



Site Coordinates: 305285.94,204962.59

NghrBoundary
as considered by Report

WWJ Landholdings
Boundary

ISSUED FOR COMMENT
17/09/11

REV/COMMENT
DATE



Charles House - Cardiff House
Cardiff Bay
Cardiff
CF10 1JF
01495 348136
01495 348135
W032-23222



Project
Willow Works, Merthyr Tydfil

Title
Site Location Plan

Drawn by
GEP
Checked
JW
Date
05/11/12

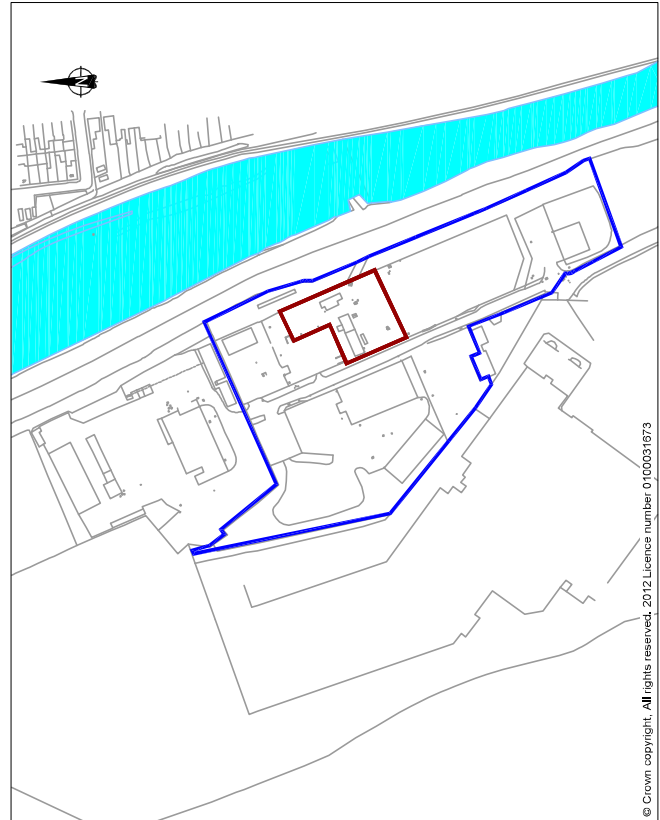
Original Scale
N.T.S.
Date
05/11/12

Rev
0
Page
A3

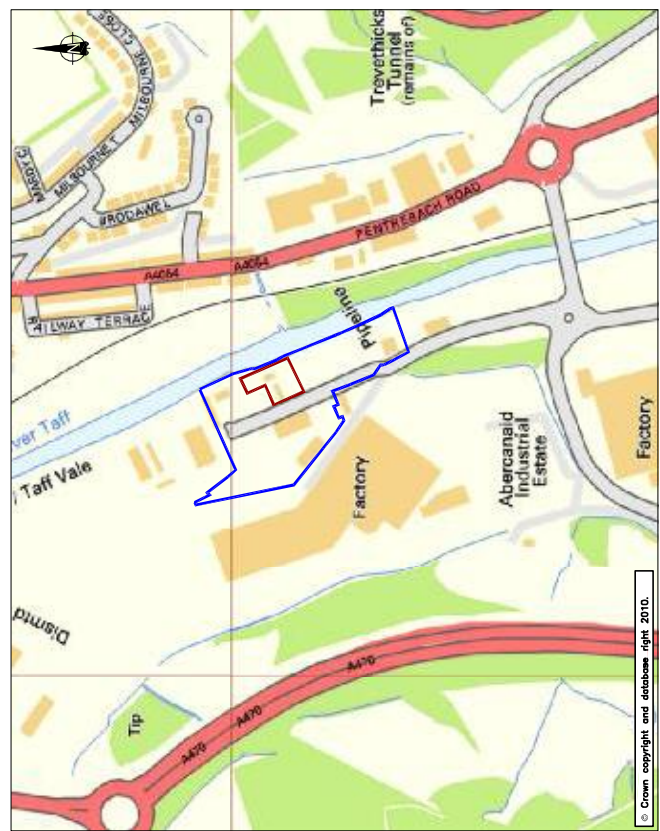
D1538/4337/A1



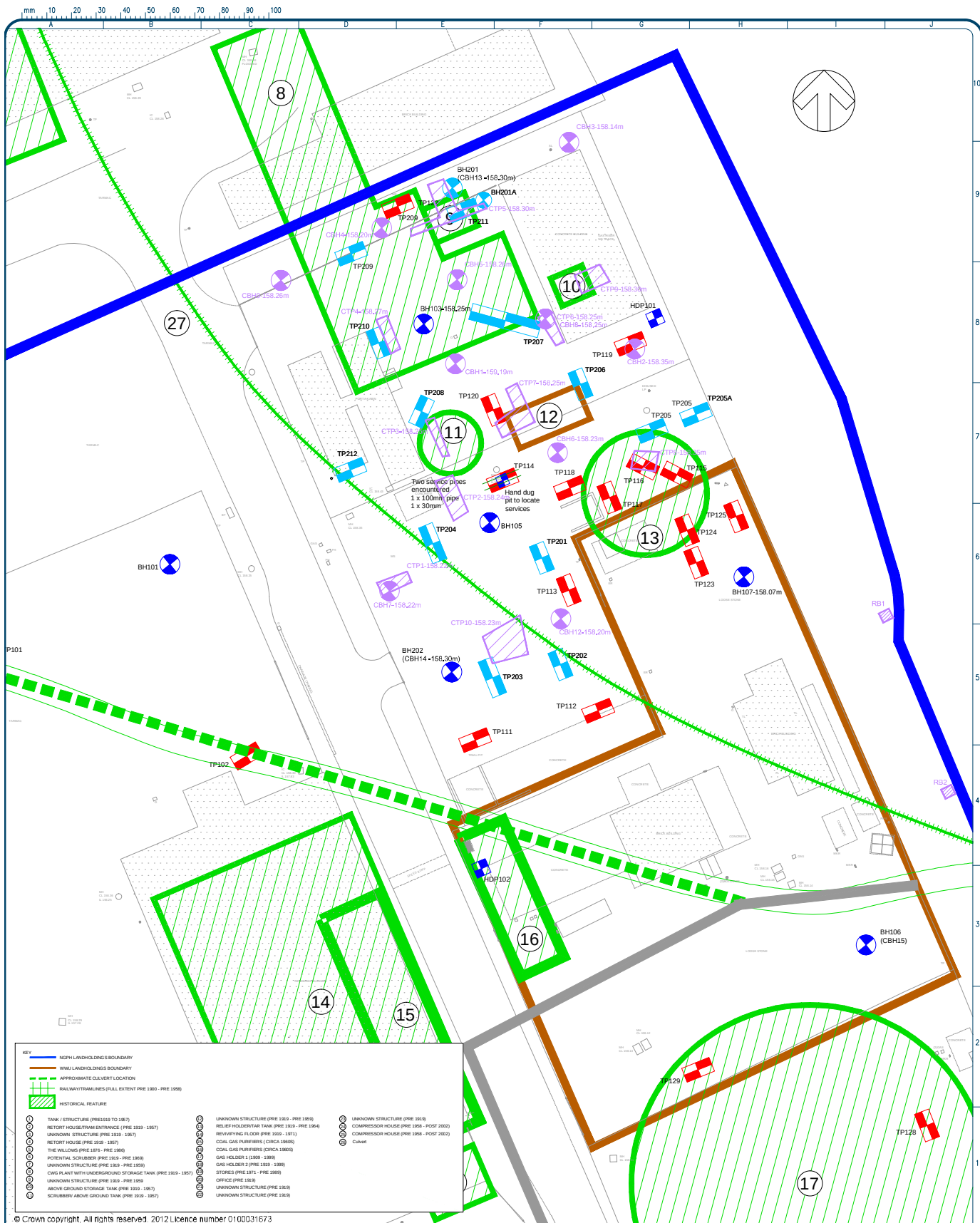
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2	OS Base Revised	12/12/12
1	NGPH Boundary Revised	26_11_12
0	ISSUED FOR COMMENT	
REV	COMMENT	DATE

Legend

- NGPH LANDHOLDINGS BOUNDARY
- WUW LANDHOLDINGS BOUNDARY

SITE CO-ORDS: 395297.72, 204941.54

ALL COORDINATES AND LEVELS IN METERS TO OS NATIONAL GRID DATUM

CELTIC EXPLORATORY HOLE 2012 (158.24m EXPLORATORY HOLE LEVEL)

CELTIC EXPLORATORY HOLE 2012

WSPE DYNAMIC SAMPLING BOREHOLE (2011)

WSPE MECHANICALLY EXCAVATED TRIAL PIT (2011)

WSPE CABLE PERCUSSION BOREHOLE (2010)

WSPE WINDOW SAMPLE BOREHOLE (2010)

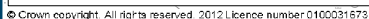
WSPE MECHANICALLY EXCAVATED TRIAL PIT (2010)

WSPE HAND DUG TRIAL PIT (2010)

WSPE MECHANICALLY EXCAVATED TRIAL PIT (2002)

WSPE BOREHOLES (2002)

Project	Willow Works, Merthyr
Title	Approximate Location of Exploratory Holes
Drawn by	GEP
Checked	W
Date	09/11/12
Authorised	
Date	
Original Scale	1:250
Date	09/11/12
Rev	2
Page	A2
Drawing Number	D1538/4337/A3



2	OS Base Revised	12/12/12
1	NGPH: Boundary Revised	26/11/12
0	ISSUED FOR COMMENT	
REV	COMMENT	DATE

- | | | | | |
|---------------------------------|-----------------------|----------|-------------|------|
| Drawn by
GEP | Checked
W 09/11/12 | Date | Authorised | Date |
| Original Scale
1:250 | Date
09/11/12 | Rev
2 | Paper
A2 | |
| Drawing Number
D1538/4337/A4 | | | | |



Plate No.: 1

Title: Demolition works undertaken on the pre-fabricated building.



Plate No.: 2

Title: Waste materials from the demolition were segregated and sent for offsite disposal or recycling.



Client: National Grid

Project Name: Willow Works, Merthyr Tydfil

Project No.: C1538

Date: Nov 2012



Plate No.: 3

Title: The building was demolished to slab level with all associated waste removed from site.



Plate No.: 4

Title: Trial pits within the Relief Holder Base exposed heavily contaminated waters. The majority of the tank was backfilled with brick and rubble fill.



Client: National Grid

Project Name: Willow Works, Merthyr Tydfil

Project No.: C1538

Date: Nov 2012



Plate No.: 5

Title: Boreholes were drilled using cable percussion methods.



Plate No.: 6

Title: A number of the boreholes encountered grossly contaminated strata at the groundwater level.



Client: National Grid

Project Name: Willow Works, Merthyr Tydfil

Project No.: C1538

Date: Nov 2012



Plate No.: 7

Title: Within CTP3, a cylindrical concrete structure was uncovered which is situated in the same location as the historical air scrubber stack.



Plate No.: 8

Title: Within CTP4, a red brick wall was encountered which is possibly the western wall of the historical CWG plant.



Client: National Grid

Project Name: Willow Works, Merthyr Tydfil

Project No.: C1538

Date: Nov 2012



Plate No.: 9

Title: Within CTP7, the red brick walls of the rectangular structure were encountered.



Plate No.:10

Title: Grossly contaminated silty perched waters were encountered within CTP7.



Client: National Grid

Project Name: Willow Works, Merthyr Tydfil

Project No.: C1538

Date: Nov 2012

Project No: C1538

Date: 15 Oct 2012

Easting: 305293.650

Engineer: Celtic

Northing: 204998.090

Site Location: Merthyr Tydfil

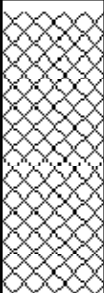
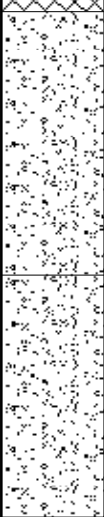
Method: CP

Datum: 158.200m

Client: National Grid

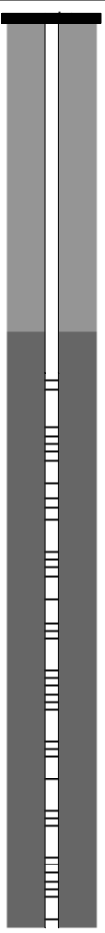
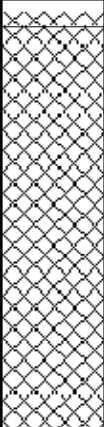
Hole Diameter: 200mm

Screen Position: 3.00 - 5.75m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND - Compacted brick, stone, ash, clinker rubble fill.			
					Brown slightly silty/sandy GRAVEL with some cobbles.	2.10		156.100
					Brown slightly silty/sandy GRAVEL with cobbles. Water struck at ~4.0 mbgl where hydrocarbon odours were recorded along with sheens on the water.	4.00		154.200
					End of Borehole	5.75		152.450

Comments: Chiselling: 0.75-1.3m 1hr, 1.3-1.9m 1hr, 1.9-2.55, 1hr.

Project No: C1538	Date: 15 Oct 2012	Easting: 305311.830
Site Location: Merthyr Tydfil	Engineer: Celtic	Northing: 204999.590
Client: National Grid	Method: CP	Datum: 158.349m
	Hole Diameter: 200mm	Screen Position: 2.60 - 6.60m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND - Tarmac	0.10		158.249
					MADE GROUND - Compacted ash, clinker and brick with occasional bands of silty clay.			
					COBBLES and BOULDERS. Oily sheen associated with the water strike at 3.6 m bgl.	3.10		155.249
					Brown slightly silty/sandy GRAVEL with cobbles.	4.30		154.049
					End of Borehole	6.60		151.749

Comments: Chiselling: 3.0-3.85, 1hr, 3.85-4.25 1hr.

