00 - 0.00	25/09/2015
12132183	NSW734-735_5		0.00 - 0.00	25/09/2015
12132186	NSW734-735_6		0.00 - 0.00	25/09/2015
12132189	NSW734-735_7		0.00 - 0.00	25/09/2015
12132197	NSW734-735_8		0.00 - 0.00	25/09/2015
12132200	NSW734-735_9		0.00 - 0.00	25/09/2015
12132140	NSW734-735_10		0.00 - 0.00	25/09/2015
12132144	NSW734-735_11		0.00 - 0.00	25/09/2015
12132147	NSW734-735_12		0.00 - 0.00	25/09/2015
12132150	NSW734-735_13		0.00 - 0.00	25/09/2015
12132153	NSW734-735_14		0.00 - 0.00	25/09/2015
12132156	NSW734-735_15		0.00 - 0.00	25/09/2015
12132164	NSW734-735_16		0.00 - 0.00	25/09/2015
12132167	NSW734-735_17		0.00 - 0.00	25/09/2015
12132170	NSW734-735_18		0.00 - 0.00	25/09/2015

Only received samples which have had analysis scheduled will be shown on the following pages.



CERTIFICATE OF ANALYSIS

SDG: 150926-42
Job: H_ATKINS_LDC-476
Client Reference: NSW734-735

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Barney Irlam

Order Number: CD1418
Report Number: 332440
Superseded Report:

SOLID**Results Legend**

Test

No Determination
Possible**Lab Sample No(s)****Customer
Sample Reference****AGS Reference****Depth (m)****Container**

			12132137	NSW734-735_1		0.00 - 0.00	60g VOC (ALE215)
			12132173	NSW734-735_2		0.00 - 0.00	250g Amber Jar (AL)
			12132177	NSW734-735_3		0.00 - 0.00	60g VOC (ALE215)
			12132180	NSW734-735_4		0.00 - 0.00	250g Amber Jar (AL)
			12132183	NSW734-735_5		0.00 - 0.00	60g VOC (ALE215)
			12132186	NSW734-735_6		0.00 - 0.00	250g Amber Jar (AL)
			12132189	NSW734-735_7		0.00 - 0.00	60g VOC (ALE215)
			12132197	NSW734-735_8		0.00 - 0.00	250g Amber Jar (AL)
			12132200	NSW734-735_9		0.00 - 0.00	60g VOC (ALE215)
			12132140	NSW734-735_10		0.00 - 0.00	250g Amber Jar (AL)
			12132144	NSW734-735_11		0.00 - 0.00	60g VOC (ALE215)
			12132147	NSW734-735_12		0.00 - 0.00	250g Amber Jar (AL)
			12132150	NSW734-735_13		0.00 - 0.00	60g VOC (ALE215)
			12132153	NSW734-735_14		0.00 - 0.00	250g Amber Jar (AL)
			12132156	NSW734-735_15		0.00 - 0.00	60g VOC (ALE215)
			12132164	NSW734-735_16		0.00 - 0.00	250g Amber Jar (AL)
			12132167	NSW734-735_17		0.00 - 0.00	60g VOC (ALE215)
			12132170	NSW734-735_18		0.00 - 0.00	250g Amber Jar (AL)
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 18	X	X	X	X	X
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 18	X	X	X	X	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 18		X	X	X	X
PAH by GCMS	All	NDPs: 0 Tests: 18	X	X	X	X	X
Sample description	All	NDPs: 0 Tests: 18	X	X	X	X	X
Total Organic Carbon	All	NDPs: 0 Tests: 4	X				X
TPH CWG GC (S)	All	NDPs: 0 Tests: 18	X	X	X	X	X



SDG:	150926-42	Location:	Coed Darcy	Order Number:	CD1418
Job:	H_ATKINS_LDC-476	Customer:	Atkins Global Ltd	Report Number:	332440
Client Reference:	NSW734-735	Attention:	Barney Irlam	Superseded Report:	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
12132137	NSW734-735_1	0.00 - 0.00	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
12132173	NSW734-735_2	0.00 - 0.00	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	None
12132177	NSW734-735_3	0.00 - 0.00	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	None
12132180	NSW734-735_4	0.00 - 0.00	Light Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
12132183	NSW734-735_5	0.00 - 0.00	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
12132186	NSW734-735_6	0.00 - 0.00	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
12132189	NSW734-735_7	0.00 - 0.00	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
12132197	NSW734-735_8	0.00 - 0.00	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	None
12132200	NSW734-735_9	0.00 - 0.00	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
12132140	NSW734-735_10	0.00 - 0.00	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
12132144	NSW734-735_11	0.00 - 0.00	Dark Brown	Sandy Loam	0.063 - 0.1 mm	Stones	Vegetation
12132147	NSW734-735_12	0.00 - 0.00	Dark Brown	Sandy Loam	0.063 - 0.1 mm	Stones	Vegetation
12132150	NSW734-735_13	0.00 - 0.00	Dark Brown	Loamy Sand	0.063 - 0.1 mm	Stones	Vegetation
12132153	NSW734-735_14	0.00 - 0.00	Dark Brown	Sandy Loam	0.063 - 0.1 mm	Stones	Vegetation
12132156	NSW734-735_15	0.00 - 0.00	Dark Brown	Sandy Loam	0.063 - 0.1 mm	Stones	Vegetation
12132164	NSW734-735_16	0.00 - 0.00	Dark Brown	Sandy Loam	0.063 - 0.1 mm	Stones	Vegetation
12132167	NSW734-735_17	0.00 - 0.00	Dark Brown	Sandy Loam	0.063 - 0.1 mm	Stones	Vegetation
12132170	NSW734-735_18	0.00 - 0.00	Dark Brown	Silt Loam	0.063 - 0.1 mm	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Order Number: CD1418
Report Number: 332440
Superseded Report:

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Order Number: CD1418
Report Number: 332440
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 150926-42
Job: H_ATKINS_LDC-476
Client Reference: NSW734-735

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Barney Irlam

Order Number: CD1418
Report Number: 332440
Superseded Report:

[illegible]

Order Number: CD1418
Report Number: 332440
Superseded Report:

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Order Number: CD1418
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Order Number: CD1418
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CERTIFICATE OF ANALYSIS

SDG: 150926-42
Job: H_ATKINS_LDC-476
Client Reference: NSW734-735

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Barney Irlam

Order Number: CD1418
Report Number: 332440
Superseded Report:

TPH CWG (S)

Results Legend			Customer Sample R		NSW734-735_1	NSW734-735_2	NSW734-735_3	NSW734-735_4	NSW734-735_5	NSW734-735_6
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.				Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.				25/09/2015	25/09/2015	25/09/2015	25/09/2015	25/09/2015	25/09/2015
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.				26/09/2015	26/09/2015	26/09/2015	26/09/2015	26/09/2015	26/09/2015
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery				150926-42	150926-42	150926-42	150926-42	150926-42	150926-42
(F)	Trigger breach confirmed				12132137	12132173	12132177	12132180	12132183	12132186
1-5&*\$@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
GRO Surrogate % recovery**	%	TM089			80	74	86	95	106	66
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089			<176	37200	953	<176	239	539
					M	M	M	M	M	M
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089			<20	<20	<20	<20	<20	<20
					M	M	M	M	M	M
Benzene	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
					M	M	M	M	M	M
Toluene	<2 µg/kg	TM089			<8	<8	<8	<8	<8	<8
					M	M	M	M	M	M
Ethylbenzene	<3 µg/kg	TM089			<12	<12	<12	<12	<12	<12
					M	M	M	M	M	M
m,p-Xylene	<6 µg/kg	TM089			<24	<24	<24	<24	<24	<24
					M	M	M	M	M	M
o-Xylene	<3 µg/kg	TM089			<12	<12	<12	<12	<12	<12
					M	M	M	M	M	M
sum of detected mpo xylene by GC	<9 µg/kg	TM089			<9	<9	<9	<9	<9	<9
sum of detected BTEX by GC	<24 µg/kg	TM089			<24	<24	<24	<24	<24	<24
Aliphatics >C5-C6	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aliphatics >C6-C8	<10 µg/kg	TM089			<40	281	<40	<40	<40	<40
Aliphatics >C8-C10	<10 µg/kg	TM089			<40	8760	142	<40	52.6	79.8
Aliphatics >C10-C12	<10 µg/kg	TM089			47.2	13400	403	<40	76.2	209
Aliphatics >C12-C16	<100 µg/kg	TM173			15100	37400	23600	26400	11700	10900
Aliphatics >C16-C21	<100 µg/kg	TM173			49500	63000	58400	37700	33900	39800
Aliphatics >C21-C35	<100 µg/kg	TM173			67000	63300	81200	33300	39800	54000
Aliphatics >C35-C44	<100 µg/kg	TM173			8100	10900	12700	4240	4660	9320
Total Aliphatics >C12-C44	<100 µg/kg	TM173			140000	175000	176000	102000	90100	114000
Aromatics >EC5-EC7	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aromatics >EC7-EC8	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aromatics >EC8-EC10	<10 µg/kg	TM089			<40	5840	101	<40	<40	58.1
Aromatics >EC10-EC12	<10 µg/kg	TM089			<40	8910	269	<40	50.4	139
Aromatics >EC12-EC16	<100 µg/kg	TM173			2300	2910	2940	2440	923	1420
Aromatics >EC16-EC21	<100 µg/kg	TM173			14800	16700	16500	9860	8190	8280
Aromatics >EC21-EC35	<100 µg/kg	TM173			70000	69500	88500	45000	52000	59100
Aromatics >EC35-EC44	<100 µg/kg	TM173			30400	32800	41100	22300	24100	32100
Aromatics >EC40-EC44	<100 µg/kg	TM173			11500	12000	15500	8440	9960	12000
Total Aromatics >EC12-EC44	<100 µg/kg	TM173			117000	122000	149000	79600	85200	101000
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173			257000	334000	326000	181000	176000	215000



CERTIFICATE OF ANALYSIS

SDG: 150926-42
Job: H_ATKINS_LDC-476
Client Reference: NSW734-735

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Barney Irlam

Order Number: CD1418
Report Number: 332440
Superseded Report:

