

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW104		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 9/3/99	DRILLING METHOD: CABLE PERCUSSION		
							FINISH DATE: 9/3/99		BOREHOLE DIAMETER: 150 mm	
							DRILLER: CP1		SCREEN TYPE & DIAMETER: 50 mm ID UPVC	
							LOGGED BY: SG APPR'D BY:		SCREEN SLOT SIZE: 0.5 mm	
							DESCRIPTION		COMMENTS	
					0		Soft brown silty CLAY becoming orange-brown at 0.3m		No odour	0
			*15.3		1.0		occasional to frequent medium sub-angular sandstone gravel at 1m			1.0
			*11.1		2.0		Soft brown sandy silty CLAY		No odour	2.0
			*14.0		3.0					3.0
			*9.7		4.0		Soft grey slightly gravelly SILT		No odour	4.0
			*7.9		5.0					5.0
			*9.6		6.0		Medium dense grey-brown silty fine to coarse GRAVEL with some coarse sand and frequent sandstone cobbles		Damp at 5.8m Slight hydrocarbon odour from returns Water strike at 6.1m	6.0
			*>2000		7.0					7.0
					8.0				Blowing sand and gravel at	8.0
					9.0					9.0
					10					10

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl)		LEGEND Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table		BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY LTD App'd DRAFT Ref. CR/MC/BR5 Date MAY 99 Job No. 39991-004-401		DAMES & MOORE GROUP	
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BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW106		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 9/3/99	DRILLING METHOD: CABLE PERCUSSION	FINISH DATE: 9/3/99	BOREHOLE DIAMETER: 150 mm
							DESCRIPTION	COMMENTS		
							Soft brown silty CLAY with occasional fine gravel	No odour	0	
							Soft orange, slightly silty CLAY with occasional fine gravel	No odour		
							Moderately dense blue-grey coarse sandstone GRAVEL with cobbles and silty clay		1.0	
							Soft brown and orange mottled slightly gravelly silty CLAY			
							Soft brown very gravelly (medium to coarse sub-rounded) SILT with some clay. Becoming more gravelly with depth	No odour	2.0	
							Medium dense grey-brown sandstone COBBLES with gravel	Water strike at 2m No odour from bailed water		
								Borehole productive from 2.5m Predominantly gravel returns from 2m	3.0	
									4.0	
							Borehole terminated 4.4mbgl		5.0	
									6.0	
									7.0	
									8.0	
									9.0	
									10	

LOCATION / NOTES: 1. All measurements in m below ground level (mbgl)		LEGEND Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY LTD App'd DRAFT Ref. CR/MC/BRS Date MAY 99 Job No. 39991-004-401	DAMES & MOORE GROUP
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BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW108D		PAGE 1 of 2	
	NUMBER	TYPE					START DATE: 24/3/99		DRILLING METHOD: ROTARY AIR FLUSH	
							FINISH DATE: 25/3/99		BOREHOLE DIAMETER: 165 mm	
						DRILLER: R3		SCREEN TYPE & DIAMETER: 50 mm ID UPVC		
						LOGGED BY: JC APPR'D BY:		SCREEN SLOT SIZE: 0.5 mm		
						DESCRIPTION	COMMENTS			
						0	Loose light brown silty CLAY with occasional gravel and sandstone fragments	Dry No hydrocarbon odour	0	
						1.0			1.0	
						2.0			2.0	
						3.0			3.0	
						4.0			4.0	
						5.0			5.0	
						6.0			6.0	
						7.0			7.0	
						8.0			8.0	
						9.0			9.0	
						10			10	

LOCATION / NOTES:	LEGEND	BOREHOLE LOG	
1. All measurements in m below ground level (mbgl)	Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table	Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY LTD App'd DRAFT Ref. CR/MC/BRS Date MAY 99 Job No. 39991-004-401	
	DAMES & MOORE		

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW108D		PAGE 2 of 2				
	NUMBER	TYPE					START DATE: 24/3/99		DRILLING METHOD: ROTARY AIR FLUSH				
							FINISH DATE: 25/3/99		BOREHOLE DIAMETER: 165/115 mm				
							DRILLER: R3		SCREEN TYPE & DIAMETER: 50 mm ID UPVC				
							LOGGED BY: JC/SG APPR'D BY:		SCREEN SLOT SIZE: 0.6mm				
						DESCRIPTION		COMMENTS					
						10		Light grey SILTSTONE (BEDROCK)		10			
						11		Light grey medium grained crystalline SANDSTONE (BEDROCK)		11			
						12		Traces of coal in sandstone from 12m		12			
						13		Borehole terminated 13.0 mbgl		13			
						14				14			
						15				15			
						16				16			
						17				17			
						18				18			
						19				19			
						20				20			
LOCATION / NOTES: 1. All measurements in m below ground level (mbgl)						LEGEND Disturbed Sample Undisturbed Sample Headspace Analysis Down Borehole Analysis Groundwater Table Perched Water Table		BOREHOLE LOG Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY LTD App'd DRAFT Ref. CR/MC/BRS Date MAY 99 Job No. 39991-004-401				 DAMES & MOORE GROUP	

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW108S		PAGE 1 of 1
	NUMBER	TYPE					START DATE: 10/3/99	DRILLING METHOD: CABLE PERCUSSION	
							FINISH DATE: 10/3/99	BOREHOLE DIAMETER: 150 mm	
							DRILLER: CP1	SCREEN TYPE & DIAMETER: 50 mm ID UPVC	
							LOGGED BY: JC/SG APPR'D BY:	SCREEN SLOT SIZE: 0.5 mm	
							DESCRIPTION	COMMENTS	
						0	Soft brown very silty CLAY with occasional fine to medium gravel	Dry	0
						*22.0			
						*1.3			
						*9.2	Soft brown slightly silty CLAY with occasional coarse sandstone gravel		
						*0.3		Damp	
						*0.3		No hydrocarbon odour	
						*0.5	becoming very gravelly at 2.8m		
						*3.7	Soft brown silty CLAY with frequent medium to coarse gravel becoming clayey gravel at 3.5m	Water ingress at 3.7m rising to 2.9m	
						*9.6			
						1.0			1.0
						2.0			2.0
						3.0			3.0
						4.0			4.0
						5.0			5.0
						6.0			6.0
						7.0			7.0
						8.0			8.0
						9.0			9.0
						10			10

LOCATION / NOTES:

- All measurements in m below ground level (mbgl)
- Well observed to be bloked after installation and was cleaned out and developed on 17.5.99

LEGEND

- Disturbed Sample
- Undisturbed Sample
- Headspace Analysis
- Down Borehole Analysis
- Groundwater Table
- Perched Water Table

BOREHOLE LOG

Job Title **SOIL & GROUNDWATER INVESTIGATION**

Location **LLANDARCY REFINERY**

Client **BP LLANDARCY LTD**

App'd
DRAFT

Ref.
CR/MC/BRS

Date
MAY 99

Job No.
39991-004-401

DAMES & MOORE
GROUP

BOREHOLE CONSTRUCTION	SAMPLE		SOIL VAPOUR (ppm)	GROUNDWATER	DEPTH (m)	GEOLOGY	BOREHOLE NUMBER: MSMW72		PAGE 1 of 1	
	NUMBER	TYPE					START DATE: 10/06/98		DRILLING METHOD: Cable Percussion/Rotary	
							FINISH DATE: 11/06/98		BOREHOLE DIAMETER: 200/165/115mm	
							DRILLER: CP3/R3		SCREEN TYPE & DIAMETER: UPVC 50mm	
LOGGED BY: ED		APPR'D BY:		SCREEN SLOT SIZE: 0.5mm						
							DESCRIPTION	COMMENTS		
							Ashy GRAVEL with black staining and rootlets (MADE GROUND)	No staining or odour		
							Stiff grey to brown SILT with some iron staining	Dry		
							Rotary drilling from 1.5 mbgl			
							Fine grained sandstone COBBLES with some iron staining			
							Fine sandy GRAVEL with grey silt			
							ROCKHEAD: Competent fine to medium grained SANDSTONE (BEDROCK) intercalated with SILTSTONE			
							Borehole terminated at 10.2 mbgl			

LOCATION / NOTES:		LEGEND		BOREHOLE LOG	
1. All measurements in m below ground level (mbgl) 2. Cable Percussion to 1.5 mbgl, Rotary to 10.2 mbgl with odex to 7 mbgl		☒ Disturbed Sample ■ Undisturbed Sample * Headspace Analysis † Down Borehole Analysis ▼ Groundwater Table ▽ Perched Water Table		Job Title SOIL & GROUNDWATER INVESTIGATION Location LLANDARCY REFINERY Client BP LLANDARCY App'd DRAFT Ref. MC/CR/BRs Date JUL 98 Job No. 39991-001-401	
				 DAMES & MOORE	

Appendix C – Historical Laboratory Analysis

VOCS BTEX

Contamination analysis results

[illegible]

VOCS BTEX

Contamination analysis results

[illegible]

Asbestos

Location	Depth	Zone	Asbestos	Type
NSTP024		0.5 B	Y	Brown

Appendix D – Recent Logs

				Trial Pit Log				Trialpit No B	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Sheet 1 of 1 Date 07/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 0.50		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.40	ES		0.20			Brown gravelly sandy CLAY (Topsoil)	0	0
				0.50			MADE GROUND. Brown sandy gravelly CLAY. Coarse gravel of sandstone. Occasional cobbles of sandstone	0	0
						----- End of pit at 0.50 m			
Remarks: Pit terminated at 0.5m									
Stability: GroundWater Remarks:									



B

Sheet 1 of 1

Co-ords:	-
Level:	mAOS

Date
/04/2015

Dimensions
(m):

m

3

Scale
1:25

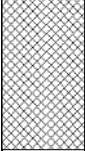
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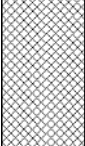
Logged
AEM

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Remarks:

				Trial Pit Log				Trialpit No B	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Sheet 1 of 1 Date 07/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 0.50		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.20	ES		0.50			MADE GROUND. Brown sandy gravelly CLAY. Coarse gravel of sandstone, mudstone, brick and wood. Occasional cobbles of sandstone	0	0
							----- End of pit at 0.50 m		
1 2 3 4 5									
Remarks: Pit terminated at 0.5m									
Stability: GroundWater Remarks:									

				Trial Pit Log				Trialpit No B	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Sheet 1 of 1	
Location: Coed Darcy POS				Dimensions (m):		Scale 1:25			
Client: St Modwen				Depth 0.50		Logged AEM			
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.20	ES		0.50			MADE GROUND. Brown sandy gravelly CLAY. Coarse gravel of sandstone, mudstone, brick and wood. Occasional cobbles of sandstone	0	0
							----- End of pit at 0.50 m		
1 2 3 4 5									
Remarks: Pit terminated at 0.5m									
Stability: GroundWater Remarks:									



B

Sheet 1 of 1

Project Name:	Coed Darcy POS Signoff
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Project No.
5122307_POS

Co-ords:	-
Level:	mAOS

Date
07/04/2015

Location: Coed Darcy POS

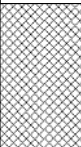
Dimensions (m):

Scale
1:25

Client: St Modwen

Depth
0.50

Logged
AEM

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria	Remarks
	Depth	Type	Results							
	0.30	ES		0.50			MADE GROUND. Grey brown gravelly clayey SAND. Coarse gravel demo rubble, clinker, occasional slag.	1	1	
							End of pit at 0.50 m			

Remarks:	Pit terminated at 0.5m
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Stability:
GroundWater
Remarks:





B

Sheet 1 of 1

Project Name: Coed Darcy POS Signoff

Project No.	5122307_POS
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Co-ords:	-
Level:	mAOS

Date
7/04/2015

Location: Coed Darcy POS

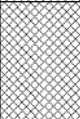
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Scale
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Client: St Modwen

Depth
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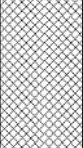
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AEM

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria	Remarks
	Depth	Type	Results							
	0.30	ES		0.10			Brown gravelly sandy CLAY (Topsoil)	0	0	
							MADE GROUND. Brown sandy gravelly CLAY. Coarse gravel of sandstone. Occasional cobbles of sandstone	0	0	
				0.50			----- End of pit at 0.50 m			

Remarks:	Pit terminated at 0.5m
----------	------------------------

Stability:
GroundWater
Remarks:



				Trial Pit Log				Trialpit No B	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Sheet 1 of 1	
Location: Coed Darcy POS				Dimensions (m):		Date 07/04/2015			
Client: St Modwen				Depth 0.50		Scale 1:25			
		Logged AEM							
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.40	ES		0.50			MADE GROUND. Brown sandy gravelly CLAY. Coarse gravel of sandstone. Occasional cobbles of sandstone	1	1
							----- End of pit at 0.50 m -----		
1 2 3 4 5									
Remarks: Pit terminated at 0.5m									
Stability: GroundWater Remarks:									



B

Sheet 1 of 1

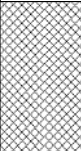
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Level:	mAOS

Date
/04/2015

Dimensions (m):	
Depth	
0.50	

Scale
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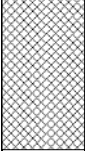
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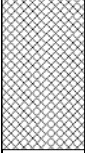
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria	
	Depth	Type	Results							
	0.30	ES		0.50			MADE GROUND. Brown sandy gravelly CLAY. Coarse gravel of sandstone. Occasional cobbles of sandstone	1	1	
							End of pit at 0.50 m			

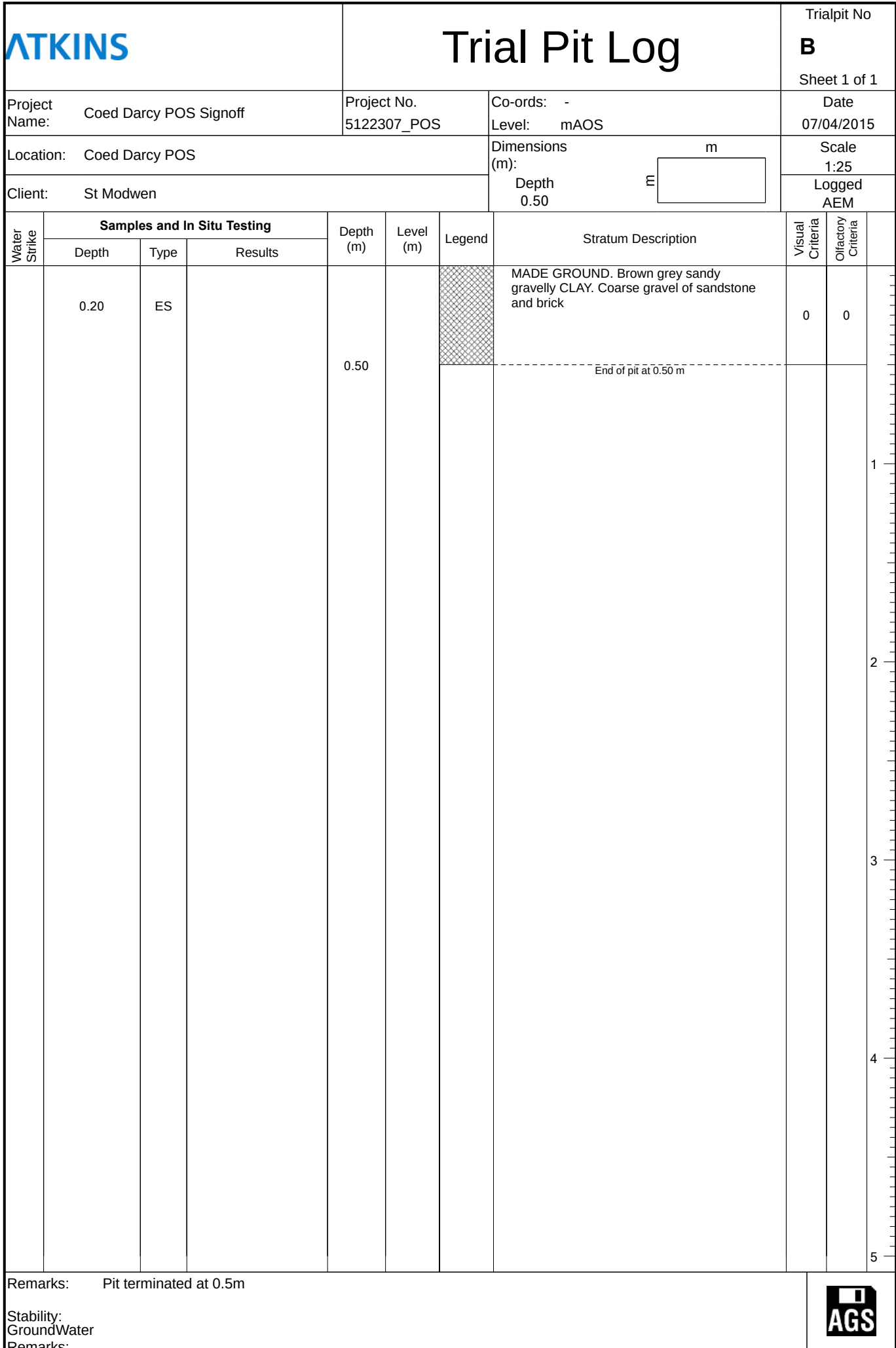
Remarks:	Pit terminated at 0.5m
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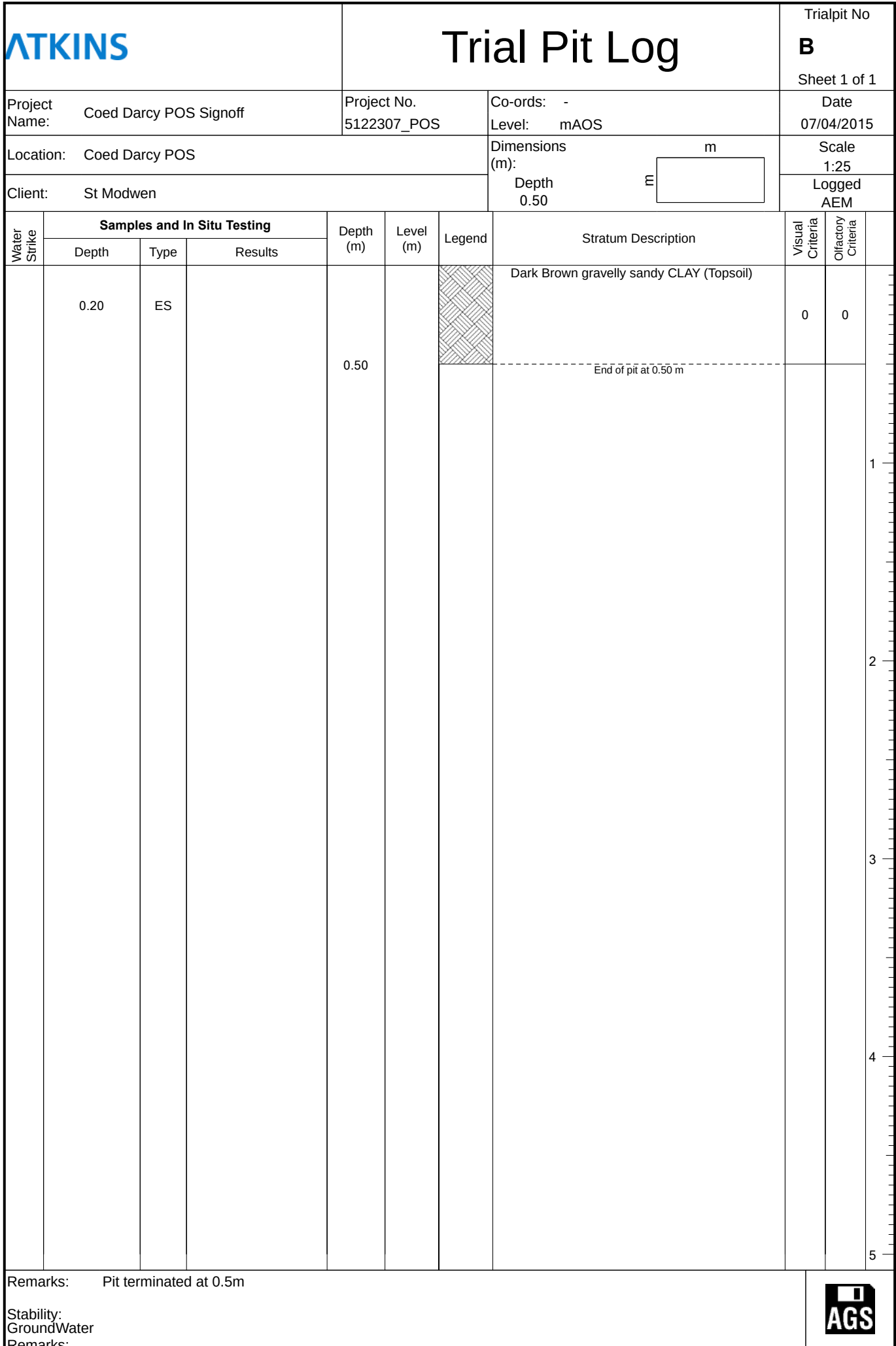
Stability:
GroundWater
Remarks:



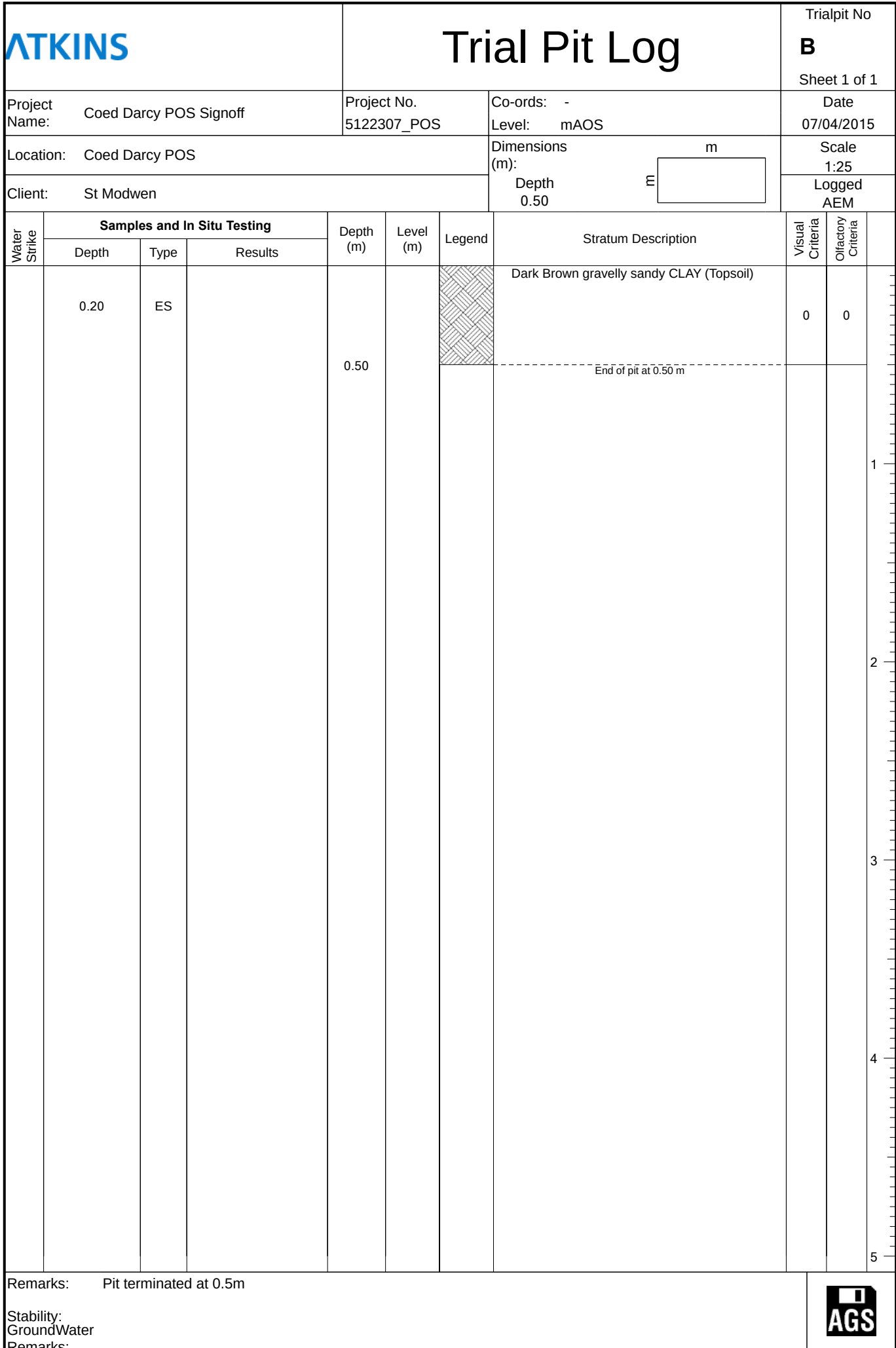
				Trial Pit Log				Trialpit No B	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Sheet 1 of 1 Date 07/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 0.50		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.30	ES		0.50			MADE GROUND. Brown sandy gravelly CLAY. Coarse gravel of sandstone and brick. Occasional cobbles of sandstone	0	0
							----- End of pit at 0.50 m		
Remarks: Pit terminated at 0.5m									
Stability: GroundWater Remarks:									

				Trial Pit Log				Trialpit No B	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Sheet 1 of 1 Date 07/04/2015	
Location: Coed Darcy POS				Dimensions (m):		Scale 1:25			
Client: St Modwen				Depth 0.50		Logged AEM			
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.20	ES		0.50			MADE GROUND. Brown sandy gravelly CLAY. Coarse gravel of sandstone and brick. Occasional cobbles of sandstone	0	0
							----- End of pit at 0.50 m -----		
1 2 3 4 5									
Remarks: Pit terminated at 0.5m									
Stability: GroundWater Remarks:									





ATKINS				Trial Pit Log				Trialpit No B Sheet 1 of 1		
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Date 07/04/2015		
Location: Coed Darcy POS				Dimensions (m):		m		Scale 1:25		
Client: St Modwen				Depth 0.50				Logged AEM		
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria	
	Depth	Type	Results							
	0.30	ES		0.50			Brown gravelly clayey SAND. Coarse gravel of sandstone	0	0	
							----- End of pit at 0.50 m			
										1
										2
										3
										4
										5
Remarks: Pit terminated at 0.5m								AGS		
Stability: GroundWater Remarks:										





B

Sheet 1 of 1

Date
07/04/2015

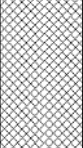
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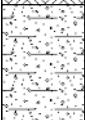
Logged
AEM

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria		
	Depth	Type	Results								
	0.20	ES		0.50			Dark brown clayey gravelly SAND. Coarse gravel of sandstone	0	0		
						End of pit at 0.50 m					

Stability:
GroundWater
Remarks:



				Trial Pit Log				Trialpit No B	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Sheet 1 of 1 Date 07/04/2015	
Location: Coed Darcy POS				Dimensions (m):		Scale 1:25			
Client: St Modwen				Depth 0.50		Logged AEM			
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.30	ES		0.50			MADE GROUND. Dark brown clayey gravelly SAND. Coarse gravel of sandstone	0	0
							----- End of pit at 0.50 m -----		
1 2 3 4 5									
Remarks: Pit terminated at 0.5m									
Stability: GroundWater Remarks:									

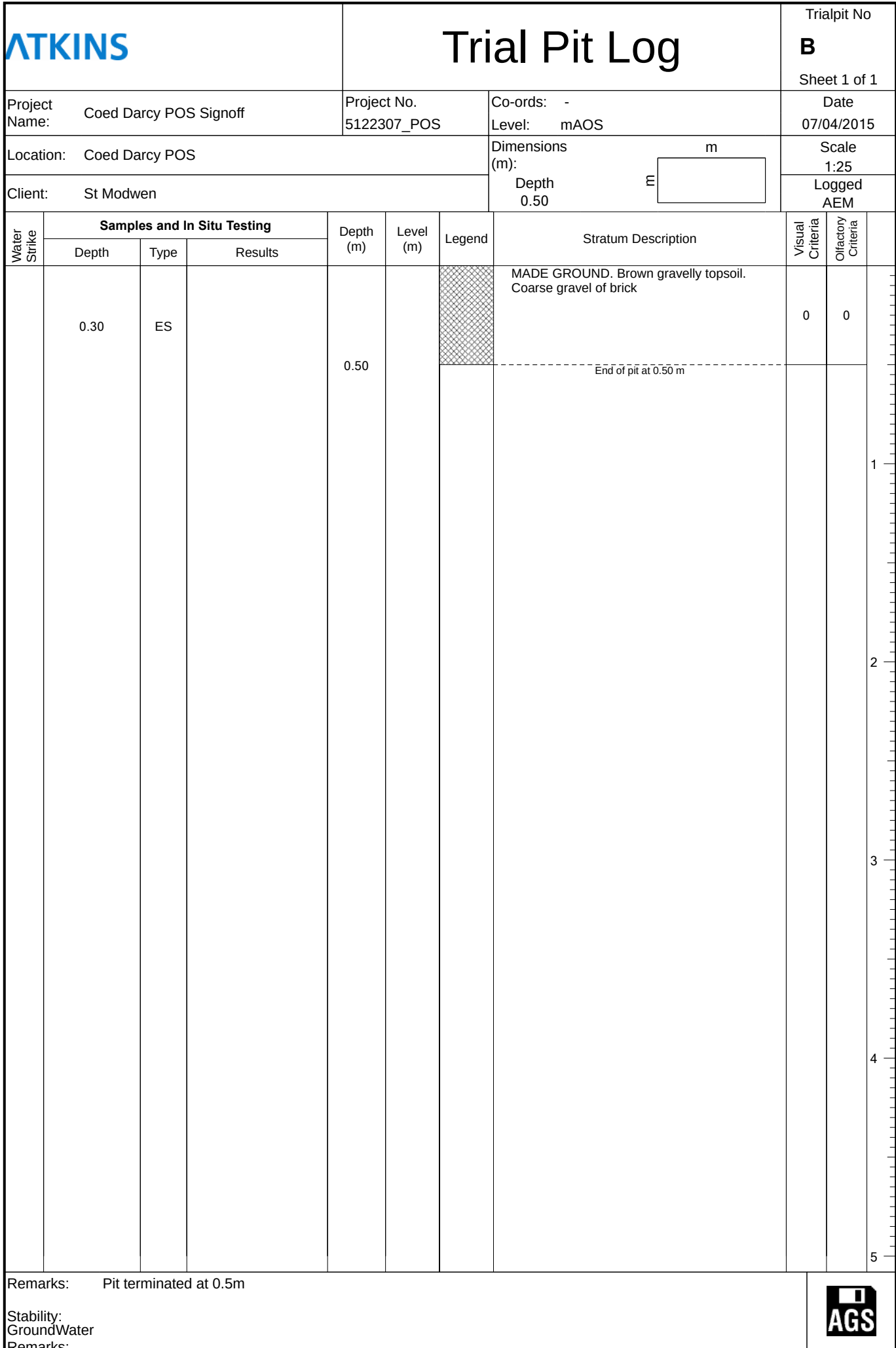
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Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Date 07/04/2015		
Location: Coed Darcy POS				Dimensions (m):		m		Scale 1:25		
Client: St Modwen				Depth 0.50				Logged AEM		
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria	
	Depth	Type	Results							
	0.30	ES		0.10			Topsoil	0	0	
				0.50			Orange brown gravelly clayey SAND. Coarse gravel of sandstone	0	0	
								End of pit at 0.50 m		
1 2 3 4 5										
Remarks: Pit terminated at 0.5m										
Stability: GroundWater Remarks:										
										

				Trial Pit Log				Trialpit No B	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Sheet 1 of 1	
Location: Coed Darcy POS				Dimensions (m):		Date 07/04/2015			
Client: St Modwen				Depth 0.50		Scale 1:25			
		Logged AEM							
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.30	ES		0.50			Brown clayey gravelly SAND (Topsoil)	0	0
							End of pit at 0.50 m		
1 2 3 4 5									
Remarks: Pit terminated at 0.5m									
Stability: GroundWater Remarks:									

				Trial Pit Log				Trialpit No B	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Sheet 1 of 1 Date 07/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 0.50		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.30	ES		0.50			Brown clayey gravelly SAND (Topsoil)	0	0
							----- End of pit at 0.50 m		
Remarks: Pit terminated at 0.5m									
Stability: GroundWater Remarks:									

				Trial Pit Log				Trialpit No B	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Sheet 1 of 1 Date 07/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 0.50		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.30	ES		0.50			Brown clayey gravelly SAND (Topsoil)	0	0
							----- End of pit at 0.50 m		
Remarks: Pit terminated at 0.5m									
Stability: GroundWater Remarks:									

				Trial Pit Log				Trialpit No B	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Sheet 1 of 1 Date 07/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 0.50		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.30	ES		0.50			Brown clayey gravelly SAND (Topsoil)	0	0
							----- End of pit at 0.50 m		
Remarks: Pit terminated at 0.5m									
Stability: GroundWater Remarks:									





B

Sheet 1 of 1

Project Name: Coed Darcy POS Signoff

Project No.
5122307_POS

Co-ords:	-
Level:	mAOS

Date
07/04/2015

Location: Coed Darcy POS

Dimensions (m):