Project No: C1538

Date: 16 Oct 2012

Easting: 305305.140

Engineer: Celtic

Northing: 205020.520

Site Location: Merthyr Tydfil

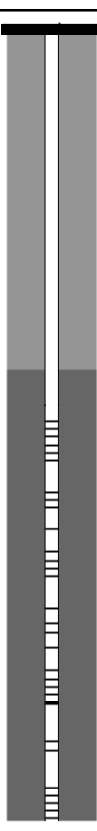
Method: CP

Datum: 158.140m

Client: National Grid

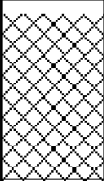
Hole Diameter: 200mm

Screen Position: 2.75 - 5.75m

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike		Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Level (m AOD)
	0					TOPSOIL - vegetation and rootlets	0.10	158.040
	1					MADE GROUND - Compacted black ash and clinker with fragments of brick and stone. Occasional bands of clay encountered.		
	2							
	3					Brown slightly silty/sandy GRAVEL.	2.80	155.340
	4					Brown slightly silty/sandy GRAVEL with cobbles. Oily sheen and moderate hydrocarbon odour at 4.0 m bgl.	3.50	154.640
	5							
	6					End of Borehole	5.75	152.390
	7							
	8							
	9							

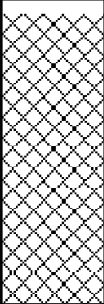
Comments: Chiselling: 2.0-2.7m 1hr, 2.7-3.3m, 1hr.

Date: 17 Oct 2012	Easting: 305286.350
Project No: C1538	Engineer: Celtic
Site Location: Merthyr Tydfil	Northing: 205011.870
Method: CP	Datum: 158.200m
Client: National Grid	Screen Position:
Hole Diameter: 200mm	

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0					MADE GROUND - Compacted ash and clinker, rubble and soil fill. At 1.2 m bgl, concrete foundation encountered and further progress was unable to be made. Borehole abandoned.			
1					End of Borehole	1.20		157.000
2								
3								
4								
5								
6								
7								
8								
9								

Comments:

Project No: C1538	Date: 17 Oct 2012	Easting: 305284.810
Site Location: Merthyr Tydfil	Engineer: Celtic	Northing: 205011.860
Client: National Grid	Method: CP	Datum: 158.202m
	Hole Diameter: 200mm	Screen Position:

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0					MADE GROUND - Silty black soil with fragments of coal dust, brick, ash and clinker fill. No obvious hydrocarbon contamination. Concrete obstruction encountered at 2.1 m bgl preventing further progress. Borehole abandoned.			
1								
2					End of Borehole	2.10		156.102
3								
4								
5								
6								
7								
8								
9								

Comments:

Project No: C1538

Date: 17 Oct 2012

Easting: 305293.820

Engineer: Celtic

Northing: 205006.610

Site Location: Merthyr Tydfil

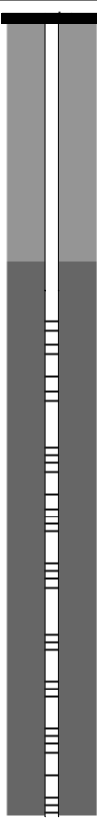
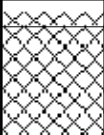
Method: CP

Datum: 158.265m

Client: National Grid

Hole Diameter: 200mm

Screen Position: 2.00 - 5.80m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
 3.35m					MADE GROUND - Tarmac	0.10		158.165
					MADE GROUND - Compacted ash and brick fill.			
					MADE GROUND - Rubble fill and building foundations.	1.00		157.265
					Brown slightly silty/sandy GRAVEL with cobbles. Oily sheen and hydrocarbon odour at 3.2m bgl.	2.20		156.065
					End of Borehole	5.85		152.415

Comments: Terminated at 5.8m due to dense gravels. Chiselling: 0.7-1.2m 1hr, 1.2-1.7m 1hr, 1.7-2.2m 1hr, 3.0-3.55m 1hr. 5.6-5.8m 1hr.

Project No: C1538

Date: 18 Oct 2012

Easting: 305304.010

Engineer: Celtic

Northing: 204989.100

Site Location: Merthyr Tydfil

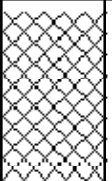
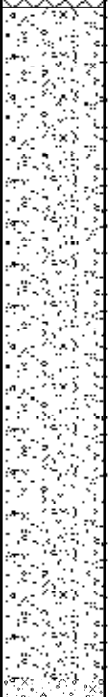
Method: CP

Datum: 158.229m

Client: National Grid

Hole Diameter: 200mm

Screen Position: 2.20 - 8.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND - Brick and rubble fill with silty soils. No obvious hydrocarbon odours.			
					Brown slightly silty/sandy GRAVEL with cobbles. Heavy contamination staining on the drilling shell with traces of tar noted at 5.1 m bgl.	3.20		155.029
					End of Borehole	8.20		150.029

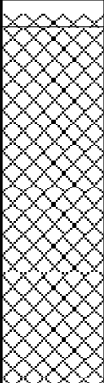
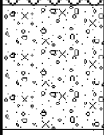
Comments: Chiselling: 0.5-1.1m 1hr, 2.5-3.1m 1hr.

Date: 19 Oct 2012	Easting: 305286.960
Project No: C1538	Engineer: Celtic
Site Location: Merthyr Tydfil	Northing: 204975.070
Method: CP	Datum: 158.220m
Client: National Grid	Screen Position:
Hole Diameter: 200mm	

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0					MADE GROUND - Compacted ash and clinker with rubble fill.			
1								
2								
3					Brown slightly silty/sandy GRAVEL with cobbles. Borehole abandoned at 3.2 m bgl due to dense and large cobbles preventing progress.	2.80		155.420
4					End of Borehole	3.20		155.020
5								
6								
7								
8								
9								

Comments: Borehole abandoned at 3.3m due to buckled casing shoe on cobbles. Chiselling: 1.85-2.7m 1hr, 2.1-2.9m 1hr, 2.9-3.2m 0.5hr.

Date: 22 Oct 2012	Easting: 305302.760
Project No: C1538	Engineer: Celtic
Site Location: Merthyr Tydfil	Northing: 205002.640
Method: CP	Datum: 158.251m
Client: National Grid	Screen Position:
Hole Diameter: 200mm	

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0					MADE GROUND - Tarmac	0.10		158.151
1					MADE GROUND - Compacted clinker, ash and brick rubble fill with silty soils. No obvious hydrocarbon odours.			
2								
3					Brown slightly silty/sandy GRAVEL with cobbles. Borehole abandoned due to lack of progress following 4 hours of chiselling. Base of casing damaged when inspected at the surface.	2.70		155.551
4					End of Borehole	3.60		154.651
5								
6								
7								
8								
9								

Comments: Borehole abandoned at 3.6m due to buckled casing shoe on cobbles. Chiselling: 2.8-3.2m 3hr, 3.2-3.6m 3hr.

Project No: C1538

Date: 23 Oct 2012

Easting: 305275.990

Engineer: Celtic

Northing: 205006.550

Site Location: Merthyr Tydfil

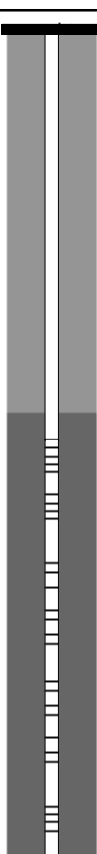
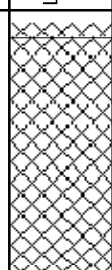
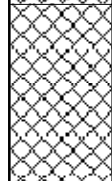
Method: CP

Datum: 158.264m

Client: National Grid

Hole Diameter: 200mm

Screen Position: 3.00 - 6.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
 3.80m					MADE GROUND - Tarmac.	0.10		158.164
					MADE GROUND - Compacted ash, clinker and brick rubble fill.			
						1.80		156.464
					MADE GROUND - A mixture of concrete, slag and rubble fill.			
					Brown slightly silty/sandy GRAVEL with cobbles. No obvious hydrocarbon odour recorded.	3.10		155.164
					End of Borehole	6.00		152.264

Comments: Chiselling: 1.8-2.1m 1hr, 2.4-2.7m 0.5hr.

Project No: C1538

Date: 24 Oct 2012

Easting: 305313.340

Engineer: Celtic

Northing: 204974.310

Site Location: Merthyr Tydfil

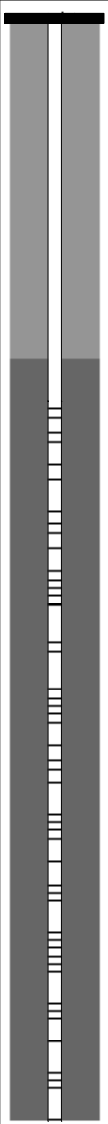
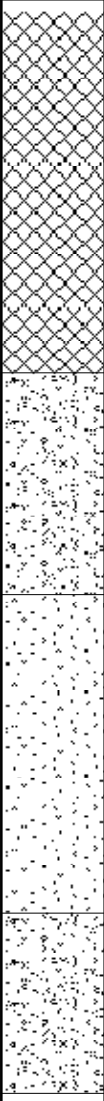
Method: CP

Datum: 158.073m

Client: National Grid

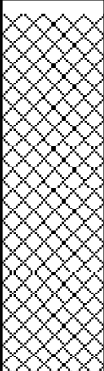
Hole Diameter: 200mm

Screen Position: 2.80 - 8.00m

WATER	WELL	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND - Compacted ash, clinker and rubble fill with silty soils.			
					Brown slightly silty/sandy GRAVEL with cobbles. Oily sheen encountered at the surface of the groundwater.	2.60		155.473
					Brown slightly silty/sandy GRAVEL with obvious hydrocarbon contamination.	4.20		153.873
					Brown slightly silty/sandy GRAVELS with cobbles. No obvious hydrocarbon contamination.	6.50		151.573
					End of Borehole	7.80		150.273

Comments: Chiselling: 2.2-2.6m 1hr, 3.6-4.0m 1hr.

Date: 25 Oct 2012	Easting: 305321.860
Project No: C1538	Engineer: Celtic
Site Location: Merthyr Tydfil	Northing: 204980.440
Method: CP	Datum: 157.989m
Client: National Grid	Screen Position:
Hole Diameter: 200mm	

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0					MADE GROUND - Compacted ash, clinker and brick fill with silty soils. Borehole abandoned at 2.6 m bgl due to an obstruction. Borehole moved 0.5m.			
1								
2								
					End of Borehole	2.60		155.389
3								
4								
5								
6								
7								
8								
9								

Comments:

Project No: C1538 Date: 25 Oct 2012

Easting: 305323.900

Site Location: Merthyr Tydfil Engineer: Celtic

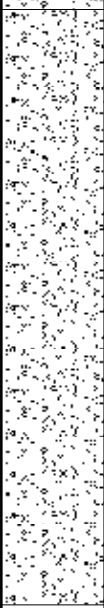
Northing: 204980.480

Client: National Grid Method: CP

Datum: 157.980m

Hole Diameter: 200mm

Screen Position: 3.00 - 8.00m

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND - Compacted ash, clinker and rubble fill.			
					Brown slightly silty/sandy GRAVEL with cobbles.	3.20		154.780
					Brown slightly silty/sandy GRAVEL with cobbles. Heavily contaminated with strong hydrocarbon odours.	3.70		154.280
					End of Borehole	8.00		149.980

Comments: Chiselling: 3.2-3.4m 1hr, 3.4-3.8 1hr.

Project No: C1538

Date: 26 Oct 2012

Easting: 305304.330

Engineer: Celtic

Northing: 204972.260

Site Location: Merthyr Tydfil

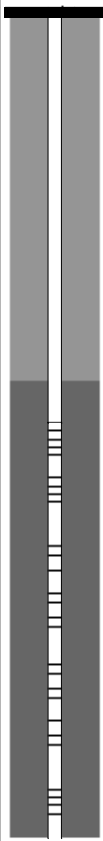
Method: CP

Datum: 158.200m

Client: National Grid

Hole Diameter: 200mm

Screen Position: 3.00 - 6.00m

WATER		WELL		SAMPLING/TESTING		SUBSURFACE PROFILE		
Water Strike	Well Data	N Value	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
					MADE GROUND - Compacted ash, clinker and rubble fill.			
					Brown slightly silty/sandy GRAVEL with cobbles. Oily sheen on the groundwater at approximately 4.3 m bgl.	3.20		155.000
					End of Borehole	6.00		152.200

Comments: Chiselling: 1.4-1.8m 1hr, 1.8-2.2m 1hr, 2.4-2.8m 1hr, 3.2-3.6m 1hr, 3.7-4.1m 1hr.

Project No: C1538

Engineer: Celtic

Easting: 305293.270

Site Location: Merthyr Tydfil

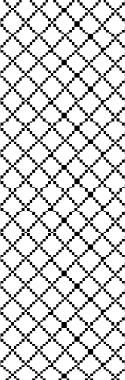
Contractor: Celtic

Northing: 204984.670

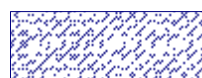
Client: National Grid

Plant: 13t Excavator

Datum: 158.240m

WATER	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	PID Results	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0				TOPSOIL	0.10		158.140
				MADE GROUND - Compacted ash, clinker, slag and brick fill.	1.50		156.740
				Brown slightly silty/sandy GRAVEL with cobbles and brick fragments.			
				Bouldery GRAVEL with hydrocarbon odours and staining between 3.5 to 3.8 m bgl.			
3				End of Trial Pit	3.80		154.440
4							

Comments: 50mm Slotted Standpipe installed to 3.0m.



Width: 1.89m

Length: 4.41m

Project No: C1538

Engineer: Celtic

Easting: 305291.780

Site Location: Merthyr Tydfil

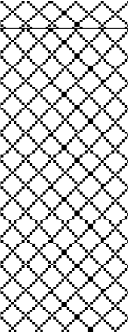
Contractor: Celtic

Northing: 204990.810

Client: National Grid

Plant: 13t Excavator

Datum: 158.250m

WATER		SAMPLING/TESTING		SUBSURFACE PROFILE			
Water Strike	PID Results	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0				MADE GROUND - Tarmac.	0.10		158.150
				MADE GROUND - Ash, clinker, silty soil fill.			
					1.20		157.050
1				Bouldery GRAVEL - Sandy gravels with boulders throughout. Minor hydrocarbon odour recorded between 2.6 m to 2.8 m bgl.			
					2.80		155.450
2				End of Trial Pit			
3							
4							

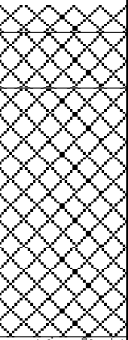
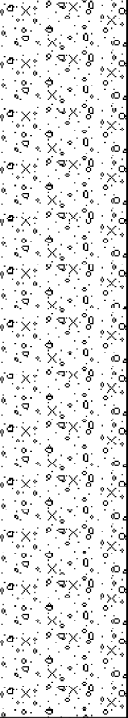
Comments: A round concrete base for a structure, most likely to be for the scrubber tower, was observed within the trial pit and measured approximately 6ft in depth with a diameter of approximately 3 m.