TPH CWG (S)

Results Legend			Customer Sample R		NSW734-735_7	NSW734-735_8	NSW734-735_9	NSW734-735_10	NSW734-735_11	NSW734-735_12
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.				Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.				25/09/2015	25/09/2015	25/09/2015	25/09/2015	25/09/2015	25/09/2015
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.									
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery									
(F)	Trigger breach confirmed									
1-5&*\$@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
GRO Surrogate % recovery**	%	TM089			89	96	70	74	84	81
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089			5650	5890	<176	<176	<176	<176
					M	M	M	M	M	M
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089			<20	<20	<20	<20	<20	<20
					M	M	M	M	M	M
Benzene	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
					M	M	M	M	M	M
Toluene	<2 µg/kg	TM089			<8	<8	<8	<8	<8	<8
					M	M	M	M	M	M
Ethylbenzene	<3 µg/kg	TM089			<12	<12	<12	<12	<12	<12
					M	M	M	M	M	M
m,p-Xylene	<6 µg/kg	TM089			<24	<24	<24	<24	<24	<24
					M	M	M	M	M	M
o-Xylene	<3 µg/kg	TM089			<12	<12	<12	<12	<12	<12
					M	M	M	M	M	M
sum of detected mpo xylene by GC	<9 µg/kg	TM089			<9	<9	<9	<9	<9	<9
sum of detected BTEX by GC	<24 µg/kg	TM089			<24	<24	<24	<24	<24	<24
Aliphatics >C5-C6	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aliphatics >C6-C8	<10 µg/kg	TM089			<40	46.7	<40	<40	<40	<40
Aliphatics >C8-C10	<10 µg/kg	TM089			810	1100	<40	<40	<40	<40
Aliphatics >C10-C12	<10 µg/kg	TM089			2550	2400	<40	<40	<40	<40
Aliphatics >C12-C16	<100 µg/kg	TM173			48500	32500	4960	17800	12100	21100
Aliphatics >C16-C21	<100 µg/kg	TM173			67800	37300	24500	48300	32500	37600
Aliphatics >C21-C35	<100 µg/kg	TM173			60100	39700	65400	81400	59100	49600
Aliphatics >C35-C44	<100 µg/kg	TM173			7480	3440	13400	17800	12600	8610
Total Aliphatics >C12-C44	<100 µg/kg	TM173			184000	113000	108000	165000	116000	117000
Aromatics >EC5-EC7	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aromatics >EC7-EC8	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aromatics >EC8-EC10	<10 µg/kg	TM089			545	730	<40	<40	<40	<40
Aromatics >EC10-EC12	<10 µg/kg	TM089			1700	1600	<40	<40	<40	<40
Aromatics >EC12-EC16	<100 µg/kg	TM173			5740	3830	2210	3050	2360	2180
Aromatics >EC16-EC21	<100 µg/kg	TM173			21700	10000	11200	17200	10500	10600
Aromatics >EC21-EC35	<100 µg/kg	TM173			75500	76600	95000	135000	75200	66300
Aromatics >EC35-EC44	<100 µg/kg	TM173			34100	27400	49100	79800	39400	32300
Aromatics >EC40-EC44	<100 µg/kg	TM173			12700	10200	18700	30200	15000	12200
Total Aromatics >EC12-EC44	<100 µg/kg	TM173			137000	118000	157000	235000	127000	111000
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173			327000	237000	266000	400000	244000	228000



CERTIFICATE OF ANALYSIS

SDG: 150926-42
Job: H_ATKINS_LDC-476
Client Reference: NSW734-735

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Barney Irlam

Order Number: CD1418
Report Number: 332440
Superseded Report:

TPH CWG (S)

Results Legend			Customer Sample R		NSW734-735_13	NSW734-735_14	NSW734-735_15	NSW734-735_16	NSW734-735_17	NSW734-735_18
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.				Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.				25/09/2015	25/09/2015	25/09/2015	25/09/2015	25/09/2015	25/09/2015
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.									
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery				26/09/2015	26/09/2015	26/09/2015	26/09/2015	26/09/2015	26/09/2015
(F)	Trigger breach confirmed				150926-42	150926-42	150926-42	150926-42	150926-42	150926-42
1-5&*\$@	Sample deviation (see appendix)				12132150	12132153	12132156	12132164	12132167	12132170
Component	LOD/Units	Method								
GRO Surrogate % recovery**	%	TM089			86	68	74	88	84	96
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089			300	236	<176	284	355	343
					M	M	M	M	M	M
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089			<20	<20	<20	<20	<20	<20
					M	M	M	M	M	M
Benzene	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
					M	M	M	M	M	M
Toluene	<2 µg/kg	TM089			<8	<8	<8	9.04	<8	<8
					M	M	M	M	M	M
Ethylbenzene	<3 µg/kg	TM089			<12	<12	<12	<12	<12	<12
					M	M	M	M	M	M
m,p-Xylene	<6 µg/kg	TM089			<24	<24	<24	<24	<24	<24
					M	M	M	M	M	M
o-Xylene	<3 µg/kg	TM089			<12	<12	<12	<12	<12	<12
					M	M	M	M	M	M
sum of detected mpo xylene by GC	<9 µg/kg	TM089			<9	<9	<9	<9	<9	<9
sum of detected BTEX by GC	<24 µg/kg	TM089			<24	<24	<24	<24	<24	<24
Aliphatics >C5-C6	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aliphatics >C6-C8	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aliphatics >C8-C10	<10 µg/kg	TM089			55.5	<40	<40	48.6	55.4	70.8
Aliphatics >C10-C12	<10 µg/kg	TM089			97.7	76.2	<40	93.8	131	103
Aliphatics >C12-C16	<100 µg/kg	TM173			10400	12700	4910	10200	11300	15000
Aliphatics >C16-C21	<100 µg/kg	TM173			29300	42900	17800	35800	43300	63500
Aliphatics >C21-C35	<100 µg/kg	TM173			53800	72700	40200	68500	71400	106000
Aliphatics >C35-C44	<100 µg/kg	TM173			10500	13200	7710	13900	14700	20200
Total Aliphatics >C12-C44	<100 µg/kg	TM173			104000	141000	70700	128000	141000	205000
Aromatics >EC5-EC7	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aromatics >EC7-EC8	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aromatics >EC8-EC10	<10 µg/kg	TM089			43.3	<40	<40	42.9	44.1	55.7
Aromatics >EC10-EC12	<10 µg/kg	TM089			65.5	50.4	<40	62.2	87	68.4
Aromatics >EC12-EC16	<100 µg/kg	TM173			2320	2400	2140	2470	2070	2520
Aromatics >EC16-EC21	<100 µg/kg	TM173			11400	14400	8520	11800	12900	18200
Aromatics >EC21-EC35	<100 µg/kg	TM173			79000	94000	60000	86500	111000	110000
Aromatics >EC35-EC44	<100 µg/kg	TM173			40600	43100	29000	45800	60400	49300
Aromatics >EC40-EC44	<100 µg/kg	TM173			15000	15500	10900	17500	22000	19400
Total Aromatics >EC12-EC44	<100 µg/kg	TM173			133000	154000	99600	147000	187000	180000
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173			238000	296000	170000	275000	328000	385000



SDG:	150926-42	Location:	Coed Darcy	Order Number:	CD1418
Job:	H_ATKINS_LDC-476	Customer:	Atkins Global Ltd	Report Number:	332440
Client Reference:	NSW734-735	Attention:	Barney Irlam	Superseded Report:	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.



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Report Number: 332440
Superseded Report:

Test Completion Dates

Lab Sample No(s)	12132137	12132173	12132177	12132180	12132183	12132186	12132189	12132197	12132200	12132140
Customer Sample Ref.	NSW734-735_1	NSW734-735_2	NSW734-735_3	NSW734-735_4	NSW734-735_5	NSW734-735_6	NSW734-735_7	NSW734-735_8	NSW734-735_9	NSW734-735_10
AGS Ref.										
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
EPH CWG (Aliphatic) GC (S)	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015
EPH CWG (Aromatic) GC (S)	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015
GRO by GC-FID (S)	06-Oct-2015	06-Oct-2015	02-Oct-2015	02-Oct-2015	02-Oct-2015	06-Oct-2015	02-Oct-2015	02-Oct-2015	06-Oct-2015	06-Oct-2015
PAH by GCMS	30-Sep-2015	30-Sep-2015	02-Oct-2015	02-Oct-2015	30-Sep-2015	30-Sep-2015	30-Sep-2015	30-Sep-2015	30-Sep-2015	30-Sep-2015
Sample description	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015
Total Organic Carbon	02-Oct-2015					05-Oct-2015				
TPH CWG GC (S)	06-Oct-2015	06-Oct-2015	02-Oct-2015	02-Oct-2015	02-Oct-2015	06-Oct-2015	02-Oct-2015	02-Oct-2015	06-Oct-2015	06-Oct-2015

Lab Sample No(s)	12132144	12132147	12132150	12132153	12132156	12132164	12132167	12132170
Customer Sample Ref.	NSW734-735_11	NSW734-735_12	NSW734-735_13	NSW734-735_14	NSW734-735_15	NSW734-735_16	NSW734-735_17	NSW734-735_18
AGS Ref.								
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
EPH CWG (Aliphatic) GC (S)	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	30-Sep-2015
EPH CWG (Aromatic) GC (S)	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	29-Sep-2015	30-Sep-2015
GRO by GC-FID (S)	06-Oct-2015	06-Oct-2015	02-Oct-2015	06-Oct-2015	06-Oct-2015	02-Oct-2015	02-Oct-2015	02-Oct-2015
PAH by GCMS	30-Sep-2015	30-Sep-2015	30-Sep-2015	30-Sep-2015	30-Sep-2015	30-Sep-2015	30-Sep-2015	30-Sep-2015
Sample description	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015	28-Sep-2015
Total Organic Carbon		05-Oct-2015					02-Oct-2015	
TPH CWG GC (S)	06-Oct-2015	06-Oct-2015	02-Oct-2015	06-Oct-2015	06-Oct-2015	02-Oct-2015	02-Oct-2015	02-Oct-2015



SDG: 150926-42
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Report Number: 332440
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Appendix General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill /made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
\$	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than :
 - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.