Scale
1:25

Client: St Modwen

Depth
0.50

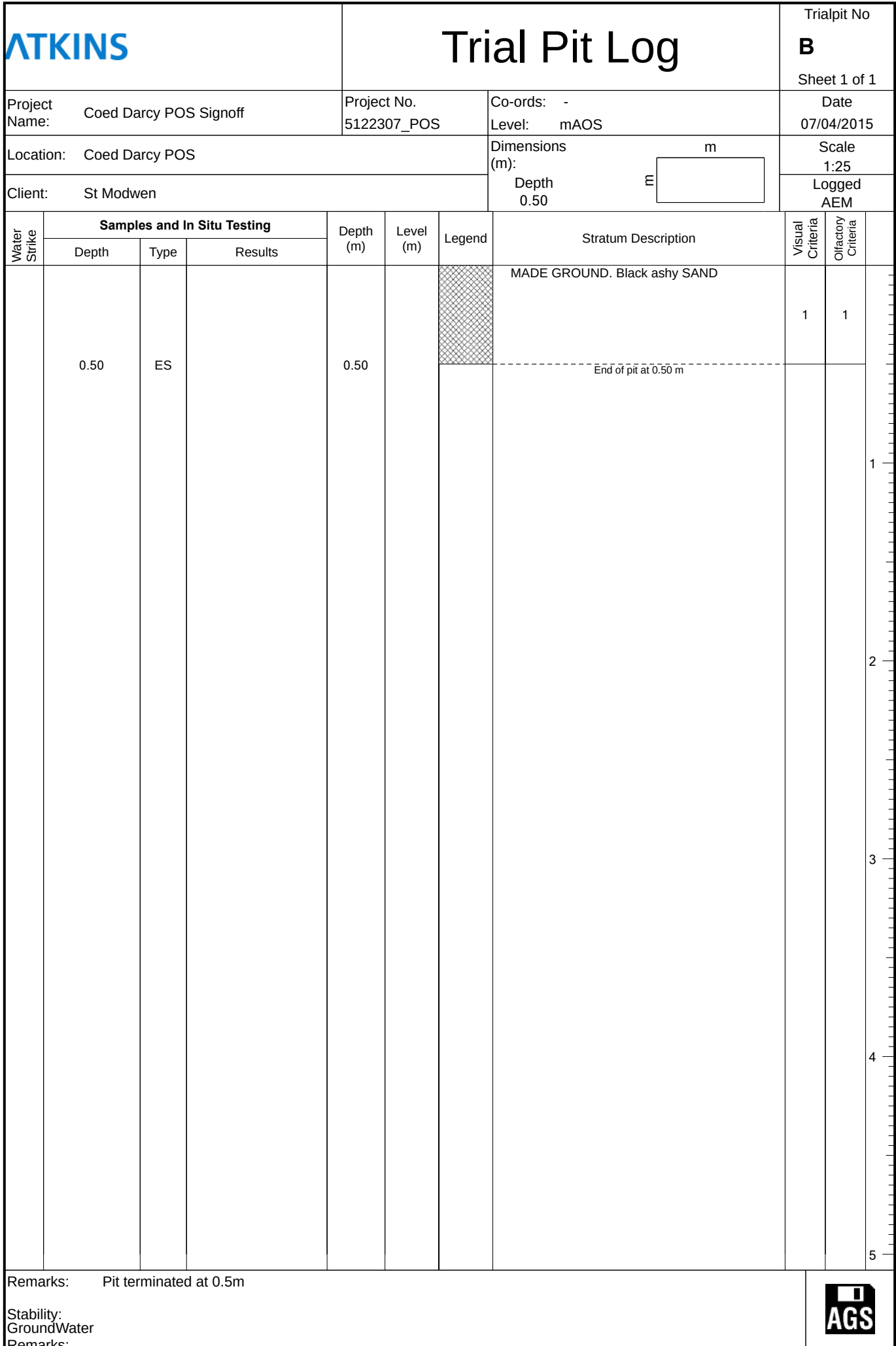
Logged
AEM

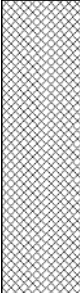
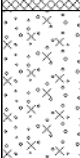
[illegible]

Remarks:	Pit terminated at 0.5m
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Stability:
GroundWater
Remarks:





				Trial Pit Log				Trialpit No os Sheet 1 of 1	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Date 21/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 1.80		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.50	ES		0.30			MADE GROUND. Black and crimson sandy ashey GRAVEL of slag, mudstone and brick	0	0
							MADE GROUND. Mottled grey / brown / light brown bands of sandy gravelly CLAY with HC odours	1	1
							Recovered as weathered sanstone GRAVEL	0	0
						End of pit at 1.80 m			
				1.80					
Remarks: Pit terminated due to difficult dig									
Stability: GroundWater Remarks:									

				Trial Pit Log				Trialpit No os Sheet 1 of 1	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Date 21/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 2.90		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.50	ES		0.20			MADE GROUND. Black and crimson sandy ashey GRAVEL of slag, mudstone and brick	0	0
				0.60			MADE GROUND. Very stiff orange brown sandy gravelly CLAY. Coarse gravel of sandstone	0	0
	1.50	ES		2.00			MADE GROUND. Brown stained grey clayey gravelly SAND. Coarse gravel of sandstone	2	2
				2.90			Recovered as weathered sanstone GRAVEL	0	0
						End of pit at 2.90 m			

Remarks: Pit terminated due to difficult dig

 Stability:
 GroundWater
 Remarks:





OS

Sheet 1 of 1

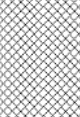
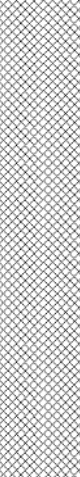
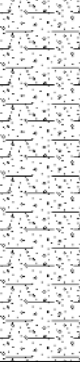
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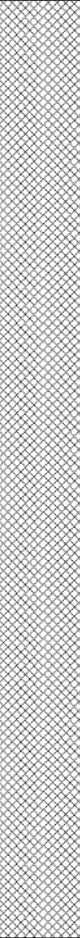
Logged
AEM

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria				
	Depth	Type	Results										
	0.50	ES		0.30			MADE GROUND. Brown sandy gravelly CLAY. Gravel of sandstone	1	1	1			
							MADE GROUND. Brown stained grey gravel of ballast	2	2				
							MADE GROUND. Brown gravelly clayey SAND. Coarse gravel of sandstone	1	1				
							Apparent Concrete	0	0				
						End of pit at 1.20 m							
2													
3													
4													
5													

Stability:
GroundWater
Remarks:

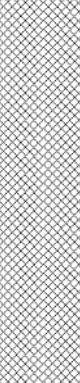
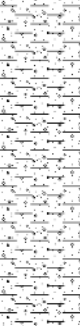


				Trial Pit Log				Trialpit No os Sheet 1 of 1	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Date 21/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 3.20		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.20	ES		0.40			MADE GROUND. Black and crimson sandy ashey GRAVEL of slag, mudstone and brick	0	0
	0.90	ES					MADE GROUND. Brown sandy gravelly CLAY. Coarse gravel of frequent rounded sandstone cobbles. Occasional staining	1	1
	1.50	ES			Light brown mottled dark brown clayey gravelly SAND. Coarse gravel of A-R sandstone	0	0		
	2.50	ES			End of pit at 3.20 m				
			3.20						
Remarks: Pit terminated at 3.2m due to access restriction									
Stability: GroundWater Remarks:									

				Trial Pit Log				Trialpit No os Sheet 1 of 1	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Date 21/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 3.40		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.50	ES		0.30			MADE GROUND. Black and crimson sandy ashey GRAVEL of slag, mudstone and brick	0	0
	1.50	ES					MADE GROUND. Light brown occasional grey gravelly clayey SAND. Coarse gravel of sandstone. Frequent clay pockets	1	0
				3.40			End of pit at 3.40 m		
Remarks: Pit terminated at 3.4m due to access restriction									
Stability: GroundWater Remarks:									

				Trial Pit Log				Trialpit No os Sheet 1 of 1	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Date 21/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 4.20		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.50	ES					MADE GROUND. Brown clayey gravelly SAND. Coarse gravel of R-A sandstone. Occasional clay pockets	0	0
	2.00	ES							
	3.50	ES							
				4.20			End of pit at 4.20 m		
Remarks: Pit terminated at 4.2m due to collapse									
Stability: GroundWater Remarks:									



				Trial Pit Log				Trialpit No os Sheet 1 of 1	
Project Name: Coed Darcy POS Signoff				Project No. 5122307_POS		Co-ords: - Level: mAOS		Date 21/04/2015	
Location: Coed Darcy POS						Dimensions (m):		Scale 1:25	
Client: St Modwen						Depth 3.30		Logged AEM	
Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	Visual Criteria	Olfactory Criteria
	Depth	Type	Results						
	0.50	ES		1.30			MADE GROUND. Brown mottled grey sandy gravelly CLAY. Coarse gravel of demolition rubble and sandstone	0	0
	1.50	ES					MADE GROUND. Brown gravelly clayey SAND. Coarse gravel of sandstone	0	0
	2.50	ES		2.20			Grey very sandy slightly gravelly CLAY. Fine - medium gravel of sandstone	0	0
				3.30			End of pit at 3.30 m		
Remarks: Pit terminated at 3.3m due to collapse									
Stability: GroundWater Remarks:									

Appendix E – Recent Laboratory Analysis

Contamination analysis results

			Determinand	Arsenic as As, dry weight	Cadmium as Cd, dry weight	Chromium as Cr, dry weight	Copper as Cu, dry weight	Lead as Pb, dry weight	Mercury as Hg, dry weight	Nickel as Ni, dry weight	Selenium as Se, dry weight	Vanadium as V, dry weight	Zinc as Zn, dry weight	VPH >C5 - C6, aliphatic	VPH >C6 - C8, aliphatic	VPH >C8 - C10, aliphatic	EPH >C10 - C12, aliphatic	EPH >C12 - C16, aliphatic	EPH >C16 - C21, aliphatic	EPH >C21 - C35, aliphatic	EPH >C16 - C35, aliphatic	VPH >C5 - C7, aromatic	VPH >C7 - C8, aromatic	VPH >C8 - C10, aromatic	EPH >C10 - C12, aromatic	EPH >C12 - C16, aromatic	EPH >C16 - C21, aromatic	EPH >C21 - C35, aromatic	Petroleum Hydrocarbons	
Sample No	ZONE	Depth	nits	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
POS 13	B	1.50-1.50	8.72	0.39	13.10	11.90	10.50	<0.14	24.90	<1	15.00	56.70	<200	11.20	41.00	183.00	1010.00	8.46	5.49		<200	<200	27.40	122.00	5.31	0.97	1.81			
POS 16	B	1.50-1.50	13.50	0.55	13.90	28.30	19.20	<0.14	28.60	<1	16.50	108.00	<40	<40	<40	0.06	16.10	9.70	6.24		<40	<40	<40	<40	0.28	1.80	4.87			
POS 16	B	2.50-2.50	12.70	0.51	16.00	18.40	13.30	<0.14	28.00	<1	24.10	86.70	<40	<40	<40	<40	<100	<100	<100		<40	<40	<40	<40	<100	<100	<100			
POS 17	B	1.50-1.50	9.48	0.42	10.30	18.20	11.90	<0.14	21.20	<1	12.40	69.90	<40	<40	<40	<40	<100	<100	0.16		<40	<40	<40	<40	<100	0.24	1.76			
POS 19	B	2.00-2.00	9.45	0.44	12.60	15.10	12.50	<0.14	23.40	<1	14.90	62.10	<40	<40	<40	<40	0.18	0.62	2.04		<40	<40	<40	<40	<100	<100	<100			
POS 19	B	3.50-3.50	16.20	0.59	13.80	27.20	16.90	<0.14	25.80	<1	18.00	70.80	<40	<40	<40	<40	<100	<100	2.06		<40	<40	<40	<40	<100	0.56	3.10			
POS 20	B	1.50-1.50	14.70	0.47	12.00	26.80	17.40	<0.14	21.50	<1	14.80	78.10	<40	<40	<40	<40	<100	<100	1.99		<40	<40	<40	<40	<100	<100	<100			
POS 20	B	2.50-2.50	31.80	0.74	14.10	50.00	25.70	<0.14	16.40	<1	19.60	90.30	<40	<40	<40	<40	<100	<100	0.21		<40	<40	<40	<40	<100	<100	5.60			
	SO	deep AR S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	432	-	-	-	-	-	-	-	-
	SO	deep AR S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	928	-	-	-	-	-	-	-	-

VOCS BTEX

Contamination analysis results

[illegible]

Asbestos

Location	Zone	Depth	Asbestos	Type	
POS 13	B	1.50-1.50			
POS 16	B	1.50-1.50			
POS 16	B	2.50-2.50			
POS 17	B	1.50-1.50			
POS 19	B	2.00-2.00			
POS 19	B	3.50-3.50			
POS 20	B	1.50-1.50			
POS 20	B	2.50-2.50			

Contamination analysis result:

		Determinand nits	Arsenic as As, dry weight mg/kg	Cadmium as Cd, dry weight mg/kg	Chromium as Cr, dry weight mg/kg	Copper as Cu, dry weight mg/kg	Lead as Pb, dry weight mg/kg	Mercury as Hg, dry weight mg/kg	Nickel as Ni, dry weight mg/kg	Selenium as Se, dry weight mg/kg	Vanadium as V, dry weight mg/kg	Zinc as Zn, dry weight mg/kg	VPH >C5 - C6, aliphatic mg/kg	VPH >C6 - C8, aliphatic mg/kg	VPH >C8 - C10, aliphatic mg/kg	EPH >C10 - C12, aliphatic mg/kg	EPH >C12 - C16, aliphatic mg/kg	EPH >C16 - C21, aliphatic mg/kg	EPH >C21 - C35, aliphatic mg/kg	EPH >C16 - C35, aliphatic mg/kg	VPH >C5 - C7, aromatic mg/kg	VPH >C7 - C8, aromatic mg/kg	VPH >C8 - C10, aromatic mg/kg	EPH >C10 - C12, aromatic mg/kg	EPH >C12 - C16, aromatic mg/kg	EPH >C16 - C21, aromatic mg/kg	EPH >C21 - C35, aromatic mg/kg	Petroleum Hydrocarbons mg/kg	
Sample No	ZONE	Depth																											
ZBHP 1	B	0.40-0.40	21.70	1.26	11.70	55.40	42.90	<0.14	19.00	<1	17.20	146.00	<40	<40	<40	<40	0.59	4.03	30.50		<40	<40	<40	<40	<100	2.81	28.2		
ZBHP 10	B	0.20-0.20	23.50	1.06	14.90	48.00	94.30	<0.14	27.10	<1	45.80	256.00	<40	0.15	0.59	1.41	16.70	39.20	179.00		<40	<40	0.394	0.942	1.2	8.43	104		
ZBHP 13	B	0.30-0.30	14.50	0.61	9.86	26.20	29.90	<0.14	19.00	<1	11.10	76.10	<40	<40	<40	<40	17.70	135.00	580.00		<40	<40	<40	<40	0.988	19.8	342		
ZBHP 14	B	0.30-0.30	21.70	3.99	7.92	55.50	303.00	<0.14	52.30	<1	25.00	544.00	<40	<40	<40	<40	<100	<100	19.30		<40	<40	<40	<40	<100	5.91	77.2		
ZBHP 15	B	0.30-0.30	18.60	0.51	12.10	33.00	71.60	<0.14	16.60	<1	15.60	86.40	<40	<40	<40	<40	<100	<100	2.91		<40	<40	<40	<40	<100	<100	8.26		
ZBHP 16	B	0.30-0.30	77.80	2.72	12.00	162.00	103.00	<0.14	26.50	<1	18.10	406.00	<40	<40	<40	<40	<100	<100	1.34		<40	<40	<40	<40	<100	0.7	8.6		
ZBHP 17	B	0.30-0.30	46.80	3.95	17.30	250.00	876.00	<0.14	43.20	<1	45.10	2630.00	<40	<40	<40	<40	<100	<100	45.60		<40	<40	<40	<40	1.74	4.37	61.6		
ZBHP 18	B	0.30-0.30	54.20	3.25	15.40	155.00	207.00	<0.14	38.10	<1	31.50	211.00	<40	<40	<40	<40	<100	<100	<100		<40	<40	<40	<40	<100	3.71	15.3		
ZBHP 19	B	0.30-0.30	44.20	2.45	16.10	84.90	59.60	<0.14	23.70	<1	22.90	249.00	<40	<40	<40	<40	<100	<100	3.11		<40	<40	<40	<40	<100	<100	3.33		
ZBHP 2	B	0.40-0.40	24.60	1.02	13.20	41.80	82.30	<0.14	26.00	<1	20.20	119.00	<40	<40	<40	<40	<100	0.72	10.50		<40	<40	<40	<40	<100	<100	7.07		
ZBHP 20	B	0.30-0.30	97.10	5.75	17.80	206.00	138.00	<0.14	32.00	<1	30.40	516.00	<40	<40	<40	<40	<100	<100	4.29		<40	<40	<40	<40	<100	1.4	10.1		
ZBHP 21	B	0.30-0.30	88.70	5.17	17.60	185.00	113.00	<0.14	29.50	<1	28.30	457.00	<40	<40	<40	<40	<100	<100	0.85		<40	<40	<40	<40	<100	<100	1.29		
ZBHP 22	B	0.30-0.30	46.30	2.85	13.90	86.70	63.30	<0.14	23.90	<1	20.80	262.00	<40	<40	<40	<40	<100	<100	<100		<40	<40	<40	<40	<100	1.36	8.71		
ZBHP 23	B	0.30-0.30	77.30	2.84	13.30	145.00	51.80	<0.14	15.90	<1	21.00	263.00	<40	<40	<40	<40	<100	<100	2.08		<40	<40	<40	<40	<100	<100	<100		
ZBHP 24	B	0.30-0.30	39.70	2.13	24.70	82.90	198.00	<0.14	39.20	<1	32.20	253.00	<40	<40	<40	<40	2.85	16.60	39.30		<40	<40	<40	<40	<100	2.62	24.6		
ZBHP 25	B	0.30-0.30	36.70	3.55	10.70	80.80	134.00	<0.14	30.90	<1	25.80	410.00	<40	<40	<40	<40	<100	<100	10.50		<40	<40	<40	<40	<100	4.44	26.8		
ZBHP 26	B	0.50-0.50	13.80	4.70	6.48	70.40	48.60	<0.14	34.50	<1	23.40	309.00	<40	<40	<40	<40	2.02	9.54	64.80		<40	<40	<40	<40	<100	3.23	51		
ZBHP 3	B	0.50-0.50	10.50	0.58	13.30	19.40	34.90	<0.14	25.20	<1	15.00	116.00	<40	<40	0.08	0.17	7.09	39.60	78.40		<40	<40	0.0571	0.115	<100	<100	3.13		
ZBHP 4	B	0.20-0.20	8.65	0.68	7.07	19.60	54.50	<0.14	10.90	<1	9.47	75.10	<40	0.04	0.13	0.27	3.43	17.60	48.90		<40	<40	0.0943	0.178	<100	2.54	24.4		
ZBHP 5	B	0.30-0.30	24.30	1.43	13.30	60.20	74.10	0.39	34.30	<1	20.70	156.00	<40	<40	<40	<40	0.53	10.80	35.50		<40	<40	<40	<40	<100	0.459	17.1		
ZBHP 6	B	0.30-0.30	35.00	1.19	13.10	76.80	67.60	0.54	23.50	<1	19.80	143.00	<40	<40	<40	<40	5.66	47.00	104.00		<40	<40	<40	<40	3.79	29.1	163		
ZBHP 7	B	0.40-0.40	10.50	0.51	19.90	13.50	16.30	<0.14	20.60	<1	23.40	81.70	<40	<40	0.11	0.72	109.00	448.00	305.00		<40	<40	0.0713	0.481	4.37	112	146		
ZBHP 8	B	0.30-0.30	24.90	1.00	17.10	52.00	75.90	<0.14	24.10	<1	21.10	200.00	<40	2.13	7.27	9.55	67.00	223.00	142.00		<40	<40	4.85	6.37	32	105	198		
ZBHP 9	B	0.20-0.20	31.00	1.29	16.60	63.30	118.00	<0.14	26.10	<1	27.50	293.00	<40	0.12	0.58	1.05	7.93	30.90	102.00		<40	<40	0.386	0.697	0.335	11.1	129		
POS 12	B	0.50-0.50	17.80	0.49	13.00	24.30	16.20	<0.14	19.50	<1	17.70	67.30	<200	7.81	93.70	506.00	887.00	7.57	6.60		<200	<200	62.5	337	30	2.15	3.82		
POS 13	B	0.50-0.50	16.70	0.46	14.60	25.20	13.90	<0.14	21.50	<1	19.30	59.50	<40	0.12	0.14	0.28	<100	<100	1.70		<40	<40	0.109	0.188	<100	0.539	4.1		
POS 15	B	0.50-0.50	17.00	0.74	13.70	86.80	35.20	<0.14	36.70	<1	20.60	145.00	<40	0.07	0.16	0.82	98.60	254.00	307.00		<40	<40	0.118	0.545	13.2	126	510		
POS 16	B	0.20-0.20	41.90	0.96	19.10	358.00	86.60	<0.14	47.50	<1	37.00	659.00	<40	<40	<40	<40	3.23	6.94	39.40		<40	<40	<40	<40	2.98	14.8	46.4		
POS 16	B	0.90-0.90	9.56	0.38	12.20	21.30	13.00	<0.14	29.50	<1	15.40	728.00	<40	<40	<40	<40	<100	0.18	2.95		<40	<40	<40	<40	1.06	19.6	43.1		
POS 17	B	0.50-0.50	14.20	0.49	11.00	23.80	15.40	<0.14	21.00	<1	13.40	69.00	<40	<40	<40	<40	<100	<100	<100		<40	<40	<40	<40	<100	<100	<100		
POS 19	B	0.50-0.50	8.82	0.22	11.20	17.50	15.10	<0.14	23.50	<1	13.30	72.60	<40	<40	<40	<40	0.40	3.29	11.70		<40	<40	<40	<40	<100	1.86	9.23		
POS 20	B	0.50-0.50	11.60	0.59	13.10	24.00	24.40	0.43	25.80	<1	15.70	106.00	<40	<40	<40	<40	<100	0.38	9.08		<40	<40	<40	<40	<100	3.42	13		
SO Shallow AR S			64	2.6	78	143	337	1	75	3	351	478	294000	294000	5740	5700	5800	-	159000	159000	26.2	21300	2230	2300	2330	1450	1450	-	
SO Shallow AR S			64	2.6	78	143	337	1	75	3	351	478	294000	294000	5740	5830	5860	-	159000	159000	27.5	21300	2310	2340	2350	1450	1450	-	

Contamination analysis results

Contaminant analysis results																				
		Determinand	Naphthalene	Acanaphthylene	Acanaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)Anthracene	Chrysene	Benzo(B)Fluoranthene	Ben o fluoranthene	Benzo(e)Pyrene	Indeno(123-cd)Pyrene	Dibenzo(ah)Anthracene	Benzo(ghi)Perylene	Total of A s	Phenol
Sample	one	eptH	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
ZBHP 1	B	0.40-0.40	0.0448	<12	0.02	0.02	0.26	0.03	0.40	0.28	0.21	0.23	0.35	0.09	0.18	0.11	0.04	0.13		
ZBHP 10	B	0.20-0.20	0.21	0.08	0.08	0.09	0.34	0.13	0.54	0.43	0.38	0.32	0.67	0.20	0.42	0.28	<115	0.38		
ZBHP 13	B	0.30-0.30	<9	<12	<8	<10	0.05	0.02	0.04	0.05	<14	<10	<15	<14	<15	0.06	<23	0.07		
ZBHP 14	B	0.30-0.30	0.0884	0.03	0.04	0.04	0.48	0.07	0.94	0.68	0.44	0.55	1.06	0.30	0.50	0.37	0.16	0.41		
ZBHP 15	B	0.30-0.30	<9	<12	<8	<10	0.06	<16	0.23	0.16	0.14	0.13	0.17	0.06	0.09	0.06	<23	0.06		
ZBHP 16	B	0.30-0.30	0.0177	<12	<8	<10	0.09	<16	0.14	0.11	0.10	0.10	0.17	0.06	0.09	0.08	0.03	0.09		
ZBHP 17	B	0.30-0.30	0.179	0.03	0.03	0.04	0.47	0.07	0.87	0.67	0.53	0.55	1.03	0.27	0.54	0.40	0.18	0.43		
ZBHP 18	B	0.30-0.30	0.129	1.69	0.27	0.95	16.10	3.94	19.40	13.60	7.34	6.73	8.87	3.17	6.39	3.75	1.18	3.51		
ZBHP 19	B	0.30-0.30	<9	<12	<8	<10	0.08	<16	0.14	0.10	0.08	0.08	0.14	0.04	0.07	0.05	<23	0.06		
ZBHP 2	B	0.40-0.40	<9	<12	<8	<10	0.10	<16	0.10	0.08	0.06	0.08	0.13	0.04	0.06	0.04	<23	0.05		
ZBHP 20	B	0.30-0.30	0.0195	<12	<8	<10	0.19	0.03	0.33	0.26	0.17	0.20	0.29	0.09	0.15	0.10	0.04	0.12		
ZBHP 21	B	0.30-0.30	0.0209	<12	<8	<10	0.11	0.02	0.17	0.13	0.10	0.11	0.19	<14	0.10	0.08	<23	0.08		
ZBHP 22	B	0.30-0.30	0.0333	<12	0.01	<10	0.22	0.03	0.35	0.28	0.22	0.21	0.36	0.10	0.21	0.12	0.04	0.14		
ZBHP 23	B	0.30-0.30	<9	<12	<8	<10	0.06	<16	0.05	0.04	0.05	0.05	0.09	0.02	0.04	0.03	<23	0.03		
ZBHP 24	B	0.30-0.30	0.24	<12	<8	<10	0.45	0.03	0.49	0.31	0.21	0.34	0.53	0.12	0.20	0.13	0.06	0.14		
ZBHP 25	B	0.30-0.30	0.0758	<12	0.06	0.03	0.53	0.08	0.76	0.60	0.38	0.41	0.59	0.19	0.33	0.19	0.06	0.25		
ZBHP 26	B	0.50-0.50	0.13	0.02	0.01	0.02	0.37	0.05	0.21	0.13	0.08	0.15	0.17	0.04	0.05	0.03	<23	0.04		
ZBHP 3	B	0.50-0.50	0.0442	<12	0.01	<10	0.14	0.03	0.14	0.12	0.13	0.12	0.22	0.06	0.13	0.09	0.04	0.12		
ZBHP 4	B	0.20-0.20	0.0295	<12	<8	<10	0.10	0.02	0.17	0.16	0.18	0.19	0.35	0.11	0.25	0.15	0.06	0.18		
ZBHP 5	B	0.30-0.30	0.0362	<12	<8	<10	0.14	0.02	0.14	0.12	0.10	0.12	0.17	0.05	0.09	0.06	<23	0.07		
ZBHP 6	B	0.30-0.30	0.136	0.02	0.11	0.15	3.88	0.99	8.69	6.62	5.95	4.40	6.65	2.48	5.30	2.64	0.96	2.90		
ZBHP 7	B	0.40-0.40	<9	<12	<8	<10	<15	<16	<17	0.23	<14	<10	<15	<14	<15	<18	<23	<24		
ZBHP 8	B	0.30-0.30	0.369	0.07	0.52	0.49	3.33	0.90	4.08	2.99	2.41	2.02	2.65	0.97	1.99	0.98	0.39	1.01		
ZBHP 9	B	0.20-0.20	0.107	<60	0.07	<50	0.48	0.11	0.76	0.57	0.54	0.56	0.88	0.27	0.48	0.33	0.17	0.42		
POS 12	B	0.50-0.50	0.0476	<12	<8	<10	0.03	<16	<17	<15	<14	<10	<15	<14	<15	<18	<23	<24		
POS 13	B	0.50-0.50	<9	<12	<8	<10	0.04	<16	<17	<15	<14	<10	0.02	<15	<18	<18	<23	<24		
POS 15	B	0.50-0.50	0.297	0.08	0.03	0.06	0.25	0.23	0.40	0.50	0.24	0.12	0.41	0.13	0.22	0.15	0.05	0.21		
POS 16	B	0.20-0.20	0.185	0.02	0.05	0.06	1.00	0.14	0.76	0.60	0.32	0.40	0.41	0.15	0.25	0.14	0.06	0.19		
POS 16	B	0.90-0.90	<9	<12	<8	<10	0.03	<16	0.03	0.02	<14	0.02	0.03	<14	<15	<18	<23	<24		
POS 17	B	0.50-0.50	<9	<12	<8	<10	0.04	<16	0.02	0.02	<14	<10	0.02	<14	<15	<18	<23	<24		
POS 19	B	0.50-0.50	0.0136	<12	<8	<10	0.06	<16	0.08	0.06	0.03	0.04	0.06	0.02	0.03	<18	<23	<24		
POS 20	B	0.50-0.50	<9	<12	<8	<10	0.04	<16	0.07	0.06	0.02	0.02	0.03	<14	0.02	<18	<23	<24		

VOCS BTEX

Contamination analysis results

[illegible]

Location	Zone	Depth	Asbestos	Type
ZBHP 1	B	0.40-0.40	Loose fibres in soil	Trace
ZBHP 10	B	0.20-0.20	0	
ZBHP 13	B	0.30-0.30	0	
ZBHP 14	B	0.30-0.30	0	
ZBHP 15	B	0.30-0.30	0	
ZBHP 16	B	0.30-0.30	0	
ZBHP 17	B	0.30-0.30	0	
ZBHP 18	B	0.30-0.30	0	
ZBHP 19	B	0.30-0.30	0	
ZBHP 2	B	0.40-0.40	0	
ZBHP 20	B	0.30-0.30	0	
ZBHP 21	B	0.30-0.30	0	
ZBHP 22	B	0.30-0.30	0	
ZBHP 23	B	0.30-0.30	Loose fibres in soil	Trace
ZBHP 24	B	0.30-0.30	0	
ZBHP 25	B	0.30-0.30	0	
ZBHP 26	B	0.50-0.50	0	
ZBHP 3	B	0.50-0.50	Loose fibres in soil	0.0028
ZBHP 4	B	0.20-0.20	Soil containing debr	<0.001
ZBHP 5	B	0.30-0.30	0	
ZBHP 6	B	0.30-0.30	0	
ZBHP 7	B	0.40-0.40	0	
ZBHP 8	B	0.30-0.30	Loose fibres in soil	<0.001
ZBHP 9	B	0.20-0.20	0	
POS 12	B	0.50-0.50	-	
POS 13	B	0.50-0.50	-	
POS 15	B	0.50-0.50	Not Detected	
POS 16	B	0.20-0.20	-	
POS 16	B	0.90-0.90	Not Detected	
POS 17	B	0.50-0.50	Not Detected	
POS 19	B	0.50-0.50	Not Detected	
POS 20	B	0.50-0.50	Not Detected	



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

Attention: Alex Mann

CERTIFICATE OF ANALYSIS

Date: 14 May 2015
Customer: H_ATKINS_LDC
Sample Delivery Group (SDG): 150423-112
Your Reference: POS
Location: Coed Darcy
Report No: 312955

We received 69 samples on Thursday April 23, 2015 and 68 of these samples were scheduled for analysis which was completed on Thursday May 14, 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: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11243034	IP 0449 R		0.50 - 0.50	22/04/2015
11243038	IP 3487 R		0.50 - 0.50	22/04/2015
11243036	IP 3494 R		0.50 - 0.50	22/04/2015
11242797	PC sample		0.10 - 0.10	20/04/2015
11242892	POS 12		0.50 - 0.50	21/04/2015
11242896	POS 13		0.50 - 0.50	21/04/2015
11242900	POS 13		1.50 - 1.50	21/04/2015
11242888	POS 15		0.50 - 0.50	21/04/2015
11242846	POS 16		0.20 - 0.20	21/04/2015
11242817	POS 16		0.90 - 0.90	21/04/2015
11242821	POS 16		1.50 - 1.50	21/04/2015
11242830	POS 16		2.50 - 2.50	21/04/2015
11242850	POS 17		0.50 - 0.50	21/04/2015
11242854	POS 17		1.50 - 1.50	21/04/2015
11243046	POS 17		2.50 - 2.50	21/04/2015
11242859	POS 19		0.50 - 0.50	21/04/2015
11242863	POS 19		2.00 - 2.00	21/04/2015
11242867	POS 19		3.50 - 3.50	21/04/2015
11242875	POS 20		0.50 - 0.50	21/04/2015
11242880	POS 20		1.50 - 1.50	21/04/2015
11242884	POS 20		2.50 - 2.50	21/04/2015
11242924	POS 21		0.50 - 0.50	21/04/2015
11242928	POS 21		1.50 - 1.50	21/04/2015
11242932	POS 21		2.50 - 2.50	21/04/2015
11242936	POS 21		3.50 - 3.50	21/04/2015
11242904	POS 22		0.50 - 0.50	21/04/2015
11242908	POS 22		1.50 - 1.50	21/04/2015
11242912	POS 22		2.50 - 2.50	21/04/2015
11242920	POS 22		3.50 - 3.50	21/04/2015
11242940	POS 25		0.50 - 0.50	21/04/2015
11242944	POS 25		1.50 - 1.50	21/04/2015
11242948	POS 25		2.50 - 2.50	21/04/2015
11242955	POS 27		0.50 - 0.50	21/04/2015
11242972	POS 27		1.50 - 1.50	21/04/2015
11242981	POS 27		2.50 - 2.50	21/04/2015
11242985	POS 27		3.50 - 3.50	21/04/2015
11242989	POS 29		0.50 - 0.50	21/04/2015
11242994	POS 29		1.50 - 1.50	21/04/2015
11242998	POS 29		2.50 - 2.50	21/04/2015
11243018	POS 31		0.50 - 0.50	21/04/2015
11243026	POS 32		0.50 - 0.50	21/04/2015
11243010	POS 33		0.50 - 0.50	21/04/2015
11243014	POS 33		1.50 - 1.50	21/04/2015
11243002	POS 34		0.50 - 0.50	21/04/2015
11243006	POS 34		1.60 - 1.60	21/04/2015
11242760	POS 115		0.50 - 0.50	20/04/2015
11242809	POS 116		0.50 - 0.50	20/04/2015
11242801	POS 117		1.50 - 1.50	20/04/2015
11242805	POS 117		2.50 - 2.50	20/04/2015
11242813	POS 117		3.50 - 3.50	20/04/2015
11242785	POS 118		0.30 - 0.30	20/04/2015
11242789	POS 118		1.50 - 1.50	20/04/2015
11242793	POS 118		2.50 - 2.50	20/04/2015
11242871	POS 119		0.50 - 0.50	20/04/2015
11242916	POS 120		0.50 - 0.50	20/04/2015
11242976	POS 121		0.50 - 0.50	20/04/2015