Width: 0.95m

Length: 4.13m

Datum: 158.270m

WATER	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	PID Results	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0				MADE GROUND - Tarmac	0.10		158.170
				MADE GROUND - Gravel fill.	0.30		157.970
				MADE GROUND - Compacted ash, clinker and brick fill.			
					1.20		157.070
2							
3							
				End of Trial Pit	3.80		154.470
4							

Length: 3.75m

Date: 25 Oct 2012

Trial Pit Number: CTP5

Project No: C1538

Engineer: Celtic

Easting: 305292.740

Site Location: Merthyr Tydfil

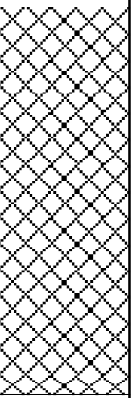
Contractor: Celtic

Northing: 205013.970

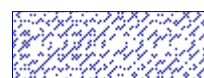
Client: National Grid

Plant: 13t Excavator

Datum: 158.300m

WATER		SAMPLING/TESTING		SUBSURFACE PROFILE			
Water Strike	PID Results	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0				MADE GROUND - Compacted ash, clinker and brick fill.			
1							
				CONCRETE - Foundation of the building uncovered at this depth. No visual or olfactory signs of contamination.	1.40		156.900
				End of Trial Pit			
2							
3							
4							

Comments:



Width: 1.66m

Length: 4.30m

Project No: C1538

Engineer: Celtic

Easting: 305303.390

Site Location: Merthyr Tydfil

Contractor: Celtic

Northing: 205001.670

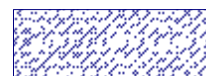
Client: National Grid

Plant: 13t Excavator

Datum: 158.250m

WATER		SAMPLING/TESTING		SUBSURFACE PROFILE			
Water Strike	PID Results	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD))
0				MADE GROUND - Tarmac.	0.10		158.150
				MADE GROUND - Gravel fill.	0.30		157.950
				MADE GROUND - Compacted ash and brick fill with sandy gravels and clay pipes.			
				1			
2				Brown slightly silty/sandy GRAVEL with cobbles recorded from 2.8 m bgl. Strong hydrocarbon odour noted at 3.1 m bgl.			
3							
 3.80m				End of Trial Pit	3.80		154.450
4							

Comments: 50mm Standpipe installed to 3.0m.



Width: 1.41m

Length: 3.37m

Project No: C1538

Engineer: Celtic

Easting: 305300.260

Site Location: Merthyr Tydfil

Contractor: Celtic

Northing: 204993.210

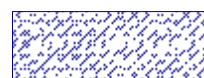
Client: National Grid

Plant: 13t Excavator

Datum: 158.240m

WATER		SAMPLING/TESTING		SUBSURFACE PROFILE			
Water Strike	PID Results	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0				MADE GROUND - Brick, ash and clinker fill. Pools of tar were recorded upon the perched water which sits at approximately 1.5 m bgl. Strong hydrocarbon odour.			
1							
2							
3				CONCRETE - base of a structure encountered. Unable to determine it's condition due to perched. End of Trial Pit	2.60		155.640
4							

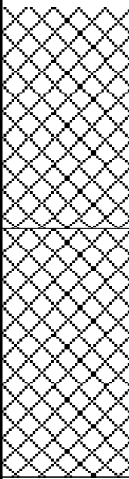
Comments: Brick wall lies less than 2.0 m to the north of the existing palisade fence line which splits the NG site into two areas.



Width: 2.04m

Length: 4.31m

Datum: 158.350m

WATER	SAMPLING/TESTING			SUBSURFACE PROFILE			
Water Strike	P I D Results	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0				MADE GROUND - Rubble fill.			
1				MADE GROUND - Rubble fill within a former tar tank structure. Perched water at approximately 1.2 m bgl. At 1.2 m bgl thick tar deposits were encountered to the base of the tank.	0.80		157.550
2				CONCRETE - Base of the tank. End of Trial Pit	1.70		156.650
3							
4							

Length: 2.47m

Date: 12 Oct 2012

Trial Pit Number: CTP9

Project No: C1538

Engineer: Celtic

Easting: 305307.420

Site Location: Merthyr Tydfil

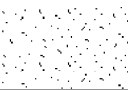
Contractor: Celtic

Northing: 205006.710

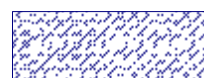
Client: National Grid

Plant: 13t Excavator

Datum: 158.300m

WATER		SAMPLING/TESTING		SUBSURFACE PROFILE			
Water Strike	PID Results	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0				CONCRETE - Foundation of demolished building.	0.30		158.000
				MADE GROUND - Compacted ash, clinker and brick fill. No obvious contamination recorded within this layer.			
					2.10		156.200
				Brown slightly silty/sandy GRAVEL with cobbles. No obvious contamination recorded within this layer.			
3				End of Trial Pit	3.20		155.100
4							

Comments:



Width: 1.99m

Length: 3.06m

Date: 12 Oct 2012

Trial Pit Number: CTP10

Project No: C1538

Engineer: Celtic

Easting: 305298.770

Site Location: Merthyr Tydfil

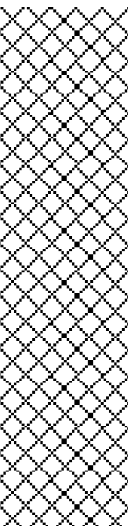
Contractor: Celtic

Northing: 204969.960

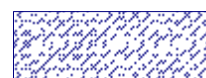
Client: National Grid

Plant: 13t Excavator

Datum: 158.230m

WATER		SAMPLING/TESTING		SUBSURFACE PROFILE			
Water Strike	PID Results	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0				MADE GROUND - Compacted ash, clinker, slag and brick fill. Very hard.			
1							
2				Bouldery GRAVEL. No obvious contamination recorded within this layer.	1.90		156.330
3							
4				End of Trial Pit	4.10		154.130

Comments:



Width: 3.36m

Length: 4.38m

Date: 23 Oct 2012

Trial Pit Number: RB1

Project No: C1538

Engineer: Celtic

Easting: 305337.000

Site Location: Merthyr Tydfil

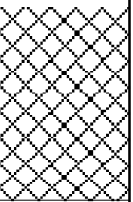
Contractor: Celtic

Northing: 204972.000

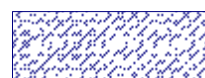
Client: National Grid

Plant:

Datum: 0.000m

WATER		SAMPLING/TESTING		SUBSURFACE PROFILE			
Water Strike	PID Results	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0		D	RB1 / 0.40m	MADE GROUND: Brown sandy silt with frequent cobble and gravel sized fragments of sandstone. Wet below 0.6m.			
				End of Trial Pit	0.70		-0.700
1							
2							
3							
4							

Comments: No visual or olfactory sign of contamination.



Width: 0.50m

Length: 0.50m

Date: 23 Oct 2012

Trial Pit Number: RB2

Project No: C1538

Engineer: Celtic

Easting: 305345.500

Site Location: Merthyr Tydfil

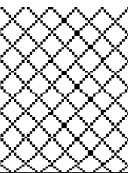
Contractor: Celtic

Northing: 204954.700

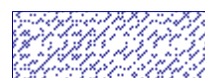
Client: National Grid

Plant:

Datum: -

WATER		SAMPLING/TESTING		SUBSURFACE PROFILE			
Water Strike	PID Results	Sample Type	Sample Ref	DESCRIPTION OF STRATA	Depth (m bgl)	Legend	Level (m AOD)
0				MADE GROUND: Brown sandy silt with frequent cobble and gravel sized fragments of sandstone. Wet below 0.4m.			
				End of Trial Pit	0.60		
1							
2							
3							
4							

Comments: No visual or olfactory sign of contamination.



Width: 0.50m

Length: 0.50m

ALcontrol Laboratories

Custoi

SDG(s): 121101-64
Customer: Celtic Cardiff (5490)
Client Reference / Location: Willow Works, Merthyr
Order no: PO 67590

Sample
Final In
Report C

Lab S
Sampl

Analysis	Test	Method	Units
Carbon			
	Organic Carbon, Total	TM090	mg/l
Inorganics			
	Conductivity @ 20 deg.C	TM120	mS/cm
	Sulphate	TM184	mg/l
	Sulphide	TM101	mg/l
	pH	TM256	pH Units
	Chloride	TM184	mg/l
	Cyanide, Total	TM227	mg/l
	Ammoniacal Nitrogen as NH4	TM099	mg/l
	Cyanide, Free	TM227	mg/l
	Cyanide, Complex	TM227	mg/l
	Thiocyanate	TM227	mg/l
	Suspended solids, Total	TM022	mg/l
	Sulphur, Free	TM294	mg/l
Filtered (Dissolved) Metals			
	Mercury (diss.filt)	TM183	mg/l
	Arsenic (diss.filt)	TM152	mg/l
	Iron (diss.filt)	TM228	mg/l
	Cadmium (diss.filt)	TM152	mg/l
	Chromium (diss.filt)	TM152	mg/l
	Copper (diss.filt)	TM152	mg/l
	Lead (diss.filt)	TM152	mg/l
	Nickel (diss.filt)	TM152	mg/l
	Selenium (diss.filt)	TM152	mg/l
	Zinc (diss.filt)	TM152	mg/l
Phenols			
	Resorcinol	TM259	mg/l
	Catechol	TM259	mg/l
	Phenol	TM259	mg/l
	Cresols	TM259	mg/l
	Xylenols	TM259	mg/l
	1-Naphthol	TM259	mg/l
	2,3,5-Trimethylphenol	TM259	mg/l
	2-Isopropylphenol	TM259	mg/l
	Phenols, Total Detected 8 Speciated	TM259	mg/l
TPH Criteria Working C			

GRO Surrogate % recovery**	TM245	%
GRO >C5-C12	TM245	mg/l
Methyl tertiary butyl ether (MTBE)	TM245	mg/l
Benzene	TM245	mg/l
Toluene	TM245	mg/l
Ethylbenzene	TM245	mg/l
m,p-Xylene	TM245	mg/l
o-Xylene	TM245	mg/l
Sum of detected Xylenes	TM245	mg/l
Sum of detected BTEX	TM245	mg/l
Aliphatics >C5-C6	TM245	mg/l
Aliphatics >C6-C8	TM245	mg/l
Aliphatics >C8-C10	TM245	mg/l
Aliphatics >C10-C12	TM245	mg/l
Aliphatics >C12-C16 (aq)	TM174	mg/l
Aliphatics >C16-C21 (aq)	TM174	mg/l
Aliphatics >C21-C35 (aq)	TM174	mg/l
Total Aliphatics >C12-C35 (aq)	TM174	mg/l
Aromatics >EC5-EC7	TM245	mg/l
Aromatics >EC7-EC8	TM245	mg/l
Aromatics >EC8-EC10	TM245	mg/l
Aromatics >EC10-EC12	TM245	mg/l
Aromatics >EC12-EC16 (aq)	TM174	mg/l
Aromatics >EC16-EC21 (aq)	TM174	mg/l
Aromatics >EC21-EC35 (aq)	TM174	mg/l
Total Aromatics >EC12-EC35 (aq)	TM174	mg/l
Total Aliphatics & Aromatics >C5-35 (aq)	TM174	mg/l

Polyaromatic Hydrocar

Naphthalene (aq)	TM178	mg/l
Acenaphthene (aq)	TM178	mg/l
Acenaphthylene (aq)	TM178	mg/l
Fluoranthene (aq)	TM178	mg/l
Anthracene (aq)	TM178	mg/l
Phenanthrene (aq)	TM178	mg/l
Fluorene (aq)	TM178	mg/l
Chrysene (aq)	TM178	mg/l
Pyrene (aq)	TM178	mg/l
Benzo(a)anthracene (aq)	TM178	mg/l
Benzo(b)fluoranthene (aq)	TM178	mg/l
Benzo(k)fluoranthene (aq)	TM178	mg/l
Benzo(a)pyrene (aq)	TM178	mg/l
Dibenzo(a,h)anthracene (aq)	TM178	mg/l
Benzo(g,h,i)perylene (aq)	TM178	mg/l
Indeno(1,2,3-cd)pyrene (aq)	TM178	mg/l
PAH, Total Detected USEPA 16 (aq)	TM178	mg/l

Volatile Organic Comp

Benzene	TM208	mg/l
Toluene	TM208	mg/l
Ethylbenzene	TM208	mg/l
m,p-Xylene	TM208	mg/l

o-Xylene

TM208

mg/l

mer Sample ID	BH13	BH14	CBH2	CBH3	CBH9
Depth	3.84-	4.20-	4.37-	4.30-	3.88-
AGS Id					
Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Sampled Date	30/10/2012	30/10/2012	30/10/2012	30/10/2012	30/10/2012
Received Date	01/11/2012	01/11/2012	01/11/2012	01/11/2012	01/11/2012
Instruction Date	01/11/2012	01/11/2012	01/11/2012	01/11/2012	01/11/2012
Completed Date	09/11/2012	09/11/2012	09/11/2012	09/11/2012	09/11/2012
SDG	121101-64	121101-64	121101-64	121101-64	121101-64
Sample Number	6440456	6440457	6440452	6440453	6440454
Seawater Temperature	6.2	6.2	6.2	6.2	6.2
LOD					
<3	4.84	5.33	13.1	8.41	<3
<0.005	0.617	0.414	0.57	0.608	0.369
<2	35.9	30.9	41.7	138	49.4
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<1	7.98	8.22	7.86	7.66	7.43
<2	3.3	3.3	6.7	10	8.2
<0.05	<0.05	0.258	<0.05	<0.05	<0.05
<0.3	<0.3	<0.3	1.08	7.8	<0.3
<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
<0.05	<0.05	0.258	<0.05	<0.05	<0.05
<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
<2	4490	28.9	56.7	133	<2
<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
<0.00012	0.000811	0.000291	0.00338	0.00123	0.00159
<0.019	0.023	0.135	0.294	0.33	<0.019
<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
<0.00022	0.00269	0.00218	0.00414	0.00286	0.00173
<0.00085	0.00161	0.00148	<0.00085	<0.00085	0.00162
<0.00002	0.000082	0.000071	<0.00002	0.000022	0.000149
<0.00015	0.00624	0.00319	0.00139	0.00555	0.00144
<0.00039	0.00303	0.00204	0.00153	0.00178	0.0025
<0.00041	0.00635	0.0029	0.00173	0.00268	0.00219
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
<0.01	<0.01	0.01	<0.01	<0.01	<0.01
<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
<0.045	<0.045	<0.045	<0.045	<0.045	<0.045