Atkins Global Ltd
Project Jonah site office
Llan Coed House
Suite 24
Coed Darcy
Llandarcy
SA10 6HJ

Attention: Charlotte Smith

CERTIFICATE OF ANALYSIS

Date: 24 April 2015
Customer: H_ATKINS_LDC
Sample Delivery Group (SDG): 150418-52
Your Reference: RMA 14
Location: Coed Darcy
Report No: 310429

This report has been revised and directly supersedes 310336 in its entirety.

We received 4 samples on Saturday April 18, 2015 and 4 of these samples were scheduled for analysis which was completed on Friday April 24, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:

Sonia McWhan

Operations Manager





SDG:	150418-52	Location:	Coed Darcy	Order Number:	CD1187
Job:	H_ATKINS_LDC-328	Customer:	Atkins Global Ltd	Report Number:	310429
Client Reference:	RMA 14	Attention:	Charlotte Smith	Superseded Report:	310336

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11208583	NSW378 E Side		4.50	17/04/2015
11208574	NSW378 N Side		4.50	17/04/2015
11208578	NSW378 S Side		4.50	17/04/2015
11208587	NSW378 W Side		4.50	17/04/2015

Only received samples which have had analysis scheduled will be shown on the following pages.



SDG: 150418-52
Job: H_ATKINS_LDC-328
Client Reference: RMA 14

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Charlotte Smith

Order Number: CD1187
Report Number: 310429
Superseded Report: 310336

SOLID**Results Legend**

Test

No Determination
Possible**Lab Sample No(s)****Customer
Sample Reference****AGS Reference****Depth (m)****Container**

11208587	NSW378 W Side		4.50	60g VOC (ALE215)
11208578	NSW378 S Side		4.50	250g Amber Jar
11208574	NSW378 N Side		4.50	60g VOC (ALE215)
11208563	NSW378 E Side		4.50	250g Amber Jar
				60g VOC (ALE215)
				250g Amber Jar
				60g VOC (ALE215)
				250g Amber Jar

EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 4	X	X	X	X
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 4	X	X	X	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 4		X	X	X
Sample description	All	NDPs: 0 Tests: 4	X	X	X	X
TPH CWG GC (S)	All	NDPs: 0 Tests: 4	X	X	X	X



SDG: 150418-52
Job: H_ATKINS_LDC-328
Client Reference: RMA 14

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Charlotte Smith

Order Number: CD1187
Report Number: 310429
Superseded Report: 310336

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
11208583	NSW378 E Side	4.50	Dark Brown	Sandy Silt Loam	0.1 - 2 mm	Stones	None
11208574	NSW378 N Side	4.50	Light Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None
11208578	NSW378 S Side	4.50	Dark Brown	Sandy Silt Loam	0.1 - 2 mm	Stones	Vegetation
11208587	NSW378 W Side	4.50	Light Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	Oil/Petroleum

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Order Number: CD1187
Report Number: 310429
Superseded Report: 310336

Page 5 of 9



SDG: 150418-52
Job: H_ATKINS_LDC-328
Client Reference: RMA 14

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Charlotte Smith

Order Number: CD1187
Report Number: 310429
Superseded Report: 310336

TPH CWG (S)

Results Legend		Customer Sample Ref.	NSW378 E Side	NSW378 N Side	NSW378 S Side	NSW378 W Side		
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference						
M	mCERTS accredited.		4.50	4.50	4.50	4.50		
aq	Aqueous / settled sample.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
diss.filt	Dissolved / filtered sample.		17/04/2015	17/04/2015	17/04/2015	17/04/2015		
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		18/04/2015	18/04/2015	18/04/2015	18/04/2015		
(F)	Trigger breach confirmed		150418-52	150418-52	150418-52	150418-52		
1-5&*\$@	Sample deviation (see appendix)		11208583	11208574	11208578	11208587		
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM089	102	99	91	97		
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	1270000	267000	34200	282000		
			M	M	M	M		
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<100	<20	<20	<20		
			M	M	M	M		
Benzene	<10 µg/kg	TM089	<200	<40	<40	<40		
			M	M	M	M		
Toluene	<2 µg/kg	TM089	<40	<8	<8	<8		
			M	M	M	M		
Ethylbenzene	<3 µg/kg	TM089	<60	284	<12	<12		
			M	M	M	M		
m,p-Xylene	<6 µg/kg	TM089	<120	<24	<24	<24		
			M	M	M	M		
o-Xylene	<3 µg/kg	TM089	<60	<12	<12	<12		
			M	M	M	M		
sum of detected mpo xylene by GC	<9 µg/kg	TM089	<9	<9	<9	<9		
sum of detected BTEX by GC	<24 µg/kg	TM089	<24	284	<24	<24		
Aliphatics >C5-C6	<10 µg/kg	TM089	<200	<40	<40	140		
Aliphatics >C6-C8	<10 µg/kg	TM089	10100	2630	245	6640		
Aliphatics >C8-C10	<10 µg/kg	TM089	272000	57000	6460	61100		
Aliphatics >C10-C12	<10 µg/kg	TM089	485000	102000	13900	104000		
Aliphatics >C12-C16	<100 µg/kg	TM173	666000	93600	41500	135000		
Aliphatics >C16-C21	<100 µg/kg	TM173	82900	23000	41500	18300		
Aliphatics >C21-C35	<100 µg/kg	TM173	10700	30400	55800	20500		
Aliphatics >C35-C44	<100 µg/kg	TM173	906	2590	4490	<100		
Total Aliphatics >C12-C44	<100 µg/kg	TM173	761000	150000	143000	174000		
Aromatics >EC5-EC7	<10 µg/kg	TM089	<200	<40	<40	<40		
Aromatics >EC7-EC8	<10 µg/kg	TM089	<200	<40	<40	<40		
Aromatics >EC8-EC10	<10 µg/kg	TM089	181000	38300	4310	40700		
Aromatics >EC10-EC12	<10 µg/kg	TM089	324000	67800	9250	69200		
Aromatics >EC12-EC16	<100 µg/kg	TM173	490000	123000	16400	50000		
Aromatics >EC16-EC21	<100 µg/kg	TM173	37600	11600	21500	5590		
Aromatics >EC21-EC35	<100 µg/kg	TM173	5330	14400	38700	7130		
Aromatics >EC35-EC44	<100 µg/kg	TM173	3540	4560	8990	<100		
Aromatics >EC40-EC44	<100 µg/kg	TM173	2010	1930	2860	<100		
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	537000	154000	85600	62700		
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	2570000	571000	263000	518000		



SDG:	150418-52	Location:	Coed Darcy	Order Number:	CD1187
Job:	H_ATKINS_LDC-328	Customer:	Atkins Global Ltd	Report Number:	310429
Client Reference:	RMA 14	Attention:	Charlotte Smith	Superseded Report:	310336

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.



SDG: 150418-52
Job: H_ATKINS_LDC-328
Client Reference: RMA 14

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Charlotte Smith

Order Number: CD1187
Report Number: 310429
Superseded Report: 310336

Test Completion Dates

Lab Sample No(s)	11208583	11208574	11208578	11208587
Customer Sample Ref.	NSW378 E Side	NSW378 N Side	NSW378 S Side	NSW378 W Side
AGS Ref.				
Depth	4.50	4.50	4.50	4.50
Type	SOLID	SOLID	SOLID	SOLID
EPH CWG (Aliphatic) GC (S)	24-Apr-2015	24-Apr-2015	23-Apr-2015	24-Apr-2015
EPH CWG (Aromatic) GC (S)	24-Apr-2015	24-Apr-2015	23-Apr-2015	24-Apr-2015
GRO by GC-FID (S)	24-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015
Sample description	20-Apr-2015	20-Apr-2015	20-Apr-2015	20-Apr-2015
TPH CWG GC (S)	24-Apr-2015	24-Apr-2015	23-Apr-2015	24-Apr-2015



SDG: 150418-52
Job: H_ATKINS_LDC-328
Client Reference: RMA 14

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Charlotte Smith

Order Number: CD1187
Report Number: 310429
Superseded Report: 310336

Appendix General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
\$	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.



Atkins Global Ltd
Project Jonah site office
Llan Coed House
Suite 24
Coed Darcy
Llandarcy
SA10 6HJ

Attention: Charlotte Smith

CERTIFICATE OF ANALYSIS

Date: 25 April 2015
Customer: H_ATKINS_LDC
Sample Delivery Group (SDG): 150411-75
Your Reference: RMA 14
Location: Coed Darcy
Report No: 310438

We received 1 sample on Saturday April 11, 2015 and 1 of these samples were scheduled for analysis which was completed on Saturday April 25, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:

Sonia McWhan

Operations Manager





CERTIFICATE OF ANALYSIS

SDG:	150411-75	Location:	Coed Darcy	Order Number:	CD1183
Job:	H_ATKINS_LDC-328	Customer:	Atkins Global Ltd	Report Number:	310438
Client Reference:	RMA 14	Attention:	Charlotte Smith	Superseded Report:	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11163702	PRNSW956		2.50	10/04/2015

Only received samples which have had analysis scheduled will be shown on the following pages.