CERTIFICATE OF ANALYSIS

SDG:	150423-112	Location:	Coed Darcy	Order Number:	CD1193
Job:	H_ATKINS_LDC-335	Customer:	Atkins Global Ltd	Report Number:	312955
Client Reference:	POS	Attention:	Alex Mann	Superseded Report:	
11243022		POS 121		1.50 - 1.50	20/04/2015
11243051		POS 122		0.50 - 0.50	20/04/2015
11243055		POS 123		0.50 - 0.50	20/04/2015
11243059		POS 123		2.60 - 2.60	20/04/2015
11242772		POS 124		1.50 - 1.50	20/04/2015
11242781		POS 124		2.50 - 2.50	20/04/2015
11242764		POS 125		2.00 - 2.00	20/04/2015
11242768		POS 125		3.50 - 3.50	20/04/2015
11243032		TPE 0229 R		0.10 - 0.10	22/04/2015
11243040		TPE 1056 R		0.50 - 0.50	22/04/2015
11243030		TPE 2908 R		0.50 - 0.50	22/04/2015
11243042		TPE 7123 R		0.40 - 0.40	22/04/2015
11243044		TPE 7129 R		0.20 - 0.20	22/04/2015

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

Client:	Coed Darcy	Order Number:	CD1193
Company:	Atkins Global Ltd	Report Number:	312955
Author:	Alex Mann	Superseded Report:	

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

SOLID

Results Legend

	Test
	No Determination Possible

[illegible]

Validated

Order Number: CD1193
Report Number: 312955
Superseded Report:

Order Number: CD1193
Report Number: 312955
Superseded Report:

No Determination Possible

Container

11243014	POS 33	1.50 - 1.50	60g VOC (ALE215) 400g Tub (ALE214)
11243010	POS 33	0.50 - 0.50	250g Amber Jar (AL) 60g VOC (ALE215) 400g Tub (ALE214)
11243026	POS 32	0.50 - 0.50	250g Amber Jar (AL) 60g VOC (ALE215) 400g Tub (ALE214)
11243018	POS 31	0.50 - 0.50	250g Amber Jar (AL) 60g VOC (ALE215) 400g Tub (ALE214)
11242998	POS 29	2.50 - 2.50	250g Amber Jar (AL) 60g VOC (ALE215) 400g Tub (ALE214)
11242994	POS 29	1.50 - 1.50	60g VOC (ALE215) 400g Tub (ALE214)
11242989	POS 29	0.50 - 0.50	250g Amber Jar (AL) 60g VOC (ALE215) 400g Tub (ALE214)
11242985	POS 27	3.50 - 3.50	250g Amber Jar (AL) 60g VOC (ALE215) 400g Tub (ALE214)
11242981	POS 27	2.50 - 2.50	60g VOC (ALE215) 400g Tub (ALE214)
11242972	POS 27	1.50 - 1.50	250g Amber Jar (AL) 60g VOC (ALE215) 400g Tub (ALE214)
11242955	POS 27	0.50 - 0.50	250g Amber Jar (AL) 60g VOC (ALE215) 400g Tub (ALE214)
11242948	POS 25	2.50 - 2.50	250g Amber Jar (AL) 60g VOC (ALE215) 400g Tub (ALE214)
11242944	POS 25	1.50 - 1.50	60g VOC (ALE215) 400g Tub (ALE214)
11242940	POS 25	0.50 - 0.50	250g Amber Jar (AL) 60g VOC (ALE215) 400g Tub (ALE214)

[illegible][illegible][illegible]

																					N		
X	X	X	X	X	X	X	X	X	X	X	X	X	X									X	

[illegible][illegible][illegible][illegible][illegible][illegible][illegible]



SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

SOLID Results Legend X Test N No Determination Possible	Lab Sample No(s)		Customer Sample Reference		AGS Reference		Depth (m)		Container	
	11243022	POS 121					1.50 - 1.50		250g Amber Jar (AL 60g VOC (ALEE215))	
	11242976	POS 121					0.50 - 0.50		400g Tub (ALEE214)	
	11242916	POS 120					0.50 - 0.50		250g Amber Jar (AL 60g VOC (ALEE215))	
	11242871	POS 119					0.50 - 0.50		400g Tub (ALEE214)	
	11242793	POS 118					2.50 - 2.50		250g Amber Jar (AL 60g VOC (ALEE215))	
	11242789	POS 118					1.50 - 1.50		400g Tub (ALEE214)	
	11242785	POS 118					0.30 - 0.30		250g Amber Jar (AL 60g VOC (ALEE215))	
	11242813	POS 117					3.50 - 3.50		400g Tub (ALEE214)	
	11242805	POS 117					2.50 - 2.50		250g Amber Jar (AL 60g VOC (ALEE215))	
	11242801	POS 117					1.50 - 1.50		400g Tub (ALEE214)	
	11242809	POS 116					0.50 - 0.50		250g Amber Jar (AL 60g VOC (ALEE215))	
	11242760	POS 115					0.50 - 0.50		400g Tub (ALEE214)	
	11243006	POS 34					1.50 - 1.50		250g Amber Jar (AL 60g VOC (ALEE215))	
	11243002	POS 34					0.50 - 0.50		400g Tub (ALEE214)	
Asbestos fibres in Soil*	All	NDPs: 0 Tests: 31								
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 60								
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 60								
GRO by GC-FID (S)	All	NDPs: 1 Tests: 59								
Metals in solid samples by OES	All	NDPs: 0 Tests: 60								
PAH by GCMS	All	NDPs: 0 Tests: 60								
pH	All	NDPs: 0 Tests: 60								
Sample description	All	NDPs: 0 Tests: 68								
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 4								
Total Organic Carbon	All	NDPs: 0 Tests: 15								
TPH CWG GC (S)	All	NDPs: 1 Tests: 59								
VOC MS (S)	All	NDPs: 1 Tests: 3								

Order Number: CD1193
Report Number: 312955
Superseded Report:

Page 8 of 54



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
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
11243034	IP 0449 R	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11243038	IP 3487 R	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11243036	IP 3494 R	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11242797	PC sample	0.10 - 0.10	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11242892	POS 12	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11242896	POS 13	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11242900	POS 13	1.50 - 1.50	Light Brown	Loamy Sand	0.1 - 2 mm	Stones	Oil/Petroleum
11242888	POS 15	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Concrete/Aggre gate	Stones
11242817	POS 16	0.90 - 0.90	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None
11242821	POS 16	1.50 - 1.50	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	None
11242830	POS 16	2.50 - 2.50	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	None
11242846	POS 16	0.20 - 0.20	Black	Sand	0.1 - 2 mm	Stones	None
11242850	POS 17	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11242854	POS 17	1.50 - 1.50	Light Brown	Loamy Sand	0.1 - 2 mm	Stones	None
11242859	POS 19	0.50 - 0.50	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
11242863	POS 19	2.00 - 2.00	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	None
11242867	POS 19	3.50 - 3.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11242875	POS 20	0.50 - 0.50	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None
11242880	POS 20	1.50 - 1.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11242884	POS 20	2.50 - 2.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11242924	POS 21	0.50 - 0.50	Dark Brown	Sand	0.1 - 2 mm	Stones	None
11242928	POS 21	1.50 - 1.50	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None
11242932	POS 21	2.50 - 2.50	Dark Brown	Clay	<0.063 mm	Stones	None
11242936	POS 21	3.50 - 3.50	Light Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None
11242904	POS 22	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11242908	POS 22	1.50 - 1.50	Light Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11242912	POS 22	2.50 - 2.50	Light Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11242920	POS 22	3.50 - 3.50	Dark Brown	Sandy Clay	0.1 - 2 mm	Stones	None
11242940	POS 25	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11242944	POS 25	1.50 - 1.50	Dark Brown	Silty Clay	0.063 - 0.1 mm	Stones	None
11242948	POS 25	2.50 - 2.50	Dark Brown	Sandy Clay	0.1 - 2 mm	Stones	None
11242955	POS 27	0.50 - 0.50	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None
11242972	POS 27	1.50 - 1.50	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None
11242981	POS 27	2.50 - 2.50	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None
11242985	POS 27	3.50 - 3.50	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	Vegetation
11242989	POS 29	0.50 - 0.50	Dark Brown	Sandy Silt Loam	0.1 - 2 mm	Stones	Vegetation
11242994	POS 29	1.50 - 1.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11242998	POS 29	2.50 - 2.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Vegetation	Stones



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

			Colour	Description	Grain size	Inclusions	Inclusions 2
11243018	POS 31	0.50 - 0.50	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
11243026	POS 32	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11243010	POS 33	0.50 - 0.50	Black	Sand	0.1 - 2 mm	Stones	Vegetation
11243014	POS 33	1.50 - 1.50	Light Brown	Silty Clay Loam	0.063 - 0.1 mm	Stones	Vegetation
11243002	POS 34	0.50 - 0.50	Light Brown	Silty Clay Loam	0.063 - 0.1 mm	Stones	Vegetation
11243006	POS 34	1.60 - 1.60	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11242760	POS 115	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11242809	POS 116	0.50 - 0.50	Dark Brown	Sand	0.1 - 2 mm	Stones	None
11242801	POS 117	1.50 - 1.50	Light Brown	Sandy Clay	0.1 - 2 mm	None	None
11242805	POS 117	2.50 - 2.50	Dark Brown	Silty Clay Loam	0.063 - 0.1 mm	Stones	None
11242813	POS 117	3.50 - 3.50	Grey	Clay	<0.063 mm	Stones	None
11242785	POS 118	0.30 - 0.30	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Brick
11242789	POS 118	1.50 - 1.50	Dark Brown	Silt Loam	0.063 - 0.1 mm	Vegetation	None
11242793	POS 118	2.50 - 2.50	Grey	Loamy Sand	0.1 - 2 mm	None	None
11242871	POS 119	0.50 - 0.50	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
11242916	POS 120	0.50 - 0.50	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
11242976	POS 121	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11243022	POS 121	1.50 - 1.50	Light Brown	Loamy Sand	0.1 - 2 mm	Stones	None
11243051	POS 122	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11243055	POS 123	0.50 - 0.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Concrete/Aggregate
11243059	POS 123	2.60 - 2.60	Grey	Sandy Clay Loam	0.1 - 2 mm	Vegetation	None
11242772	POS 124	1.50 - 1.50	Black	N/A	0.1 - 2 mm	Stones	Vegetation
11242781	POS 124	2.50 - 2.50	Grey	Loamy Sand	0.1 - 2 mm	None	None
11242764	POS 125	2.00 - 2.00	Dark Brown	N/A	0.1 - 2 mm	Stones	Vegetation
11242768	POS 125	3.50 - 3.50	Light Brown	Clay	<0.063 mm	Stones	None
11243032	TPE 0229 R	0.10 - 0.10	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11243040	TPE 1056 R	0.50 - 0.50	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
11243030	TPE 2908 R	0.50 - 0.50	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	Vegetation
11243042	TPE 7123 R	0.40 - 0.40	Light Brown	Sand	0.1 - 2 mm	Stones	None
11243044	TPE 7129 R	0.20 - 0.20	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.

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CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

Results Legend		Customer Sample R Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	POS 17	POS 17	POS 19	POS 19	POS 19	POS 20
#	ISO17025 accredited.		0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	2.00 - 2.00	3.50 - 3.50	0.50 - 0.50
M	mCERTS accredited.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.		21/04/2015	21/04/2015	21/04/2015	21/04/2015	21/04/2015	21/04/2015
diss.filt	Dissolved / filtered sample.		23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
tot.unfilt	Total / unfiltered sample.		150423-112	150423-112	150423-112	150423-112	150423-112	150423-112
*	Subcontracted test.		11242850	11242854	11242859	11242863	11242867	11242875
**	% 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						
Moisture Content Ratio (% of as received sample)	%	PM024	13	9.3	9.9	9.6	12	10
Actinolite*	-	SUB (ASB)	Not Detected #		Not Detected #			Not Detected #
Amosite*	-	SUB (ASB)	Not Detected #		Not Detected #			Not Detected #
Anthophyllite*	-	SUB (ASB)	Not Detected #		Not Detected #			Not Detected #
Chrysotile*	-	SUB (ASB)	Not Detected #		Not Detected #			Not Detected #
Crocidolite*	-	SUB (ASB)	Not Detected #		Not Detected #			Not Detected #
Tremolite*	-	SUB (ASB)	Not Detected #		Not Detected #			Not Detected #
Non-Asbestos Fibres Detected	-	SUB (ASB)	Not Detected #		Not Detected #			Not Detected #
Soil Organic Matter (SOM)	<0.35 %	TM132	1.4 #			0.986 #		
pH	1 pH Units	TM133	8.25 M	7.45 M	6.93 M	7.42 M	7 M	6.63 M
Arsenic	<0.6 mg/kg	TM181	14.2 M	9.48 M	8.82 M	9.45 M	16.2 M	11.6 M
Cadmium	<0.02 mg/kg	TM181	0.491 M	0.424 M	0.224 M	0.444 M	0.592 M	0.585 M
Chromium	<0.9 mg/kg	TM181	11 M	10.3 M	11.2 M	12.6 M	13.8 M	13.1 M
Copper	<1.4 mg/kg	TM181	23.8 M	18.2 M	17.5 M	15.1 M	27.2 M	24 M
Lead	<0.7 mg/kg	TM181	15.4 M	11.9 M	15.1 M	12.5 M	16.9 M	24.4 M
Mercury	<0.14 mg/kg	TM181	<0.14 M	<0.14 M	<0.14 M	<0.14 M	<0.14 M	0.427 M
Nickel	<0.2 mg/kg	TM181	21 M	21.2 M	23.5 M	23.4 M	25.8 M	25.8 M
Selenium	<1 mg/kg	TM181	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vanadium	<0.2 mg/kg	TM181	13.4 #	12.4 #	13.3 #	14.9 #	18 #	15.7 #
Zinc	<1.9 mg/kg	TM181	69 M	69.9 M	72.6 M	62.1 M	70.8 M	106 M
					</			

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CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

Results Legend		Customer Sample R Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	POS 25	POS 27	POS 27	POS 27	POS 27	POS 29
#	ISO17025 accredited.		2.50 - 2.50	0.50 - 0.50	1.50 - 1.50	2.50 - 2.50	3.50 - 3.50	0.50 - 0.50
M	mCERTS accredited.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.		21/04/2015	21/04/2015	21/04/2015	21/04/2015	21/04/2015	21/04/2015
diss.filt	Dissolved / filtered sample.		23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
tot.unfilt	Total / unfiltered sample.		150423-112	150423-112	150423-112	150423-112	150423-112	150423-112
*	Subcontracted test.		11242948	11242955	11242972	11242981	11242985	11242989
**	% 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						
Moisture Content Ratio (% of as received sample)	%	PM024	12	17	15	15	14	32
Actinolite*	-	SUB (ASB)		Not Detected #				Not Detected #
Amosite*	-	SUB (ASB)		Not Detected #				Not Detected #
Anthophyllite*	-	SUB (ASB)		Not Detected #				Not Detected #
Chrysotile*	-	SUB (ASB)		Detected #				Not Detected #
Crocidolite*	-	SUB (ASB)		Not Detected #				Not Detected #
Tremolite*	-	SUB (ASB)		Not Detected #				Not Detected #
Non-Asbestos Fibres Detected	-	SUB (ASB)		Not Detected #				Not Detected #
Soil Organic Matter (SOM)	<0.35 %	TM132		10.2 #			1.71 #	
pH	1 pH Units	TM133	7.19 M	7.75 M	7.23 M	7.37 M	7.08 M	7.11 M
Arsenic	<0.6 mg/kg	TM181	10.1 M	40.3 M	19.4 M	16.5 M	21.1 M	92.1 M
Cadmium	<0.02 mg/kg	TM181	0.288 M	0.711 M	0.756 M	0.745 M	0.571 M	2.86 M
Chromium	<0.9 mg/kg	TM181	12.5 M	15.1 M	14.7 M	15 M	15.3 M	28.7 M
Copper	<1.4 mg/kg	TM181	15.5 M	72.5 M	43.5 M	30.6 M	33.9 M	439 M
Lead	<0.7 mg/kg	TM181	13 M	75.5 M	101 M	43.5 M	16 M	1000 M
Mercury	<0.14 mg/kg	TM181	<0.14 M	7.43 M	<0.14 M	<0.14 M	<0.14 M	1.92 M
Nickel	<0.2 mg/kg	TM181	20.9 M	30.5 M	27.6 M	26.6 M	24.9 M	51.2 M
Selenium	<1 mg/kg	TM181	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vanadium	<0.2 mg/kg	TM181	14.9 #	28.1 #	20.9 #	21.4 #	19.4 #	43.5 #
Zinc	<1.9 mg/kg	TM181	55.4 M	135 M	126 M	106 M	84.1 M	2280 M



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

Results Legend		Customer Sample R Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	POS 29	POS 29	POS 31	POS 32	POS 33	POS 33
#	ISO17025 accredited.		1.50 - 1.50	2.50 - 2.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50
M	mCERTS accredited.		Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / filtered sample.		21/04/2015	21/04/2015	21/04/2015	21/04/2015	21/04/2015	21/04/2015
diss.filt	Dissolved / filtered sample.		23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
tot.unfilt	Total / unfiltered sample.		150423-112	150423-112	150423-112	150423-112	150423-112	150423-112
*	Subcontracted test.		11242994	11242998	11243018	11243026	11243010	11243014
**	% 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						
Moisture Content Ratio (% of as received sample)	%	PM024	11	12	8	10	28	26
Actinolite*	-	SUB (ASB)			Not Detected #	Not Detected #	Not Detected #	
Amosite*	-	SUB (ASB)			Not Detected #	Not Detected #	Not Detected #	
Anthophyllite*	-	SUB (ASB)			Not Detected #	Not Detected #	Not Detected #	
Chrysotile*	-	SUB (ASB)			Not Detected #	Not Detected #	Detected #	
Crocidolite*	-	SUB (ASB)			Not Detected #	Not Detected #	Not Detected #	
Tremolite*	-	SUB (ASB)			Not Detected #	Not Detected #	Not Detected #	
Non-Asbestos Fibres Detected	-	SUB (ASB)			Not Detected #	Not Detected #	Not Detected #	
Soil Organic Matter (SOM)	<0.35 %	TM132		1.81 #				
pH	1 pH Units	TM133	5.66 M	6.74 M	6.46 M	6.03 M	4.72 M	3.65 M
Arsenic	<0.6 mg/kg	TM181	8.76 M	16.9 M	10.8 M	12.3 M	17.6 M	11.9 M
Cadmium	<0.02 mg/kg	TM181	0.461 M	0.581 M	0.634 M	0.683 M	0.686 M	0.179 M
Chromium	<0.9 mg/kg	TM181	10.7 M	13.8 M	12.3 M	13.8 M	6.23 M	16.5 M
Copper	<1.4 mg/kg	TM181	12.3 M	28.9 M	14 M	64.5 M	27.8 M	9.76 M
Lead	<0.7 mg/kg	TM181	10.9 M	21.8 M	30.2 M	17.5 M	16.9 M	7.9 M
Mercury	<0.14 mg/kg	TM181	<0.14 M	<0.14 M	<0.14 M	<0.14 M	<0.14 M	<0.14 M
Nickel	<0.2 mg/kg	TM181	22.6 M	23.6 M	28.1 M	30.6 M	17 M	11.5 M
Selenium	<1 mg/kg	TM181	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vanadium	<0.2 mg/kg	TM181	12.9 #	16.8 #	14.6 #	18.6 #	22.3 #	30.9 #
Zinc	<1.9 mg/kg	TM181	71.3 M	93.4 M	87.3 M	93.7 M	65.5 M	33.6 M
					</			

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Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

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CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

PAH by GCMS

Results Legend		Customer Sample R	POS 22	POS 25	POS 25	POS 25	POS 27	POS 27
#	ISO17025 accredited.							
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						
Naphthalene-d8 % recovery**	%	TM218	89.2	98	93.4	93.6	105	97.3
Acenaphthene-d10 % recovery**	%	TM218	84.5	93.5	88.5	88.8	107	94.7
Phenanthrene-d10 % recovery**	%	TM218	86.2	92.9	88.9	89.2	107	96.3
Chrysene-d12 % recovery**	%	TM218	76.4	103	78.8	79.8	107	95
Perylene-d12 % recovery**	%	TM218	76.7	111	79.3	77.5	113	100
Naphthalene	<9 µg/kg	TM218	12	<9	<9	<9	1640	1110
Acenaphthylene	<12 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Acenaphthene	<8 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Fluorene	<10 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Phenanthrene	<15 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Anthracene	<16 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Fluoranthene	<17 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Pyrene	<15 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Benz(a)anthracene	<14 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Chrysene	<10 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Benzo(b)fluoranthene	<15 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Benzo(k)fluoranthene	<14 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Benzo(a)pyrene	<15 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
Benzo(g,h,i)perylene	<24 µg/kg	TM218	♦ M	♦ M	♦ M	♦ M	♦ M	♦ M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218	167	<118	<118	<118	140000	37800

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Report Number: 312955
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

PAH by GCMS

Results Legend		Customer Sample R	POS 32	POS 33	POS 33	POS 34	POS 34	POS 115
#	ISO17025 accredited.							
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&*5@	Sample deviation (see appendix)							
Component	LOD/Units	Method						
Naphthalene-d8 % recovery**	%	TM218	94	90.8	94.5	94.1	93.3	97.4
Acenaphthene-d10 % recovery**	%	TM218	89.3	97.8	90.2	91.4	93.3	95.9
Phenanthrene-d10 % recovery**	%	TM218	92.9	105	92.2	92.5	95.1	96.3
Chrysene-d12 % recovery**	%	TM218	109	73.9	82.9	79.9	91.7	82
Perylene-d12 % recovery**	%	TM218	109	82.6	82.1	80.9	97.3	81.2
Naphthalene	<9 µg/kg	TM218	<9 ♦ M	1860 ♦ M	67.8 ♦ M	<9 ♦ M	76 ♦ M	20.4 @ M
Acenaphthylene	<12 µg/kg	TM218	<12 ♦ M	129 ♦ M	<12 ♦ M	<12 ♦ M	<12 ♦ M	<12 @ M
Acenaphthene	<8 µg/kg	TM218	<8 ♦ M	541 ♦ M	<8 ♦ M	<8 ♦ M	<8 ♦ M	<8 @ M
Fluorene	<10 µg/kg	TM218	<10 ♦ M	576 ♦ M	<10 ♦ M	<10 ♦ M	<10 ♦ M	<10 @ M
Phenanthrene	<15 µg/kg	TM218	28.2 ♦ M	1880 ♦ M	<15 ♦ M	<15 ♦ M	39.7 ♦ M	103 @ M
Anthracene	<16 µg/kg	TM218	<16 ♦ M	1430 ♦ M	<16 ♦ M	<16 ♦ M	<16 ♦ M	<16 @ M
Fluoranthene	<17 µg/kg	TM218	32.5 ♦ M	1130 ♦ M	<17 ♦ M	<17 ♦ M	<17 ♦ M	<17 @ M
Pyrene	<15 µg/kg	TM218	40.2 ♦ M	1820 ♦ M	<15 ♦ M	<15 ♦ M	<15 ♦ M	<15 @ M
Benz(a)anthracene	<14 µg/kg	TM218	<14 ♦ M	529 ♦ M	<14 ♦ M	<14 ♦ M	17.9 ♦ M	<14 @ M
Chrysene	<10 µg/kg	TM218	<10 ♦ M	622 ♦ M	<10 ♦ M	<10 ♦ M	14.1 ♦ M	27.1 @ M
Benzo(b)fluoranthene	<15 µg/kg	TM218	16.8 ♦ M	783 ♦ M	<15 ♦ M	<15 ♦ M	<15 ♦ M	26.7 @ M
Benzo(k)fluoranthene	<14 µg/kg	TM218	<14 ♦ M	242 ♦ M	<14 ♦ M	<14 ♦ M	<14 ♦ M	<14 @ M
Benzo(a)pyrene	<15 µg/kg	TM218	<15 ♦ M	565 ♦ M	<15 ♦ M	<15 ♦ M	<15 ♦ M	<15 @ M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218	<18 ♦ M	216 ♦ M	<18 ♦ M	<18 ♦ M	<18 ♦ M	<18 @ M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218	<23 ♦ M	148 ♦ M	<23 ♦ M	<23 ♦ M	<23 ♦ M	<23 @ M
Benzo(g,h,i)perylene	<24 µg/kg	TM218	<24 ♦ M	377 ♦ M	<24 ♦ M	<24 ♦ M	<24 ♦ M	<24 @ M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218	<118	12800	<118	<118	148	177

Order Number: CD1193
Report Number: 312955
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

PAH by GCMS

Results Legend		Customer Sample R	POS 123		POS 123		POS 124		POS 124		POS 125		POS 125	
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.50 - 0.50 Soil/Solid 20/04/2015 23/04/2015 150423-112 11243055	2.60 - 2.60 Soil/Solid 20/04/2015 23/04/2015 150423-112 11243059	1.50 - 1.50 Soil/Solid 20/04/2015 23/04/2015 150423-112 11242772	2.50 - 2.50 Soil/Solid 20/04/2015 23/04/2015 150423-112 11242781	2.00 - 2.00 Soil/Solid 20/04/2015 23/04/2015 150423-112 11242764	3.50 - 3.50 Soil/Solid 20/04/2015 23/04/2015 150423-112 11242768					
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											
Naphthalene-d8 % recovery**		%	TM218	96.2	94.3	123	96.1	99.3	96.2					
Acenaphthene-d10 % recovery**		%	TM218	95.3	93	122	94.2	95.5	93.6					
Phenanthrene-d10 % recovery**		%	TM218	95.6	93.5	121	94.5	94.9	94.1					
Chrysene-d12 % recovery**		%	TM218	90.4	93.7	122	91	94.8	90.2					
Perylene-d12 % recovery**		%	TM218	90.2	98	127	93.2	100	89.2					
Naphthalene		<9 µg/kg	TM218	62.5	<9	<9	<9	<9	<9					
				@ M	@ M	@	@ M	@	@ M					
Acenaphthylene		<12 µg/kg	TM218	<12	<12	<12	<12	<12	<12					
				@ M	@ M	@	@ M	@	@ M					
Acenaphthene		<8 µg/kg	TM218	<8	<8	<8	<8	<8	<8					
				@ M	@ M	@	@ M	@	@ M					
Fluorene		<10 µg/kg	TM218	<10	<10	<10	<10	<10	<10					
				@ M	@ M	@	@ M	@	@ M					
Phenanthrene		<15 µg/kg	TM218	169	<15	<15	20.2	<15	<15					
				@ M	@ M	@	@ M	@	@ M					
Anthracene		<16 µg/kg	TM218	20.7	<16	<16	<16	<16	<16					
				@ M	@ M	@	@ M	@	@ M					
Fluoranthene		<17 µg/kg	TM218	198	<17	<17	<17	<17	<17					
				@ M	@ M	@	@ M	@	@ M					
Pyrene		<15 µg/kg	TM218	151	<15	<15	<15	<15	<15					
				@ M	@ M	@	@ M	@	@ M					
Benz(a)anthracene		<14 µg/kg	TM218	111	<14	<14	19.4	66.2	<14					
				@ M	@ M	@	@ M	@	@ M					
Chrysene		<10 µg/kg	TM218	146	<10	<10	<10	<10	<10					
				@ M	@ M	@	@ M	@	@ M					
Benzo(b)fluoranthene		<15 µg/kg	TM218	165	<15	<15	17.9	<15	<15					
				@ M	@ M	@	@ M	@	@ M					
Benzo(k)fluoranthene		<14 µg/kg	TM218	60.1	<14	<14	<14	<14	<14					
				@ M	@ M	@	@ M	@	@ M					
Benzo(a)pyrene		<15 µg/kg	TM218	99.6	<15	<15	<15	<15	<15					
				@ M	@ M	@	@ M	@	@ M					
Indeno(1,2,3-cd)pyrene		<18 µg/kg	TM218	67.9	<18	<18	<18	<18	<18					
				@ M	@ M	@	@ M	@	@ M					
Dibenzo(a,h)anthracene		<23 µg/kg	TM218	<23	<23	<23	<23	<23	<23					
				@ M	@ M	@	@ M	@	@ M					
Benzo(g,h,i)perylene		<24 µg/kg	TM218	79.5	<24	<24	<24	<24	<24					
				@ M	@ M	@	@ M	@	@ M					
PAH, Total Detected USEPA 16		<118 µg/kg	TM218	1330	<118	<118	<118	<118	<118					



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

Semi Volatile Organic Compounds

Results Legend		Customer Sample R	POS 33		POS 33		POS 34		POS 34			
#	ISO17025 accredited.											
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference										
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										
Phenol	<100 µg/kg	TM157	<200		<100		<100		<100			
Pentachlorophenol	<100 µg/kg	TM157	<200		<100		<100		<100			
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157	<200		<100		<100		<100			
Nitrobenzene	<100 µg/kg	TM157	<200		<100		<100		<100			
Isophorone	<100 µg/kg	TM157	527		<100		<100		<100			
Hexachloroethane	<100 µg/kg	TM157	<200		<100		<100		<100			
Hexachlorocyclopentadiene	<100 µg/kg	TM157	<200		<100		<100		<100			
Hexachlorobutadiene	<100 µg/kg	TM157	<200		<100		<100		<100			
Hexachlorobenzene	<100 µg/kg	TM157	<200		<100		<100		<100			
n-Dioctyl phthalate	<100 µg/kg	TM157	<200		<100		<100		<100			
Dimethyl phthalate	<100 µg/kg	TM157	<200		<100		<100		<100			
Diethyl phthalate	<100 µg/kg	TM157	<200		<100		<100		<100			
n-Dibutyl phthalate	<100 µg/kg	TM157	<200		<100		<100		<100			
Dibenzofuran	<100 µg/kg	TM157	<200		<100		<100		<100			
Carbazole	<100 µg/kg	TM157	<200		<100		<100		<100			
Butylbenzyl phthalate	<100 µg/kg	TM157	<200		<100		<100		<100			
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157	<200		<100		<100		<100			
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157	<200		<100		<100		<100			
bis(2-Chloroethyl)ether	<100 µg/kg	TM157	<200		<100		<100		<100			
Azobenzene	<100 µg/kg	TM157	<200		<100		<100		<100			
4-Nitrophenol	<100 µg/kg	TM157	<200		<100		<100		<100			
4-Nitroaniline	<100 µg/kg	TM157	<200		<100		<100		<100			
4-Methylphenol	<100 µg/kg	TM157	<200		<100		<100		<100			
4-Chlorophenylphenylether	<100 µg/kg	TM157	<200		<100		<100		<100			
4-Chloroaniline	<100 µg/kg	TM157	<200		<100		<100		<100			
4-Chloro-3-methylphenol	<100 µg/kg	TM157	<200		<100		<100		<100			
4-Bromophenylphenylether	<100 µg/kg	TM157	<200		<100		<100		<100			
3-Nitroaniline	<100 µg/kg	TM157	<200		<100		<100		<100			
2-Nitrophenol	<100 µg/kg	TM157	<200		<100		<100		<100			
2-Nitroaniline	<100 µg/kg	TM157	<200		<100		<100		<100			
2-Methylphenol	<100 µg/kg	TM157	<200		<100		<100		<100			
1,2,4-Trichlorobenzene	<100 µg/kg	TM157	<200		<100		<100		<100			