	88	95	91	81	90
<0.05	0.051	0.274	0.709	1.17	<0.05
<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
<0.007	<0.007	<0.007	0.018	0.243	<0.007
<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
<0.005	<0.005	<0.005	0.047	0.014	<0.005
<0.008	<0.008	<0.008	0.013	<0.008	<0.008
<0.003	0.003	0.006	0.029	<0.003	<0.003
<0.011	<0.011	<0.011	0.042	<0.011	<0.011
<0.028	<0.028	<0.028	0.107	0.257	<0.028
<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<0.01	<0.01	<0.01	0.01	<0.01	<0.01
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<0.01	<0.01	<0.01	0.018	0.243	<0.01
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<0.01	<0.01	0.029	0.116	0.043	<0.01
<0.01	0.012	0.083	0.208	0.337	<0.01
<0.01	<0.01	0.016	0.037	0.126	<0.01
<0.01	<0.01	0.112	0.117	0.341	<0.01
<0.01	<0.01	0.073	0.031	0.177	<0.01
<0.01	<0.01	0.201	0.185	0.644	<0.01
<0.01	0.051	1.14	1.47	3.38	<0.01
<0.0001	0.0001	<0.0002	<0.0005	<0.0002	<0.0001
<0.000015	0.000063	0.00219	0.000918	0.000613	<0.000015
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<0.000017	0.000856	0.000144	<0.000085	0.000312	<0.000017
<0.000015	0.000221	0.000094	<0.000075	0.000097	0.00002
<0.000022	0.000398	<0.000044	<0.00011	0.000115	<0.000022
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<0.000013	0.000486	0.000121	<0.000065	0.000219	0.000025
<0.000015	0.000735	0.000461	0.000128	0.0005	<0.000015
<0.000017	0.000478	0.000034	<0.000085	0.000185	<0.000017
<0.000023	0.000815	0.000105	<0.000115	0.000234	<0.000023
<0.000027	0.000837	0.000111	<0.000135	0.000263	<0.000027
<0.000009	0.00104	0.000231	<0.000045	0.000219	0.000027
<0.000016	0.000174	0.000034	<0.00008	0.000044	<0.000016
<0.000016	0.000596	0.000098	<0.00008	0.000168	<0.000016
<0.000014	0.000529	0.000083	<0.00007	0.000154	<0.000014
<0.000247	0.00759	0.00445	0.00175	0.00364	<0.000247
<0.001	0.00357	0.00101	0.0222	0.331	<0.001
<0.001	<0.001	0.00121	0.00317	0.00123	<0.001
<0.001	<0.001	<0.001	0.0543	0.0161	<0.001
<0.001	0.00186	0.00333	0.0141	0.00681	<0.001

<0.001

0.00271

0.00581

0.0325

0.00195

<0.001



Jones Environmental Laboratory

Celtic Technologies
Columbus House
Greenmeadow Springs
Tongwynlais
Cardiff
CF15 7NE

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780

Fax: +44 (0) 1244 833781

Attention : Ian Wright
Date : 14th November, 2012
Your reference : C1538
Our reference : Test Report 12/8370 Batch 1
Location : WILLOW WORKS
Date samples received : 27th October, 2012
Status : Final report
Issue : 1

Three samples were received for analysis on 27th October, 2012. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Compiled By:

Phil Sommerton B.Sc
Project Manager

Bob Millward B.Sc
Principal Chemist

Client Name: Celtic Technologies
Reference: C1538
Location: WILLOW WORKS
Contact: Ian Wright
JE Job No.: 12/8370

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

Please see attached notes for all abbreviations and acronyms



Jones Environmental Forensics Ltd

Whole Oil Analysis by GC-FID



No.4225

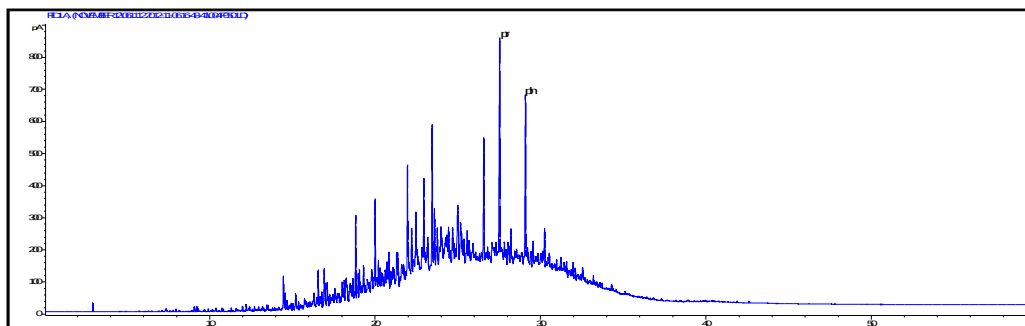
Job Number: 12/8370-1
Client ID: BH103
Description: Brown Oil

Carbon Range: nC8 to nC28
Boiling Point Range: 126°C to 432°C

Pristane/Phytane Ratio: 1.48
nC17/Pristane Ratio: <0.1
Age(+/-2 years)* > 20 Years

Fingerprint: Biodegraded Diesel

Chromatogram



Analyst: Laura Graham

Date: 07/11/12

*The age of release estimated in this report is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996). Age estimation should be treated with caution as it can be influenced by site specific factors that the laboratory are not aware of.

Bibliography

Christensen, L. B., and Larsen, T. H. (1993) Method for Determining the Age of Diesel Oil Spills in the Soil.

Groundwater Monitoring Review pp.142 - 149.

Kaplan, I. R., and Galperin, Y. (1996a) How to Recognize a Hydrocarbon Fuel in the Environment and Estimate its Age of Release. In: Bois, T. J., and Luther, B. J. (Ed.)

Groundwater and Soil Contamination: Technical Preparation and Litigation Management. New York, Wiley Law Publishers, pp.145 - 199.



Jones Environmental Forensics Ltd

Whole Oil Analysis by GC-FID



No.4225

Job Number: 12/8370-2
Client ID: CTP7
Description: Yellow Oil

Carbon Range: nC5 to nC35
Boiling Point Range: 36°C to 491°C

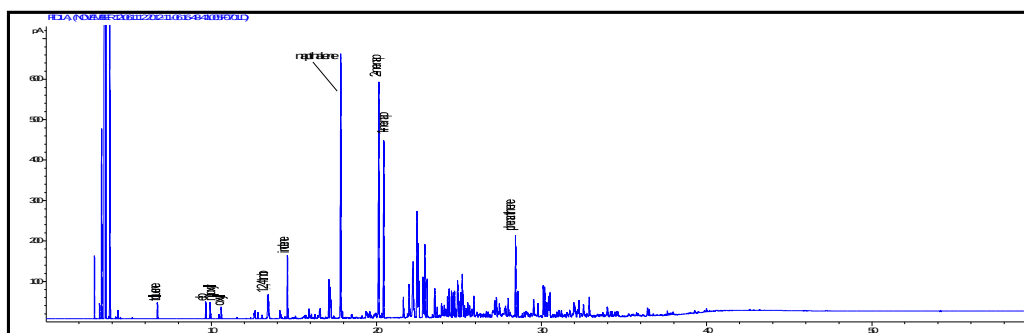
Pristane/Phytane Ratio: NA

nC17/Pristane Ratio: NA

Age(+/-2 years) Not possible as relevant markers are either not present or values are

Fingerprint: Coal Tar PAHs

Chromatogram



Analyst: Laura Graham

Date: 08/11/12

Whole Oil Analysis by GC-FID

No.4225

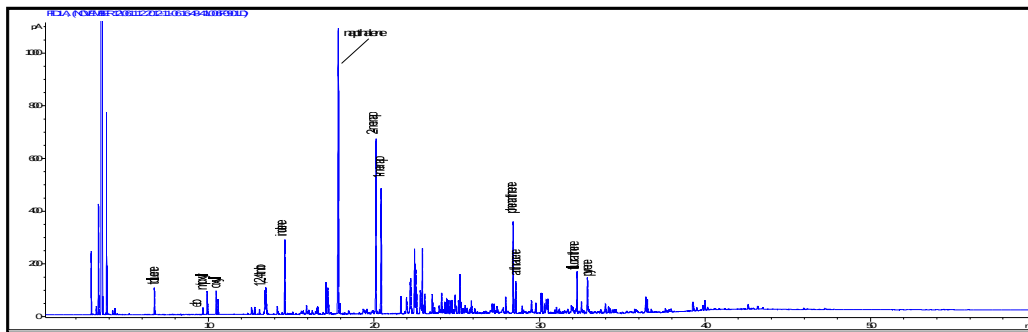
Job Number:	12/8370-3
Client ID:	HOLDER PRODUCT
Description:	Yellow Oil

Carbon Range:	nC5	to	nC35
Boiling Point Range:	36°C	to	491°C

Pristane/Phytane Ratio:	NA
nC17/Pristane Ratio:	NA
Age(+/- 2 years)	Not possible as relevant markers are either not present or values are

Fingerprint: Coal Tar PAHs

Chromatogram



Analyst: Laura Graham

Date: 08/11/12

NDP Reason Report

Client Name: Celtic Technologies

Matrix : Product

Reference: C1538

Location: WILLOW WORKS

Contact: Ian Wright

[illegible]

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 12/8370

SOILS

Please note we are only MCERTS accredited for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. If we are instructed to keep samples, a storage charge of £1 (1.5 Euros) per sample per month will be applied until we are asked to dispose of them.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

WATERS

Please note we are not a Drinking Water Inspectorate (DWI) Approved Laboratory. It is important that detection limits are carefully considered when requesting water analysis.

UKAS accreditation applies to surface water and groundwater and one other matrix which is analysis specific, any other liquids are outside our scope of accreditation

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

NOTE

Data is only accredited when all the requirements of our Quality System have been met. In certain circumstances where the requirements have not been met, the laboratory may issue the data in an interim report but will remove the accreditation, in this instance results should be considered indicative only. Where possible samples will be re-extracted and a final report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

ABBREVIATIONS and ACRONYMS USED

#	UKAS accredited.
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance.
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to a Jones Environmental approved laboratory.
NFD	No Fibres Detected

JE Job No 12/8370

[illegible]



Jones Environmental Laboratory

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Celtic Technologies
Columbus House
Greenmeadow Springs
Tongwynlais
Cardiff
CF15 7NE

Tel: +44 (0) 1244 833780

Fax: +44 (0) 1244 833781



No.4225

Attention : Ian Wright
Date : 30th November, 2012
Your reference : C1538
Our reference : Test Report 12/8370 Batch 1 Schedule B
Location : WILLOW WORKS
Date samples received : 27th October, 2012
Status : Final report
Issue : 1

Three samples were received for analysis on 27th October, 2012. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Compiled By:

Phil Sommerton B.Sc
Project Manager

Bob Millward B.Sc
Principal Chemist

Client Name: Celtic Technologies
Reference: C1538
Location: WILLOW WORKS
Contact: Ian Wright
JE Job No.: 12/8370

Report : Product

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

[illegible]

<i>Client Name:</i>	Celtic Technologies
<i>Reference:</i>	C1538
<i>Location:</i>	WILLOW WORKS
<i>Contact:</i>	Ian Wright
<i>JE Job No.:</i>	12/8370

SVOC Report : **Product**

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1	2									Please see attached notes for all abbreviations and acronyms		
Sample ID	BH103	CTP7											
Depth	4.0	1.2											
COC No / misc													
Containers	G	G											
Sample Date	18/10/2012	26/10/2012											
Sample Type	Product	Product											
Batch Number	1	1											
Date of Receipt	27/10/2012	27/10/2012									LOD	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol	<0.01	<0.01									<0.01	%	TM16/PM0
2-Methylphenol	<0.01	<0.01									<0.01	%	TM16/PM0
2-Nitrophenol	<0.01	<0.01									<0.01	%	TM16/PM0
2,4-Dichlorophenol	<0.01	<0.01									<0.01	%	TM16/PM0
2,4-Dimethylphenol	<0.01	<0.01									<0.01	%	TM16/PM0
2,4,5-Trichlorophenol	<0.01	<0.01									<0.01	%	TM16/PM0
2,4,6-Trichlorophenol	<0.01	<0.01									<0.01	%	TM16/PM0
4-Chloro-3-methylphenol	<0.01	<0.01									<0.01	%	TM16/PM0
4-Methylphenol	<0.01	<0.01									<0.01	%	TM16/PM0
4-Nitrophenol	<0.01	<0.01									<0.01	%	TM16/PM0
Pentachlorophenol	<0.01	<0.01									<0.01	%	TM16/PM0
Phenol	<0.01	<0.01									<0.01	%	TM16/PM0
PAHs													
2-Chloronaphthalene	<0.01	<0.01									<0.01	%	TM16/PM0
2-Methylnaphthalene	<0.01	1.06									<0.01	%	TM16/PM0
Naphthalene	<0.01	1.04									<0.01	%	TM16/PM0
Acenaphthylene	0.02	0.38									<0.01	%	TM16/PM0
Acenaphthene	0.02	0.06									<0.01	%	TM16/PM0
Fluorene	0.03	0.17									<0.01	%	TM16/PM0
Phenanthrene	0.05	0.36									<0.01	%	TM16/PM0
Anthracene	0.01	0.11									<0.01	%	TM16/PM0
Fluoranthene	0.02	0.08									<0.01	%	TM16/PM0
Pyrene	0.01	0.08									<0.01	%	TM16/PM0
Benzo(a)anthracene	<0.01	0.03									<0.01	%	TM16/PM0
Chrysene	<0.01	0.03									<0.01	%	TM16/PM0
Benzo(bk)fluoranthene	<0.01	0.02									<0.01	%	TM16/PM0
Benzo(a)pyrene	<0.01	0.01									<0.01	%	TM16/PM0
Indeno(123cd)pyrene	<0.01	<0.01									<0.01	%	TM16/PM0
Dibenzo(ah)anthracene	<0.01	<0.01									<0.01	%	TM16/PM0
Benzo(ghi)perylene	<0.01	<0.01									<0.01	%	TM16/PM0
Phthalates													
Bis(2-ethylhexyl) phthalate	<0.01	<0.01									<0.01	%	TM16/PM0
Butylbenzyl phthalate	<0.01	<0.01									<0.01	%	TM16/PM0
Di-n-butyl phthalate	<0.01	<0.01									<0.01	%	TM16/PM0
Di-n-Octyl phthalate	<0.01	<0.01									<0.01	%	TM16/PM0
Diethyl phthalate	<0.01	<0.01									<0.01	%	TM16/PM0
Dimethyl phthalate	<0.01	<0.01									<0.01	%	TM16/PM0