SDG:	150411-75	Location:	Coed Darcy	Order Number:	CD1183
Job:	H_ATKINS_LDC-328	Customer:	Atkins Global Ltd	Report Number:	310438
Client Reference:	RMA 14	Attention:	Charlotte Smith	Superseded Report:	

LIQUID

Results Legend

X

 Test

N

 No Determination Possible

Lab Sample No(s)	11163702
Customer Sample Reference	PRNSW/956
AGS Reference	
Depth (m)	2.50
Container	Vial (ALE297) 1000ml glass bottle

EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1	X	
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1	X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 1		X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 1	X	
pH Value	All	NDPs: 0 Tests: 1	X	
TPH CWG (W)	All	NDPs: 0 Tests: 1	X	

SDG: 150411-75
Job: H_ATKINS_LDC-328
Client Reference: RMA 14

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Charlotte Smith

Order Number: CD1183
Report Number: 310438
Superseded Report:

[illegible]

Order Number: CD1183
Report Number: 310438
Superseded Report:

Page 5 of 9



CERTIFICATE OF ANALYSIS

SDG: 150411-75
Job: H_ATKINS_LDC-328
Client Reference: RMA 14

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Charlotte Smith

Order Number: CD1183
Report Number: 310438
Superseded Report:

TPH CWG (W)

Results Legend		Customer Sample R		PRNSW956			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	2.50 Water(GW/SW) 10/04/2015 . 11/04/2015 150411-75 11163702				
M	mCERTS accredited.						
aq	Aqueous / settled sample.						
diss.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery						
(F)	Trigger breach confirmed						
1-5&\$\$@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
GRO Surrogate % recovery**	%	TM245	73				
GRO >C5-C12	<50 µg/l	TM245	32600	#			
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245	38	#			
Benzene	<7 µg/l	TM245	<7	#			
Toluene	<4 µg/l	TM245	<4	#			
Ethylbenzene	<5 µg/l	TM245	<5	#			
m,p-Xylene	<8 µg/l	TM245	<8	#			
o-Xylene	<3 µg/l	TM245	<3	#			
Sum of detected Xylenes	<11 µg/l	TM245	<11				
Sum of detected BTEX	<28 µg/l	TM245	<28				
Aliphatics >C5-C6	<10 µg/l	TM245	20				
Aliphatics >C6-C8	<10 µg/l	TM245	1600				
Aliphatics >C8-C10	<10 µg/l	TM245	7920				
Aliphatics >C10-C12	<10 µg/l	TM245	10600				
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	25900				
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	18200				
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	9510				
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	53600				
Aromatics >EC5-EC7	<10 µg/l	TM245	<10				
Aromatics >EC7-EC8	<10 µg/l	TM245	<10				
Aromatics >EC8-EC10	<10 µg/l	TM245	5280				
Aromatics >EC10-EC12	<10 µg/l	TM245	7100				
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	9770				
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	9260				
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	6550				
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	25600				
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	112000				



SDG:	150411-75	Location:	Coed Darcy	Order Number:	CD1183
Job:	H_ATKINS_LDC-328	Customer:	Atkins Global Ltd	Report Number:	310438
Client Reference:	RMA 14	Attention:	Charlotte Smith	Superseded Report:	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.



SDG:	150411-75	Location:	Coed Darcy	Order Number:	CD1183
Job:	H_ATKINS_LDC-328	Customer:	Atkins Global Ltd	Report Number:	310438
Client Reference:	RMA 14	Attention:	Charlotte Smith	Superseded Report:	

Test Completion Dates

Lab Sample No(s)	11163702
Customer Sample Ref.	PRNSW956
AGS Ref.	
Depth	2.50
Type	LIQUID
EPH CWG (Aliphatic) Aqueous GC (W)	24-Apr-2015
EPH CWG (Aromatic) Aqueous GC (W)	24-Apr-2015
GRO by GC-FID (W)	25-Apr-2015
PAH Spec MS - Aqueous (W)	24-Apr-2015
pH Value	23-Apr-2015
TPH CWG (W)	25-Apr-2015



SDG: 150411-75
Job: H_ATKINS_LDC-328
Client Reference: RMA 14

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Charlotte Smith

Order Number: CD1183
Report Number: 310438
Superseded Report:

Appendix General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill /made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
\$	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than :
 - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.



Atkins Global Ltd
Project Jonah site office
Llan Coed House
Suite 24
Coed Darcy
Llandarcy
SA10 6HJ

Attention: Jack Lowrie

CERTIFICATE OF ANALYSIS

Date: 17 April 2015
Customer: H_ATKINS_LDC
Sample Delivery Group (SDG): 150411-72
Your Reference: NS PCB
Location: Coed Darcy
Report No: 309489

We received 8 samples on Saturday April 11, 2015 and 8 of these samples were scheduled for analysis which was completed on Friday April 17, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:

Sonia McWhan

Operations Manager





SDG:	150411-72	Location:	Coed Darcy	Order Number:	CD1181
Job:	H_ATKINS_LDC-336	Customer:	Atkins Global Ltd	Report Number:	309489
Client Reference:	NS PCB	Attention:	Jack Lowrie	Superseded Report:	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11163441	PCB1A		0.40	09/04/2015
11163448	PCB1A		1.50	09/04/2015
11163463	PCB2A		0.30	09/04/2015
11163469	PCB2A		1.40	09/04/2015
11163459	PCB1B		0.30	09/04/2015
11163454	PCB1B		1.50	09/04/2015
11163473	PCB2B		0.30	09/04/2015
11163478	PCB2B		1.10	09/04/2015

Only received samples which have had analysis scheduled will be shown on the following pages.



CERTIFICATE OF ANALYSIS

SDG:

Job:

Client Reference:

150411-72
H_ATKINS_LDC-336
NS PCB

Location:

Customer:

Attention:

Coed Darcy
Atkins Global Ltd
Jack Lowrie

Order Number:

Report Number:

Superseded Report:

CD1181
309489

SOLID
Results Legend

- X

Test
- N

No Determination Possible

Lab Sample No(s)	11163478 11163473 11163454 11163459 11163469 11163463 11163448 11163441
Customer Sample Reference	PCB2B PCB2B PCB1B PCB1B PCB2A PCB2A PCB1A PCB1A
AGS Reference	
Depth (m)	1.10 0.30 1.50 0.30 1.40 0.30 1.50 0.40
Container	250g Amber Jar (AL) 250g Amber Jar (AL) 250g Amber Jar (AL) 250g Amber Jar (AL) 250g Amber Jar (AL) 250g Amber Jar (AL) 250g Amber Jar (AL) 250g Amber Jar (AL)

PCBs by GCMS	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X
Sample description	All	NDPs: 0 Tests: 7	X	X	X	X	X	X	X	X



SDG:	150411-72	Location:	Coed Darcy	Order Number:	CD1181
Job:	H_ATKINS_LDC-336	Customer:	Atkins Global Ltd	Report Number:	309489
Client Reference:	NS PCB	Attention:	Jack Lowrie	Superseded Report:	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
-----------	----------	------	-----------------	--------	-------------	--------	------------	-------------	-------

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
11163441	PCB1A	0.40	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None
11163448	PCB1A	1.50	Dark Brown	Sandy Clay	0.1 - 2 mm	Oil/Petroleum	Stones
11163463	PCB2A	0.30	Light Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11163469	PCB2A	1.40	Light Brown	Sandy Clay	0.1 - 2 mm	Stones	None
11163454	PCB1B	1.50	Dark Brown	Loamy Sand	0.1 - 2 mm	Oil/Petroleum	Stones
11163459	PCB1B	0.30	Dark Brown	Sandy Clay	0.1 - 2 mm	Stones	Oil/Petroleum
11163473	PCB2B	0.30	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Plastic
11163478	PCB2B	1.10	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Order Number: CD1181
Report Number: 309489
Superseded Report:

Page 5 of 9

CERTIFICATE OF ANALYSIS

SDG: 150411-72
Job: H_ATKINS_LDC-336
Client Reference: NS PCB

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Jack Lowrie

Order Number: CD1181
Report Number: 309489
Superseded Report:

[illegible]



SDG:	150411-72	Location:	Coed Darcy	Order Number:	CD1181
Job:	H_ATKINS_LDC-336	Customer:	Atkins Global Ltd	Report Number:	309489
Client Reference:	NS PCB	Attention:	Jack Lowrie	Superseded Report:	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.



CERTIFICATE OF ANALYSIS

Validated

SDG:	150411-72	Location:	Coed Darcy	Order Number:	CD1181
Job:	H_ATKINS_LDC-336	Customer:	Atkins Global Ltd	Report Number:	309489
Client Reference:	NS PCB	Attention:	Jack Lowrie	Superseded Report:	

Test Completion Dates

Lab Sample No(s)	11163441	11163448	11163463	11163469	11163454	11163459	11163473	11163478
Customer Sample Ref.	PCB1A	PCB1A	PCB2A	PCB2A	PCB1B	PCB1B	PCB2B	PCB2B
AGS Ref.								
Depth	0.40	1.50	0.30	1.40	1.50	0.30	0.30	1.10
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
PCBs by GCMS	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015
Sample description	13-Apr-2015	13-Apr-2015	13-Apr-2015	13-Apr-2015	13-Apr-2015	13-Apr-2015	13-Apr-2015	13-Apr-2015



SDG: 150411-72
Job: H_ATKINS_LDC-336
Client Reference: NS PCB

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Jack Lowrie

Order Number: CD1181
Report Number: 309489
Superseded Report:

Appendix General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill /made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
\$	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than :
 - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Appendix E. Photosheet



Photograph 1 NSW142 – investigation in to observed thick oily sludge during ground investigation. Material assigned VO score of 1,2



Photograph 2 NSW238 – investigation into observed oozing black liquid during ground investigation. Material assigned maximum VO score of 3,3, no oozing black liquid observed,



Photograph 3 NSW269 – investigation into oil ingress observed during ground investigation. No free product encountered,



Photograph 4 NSW347 - investigation into VO 5,0 recorded during ground investigation. No free product encountered.



Photograph 5 NSW378 – excavation to remove recorded RBSL failure at 4.5m.



Photograph 6 NSW529 – investigation into free product and assigned score of VO 5,3. No free product observed



Photograph 7 NSW628- investigation into free product identified during ground investigation. No free product observed and no hydrocarbon sheen present on water seepage within excavation.



Photograph 8 NSW910, NSW942, NSW943 – free product on groundwater in the base of a combined excavation to investigate thick oily sheens and assigned scores of 5 in the area of NSW910, NSW942 and NSW943

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Coed Darcy

Validation Report
Monitor Phase 57

St Modwen Developments Limited



Notice

This report was produced by Atkins Limited for St. Modwen Developments for the specific purpose of Coed Darcy.

This report may not be used by any person other than St. Modwen without their express permission. In any event, Atkins accepts no liability for any costs, liabilities or losses arising as a result of the use of or reliance upon the contents of this report by any person other than St Modwen.