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

Semi Volatile Organic Compounds

Results Legend			Customer Sample R		POS 33	POS 33	POS 34	POS 34		
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60		
M	mCERTS accredited.				Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
aq	Aqueous / settled sample.				21/04/2015	21/04/2015	21/04/2015	21/04/2015		
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				23/04/2015	23/04/2015	23/04/2015	23/04/2015		
(F)	Trigger breach confirmed				150423-112	150423-112	150423-112	150423-112		
1-5&*&\$@	Sample deviation (see appendix)				11243010	11243014	11243002	11243006		
Component	LOD/Units	Method								
2-Chlorophenol	<100 µg/kg	TM157			<200	<100	<100	<100		
2,6-Dinitrotoluene	<100 µg/kg	TM157			<200	<100	<100	<100		
2,4-Dinitrotoluene	<100 µg/kg	TM157			<200	<100	<100	<100		
2,4-Dimethylphenol	<100 µg/kg	TM157			<200	<100	<100	<100		
2,4-Dichlorophenol	<100 µg/kg	TM157			<200	<100	<100	<100		
2,4,6-Trichlorophenol	<100 µg/kg	TM157			<200	<100	<100	<100		
2,4,5-Trichlorophenol	<100 µg/kg	TM157			<200	<100	<100	<100		
1,4-Dichlorobenzene	<100 µg/kg	TM157			<200	<100	<100	<100		
1,3-Dichlorobenzene	<100 µg/kg	TM157			<200	<100	<100	<100		
1,2-Dichlorobenzene	<100 µg/kg	TM157			<200	<100	<100	<100		
2-Chloronaphthalene	<100 µg/kg	TM157			<200	<100	<100	<100		
2-Methylnaphthalene	<100 µg/kg	TM157			1530	194	<100	<100		
Acenaphthylene	<100 µg/kg	TM157			<200	<100	<100	<100		
Acenaphthene	<100 µg/kg	TM157			<200	<100	<100	<100		
Anthracene	<100 µg/kg	TM157			<200	<100	<100	<100		
Benzo(a)anthracene	<100 µg/kg	TM157			<200	<100	<100	<100		
Benzo(b)fluoranthene	<100 µg/kg	TM157			<200	<100	<100	<100		
Benzo(k)fluoranthene	<100 µg/kg	TM157			<200	<100	<100	<100		
Benzo(a)pyrene	<100 µg/kg	TM157			<200	<100	<100	<100		
Benzo(g,h,i)perylene	<100 µg/kg	TM157			<200	<100	<100	<100		
Chrysene	<100 µg/kg	TM157			884	<100	<100	<100		
Fluoranthene	<100 µg/kg	TM157			393	<100	<100	<100		
Fluorene	<100 µg/kg	TM157			<200	<100	<100	<100		
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157			<200	<100	<100	<100		
Phenanthrene	<100 µg/kg	TM157			647	<100	<100	<100		
Pyrene	<100 µg/kg	TM157			1260	<100	<100	<100		
Naphthalene	<100 µg/kg	TM157			855	<100	<100	<100		
Dibenzo(a,h)anthracene	<100 µg/kg	TM157			<200	<100	<100	<100		



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

TPH CWG (S)

Results Legend		Customer Sample R	PC sample	POS 12	POS 13	POS 13	POS 15	POS 16
#	ISO17025 accredited.							
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.10 - 0.10 Soil/Solid 20/04/2015 23/04/2015 150423-112 11242797	0.50 - 0.50 Soil/Solid 21/04/2015 23/04/2015 150423-112 11242892	0.50 - 0.50 Soil/Solid 21/04/2015 23/04/2015 150423-112 11242896	1.50 - 1.50 Soil/Solid 21/04/2015 23/04/2015 150423-112 11242900	0.50 - 0.50 Soil/Solid 21/04/2015 23/04/2015 150423-112 11242888	0.20 - 0.20 Soil/Solid 21/04/2015 23/04/2015 150423-112 11242846
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	81	83	125	103	70	42
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	<176	1010000	874	385000	1740	<176
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<20	<100	<20	<100	<20	<20
Benzene	<10 µg/kg	TM089	<40	<200	<40	<200	<40	<40
Toluene	<2 µg/kg	TM089	<8	<40	<8	<40	<8	<8
Ethylbenzene	<3 µg/kg	TM089	<12	<60	<12	<60	<12	<12
m,p-Xylene	<6 µg/kg	TM089	<24	<120	<24	<120	<24	<24
o-Xylene	<3 µg/kg	TM089	<12	<60	<12	<60	<12	<12
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	<200	<40	<200	<40	<40
Aliphatics >C6-C8	<10 µg/kg	TM089	<40	7810	119	11200	72.5	<40
Aliphatics >C8-C10	<10 µg/kg	TM089	<40	93700	139	41000	163	<40
Aliphatics >C10-C12	<10 µg/kg	TM089	<40	506000	283	183000	817	<40
Aliphatics >C12-C16	<100 µg/kg	TM173	272	887000	<100	1010000	98600	3230
Aliphatics >C16-C21	<100 µg/kg	TM173	2150	7570	<100	8460	254000	6940
Aliphatics >C21-C35	<100 µg/kg	TM173	46600	6600	1700	5490	307000	39400
Aliphatics >C35-C44	<100 µg/kg	TM173	21300	<100	<100	3550	70900	11700
Total Aliphatics >C12-C44	<100 µg/kg	TM173	70300	902000	1700	1030000	731000	61300
Aromatics >EC5-EC7	<10 µg/kg	TM089	<40	<200	<40	<200	<40	<40
Aromatics >EC7-EC8	<10 µg/kg	TM089	<40	<200	<40	<200	<40	<40
Aromatics >EC8-EC10	<10 µg/kg	TM089	<40	62500	109	27400	118	<40
Aromatics >EC10-EC12	<10 µg/kg	TM089	<40	337000	188	122000	545	<40
Aromatics >EC12-EC16	<100 µg/kg	TM173	<100	30000	<100	5310	13200	2980
Aromatics >EC16-EC21	<100 µg/kg	TM173	12600	2150	539	970	126000	14800
Aromatics >EC21-EC35	<100 µg/kg	TM173	76700	3820	4100	1810	510000	46400
Aromatics >EC35-EC44	<100 µg/kg	TM173	44400	3230	1200	<100	142000	20000
Aromatics >EC40-EC44	<100 µg/kg	TM173	18100	1700	<100	<100	57900	8380
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	134000	39200	5840	8090	790000	84300
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	204000	1950000	8410	1420000	1520000	146000



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

TPH CWG (S)

Results Legend		Customer Sample R	POS 16		POS 16		POS 16		POS 17		POS 17		POS 19	
#	ISO17025 accredited.		0.90 - 0.90		1.50 - 1.50		2.50 - 2.50		0.50 - 0.50		1.50 - 1.50		0.50 - 0.50	
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid	
aq	Aqueous / settled sample.		21/04/2015		21/04/2015		21/04/2015		21/04/2015		21/04/2015		21/04/2015	
diss.filt	Dissolved / filtered sample.		23/04/2015		23/04/2015		23/04/2015		23/04/2015		23/04/2015		23/04/2015	
tot.unfilt	Total / unfiltered sample.		150423-112		150423-112		150423-112		150423-112		150423-112		150423-112	
*	Subcontracted test.		11242817		11242821		11242830		11242850		11242854		11242859	
**	% 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	94	♦	93	♦	111	♦	97	♦	98	♦	83	♦
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	<176	♦ M	<176	♦ M	<176	♦ M	<176	♦ M	<176	♦ M	<176	♦ M
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<20	♦ M	<20	♦ M	<20	♦ M	<20	♦ M	<20	♦ M	<20	♦ M
Benzene	<10 µg/kg	TM089	<40	♦ M	<40	♦ M	<40	♦ M	<40	♦ M	<40	♦ M	<40	♦ M
Toluene	<2 µg/kg	TM089	<8	♦ M	<8	♦ M	<8	♦ M	<8	♦ M	<8	♦ M	<8	♦ M
Ethylbenzene	<3 µg/kg	TM089	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ M
m,p-Xylene	<6 µg/kg	TM089	<24	♦ M	<24	♦ M	<24	♦ M	<24	♦ M	<24	♦ M	<24	♦ M
o-Xylene	<3 µg/kg	TM089	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ 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	<40	♦	<40	♦	<40	♦	<40	♦	<40	♦	<40	♦
Aliphatics >C10-C12	<10 µg/kg	TM089	<40	♦	57.1	♦	<40	♦	<40	♦	<40	♦	<40	♦
Aliphatics >C12-C16	<100 µg/kg	TM173	<100		16100		<100		<100		<100		397	
Aliphatics >C16-C21	<100 µg/kg	TM173	184		9700		<100		<100		<100		3290	
Aliphatics >C21-C35	<100 µg/kg	TM173	2950		6240		<100		<100		156		11700	
Aliphatics >C35-C44	<100 µg/kg	TM173	<100		525		<100		<100		167		1820	
Total Aliphatics >C12-C44	<100 µg/kg	TM173	3140		32600		<100		<100		323		17200	
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	♦	<40	♦	<40	♦	<40	♦	<40	♦	<40	♦
Aromatics >EC10-EC12	<10 µg/kg	TM089	<40	♦	<40	♦	<40	♦	<40	♦	<40	♦	<40	♦
Aromatics >EC12-EC16	<100 µg/kg	TM173	1060		279		<100		<100		<100		<100	
Aromatics >EC16-EC21	<100 µg/kg	TM173	19600		1800		<100		<100		239		1860	
Aromatics >EC21-EC35	<100 µg/kg	TM173	43100		4870		<100		<100		1760		9230	
Aromatics >EC35-EC44	<100 µg/kg	TM173	14400		2250		<100		<100		<100		4280	
Aromatics >EC40-EC44	<100 µg/kg	TM173	5860		812		<100		<100		<100		1670	
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	78200		9200		<100		<100		2000		15400	
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	81300		41900		<100		<100		2330		32600	



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

TPH CWG (S)

Results Legend		Customer Sample R	POS 19		POS 19		POS 20		POS 20		POS 20		POS 21	
#	ISO17025 accredited.		2.00 - 2.00		3.50 - 3.50		0.50 - 0.50		1.50 - 1.50		2.50 - 2.50		0.50 - 0.50	
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid	
aq	Aqueous / settled sample.		21/04/2015		21/04/2015		21/04/2015		21/04/2015		21/04/2015		21/04/2015	
diss.filt	Dissolved / filtered sample.		23/04/2015		23/04/2015		23/04/2015		23/04/2015		23/04/2015		23/04/2015	
tot.unfilt	Total / unfiltered sample.		150423-112		150423-112		150423-112		150423-112		150423-112		150423-112	
*	Subcontracted test.		11242863		11242867		11242875		11242880		11242884		11242924	
**	% 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	♦	89	♦	82	♦	86	♦	88	♦	44	♦
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	<176	♦ M	<176	♦ M	<176	♦ M	<176	♦ M	<176	♦ M	556	♦ M
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<20	♦ M	<20	♦ M	<20	♦ M	<20	♦ M	<20	♦ M	<20	♦ M
Benzene	<10 µg/kg	TM089	<40	♦ M	<40	♦ M	<40	♦ M	<40	♦ M	<40	♦ M	<40	♦ M
Toluene	<2 µg/kg	TM089	<8	♦ M	<8	♦ M	<8	♦ M	<8	♦ M	<8	♦ M	12.3	♦ M
Ethylbenzene	<3 µg/kg	TM089	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ M
m,p-Xylene	<6 µg/kg	TM089	<24	♦ M	<24	♦ M	<24	♦ M	<24	♦ M	<24	♦ M	<24	♦ M
o-Xylene	<3 µg/kg	TM089	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ M	<12	♦ 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	♦	52.9	♦
Aliphatics >C8-C10	<10 µg/kg	TM089	<40	♦	<40	♦	<40	♦	<40	♦	<40	♦	68.9	♦
Aliphatics >C10-C12	<10 µg/kg	TM089	<40	♦	<40	♦	<40	♦	<40	♦	<40	♦	199	♦
Aliphatics >C12-C16	<100 µg/kg	TM173	179		<100		<100		<100		<100		42900	
Aliphatics >C16-C21	<100 µg/kg	TM173	619		<100		382		<100		<100		159000	
Aliphatics >C21-C35	<100 µg/kg	TM173	2040		2060		9080		1990		213		362000	
Aliphatics >C35-C44	<100 µg/kg	TM173	<100		<100		1330		<100		<100		187000	
Total Aliphatics >C12-C44	<100 µg/kg	TM173	2840		2060		10800		1990		213		751000	
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	♦	<40	♦	<40	♦	<40	♦	<40	♦	51.7	♦
Aromatics >EC10-EC12	<10 µg/kg	TM089	<40	♦	<40	♦	<40	♦	<40	♦	<40	♦	133	♦
Aromatics >EC12-EC16	<100 µg/kg	TM173	<100		<100		<100		<100		<100		2310	
Aromatics >EC16-EC21	<100 µg/kg	TM173	<100		559		3420		<100		<100		21700	
Aromatics >EC21-EC35	<100 µg/kg	TM173	<100		3100		13000		<100		5600		190000	
Aromatics >EC35-EC44	<100 µg/kg	TM173	<100		739		4750		<100		1190		211000	
Aromatics >EC40-EC44	<100 µg/kg	TM173	<100		<100		1850		<100		<100		98100	
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	<100		4400		21200		<100		6800		425000	
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	2840		6460		31900		1990		7010		1180000	



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

TPH CWG (S)

Results Legend		Customer Sample R	POS 21		POS 21		POS 21		POS 22		POS 22		POS 22	
#	ISO17025 accredited.		1.50 - 1.50		2.50 - 2.50		3.50 - 3.50		0.50 - 0.50		1.50 - 1.50		2.50 - 2.50	
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Soil/Solid 21/04/2015		Soil/Solid 21/04/2015		Soil/Solid 21/04/2015		Soil/Solid 21/04/2015		Soil/Solid 21/04/2015		Soil/Solid 21/04/2015	
aq	Aqueous / settled sample.		23/04/2015		23/04/2015		23/04/2015		23/04/2015		23/04/2015		23/04/2015	
diss.filt	Dissolved / filtered 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	150423-112		150423-112		150423-112		150423-112		150423-112		150423-112	
tot.unfilt	Total / unfiltered sample.		11242928		11242932		11242936		11242904		11242908		11242912	
*	Subcontracted test.	Trigger breach confirmed (F) 1-5&\$@ Sample deviation (see appendix)												
**	% 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													
Component	LOD/Units	Method	98		87		105		90		94		98	
GRO Surrogate % recovery**	%	TM089	♦		♦		♦		♦		♦		♦	
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	<176 ♦ M		<176 ♦ M		<176 ♦ M		3520 ♦ M		2000 ♦ M		472 ♦ M	
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<20 ♦ M		<20 ♦ M		<20 ♦ M		<20 ♦ M		<20 ♦ M		<20 ♦ M	
Benzene	<10 µg/kg	TM089	<40 ♦ M		<40 ♦ M		<40 ♦ M		<40 ♦ M		<40 ♦ M		<40 ♦ M	
Toluene	<2 µg/kg	TM089	<8 ♦ M		<8 ♦ M		<8 ♦ M		<8 ♦ M		<8 ♦ M		<8 ♦ M	
Ethylbenzene	<3 µg/kg	TM089	<12 ♦ M		<12 ♦ M		<12 ♦ M		<12 ♦ M		<12 ♦ M		<12 ♦ M	
m,p-Xylene	<6 µg/kg	TM089	<24 ♦ M		<24 ♦ M		<24 ♦ M		<24 ♦ M		<24 ♦ M		<24 ♦ M	
o-Xylene	<3 µg/kg	TM089	<12 ♦ M		<12 ♦ M		<12 ♦ M		<12 ♦ M		<12 ♦ M		<12 ♦ 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 ♦		165 ♦		139 ♦		<40 ♦	
Aliphatics >C8-C10	<10 µg/kg	TM089	<40 ♦		<40 ♦		<40 ♦		564 ♦		367 ♦		102 ♦	
Aliphatics >C10-C12	<10 µg/kg	TM089	<40 ♦		<40 ♦		<40 ♦		1430 ♦		728 ♦		159 ♦	
Aliphatics >C12-C16	<100 µg/kg	TM173	459		387		<100		78300		41700		<100	
Aliphatics >C16-C21	<100 µg/kg	TM173	1880		1210		<100		145000		106000		<100	
Aliphatics >C21-C35	<100 µg/kg	TM173	12500		2070		<100		127000		129000		2580	
Aliphatics >C35-C44	<100 µg/kg	TM173	9910		<100		<100		25300		22400		123	
Total Aliphatics >C12-C44	<100 µg/kg	TM173	24700		3670		<100		376000		300000		2700	
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 ♦		<40 ♦		<40 ♦		376 ♦		245 ♦		67.2 ♦	
Aromatics >EC10-EC12	<10 µg/kg	TM089	<40 ♦		<40 ♦		<40 ♦		954 ♦		486 ♦		106 ♦	
Aromatics >EC12-EC16	<100 µg/kg	TM173	<100		<100		<100		7800		2190		<100	
Aromatics >EC16-EC21	<100 µg/kg	TM173	1130		422		<100		41800		20500		<100	
Aromatics >EC21-EC35	<100 µg/kg	TM173	12700		3260		782		66100		70600		1480	
Aromatics >EC35-EC44	<100 µg/kg	TM173	14600		1170		<100		29000		24000		<100	
Aromatics >EC40-EC44	<100 µg/kg	TM173	6570		<100		<100		12900		9400		<100	
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	28400		4860		782		145000		117000		1480	
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	53100		8530		782		524000		419000		4650	



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

TPH CWG (S)

Results Legend		Customer Sample R	POS 22		POS 25		POS 25		POS 25		POS 27		POS 27	
#	ISO17025 accredited.		3.50 - 3.50		0.50 - 0.50		1.50 - 1.50		2.50 - 2.50		0.50 - 0.50		1.50 - 1.50	
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid	
aq	Aqueous / settled sample.		21/04/2015		21/04/2015		21/04/2015		21/04/2015		21/04/2015		21/04/2015	
diss.filt	Dissolved / filtered sample.		23/04/2015		23/04/2015		23/04/2015		23/04/2015		23/04/2015		23/04/2015	
tot.unfilt	Total / unfiltered sample.		150423-112		150423-112		150423-112		150423-112		150423-112		150423-112	
*	Subcontracted test.		11242920		11242940		11242944		11242948		11242955		11242972	
**	% 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	98		100		146		98		48		75	
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	<176		<176		<176		<176		1230		1760	
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<20		<20		<20		<20		<20		<20	
Benzene	<10 µg/kg	TM089	<40		<40		<40		<40		<40		<40	
Toluene	<2 µg/kg	TM089	<8		<8		<8		<8		<8		10.6	
Ethylbenzene	<3 µg/kg	TM089	<12		<12		<12		<12		<12		<12	
m,p-Xylene	<6 µg/kg	TM089	<24		<24		<24		<24		<24		<24	
o-Xylene	<3 µg/kg	TM089	<12		<12		<12		<12		<12		<12	
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		49.6	
Aliphatics >C8-C10	<10 µg/kg	TM089	<40		<40		<40		<40		128		234	
Aliphatics >C10-C12	<10 µg/kg	TM089	<40		<40		<40		<40		564		758	
Aliphatics >C12-C16	<100 µg/kg	TM173	<100		<100		523		<100		145000		228000	
Aliphatics >C16-C21	<100 µg/kg	TM173	<100		<100		792		<100		355000		500000	
Aliphatics >C21-C35	<100 µg/kg	TM173	<100		<100		2410		<100		826000		804000	
Aliphatics >C35-C44	<100 µg/kg	TM173	<100		<100		<100		<100		313000		195000	
Total Aliphatics >C12-C44	<100 µg/kg	TM173	<100		<100		3720		<100		1640000		1730000	
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		<40		<40		<40		97.2		173	
Aromatics >EC10-EC12	<10 µg/kg	TM089	<40		<40		<40		<40		376		505	
Aromatics >EC12-EC16	<100 µg/kg	TM173	<100		<100		<100		<100		26700		32300	
Aromatics >EC16-EC21	<100 µg/kg	TM173	<100		<100		<100		<100		189000		194000	
Aromatics >EC21-EC35	<100 µg/kg	TM173	1570		<100		6930		1110		986000		735000	
Aromatics >EC35-EC44	<100 µg/kg	TM173	<100		<100		1180		<100		430000		314000	
Aromatics >EC40-EC44	<100 µg/kg	TM173	<100		<100		<100		<100		167000		120000	
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	1570		<100		8110		1110		1630000		1280000	
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	1580		<100		11800		1110		3270000		3000000	



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

TPH CWG (S)

Results Legend			Customer Sample R	POS 27	POS 27	POS 29	POS 29	POS 29	POS 31
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		2.50 - 2.50	3.50 - 3.50	0.50 - 0.50	1.50 - 1.50	2.50 - 2.50	0.50 - 0.50
M	mCERTS accredited.			Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.			21/04/2015	21/04/2015	21/04/2015	21/04/2015	21/04/2015	21/04/2015
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	80	103	52	106	105	99	
GRO Surrogate % recovery**	%	TM089	♦	♦	♦	♦	♦	♦	
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	5860 ♦ M	5080 ♦ M	852 ♦ M	<176 ♦ M	<176 ♦ M	<176 ♦ M	
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<20 ♦ M	<20 ♦ M	<20 ♦ M	<20 ♦ M	<20 ♦ M	<20 ♦ M	
Benzene	<10 µg/kg	TM089	<40 ♦ M	<40 ♦ M	<40 ♦ M	<40 ♦ M	<40 ♦ M	<40 ♦ M	
Toluene	<2 µg/kg	TM089	<8 ♦ M	<8 ♦ M	<8 ♦ M	<8 ♦ M	<8 ♦ M	<8 ♦ M	
Ethylbenzene	<3 µg/kg	TM089	<12 ♦ M	<12 ♦ M	<12 ♦ M	<12 ♦ M	<12 ♦ M	<12 ♦ M	
m,p-Xylene	<6 µg/kg	TM089	<24 ♦ M	<24 ♦ M	<24 ♦ M	<24 ♦ M	<24 ♦ M	<24 ♦ M	
o-Xylene	<3 µg/kg	TM089	<12 ♦ M	24.4 ♦ M	<12 ♦ M	<12 ♦ M	<12 ♦ M	<12 ♦ M	
sum of detected mpo xylene by GC	<9 µg/kg	TM089	<9 ♦	24.4 ♦	<9 ♦	<9 ♦	<9 ♦	<9 ♦	
sum of detected BTEX by GC	<24 µg/kg	TM089	<24 ♦	24.4 ♦	<24 ♦	<24 ♦	<24 ♦	<24 ♦	
Aliphatics >C5-C6	<10 µg/kg	TM089	<40 ♦	<40 ♦	<40 ♦	<40 ♦	<40 ♦	<40 ♦	
Aliphatics >C6-C8	<10 µg/kg	TM089	79.1 ♦	107 ♦	75.5 ♦	<40 ♦	<40 ♦	<40 ♦	
Aliphatics >C8-C10	<10 µg/kg	TM089	740 ♦	1000 ♦	120 ♦	<40 ♦	<40 ♦	<40 ♦	
Aliphatics >C10-C12	<10 µg/kg	TM089	2710 ♦	1940 ♦	315 ♦	<40 ♦	<40 ♦	<40 ♦	
Aliphatics >C12-C16	<100 µg/kg	TM173	46100	<100	29600	282	7260	1820	
Aliphatics >C16-C21	<100 µg/kg	TM173	122000	<100	67900	710	26000	28000	
Aliphatics >C21-C35	<100 µg/kg	TM173	248000	<100	171000	11300	38600	50700	
Aliphatics >C35-C44	<100 µg/kg	TM173	72300	<100	81100	8380	9770	12700	
Total Aliphatics >C12-C44	<100 µg/kg	TM173	488000	<100	349000	20700	81700	93100	
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	493 ♦	694 ♦	88.8 ♦	<40 ♦	<40 ♦	<40 ♦	
Aromatics >EC10-EC12	<10 µg/kg	TM089	1810 ♦	1290 ♦	210 ♦	<40 ♦	<40 ♦	<40 ♦	
Aromatics >EC12-EC16	<100 µg/kg	TM173	6820	232	4530	<100	1020	376	
Aromatics >EC16-EC21	<100 µg/kg	TM173	50600	454	33500	<100	10600	8330	
Aromatics >EC21-EC35	<100 µg/kg	TM173	242000	1610	182000	2020	39300	39800	
Aromatics >EC35-EC44	<100 µg/kg	TM173	130000	<100	111000	3000	12700	16500	
Aromatics >EC40-EC44	<100 µg/kg	TM173	50700	<100	46700	1750	4940	7000	
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	429000	2290	331000	5030	63600	65000	
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	923000	7360	682000	25700	145000	158000	



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

TPH CWG (S)

Results Legend		Customer Sample R	POS 32		POS 33		POS 34		POS 34		POS 115		POS 116	
#	ISO17025 accredited.		0.50 - 0.50		1.50 - 1.50		0.50 - 0.50		1.60 - 1.60		0.50 - 0.50		0.50 - 0.50	
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid	
aq	Aqueous / settled sample.		21/04/2015		21/04/2015		21/04/2015		21/04/2015		20/04/2015		20/04/2015	
diss.filt	Dissolved / filtered sample.		23/04/2015		23/04/2015		23/04/2015		23/04/2015		23/04/2015		23/04/2015	
tot.unfilt	Total / unfiltered sample.		150423-112		150423-112		150423-112		150423-112		150423-112		150423-112	
*	Subcontracted test.		11243026		11243014		11243002		11243006		11242760		11242809	
**	% 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	96		93		151		97		99		93	
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	2000		5780		<44		72700		<176		<176	
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<20		<20		<5		<20		<20		<20	
Benzene	<10 µg/kg	TM089	<40		<40		<10		<40		<40		<40	
Toluene	<2 µg/kg	TM089	<8		<8		<2		<8		<8		<8	
Ethylbenzene	<3 µg/kg	TM089	<12		<12		<3		<12		<12		<12	
m,p-Xylene	<6 µg/kg	TM089	<24		<24		<6		<24		<24		<24	
o-Xylene	<3 µg/kg	TM089	<12		<12		<3		<12		<12		<12	
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		<10		<40		<40		<40	
Aliphatics >C6-C8	<10 µg/kg	TM089	48.8		79.7		<10		1030		<40		<40	
Aliphatics >C8-C10	<10 µg/kg	TM089	230		996		<10		13200		<40		<40	
Aliphatics >C10-C12	<10 µg/kg	TM089	925		2410		<10		29800		<40		<40	
Aliphatics >C12-C16	<100 µg/kg	TM173	41800		<100		<100		175000		<100		<100	
Aliphatics >C16-C21	<100 µg/kg	TM173	62800		<100		<100		43700		<100		<100	
Aliphatics >C21-C35	<100 µg/kg	TM173	66300		<100		<100		12500		<100		<100	
Aliphatics >C35-C44	<100 µg/kg	TM173	11300		<100		<100		<100		<100		<100	
Total Aliphatics >C12-C44	<100 µg/kg	TM173	182000		<100		<100		231000		<100		<100	
Aromatics >EC5-EC7	<10 µg/kg	TM089	<40		<40		<10		<40		<40		<40	
Aromatics >EC7-EC8	<10 µg/kg	TM089	<40		<40		<10		<40		<40		<40	
Aromatics >EC8-EC10	<10 µg/kg	TM089	158		664		<10		8780		<40		<40	
Aromatics >EC10-EC12	<10 µg/kg	TM089	616		1610		<10		19900		<40		<40	
Aromatics >EC12-EC16	<100 µg/kg	TM173	9740		2290		<100		120000		<100		<100	
Aromatics >EC16-EC21	<100 µg/kg	TM173	46100		2650		<100		55000		<100		<100	
Aromatics >EC21-EC35	<100 µg/kg	TM173	82500		3520		<100		33600		<100		938	
Aromatics >EC35-EC44	<100 µg/kg	TM173	23900		1860		<100		5910		<100		2390	
Aromatics >EC40-EC44	<100 µg/kg	TM173	10800		<100		<100		2080		<100		1280	
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	162000		10300		<100		214000		<100		3320	
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	346000		16100		<100		518000		<100		3320	



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

TPH CWG (S)

Results Legend			Customer Sample R		POS 117	POS 117	POS 117	POS 118	POS 118	POS 118
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		1.50 - 1.50	2.50 - 2.50	3.50 - 3.50	0.30 - 0.30	1.50 - 1.50	2.50 - 2.50
M	mCERTS accredited.				Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.				20/04/2015	20/04/2015	20/04/2015	20/04/2015	20/04/2015	20/04/2015
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				23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
(F)	Trigger breach confirmed				150423-112	150423-112	150423-112	150423-112	150423-112	150423-112
1-5&*\$@	Sample deviation (see appendix)				11242801	11242805	11242813	11242785	11242789	11242793
Component	LOD/Units	Method								
GRO Surrogate % recovery**	%	TM089			112	45	59	79	57	86
				@	@	@	@	@	@	@
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089			<176	<176	<176	<176	<176	<176
				@ M	@ 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	@ M
Benzene	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
				@ M	@ M	@ M	@ M	@ M	@ M	@ M
Toluene	<2 µg/kg	TM089			<8	<8	<8	<8	<8	<8
				@ M	@ M	@ M	@ M	@ M	@ M	@ M
Ethylbenzene	<3 µg/kg	TM089			<12	<12	<12	<12	<12	<12
				@ M	@ 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	@ M
o-Xylene	<3 µg/kg	TM089			<12	<12	<12	<12	<12	<12
				@ M	@ 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			<40	<40	<40	<40	<40	<40
				@	@	@	@	@	@	@
Aliphatics >C10-C12	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
				@	@	@	@	@	@	@
Aliphatics >C12-C16	<100 µg/kg	TM173			<100	<100	<100	4010	<100	<100
Aliphatics >C16-C21	<100 µg/kg	TM173			622	774	<100	44800	<100	<100
Aliphatics >C21-C35	<100 µg/kg	TM173			2060	32600	18000	191000	107000	<100
Aliphatics >C35-C44	<100 µg/kg	TM173			<100	<100	<100	45000	2000	<100
Total Aliphatics >C12-C44	<100 µg/kg	TM173			2680	33400	18000	285000	109000	<100
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	<40	<40	<40	<40	<40
				@	@	@	@	@	@	@
Aromatics >EC10-EC12	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
				@	@	@	@	@	@	@
Aromatics >EC12-EC16	<100 µg/kg	TM173			<100	<100	<100	392	<100	<100
Aromatics >EC16-EC21	<100 µg/kg	TM173			512	4160	1440	8750	7840	<100
Aromatics >EC21-EC35	<100 µg/kg	TM173			1400	205000	63300	97300	417000	2600
Aromatics >EC35-EC44	<100 µg/kg	TM173			<100	24900	15400	62200	107000	<100
Aromatics >EC40-EC44	<100 µg/kg	TM173			<100	5380	2710	26600	30700	<100
Total Aromatics >EC12-EC44	<100 µg/kg	TM173			1910	234000	80100	169000	532000	2600
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173			4590	268000	98100	453000	641000	2600



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

TPH CWG (S)

Results Legend			Customer Sample R		POS 119	POS 120	POS 121	POS 121	POS 122	POS 123
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.50 - 0.50 Soil/Solid 20/04/2015	0.50 - 0.50 Soil/Solid 20/04/2015	0.50 - 0.50 Soil/Solid 20/04/2015	1.50 - 1.50 Soil/Solid 20/04/2015	0.50 - 0.50 Soil/Solid 20/04/2015	0.50 - 0.50 Soil/Solid 20/04/2015
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			103 @	114 @	107 @	98 @	110 @	84 @
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089			<176 @ M	<176 @ M	<176 @ M	<176 @ M	<176 @ M	<176 @ M
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089			<20 @ M	<20 @ M	<20 @ M	<20 @ M	<20 @ M	<20 @ M
Benzene	<10 µg/kg	TM089			<40 @ M	<40 @ M	<40 @ M	<40 @ M	<40 @ M	<40 @ M
Toluene	<2 µg/kg	TM089			<8 @ M	<8 @ M	<8 @ M	<8 @ M	<8 @ M	<8 @ M
Ethylbenzene	<3 µg/kg	TM089			<12 @ M	<12 @ M	<12 @ M	<12 @ M	<12 @ M	<12 @ M
m,p-Xylene	<6 µg/kg	TM089			<24 @ M	<24 @ M	<24 @ M	<24 @ M	<24 @ M	<24 @ M
o-Xylene	<3 µg/kg	TM089			<12 @ M	<12 @ M	<12 @ M	<12 @ M	<12 @ M	<12 @ 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			<40 @	<40 @	<40 @	<40 @	<40 @	<40 @
Aliphatics >C10-C12	<10 µg/kg	TM089			<40 @	<40 @	<40 @	<40 @	<40 @	<40 @
Aliphatics >C12-C16	<100 µg/kg	TM173			<100	<100	<100	295	<100	1320
Aliphatics >C16-C21	<100 µg/kg	TM173			<100	<100	<100	878	<100	16200
Aliphatics >C21-C35	<100 µg/kg	TM173			1690	<100	<100	1420	<100	67000
Aliphatics >C35-C44	<100 µg/kg	TM173			<100	<100	<100	<100	<100	7990
Total Aliphatics >C12-C44	<100 µg/kg	TM173			1690	<100	<100	2590	<100	92600
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 @	<40 @	<40 @	<40 @	<40 @	<40 @
Aromatics >EC10-EC12	<10 µg/kg	TM089			<40 @	<40 @	<40 @	<40 @	<40 @	<40 @
Aromatics >EC12-EC16	<100 µg/kg	TM173			<100	<100	<100	<100	<100	<100
Aromatics >EC16-EC21	<100 µg/kg	TM173			<100	273	<100	<100	<100	1400
Aromatics >EC21-EC35	<100 µg/kg	TM173			<100	1410	<100	<100	<100	12900
Aromatics >EC35-EC44	<100 µg/kg	TM173			<100	3290	<100	<100	<100	6100
Aromatics >EC40-EC44	<100 µg/kg	TM173			<100	1940	<100	<100	<100	2290
Total Aromatics >EC12-EC44	<100 µg/kg	TM173			<100	4980	<100	<100	<100	20400
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173			1690	4980	<100	2590	<100	113000