<i>Client Name:</i>	Celtic Technologies
<i>Reference:</i>	C1538
<i>Location:</i>	WILLOW WORKS
<i>Contact:</i>	Ian Wright
<i>JE Job No.:</i>	12/8370

SVOC Report : **Product**

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1	2									Please see attached notes for all abbreviations and acronyms		
Sample ID	BH103	CTP7											
Depth	4.0	1.2											
COC No / misc													
Containers	G	G											
Sample Date	18/10/2012	26/10/2012											
Sample Type	Product	Product											
Batch Number	1	1											
Date of Receipt	27/10/2012	27/10/2012									LOD	Units	Method No.
SVOC MS													
Other SVOCs													
1,2-Dichlorobenzene	<0.01	<0.01									<0.01	%	TM16/PM0
1,2,4-Trichlorobenzene	<0.01	<0.01									<0.01	%	TM16/PM0
1,3-Dichlorobenzene	<0.01	<0.01									<0.01	%	TM16/PM0
1,4-Dichlorobenzene	<0.01	<0.01									<0.01	%	TM16/PM0
2-Nitroaniline	<0.01	<0.01									<0.01	%	TM16/PM0
2,4-Dinitrotoluene	<0.01	<0.01									<0.01	%	TM16/PM0
2,6-Dinitrotoluene	<0.01	<0.01									<0.01	%	TM16/PM0
3-Nitroaniline	<0.01	<0.01									<0.01	%	TM16/PM0
4-Bromophenylphenylether	<0.01	<0.01									<0.01	%	TM16/PM0
4-Chloroaniline	<0.01	<0.01									<0.01	%	TM16/PM0
4-Chlorophenylphenylether	<0.01	<0.01									<0.01	%	TM16/PM0
4-Nitroaniline	<0.01	<0.01									<0.01	%	TM16/PM0
Azobenzene	<0.01	<0.01									<0.01	%	TM16/PM0
Bis(2-chloroethoxy)methane	<0.01	<0.01									<0.01	%	TM16/PM0
Bis(2-chloroethyl)ether	<0.01	<0.01									<0.01	%	TM16/PM0
Carbazole	<0.01	0.01									<0.01	%	TM16/PM0
Dibenzofuran	0.01	0.03									<0.01	%	TM16/PM0
Hexachlorobenzene	<0.01	<0.01									<0.01	%	TM16/PM0
Hexachlorobutadiene	<0.01	<0.01									<0.01	%	TM16/PM0
Hexachlorocyclopentadiene	<0.01	<0.01									<0.01	%	TM16/PM0
Hexachloroethane	<0.01	<0.01									<0.01	%	TM16/PM0
Isophorone	<0.01	<0.01									<0.01	%	TM16/PM0
N-nitrosodi-n-propylamine	<0.01	<0.01									<0.01	%	TM16/PM0
Nitrobenzene	<0.01	<0.01									<0.01	%	TM16/PM0

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 12/8370

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ABBREVIATIONS and ACRONYMS USED

#	UKAS accredited.
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance.
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to a Jones Environmental approved laboratory.
CO	Suspected carry over
NFD	No Fibres Detected

JE Job No 12/8370

[illegible]



Celtic
Columbus House
Greenmeadow Springs
Tongwynlais
Cardiff
South Glamorgan
CF15 7NE

Attention: Ian Wright

CERTIFICATE OF ANALYSIS

Date: 19 November 2012
Customer: H_CELTIC_CDF
Sample Delivery Group (SDG): 121018-100
Your Reference: C1538
Location: Willow Works, Merthyr
Report No: 202392

We received 7 samples on Thursday October 18, 2012 and 4 of these samples were scheduled for analysis which was completed on Monday November 19, 2012. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

Approved By:

Sonia McWhan

Operations Manager



CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
6364347	CBH1			16/10/2012
6364354	CBH2		1.80	15/10/2012
6364365	CBH2		4.00	16/10/2012
6364349	CBH3		1.50	16/10/2012
6364370	CBH3		4.00	16/10/2012
6364367	TP8		3.00	12/10/2012
6364361	TP9		3.50 - 4.00	12/10/2012

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

CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

SOLID Results Legend  Test  No Determination Possible	Lab Sample No(s)	6364347	6364365	6364370	6364367
	Customer Sample Reference	CBH1	CBH2	CBH3	TP8
	AGS Reference				
	Depth (m)		4.00	4.00	3.00
	Container	60g VOC (AL/E215) 250g Amber Jar 1kg TUB	250g Amber Jar 1kg TUB	250g Amber Jar 1kg TUB	60g VOC (AL/E215) 250g Amber Jar 1kg TUB
% Stones Greater than 10mm	All	NDPs: 0 Tests: 1			
Ammonium Soil by Titration	All	NDPs: 0 Tests: 1			
Anions by Kone (soil)	All	NDPs: 0 Tests: 1			
Anions by Kone (w)	All	NDPs: 0 Tests: 1			
Boron Water Soluble	All	NDPs: 0 Tests: 1			
CEN 2:1 Readings	All	NDPs: 0 Tests: 1			
CEN 8:1 Readings	All	NDPs: 0 Tests: 1			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 1			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 1			
Elemental Sulphur	All	NDPs: 0 Tests: 1			
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 1			
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 1			
Fluoride	All	NDPs: 0 Tests: 1			
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2			

CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

SOLID Results Legend  Test  No Determination Possible	Lab Sample No(s)	6364347	6364365	6364370	6364367
	Customer Sample Reference	CBH1	CBH2	CBH3	TP8
	AGS Reference				
	Depth (m)		4.00	4.00	3.00
	Container	60g VOC (AL/E215) 1kg TUB	250g Amber Jar 1kg TUB	250g Amber Jar 1kg TUB	60g VOC (AL/E215) 250g Amber Jar 1kg TUB
Loss on Ignition in soils	All	NDPs: 0 Tests: 1			
Mercury Dissolved	All	NDPs: 0 Tests: 1			
Metals by iCap-OES (Soil)	Arsenic	NDPs: 0 Tests: 1			
	Cadmium	NDPs: 0 Tests: 1			
	Chromium	NDPs: 0 Tests: 1			
	Copper	NDPs: 0 Tests: 1			
	Lead	NDPs: 0 Tests: 1			
	Mercury	NDPs: 0 Tests: 1			
	Nickel	NDPs: 0 Tests: 1			
	Selenium	NDPs: 0 Tests: 1			
	Zinc	NDPs: 0 Tests: 1			
Mineral Oil	All	NDPs: 0 Tests: 1			
PAH by GCMS	All	NDPs: 0 Tests: 1			
PAH Value of soil	All	NDPs: 0 Tests: 1			
Particle Size Distribution*	All	NDPs: 0 Tests: 2			

CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

SOLID							
Results Legend  Test  No Determination Possible	Lab Sample No(s)		6364347	6364365	6364370	6364367	
	Customer Sample Reference		CBH1	CBH2	CBH3	TP8	
	AGS Reference						
	Depth (m)			4.00	4.00	3.00	
	Container		1kg TUB 60g VOC (AL/E215) 250g Amber Jar	1kg TUB 250g Amber Jar	1kg TUB 250g Amber Jar	1kg TUB 250g Amber Jar	60g VOC (AL/E215) 250g Amber Jar
PCBs by GCMS	All	NDPs: 0 Tests: 1					
pH	All	NDPs: 0 Tests: 1					
Phenols by HPLC (S)	All	NDPs: 0 Tests: 1					
Phenols by HPLC (W)	All	NDPs: 0 Tests: 1					
Sample description	All	NDPs: 0 Tests: 4					
Total Dissolved Solids	All	NDPs: 0 Tests: 1					
Total Organic Carbon	All	NDPs: 0 Tests: 1					
TPH CWG GC (S)	All	NDPs: 0 Tests: 1					
VOC MS (S)	All	NDPs: 0 Tests: 1					

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

Sample Descriptions

Grain Sizes

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

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
6364347	CBH1		Black	N/A	2 - 10 mm	None	Stones
6364365	CBH2	4.00	Dark Brown	Loamy Sand	0.1 - 2 mm	Stones	None
6364370	CBH3	4.00	Light Brown	Sandy Loam	2 - 10 mm	Stones	None
6364367	TP8	3.00	Dark Brown	Sandy Silt Loam	0.063 - 0.1 mm	Stones	None

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

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

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

CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

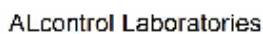
Results Legend		Customer Sample Ref.	CBH1	CBH2	CBH3	TP8		
#	ISO17025 accredited.							
M	mCERTS accredited.							
S	Deviating sample.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% 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							
		Depth (m)		4.00	4.00	3.00		
		Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
		Date Sampled	16/10/2012	16/10/2012	16/10/2012	12/10/2012		
		Sampled Time						
		Date Received	18/10/2012	18/10/2012	18/10/2012	18/10/2012		
		SDG Ref	121018-100	121018-100	121018-100	121018-100		
		Lab Sample No.(s)	6364347	6364365	6364370	6364367		
		AGS Reference						
Component	LOD/Units	Method						
Moisture content ratio	%	PM024				9.3		
Particle size distribution (PSD)*	-	SUB		See Attached	See Attached			
Particle size distribution (sedimentation)*	-	SUB		See Attached	See Attached			
Stones > 10 mm	%	TM008				32.3		
Loss on ignition	<0.7 %	TM018				6.02		
Ammoniacal Nitrogen, exchangeable as NH4	<15 mg/kg	TM024				<15		
Mineral oil >C10-C40	<1 mg/kg	TM061	159					
Surrogate Value	-	TM061	41.6					
Mineral Oil Surrogate % recovery**	%	TM061	83.2					
Catechol	<0.01 mg/kg	TM062 (S)				<0.01		
Phenol	<0.01 mg/kg	TM062 (S)				<0.01		
Cresols	<0.01 mg/kg	TM062 (S)				<0.01		
Resorcinol	<0.05 mg/kg	TM062 (S)				<0.05		
Xylenols	<0.015 mg/kg	TM062 (S)				<0.015		
1-Naphthol	<0.01 mg/kg	TM062 (S)				<0.01		
2,3,5-Trimethylphenol	<0.01 mg/kg	TM062 (S)				<0.01		
2-Isopropylphenol	<0.015 mg/kg	TM062 (S)				<0.015		
Phenols, Total Detected 8 Speciated	<0.12 mg/kg	TM062 (S)				<0.12		
Organic Carbon, Total	<0.2 %	TM132	2.14					
pH	1 pH Units	TM133				10.2		
Sulphur, Elemental	<10 mg/kg	TM136				15.8		
Cyanide, Total	<1 mg/kg	TM153				2.86		
Cyanide, Free	<1 mg/kg	TM153				<1		
Cyanide, Complex	<1 mg/kg	TM153				2.86		
Thiocyanate	<1 mg/kg	TM153				<1		
PCB congener 28	<0.003 mg/kg	TM168	<0.003					
PCB congener 52	<0.003 mg/kg	TM168	<0.003					
PCB congener 101	<0.003 mg/kg	TM168	<0.003					
PCB congener 118	<0.003 mg/kg	TM168	<0.003					
PCB congener 138	<0.003 mg/kg	TM168	<0.003					
PCB congener 153	<0.003 mg/kg	TM168	<0.003					
PCB congener 180	<0.003 mg/kg	TM168	<0.003					

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

[illegible]



Validated

CERTIFICATE OF ANALYSIS

Order Number: PO67590
Report Number: 202392
Superseded Report:

GRO by GC-FID (S)

[illegible]

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

PAH by GCMS

[illegible]

CERTIFICATE OF ANALYSIS

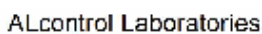
Validated

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:
TPH CWG (S)

Results Legend		Customer Sample Ref.	TP8				
#	ISO17025 accredited.						
M	mCERTS accredited.						
S	Deviating sample.						
aq	Aqueous / settled sample.	Depth (m)	3.00				
diss.filt	Dissolved / filtered sample.	Sample Type	Soil/Solid				
tot.unfilt	Total / unfiltered sample.	Date Sampled	12/10/2012				
*	Subcontracted test.	Sampled Time					
**	% 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	Date Received	18/10/2012				
(F)	Trigger breach confirmed	SDG Ref	121018-100				
		Lab Sample No.(s)	6364367				
		AGS Reference					
Component	LOD/Units	Method					
GRO Surrogate % recovery**	%	TM089	36				
GRO >C5-C12	<0.044 mg/kg	TM089	<0.044				
Methyl tertiary butyl ether (MTBE)	<0.005 mg/kg	TM089	<0.005	#			
Benzene	<0.01 mg/kg	TM089	<0.01	M			
Toluene	<0.002 mg/kg	TM089	0.0033	M			
Ethylbenzene	<0.003 mg/kg	TM089	<0.003	M			
m,p-Xylene	<0.006 mg/kg	TM089	<0.006	M			
o-Xylene	<0.003 mg/kg	TM089	<0.003	M			
sum of detected mpo xylene by GC	<0.009 mg/kg	TM089	<0.009				
sum of detected BTEX by GC	<0.024 mg/kg	TM089	<0.024				
Aliphatics >C5-C6	<0.01 mg/kg	TM089	<0.01				
Aliphatics >C6-C8	<0.01 mg/kg	TM089	<0.01				
Aliphatics >C8-C10	<0.01 mg/kg	TM089	<0.01				
Aliphatics >C10-C12	<0.01 mg/kg	TM089	<0.01				
Aliphatics >C12-C16	<0.1 mg/kg	TM173	3.16				
Aliphatics >C16-C21	<0.1 mg/kg	TM173	5.93				
Aliphatics >C21-C35	<0.1 mg/kg	TM173	88.2				
Aliphatics >C35-C44	<0.1 mg/kg	TM173	34.4				
Total Aliphatics >C12-C44	<0.1 mg/kg	TM173	132				
Aromatics >EC5-EC7	<0.01 mg/kg	TM089	<0.01				
Aromatics >EC7-EC8	<0.01 mg/kg	TM089	<0.01				
Aromatics >EC8-EC10	<0.01 mg/kg	TM089	<0.01				
Aromatics >EC10-EC12	<0.01 mg/kg	TM089	<0.01				
Aromatics >EC12-EC16	<0.1 mg/kg	TM173	8.2				
Aromatics >EC16-EC21	<0.1 mg/kg	TM173	8.79				
Aromatics >EC21-EC35	<0.1 mg/kg	TM173	81				
Aromatics >EC35-EC44	<0.1 mg/kg	TM173	44.8				
Aromatics >EC40-EC44	<0.1 mg/kg	TM173	15.6				
Total Aromatics >EC12-EC44	<0.1 mg/kg	TM173	143				
Total Aliphatics >C5-35	<0.1 mg/kg	TM173	97.2				
Total Aromatics >C5-35	<0.1 mg/kg	TM173	98				
Total Aliphatics & Aromatics >C5-35	<0.1 mg/kg	TM173	195				