Document history

Job number: 5122307			Document ref: 5041216-OSW-RPT-0001407			
Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
0	Draft	MM	CRS	ML	MP	May 2015
1	Draft in response to RFI	JL	CRS	MT	MP	Oct 2015

Client signoff

Client	St Modwen Developments Limited
Project	Coed Darcy
Document title	Validation Report Monitor Phase 57
Job no.	5122307
Copy no.	
Document reference	5041216-OSW-RPT-0001407

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Drawings

Appendices

- Appendix A. Summary of Adopted Thresholds**
- Appendix B. Exploratory Hole Logs**
- Appendix C. Laboratory Analytical Results – Ground Investigation**

Glossary of Terms

Term	Meaning / Definition
CSM	Conceptual Site Model
RBSL	Risk Based Screening Level
ACM	Asbestos Containing Material
TPH	Total Petroleum Hydrocarbons
PAH	Polycyclic Aromatic Hydrocarbons
BTEX	Benzene, Toluene, Ethylbenzene and Xylene
FFL	Final Finished Level
mAOD	metres Above Ordnance Datum
RAP	Remedial Action Plan
VO	Visual/Olfactory Observations
BGL	Below Ground Level

1. Introduction

1.1. Background

Atkins Limited has been commissioned by St. Modwen Developments Ltd (St. Modwen) to provide consultancy advice with regard to the redevelopment of the former Llandarcy Oil Refinery as Coed Darcy.

The purpose of this report is to provide data relating to Monitor Phase 57 to confirm the suitability of this area for redevelopment in line with the specific requirements of the S106 in order for St. Modwen to achieve sign off by the Monitor. For the purpose of Monitor sign off, this area proposed as Monitor Phase 57 is shown on Drawing 5041216-REM-DWG-1963.

This document represents an updated version of an earlier report and takes into account Monitor comments in RFI0147, dated 25^h June 2015.

Based upon the current Masterplan, it is understood that Monitor Phase 57 is proposed as an area of proposed residential housing within the final development. However, in line with ongoing discussions with the client, relating to the practicalities of any redevelopment of this part for the former refinery the following assessment assumes a Public Open Space end use for this area.

In the absence of detailed information relating to any proposed layout and/or final finished levels (FFL) across this area, the following assessment assumes that existing ground levels represent a depth of 1m below FFL for the purpose of comparison with the requirements of the S106.

1.2. Aims and Objectives

This report provides an overview of the site including information regarding the site setting, local geology and hydrogeology, identified contamination and discussion of remedial works undertaken, where required.

In the long term, it is anticipated that the suitability of land quality will need to be reassessed once detailed development proposals for each area are defined. Planning Condition 44 of the Outline Planning Permission for the site (P2005/0393) requires that:

Prior to the submission of the first reserved matters application on each phase of development, notwithstanding the provisions of Condition 26, a phase specific remediation strategy focusing upon the remediation requirements of that area shall be submitted to and approved in writing by the Local Planning Authority. The submitted documents shall include the results from the site investigation and risk assessment; and using the above information a method statement shall be submitted detailing remediation measures and a detailed programme for the submission of verification reports upon completion of the remedial works confirming implementation of agreed measures, together with proposals for future monitoring and reporting. The approved details shall be fully implemented on site, in line with a schedule of works that shall form part of the details submitted to the Local Planning Authority for approval.

In line with the detailed information relating to historical and recent ground investigation and laboratory analysis for Monitor Phase 57 as provided in the following report, it is envisaged that this document would form part of any later planning submission for this part of the site in line with the requirements of Planning Condition 44.

1.3. Scope of Work

The scope of works includes:

- A review of all readily available information including geological, hydrogeological, historical site plans, Environment Agency and British Geological Society (BGS) records.

- A review of available historical maps relating to Monitor Phase 57 and adjacent areas;
- A review of historical (1998-2004) and recent (2014-2015) ground investigation information relating to Monitor Phase 57;
- Comparison of the available ground investigation information and laboratory data against the requirements of the S106, specific to the proposed end use for Monitor Phase 57.
- Details of any remedial works undertaken, and
- Details of all validation in order to confirm that the remedial works were successfully carried out and to demonstrate that this area is now suitable for use in line with the required criteria.

1.4. Soil Quality Assessment Standards

To maintain consistency of approach, the assessment standards for historic and recent data are those stated in the S106 Agreement for Coed Darcy. The visual and aesthetic classification system, as previously defined by BP within the S106, is provided as Table 1.1.

Atkins proposes to continue this system for the classification of all soils encountered to aid assessment of each area in terms of the required remediation requirements. The assigned classifications for each strata are quoted on the trial pit logs for recent ground investigation by Atkins (refer to Section 4).

Table 1.1 – Scale of Aesthetic Criteria

Class	Visual	Olfactory
0	No visible staining of soil, no visible suspect ACM*.	No detectable odour on soil.
1	Occasional staining of soil, no visible suspect ACM*.	Faint odour on soil.
2	Frequent staining of soil.	Distinct but not strong odour on soil.
3	Occasional heavy staining of soil.	Strong odour on soil.
4	Heavy staining of soil.	Strong odour discernible in ambient air.
5	Visible hydrocarbon present.	Overwhelming odour.

* visible suspect ACM refers to asbestos containing material visible to the naked eye which a reasonable and prudent person used to managing asbestos may suspect to be asbestos-containing.

The S106 for the proposed development presents a series of Risk Based Screening levels (RBSLs). These levels are defined in the S106 as being the 'minimum base level standard' for redevelopment remediation works (Schedule 8, Part 2, Paragraph 2,5).

In order to update the assessment of contamination in line with current UK guidance, these RBSLs are also now supplemented by a series of Remedial Target Concentrations (RTCs) derived by Atkins (Atkins reference: 5041216-REM-REP-000216 v3). A summary of the adopted thresholds are presented in Appendix A.

Details of the required frequencies of testing, as stated within the S106, are presented in Section 7.

Compliance with the redevelopment remediation requirements stated within Schedule 8 of the S106 (refer to Section 6) form the basis for obtaining the relevant sign off from the Monitor.

1.5. Information Sources

Information reviewed as part of the following assessment has been obtained from the following sources:

- URS BP Llandarcy Refinery Desk Study 44382742/BRRP0001, July 2007
- URS Report FR1287 Final Factual Report for Ground Investigation, August 2005
- Section 106 Deed of Planning Obligations (Dewey & LeBoeuf report GNP/NJR/13773-2), February 2008

1.6. Limitations

As previously indicated, this report has been prepared with the sole intention of providing sufficient information to enable St. Modwen to obtain Monitor sign off for Monitor Phase 57 in accordance with criteria set out in the Coed Darcy Section 106 Agreement. Whilst the report may be relevant for submission as part of a reserved matters planning application, additional reports and submissions will be required as part of any future plot development.

The investigation works undertaken and summarised within this report represent a sampling exercise to determine ground conditions, in line with the required methodology outlined within the S106. The proposed works were carried out predominantly to investigate contamination across this area and do not include a review of any geotechnical issues or constraints that may exist which would need to be taken into account as part of any proposed redevelopment.

In addition, it should be noted that ground and groundwater conditions can vary over time and between sampling points. Whilst this report provides information relating to the removal of identified pipework and below ground structures encountered during the works, unidentified pipework and/or structures may still exist in situ.

2. The Site

2.1. Location and Description

Monitor Phase 57 is an irregular-shaped area of land approximately 7.34 ha (hectares) in size comprising parts of the former railhead. This area is split into two sections; a northern and southern. Monitor Phase 39 Public Open Space (POS) Zone D separates the northern and southern sections. The southern section of Monitor Phase 57 is located in the north of the Southern Tank Farm of the former Llandarcy Oil Refinery. The northern section of Monitor Phase 57 is located on the western boundary of the former refinery. The extent of Monitor Phase 57 is shown on Drawing 5041216-REM-DWG-1963.

Monitor Phase 57 is characterised by a sloping topography from east to west in both parts of the Site. In the southern half, the elevation on the eastern edge is approximately 46 metres above Ordnance Datum (mAOD) falling to approximately 22m AOD in the west. The elevation of the northern half is approximately 34m AOD in the east, sloping to approximately 23m AOD in the west. A topographical survey of the area is presented as Drawing 5041216-ATK-DR-C-REM-002127.

Monitor Phase 57 has been historically cleared of above ground infrastructure and largely of vegetation, although the north western and north eastern parts of the southern section remain densely wooded. The southern section of Monitor Phase 57 is currently being used for stockpiling of soils associated with ongoing works within the former refinery. The northern section of Monitor Phase 57 is also currently occupied by stockpiles (windrows) of material which are currently being bioremediated by Celtic Technologies Ltd. The material comprises sludge excavated from the South Site Reservoir mixed with imported woodchip.

Woodland and vegetation bounds both sections of Monitor Phase 57 to the west. Vacant ground is located to the east and south of the southern section and to the north and east of the northern section. The containment lagoons/refinery landfill are located approximately 150m to the west of Monitor Phase 57. A site haul road bounds part of the northern section of Monitor Phase 57 to the east and passes along the western boundary of the southern section.

2.2. Historical Land Use

Construction of Llandarcy Oil Refinery commenced in 1917 but was temporarily suspended during the war due to the lack of men and resources. Construction started again in 1919 with production beginning in 1921. The refinery was officially opened in 1922.

The purpose of the refinery was to produce motor spirit, kerosene, gas fuel oil, fuel residue and lubricating oil and wax from imported crude oil. Between the wars, the oil industry developed rapidly. By 1939, the refinery had little of the original plant in operation.

In the mid 1980s a number of rationalisations occurred with the closure of the refinery being formally announced in 1997.

Based upon the information in URS Report 44382742/BRRP0001, the northern half of Monitor Phase 57 is reported to have been historically occupied by the railhead and the Railcar Loading Depot, which was constructed pre-war and remained in use until the end of site operations.

The southern half of Monitor Phase 57 is reported to have been historically occupied by the White Oils Loading Gantry, the Packaging Plant and Rail Workshop.