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

TPH CWG (S)

Results Legend		Customer Sample R	POS 123		POS 124		POS 124		POS 125		POS 125	
#	ISO17025 accredited.		2.60 - 2.60		1.50 - 1.50		2.50 - 2.50		2.00 - 2.00		3.50 - 3.50	
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid	
aq	Aqueous / settled sample.		20/04/2015		20/04/2015		20/04/2015		20/04/2015		20/04/2015	
diss.filt	Dissolved / filtered sample.		23/04/2015		23/04/2015		23/04/2015		23/04/2015		23/04/2015	
tot.unfilt	Total / unfiltered sample.		150423-112		150423-112		150423-112		150423-112		150423-112	
*	Subcontracted test.		11243059		11242772		11242781		11242764		11242768	
**	% 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	86 @		50 @		79 @		47 @		87 @	
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	7610 @ M		<176 @		<176 @ M		<176 @		<176 @ M	
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<20 @ M		<20 @		<20 @ M		<20 @		<20 @ M	
Benzene	<10 µg/kg	TM089	<40 @ M		<40 @		<40 @ M		<40 @		<40 @ M	
Toluene	<2 µg/kg	TM089	<8 @ M		<8 @		<8 @ M		<8 @		<8 @ M	
Ethylbenzene	<3 µg/kg	TM089	<12 @ M		<12 @		<12 @ M		<12 @		<12 @ M	
m,p-Xylene	<6 µg/kg	TM089	<24 @ M		<24 @		<24 @ M		<24 @		<24 @ M	
o-Xylene	<3 µg/kg	TM089	<12 @ M		<12 @		<12 @ M		<12 @		<12 @ M	
sum of detected mpo xylene by GC	<9 µg/kg	TM089	<9 @		<9 @		<9 @		<9 @		<9 @	
sum of detected BTEX by GC	<24 µg/kg	TM089	<24 @		<24 @		<24 @		<24 @		<24 @	
Aliphatics >C5-C6	<10 µg/kg	TM089	<40 @		<40 @		<40 @		<40 @		<40 @	
Aliphatics >C6-C8	<10 µg/kg	TM089	151 @		<40 @		<40 @		<40 @		<40 @	
Aliphatics >C8-C10	<10 µg/kg	TM089	3040 @		<40 @		<40 @		<40 @		<40 @	
Aliphatics >C10-C12	<10 µg/kg	TM089	1420 @		<40 @		<40 @		<40 @		<40 @	
Aliphatics >C12-C16	<100 µg/kg	TM173	522		11900		320		4470		296	
Aliphatics >C16-C21	<100 µg/kg	TM173	1190		11600		<100		5240		1220	
Aliphatics >C21-C35	<100 µg/kg	TM173	5980		38100		496		41800		8310	
Aliphatics >C35-C44	<100 µg/kg	TM173	<100		<100		<100		1100		<100	
Total Aliphatics >C12-C44	<100 µg/kg	TM173	7700		61600		817		52600		9830	
Aromatics >EC5-EC7	<10 µg/kg	TM089	<40 @		<40 @		<40 @		<40 @		<40 @	
Aromatics >EC7-EC8	<10 µg/kg	TM089	<40 @		<40 @		<40 @		<40 @		<40 @	
Aromatics >EC8-EC10	<10 µg/kg	TM089	2030 @		<40 @		<40 @		<40 @		<40 @	
Aromatics >EC10-EC12	<10 µg/kg	TM089	946 @		<40 @		<40 @		<40 @		<40 @	
Aromatics >EC12-EC16	<100 µg/kg	TM173	3110		995		<100		<100		<100	
Aromatics >EC16-EC21	<100 µg/kg	TM173	567		8120		328		20000		839	
Aromatics >EC21-EC35	<100 µg/kg	TM173	16500		622000		5980		267000		90800	
Aromatics >EC35-EC44	<100 µg/kg	TM173	7700		33600		<100		32100		9850	
Aromatics >EC40-EC44	<100 µg/kg	TM173	<100		5060		<100		7490		1970	
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	27900		664000		6310		319000		101000	
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	43200		726000		7120		372000		111000	



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

VOC MS (S)

Results Legend		Customer Sample R	POS 33			POS 34			POS 34					
#	ISO17025 accredited.		1.50 - 1.50			0.50 - 0.50			1.60 - 1.60					
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Soil/Solid			Soil/Solid			Soil/Solid					
aq	Aqueous / settled sample.		21/04/2015			21/04/2015			21/04/2015					
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		23/04/2015			23/04/2015			23/04/2015					
(F)	Trigger breach confirmed		150423-112			150423-112			150423-112					
1-5&\$@	Sample deviation (see appendix)		11243014			11243002			11243006					
Component	LOD/Units	Method												
Dibromofluoromethane**	%	TM116	114	♦		104	♦		106	♦				
Toluene-d8**	%	TM116	98.3	♦		99.5	♦		88.7	♦				
4-Bromofluorobenzene**	%	TM116	97.6	♦		96.8	♦		71.8	♦				
Dichlorodifluoromethane	<6 µg/kg	TM116	<6	♦ M		<6	♦ M		<6	♦ M				
Chloromethane	<7 µg/kg	TM116	<7	♦ #		<7	♦ #		<7	♦ #				
Vinyl Chloride	<6 µg/kg	TM116	<6	♦ M		<6	♦ M		<6	♦ M				
Bromomethane	<10 µg/kg	TM116	<10	♦ M		<10	♦ M		<10	♦ M				
Chloroethane	<10 µg/kg	TM116	<10	♦ M		<10	♦ M		<10	♦ M				
Trichlorofluoromethane	<6 µg/kg	TM116	<6	♦ M		<6	♦ M		<6	♦ M				
1,1-Dichloroethene	<10 µg/kg	TM116	<10	♦ #		<10	♦ #		<10	♦ #				
Carbon Disulphide	<7 µg/kg	TM116	<7	♦ M		<7	♦ M		8.64	♦ M				
Dichloromethane	<10 µg/kg	TM116	<10	♦ #		<10	♦ #		<10	♦ #				
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116	<10	♦ M		<10	♦ M		<10	♦ M				
trans-1,2-Dichloroethene	<10 µg/kg	TM116	<10	♦ M		<10	♦ M		<10	♦ M				
1,1-Dichloroethane	<8 µg/kg	TM116	<8	♦ M		<8	♦ M		<8	♦ M				
cis-1,2-Dichloroethene	<6 µg/kg	TM116	<6	♦ M		<6	♦ M		<6	♦ M				
2,2-Dichloropropane	<10 µg/kg	TM116	<10	♦ M		<10	♦ M		<10	♦ M				
Bromochloromethane	<10 µg/kg	TM116	<10	♦ M		<10	♦ M		<10	♦ M				
Chloroform	<8 µg/kg	TM116	<8	♦ M		<8	♦ M		<8	♦ M				
1,1,1-Trichloroethane	<7 µg/kg	TM116	<7	♦ M		<7	♦ M		<7	♦ M				
1,1-Dichloropropene	<10 µg/kg	TM116	<10	♦ M		<10	♦ M		<10	♦ M				
Carbontetrachloride	<10 µg/kg	TM116	<10	♦ M		<10	♦ M		<10	♦ M				
1,2-Dichloroethane	<5 µg/kg	TM116	<5	♦ M		<5	♦ M		<5	♦ M				
Benzene	<9 µg/kg	TM116	<9	♦ M		<9	♦ M		<9	♦ M				
Trichloroethene	<9 µg/kg	TM116	<9	♦ #		<9	♦ #		<9	♦ #				
1,2-Dichloropropane	<10 µg/kg	TM116	<10	♦ M		<10	♦ M		<10	♦ M				
Dibromomethane	<9 µg/kg	TM116	<9	♦ M		<9	♦ M		<9	♦ M				
Bromodichloromethane	<7 µg/kg	TM116	<7	♦ M		<7	♦ M		<7	♦ M				
cis-1,3-Dichloropropene	<10 µg/kg	TM116	<10	♦ M		<10	♦ M		<10	♦ M				
Toluene	<7 µg/kg	TM116	<7	♦ M		<7	♦ M		<7	♦ M				
trans-1,3-Dichloropropene	<10 µg/kg	TM116	<10	♦		<10	♦		<10	♦				
1,1,2-Trichloroethane	<10 µg/kg	TM116	<10	♦ M		<10	♦ M		<10	♦ M				



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

VOC MS (S)

Results Legend			Customer Sample R	POS 33	POS 34	POS 34			
#	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&5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
1,3-Dichloropropane	<7 µg/kg	TM116	<7	<7	<7				
			♦ M	♦ M	♦ M				
Tetrachloroethene	<5 µg/kg	TM116	<5	<5	<5				
			♦ M	♦ M	♦ M				
Dibromochloromethane	<10 µg/kg	TM116	<10	<10	<10				
			♦ M	♦ M	♦ M				
1,2-Dibromoethane	<10 µg/kg	TM116	<10	<10	<10				
			♦ M	♦ M	♦ M				
Chlorobenzene	<5 µg/kg	TM116	<5	<5	<5				
			♦ M	♦ M	♦ M				
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116	<10	<10	<10				
			♦ M	♦ M	♦ M				
Ethylbenzene	<4 µg/kg	TM116	<4	<4	<4				
			♦ M	♦ M	♦ M				
p/m-Xylene	<10 µg/kg	TM116	22.4	<10	<10				
			♦ #	♦ #	♦ #				
o-Xylene	<10 µg/kg	TM116	<10	<10	<10				
			♦ M	♦ M	♦ M				
Styrene	<10 µg/kg	TM116	<10	<10	<10				
			♦ #	♦ #	♦ #				
Bromoform	<10 µg/kg	TM116	<10	<10	<10				
			♦ M	♦ M	♦ M				
Isopropylbenzene	<5 µg/kg	TM116	<5	<5	<5				
			♦ #	♦ #	♦ #				
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116	<10	<10	<10				
			♦ M	♦ M	♦ M				
1,2,3-Trichloropropane	<16 µg/kg	TM116	<16	<16	<16				
			♦ M	♦ M	♦ M				
Bromobenzene	<10 µg/kg	TM116	<10	<10	<10				
			♦ M	♦ M	♦ M				
Propylbenzene	<10 µg/kg	TM116	<10	<10	<10				
			♦ M	♦ M	♦ M				
2-Chlorotoluene	<9 µg/kg	TM116	<9	<9	<9				
			♦ M	♦ M	♦ M				
1,3,5-Trimethylbenzene	<8 µg/kg	TM116	225	<8	<8				
			♦ M	♦ M	♦ M				
4-Chlorotoluene	<10 µg/kg	TM116	<10	<10	<10				
			♦ M	♦ M	♦ M				
tert-Butylbenzene	<14 µg/kg	TM116	<14	<14	<14				
			♦ M	♦ M	♦ M				
1,2,4-Trimethylbenzene	<9 µg/kg	TM116	46.8	<9	<9				
			♦ #	♦ #	♦ #				
sec-Butylbenzene	<10 µg/kg	TM116	<10	<10	204				
			♦ M	♦ M	♦ M				
4-Isopropyltoluene	<10 µg/kg	TM116	<10	<10	<10				
			♦ M	♦ M	♦ M				
1,3-Dichlorobenzene	<8 µg/kg	TM116	<8	<8	<8				
			♦ M	♦ M	♦ M				
1,4-Dichlorobenzene	<5 µg/kg	TM116	<5	<5	<5				
			♦ M	♦ M	♦ M				
n-Butylbenzene	<11 µg/kg	TM116	<11	<11	<11				
			♦	♦	♦				
1,2-Dichlorobenzene	<10 µg/kg	TM116	<10	<10	<10				
			♦ M	♦ M	♦ M				
1,2-Dibromo-3-chloroprop ane	<14 µg/kg	TM116	<14	<14	<14				
			♦ M	♦ M	♦ M				
Tert-amyl methyl ether	<10 µg/kg	TM116	<10	<10	<10				
			♦ #	♦ #	♦ #				
1,2,4-Trichlorobenzene	<20 µg/kg	TM116	<20	<20	<20				
			♦	♦	♦				
Hexachlorobutadiene	<20 µg/kg	TM116	<20	<20	<20				
			♦	♦	♦				
Naphthalene	<13 µg/kg	TM116	87.7	<13	<13				
			♦ M	♦ M	♦ M				

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

VOC MS (S)

[illegible]



SDG:	150423-112	Location:	Coed Darcy	Order Number:	CD1193
Job:	H_ATKINS_LDC-335	Customer:	Atkins Global Ltd	Report Number:	312955
Client Reference:	POS	Attention:	Alex Mann	Superseded Report:	

Notification of NDPs (No determination possible)

Date Received : 23/04/2015 15:40:22

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
11243010	POS 33	0.50 - 0.50	TPH CWG GC (S)	Sample contains oil / product
11243010	POS 33	0.50 - 0.50	GRO by GC-FID (S)	Sample contains oil / product
11243010	POS 33	0.50 - 0.50	VOC MS (S)	Sample contains oil / product



SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
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Superseded Report:

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
SUB (ASB)				
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
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		
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM230	Methods 2320B and 4500-CO2 D, AWWA/APHA 19th Edition, 1995.	Determination of Alkalinity in Aqueous Sludge and Soil extracts		
TM243		Mixed Anions In Soils By Kone		

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



SDG: 150423-112
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Superseded Report:

Test Completion Dates

Lab Sample No(s) Customer Sample Ref.	11243034	11243038	11243036	11242797	11242892	11242896	11242900	11242888	11242817	11242821
	IP 0449 R	IP 3487 R	IP 3494 R	PC sample	POS 12	POS 13	POS 13	POS 15	POS 16	POS 16
AGS Ref.										
Depth	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	0.10 - 0.10	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	0.90 - 0.90	1.50 - 1.50
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Alkalinity as CaCO ₃				12-May-2015						
Ammonium Soil by Titration				30-Apr-2015						
Asbestos fibres in Soil*	06-May-2015	06-May-2015	06-May-2015	06-May-2015				06-May-2015	06-May-2015	
EPH CWG (Aliphatic) GC (S)				09-May-2015	09-May-2015	11-May-2015	12-May-2015	09-May-2015	09-May-2015	12-May-2015
EPH CWG (Aromatic) GC (S)				09-May-2015	09-May-2015	09-May-2015	12-May-2015	09-May-2015	09-May-2015	12-May-2015
GRO by GC-FID (S)				09-May-2015	12-May-2015	08-May-2015	11-May-2015	09-May-2015	09-May-2015	09-May-2015
Metals in solid samples by OES				01-May-2015	29-Apr-2015	02-May-2015	02-May-2015	01-May-2015	30-Apr-2015	01-May-2015
NO ₃ , NO ₂ and TON by KONE (s)				11-May-2015						
PAH by GCMS				09-May-2015	10-May-2015	10-May-2015	10-May-2015	09-May-2015	10-May-2015	07-May-2015
pH				09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015
Phosphate (Ortho as PO ₄) (s)				11-May-2015						
Sample description	25-Apr-2015	25-Apr-2015	25-Apr-2015		24-Apr-2015	28-Apr-2015	28-Apr-2015	24-Apr-2015	25-Apr-2015	28-Apr-2015
Total Organic Carbon				08-May-2015						
TPH CWG GC (S)				14-May-2015	12-May-2015	11-May-2015	12-May-2015	09-May-2015	09-May-2015	12-May-2015

Lab Sample No(s) Customer Sample Ref.	11242830	11242846	11242850	11242854	11242859	11242863	11242867	11242875	11242880	11242884
	POS 16	POS 16	POS 17	POS 17	POS 19	POS 19	POS 19	POS 20	POS 20	POS 20
AGS Ref.										
Depth	2.50 - 2.50	0.20 - 0.20	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	2.00 - 2.00	3.50 - 3.50	0.50 - 0.50	1.50 - 1.50	2.50 - 2.50
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Asbestos fibres in Soil*			06-May-2015		06-May-2015			06-May-2015		
EPH CWG (Aliphatic) GC (S)	09-May-2015	09-May-2015	09-May-2015	12-May-2015	12-May-2015	11-May-2015	11-May-2015	09-May-2015	05-May-2015	05-May-2015
EPH CWG (Aromatic) GC (S)	09-May-2015	09-May-2015	09-May-2015	12-May-2015	12-May-2015	09-May-2015	09-May-2015	09-May-2015	05-May-2015	05-May-2015
GRO by GC-FID (S)	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015
Metals in solid samples by OES	01-May-2015	01-May-2015	30-Apr-2015	02-May-2015	07-May-2015	02-May-2015	01-May-2015	30-Apr-2015	29-Apr-2015	29-Apr-2015
PAH by GCMS	10-May-2015	10-May-2015	10-May-2015	08-May-2015	09-May-2015	10-May-2015	10-May-2015	09-May-2015	10-May-2015	10-May-2015
pH	09-May-2015	09-May-2015	09-May-2015	09-May-2015	11-May-2015	09-May-2015	11-May-2015	09-May-2015	09-May-2015	01-May-2015
Sample description	28-Apr-2015	28-Apr-2015	25-Apr-2015	28-Apr-2015	28-Apr-2015	28-Apr-2015	28-Apr-2015	25-Apr-2015	24-Apr-2015	24-Apr-2015
Total Organic Carbon			08-May-2015			07-May-2015				05-May-2015
TPH CWG GC (S)	09-May-2015	09-May-2015	09-May-2015	12-May-2015	12-May-2015	11-May-2015	11-May-2015	09-May-2015	09-May-2015	09-May-2015

Lab Sample No(s) Customer Sample Ref.	11242924	11242928	11242932	11242936	11242904	11242908	11242912	11242920	11242940	11242944
	POS 21	POS 21	POS 21	POS 21	POS 22	POS 22	POS 22	POS 22	POS 25	POS 25
AGS Ref.										
Depth	0.50 - 0.50	1.50 - 1.50	2.50 - 2.50	3.50 - 3.50	0.50 - 0.50	1.50 - 1.50	2.50 - 2.50	3.50 - 3.50	0.50 - 0.50	1.50 - 1.50
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Asbestos fibres in Soil*	06-May-2015				06-May-2015				06-May-2015	
EPH CWG (Aliphatic) GC (S)	09-May-2015	12-May-2015	11-May-2015	12-May-2015	09-May-2015	12-May-2015	12-May-2015	12-May-2015	09-May-2015	11-May-2015
EPH CWG (Aromatic) GC (S)	09-May-2015	12-May-2015	09-May-2015	12-May-2015	09-May-2015	12-May-2015	12-May-2015	12-May-2015	09-May-2015	09-May-2015
GRO by GC-FID (S)	12-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015
Metals in solid samples by OES	30-Apr-2015	05-May-2015	01-May-2015	02-May-2015	01-May-2015	02-May-2015	02-May-2015	02-May-2015	30-Apr-2015	08-May-2015
PAH by GCMS	09-May-2015	10-May-2015	10-May-2015	10-May-2015	10-May-2015	10-May-2015	10-May-2015	08-May-2015	09-May-2015	10-May-2015
pH	11-May-2015	08-May-2015	08-May-2015	11-May-2015	09-May-2015	11-May-2015	11-May-2015	11-May-2015	09-May-2015	08-May-2015
Sample description	25-Apr-2015	28-Apr-2015	28-Apr-2015	28-Apr-2015	25-Apr-2015	28-Apr-2015	28-Apr-2015	28-Apr-2015	25-Apr-2015	28-Apr-2015
Total Organic Carbon	08-May-2015			05-May-2015		07-May-2015				
TPH CWG GC (S)	12-May-2015	12-May-2015	11-May-2015	12-May-2015	09-May-2015	12-May-2015	12-May-2015	12-May-2015	09-May-2015	11-May-2015

Lab Sample No(s) Customer Sample Ref.	11242948	11242955	11242972	11242981	11242985	11242989	11242994	11242998	11243018	11243026
	POS 25	POS 27	POS 27	POS 27	POS 27	POS 29	POS 29	POS 29	POS 31	POS 32
AGS Ref.										
Depth	2.50 - 2.50	0.50 - 0.50	1.50 - 1.50	2.50 - 2.50	3.50 - 3.50	0.50 - 0.50	1.50 - 1.50	2.50 - 2.50	0.50 - 0.50	0.50 - 0.50
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Asbestos fibres in Soil*		06-May-2015				06-May-2015			06-May-2015	06-May-2015
EPH CWG (Aliphatic) GC (S)	12-May-2015	09-May-2015	11-May-2015	11-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	05-May-2015	05-May-2015
EPH CWG (Aromatic) GC (S)	12-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	05-May-2015	05-May-2015
GRO by GC-FID (S)	08-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015	08-May-2015
Metals in solid samples by OES	08-May-2015	01-May-2015	02-May-2015	02-May-2015	29-Apr-2015	01-May-2015	29-Apr-2015	29-Apr-2015	01-May-2015	01-May-2015
PAH by GCMS	10-May-2015	08-May-2015	07-May-2015	10-May-2015	08-May-2015	08-May-2015	10-May-2015	10-May-2015	09-May-2015	09-May-2015
pH	09-May-2015	11-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015
Sample description	28-Apr-2015	24-Apr-2015	28-Apr-2015	28-Apr-2015	24-Apr-2015	24-Apr-2015	24-Apr-2015	24-Apr-2015	24-Apr-2015	24-Apr-2015
Total Organic Carbon		08-May-2015			07-May-2015		07-May-2015			
TPH CWG GC (S)	12-May-2015	09-May-2015	11-May-2015	11-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	08-May-2015	08-May-2015



CERTIFICATE OF ANALYSIS

SDG: 150423-112
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1193
Report Number: 312955
Superseded Report:

Lab Sample No(s)	11243010	11243014	11243002	11243006	11242760	11242809	11242801	11242805	11242813	11242785
Customer Sample Ref.	POS 33	POS 33	POS 34	POS 34	POS 115	POS 116	POS 117	POS 117	POS 117	POS 118
AGS Ref.										
Depth	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	2.50 - 2.50	3.50 - 3.50	0.30 - 0.30
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Asbestos fibres in Soil*	06-May-2015		06-May-2015		06-May-2015	06-May-2015				06-May-2015
EPH CWG (Aliphatic) GC (S)	09-May-2015	05-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	12-May-2015	12-May-2015	12-May-2015	09-May-2015
EPH CWG (Aromatic) GC (S)	09-May-2015	05-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	12-May-2015	12-May-2015	12-May-2015	09-May-2015
GRO by GC-FID (S)		13-May-2015	12-May-2015	12-May-2015	08-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015
Metals in solid samples by OES	01-May-2015	29-Apr-2015	01-May-2015	02-May-2015	06-May-2015	06-May-2015	02-May-2015	08-May-2015	02-May-2015	01-May-2015
PAH by GCMS	10-May-2015	10-May-2015	09-May-2015	07-May-2015	09-May-2015	09-May-2015	10-May-2015	07-May-2015	07-May-2015	09-May-2015
pH	11-May-2015	11-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	08-May-2015	11-May-2015
Sample description	24-Apr-2015	24-Apr-2015	24-Apr-2015	24-Apr-2015	24-Apr-2015	24-Apr-2015	28-Apr-2015	28-Apr-2015	28-Apr-2015	25-Apr-2015
Semi Volatile Organic Compounds	07-May-2015	06-May-2015	06-May-2015	06-May-2015						
Total Organic Carbon					08-May-2015				07-May-2015	
TPH CWG GC (S)		13-May-2015	12-May-2015	12-May-2015	09-May-2015	09-May-2015	12-May-2015	12-May-2015	12-May-2015	09-May-2015
VOC MS (S)		14-May-2015	12-May-2015	12-May-2015						

Lab Sample No(s)	11242789	11242793	11242871	11242916	11242976	11243022	11243051	11243055	11243059	11242772
Customer Sample Ref.	POS 118	POS 118	POS 119	POS 120	POS 121	POS 121	POS 122	POS 123	POS 123	POS 124
AGS Ref.										
Depth	1.50 - 1.50	2.50 - 2.50	0.50 - 0.50	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	0.50 - 0.50	2.60 - 2.60	1.50 - 1.50
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Asbestos fibres in Soil*			06-May-2015	06-May-2015	06-May-2015		06-May-2015	06-May-2015		
EPH CWG (Aliphatic) GC (S)	09-May-2015	12-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	11-May-2015	12-May-2015
EPH CWG (Aromatic) GC (S)	09-May-2015	12-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	12-May-2015
GRO by GC-FID (S)	09-May-2015	09-May-2015	08-May-2015	08-May-2015	09-May-2015	09-May-2015	08-May-2015	08-May-2015	09-May-2015	09-May-2015
Metals in solid samples by OES	08-May-2015	08-May-2015	01-May-2015	30-Apr-2015	30-Apr-2015	29-Apr-2015	30-Apr-2015	30-Apr-2015	01-May-2015	01-May-2015
PAH by GCMS	10-May-2015	10-May-2015	09-May-2015	08-May-2015	09-May-2015	08-May-2015	09-May-2015	10-May-2015	07-May-2015	07-May-2015
pH	09-May-2015	09-May-2015	11-May-2015	09-May-2015	09-May-2015	09-May-2015	11-May-2015	11-May-2015	09-May-2015	11-May-2015
Sample description	28-Apr-2015	28-Apr-2015	24-Apr-2015	24-Apr-2015	25-Apr-2015	24-Apr-2015	25-Apr-2015	25-Apr-2015	28-Apr-2015	28-Apr-2015
Total Organic Carbon					08-May-2015				05-May-2015	
TPH CWG GC (S)	09-May-2015	12-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	09-May-2015	11-May-2015	12-May-2015

Lab Sample No(s)	11242781	11242764	11242768	11243032	11243040	11243030	11243042	11243044
Customer Sample Ref.	POS 124	POS 125	POS 125	TPE 0229 R	TPE 1056 R	TPE 2908 R	TPE 7123 R	TPE 7129 R
AGS Ref.								
Depth	2.50 - 2.50	2.00 - 2.00	3.50 - 3.50	0.10 - 0.10	0.50 - 0.50	0.50 - 0.50	0.40 - 0.40	0.20 - 0.20
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Asbestos fibres in Soil*				06-May-2015	06-May-2015	06-May-2015	06-May-2015	11-May-2015
EPH CWG (Aliphatic) GC (S)	12-May-2015	12-May-2015	11-May-2015					
EPH CWG (Aromatic) GC (S)	12-May-2015	12-May-2015	09-May-2015					
GRO by GC-FID (S)	09-May-2015	09-May-2015	09-May-2015					
Metals in solid samples by OES	08-May-2015	01-May-2015	02-May-2015					
PAH by GCMS	07-May-2015	07-May-2015	07-May-2015					
pH	09-May-2015	11-May-2015	09-May-2015					
Sample description	28-Apr-2015	28-Apr-2015	28-Apr-2015	25-Apr-2015	24-Apr-2015	25-Apr-2015	25-Apr-2015	24-Apr-2015
Total Organic Carbon	07-May-2015							
TPH CWG GC (S)	12-May-2015	12-May-2015	11-May-2015					



CERTIFICATE OF ANALYSIS

SDG:	150423-112	Location:	Coed Darcy	Order Number:	CD1193
Job:	H_ATKINS_LDC-335	Customer:	Atkins Global Ltd	Report Number:	312955
Client Reference:	POS	Attention:	Alex Mann	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: Alex Mann

CERTIFICATE OF ANALYSIS

Date: 23 April 2015
Customer: H_ATKINS_LDC
Sample Delivery Group (SDG): 150409-70
Your Reference: POS
Location: Coed Darcy
Report No: 310233

We received 24 samples on Thursday April 09, 2015 and 24 of these samples were scheduled for analysis which was completed on Wednesday April 22, 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:	150409-70	Location:	Coed Darcy	Order Number:	CD1179
Job:	H_ATKINS_LDC-335	Customer:	Atkins Global Ltd	Report Number:	310233
Client Reference:	POS	Attention:	Alex Mann	Superseded Report:	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11150242	ZBHP 1		0.40 - 0.40	07/04/2015
11150294	ZBHP 2		0.40 - 0.40	07/04/2015
11150325	ZBHP 3		0.50 - 0.50	07/04/2015
11150330	ZBHP 4		0.20 - 0.20	07/04/2015
11150334	ZBHP 5		0.30 - 0.30	07/04/2015
11150338	ZBHP 6		0.30 - 0.30	07/04/2015
11150342	ZBHP 7		0.40 - 0.40	07/04/2015
11150347	ZBHP 8		0.30 - 0.30	07/04/2015
11150356	ZBHP 9		0.20 - 0.20	07/04/2015
11150246	ZBHP 10		0.20 - 0.20	07/04/2015
11150250	ZBHP 13		0.30 - 0.30	07/04/2015
11150256	ZBHP 14		0.30 - 0.30	07/04/2015
11150261	ZBHP 15		0.30 - 0.30	07/04/2015
11150265	ZBHP 16		0.30 - 0.30	07/04/2015
11150269	ZBHP 17		0.30 - 0.30	07/04/2015
11150273	ZBHP 18		0.30 - 0.30	07/04/2015
11150278	ZBHP 19		0.30 - 0.30	07/04/2015
11150284	ZBHP 20		0.30 - 0.30	07/04/2015
11150289	ZBHP 21		0.30 - 0.30	07/04/2015
11150298	ZBHP 22		0.30 - 0.30	07/04/2015
11150303	ZBHP 23		0.30 - 0.30	07/04/2015
11150311	ZBHP 24		0.30 - 0.30	07/04/2015
11150315	ZBHP 25		0.30 - 0.30	07/04/2015
11150319	ZBHP 26		0.50 - 0.50	07/04/2015

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



SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

SOLID Results Legend X Test N No Determination Possible	Lab Sample No(s)		Customer Sample Reference		AGS Reference		Depth (m)		Container	
	11150265	ZBHP 16					0.30 - 0.30		250g Amber Jar (AL)	
	11150261	ZBHP 15					0.30 - 0.30		60g VOC (ALEE15)	
	11150256	ZBHP 14					0.30 - 0.30		400g Tub (ALEE14)	
	11150250	ZBHP 13					0.30 - 0.30		250g Amber Jar (AL)	
Asbestos ID in Solid Samples	11150246	ZBHP 10					0.20 - 0.20		60g VOC (ALEE15)	
	11150366	ZBHP 9					0.20 - 0.20		400g Tub (ALEE14)	
	11150342	ZBHP 7					0.40 - 0.40		250g Amber Jar (AL)	
	11150347	ZBHP 8					0.30 - 0.30		60g VOC (ALEE15)	
	11150338	ZBHP 6					0.30 - 0.30		400g Tub (ALEE14)	
	11150334	ZBHP 5					0.30 - 0.30		250g Amber Jar (AL)	
	11150330	ZBHP 4					0.20 - 0.20		60g VOC (ALEE15)	
	11150325	ZBHP 3					0.50 - 0.50		400g Tub (ALEE14)	
	11150294	ZBHP 2					0.40 - 0.40		250g Amber Jar (AL)	
	11150242	ZBHP 1					0.40 - 0.40		60g VOC (ALEE15)	
									400g Tub (ALEE14)	
									250g Amber Jar (AL)	
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
Metals in solid samples by OES	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
PAH by GCMS	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
pH	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
Sample description	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
Total Organic Carbon	All	NDPs: 0 Tests: 8	X		X		X		X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
VOC MS (S)	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

SOLID Results Legend X Test N No Determination Possible	Lab Sample No(s)		Customer Sample Reference		AGS Reference		Depth (m)		Container	
	11150265		ZBHP 16				0.30 - 0.30		400g Tub (ALE214)	
	11150269		ZBHP 17				0.30 - 0.30		60g VOC (ALE215)	
	11150273		ZBHP 18				0.30 - 0.30		400g Tub (ALE214)	
	11150278		ZBHP 19				0.30 - 0.30		250g Amber Jar (AL)	
Asbestos ID in Solid Samples	11150284		ZBHP 20				0.30 - 0.30		60g VOC (ALE215)	
	11150289		ZBHP 21				0.30 - 0.30		400g Tub (ALE214)	
EPH CWG (Aliphatic) GC (S)	11150298		ZBHP 22				0.30 - 0.30		250g Amber Jar (AL)	
	11150303		ZBHP 23				0.30 - 0.30		60g VOC (ALE215)	
EPH CWG (Aromatic) GC (S)	11150311		ZBHP 24				0.30 - 0.30		400g Tub (ALE214)	
	11150315		ZBHP 25				0.30 - 0.30		60g VOC (ALE215)	
GRO by GC-FID (S)	11150319		ZBHP 26				0.50 - 0.50		400g Tub (ALE214)	
									250g Amber Jar (AL)	
Metals in solid samples by OES									60g VOC (ALE215)	
									400g Tub (ALE214)	
PAH by GCMS									250g Amber Jar (AL)	
									60g VOC (ALE215)	
pH									400g Tub (ALE214)	
									250g Amber Jar (AL)	
Sample description									60g VOC (ALE215)	
									400g Tub (ALE214)	
Semi Volatile Organic Compounds									250g Amber Jar (AL)	
									60g VOC (ALE215)	
Total Organic Carbon									400g Tub (ALE214)	
									250g Amber Jar (AL)	
TPH CWG GC (S)									60g VOC (ALE215)	
									400g Tub (ALE214)	
VOC MS (S)									250g Amber Jar (AL)	
									60g VOC (ALE215)	



SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
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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
11150242	ZBHP 1	0.40 - 0.40	Dark Brown	Silty Clay	0.063 - 0.1 mm	Stones	Vegetation
11150294	ZBHP 2	0.40 - 0.40	Dark Brown	Loamy Sand	0.1 - 2 mm	Vegetation	Stones
11150325	ZBHP 3	0.50 - 0.50	Dark Brown	Loamy Sand	0.1 - 2 mm	Vegetation	Stones
11150330	ZBHP 4	0.20 - 0.20	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	Vegetation
11150334	ZBHP 5	0.30 - 0.30	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Vegetation	Stones
11150338	ZBHP 6	0.30 - 0.30	Dark Brown	Silty Clay	0.063 - 0.1 mm	Stones	Vegetation
11150342	ZBHP 7	0.40 - 0.40	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	Vegetation
11150347	ZBHP 8	0.30 - 0.30	Dark Brown	Silty Clay	0.063 - 0.1 mm	Stones	Vegetation
11150356	ZBHP 9	0.20 - 0.20	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Vegetation	Stones
11150246	ZBHP 10	0.20 - 0.20	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Vegetation	Stones
11150250	ZBHP 13	0.30 - 0.30	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11150256	ZBHP 14	0.30 - 0.30	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation
11150261	ZBHP 15	0.30 - 0.30	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11150265	ZBHP 16	0.30 - 0.30	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11150269	ZBHP 17	0.30 - 0.30	Dark Brown	Sandy Silt Loam	0.1 - 2 mm	Brick	Vegetation
11150273	ZBHP 18	0.30 - 0.30	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11150278	ZBHP 19	0.30 - 0.30	Dark Brown	Silt Loam	<0.063 mm	Stones	Vegetation
11150284	ZBHP 20	0.30 - 0.30	Dark Brown	Silt Loam	<0.063 mm	Stones	Vegetation
11150289	ZBHP 21	0.30 - 0.30	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	Vegetation
11150298	ZBHP 22	0.30 - 0.30	Dark Brown	Silt Loam	<0.063 mm	Stones	Vegetation
11150303	ZBHP 23	0.30 - 0.30	Dark Brown	Silt Loam	<0.063 mm	Stones	Vegetation
11150311	ZBHP 24	0.30 - 0.30	Dark Brown	Silt Loam	0.063 - 0.1 mm	Brick	Vegetation
11150315	ZBHP 25	0.30 - 0.30	Dark Brown	Silty Clay	0.063 - 0.1 mm	Stones	Vegetation
11150319	ZBHP 26	0.50 - 0.50	Dark Brown	Sand	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.