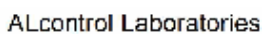
Validated

CERTIFICATE OF ANALYSIS

Order Number: PO67590
Report Number: 202392
Superseded Report:

TPH CWG (S)

[illegible]



Validated

CERTIFICATE OF ANALYSIS

Order Number: PO67590
Report Number: 202392
Superseded Report:

VOC MS (S)

[illegible]

SDG:	121018-100	Location:	Willow Works, Merthyr	Order Number:	PO67590
Job:	H_CELTIC_CDF-50	Customer:	Celtic	Report Number:	202392
Client Reference:	C1538	Attention:	Ian Wright	Superseded Report:	

CEN 10:1 CUMULATIVE TWO STAGE BATCH TEST
WAC ANALYTICAL RESULTS
REF : BS EN 12457/3

Client Reference		Site Location	Willow Works, Merthyr
Mass Sample taken (kg)	0.198	Moisture Content Ratio (%)	13.5
Mass of dry sample (kg)	0.175	Dry Matter Content Ratio (%)	88.1
Particle Size <4mm	>95%		

Case		Landfill Waste Acceptance Criteria Limits		
SDG	121018-100	Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Lab Sample Number(s)	6364347			
Sampled Date	16-Oct-2012			
Customer Sample Ref.	CBH1			
Depth (m)				
Solid Waste Analysis		3	5	6
Total Organic Carbon (%)	2.14	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	0.0868	6	-	-
Sum of 7 PCBs (mg/kg)	<0.021	1	-	-
Mineral Oil (mg/kg)	159	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	-	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	C ₂ Conc ⁿ in 2:1 eluate	C ₈ Conc ⁿ in 8:1 eluate	A ₂ 2:1 conc ⁿ leached	A ₂₋₁₀ Cumulative conc ⁿ leached	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
	mg/l		mg/kg				
Arsenic	0.000812	0.000676	0.00162	0.00697	0.5	2	25
Barium	0.0473	0.0106	0.0945	0.163	20	100	300
Cadmium	<0.0001	<0.0001	<0.0002	<0.001	0.04	1	5
Chromium	<0.00022	0.000228	<0.00044	<0.0022	0.5	10	70
Copper	0.00226	<0.00085	0.00451	<0.0085	2	50	100
Mercury Dissolved (CVAf)	<0.00001	<0.00001	<0.00002	<0.0001	0.01	0.2	2
Molybdenum	0.00498	0.00157	0.00994	0.0209	0.5	10	30
Nickel	<0.00015	0.000361	<0.0003	0.00305	0.4	10	40
Lead	0.00005	0.000044	0.0000999	0.000449	0.5	10	50
Antimony	0.000856	<0.00016	0.00171	<0.0016	0.06	0.7	5
Selenium	0.00126	<0.00039	0.00251	<0.0039	0.1	0.5	7
Zinc	0.00279	<0.00041	0.00557	0.0043	4	50	200
Chloride	<2	<2	<4	<20	800	15000	25000
Fluoride	<0.5	<0.5	<0.999	<5	10	150	500
Sulphate (soluble)	57.2	13.3	114	201	1000	20000	50000
Total Dissolved Solids	183	70.2	365	876	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.032	<0.16	1	-	-
Dissolved Organic Carbon	3.59	<3	7.17	<30	500	800	1000

Leach Test Information	2:1	8:1
Date Prepared	19-Oct-2012	22-Oct-2012
pH (pH Units)	8.237	8.373
Conductivity (µS/cm)	228.00	80.70
Temperature (°C)	20.50	19.80
Volume Leachant (Litres)	0.326	1.400
Volume of Eluate VE1 (Litres)	0.270	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Moerts Certification does not apply to leachates

19/11/2012 17:04:51

17:04:40 19/11/2012

CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
6436687	TP8	3.00	SOLID	PAH by GCMS	Acenaphthene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Acenaphthylene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Anthracene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Benz(a)anthracene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Benzo(a)pyrene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Benzo(b)fluoranthene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Benzo(g,h,i)perylene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Benzo(k)fluoranthene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Chrysene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Dibenzo(a,h)anthracene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Fluoranthene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Fluorene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Indeno(1,2,3-cd)pyrene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Naphthalene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	PAH, Total Detected USEPA 16	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Phenanthrene	Sample holding time exceeded
6436687	TP8	3.00	SOLID	PAH by GCMS	Pyrene	Sample holding time exceeded
6441697	TP8	3.00	SOLID	Phenols by HPLC (S)	1-Naphthol	Sample holding time exceeded
6441697	TP8	3.00	SOLID	Phenols by HPLC (S)	2,3,5-Trimethylphenol	Sample holding time exceeded
6441697	TP8	3.00	SOLID	Phenols by HPLC (S)	2-Isopropylphenol	Sample holding time exceeded
6441697	TP8	3.00	SOLID	Phenols by HPLC (S)	Catechol	Sample holding time exceeded
6441697	TP8	3.00	SOLID	Phenols by HPLC (S)	Cresols	Sample holding time exceeded
6441697	TP8	3.00	SOLID	Phenols by HPLC (S)	Phenol	Sample holding time exceeded
6441697	TP8	3.00	SOLID	Phenols by HPLC (S)	Phenols, Total Detected 8 Speciated	Sample holding time exceeded
6441697	TP8	3.00	SOLID	Phenols by HPLC (S)	Resorcinol	Sample holding time exceeded
6441697	TP8	3.00	SOLID	Phenols by HPLC (S)	Xylenols	Sample holding time exceeded

Note : Test results may be compromised

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
PM114		Leaching Procedure for CEN Two Stage Batch Test 2:1/8:1 Cumulative		
SUB		Subcontracted Test		
TM008	BS 1377:Part 1977	Particle size distribution of solid samples		
TM018	BS 1377: Part 3 1990	Determination of Loss on Ignition		
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids		
TM061	Method for the Determination of EPH, Massachusetts Dept. of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM123	BS 2690: Part 121:1981	The Determination of Total Dissolved Solids in Water		
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		
TM136	Method 17.10, Second Site property, March 2003	Determination of Sulphur by HPLC		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser		
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils		
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		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM213	In-house Method	Rapid Determination of PAHs by GC-FID		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer		
TM243		Mixed Anions In Soils By Kone		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		

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

CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

Test Completion Dates

Lab Sample No(s)	6364347	6364365	6364370	6364367
Customer Sample Ref.	CBH1	CBH2	CBH3	TP8
AGS Ref.				
Depth		4.00	4.00	3.00
Type	SOLID	SOLID	SOLID	SOLID
% Stones Greater than 10mm				07-Nov-2012
Ammonium Soil by Titration				07-Nov-2012
Anions by Kone (soil)				06-Nov-2012
Anions by Kone (w)	26-Oct-2012			
Boron Water Soluble				08-Nov-2012
CEN 2:1 Leachate (2 Stage)	19-Oct-2012			
CEN 2:1 Readings	24-Oct-2012			
CEN 8:1 Leachate (2 Stage)	24-Oct-2012			
CEN 8:1 Readings	24-Oct-2012			
Cyanide Comp/Free/Total/Thiocyanate				05-Nov-2012
Dissolved Metals by ICP-MS	26-Oct-2012			
Dissolved Organic/Inorganic Carbon	25-Oct-2012			
Elemental Sulphur				07-Nov-2012
EPH CWG (Aliphatic) GC (S)				07-Nov-2012
EPH CWG (Aromatic) GC (S)				07-Nov-2012
Fluoride	26-Oct-2012			
GRO by GC-FID (S)	25-Oct-2012			08-Nov-2012
Loss on Ignition in soils				05-Nov-2012
Mercury Dissolved	26-Oct-2012			
Metals by iCap-OES (Soil)				07-Nov-2012
Mineral Oil	26-Oct-2012			
PAH by GCMS				08-Nov-2012
PAH Value of soil	24-Oct-2012			
Particle Size Distribution*		19-Nov-2012	19-Nov-2012	
PCBs by GCMS	25-Oct-2012			
pH				07-Nov-2012
Phenols by HPLC (S)				09-Nov-2012
Phenols by HPLC (W)	27-Oct-2012			
Sample description	19-Oct-2012	03-Nov-2012	03-Nov-2012	31-Oct-2012
Total Dissolved Solids	26-Oct-2012			
Total Organic Carbon	25-Oct-2012			
TPH CWG GC (S)				08-Nov-2012
VOC MS (S)				08-Nov-2012

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

Chromatogram

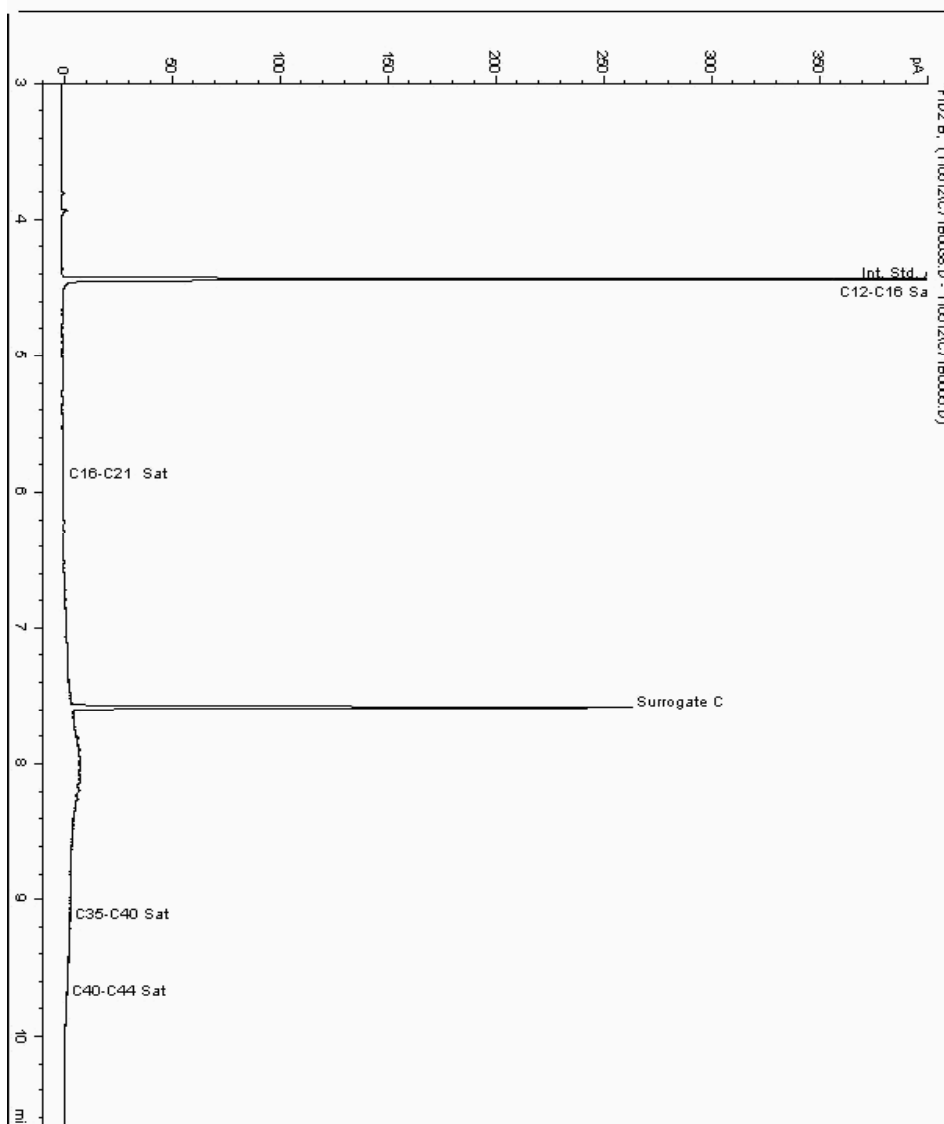
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 6454560
Sample ID : TP8

Depth : 3.00

Alcontrol/Geochem Analytical Services
Speciated TPH - SATS (C12 - C40)

Sample Identity: 6226398-6454560
Date Acquired : 06/11/2012 15:37:13 PM
Units : ppb
Dilution:



SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

Chromatogram

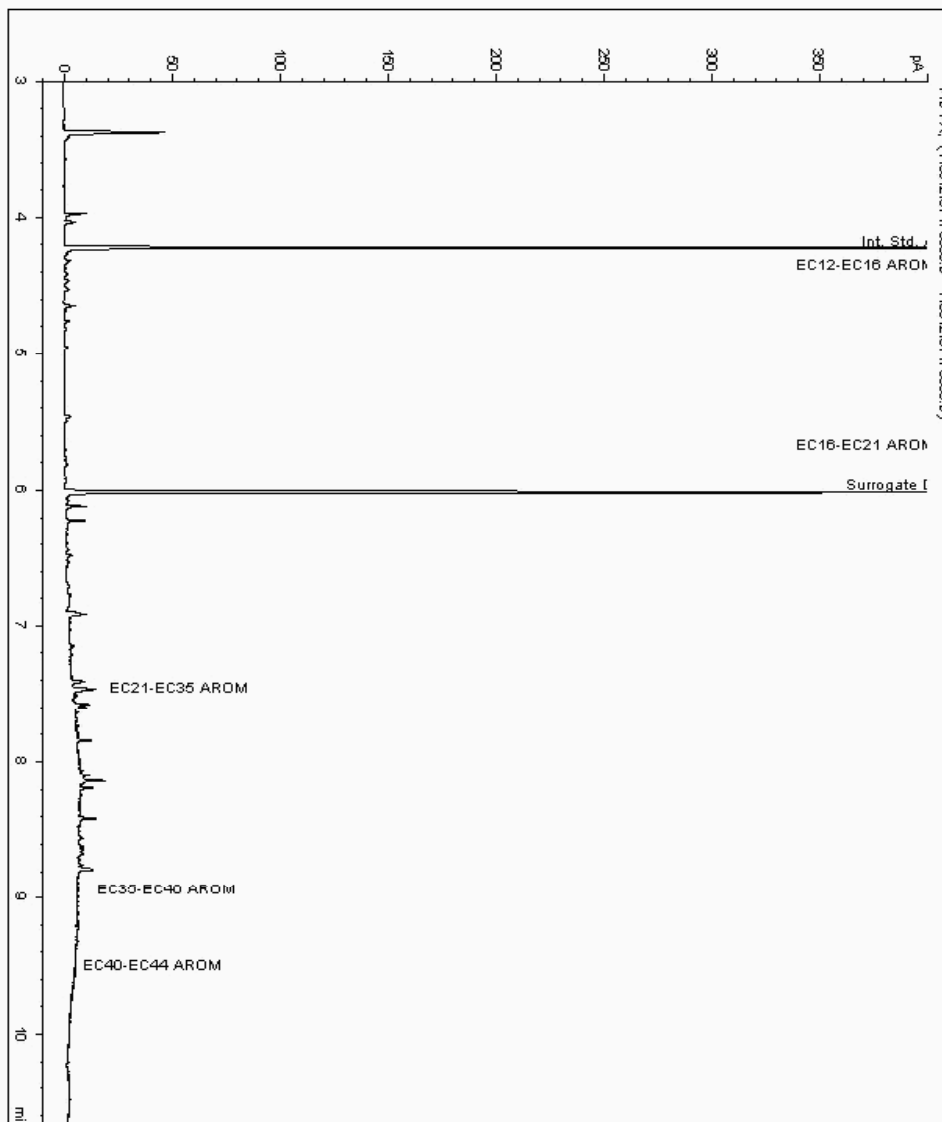
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 6454560
Sample ID : TP8

Depth : 3.00

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 6226399-6454560
Date Acquired : 06/11/2012 15:37:13 PM
Units : ppb
Dilution:



SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

Chromatogram

Analysis: Mineral Oil

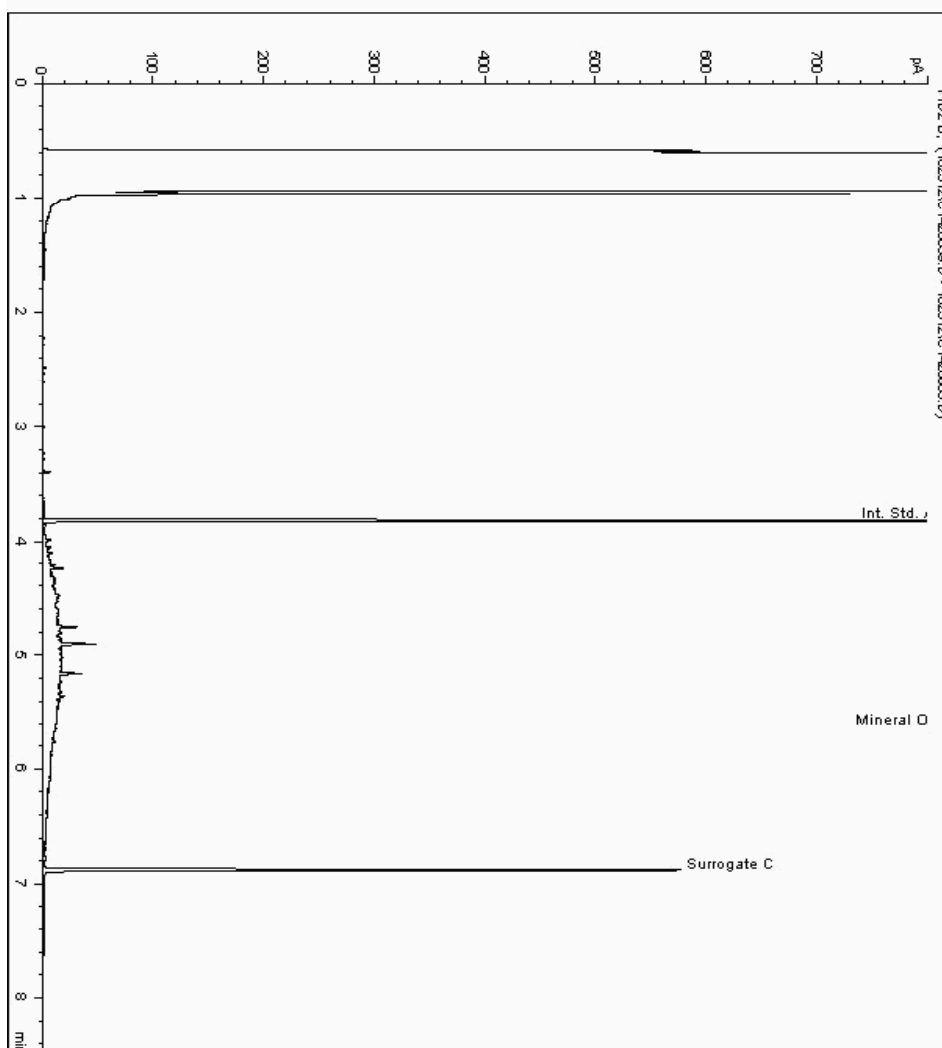
Sample No : 6392019
Sample ID : CBH1

Depth :

Alcontrol/Geochem Analytical Services
Mineral Oil Range Organics (C10 - C40)

Sample Identity : 6167579-6392019
Date Acquired : 25/10/12 23:23:19 PM
Units : mg/kg
Sample Multiplier : 0.000
Dilution :

#	Compound Name	Main Peak Area	Amount
1	Int. Std. A	734.0	50.000
2	Mineral Oil	1997.5	158.824
3	Surrogate C	467.4	41.608
	Combined Peak Area	3198.9	



SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

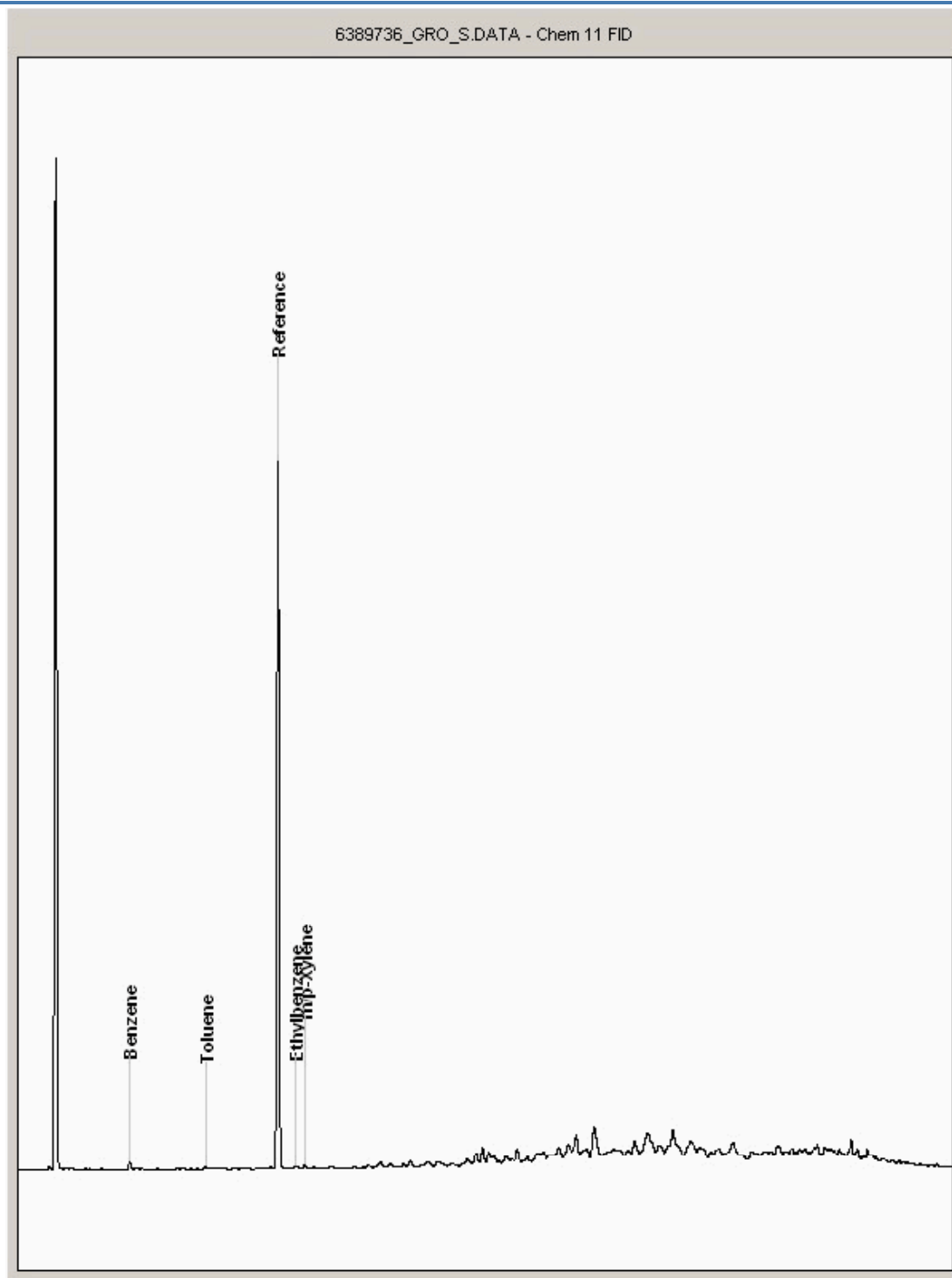
Order Number: PO67590
Report Number: 202392
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 6389736
Sample ID : CBH1

Depth :



SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

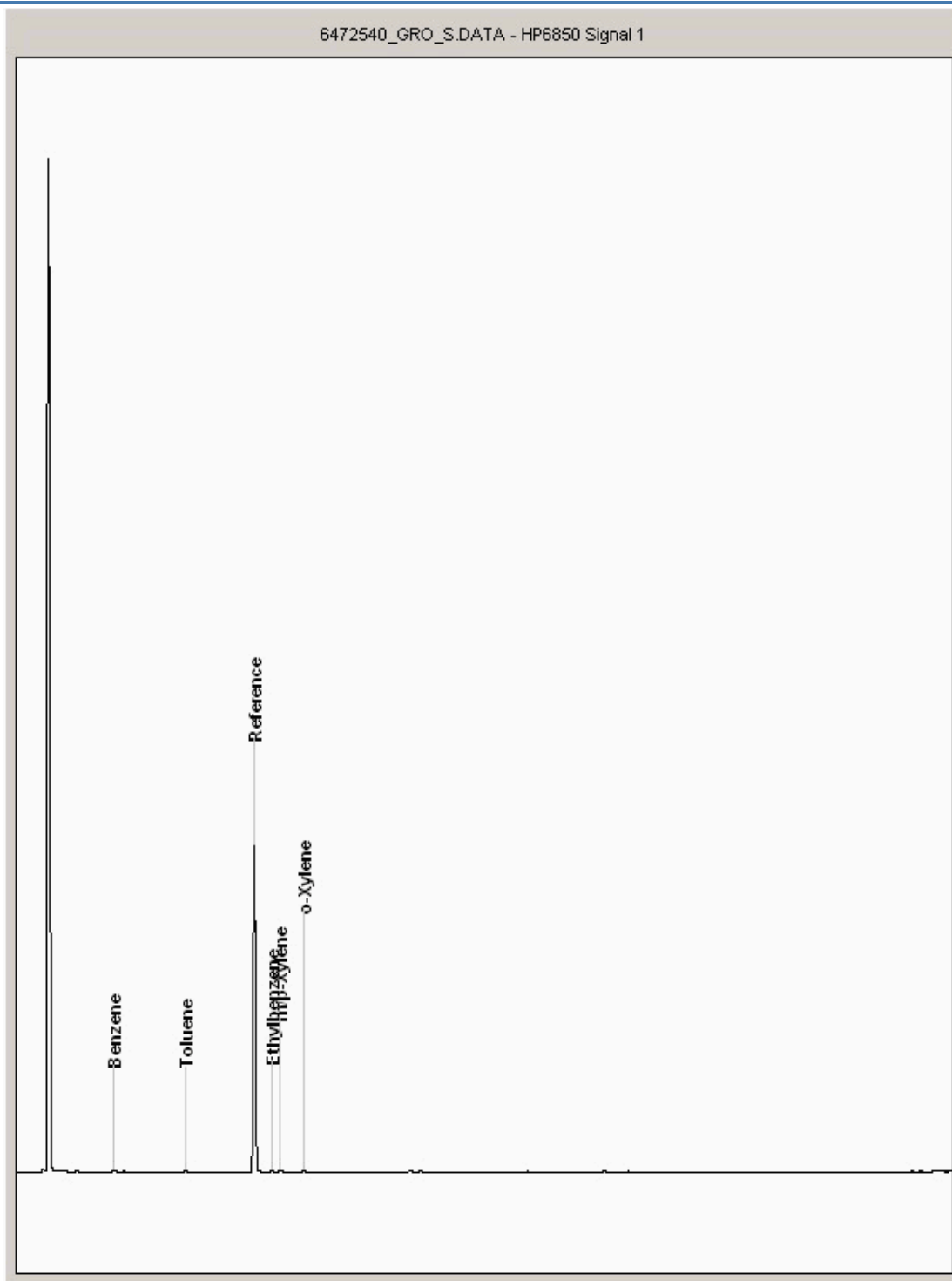
Order Number: PO67590
Report Number: 202392
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 6472540
Sample ID : TP8

Depth : 3.00



Harrison Testing Services

Units 1 & 2 Alston Road
Fellesdon Park Industrial Estate
Norwich NR5 5DS
Tel: +44 (0) 1603 416333
Fax: +44 (0) 1603 416443