The White Oils Loading Gantry was likely to have been constructed pre-war and was operational for the rail system until it became redundant in the 1980s. The Packaging Plant was constructed pre-war and was redundant by the early 1970s. It was most recently used as a training centre and

a fire station. The rail workshop was likely constructed pre-war and was operational maintaining the rail lines and carriages until the site closure.

The historical layout of Monitor Phase 57, based on the information available, is shown on Drawing 5041216-REM-DWG-1964.

2.3. Published Geology

A review of published geological information (BGS map 247, Swansea 1:50,000 scale) indicates Monitor Phase 57 to be underlain by:

- Till (Diamicton), a heterogeneous deposit of glacial origin;
- Pennant Sandstone Formation, specifically the Hughes Member and Brithdir Members which are described by the BGS as *'green-grey, lithic arenites ("Pennant sandstones") with thin mudstone/siltstone and seatearth interbeds and mainly thin coals'*. Conglomerate lenses can be found at the base of units.

2.4. Hydrogeology and Hydrology

2.4.1. Groundwater

Environment Agency data suggests that the Till (Diamicton) underlying Monitor Phase 57 are classified as 'Unproductive Strata'. These are defined as:

'...rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.'

The underlying sandstone bedrock is classified as a 'Secondary A Aquifer'. This is defined as:

'permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.'

Groundwater contours, as presented in URS Report FR1287, suggest that groundwater flow within drift geology and bedrock is to the west within Monitor Phase 57, consistent with the topography of the area.

2.4.2. Surface Waters

The closest significant water feature within the confines of the former refinery boundary is known as the triangular pond. The triangular pond is located approximately 110 m to the south of Monitor Phase 57.

The Containment Lagoons/former refinery landfill lie approximately 130m to the west of the southern section of Monitor Phase 57. A surface water drainage ditch runs from south to north adjacent to the south western tip of Monitor Phase 57.

Crymlyn Bog Site of Special Scientific Interest (SSSI), discussed further in 2.6, is located adjacent to the western boundary of the northern half of Monitor Phase 57.

2.5. Landfills and Waste Management Facilities

The Containment Area (see 2.4.2 above) has been previously used by BP for historical landfilling activities.

Atkins is currently in the process of remediating the landfill associated with the former Llandarcy Oil Refinery and are in ongoing discussion with Natural Resources Wales relating to the surrender of Environmental Permit No. EPR/AP3990LR.

2.6. Sensitive Land Uses

Crymlyn Bog SSSI, located approximately 100 west of the western boundary of the northern section of Monitor Phase 57, represents the most extensive area of lowland fen in Wales.

Crymlyn Bog SSSI is internationally important for its very wet mires often identified by an unstable 'quaking' surface. Bottle sedge and bogbean are important components of some stands, together with common cottongrass, water horsetail, star sedge, mud sedge, and in places, the nationally rare slender cottongrass. Crymlyn Bog supports the largest area of calcium-rich fen dominated by great fen sedge vegetation in south Wales. Some of these stands are dominated by great fen sedge, but other areas display a more diverse vegetation in which tufted-sedge, royal fern and a range of tall-herb fen species are prominent. Some of these stands are unique in a Welsh context. In addition there are areas of wet woodland with alder and willow being the dominant species (<http://www.ccg.gov.uk/landscape--wildlife>).

3. Historical Ground Investigation by URS

3.1. Introduction

A total of 62 historical exploratory holes are reported to have been excavated by URS within Monitor Phase 57 on behalf of the previous site owner, BP. The locations of known exploratory holes are presented on Drawing 5041216-ATK-DR-C-REM-002130.

The exploratory holes were excavated as part of a series of investigations across the former refinery, dating between 1998 and 2004.

3.2. Ground Conditions Summary

Made Ground was recorded in the historical exploratory holes in Monitor Phase 57 as clay, silt, sand and gravel of ash, clinker, brick, slag with coal dust, brick dust and concrete.

The superficial deposits are described to consist of glacial material, primarily clay, silt and sand with gravel and cobbles of sandstone. Consistent with its proximity to the adjacent bog, peat (described as soft, black, fibrous and woody) was encountered in exploratory holes located along the western boundary of the northern section of Monitor Phase 57. Bedrock was generally first encountered as sandy weathered sandstone bedrock gravel and cobbles, with occasional coal.

3.2.1. Soil Contamination

Visual evidence of contamination was historically reported across this area as slight hydrocarbon sheens and staining to free product present generally within the granular components of Made Ground and superficial deposits. Olfactory evidence of contamination was reported as slight to very strong odours, with specific descriptions of odours including 'aromatic hydrocarbon', 'hydrogen sulphide', 'light hydrocarbon' and 'tarry'.

Laboratory analysis for soils within Monitor Phase 57 suggests contamination comprises predominantly mid to heavy end hydrocarbons.

No exceedances have been identified in the data reviewed when screened against the RBSLs for deep (>1m below FFL) soils in a Public Open Space land use.

3.2.2. Groundwater Contamination

Historical groundwater data suggests that mid-range hydrocarbon contamination is most prevalent within Monitor Phase 57.

In the absence of any thresholds for groundwater within a public open space area, the result of historical laboratory analysis of groundwater samples has been screened against the commercial groundwater RBSL. There were no exceedances of the commercial groundwater RBSL.

Small volumes of free product was identified during monitoring of boreholes within Monitor Phase 57. In the north of the northern section of the Site, 0.065m of free product was detected in MSMW216. In addition, 0.001m of free product was detected in MSMW181 and MSMW032s located within the centre and south east of the southern section of Monitor Phase 57. In all instances free product was only identified on one monitoring round.

3.3. Exclusion Areas/Special Process Areas

Based upon the findings of historical ground investigation, there are five Special Process Areas within Monitor Phase 57. These are named as:

- Railhead
- Benzene Railhead
- Railhead Barrelling Plant
- TPH Railhead; and
- TPH Railhead 2

The locations and extent of the Special Process Areas are shown on Drawing 5041216-REM-DWG-1964.

4. Recent Ground Investigation by Atkins

4.1. Introduction

With the aim of supplementing and updating the historical investigation, a total of 302 machine excavated trial pits were undertaken across Monitor Phase 57 by Atkins between May 2014 and April 2015.

257 trial pits were excavated in the southern half of Monitor Phase 57 on an approximate grid of 1 trial pit per 205m², and the remaining 45 trial pits were excavated in the northern section on an approximate grid of 1 per 460m² around the footprints of the windrows discussed in Section 2.1.

Environmental Scientifics Group (ESG) were employed by the client, St. Modwen, to complete the works, under direction from Atkins. Trial pits were typically advanced to the maximum reach of the excavator, unless terminated on bedrock or obstructions or because of water ingress, contamination or collapse. All trial pits were backfilled with arisings in reverse order to which they were excavated, then compacted with the back of the excavator bucket. Excess arisings were left in a mound above the surrounding ground surface to allow for subsequent settlement.

The locations of the Atkins trial pits are shown on Drawing 5041216-REM-DWG-1966. Copies of all relevant exploratory hole logs for the recent investigation works by Atkins are presented in Appendix B.

4.2. Recorded Ground Conditions

Consistent with historical investigation, Made Ground encountered in the trial pits across Monitor Phase 57 was found to be variable in composition, comprising clay, silt, sand, gravel, cobbles and boulders with anthropogenic inclusions of ash, brick, clinker, coal waste, concrete, metal pipes and fragments, metal re-bar, plastic fragments, slag and wood fragments. There were 18 trial pits where reworked natural ground was identified within the northern section of Monitor Phase 57; the minimum depth of reworked natural ground was 0.30m bgl in TPE2208 and the maximum depth was 4.30m bgl in TPE2016 and TPE2051. Reworked natural ground comprised sands, gravels and clays.

Pipework was encountered in situ in 17 locations across Monitor Phase 57 and is discussed further in Section 5.1. A remnant rail line was encountered at a depth of 2.00m bgl in trial pit IP1209 located towards the north west of the southern section of Monitor Phase 57.

Superficial deposits were generally encountered in the southern half of Monitor Phase 57 as glacial material, comprising various matrices of silt, clay, sand, sandstone and siltstone gravel, cobbles, and boulders. In the northern half, varying matrices of clay, sand and sandstone gravel, cobbles and boulders were encountered. Occasional coal flecks and quartz were also identified.

Sandstone bedrock was generally encountered as a weathered zone comprising clayey sandy tabular sandstone gravel, cobbles and boulders. Trial pits within Monitor Phase 57 were terminated on competent bedrock at depths ranging from 0.30m bgl in IP803 in the south eastern corner to 4.6m bgl in IP1421 located in the south western corner of the Phase.

Seepages and water strikes were recorded in Made Ground and superficial deposits, interpreted as perched water residing in granular material, rather than a continuous groundwater body. Water strikes were also recorded within layers of interpreted weathered bedrock or resting on competent bedrock.

Some of the water strikes were noted to be associated with redundant underground services.

The achieved frequency of investigation and analysis, based on the recent trial pitting, is discussed in Section 6.

4.3. Laboratory Analysis

A total of 831 samples representing identified soils from across Monitor Phase 57 were analysed by Alcontrol Laboratories for a general suite of contaminants considered appropriate for the former use of the area.

A total of 674 samples were analysed from the southern section of Monitor Phase 57 and 157 from the northern section.

Due to the uncertainty over FFLs, a generic suite comprising the majority of determinands listed in the RBSLs, was scheduled on all soil samples collected during the ground investigation.

Once determined, should FFLs be proposed to lie at or below the current ground levels, the availability of this additional data will enable a reassessment of the relevant data without the need for further investigation and/or additional sampling.

The analytical suite comprised:

- Metals - arsenic, cadmium, chromium, copper, lead, nickel, mercury, selenium, vanadium, zinc (all samples);
- pH (all samples);
- Polycyclic Aromatic Hydrocarbons (all samples);
- Speciated Petroleum Hydrocarbons plus BTEX hydrocarbons (all samples);
- Soil Organic Matter (selected samples); and
- Asbestos screen and identification (samples within top 1m from existing ground level only, assuming that current levels represent 1m below FFL and the asbestos RBSL does not apply at depths greater than 2m below FFL in any land use scenario)..