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Report Number: 310233
Superseded Report:

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Order Number: CD1179
Report Number: 310233
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

PAH by GCMS

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Order Number: CD1179
Report Number: 310233
Superseded Report:

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Order Number: CD1179
Report Number: 310233
Superseded Report:

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Order Number: CD1179
Report Number: 310233
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

Semi Volatile Organic Compounds

Results Legend		Customer Sample R	ZBHP 1	ZBHP 2	ZBHP 3	ZBHP 4	ZBHP 5	ZBHP 6
#	ISO17025 accredited.							
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.40 - 0.40 Soil/Solid 07/04/2015	0.40 - 0.40 Soil/Solid 07/04/2015	0.50 - 0.50 Soil/Solid 07/04/2015	0.20 - 0.20 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015
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					
Phenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Pentachlorophenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100
n-Nitroso-n-dipropylamine		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Nitrobenzene		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Isophorone		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Hexachloroethane		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Hexachlorocyclopentadiene		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Hexachlorobutadiene		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Hexachlorobenzene		<100 µg/kg	TM157	<100	<100	<100	<100	<100
n-Dioctyl phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Dimethyl phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Diethyl phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100
n-Dibutyl phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Dibenzofuran		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Carbazole		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Butylbenzyl phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100
bis(2-Ethylhexyl) phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100
bis(2-Chloroethoxy)methane		<100 µg/kg	TM157	<100	<100	<100	<100	<100
bis(2-Chloroethyl)ether		<100 µg/kg	TM157	<100	<100	<100	<100	<100
Azobenzene		<100 µg/kg	TM157	<100	<100	<100	<100	<100
4-Nitrophenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100
4-Nitroaniline		<100 µg/kg	TM157	<100	<100	<100	<100	<100
4-Methylphenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100
4-Chlorophenylphenylether		<100 µg/kg	TM157	<100	<100	<100	<100	<100
4-Chloroaniline		<100 µg/kg	TM157	<100	<100	<100	<100	<100
4-Chloro-3-methylphenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100
4-Bromophenylphenylether		<100 µg/kg	TM157	<100	<100	<100	<100	<100
3-Nitroaniline		<100 µg/kg	TM157	<100	<100	<100	<100	<100
2-Nitrophenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100
2-Nitroaniline		<100 µg/kg	TM157	<100	<100	<100	<100	<100
2-Methylphenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100
1,2,4-Trichlorobenzene		<100 µg/kg	TM157	<100	<100	<100	<100	<100



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

Semi Volatile Organic Compounds

Results Legend			Customer Sample R		ZBHP 1	ZBHP 2	ZBHP 3	ZBHP 4	ZBHP 5	ZBHP 6
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.40 - 0.40	0.40 - 0.40	0.50 - 0.50	0.20 - 0.20	0.30 - 0.30	0.30 - 0.30
M	mCERTS accredited.				Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.				07/04/2015	07/04/2015	07/04/2015	07/04/2015	07/04/2015	07/04/2015
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.				09/04/2015	09/04/2015	09/04/2015	09/04/2015	09/04/2015	09/04/2015
*	Subcontracted test.				150409-70	150409-70	150409-70	150409-70	150409-70	150409-70
**	% 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				11150242	11150294	11150325	11150330	11150334	11150338
(F)	Trigger breach confirmed									
1-5&+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
2-Chlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,6-Dinitrotoluene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4-Dinitrotoluene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4-Dimethylphenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4-Dichlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4,6-Trichlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4,5-Trichlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
1,4-Dichlorobenzene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
1,3-Dichlorobenzene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
1,2-Dichlorobenzene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2-Chloronaphthalene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2-Methylnaphthalene	<100 µg/kg	TM157			<100	<100	159	<100	<100	<100
Acenaphthylene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
Acenaphthene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
Anthracene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
Benzo(a)anthracene	<100 µg/kg	TM157			<100	<100	<100	157	<100	202
Benzo(b)fluoranthene	<100 µg/kg	TM157			<100	<100	<100	231	<100	254
Benzo(k)fluoranthene	<100 µg/kg	TM157			<100	<100	<100	168	<100	167
Benzo(a)pyrene	<100 µg/kg	TM157			<100	<100	<100	207	<100	210
Benzo(g,h,i)perylene	<100 µg/kg	TM157			<100	<100	<100	157	<100	145
Chrysene	<100 µg/kg	TM157			147	<100	127	214	<100	301
Fluoranthene	<100 µg/kg	TM157			200	<100	<100	169	<100	346
Fluorene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157			<100	<100	<100	171	<100	165
Phenanthrene	<100 µg/kg	TM157			225	<100	154	113	183	285
Pyrene	<100 µg/kg	TM157			143	<100	<100	169	<100	291
Naphthalene	<100 µg/kg	TM157			<100	<100	114	<100	<100	<100
Dibenzo(a,h)anthracene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

Semi Volatile Organic Compounds

Results Legend		Customer Sample R	ZBHP 7		ZBHP 8		ZBHP 9		ZBHP 10		ZBHP 13		ZBHP 14	
#	ISO17025 accredited.		0.40 - 0.40		0.30 - 0.30		0.20 - 0.20		0.20 - 0.20		0.30 - 0.30		0.30 - 0.30	
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid	
aq	Aqueous / settled sample.		07/04/2015		07/04/2015		07/04/2015		07/04/2015		07/04/2015		07/04/2015	
diss.filt	Dissolved / filtered 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	09/04/2015		09/04/2015		09/04/2015		09/04/2015		09/04/2015		09/04/2015	
tot.unfilt	Total / unfiltered sample.		150409-70		150409-70		150409-70		150409-70		150409-70		150409-70	
*	Subcontracted test.	Trigger breach confirmed	11150342		11150347		11150356		11150246		11150250		11150256	
**	% 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)												
1-5&*\$@	Sample deviation (see appendix)													
Component		LOD/Units	Method											
Phenol		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Pentachlorophenol		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
n-Nitroso-n-dipropylamine		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Nitrobenzene		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Isophorone		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Hexachloroethane		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Hexachlorocyclopentadiene		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Hexachlorobutadiene		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Hexachlorobenzene		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
n-Dioctyl phthalate		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Dimethyl phthalate		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Diethyl phthalate		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
n-Dibutyl phthalate		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Dibenzofuran		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Carbazole		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Butylbenzyl phthalate		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
bis(2-Ethylhexyl) phthalate		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
bis(2-Chloroethoxy)methane		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
bis(2-Chloroethyl)ether		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
Azobenzene		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
4-Nitrophenol		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
4-Nitroaniline		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
4-Methylphenol		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
4-Chlorophenylphenylether		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
4-Chloroaniline		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
4-Chloro-3-methylphenol		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
4-Bromophenylphenylether		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
3-Nitroaniline		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
2-Nitrophenol		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
2-Nitroaniline		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
2-Methylphenol		<100 µg/kg	TM157		<100		<100		<100		<100		<100	
1,2,4-Trichlorobenzene		<100 µg/kg	TM157		<100		<100		<100		<100		<100	



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

Semi Volatile Organic Compounds

Results Legend			Customer Sample R		ZBHP 7	ZBHP 8	ZBHP 9	ZBHP 10	ZBHP 13	ZBHP 14
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.40 - 0.40 Soil/Solid 07/04/2015 09/04/2015 150409-70 11150342	0.30 - 0.30 Soil/Solid 07/04/2015 09/04/2015 150409-70 11150347	0.20 - 0.20 Soil/Solid 07/04/2015 09/04/2015 150409-70 11150356	0.20 - 0.20 Soil/Solid 07/04/2015 09/04/2015 150409-70 11150246	0.30 - 0.30 Soil/Solid 07/04/2015 09/04/2015 150409-70 11150250	0.30 - 0.30 Soil/Solid 07/04/2015 09/04/2015 150409-70 11150256
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&+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
2-Chlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,6-Dinitrotoluene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4-Dinitrotoluene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4-Dimethylphenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4-Dichlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4,6-Trichlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4,5-Trichlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
1,4-Dichlorobenzene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
1,3-Dichlorobenzene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
1,2-Dichlorobenzene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2-Chloronaphthalene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2-Methylnaphthalene	<100 µg/kg	TM157			<100	576	<100	132	<100	<100
Acenaphthylene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
Acenaphthene	<100 µg/kg	TM157			<100	162	<100	<100	<100	<100
Anthracene	<100 µg/kg	TM157			<100	138	<100	<100	<100	<100
Benzo(a)anthracene	<100 µg/kg	TM157			<100	591	485	213	<100	331
Benzo(b)fluoranthene	<100 µg/kg	TM157			<100	704	550	298	<100	406
Benzo(k)fluoranthene	<100 µg/kg	TM157			<100	472	444	289	<100	323
Benzo(a)pyrene	<100 µg/kg	TM157			<100	591	418	235	<100	324
Benzo(g,h,i)perylene	<100 µg/kg	TM157			<100	399	308	250	<100	199
Chrysene	<100 µg/kg	TM157			<100	765	591	335	254	500
Fluoranthene	<100 µg/kg	TM157			<100	836	793	381	<100	752
Fluorene	<100 µg/kg	TM157			<100	133	<100	<100	<100	<100
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157			<100	498	375	242	<100	255
Phenanthrene	<100 µg/kg	TM157			<100	540	397	224	<100	511
Pyrene	<100 µg/kg	TM157			<100	621	560	287	<100	529
Naphthalene	<100 µg/kg	TM157			<100	137	<100	369	<100	<100
Dibenzo(a,h)anthracene	<100 µg/kg	TM157			<100	136	<100	<100	<100	<100



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

Semi Volatile Organic Compounds

Results Legend		Customer Sample R	ZBHP 15	ZBHP 16	ZBHP 17	ZBHP 18	ZBHP 19	ZBHP 20
#	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						
Phenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
Pentachlorophenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
Nitrobenzene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
Isophorone	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
Hexachloroethane	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
Hexachlorocyclopentadiene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
Hexachlorobutadiene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
Hexachlorobenzene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
n-Dioctyl phthalate	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
Dimethyl phthalate	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
Diethyl phthalate	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
n-Dibutyl phthalate	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
Dibenzofuran	<100 µg/kg	TM157	<100	<100	203	<100	<100	<100
Carbazole	<100 µg/kg	TM157	<100	<100	546	162	<100	<100
Butylbenzyl phthalate	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
bis(2-Chloroethyl)ether	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
Azobenzene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
4-Nitrophenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
4-Nitroaniline	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
4-Methylphenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
4-Chlorophenylphenylether	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
4-Chloroaniline	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
4-Chloro-3-methylphenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
4-Bromophenylphenylether	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
3-Nitroaniline	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
2-Nitrophenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
2-Nitroaniline	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
2-Methylphenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100
1,2,4-Trichlorobenzene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

Semi Volatile Organic Compounds

Results Legend			Customer Sample R	ZBHP 15	ZBHP 16	ZBHP 17	ZBHP 18	ZBHP 19	ZBHP 20
#	ISO17025 accredited.								
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&+5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
2-Chlorophenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100
2,6-Dinitrotoluene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100
2,4-Dinitrotoluene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100
2,4-Dimethylphenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100
2,4-Dichlorophenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100
2,4,6-Trichlorophenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100
2,4,5-Trichlorophenol	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100
1,4-Dichlorobenzene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100
1,3-Dichlorobenzene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100
1,2-Dichlorobenzene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100
2-Chloronaphthalene	<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100
2-Methylnaphthalene	<100 µg/kg	TM157	<100	<100	574	132	<100	<100	<100
Acenaphthylene	<100 µg/kg	TM157	<100	<100	<100	197	<100	<100	<100
Acenaphthene	<100 µg/kg	TM157	<100	<100	261	<100	<100	<100	<100
Anthracene	<100 µg/kg	TM157	<100	<100	325	258	<100	<100	<100
Benzo(a)anthracene	<100 µg/kg	TM157	<100	<100	3010	1390	<100	<100	<100
Benzo(b)fluoranthene	<100 µg/kg	TM157	<100	<100	3570	1360	<100	129	<100
Benzo(k)fluoranthene	<100 µg/kg	TM157	<100	<100	2910	941	<100	<100	<100
Benzo(a)pyrene	<100 µg/kg	TM157	<100	<100	2840	1330	<100	<100	<100
Benzo(g,h,i)perylene	<100 µg/kg	TM157	<100	<100	1750	715	<100	<100	<100
Chrysene	<100 µg/kg	TM157	<100	<100	3940	1600	<100	159	<100
Fluoranthene	<100 µg/kg	TM157	<100	<100	5540	3260	154	249	<100
Fluorene	<100 µg/kg	TM157	<100	<100	320	<100	<100	<100	<100
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157	<100	<100	2290	931	<100	<100	<100
Phenanthrene	<100 µg/kg	TM157	<100	122	3570	1870	128	187	<100
Pyrene	<100 µg/kg	TM157	<100	<100	3410	2210	<100	189	<100
Naphthalene	<100 µg/kg	TM157	<100	<100	1890	140	<100	<100	<100
Dibenzo(a,h)anthracene	<100 µg/kg	TM157	<100	<100	684	180	<100	<100	<100



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

Semi Volatile Organic Compounds

Results Legend		Customer Sample R Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	ZBHP 21		ZBHP 22		ZBHP 23		ZBHP 24		ZBHP 25		ZBHP 26	
#	ISO17025 accredited.		0.30 - 0.30		0.30 - 0.30		0.30 - 0.30		0.30 - 0.30		0.30 - 0.30		0.50 - 0.50	
M	mCERTS accredited.		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid	
aq	Aqueous / settled sample.		07/04/2015		07/04/2015		07/04/2015		07/04/2015		07/04/2015		07/04/2015	
diss.filt	Dissolved / filtered sample.		09/04/2015		09/04/2015		09/04/2015		09/04/2015		09/04/2015		09/04/2015	
tot.unfilt	Total / unfiltered sample.		150409-70		150409-70		150409-70		150409-70		150409-70		150409-70	
*	Subcontracted test.		11150289		11150298		11150303		11150311		11150315		11150319	
**	% 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											
Phenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Pentachlorophenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
n-Nitroso-n-dipropylamine		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Nitrobenzene		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Isophorone		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Hexachloroethane		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Hexachlorocyclopentadiene		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Hexachlorobutadiene		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Hexachlorobenzene		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
n-Dioctyl phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Dimethyl phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Diethyl phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
n-Dibutyl phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Dibenzofuran		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Carbazole		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Butylbenzyl phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
bis(2-Ethylhexyl) phthalate		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
bis(2-Chloroethoxy)methane		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
bis(2-Chloroethyl)ether		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Azobenzene		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
4-Nitrophenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
4-Nitroaniline		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
4-Methylphenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
4-Chlorophenylphenylether		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
4-Chloroaniline		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
4-Chloro-3-methylphenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
4-Bromophenylphenylether		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
3-Nitroaniline		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
2-Nitrophenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
2-Nitroaniline		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
2-Methylphenol		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	
1,2,4-Trichlorobenzene		<100 µg/kg	TM157	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

Semi Volatile Organic Compounds

Results Legend			Customer Sample R		ZBHP 21	ZBHP 22	ZBHP 23	ZBHP 24	ZBHP 25	ZBHP 26
#	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&+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
2-Chlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,6-Dinitrotoluene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4-Dinitrotoluene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4-Dimethylphenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4-Dichlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4,6-Trichlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2,4,5-Trichlorophenol	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
1,4-Dichlorobenzene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
1,3-Dichlorobenzene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
1,2-Dichlorobenzene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2-Chloronaphthalene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
2-Methylnaphthalene	<100 µg/kg	TM157			<100	<100	<100	143	<100	197
Acenaphthylene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
Acenaphthene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
Anthracene	<100 µg/kg	TM157			<100	<100	<100	<100	145	<100
Benzo(a)anthracene	<100 µg/kg	TM157			<100	128	<100	<100	470	205
Benzo(b)fluoranthene	<100 µg/kg	TM157			<100	148	<100	151	406	198
Benzo(k)fluoranthene	<100 µg/kg	TM157			<100	<100	<100	<100	307	137
Benzo(a)pyrene	<100 µg/kg	TM157			<100	132	<100	<100	417	167
Benzo(g,h,i)perylene	<100 µg/kg	TM157			<100	<100	<100	<100	220	<100
Chrysene	<100 µg/kg	TM157			<100	192	<100	190	556	380
Fluoranthene	<100 µg/kg	TM157			129	280	<100	233	1060	350
Fluorene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157			<100	<100	<100	<100	266	<100
Phenanthrene	<100 µg/kg	TM157			135	223	<100	215	783	520
Pyrene	<100 µg/kg	TM157			<100	212	<100	166	810	302
Naphthalene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	142
Dibenzo(a,h)anthracene	<100 µg/kg	TM157			<100	<100	<100	<100	<100	<100



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

TPH CWG (S)

Results Legend		Customer Sample R						
#	ISO17025 accredited.							
M	mCERTS accredited.	Depth (m)						
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.	Sample Type						
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.	Date Sampled						
**	% 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	Date Received						
1-5&\$@	Sample deviation (see appendix)							
		SDG Ref						
		Lab Sample No.(s)						
		AGS Reference						
Component	LOD/Units	Method	ZBHP 1	ZBHP 2	ZBHP 3	ZBHP 4	ZBHP 5	ZBHP 6
GRO Surrogate % recovery**	%	TM089	66	96	83	62	76	86
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089	<176 M	<176 M	461 M	735 M	<176 M	<176 M
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<20 M	<20 M	<20 M	<20 M	<20 M	<20 M
Benzene	<10 µg/kg	TM089	<40 M	<40 M	<40 M	<40 M	<40 M	<40 M
Toluene	<2 µg/kg	TM089	<8 M	<8 M	<8 M	<8 M	<8 M	<8 M
Ethylbenzene	<3 µg/kg	TM089	<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
m,p-Xylene	<6 µg/kg	TM089	<24 M	<24 M	<24 M	<24 M	<24 M	<24 M
o-Xylene	<3 µg/kg	TM089	<12 M	<12 M	<12 M	<12 M	<12 M	<12 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	41.2	<40	<40
Aliphatics >C8-C10	<10 µg/kg	TM089	<40	<40	78.4	132	<40	<40
Aliphatics >C10-C12	<10 µg/kg	TM089	<40	<40	172	268	<40	<40
Aliphatics >C12-C16	<100 µg/kg	TM173	586	<100	7090	3430	526	5660
Aliphatics >C16-C21	<100 µg/kg	TM173	4030	720	39600	17600	10800	47000
Aliphatics >C21-C35	<100 µg/kg	TM173	30500	10500	78400	48900	35500	104000
Aliphatics >C35-C44	<100 µg/kg	TM173	4860	1600	13300	13700	9550	13100
Total Aliphatics >C12-C44	<100 µg/kg	TM173	39900	12800	138000	83600	56400	170000
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	<40	57.1	94.3	<40	<40
Aromatics >EC10-EC12	<10 µg/kg	TM089	<40	<40	115	178	<40	<40
Aromatics >EC12-EC16	<100 µg/kg	TM173	<100	<100	<100	<100	<100	3790
Aromatics >EC16-EC21	<100 µg/kg	TM173	2810	<100	<100	2540	459	29100
Aromatics >EC21-EC35	<100 µg/kg	TM173	28200	7070	3130	24400	17100	163000
Aromatics >EC35-EC44	<100 µg/kg	TM173	15800	1300	213	12200	9080	53800
Aromatics >EC40-EC44	<100 µg/kg	TM173	5270	<100	<100	4920	4010	20000
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	46800	8370	3350	39100	26600	250000
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	86800	21200	142000	123000	83000	420000



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

TPH CWG (S)

Results Legend			Customer Sample R		ZBHP 7	ZBHP 8	ZBHP 9	ZBHP 10	ZBHP 13	ZBHP 14
#	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			61	68	66	68	59	31
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089			1420	30200	2850	3530	<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	2130	118	153	<40	<40
Aliphatics >C8-C10	<10 µg/kg	TM089			107	7270	578	592	<40	<40
Aliphatics >C10-C12	<10 µg/kg	TM089			721	9550	1050	1410	<40	<40
Aliphatics >C12-C16	<100 µg/kg	TM173			109000	67000	7930	16700	17700	<100
Aliphatics >C16-C21	<100 µg/kg	TM173			448000	223000	30900	39200	135000	<100
Aliphatics >C21-C35	<100 µg/kg	TM173			305000	142000	102000	179000	580000	19300
Aliphatics >C35-C44	<100 µg/kg	TM173			<100	11900	46600	76000	63900	1800
Total Aliphatics >C12-C44	<100 µg/kg	TM173			862000	444000	187000	311000	796000	21100
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			71.3	4850	386	394	<40	<40
Aromatics >EC10-EC12	<10 µg/kg	TM089			481	6370	697	942	<40	<40
Aromatics >EC12-EC16	<100 µg/kg	TM173			4370	32000	335	1200	988	<100
Aromatics >EC16-EC21	<100 µg/kg	TM173			112000	105000	11100	8430	19800	5910
Aromatics >EC21-EC35	<100 µg/kg	TM173			146000	198000	129000	104000	342000	77200
Aromatics >EC35-EC44	<100 µg/kg	TM173			781	52600	73200	74000	87500	40500
Aromatics >EC40-EC44	<100 µg/kg	TM173			<100	23300	31400	33700	23400	4200
Total Aromatics >EC12-EC44	<100 µg/kg	TM173			263000	388000	213000	187000	450000	124000
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173			1130000	862000	403000	502000	1250000	145000



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

TPH CWG (S)

Results Legend			Customer Sample R		ZBHP 15	ZBHP 16	ZBHP 17	ZBHP 18	ZBHP 19	ZBHP 20
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015
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			56	79	48	71	72	76
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089			<176 M	<176 M	<176 M	<176 M	<176 M	<176 M
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089			<20 M	<20 M	<20 M	<20 M	<20 M	<20 M
Benzene	<10 µg/kg	TM089			<40 M	<40 M	<40 M	<40 M	<40 M	<40 M
Toluene	<2 µg/kg	TM089			<8 M	<8 M	<8 M	<8 M	<8 M	<8 M
Ethylbenzene	<3 µg/kg	TM089			<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
m,p-Xylene	<6 µg/kg	TM089			<24 M	<24 M	<24 M	<24 M	<24 M	<24 M
o-Xylene	<3 µg/kg	TM089			<12 M	<12 M	<12 M	<12 M	<12 M	<12 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			<40	<40	<40	<40	<40	<40
Aliphatics >C10-C12	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aliphatics >C12-C16	<100 µg/kg	TM173			<100	<100	<100	<100	<100	<100
Aliphatics >C16-C21	<100 µg/kg	TM173			<100	<100	<100	<100	<100	<100
Aliphatics >C21-C35	<100 µg/kg	TM173			2910	1340	45600	<100	3110	4290
Aliphatics >C35-C44	<100 µg/kg	TM173			<100	<100	<100	1410	<100	<100
Total Aliphatics >C12-C44	<100 µg/kg	TM173			2910	1340	45600	1410	3110	4290
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	<40	<40	<40	<40	<40
Aromatics >EC10-EC12	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aromatics >EC12-EC16	<100 µg/kg	TM173			<100	<100	1740	<100	<100	<100
Aromatics >EC16-EC21	<100 µg/kg	TM173			<100	700	4370	3710	<100	1400
Aromatics >EC21-EC35	<100 µg/kg	TM173			8260	8600	61600	15300	3330	10100
Aromatics >EC35-EC44	<100 µg/kg	TM173			4960	4070	23500	10100	1200	5540
Aromatics >EC40-EC44	<100 µg/kg	TM173			2010	1520	8220	4630	<100	2560
Total Aromatics >EC12-EC44	<100 µg/kg	TM173			13200	13400	91200	29100	4530	17000
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173			16100	14700	137000	30500	7650	21300



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

TPH CWG (S)

Results Legend			Customer Sample R		ZBHP 21	ZBHP 22	ZBHP 23	ZBHP 24	ZBHP 25	ZBHP 26
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.50 - 0.50 Soil/Solid 07/04/2015
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			68	72	83	50	49	49
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089			<176 M	<176 M	<176 M	<176 M	<176 M	<176 M
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089			<20 M	<20 M	<20 M	<20 M	<20 M	<20 M
Benzene	<10 µg/kg	TM089			<40 M	<40 M	<40 M	<40 M	<40 M	<40 M
Toluene	<2 µg/kg	TM089			<8 M	<8 M	<8 M	<8 M	<8 M	<8 M
Ethylbenzene	<3 µg/kg	TM089			<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
m,p-Xylene	<6 µg/kg	TM089			<24 M	<24 M	<24 M	<24 M	<24 M	<24 M
o-Xylene	<3 µg/kg	TM089			<12 M	<12 M	<12 M	<12 M	<12 M	<12 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			<40	<40	<40	<40	<40	<40
Aliphatics >C10-C12	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aliphatics >C12-C16	<100 µg/kg	TM173			<100	<100	<100	2850	<100	2020
Aliphatics >C16-C21	<100 µg/kg	TM173			<100	<100	<100	16600	<100	9540
Aliphatics >C21-C35	<100 µg/kg	TM173			848	<100	2080	39300	10500	64800
Aliphatics >C35-C44	<100 µg/kg	TM173			1360	<100	<100	3420	248	6700
Total Aliphatics >C12-C44	<100 µg/kg	TM173			2210	<100	2080	62200	10700	83100
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	<40	<40	<40	<40	<40
Aromatics >EC10-EC12	<10 µg/kg	TM089			<40	<40	<40	<40	<40	<40
Aromatics >EC12-EC16	<100 µg/kg	TM173			<100	<100	<100	<100	<100	<100
Aromatics >EC16-EC21	<100 µg/kg	TM173			<100	1360	<100	2620	4440	3230
Aromatics >EC21-EC35	<100 µg/kg	TM173			1290	8710	<100	24600	26800	51000
Aromatics >EC35-EC44	<100 µg/kg	TM173			921	2500	<100	9800	8950	15600
Aromatics >EC40-EC44	<100 µg/kg	TM173			<100	856	<100	3760	2560	4920
Total Aromatics >EC12-EC44	<100 µg/kg	TM173			2210	12600	<100	37000	40200	69900
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173			4420	12600	2080	99200	50900	153000



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

VOC MS (S)

Results Legend			Customer Sample R		ZBHP 1	ZBHP 2	ZBHP 3	ZBHP 4	ZBHP 5	ZBHP 6
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.40 - 0.40 Soil/Solid 07/04/2015	0.40 - 0.40 Soil/Solid 07/04/2015	0.50 - 0.50 Soil/Solid 07/04/2015	0.20 - 0.20 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015
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								
Dibromofluoromethane**	%	TM116			104	108	112	107	103	104
Toluene-d8**	%	TM116			99.1	96.1	100	98.1	95.8	96.6
4-Bromofluorobenzene**	%	TM116			90.2	92.7	90.8	85.8	94.3	93.9
Dichlorodifluoromethane	<6 µg/kg	TM116			<60	<60	<60	<60	<60	<60
Chloromethane	<7 µg/kg	TM116			<70	<70	<70	<70	<70	<70
Vinyl Chloride	<6 µg/kg	TM116			<60	<60	<60	<60	<60	<60
Bromomethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
Chloroethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
Trichlorofluoromethane	<6 µg/kg	TM116			<60	<60	<60	<60	<60	<60
1,1-Dichloroethene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
Carbon Disulphide	<7 µg/kg	TM116			<70	<70	<70	<70	<70	<70
Dichloromethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
trans-1,2-Dichloroethene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
1,1-Dichloroethane	<8 µg/kg	TM116			<80	<80	<80	<80	<80	<80
cis-1,2-Dichloroethene	<6 µg/kg	TM116			<60	<60	<60	<60	<60	<60
2,2-Dichloropropane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
Bromochloromethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
Chloroform	<8 µg/kg	TM116			<80	<80	<80	<80	<80	<80
1,1,1-Trichloroethane	<7 µg/kg	TM116			<70	<70	<70	<70	<70	<70
1,1-Dichloropropene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
Carbontetrachloride	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
1,2-Dichloroethane	<5 µg/kg	TM116			<50	<50	<50	<50	<50	<50
Benzene	<9 µg/kg	TM116			<90	<90	<90	<90	<90	<90
Trichloroethene	<9 µg/kg	TM116			<90	<90	<90	<90	<90	<90
1,2-Dichloropropane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
Dibromomethane	<9 µg/kg	TM116			<90	<90	<90	<90	<90	<90
Bromodichloromethane	<7 µg/kg	TM116			<70	<70	<70	<70	<70	<70
cis-1,3-Dichloropropene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
Toluene	<7 µg/kg	TM116			<70	<70	<70	<70	<70	<70
trans-1,3-Dichloropropene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
1,1,2-Trichloroethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

VOC MS (S)

Results Legend			Customer Sample R		ZBHP 1	ZBHP 2	ZBHP 3	ZBHP 4	ZBHP 5	ZBHP 6
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.40 - 0.40	0.40 - 0.40	0.50 - 0.50	0.20 - 0.20	0.30 - 0.30	0.30 - 0.30
M	mCERTS accredited.				Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.				07/04/2015	07/04/2015	07/04/2015	07/04/2015	07/04/2015	07/04/2015
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				09/04/2015	09/04/2015	09/04/2015	09/04/2015	09/04/2015	09/04/2015
(F)	Trigger breach confirmed				150409-70	150409-70	150409-70	150409-70	150409-70	150409-70
1-5&5@	Sample deviation (see appendix)				11150242	11150294	11150325	11150330	11150334	11150338
Component	LOD/Units	Method								
1,3-Dichloropropane	<7 µg/kg	TM116			<70	<70	<70	<70	<70	<70
					M	M	M	M	M	M
Tetrachloroethene	<5 µg/kg	TM116			<50	<50	<50	<50	<50	<50
					M	M	M	M	M	M
Dibromochloromethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,2-Dibromoethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Chlorobenzene	<5 µg/kg	TM116			<50	<50	<50	<50	<50	<50
					M	M	M	M	M	M
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Ethylbenzene	<4 µg/kg	TM116			<40	<40	<40	<40	<40	<40
					M	M	M	M	M	M
p/m-Xylene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					#	#	#	#	#	#
o-Xylene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Styrene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					#	#	#	#	#	#
Bromoform	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Isopropylbenzene	<5 µg/kg	TM116			<50	<50	<50	<50	<50	<50
					#	#	#	#	#	#
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,2,3-Trichloropropane	<16 µg/kg	TM116			<160	<160	<160	<160	<160	<160
					M	M	M	M	M	M
Bromobenzene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Propylbenzene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
2-Chlorotoluene	<9 µg/kg	TM116			<90	<90	<90	<90	<90	<90
					M	M	M	M	M	M
1,3,5-Trimethylbenzene	<8 µg/kg	TM116			<80	<80	<80	<80	<80	<80
					M	M	M	M	M	M
4-Chlorotoluene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
tert-Butylbenzene	<14 µg/kg	TM116			<140	<140	<140	<140	<140	<140
					M	M	M	M	M	M
1,2,4-Trimethylbenzene	<9 µg/kg	TM116			<90	<90	<90	<90	<90	<90
					#	#	#	#	#	#
sec-Butylbenzene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
4-Isopropyltoluene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,3-Dichlorobenzene	<8 µg/kg	TM116			<80	<80	<80	<80	<80	<80
					M	M	M	M	M	M
1,4-Dichlorobenzene	<5 µg/kg	TM116			<50	<50	<50	<50	<50	<50
					M	M	M	M	M	M
n-Butylbenzene	<11 µg/kg	TM116			<110	<110	<110	<110	<110	<110
1,2-Dichlorobenzene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,2-Dibromo-3-chloroprop ane	<14 µg/kg	TM116			<140	<140	<140	<140	<140	<140
					M	M	M	M	M	M
Tert-amyl methyl ether	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					#	#	#	#	#	#
1,2,4-Trichlorobenzene	<20 µg/kg	TM116			<200	<200	<200	<200	<200	<200
Hexachlorobutadiene	<20 µg/kg	TM116			<200	<200	<200	<200	<200	<200
Naphthalene	<13 µg/kg	TM116			<130	<130	<130	<130	<130	<130
					M	M	M	M	M	M