4.4. Soil and Groundwater Contamination

4.4.1. Visual and Olfactory Evidence of Contamination

A review of the logs for the 302 trial pits recently excavated within Monitor Phase 57 shows that visual and/or olfactory evidence of contamination was scored as VO 5 and/or evidence of hydrocarbon sheens or product was identified in 55 locations.

In many cases the geological description indicates that the visual evidence of contamination may relate to the presence of ash, black ashy sand and hydrocarbon staining, distinct from oil-saturated soils. Details of visual and olfactory evidence of contamination from the investigation is summarised in Table 4.1

Table 4.1 –Elevated Aesthetic Criteria Scores in Monitor Phase 57

Trial Pit	Depth	Observations
IP1079	0.70-1.50m	VO 5,4. Visible free product.
IP1196	2.50-4.50m	VO 5,2.
IP1198	3.50-4.00m	VO 5,2.
IP1222	3.40-3.70m	VO 5,3. Seepage at 3.50m, heavy flow, water stained black from hydrocarbons, strong odour.
IP1223	3.20-3.60m	VO 5,4. Seepage at 3.20m, heavy flow, heavily hydrocarbon stained black with strong odour.
IP1224	2.80-3.40m	VO 5,4. Visible free product on clay

IP1225	1.00-2.00m	VO 3,5 Strong hydrocarbon odour
IP1227	1.50-4.00m	VO 5,2.
IP1301	2.70-3.30m	VO 0,5. Very strong chemical odour.
IP1302	2.50-4.50m	VO 5,2.
IP1304	3.50-4.50m	VO 5,1.
IP1305	2.40-3.70m	VO 5,4. Seepage at 2.40m water has black sheen and strong hydrocarbon odour.
IP1306	3.80-5.00m	VO 5,4. Seepage at 4.00m water has black hydrocarbon sheen.
IP1329	2.40-3.80m	VO 3,5. Seepage at 3.50, heavy flow, hydrocarbon product leaving black sheen and strong odour.
IP1333	3.30-4.40m	VO 5,5. Seepage at 4.10m, fast flowing heavily hydrocarbon stained, very strong odour.
IP1334	3.80-4.60m	VO 5,5. Seepage at 4.20m, fast flow, water has strong black hydrocarbon staining and strong odour.
IP1335	2.20-4.30m	VO 5,4. Heavy seepage at 4.00m water is stained black with hydrocarbon and has strong odour.
IP1337	2.20-3.60m	VO 5,3.
	3.60-4.30m	VO 5,4. Seepage at 4.10m fast flow, stained black with hydrocarbons, strong odour.
IP1338	3.30-4.30m	VO 5,4. Seepage at 4.00m, fast flowing, stained black with hydrocarbons, strong odour.
IP1339	1.40-4.50m	VO 2,5. Strong chemical odour. Seepage at 4.00, heavy flow with black oily sheen.
IP1410	1.90-3.90m	VO 5,4. Visible free product. Seepage at 3.70m, fast flowing. Water is heavily hydrocarbon stained black with strong odour.
IP1411	1.70-2.10m	VO 0,5 Strong chemical odour
	3.80-5.00m	VO 5,5. Visible free product.
IP1412	3.20-4.30m	VO 5,5. Seepage at 4.00m, heavy flow, strong hydrocarbon staining (black), very strong odour.
IP1413	1.60-2.00m	VO 0,5. Strong chemical odour.
IP805	0.00-0.60m	VO 5,3.
IP885	0.00-0.50m	VO 5,5.
IP961	0.00-0.80m	VO 5,3.
IP980	0.00-1.00m	VO 5,3.
IP985	0.00-0.50m	VO 5,3.
IP986	0.00-0.50m	VO 5,3.
IP988	0.00-0.75m	VO 5,3.
IP996	0.00-1.10m	VO 5,3.
TPE481	3.10-4.30m	VO 5,5. Hydrocarbon product. Distinct hydrocarbon staining and overwhelming odour.
TPE482	3.50m	Seepage with oily sheen.
TPE491	0.00-1.10m	VO 5,3. Occasional pockets of free product.
TPE550	2.10-2.60m	VO 0,5. Distinct hydrocarbon odour.
TPE551	2.50-2.70m	VO 0,5. Distinct hydrocarbon odour.
TPE552	4.00m	Seepage, surface has oily sheen.
TPE553	1.00-4.50m	VO 0,5. Strong chemical odour.
TPE582	2.10-5.00m	VO 5,5. Seepage at 4.20m mixing with hydrocarbon product water is black with strong hydrocarbon sheen and odour.
TPE583	4.50-5.00m	VO 5,5. Visible free product. Seepage at 4.50m has strong hydrocarbon sheen and odour.
TPE584	3.10-4.50m	VO 5,5. Seepage at 3.10m fast flowing surface has black hydrocarbon sheen and strong odour.
TPE586	1.00-2.50m	VO 5,1.
TPE587	3.00-4.50m	VO 5,2.
TPE588	2.50-5.00m	VO 5,2.
TPE643	3.00-5.00	VO 5,2.
TPE645	2.50-5.00m	VO 5,1.

TPE646	3.50-4.50m	VO 5,2.
TPE647	3.70-4.60m	VO 5,5. Seepage at 4.30m fast flowing, heavily stained black, strong odour.
TPE2040	0.40-0.70m	VO 5,1. Bitumen.
TPE2089	1.00-3.00m	VO 5,3. Bitumen.
TPE2115	4.00m	Free product ingress.
TPE2127	1.80-2.00m	VO 5,1. Pockets of lube oil and wax.
TPE2214	0.40-2.10m	VO 5,3. Product noted in corner of pit.
TPE2222	0.00-1.10m	VO 5,2. Bitumen.

4.4.2. Comparison with Risk Based Screening Levels

One exceedance of the Recreational RBSL for deep (>1m) soils was recorded, based on a 1% SOM. At 4.00m in trial pit IP1411 xylene was recorded at a concentration of 510mg/kg, in exceedance of the RBSL of 478mg/kg. This location corresponds with the Railhead Barrelling Plant Special Process Area in the south west of Monitor Phase 57.

A total of 286 samples underwent laboratory analysis for asbestos and loose asbestos fibres were detected during that analysis in 108 samples. The maximum concentration of asbestos was 0.608% in TPE2036 at 0.5m bgl. The loose fibres were identified in microscopic analysis and visible ACM was not recorded during the ground investigation in any location in Monitor Phase 57.

As previously highlighted, the risk assessment is based upon the assumption that existing ground levels across Monitor Phase 57 represent 1m below FFL for the purpose of comparison with the requirements of the S106. Based on this assumption, existing soils across this area would lie at depths greater than 1m within the final development.

In line with the adopted scenario of Public Open Space, there are no thresholds for asbestos at depths >1m below FFL and soils are therefore considered to be suitable for retention.

4.5. Relict Pipework

Pipework was encountered in situ in 17 locations within Monitor Phase 57, as summarised in Table 4.2.

Table 4.2 – Relict Pipework Encountered In Situ in Monitor Phase 57

Location	Depth	Observations
IP0957	2.00m	n/a
IP0975	0.40m	Metal
IP0978	0.40m	Ceramic
IP0984	0.40m	Metal
IP1068	0.50m	Pipe removed during excavation of trial pit
IP1082	2.00m	n/a
IP1330	2.20m	Metal
TPE0484	0.20m	Metal
TPE0491	0.40m – 2.00m	Two metal pipes (removed during excavation of trial pit)
TPE0549	2.30m	Metal
TPE0580	1.40m	Metal

TPE0581	3.00m	Pipe and cables
TPE0584	1.40m	Metal pipe and three dead cables
TPE2151	0.40m	Clay
TPE2153	1.20m	Metal
TPE2161	0.40m	n/a
TPE2174	2.00m	n/a

5. Post Investigation Issues and Actions

5.1. Identified Issues

Recent trial pitting works across Monitor Phase 57 identified the following potential issues requiring further investigation and/or removal to meet with the requirements of the S106, as summarised below in Section 6.1.

- The presence of an identified xylene RBSL exceedance within existing soils;
- Hotspots of contamination identified by elevated aesthetic criteria scores; and
- The presence of pipework identified in situ during the trial pitting.

It should be noted that identified concrete, or other structural remnants such as brickwork, will be broken out and removed as part of the proposed remedial works across Monitor Phase 57 only if the presence of these structural remnants prevent the delineation or excavation of identified contaminated material.

In the absence of a full 'turnover' of soils across Monitor Phase 57, the potential for remaining concrete/brickwork within this area exists. The removal of relict below ground structures from across this area does not form a specific requirement of the S106 and is, therefore, outside of the scope of these works.

Identified areas requiring further investigation and/or removal are shown on Drawing 5041216-ATK-DR-C-REM-DWG-2131.

5.2. Follow Up Ground Investigation

A follow up ground investigation and sampling has been carried out in 13 locations within Monitor Phase 57 during August 2015 in the area of woodland in the north east of the phase not covered by the recent ground investigation carried out by ESG.

The locations of these recent Atkins trial pits are shown on Drawing 5041216-REM-DWG-1966. Copies of the relevant exploratory hole logs for these recent investigation works by Atkins are included in Appendix B.

5.2.1. Recorded Ground Conditions

Made Ground was encountered within five of the additional trial pits and comprised sands and gravels with frequent cobbles and boulders and occasional clay; anthropogenic inclusions were limited to brick. IP5004 was the only pit where ash was present within the Made Ground. A large concrete block was encountered in IP5002 to a depth of 0.60m bgl. The maximum depth of Made Ground in the additional ground investigation was 2.30m bgl in IP5007.

No pipework was encountered in these thirteen trial pits.

Superficial deposits were generally encountered as sands and gravels with frequent cobbles and boulders of weathered sandstone bedrock. Competent sandstone bedrock was encountered at a minimum depth of 0.20m bgl in IP5012 and maximum depth of 2.5m bgl in IP5013.

One slight seepage was recorded within superficial deposits, this is interpreted as perched water residing in granular material rather than a continuous water body. A further slight seepage was also recorded resting on competent bedrock.

5.2.2. Laboratory Analysis

A total of 21 soil samples, representing identified soils from across the area of investigation, were submitted to Alcontrol Laboratories and analysed for a suite of contaminants consistent with wider investigation across Monitor Phase 57 (refer to Section 4).

5.2.3. Soil and Groundwater Contamination

5.2.3.1. Visual and Olfactory Evidence of Contamination

A review of the logs for the 13 trial pits recently excavated within Monitor Phase 57 has indicated that visual and/or olfactory evidence of contamination was present in seven locations up to a maximum of Class 1. Exceedances of the aesthetic quality thresholds were not recorded.

None of the recorded water seepages were observed to have a sheen or free product.

5.2.3.2. Comparison with Risk Based Screening Levels

In line with the proposed end use of Public Open Space the results of laboratory analysis have been compared with the adopted chemical thresholds for deep soils (>1m) in a Parks land use. No exceedances of the adopted thresholds were recorded.

Laboratory analytical results are presented in Appendix C.

No visible evidence of ACMs were reported during the investigation of these areas. A total of thirteen samples underwent laboratory analysis for asbestos and positive detections for loose chrysotile asbestos fibres in soil were recorded in two samples. Subsequent quantification recorded concentrations of asbestos in the samples from IP5004 and IP5011 as <0.001%.

5.3. Contamination Hotspot

One exceedance of the Risk Based Screening Limit (RBSL) for deep soils (>1m) in a Public Open Space setting was recorded for xylene at 4.00mbgl in trial pit IP1411 (see section 4.4.2).

The exceedance was recorded in a sample taken from superficial deposits of clay beneath a cover of ash. No RBSL exceedances were recorded in the three samples taken within the overlying Made Ground. Surrounding trial pits were advanced to a similar depth and no exceedances of the RBSL were recorded. The elevated concentration of xylene is therefore interpreted as a localised hotspot of contamination constrained both laterally and vertically by clean material. At depth in a Public Open Space end use there is considered to be no plausible pathway to receptors and therefore it is deemed that these soils are suitable for retention.

5.4. Visual and Olfactory Evidence of Impact

Identified remnant free product and elevated aesthetic criteria scores were recorded at 55 locations within Monitor Phase 57. Many of the exceedances at shallow depth are attributable to the presence of black ash which is a feature of many areas around the low lying interfaces of Monitor Phases 57, 56, 58 and 59. Notwithstanding it is clear that in many locations there is evidence of residual hydrocarbon impact.

Ash was probably imported into the refinery to create a stabilised embankment on the edge of the Crymlyn Bog and which served as the location for some refinery plant and more particularly the former railway sidings. The ash bank along the western margin of Coed Darcy extends approximately 500m from southern end of the southern part of Phase 57 and probably extends beyond the north of the northern part of Phase 57. It should also be noted that an ash bund was placed during the construction of the containment area to mark its outer boundary.

Historically, the western margins of the site have been the source of residual free phase oil which impacted the margins of the Crymlyn Bog and the southern boundaries of the containment area

(comprising Monitor Phase 39 Zones C and D). The requirements of the Remedial Action Plan (RAP) required the installation of free phase cut-off trenches to manage the migration of residual free phase hydrocarbons both from within Zones C and D and plausibly from other 'up-flow' areas including Phase 57 (north and south). These features are installed as RAP 2 and 9B which are operational and subject to periodic monitoring. These features protect the western margin of the site from the flow of free phase oil.

There are no proposed commercial or residential development areas down flow from Monitor Phase 57 and the risks from residual free phase is considered managed with respect to the migration of free phase oil. The highest levels of visual impact are also noted at depth and there is no observable gross contamination at the surface. Direct exposure through accidental contact is considered highly unlikely given that in the short to medium term this area will be retained as an area of Open Space with restricted public access.

6. Validation

6.1. Requirements of the S106

The existing S106 does not provide specific details for remediation requirements for areas of proposed Open Space, such as Monitor Phase 57, but states the following:

The Developer shall remediate areas of Property which will not be developed for residential or commercial end-uses based on those areas falling into one of the following three broad categories of land-use:

- *Well managed parks and public gardens;*
- *More lightly managed areas where public access is encouraged;*
- *Areas to which access is discouraged but occasional access and/or trespassing is possible.*

In line with the absence of specific details relating to remediation requirements for proposed areas of open space, the S106 states the following with regard to the scope of remedial and/or mitigation works in these areas:

The degree of protection that will need to be afforded to people will be largely dependent upon how the access to these areas is encouraged/discouraged and managed. For guidance only, access may be discouraged by physical barriers such as fencing, or vegetation or actively managed by the provision of walkways along which controlled access is encouraged. The topography of the site may encourage children to use bikes, potentially causing rutting of the ground surface and exposing soils at depth. Detailed designs in this regard will be prepared by the Developer approved by CDL and agree with the Environmental Authorities to (i) protect human health considering the reasonably anticipatable use of the land (ii) achieve the relevant RBSLs (recreational RBSLs being provided in Table 1 above) to an appropriate depth and (iii) include an appropriate scheme of validation testing.

Schedule 10, Paragraph 6 of the S106 states that 'Irrespective of the Intended Use of each Phase or part thereof, all existing buried services at the Property shall be removed and the routes of those services shall be backfilled with material no more permeable than the general material in the vicinity'. Where required, it is envisaged that such works would be carried out in conjunction with other remedial works within an area.

In the absence of any information relating to proposed development levels for this area, it has been assumed that current ground levels within Monitor Phase 57 (Drawing 5041216-REM-DWG-1963) represents a level of 1m below FFL.

6.2. Sampling Frequencies

6.2.1. Ground Investigation

The locations of all recent exploratory holes are shown on Drawing 5041216-REM-DWG-1966. Relevant exploratory logs are presented in Appendix B.

A total of 302 trial pits have been undertaken within the Site, 257 of which were excavated in the southern half and 45 in the northern half of Monitor Phase 57.

A total of 831 environmental samples from Monitor Phase 57 have been subject to laboratory analysis (refer to Appendix C), with 674 samples analysed from the southern half and 157 from the northern half.

Based on an approximate area of 73,400m², 302 trial pits equates to an approximate frequency of one pit per 243m². A total of 831 samples equates to an approximate sample validation frequency of 1 test per 88m³.

Planning condition 41 of the Outline Planning Permission for the redevelopment of the former refinery states that:

No works shall commence on each development area until a scheme detailing the temporary means of enclosure for each development phase as agreed under Condition 9 of this consent (including details of the means to prevent unauthorised access to a service track or restricted access point) together with full details of temporary protective fencing to safeguard trees, hedgerows and habitat and ecological areas of importance giving full consideration to measures which will allow or restrict wildlife access to areas have been submitted to and approved in writing by the Local Planning Authority. The submitted details shall have due regard for the Environmental Management Plan and include the specifications of the fencing; details of signage stating that the fencing should not be removed; together with plans showing the location of the fencing and the extent of the areas to be protected. The approved details shall be fully implemented on site and shall be retained as such for the duration of the works within these areas.

In line with the above, details of fencing etc. relating to any proposed redevelopment within Monitor Phase 57 would need to be agreed with the relevant regulatory authorities prior to any proposed construction. Within the current site, unauthorised access to this area is restricted by ongoing security at the site perimeter.

6.3. Summary

A summary of the status of Monitor Phase 57, in line with the requirements of the S106 is presented in Table 6.5 below:

Table 6.5 – Validation Summary

Requirement	Status	Comment
Chemical quality of soils in situ	Complete	Trial pitting and sampling has been undertaken to a frequency of 1 per 253m ² in Monitor Phase 60 which is considered suitable for a proposed Public Open Space end use.
VO quality of soils in situ	Complete	There are localised areas of high V/O impact from residual petroleum hydrocarbons, especially in the south of MP57. Many of these are attributable to local deposits of black ash. However, where there was evidence of free phase hydrocarbons, the down-stream impacts are considered managed by the presence of the installed RAP features.
Observations of groundwater for the presence of free phase product	Complete	It is considered that no significant body of free phase oil within groundwater was encountered although localised impacted seepages were noted. These observations are considered representative of residual quantities of free phase which are managed by the installed RAP features.
Chemical and VO quality of imported material	N/A	No imported soils have been utilised in Monitor Phase 57.
Compliance with adopted thresholds	Complete	One exceedance of the RBSL for xylene was recorded at a depth of 4.00m bgl in trial pit IP1411. This contamination hotspot has not been excavated on the basis that it lies a depth and is constrained laterally and vertically by clean material. In a public open space land use there is considered to be no plausible pathway to receptors.

Requirement	Status	Comment
		Soils in Monitor Phase 57 are considered to be suitable for retention in relation to the adopted thresholds.
Removal of oil saturated soils	N/A	There are localised areas of high V/O impact from residual petroleum hydrocarbons, especially in the south of MP57. Many of these are attributable to local deposits of black ash. However, where containing evidence of free phase hydrocarbons the down-stream impacts are considered managed by the presence of the installed RAP features.
Asbestos Assessment	Complete	Asbestos fibres were detected during laboratory analysis in 108 samples. Visible ACM was not identified during the works in Monitor Phase 57. The assessment which has been carried out assumes a depth >1m below FFL and there is no RBSL for soils at this depth in a Public Open Space land use. Soils are therefore considered to be suitable for retention in respect of asbestos.
Control of seeps, sheens and iron staining from bedrock	N/A	No seeps, sheens or iron staining identified in Monitor Phase 57 which are considered to require implementation of control measures to prevent discharge at the surface.

7. Summary

Atkins has been commissioned by St Modwen Developments Ltd to undertake an assessment of an area of the former refinery with a view to enabling Monitor sign-off for this area in terms of a proposed Public Open Space end use. For the purpose of Monitor Sign off, this area shall be referred to as Monitor Phase 57.

Based upon the findings of recent investigation and in line with the scope of localised remedial works and secondary investigations undertaken, this area has been validated in accordance with the S106 and Monitor Phase 57 has been deemed to be suitable for a Public Open Space end use >1m bgl in line with the requirements of the S106.

It should be noted that recent ground investigation works focussed predominantly on contamination across this area and further assessment to assess potential geotechnical constraints within this Phase should be carried out prior to any proposed development.

Drawings