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

VOC MS (S)

[illegible]



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

VOC MS (S)

Results Legend		Customer Sample R Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	ZBHP 7		ZBHP 8		ZBHP 9		ZBHP 10		ZBHP 13		ZBHP 14	
#	ISO17025 accredited.		0.40 - 0.40		0.30 - 0.30		0.20 - 0.20		0.20 - 0.20		0.30 - 0.30		0.30 - 0.30	
M	mCERTS accredited.		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid		Soil/Solid	
aq	Aqueous / settled sample.		07/04/2015		07/04/2015		07/04/2015		07/04/2015		07/04/2015		07/04/2015	
diss.filt	Dissolved / filtered sample.		09/04/2015		09/04/2015		09/04/2015		09/04/2015		09/04/2015		09/04/2015	
tot.unfilt	Total / unfiltered sample.		150409-70		150409-70		150409-70		150409-70		150409-70		150409-70	
*	Subcontracted test.		11150342		11150347		11150356		11150246		11150250		11150256	
**	% 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											
Dibromofluoromethane**		%	TM116	112		104		104		106		103		
Toluene-d8**		%	TM116	93.9		95.7		94.4		94.5		92.5		
4-Bromofluorobenzene**		%	TM116	77.7		94.1		91.1		88.3		86.4		
Dichlorodifluoromethane		<6 µg/kg	TM116	<6		<60		<60		<60		<60		
Chloromethane		<7 µg/kg	TM116	<7		<70		<70		<70		<70		
Vinyl Chloride		<6 µg/kg	TM116	<6		<60		<60		<60		<60		
Bromomethane		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
Chloroethane		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
Trichlorofluorormethane		<6 µg/kg	TM116	<6		<60		<60		<60		<60		
1,1-Dichloroethene		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
Carbon Disulphide		<7 µg/kg	TM116	<7		<70		<70		<70		<70		
Dichloromethane		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
Methyl Tertiary Butyl Ether		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
trans-1,2-Dichloroethene		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
1,1-Dichloroethane		<8 µg/kg	TM116	<8		<80		<80		<80		<80		
cis-1,2-Dichloroethene		<6 µg/kg	TM116	<6		<60		<60		<60		<60		
2,2-Dichloropropane		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
Bromochloromethane		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
Chloroform		<8 µg/kg	TM116	<8		<80		<80		<80		<80		
1,1,1-Trichloroethane		<7 µg/kg	TM116	<7		<70		<70		<70		<70		
1,1-Dichloropropene		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
Carbontetrachloride		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
1,2-Dichloroethane		<5 µg/kg	TM116	<5		<50		<50		<50		<50		
Benzene		<9 µg/kg	TM116	<9		<90		<90		<90		<90		
Trichloroethene		<9 µg/kg	TM116	<9		<90		<90		<90		<90		
1,2-Dichloropropane		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
Dibromomethane		<9 µg/kg	TM116	<9		<90		<90		<90		<90		
Bromodichloromethane		<7 µg/kg	TM116	<7		<70		<70		<70		<70		
cis-1,3-Dichloropropene		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
Toluene		<7 µg/kg	TM116	<7		<70		<70		<70		<70		
trans-1,3-Dichloropropene		<10 µg/kg	TM116	<10		<100		<100		<100		<100		
1,1,2-Trichloroethane		<10 µg/kg	TM116	<10		<100		<100		<100		<100		



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

VOC MS (S)

Results Legend			Customer Sample R		ZBHP 7	ZBHP 8	ZBHP 9	ZBHP 10	ZBHP 13	ZBHP 14
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.40 - 0.40	0.30 - 0.30	0.20 - 0.20	0.20 - 0.20	0.30 - 0.30	0.30 - 0.30
M	mCERTS accredited.				Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.				07/04/2015	07/04/2015	07/04/2015	07/04/2015	07/04/2015	07/04/2015
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				09/04/2015	09/04/2015	09/04/2015	09/04/2015	09/04/2015	09/04/2015
(F)	Trigger breach confirmed				150409-70	150409-70	150409-70	150409-70	150409-70	150409-70
1-5&5@	Sample deviation (see appendix)				11150342	11150347	11150356	11150246	11150250	11150256
Component	LOD/Units	Method								
1,3-Dichloropropane	<7 µg/kg	TM116			<7	<70	<70	<70	<70	<70
					M	M	M	M	M	M
Tetrachloroethene	<5 µg/kg	TM116			<5	<50	<50	<50	<50	<50
					M	M	M	M	M	M
Dibromochloromethane	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,2-Dibromoethane	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Chlorobenzene	<5 µg/kg	TM116			<5	<50	<50	<50	<50	<50
					M	M	M	M	M	M
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Ethylbenzene	<4 µg/kg	TM116			<4	<40	<40	<40	<40	<40
					M	M	M	M	M	M
p/m-Xylene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					#	#	#	#	#	#
o-Xylene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Styrene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					#	#	#	#	#	#
Bromoform	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Isopropylbenzene	<5 µg/kg	TM116			<5	<50	<50	<50	<50	<50
					#	#	#	#	#	#
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,2,3-Trichloropropane	<16 µg/kg	TM116			<16	<160	<160	<160	<160	<160
					M	M	M	M	M	M
Bromobenzene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Propylbenzene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
2-Chlorotoluene	<9 µg/kg	TM116			<9	<90	<90	<90	<90	<90
					M	M	M	M	M	M
1,3,5-Trimethylbenzene	<8 µg/kg	TM116			<8	<80	<80	<80	<80	<80
					M	M	M	M	M	M
4-Chlorotoluene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
tert-Butylbenzene	<14 µg/kg	TM116			<14	<140	<140	<140	<140	<140
					M	M	M	M	M	M
1,2,4-Trimethylbenzene	<9 µg/kg	TM116			<9	180	<90	<90	<90	<90
					#	#	#	#	#	#
sec-Butylbenzene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
4-Isopropyltoluene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,3-Dichlorobenzene	<8 µg/kg	TM116			<8	<80	<80	<80	<80	<80
					M	M	M	M	M	M
1,4-Dichlorobenzene	<5 µg/kg	TM116			<5	<50	<50	<50	<50	<50
					M	M	M	M	M	M
n-Butylbenzene	<11 µg/kg	TM116			<11	<110	<110	<110	<110	<110
1,2-Dichlorobenzene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,2-Dibromo-3-chloroprop ane	<14 µg/kg	TM116			<14	<140	<140	<140	<140	<140
					M	M	M	M	M	M
Tert-amyl methyl ether	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
					#	#	#	#	#	#
1,2,4-Trichlorobenzene	<20 µg/kg	TM116			<20	<200	<200	<200	<200	<200
Hexachlorobutadiene	<20 µg/kg	TM116			<20	<200	<200	<200	<200	<200
Naphthalene	<13 µg/kg	TM116			<13	<130	<130	<130	<130	<130
					M	M	M	M	M	M

Order Number: CD1179
Report Number: 310233
Superseded Report:

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CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

VOC MS (S)

Results Legend		Customer Sample R						
#	ISO17025 accredited.		ZBHP 15		ZBHP 16		ZBHP 17	
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.30 - 0.30		0.30 - 0.30		0.30 - 0.30	
aq	Aqueous / settled sample.		Soil/Solid		Soil/Solid		Soil/Solid	
diss.filt	Dissolved / filtered sample.		07/04/2015		07/04/2015		07/04/2015	
tot.unfilt	Total / unfiltered sample.		09/04/2015		09/04/2015		09/04/2015	
*	Subcontracted test.		150409-70		150409-70		150409-70	
**	% 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		11150261		11150265		11150269	
(F)	Trigger breach confirmed							
1-5&*\$@	Sample deviation (see appendix)							
Component	LOD/Units	Method	ZBHP 18		ZBHP 19		ZBHP 20	
Dibromofluoromethane**	%	TM116	105		103		101	
Toluene-d8**	%	TM116	103		101		103	
4-Bromofluorobenzene**	%	TM116	101		103		104	
Dichlorodifluoromethane	<6 µg/kg	TM116	104		105		96.4	
Chloromethane	<7 µg/kg	TM116	96.4		97.6		97.8	
Vinyl Chloride	<6 µg/kg	TM116	97.6		97.8		94.9	
Bromomethane	<10 µg/kg	TM116	94.9		96.2		96.2	
Chloroethane	<10 µg/kg	TM116	96.2		99.6		99.6	
Trichlorofluoromethane	<6 µg/kg	TM116	99.6		99.6		97.5	
1,1-Dichloroethene	<10 µg/kg	TM116	97.5		90.7		90.7	
Carbon Disulphide	<7 µg/kg	TM116	90.7		90.7		<60	
Dichloromethane	<10 µg/kg	TM116	<60		<60		<60	
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116	<60		<60		<60	
trans-1,2-Dichloroethene	<10 µg/kg	TM116	<60		<60		<60	
1,1-Dichloroethane	<8 µg/kg	TM116	<60		<60		<60	
cis-1,2-Dichloroethene	<6 µg/kg	TM116	<60		<60		<60	
2,2-Dichloropropane	<10 µg/kg	TM116	<60		<60		<60	
Bromochloromethane	<10 µg/kg	TM116	<60		<60		<60	
Chloroform	<8 µg/kg	TM116	<60		<60		<60	
1,1,1-Trichloroethane	<7 µg/kg	TM116	<60		<60		<60	
1,1-Dichloropropene	<10 µg/kg	TM116	<60		<60		<60	
Carbontetrachloride	<10 µg/kg	TM116	<60		<60		<60	
1,2-Dichloroethane	<5 µg/kg	TM116	<60		<60		<60	
Benzene	<9 µg/kg	TM116	<60		<60		<60	
Trichloroethene	<9 µg/kg	TM116	<60		<60		<60	
1,2-Dichloropropane	<10 µg/kg	TM116	<60		<60		<60	
Dibromomethane	<9 µg/kg	TM116	<60		<60		<60	
Bromodichloromethane	<7 µg/kg	TM116	<60		<60		<60	
cis-1,3-Dichloropropene	<10 µg/kg	TM116	<60		<60		<60	
Toluene	<7 µg/kg	TM116	<60		<60		<60	
trans-1,3-Dichloropropene	<10 µg/kg	TM116	<60		<60		<60	
1,1,2-Trichloroethane	<10 µg/kg	TM116	<60		<60		<60	



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

VOC MS (S)

Results Legend			Customer Sample R		ZBHP 15	ZBHP 16	ZBHP 17	ZBHP 18	ZBHP 19	ZBHP 20
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015
M	mCERTS accredited.									
aq	Aqueous / settled sample.									
dis.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
*	Subcontracted test.				09/04/2015 150409-70 11150261	09/04/2015 150409-70 11150265	09/04/2015 150409-70 11150269	09/04/2015 150409-70 11150273	09/04/2015 150409-70 11150278	09/04/2015 150409-70 11150284
**	% 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&5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
1,3-Dichloropropane	<7 µg/kg	TM116			<70	<70	<70	<70	<70	<70
					M	M	M	M	M	M
Tetrachloroethene	<5 µg/kg	TM116			<50	<50	<50	<50	<50	<50
					M	M	M	M	M	M
Dibromochloromethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,2-Dibromoethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Chlorobenzene	<5 µg/kg	TM116			<50	<50	<50	<50	<50	<50
					M	M	M	M	M	M
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Ethylbenzene	<4 µg/kg	TM116			<40	<40	<40	<40	<40	<40
					M	M	M	M	M	M
p/m-Xylene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					#	#	#	#	#	#
o-Xylene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Styrene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					#	#	#	#	#	#
Bromoform	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Isopropylbenzene	<5 µg/kg	TM116			<50	<50	<50	<50	<50	<50
					#	#	#	#	#	#
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,2,3-Trichloropropane	<16 µg/kg	TM116			<160	<160	<160	<160	<160	<160
					M	M	M	M	M	M
Bromobenzene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
Propylbenzene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
2-Chlorotoluene	<9 µg/kg	TM116			<90	<90	<90	<90	<90	<90
					M	M	M	M	M	M
1,3,5-Trimethylbenzene	<8 µg/kg	TM116			<80	<80	<80	<80	<80	<80
					M	M	M	M	M	M
4-Chlorotoluene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
tert-Butylbenzene	<14 µg/kg	TM116			<140	<140	<140	<140	<140	<140
					M	M	M	M	M	M
1,2,4-Trimethylbenzene	<9 µg/kg	TM116			<90	<90	<90	<90	<90	<90
					#	#	#	#	#	#
sec-Butylbenzene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
4-Isopropyltoluene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,3-Dichlorobenzene	<8 µg/kg	TM116			<80	<80	<80	<80	<80	<80
					M	M	M	M	M	M
1,4-Dichlorobenzene	<5 µg/kg	TM116			<50	<50	<50	<50	<50	<50
					M	M	M	M	M	M
n-Butylbenzene	<11 µg/kg	TM116			<110	<110	<110	<110	<110	<110
1,2-Dichlorobenzene	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					M	M	M	M	M	M
1,2-Dibromo-3-chloroprop ane	<14 µg/kg	TM116			<140	<140	<140	<140	<140	<140
					M	M	M	M	M	M
Tert-amyl methyl ether	<10 µg/kg	TM116			<100	<100	<100	<100	<100	<100
					#	#	#	#	#	#
1,2,4-Trichlorobenzene	<20 µg/kg	TM116			<200	<200	<200	<200	<200	<200
Hexachlorobutadiene	<20 µg/kg	TM116			<200	<200	<200	<200	<200	<200
Naphthalene	<13 µg/kg	TM116			<130	<130	<130	<130	<130	<130
					M	M	M	M	M	M

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

VOC MS (S)

[illegible]



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

VOC MS (S)

Results Legend			Customer Sample R		ZBHP 21	ZBHP 22	ZBHP 23	ZBHP 24	ZBHP 25	ZBHP 26
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.30 - 0.30 Soil/Solid 07/04/2015	0.50 - 0.50 Soil/Solid 07/04/2015
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								
Dibromofluoromethane**	%	TM116			94.6	108	102	109	106	103
Toluene-d8**	%	TM116			95.4	98.6	96.5	97.5	99.7	97
4-Bromofluorobenzene**	%	TM116			71	89	98	86.9	83.6	85.4
Dichlorodifluoromethane	<6 µg/kg	TM116			<6	<60	<60	<60	<60	<60
Chloromethane	<7 µg/kg	TM116			<7	<70	<70	<70	<70	<70
Vinyl Chloride	<6 µg/kg	TM116			<6	<60	<60	<60	<60	<60
Bromomethane	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
Chloroethane	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
Trichlorofluoromethane	<6 µg/kg	TM116			<6	<60	<60	<60	<60	<60
1,1-Dichloroethene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
Carbon Disulphide	<7 µg/kg	TM116			<7	<70	<70	<70	<70	<70
Dichloromethane	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
trans-1,2-Dichloroethene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
1,1-Dichloroethane	<8 µg/kg	TM116			<8	<80	<80	<80	<80	<80
cis-1,2-Dichloroethene	<6 µg/kg	TM116			<6	<60	<60	<60	<60	<60
2,2-Dichloropropane	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
Bromochloromethane	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
Chloroform	<8 µg/kg	TM116			<8	<80	<80	<80	<80	<80
1,1,1-Trichloroethane	<7 µg/kg	TM116			<7	<70	<70	<70	<70	<70
1,1-Dichloropropene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
Carbontetrachloride	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
1,2-Dichloroethane	<5 µg/kg	TM116			<5	<50	<50	<50	<50	<50
Benzene	<9 µg/kg	TM116			<9	<90	<90	<90	<90	<90
Trichloroethene	<9 µg/kg	TM116			<9	<90	<90	<90	<90	<90
1,2-Dichloropropane	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
Dibromomethane	<9 µg/kg	TM116			<9	<90	<90	<90	<90	<90
Bromodichloromethane	<7 µg/kg	TM116			<7	<70	<70	<70	<70	<70
cis-1,3-Dichloropropene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
Toluene	<7 µg/kg	TM116			<7	<70	<70	<70	<70	<70
trans-1,3-Dichloropropene	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100
1,1,2-Trichloroethane	<10 µg/kg	TM116			<10	<100	<100	<100	<100	<100



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

VOC MS (S)

Results Legend			Customer Sample R	ZBHP 21	ZBHP 22	ZBHP 23	ZBHP 24	ZBHP 25	ZBHP 26
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.30 - 0.30	0.30 - 0.30	0.30 - 0.30	0.30 - 0.30	0.30 - 0.30	0.50 - 0.50
M	mCERTS accredited.			Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
aq	Aqueous / settled sample.			07/04/2015	07/04/2015	07/04/2015	07/04/2015	07/04/2015	07/04/2015
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&5@	Sample deviation (see appendix)								
Component	LOD/Units		Method						
1,3-Dichloropropane	<7 µg/kg	TM116	<7 M	<70 M	<70 M	<70 M	<70 M	<70 M	
Tetrachloroethene	<5 µg/kg	TM116	<5 M	<50 M	<50 M	<50 M	<50 M	<50 M	
Dibromochloromethane	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
1,2-Dibromoethane	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
Chlorobenzene	<5 µg/kg	TM116	<5 M	<50 M	<50 M	<50 M	<50 M	<50 M	
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
Ethylbenzene	<4 µg/kg	TM116	<4 M	<40 M	<40 M	<40 M	<40 M	<40 M	
p/m-Xylene	<10 µg/kg	TM116	<10 #	<100 #	<100 #	<100 #	<100 #	<100 #	
o-Xylene	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
Styrene	<10 µg/kg	TM116	<10 #	<100 #	<100 #	<100 #	<100 #	<100 #	
Bromoform	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
Isopropylbenzene	<5 µg/kg	TM116	<5 #	<50 #	<50 #	<50 #	<50 #	<50 #	
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
1,2,3-Trichloropropane	<16 µg/kg	TM116	<16 M	<160 M	<160 M	<160 M	<160 M	<160 M	
Bromobenzene	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
Propylbenzene	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
2-Chlorotoluene	<9 µg/kg	TM116	<9 M	<90 M	<90 M	<90 M	<90 M	<90 M	
1,3,5-Trimethylbenzene	<8 µg/kg	TM116	<8 M	<80 M	<80 M	<80 M	<80 M	<80 M	
4-Chlorotoluene	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
tert-Butylbenzene	<14 µg/kg	TM116	<14 M	<140 M	<140 M	<140 M	<140 M	<140 M	
1,2,4-Trimethylbenzene	<9 µg/kg	TM116	<9 #	<90 #	<90 #	<90 #	<90 #	<90 #	
sec-Butylbenzene	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
4-Isopropyltoluene	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
1,3-Dichlorobenzene	<8 µg/kg	TM116	<8 M	<80 M	<80 M	<80 M	<80 M	<80 M	
1,4-Dichlorobenzene	<5 µg/kg	TM116	<5 M	<50 M	<50 M	<50 M	<50 M	<50 M	
n-Butylbenzene	<11 µg/kg	TM116	<11	<110	<110	<110	<110	<110	
1,2-Dichlorobenzene	<10 µg/kg	TM116	<10 M	<100 M	<100 M	<100 M	<100 M	<100 M	
1,2-Dibromo-3-chloroprop ane	<14 µg/kg	TM116	<14 M	<140 M	<140 M	<140 M	<140 M	<140 M	
Tert-amyl methyl ether	<10 µg/kg	TM116	<10 #	<100 #	<100 #	<100 #	<100 #	<100 #	
1,2,4-Trichlorobenzene	<20 µg/kg	TM116	<20	<200	<200	<200	<200	<200	
Hexachlorobutadiene	<20 µg/kg	TM116	<20	<200	<200	<200	<200	<200	
Naphthalene	<13 µg/kg	TM116	<13 M	<130 M	<130 M	<130 M	<130 M	<130	

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SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

Asbestos Identification - Solid Samples

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 1 0.40 - 0.40 SOLID 07/04/2015 00:00:00 10/04/2015 10:12:36 150409-70 11150242 TM048	22/04/15	Rebecca Rawlings	Loose fibres in soil	Not Detected (#)	Trace (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 2 0.40 - 0.40 SOLID 07/04/2015 00:00:00 10/04/2015 10:22:29 150409-70 11150294 TM048	22/04/15	Simon Postlewhite	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 3 0.50 - 0.50 SOLID 07/04/2015 00:00:00 10/04/2015 10:19:02 150409-70 11150325 TM048	22/04/15	Chris Swindells	Loose fibres in soil	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 4 0.20 - 0.20 SOLID 07/04/2015 00:00:00 10/04/2015 10:33:22 150409-70 11150330 TM048	22/04/15	Martin Cotterell	Soil containing debris typical of asbestos bitumen	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 5 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 10:16:34 150409-70 11150334 TM048	22/04/15	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

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		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 6 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 03:40:59 150409-70 11150338 TM048	22/04/15	Simon Postlewhite	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 7 0.40 - 0.40 SOLID 07/04/2015 00:00:00 10/04/2015 03:33:24 150409-70 11150342 TM048	22/04/15	Kevin Gill	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 8 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 02:24:35 150409-70 11150347 TM048	22/04/15	Kevin Gill	Loose fibres in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 9 0.20 - 0.20 SOLID 07/04/2015 00:00:00 10/04/2015 03:42:39 150409-70 11150356 TM048	22/04/15	Kevin Gill	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 10 0.20 - 0.20 SOLID 07/04/2015 00:00:00 10/04/2015 03:38:50 150409-70 11150246 TM048	22/04/15	Chris Swindells	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 13 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 08:10:43 150409-70 11150250 TM048	22/04/15	Kevin Gill	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 14 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 08:21:09 150409-70 11150256 TM048	22/04/15	Simon Postlewhite	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 15 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 08:18:06 150409-70 11150261 TM048	22/04/15	Kevin Gill	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 16 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 07:52:12 150409-70 11150265 TM048	22/04/15	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 17 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 08:13:32 150409-70 11150269 TM048	22/04/15	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 18 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 08:24:49 150409-70 11150273 TM048	22/04/15	Simon Postlewhite	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 19 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 07:54:33 150409-70 11150278 TM048	22/04/15	Kevin Gill	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 20 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 07:57:02 150409-70 11150284 TM048	22/04/15	Simon Postlewhite	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 21 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 08:01:44 150409-70 11150289 TM048	22/04/15	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 22 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 07:59:52 150409-70 11150298 TM048	22/04/15	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 23 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 08:16:15 150409-70 11150303 TM048	22/04/15	Kevin Gill	Loose fibres in soil	Not Detected (#)	Trace (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 24 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 08:03:52 150409-70 11150311 TM048	22/04/15	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 25 0.30 - 0.30 SOLID 07/04/2015 00:00:00 10/04/2015 03:37:11 150409-70 11150315 TM048	22/04/15	Simon Postlewhite	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

SDG:
Job:
Client Reference:

150409-70
H_ATKINS_LDC-335
POS

Location:
Customer:
Attention:

Coed Darcy
Atkins Global Ltd
Alex Mann

Order Number:
Report Number:
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		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	ZBHP 26 0.50 - 0.50 SOLID 07/04/2015 00:00:00 10/04/2015 03:30:52 150409-70 11150319 TM048	22/04/15	Simon Postlewhite	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



SDG:	150409-70	Location:	Coed Darcy	Order Number:	CD1179
Job:	H_ATKINS_LDC-335	Customer:	Atkins Global Ltd	Report Number:	310233
Client Reference:	POS	Attention:	Alex Mann	Superseded Report:	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
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		
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
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.



CERTIFICATE OF ANALYSIS

SDG: 150409-70
Job: H_ATKINS_LDC-335
Client Reference: POS

Location: Coed Darcy
Customer: Atkins Global Ltd
Attention: Alex Mann

Order Number: CD1179
Report Number: 310233
Superseded Report:

Test Completion Dates

Lab Sample No(s)	11150242	11150294	11150325	11150330	11150334	11150338	11150342	11150347	11150356	11150246
Customer Sample Ref.	ZBHP 1	ZBHP 2	ZBHP 3	ZBHP 4	ZBHP 5	ZBHP 6	ZBHP 7	ZBHP 8	ZBHP 9	ZBHP 10
AGS Ref.										
Depth	0.40 - 0.40	0.40 - 0.40	0.50 - 0.50	0.20 - 0.20	0.30 - 0.30	0.30 - 0.30	0.40 - 0.40	0.30 - 0.30	0.20 - 0.20	0.20 - 0.20
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Asbestos ID in Solid Samples	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015
EPH CWG (Aliphatic) GC (S)	16-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	16-Apr-2015	15-Apr-2015	16-Apr-2015	15-Apr-2015	15-Apr-2015
EPH CWG (Aromatic) GC (S)	16-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	16-Apr-2015	15-Apr-2015	16-Apr-2015	15-Apr-2015	15-Apr-2015
GRO by GC-FID (S)	16-Apr-2015	15-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	15-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	15-Apr-2015
Metals in solid samples by OES	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	16-Apr-2015	15-Apr-2015
PAH by GCMS	16-Apr-2015	16-Apr-2015	16-Apr-2015	17-Apr-2015	17-Apr-2015	15-Apr-2015	16-Apr-2015	15-Apr-2015	16-Apr-2015	16-Apr-2015
pH	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015
Sample description	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015
Semi Volatile Organic Compounds	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015
Total Organic Carbon	17-Apr-2015			17-Apr-2015			17-Apr-2015			17-Apr-2015
TPH CWG GC (S)	16-Apr-2015	15-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	15-Apr-2015
VOC MS (S)	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	14-Apr-2015	15-Apr-2015	15-Apr-2015	16-Apr-2015

Lab Sample No(s)	11150250	11150256	11150261	11150265	11150269	11150273	11150278	11150284	11150289	11150298
Customer Sample Ref.	ZBHP 13	ZBHP 14	ZBHP 15	ZBHP 16	ZBHP 17	ZBHP 18	ZBHP 19	ZBHP 20	ZBHP 21	ZBHP 22
AGS Ref.										
Depth	0.30 - 0.30	0.30 - 0.30	0.30 - 0.30	0.30 - 0.30	0.30 - 0.30	0.30 - 0.30	0.30 - 0.30	0.30 - 0.30	0.30 - 0.30	0.30 - 0.30
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Asbestos ID in Solid Samples	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015
EPH CWG (Aliphatic) GC (S)	15-Apr-2015	17-Apr-2015	15-Apr-2015	15-Apr-2015	16-Apr-2015	15-Apr-2015	16-Apr-2015	16-Apr-2015	15-Apr-2015	16-Apr-2015
EPH CWG (Aromatic) GC (S)	15-Apr-2015	17-Apr-2015	15-Apr-2015	15-Apr-2015	16-Apr-2015	15-Apr-2015	16-Apr-2015	16-Apr-2015	15-Apr-2015	16-Apr-2015
GRO by GC-FID (S)	16-Apr-2015	16-Apr-2015	16-Apr-2015	15-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015
Metals in solid samples by OES	15-Apr-2015	16-Apr-2015	15-Apr-2015	15-Apr-2015	16-Apr-2015	15-Apr-2015	16-Apr-2015	17-Apr-2015	15-Apr-2015	16-Apr-2015
PAH by GCMS	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	16-Apr-2015
pH	16-Apr-2015	16-Apr-2015	17-Apr-2015	16-Apr-2015	17-Apr-2015	16-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015
Sample description	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015
Semi Volatile Organic Compounds	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015
Total Organic Carbon				17-Apr-2015			17-Apr-2015			17-Apr-2015
TPH CWG GC (S)	16-Apr-2015	17-Apr-2015	16-Apr-2015	15-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015
VOC MS (S)	15-Apr-2015	15-Apr-2015	16-Apr-2015	16-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	14-Apr-2015	15-Apr-2015

Lab Sample No(s)	11150303	11150311	11150315	11150319
Customer Sample Ref.	ZBHP 23	ZBHP 24	ZBHP 25	ZBHP 26
AGS Ref.				
Depth	0.30 - 0.30	0.30 - 0.30	0.30 - 0.30	0.50 - 0.50
Type	SOLID	SOLID	SOLID	SOLID
Asbestos ID in Solid Samples	22-Apr-2015	22-Apr-2015	22-Apr-2015	22-Apr-2015
EPH CWG (Aliphatic) GC (S)	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015
EPH CWG (Aromatic) GC (S)	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015
GRO by GC-FID (S)	16-Apr-2015	16-Apr-2015	16-Apr-2015	15-Apr-2015
Metals in solid samples by OES	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015
PAH by GCMS	16-Apr-2015	16-Apr-2015	16-Apr-2015	15-Apr-2015
pH	16-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015
Sample description	10-Apr-2015	10-Apr-2015	10-Apr-2015	10-Apr-2015
Semi Volatile Organic Compounds	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015
Total Organic Carbon			17-Apr-2015	
TPH CWG GC (S)	16-Apr-2015	16-Apr-2015	16-Apr-2015	16-Apr-2015
VOC MS (S)	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015



CERTIFICATE OF ANALYSIS

SDG:	150409-70	Location:	Coed Darcy	Order Number:	CD1179
Job:	H_ATKINS_LDC-335	Customer:	Atkins Global Ltd	Report Number:	310233
Client Reference:	POS	Attention:	Alex Mann	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

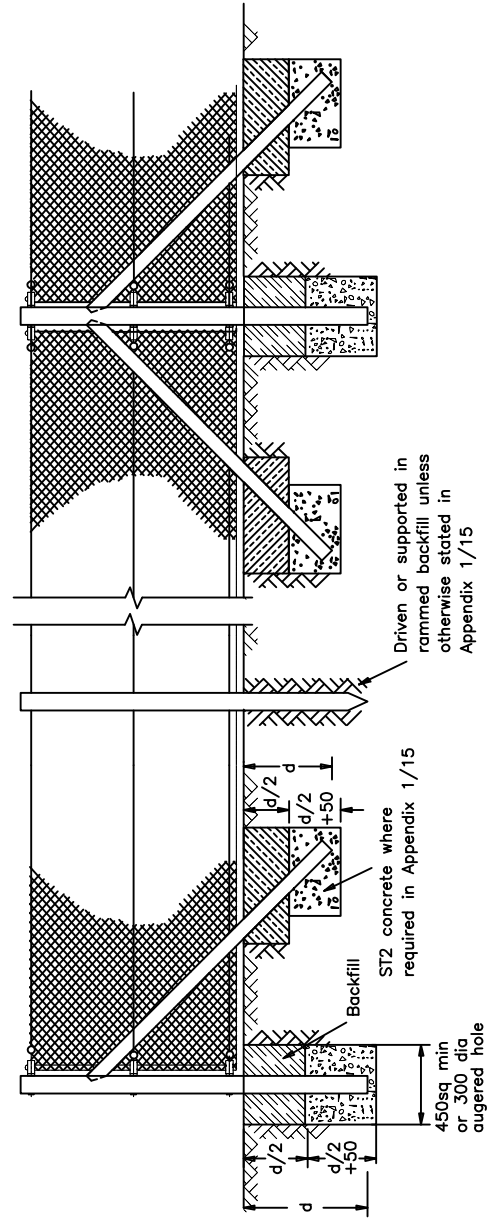
Estimation of fibre content is not permitted as part of our UKAS accredited test other than :
- Trace - Where only one or two asbestos fibres were identified.

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

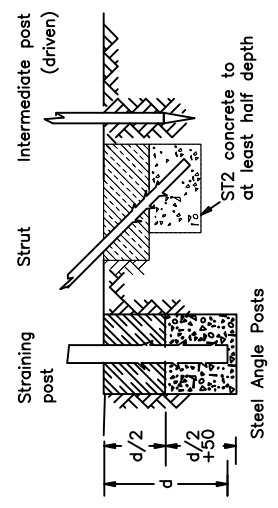
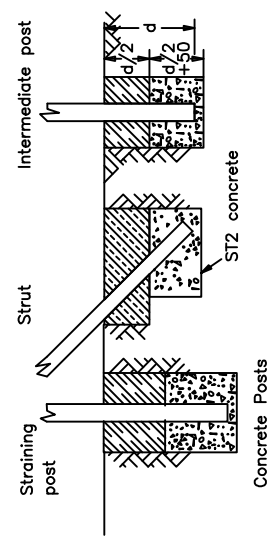
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Appendix F – Typical Fencing Details

NOTE: TYPICAL FENCING DETAIL ONLY< ALL PROPOSED FENCING IS SUBJECT TO
PRIOR AGREEMENT WITH THE LOCAL PLANNING AUTHORITY



DETAIL FOR TIMBER POSTS



VARIATIONS FOR POSTS OF MATERIALS OTHER THAN TIMBER

NOTES

1. B.S.1722 Part 1 applies unless otherwise stated.
2. Dimensions of foundation, type and size of posts, struts and mesh, etc. shall be taken from B.S.1722 Part 1 appropriate to the height and with any other requirement described in Appendix 1/15 and on the Drawings.
3. Plastic coating when required in Appendix 1/15 shall comply with Specification Clauses 2604 and 2605.
4. Plastic coating material shall not be acceptable where serious damage has occurred to the coating before or during erection. Minor defects must be sprayed with an approved plastic paint within 24 hours of erection.
5. All timber shall comply with Specification Clause 304 unless otherwise stated in Appendix 1/15.
6. Where a fence forms a boundary between the highway and private property the wire shall be fixed to the highway side unless otherwise stated in Appendix 1/15.
7. Timber posts and struts may be supported in rammed backfill unless otherwise stated in Appendix 1/15.
8. ALL DIMENSIONS ARE IN MILLIMETRES.

HIGHWAY CONSTRUCTION DETAILS		FENCES, STILES & GATES				ACCOMMODATION WORKS CHAIN LINK FENCES		Drawing No.
								H11
		D	MAY 04					
		C	MAR 98					
		B	AUG 93					
		A	DEC 91					
		Issue		Date				

Appendix G – Tal y Fedw Separators



1) Grey silts noted in the top compartments. Slight sheen



2) Grey silts noted in the top compartments. Slight sheen



3) Agitation of basal silts to observe entrained product. Only sheens observed.



4) Agitation of basal silts to observe entrained product. Only sheens observed.



5) Grey silts noted in the middle compartments. No sheen



6) Effluent weir discharging to the SSR



7) Removal of soil water and basal silts



8) Removal of soil water and basal silts



9) Water quality following recharge after recovery



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

Attention: Barney Irlam

CERTIFICATE OF ANALYSIS

Date: 26 October 2015
Customer: H_ATKINS_LDC
Sample Delivery Group (SDG): 151020-69
Your Reference: Tal-Y-Fedw Separators
Location: Coed Darcy
Report No: 335060

We received 2 samples on Friday October 16, 2015 and 2 of these samples were scheduled for analysis which was completed on Monday October 26, 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:	151020-69	Location:	Coed Darcy	Order Number:	CD1430
Job:	H_ATKINS_LDC-482	Customer:	Atkins Global Ltd	Report Number:	335060
Client Reference:	Tal-Y-Fedw Seperators	Attention:	Barney Irlam	Superseded Report:	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
12273150	TYF - In			
12273148	TYF - Out			

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



SDG: 151020-69
Job: H_ATKINS_LDC-482
Client Reference: Tal-Y-Fedw Separators

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

Order Number: CD1430
Report Number: 335060
Superseded Report:

LIQUID**Results Legend**

Test

No Determination
Possible**Lab Sample No(s)**

12273150

12273148

**Customer
Sample Reference**

TYF - In

TYF - Out

AGS Reference**Depth (m)****Container**

1000ml glass bottle (ALE)

1000ml glass bottle (ALE)

Vial (AL E297)

1000ml glass bottle (ALE)

Vial (AL E297)

1000ml glass bottle (ALE)

Vial (AL E297)

EPH CWG (Aliphatic) Aqueous GC (W)

All

NDPs: 0
Tests: 2

X

X

EPH CWG (Aromatic) Aqueous GC (W)

All

NDPs: 0
Tests: 2

X

X

GRO by GC-FID (W)

All

NDPs: 0
Tests: 2

X

X

pH Value

All

NDPs: 0
Tests: 2

X

X

Suspended Solids

All

NDPs: 0
Tests: 2

X

X

SVOC MS (W) - Aqueous

All

NDPs: 0
Tests: 2

X

X

TPH CWG (W)

All

NDPs: 0
Tests: 2

X

X

VOC MS (W)

All

NDPs: 0
Tests: 2

X

X

SDG: 151020-69
Job: H_ATKINS_LDC-482
Client Reference: Tal-Y-Fedw Separators

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

Order Number: CD1430
Report Number: 335060
Superseded Report:

[illegible]



CERTIFICATE OF ANALYSIS

SDG: 151020-69
Job: H_ATKINS_LDC-482
Client Reference: Tal-Y-Fedw Separators

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

Order Number: CD1430
Report Number: 335060
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend		Customer Sample Ref. Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	TYF - In		TYF - Out				
#	ISO17025 accredited.		Water(GW/SW)		Water(GW/SW)				
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							
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	§	<1	§			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
2-Chlorophenol (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
2-Methylphenol (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
2-Nitroaniline (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
2-Nitrophenol (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
3-Nitroaniline (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
4-Chloroaniline (aq)	<1 µg/l	TM176	<1	§	<1	§			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
4-Methylphenol (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
4-Nitroaniline (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
4-Nitrophenol (aq)	<1 µg/l	TM176	<1	§	<1	§			
Azobenzene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Acenaphthylene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Acenaphthene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Anthracene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2	§ #	<2	§ #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			



CERTIFICATE OF ANALYSIS

SDG: 151020-69
Job: H_ATKINS_LDC-482
Client Reference: Tal-Y-Fedw Separators

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

Order Number: CD1430
Report Number: 335060
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend		Customer Sample Ref.	TYF - In		TYF - Out				
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW) 16/10/2015 151020-69 12273150	Water(GW/SW) 16/10/2015 151020-69 12273148				
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							
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Carbazole (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Chrysene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Dibenzofuran (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Diethyl phthalate (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5	§ #	<5	§ #			
Fluoranthene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Fluorene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	§	<1	§			
Phenol (aq)	<1 µg/l	TM176	<1	§	<1	§			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Hexachloroethane (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Nitrobenzene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Naphthalene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Isophorone (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	§	<1	§			
Phenanthrene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			
Pyrene (aq)	<1 µg/l	TM176	<1	§ #	<1	§ #			



CERTIFICATE OF ANALYSIS

SDG: 151020-69
Job: H_ATKINS_LDC-482
Client Reference: Tal-Y-Fedw Separators

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

Order Number: CD1430
Report Number: 335060
Superseded Report:

TPH CWG (W)

Results Legend		Customer Sample Ref.	TYF - In	TYF - Out				
#	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	Water(GW/SW)	Water(GW/SW)				
GRO Surrogate % recovery**	%	TM245	87	81				
			\$	\$				
GRO >C5-C12	<50 µg/l	TM245	<50	<50				
			\$ #	\$ #				
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245	<3	<3				
			\$ #	\$ #				
Benzene	<7 µg/l	TM245	<7	<7				
			\$ #	\$ #				
Toluene	<4 µg/l	TM245	<4	<4				
			\$ #	\$ #				
Ethylbenzene	<5 µg/l	TM245	<5	<5				
			\$ #	\$ #				
m,p-Xylene	<8 µg/l	TM245	<8	<8				
			\$ #	\$ #				
o-Xylene	<3 µg/l	TM245	<3	<3				
			\$ #	\$ #				
Sum of detected Xylenes	<11 µg/l	TM245	<11	<11				
			\$	\$				
Sum of detected BTEX	<28 µg/l	TM245	<28	<28				
			\$	\$				
Aliphatics >C5-C6	<10 µg/l	TM245	<10	<10				
			\$	\$				
Aliphatics >C6-C8	<10 µg/l	TM245	<10	<10				
			\$	\$				
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10				
			\$	\$				
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10				
			\$	\$				
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10				
			\$	\$				
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	27	15				
			\$	\$				
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	61	55				
			\$	\$				
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	88	70				
			\$	\$				
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10				
			\$	\$				
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10				
			\$	\$				
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10				
			\$	\$				
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10				
			\$	\$				
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10				
			\$	\$				
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10				
			\$	\$				
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10				
			\$	\$				
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10				
			\$	\$				
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	88	70				
			\$	\$				



CERTIFICATE OF ANALYSIS

SDG: 151020-69
Job: H_ATKINS_LDC-482
Client Reference: Tal-Y-Fedw Separators

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

Order Number: CD1430
Report Number: 335060
Superseded Report:

VOC MS (W)

Results Legend		Customer Sample Ref.	TYF - In		TYF - Out				
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW)	Water(GW/SW)				
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							
Dibromofluoromethane**	%	TM208	111	112					
			\$	\$					
Toluene-d8**	%	TM208	101	101					
			\$	\$					
4-Bromofluorobenzene**	%	TM208	102	102					
			\$	\$					
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1					
			\$	\$					
Chloromethane	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Vinyl chloride	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Bromomethane	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Chloroethane	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Trichlorofluoromethane	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
1,1-Dichloroethene	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Carbon disulphide	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Dichloromethane	<3 µg/l	TM208	<3	<3					
			\$ #	\$ #					
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
1,1-Dichloroethane	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1					
			\$	\$					
Bromochloromethane	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Chloroform	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
1,1,1-Trichloroethane	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
1,1-Dichloropropene	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Carbontetrachloride	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
1,2-Dichloroethane	<1 µg/l	TM208	<1	<1					
			\$	\$					
Benzene	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Trichloroethene	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
1,2-Dichloropropane	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Dibromomethane	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Bromodichloromethane	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
Toluene	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					
1,1,2-Trichloroethane	<1 µg/l	TM208	<1	<1					
			\$ #	\$ #					



CERTIFICATE OF ANALYSIS

SDG: 151020-69
Job: H_ATKINS_LDC-482
Client Reference: Tal-Y-Fedw Separators

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

Order Number: CD1430
Report Number: 335060
Superseded Report:

VOC MS (W)

Results Legend			Customer Sample Ref.		TYF - In	TYF - Out			
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		Water(GW/SW)	Water(GW/SW)			
M	mCERTS accredited.								
aq	Aqueous / settled sample.								
dis.s.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				16/10/2015	16/10/2015			
1-5&5@	Sample deviation (see appendix)				151020-69	151020-69			
					12273150	12273148			
Component	LOD/Units	Method							
1,3-Dichloropropane	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
Tetrachloroethene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
Dibromochloromethane	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
1,2-Dibromoethane	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
Chlorobenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
Ethylbenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
m,p-Xylene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
o-Xylene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
Styrene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
Bromoform	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
Isopropylbenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208			<1	<1			
					§	§			
1,2,3-Trichloropropane	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
Bromobenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
Propylbenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
2-Chlorotoluene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
1,3,5-Trimethylbenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
4-Chlorotoluene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
tert-Butylbenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
1,2,4-Trimethylbenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
sec-Butylbenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
4-iso-Propyltoluene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
1,3-Dichlorobenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
1,4-Dichlorobenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
n-Butylbenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
1,2-Dichlorobenzene	<1 µg/l	TM208			<1	<1			
					§	§			
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208			<1	<1			
					§	§			
1,2,4-Trichlorobenzene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
Hexachlorobutadiene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208			<1	<1			
					§ #	§ #			
Naphthalene	<1 µg/l	TM208			<1	<1			
					§ #	§ #			



SDG:	151020-69	Location:	Coed Darcy	Order Number:	CD1430
Job:	H_ATKINS_LDC-482	Customer:	Atkins Global Ltd	Report Number:	335060
Client Reference:	Tal-Y-Fedw Separators	Attention:	Barney Irlam	Superseded Report:	

VOC MS (W)

Results Legend		Customer Sample Ref.	TYF - In		TYF - Out				
#	ISO17025 accredited.		Water(GW/SW)		Water(GW/SW)				
M	mCERTS accredited.	Depth (m)	-		-				
aq	Aqueous / settled sample.	Sample Type	-		-				
diss.filt	Dissolved / filtered sample.	Date Sampled	-		-				
tot.unfilt	Total / unfiltered sample.	Sample Time	-		-				
*	Subcontracted test.	Date Received	16/10/2015		16/10/2015				
**	% 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	SDG Ref	151020-69		151020-69				
(F)	Trigger breach confirmed	Lab Sample No.(s)	12273150		12273148				
1-5&+5@	Sample deviation (see appendix)	AGS Reference							
Component	LOD/Units	Method							
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1		<1				
			\$ #		\$ #				
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1		<1				
			\$		\$				



SDG:	151020-69	Location:	Coed Darcy	Order Number:	CD1430
Job:	H_ATKINS_LDC-482	Customer:	Atkins Global Ltd	Report Number:	335060
Client Reference:	Tal-Y-Fedw Separators	Attention:	Barney Irlam	Superseded Report:	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters		
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		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / 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:	151020-69	Location:	Coed Darcy	Order Number:	CD1430
Job:	H_ATKINS_LDC-482	Customer:	Atkins Global Ltd	Report Number:	335060
Client Reference:	Tal-Y-Fedw Separators	Attention:	Barney Irlam	Superseded Report:	

Test Completion Dates

Lab Sample No(s)	12273150	12273148
Customer Sample Ref.	TYF - In	TYF - Out
AGS Ref.		
Depth		
Type	LIQUID	LIQUID

EPH CWG (Aliphatic) Aqueous GC (W)	26-Oct-2015	26-Oct-2015
EPH CWG (Aromatic) Aqueous GC (W)	26-Oct-2015	26-Oct-2015
GRO by GC-FID (W)	23-Oct-2015	23-Oct-2015
pH Value	23-Oct-2015	23-Oct-2015
Suspended Solids	24-Oct-2015	26-Oct-2015
SVOC MS (W) - Aqueous	26-Oct-2015	26-Oct-2015
TPH CWG (W)	26-Oct-2015	26-Oct-2015
VOC MS (W)	23-Oct-2015	23-Oct-2015



SDG:	151020-69	Location:	Coed Darcy	Order Number:	CD1430
Job:	H_ATKINS_LDC-482	Customer:	Atkins Global Ltd	Report Number:	335060
Client Reference:	Tal-Y-Fedw Separators	Attention:	Barney Irlam	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 C. Western Margin Woodland (Zone C)

Technical Note 1352

Subject:	Coed Darcy – Open Space Zone C (Western Margin Woodland)		
Reference:	5041216-REM-TN-1352	Revision:	A
Author:	Matthew Timmins	Checker:	Michelle Lee
Issued to:	Rhys Mander (AECOM)	Reviewer:	Mike Poland
Date:	October 2015	Authoriser:	Mike Poland

1. Introduction

This Technical Note relates to the assessment and validation of an area of open space known as the Western Margin Woodland which forms one part (Zone C) of Monitor Phase 39 (refer to Atkins Drawing 5041216-REM-DWG-1661 P4) within the former Llandarcy Oil Refinery, Neath. Based on the current Masterplan, this area is shown to remain as Open Space within the final development.

The Western Margin Woodland is referred to as 'Zone C' hereon in to correspond with the areas set out in the overarching Monitor Phase 39 report (5041216-REM-RPT-1340 Rev A).

2. The Site

Zone C is an irregular shaped parcel of land covering 3.9ha (hectares) and forms part of a densely vegetated swathe of woodland along the western edge of the railcar loading depot railhead. The site topography within Zone C falls sharply towards the west with a maximum elevation of approximately 27 metres above ordnance datum (mAOD) to a minimum elevation of approximately 8 mAOD. The extent of the area under consideration is shown on Atkins Drawing 5041216-REM-DWG-1787.

The site lies immediately east of Crymlyn Bog SSSI and immediately west of the former railcar loading depot railhead. Zone C is bound to the north and south by open space zones B and D respectively. Existing fencing lies along the length of the northern and western boundaries, enclosing the site from Crymlyn Bog SSSI to the west as previously discussed in Technical Note 5041216-OSW-TN-0640 (Located in Appendix F for reference).

The final design for this area has not yet been defined but is anticipated to remain as densely vegetated woodland and in line with the current ground levels. Strategic proposals, including timescales for implementation, for these areas are discussed in Atkins report 5041216-ECO-RPT-486. This area is suggested to lie within one of the last stages of implementation (Phase 5).

Selected photographs of this Zone are presented in Appendix B.

3. Site History

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

Based on the desk study for the former refinery (URS Report BRRP0001), historical refinery activities within Zone C are limited to a section of an access road and pipeline, an old pump house and an oil water separator, colloquially known as the Railhead Separator (refer to Drawing 5041216-REM-DWG-1822).

The pipeline is absent on a number of refinery plans but is thought to be the former Angle Bay 15" diameter pipe which used to transfer crude oil from the refinery to the Angle Bay temporary storage facility at Milford Haven. Based on discussion with John Smith, this pipeline has been decommissioned and no indication of this feature remaining within Zone C was identified during the walkover. Evidence of backfilling within the site is shown on Drawing 5041216-REM-DWG-1822 and appears to govern the current site's landform.

The location of known historical refinery activities within Zone C is shown on Drawing 5041216-REM-DWG-1822.

4. Site Walkover

Atkins undertook a site walkover of Zone C in February 2015 to examine potential constraints and obvious historical indicators of contaminative issues where access by foot was possible. A selection of photographs, taken during the walkover, are presented as Appendix B and the corresponding location drawing is shown as 5041216-REM-DWG-1787.

During the walkover, only around 15 percent of the site area within Zone C was found to be accessible due to dense vegetation, woodland, steep topography and wet boggy ground (refer to photographs in Appendix B). Details of constraints to any proposed investigation within Zone C are shown on drawing 5041216-REM-DWG-1797.

A one storey building is located in the north west of the phase and is a purpose built 'bat house' which is completely fenced off with palisade fencing to prevent unauthorised access. The bat house was constructed in 2010.

A number of free product recovery sumps and interception trenches were identified within this Zone during the walkover. These features form part of the Remedial Action Plan (RAP) features 2a and 2b, as defined within Schedule 7 of the S106. Whilst free product was noted during the walkover, it was present as localised oily sheens. Details relating to these features are provided in Atkins technical notes. The result of ground investigation carried out as part of the assessment of these features is summarised in Section 5.1. These features continue to be monitored and product recovered on a regular basis.

Ocherous deposits were identified in a drainage ditch and within the reed bed (in and immediately adjacent to RAP feature 2). This drainage ditch discharges in to the railhead separators and consequently in to the Crymlyn Bog SSSI. The railhead oil water separators were observed to be in working order with no visual evidence of hydrocarbon related contamination present.

Three pipes were identified within the phase but are shown on historical plans to be storm drains that formerly drained the railhead.

5. Historical Ground Investigation

Historical ground investigation data for Zone C (URS Report FR1287) suggests a total of 71 exploratory holes from 48 exploratory hole locations (16 locations with multiple installations) within this area, as shown on drawing 5041216-REM-DWG-1806. These exploratory holes were undertaken prior to any remedial or product recovery works as part of the RAP requirements. Copies of available exploratory hole logs for these locations are collated in Appendix A.

A review of the available logs is consistent with the historical earthworks creating the topographic form present today and the proximity of this Zone to the adjacent bog. The logs show that Made Ground is pervasive in the site overlying natural soils (peats, silts, sands and gravels). Made Ground was encountered in 32 locations and generally comprises loose gravels/sands of ash and clinker, firm silty sandy gravelly clays and rare reworked peat. Made Ground ranged in thickness from 0.6m in MSMW040 to 6.8m in MSMW171D, S1, S2.

Underlying the Made Ground (where present), the near surface soils comprised varying sequences of silts, sands, gravels and peat which is consistent with the freshwater boggy setting of the Crymlyn Bog SSSI.

Bedrock is reported in seven locations at depths from 4.05m bgl (MSMW114D, S1,S2) to 12.8m bgl (MSMW171D) where the base of the near surface soils was proven. However, sandy and gravelly horizons were encountered at a number of locations and may represent weathered bedrock. The bedrock comprised both sandstone and weathered mudstones.

A review of the available logs indicates that strong to very strong hydrocarbon odours were encountered in 25 locations and hydrogen sulphide odour encountered in RHRW003 (0.7m bgl). A total of 17 locations intercepted free product predominately in granular horizons at depths from 0.6m bgl (RHRW024A/B) to a maximum depth of 3m bgl (RHRW023A/B).

A summary of the results of historical laboratory analysis on five samples from Zone C (1 shallow and 4 deep) is presented in Appendix D and indicates concentrations below the adopted thresholds for retention within an area of Public Open Space (refer to Section 8 below).

Reference to historic borehole monitoring in URS Report FR1287 indicates that groundwater levels are recorded to lie at approximate depths of between 0.087 m bgl (MSMW115D1,D2) to 8.75m bgl (MSMW171S1,S2).

5.1 Atkins Works Associated with RAP Feature 2

A number of subsequent investigations and product recovery works have been undertaken in Zone C following the initial ground investigation (section 5) and are more specifically discussed in the following Atkins reports and technical notes.

- RAP Features 2,3,4 & 5, Western Margin RAP Works Assessment Report. 5041216-RAP-RPT-770. April 2012.
- Coed Darcy – RAP Feature 2, Western Margin Sumps. 5041216-RAP-TN-931. April 2013. (Appendix C)
- Coed Darcy – RAP Feature 2, Western Margin Sumps. 5041216-RAP-TN-1106. April 2014. (Appendix C)

The performance criteria for RAP Feature 2 within the S106 states the following:

- *Install permanent measures to prevent free product from crossing the site boundary and entering Crymlyn Bog to the satisfaction of the Environment Agency (EA) and Countryside Council for Wales (CCW), (RAP 2, 3 & 5)*
- *Diffuse discharge of water arising from interception system to the Crymlyn Bog, via a purpose-constructed wetland features to reduce dissolved hydrocarbon load and without the requirement for a discharge consent, (RAP 2) and*
- *Prevent ochreous precipitate discharges from site to the Crymlyn Bog arising from the interception feature. (RAP 2)*

Following a review of the available historical data for the Western Margin, Atkins undertook a series of trial pits (5041216-REM-DWG-1806). Copies of available exploratory hole logs for these locations are collated in Appendix A.

Investigation and Monitoring 2009

- Nine trial pits MP201-209, were positioned along the proposed location of RAP 2 trench and recorded ashy Made Ground to depths of between 0.3m (MP202) and 1.5m (MP201). The base of the Made Ground was not proven in trial pits MP206-209.
- Glacial Till was proven underlying the Made Ground in three of the trial pits (MP201, 202 and 205) but was not proven beyond 2.0m (MP202) and 3.0m (MP205) due to either pit collapse or shallow groundwater ingress. Black hydrocarbon staining and odours were noted within the Glacial Deposits in three pits

- Free product was observed within five of the nine trial pits during the first monitoring round as covering the surface of groundwater in MP207 and MP208 and as droplets/sheen in MP202, MP203 and MP206.
- After the first visit and subsequent oil recovery no free product was recorded within MP203 and 206. The volume of recoverable oil was not sufficient to justify the continuation of oil recovery in the area.
- No evidence of free product was recorded within MP201, MP204, MP205 and MP209 during the monitoring. Ochreous discharge or water discolouration was recorded in MP203 and MP204 during the first monitoring visit.
- Draw down tests were carried out in eight existing historical exploratory holes with product returning to four exploratory holes (RHRW001c, RHRW007, RHRW009, RHRW011).
- Eight monitoring sumps (WMS1-WMS8) were installed in Zone C and were monitored once a week for 13 weeks from February 2010 for the presence/absence of free product

Investigations 2010

- A 72m long trial trench was excavated to focus on the area of RAP Feature 2 in order to increase the number of monitoring installations and improve the understanding of the ground conditions. The trench was logged (see Appendix A) at four locations, spaced at regular intervals (AT2 P1-AT2 P4) along its length, as shown on Drawing 504121-REM-DWG-1806.
- Two sumps were installed at the location of AT2 P2 (identified as WMS17) and AT2 P3 (identified as WMS18) and comprised a 600mm diameter HDPE pipe which enabled subsequent monitoring to be carried out.
- Made Ground was identified along the length of the trench from surface level to depths ranging between 0.2m to 1.8m. The Made Ground predominantly comprised ashy granular material and was underlain by Glacial Deposits comprising grey/brown clayey sandy gravel, the base of which was not proven beyond 2.8m.
- Hydrocarbon staining (VO=1 to 3) and odours (VO=1 to 3) were noted within the Glacial Deposits between 2.2m in AT2 P1 and the base of the trial trench at 2.8m in AT2 P2. Groundwater was observed entering the trench at AT2 P2, AT2 P3 and AT2 P4 at depths ranging between 1.3m and 2.3m. No evidence of sheens or product was recorded on the groundwater.
- Sumps WMS17 and WMS18 were also included within the monitoring programme of the sumps installed in late 2009.

Monitoring 2010 to 2012

- The monitoring programme comprised twenty five rounds over a 24 month period between 25th February 2010 and 26th January 2012.
- Monitoring sumps WMS2-WMS7 recorded an oily sheen or slight sheen with the exception of WMS2 and WMS5, where free product was recorded ranging between 0.5cm and 5cm (WMS2). Free product was also noted on the surface of sump WMS7 up to 0.01cm on 14th July 2010. Droplets of free product were also observed within sumps WMS6 and WMS7 on two of the five monitoring visits undertaken in March 2010.
- Monitoring sumps WMS1, WMS6, and WMS8 have occasionally recorded sheens with WMS17 and WMS18 not recording any evidence of free product following their installation in July 2010.

Investigations 2013

- Works were undertaken in November 2013 to upgrade a previously constructed collection trench and the installation of slit trenches adjacent to Sump 5 in line with recommendations in Atkins Technical note 5041216-RAP-TN-931.

- The upgraded trench was constructed broadly in line with the design shown on Atkins drawing 5041216-RAP-DWG-1512, with the exception of the use of granular fill. The trench measured approximately 37m x 2m and is approximately 2m in depth.
- The completed trench has been lined with marine plywood to the north, to assist with the collection of free product. Water flows from the trench down a spillway into a reed pond.
- Excess vegetation around the reed pond was cleared as part of the works, and the outlet pipe into the separator tank at the exit from the reed pond was cleaned out such that it is fully functioning to prevent the migration of ochre into Crymlyn Bog SSSI.
- A slit trench, measuring approximately 8m by 1.2m and 2m in depth, was excavated, in an east-west direction, to either side of Sump 5 to further assess free product migration in this area.

RAP feature 2 has received formal agreement from Natural Resources Wales and the Monitor verifying the compliance to the RAP requirements detailed within the S106 for the Coed Darcy development.

6. S106 Remediation Redevelopment Requirements

As indicated in the introductory text, the existing S106 does not provide specific details for remediation requirements for areas of proposed Open Space, 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.

The Risk Based Screening Levels (RBSLs), listed in the S106 for the site, have been combined with Atkins derived Risk Target Concentrations (RTCs) for an open space end use, to assess chemical results in these areas. Details of the adopted thresholds are shown/presented in Appendix I of the overarching Monitor Phase 39 Report.

7. Pipe Removal Works

The three pipes noted on drawing 5041216-REM-DWG-1797 have been exposed, where small sections were buried (approximately 3m at the top of the slope under the haul road), and subsequently removed. Photographs of the works are collated in Appendix E.

8. Validation

Tables 1 and 2 detail the achieved validation frequencies for this area, based on works to date.

Table 1 –Exploratory Hole Validation Frequency

Sampling Strategy	Agreed Frequency	Area within Zone F	Number of Exploratory Holes Locations	Validation Frequency
In footprint of former tanks/bunds	1 per 400m ²	30,856 ²	44*	1 per 702m ²
Areas of no previous refinery history	1 per 2500m ²	8,175m ²	12**	1 per 681m ²

*Comprised of 37 exploratory hole locations and 7 sumps.

**Comprised of 11 exploratory hole locations and 1 sump.

Table 2 –Sampling Validation Frequency

Sampling Strategy	Area within Zone F	Number of Samples	Validation Frequency
In footprint of former tanks/bunds	30,856 ²	5	1 per 6,171m ²
Areas of no previous refinery history	8,175m ²	1	1 per 8,175m ²

9. Conceptual Site Model (CSM)

Zone C comprises an area of steeply sloping dense woodland, which borders part of the western part of the former Llandarcy oil refinery. The site lies downslope of the railhead and wider refinery and in turn, lies upslope of Crymlyn Bog SSSI. Existing fencing exists along the length of the northern and western boundaries, enclosing the site from Crymlyn Bog SSSI.

A review of historical information relating to the former refinery indicates that the majority of this area has remained as open space for much of the lifetime of the refinery as shown on Drawing 5041216-REM-DWG-1822. In line with RAP works defined in the S106, interception trenches, sumps and surface water monitoring grips have been installed within the site (Section 5.1) in order to investigate and intercept potential mobile free product from upslope refinery operations. Works undertaken as part of RAP phase 2 targeted areas of free product and monitored a steady decline over a number of monitoring rounds. RAP feature 2 will continue to be monitored as part of the site wide monitoring programme.

Historical ground investigation (refer to section 5) confirms the presence of natural soils underlying this zone with the presence of localised Made Ground associated with former historical uses. Recent ground investigation recorded elevated concentrations of inorganic metals/metalloids (arsenic, cadmium, copper, lead and zinc), three exceedances of benzo(a)pyrene and the presence of asbestos fibres within the near surface soils (section 7).

Key exposure pathways to the anticipated receptors, based on an ongoing Public Open Space end use, include:

- Dermal contact with contaminants in soil, soil-derived dust and entrained surface water run-off from any areas where soil (and contaminants) is exposed at the surface or in perched water/ groundwater if excavation takes place;
- Ingestion of contaminants in soil, soil-derived dust and entrained surface water run-off from any areas where soil (and contaminants) is exposed at the surface or in perched water/ groundwater if excavation takes place;
- Inhalation of contaminants in soil-derived dust from any areas where soil (and contaminants) is exposed at the surface or excavation takes place;
- Passive and active uptake through roots of contaminants in migrating perched water/ groundwater and leaf contact with contaminants in windblown, soil-derived dust.

The risk to receptors in the short term is deemed to be mitigated by the presence of 24hour security, secure site perimeter fencing and the wet and marshy ground associated with Crymlyn Bog SSSI. However, to mitigate the risk to long term receptors, the proposed fencing works is likely to significantly reduce the frequency of receptors entering the site. The fencing proposed to protect long term receptors would be placed along the eastern boundary of Zone C to tie in to the existing palisade fencing already in place along the northern and western boundaries, as detailed on drawing 5041216-ATK-REM-DWG-2016. These works will be required upon the development of Zone C. The above CSM and envisaged low frequency of use suggests the remaining risk to present and future receptors is considered low.

10. Conclusions

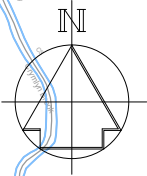
Atkins Limited has been commissioned by St. Modwen Developments Ltd to provide a summary of information relating to an area of proposed Open Space known as Zone C of Monitor Phase 39.

Planning Condition 17 of the Outline Planning Approval for the redevelopment of the former refinery (ref P2005/0393) states that:

'Prior to the commencement of development, a scheme detailing both temporary and permanent means of enclosure to Crymlyn Bog shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall include details of the proposed materials, fence specification and expected lifespan of each section of fencing and shall give full consideration to measures which will allow or restrict wildlife access to areas. The approved details shall be fully implemented on site in line with a schedule of works that shall form part of the details submitted for approval. Any breach of the approved means of enclosure shall be repaired with the same material within 5 working days. Any change in the material of the approved means of enclosure shall be agreed in writing by the Local Planning Authority prior to its use on site.'

In line with the level of previous ground investigation within this area, the presence of existing interception trenches etc which will continue to be monitored/maintained until the remediation of all upslope areas are complete and the presence of existing and proposed fencing within the final development, Zone C is considered suitable for use as Open Space (Woodland) in the long term.

Figures



KEY



PUBLIC OPEN SPACE ZONE C

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Atkins Limited

Telford Office
Cornerstone House
Stafford Park 13
Telford TF3 3AZ
Tel 01952 201234
Fax 01952 200981
Birmingham Office
The Axis, 10 Holliday Street
Birmingham
West Midlands B1 1TF
Tel 0121 483 5000
Fax 0121 483 5252

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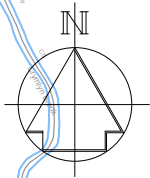
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DRAWING TITLE
PUBLIC OPEN SPACE ZONE C
PHOTOGRAPH LOCATIONS

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DATE 23.02.15 DATE 23.02.15 DATE

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DRAWING NO 5041216-REM-DWG-1787 REV P1



BAT HOUSE AND COMPOUND

WESTERN MARGIN SUMPS

PIPE

OCHREOUS DRAINAGE DITCH

DENSE SEMI-MATURE
WOODLAND AND THICK SCRUB

OCHREOUS REED BED

INTERCEPTION TRENCH

PIPE

OPEN WATER OF RAILHEAD OWS

BOGGY GROUND WITH SEMI -
MATURE WOODLAND

ASH TRACK

KEY



PUBLIC OPEN SPACE ZONE C

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Atkins Limited

Telford Office
Cornerstone House
Stafford Park 13
Telford TF3 3AZ

Tel 01952 201234
Fax 01952 200981

Birmingham Office
The Axis, 10 Holliday Street
Birmingham
West Midlands B1 1TF

Tel 0121 483 5000
Fax 0121 483 5252

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DRAWING TITLE			
PUBLIC OPEN SPACE ZONE C CONSTRAINTS PLAN			

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