Client: Alcontrol Geochem
Units 7 & 8 Hawarden Business Park
Manor Road
Hawarden
Deeside
CH5 3US

For the attention of Tracy Dykes

Date of Issue: 16/11/2011
Page Number 1 of 3

TEST REPORT TRANSMITTAL

Report Form FMT0220 Rev.0 - Revision Date 2011/1/28

Project	121018-100	Samples received	08/11/2012
Report No	L17038	Instruction received	08/11/2012
Your Ref	157058	Testing commenced	08/11/2012
SUMMARY OF RESULTS ATTACHED			
Test Method and Description		Quantity	UKAS Accredited
BS1377: Part 2: 1990:9.3 Particle Size Distribution - Wet Sieve Method		2	Yes
All of the above tests were performed by Harrison Testing Services at our permanent laboratory premises. No tests were subcontracted to other laboratory facilities			
Remarks:			
Issued by: M Willson			
Approved Signatories:			
M Willson (Laboratory Manager), G Bream (Senior Laboratory Technician)			
Unless we are notified to the contrary, samples will be disposed after a period of one month from this date This report should not be reproduced except in full without the written approval of the laboratory Only those results indicated in this report are UKAS accredited and any opinion or interpretations expressed are outside the scope of UKAS accreditation			



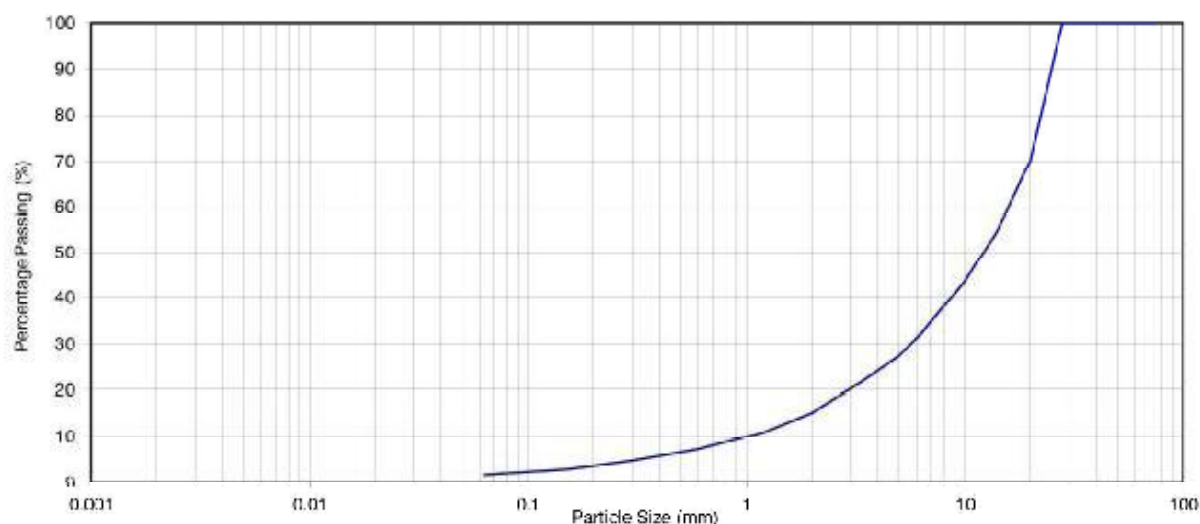
A division of Harrison Group Environmental Ltd.

Registered in England No. 1306165 Registered Office: Old Rectory, Flordon, Norfolk NR15 1RL

PROJECT NAME: 121018-100
 PROJECT NUMBER: L17038
 CLIENT: Alcontrol Geochem
 DATE OF ISSUE: 16/11/2012

BH/TP No.: CBH2
 Depth (m): 4.00
 Sample No.: 6466085

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing	Sample Description	
75.0	100	Brown slightly silty sandy GRAVEL. Gravel is of sandstone and quartzite	
63.0	100		
50.0	100		
37.5	100		
25.0	100		
20.0	70		
14.0	54		
10.0	44		
6.30	32		
5.00	27		
3.35	22	Sample Proportions %	
2.00	15	Cobbles	0.0
1.18	11	Gravel	84.9
0.600	7	Sand	13.3
0.425	6	Silt / Clay	1.7
0.300	5	Remarks	
0.212	4		
0.150	3		
0.063	2		
		Insufficient sample to test in full accordance with BS1377	
		Insufficient fines present for pipette sedimentation	

Harrison Geotechnical Engineering

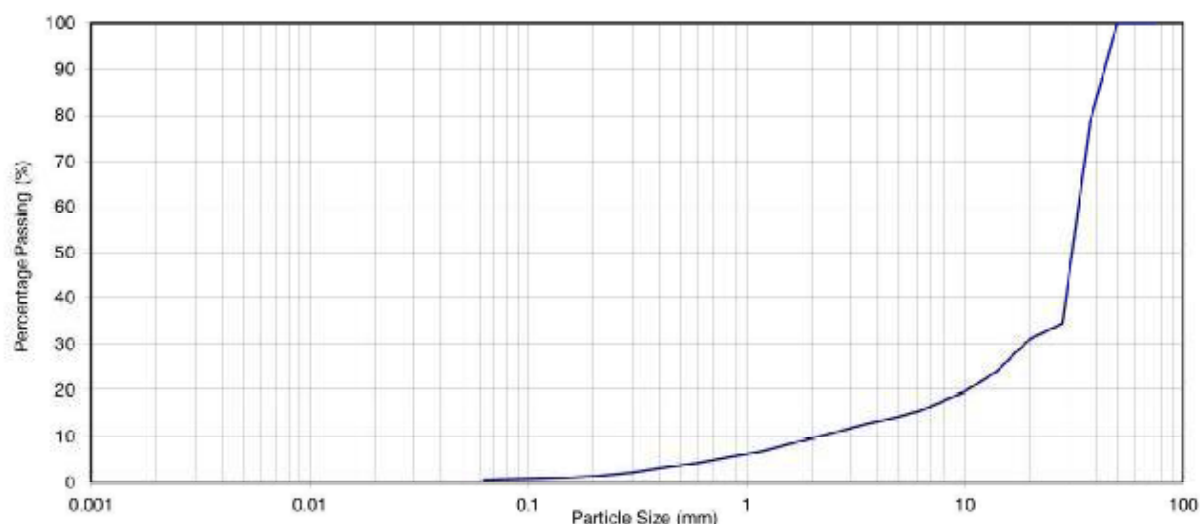
Units 1 & 2 Alston Road
 Norwich
 Norfolk
 NR6 5DG
 Tel: +44 (0)1603 418333
 Fax: +44 (0)1603 416443
 email: laboratory@harringtongroupuk.com



PROJECT NAME: 121018-100
 PROJECT NUMBER: L17038
 CLIENT: Alcontrol Geochem
 DATE OF ISSUE: 16/11/2012

BH/TP No.: CBH3
 Depth (m): 4.00
 Sample No.: 6466109

DETERMINATION OF PARTICLE SIZE DISTRIBUTION TO BS1377 : PART 2 : 1990 : CLAUSE 9.2 - WET SIEVING



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

Particle Size (mm)	Percentage Passing	Sample Description	
75.0	100	Gray brown slightly silty sandy GRAVEL. Gravel is of sandstone and quartzite	
63.0	100		
50.0	100		
37.5	78		
25.0	34		
20.0	31		
14.0	24		
10.0	20		
6.30	16		
5.00	14		
3.35	12	Sample Proportions %	
2.00	10	Cobbles	0.0
1.18	7	Gravel	93.4
0.600	4	Sand	9.0
0.425	3	Silt / Clay	0.5
0.300	2	Remarks	
0.212	1		
0.150	1		
0.063	1		
		Insufficient sample to test in full accordance with BS1377	
		Insufficient fines present for pipette sedimentation	

Harrison Geotechnical Engineering

Units 1 & 2 Alston Road
 Norwich
 Norfolk
 NR6 5DG
 Tel: +44 (0)1603 418333
 Fax: +44 (0)1603 416443
 email: laboratory@harringtongroupuk.com



CERTIFICATE OF ANALYSIS

SDG: 121018-100
Job: H_CELTIC_CDF-50
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO67590
Report Number: 202392
Superseded Report:

Appendix

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, 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 2 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** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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 GC/FID/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 GC/FID 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 GC/MS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY				
ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOX THERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOX THERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DCM	SOX THERM	HPLC
PHENOLS BY GOMS	WET	DCM	SOX THERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOX THERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOX THERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB AROCLOR 1254 / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218	GC-MS
>G-C40	WET	HEXANE:ACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-FID
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY			
ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAF)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAF)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAF)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAF)	GC FID
PCB7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAF)	GC MS
PCB AROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAF)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREESULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PESTICIDES	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	ACETONE	SOLID PHASE EXTRACTION	GC MS
TPH by INFRA RED (IR)	TCE	STIRRED EXTRACTION (STIR-BAF)	IR
MINERAL OIL by IR	TCE	STIRRED EXTRACTION (STIR-BAF)	IR
GLYCOLS	NONE	DIRECT INJECTION	GC FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description 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).

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.

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



Celtic
Columbus House
Greenmeadow Springs
Tongwynlais
Cardiff
South Glamorgan
CF15 7NE

Attention: Ian Wright

CERTIFICATE OF ANALYSIS

Date: 09 November 2012
Customer: H_CELTIC_CDF
Sample Delivery Group (SDG): 121101-64
Your Reference: C1538
Location: Willow Works, Merthyr
Report No: 201306

We received 6 samples on Thursday November 01, 2012 and 6 of these samples were scheduled for analysis which was completed on Friday November 09, 2012. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

Approved By:

Sonia McWhan

Operations Manager



CERTIFICATE OF ANALYSIS

Validated

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
6440456	BH13		3.84	30/10/2012
6440457	BH14		4.20	30/10/2012
6440452	CBH2		4.37	30/10/2012
6440453	CBH3		4.30	30/10/2012
6440454	CBH9		3.88	30/10/2012

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

CERTIFICATE OF ANALYSIS

Validated

SDG: 121101-64
 Job: H_CELTIC_CDF-49
 Client Reference: C1538

Location: Willow Works, Merthyr
 Customer: Celtic
 Attention: Ian Wright

Order Number: PO 67590
 Report Number: 201306
 Superseded Report:

LIQUID Results Legend  Test  No Determination Possible	Lab Sample No(s)		6440452	6440453	6440454	6440456	6440457
	Customer Sample Reference		CBH2	CBH3	CBH9	BH13	BH14
	AGS Reference						
	Depth (m)		4.37	4.30	3.88	3.84	4.20
	Container		1l green glass bottle	1l green glass bottle	1l green glass bottle	1l green glass bottle	1l green glass bottle
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 6	X	X	X	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 6	X	X	X	X	X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 6	X	X	X	X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6	X	X	X	X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 6	X	X	X	X	X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 6	X	X	X	X	X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 6	X	X	X	X	X
Free Sulphur	All	NDPs: 0 Tests: 6	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6		X	X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 6	X	X	X	X	X
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 6	X	X	X	X	X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 6	X	X	X	X	X
pH Value	All	NDPs: 0 Tests: 6	X	X	X	X	X
Phenols by HPLC (W)	All	NDPs: 0 Tests: 6	X	X	X	X	X
Sulphide	All	NDPs: 0 Tests: 6	X	X	X	X	X

CERTIFICATE OF ANALYSIS

Validated

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:
LIQUID
Results Legend


Test


No Determination
Possible

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

Suspended Solids

All

NDPs: 0
Tests: 6

X X X X X

Total Organic and Inorganic
Carbon

All

NDPs: 0
Tests: 6

X X X X X

TPH CWG (W)

All

NDPs: 0
Tests: 6

X X X X X

VOC MS (W)

All

NDPs: 0
Tests: 6

X X X X X

CERTIFICATE OF ANALYSIS

Validated

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Results Legend			Customer Sample R		BH13	BH14		CBH2	CBH3	CBH9
#	ISO17025 accredited,		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		3.84	4.20		4.37	4.30	3.88
M	mCERTS accredited,				Water(GW/SW)	Water(GW/SW)		Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
S	Deviating sample.				30/10/2012	30/10/2012		30/10/2012	30/10/2012	30/10/2012
aq	Aqueous / settled sample.				.	.		.	.	.
diss.filt	Dissolved / filtered sample.				01/11/2012	01/11/2012		01/11/2012	01/11/2012	01/11/2012
tot.unfilt	Total / unfiltered sample.				121101-64	121101-64		121101-64	121101-64	121101-64
*	Subcontracted test.				6440456	6440457		6440452	6440453	6440454
**	% 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									
Component	LOD/Units	Method								
Suspended solids, Total	<2 mg/l	TM022			4490	28.9		56.7	133	<2
				#	#	#	#	#	#	#
Organic Carbon, Total	<3 mg/l	TM090			4.84	5.33		13.1	8.41	<3
				#	#	#	#	#	#	#
Ammoniacal Nitrogen as NH4	<0.3 mg/l	TM099			<0.3	<0.3		1.08	7.8	<0.3
				#	#	#	#	#	#	#
Sulphide	<0.01 mg/l	TM101			<0.01	<0.01		<0.01	<0.01	<0.01
				#	#	#	#	#	#	#
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120			0.617	0.414		0.57	0.608	0.369
				#	#	#	#	#	#	#
Arsenic (diss.filt)	<0.00012 mg/l	TM152			0.000811	0.000291		0.00338	0.00123	0.00159
				#	#	#	#	#	#	#
Cadmium (diss.filt)	<0.0001 mg/l	TM152			<0.0001	<0.0001		<0.0001	<0.0001	<0.0001
				#	#	#	#	#	#	#
Chromium (diss.filt)	<0.00022 mg/l	TM152			0.00269	0.00218		0.00414	0.00286	0.00173
				#	#	#	#	#	#	#
Copper (diss.filt)	<0.00085 mg/l	TM152			0.00161	0.00148		<0.00085	<0.00085	0.00162
				#	#	#	#	#	#	#
Lead (diss.filt)	<0.00002 mg/l	TM152			0.000082	0.000071		<0.00002	0.000022	0.000149
				#	#	#	#	#	#	#
Nickel (diss.filt)	<0.00015 mg/l	TM152			0.00624	0.00319		0.00139	0.00555	0.00144
				#	#	#	#	#	#	#
Selenium (diss.filt)	<0.00039 mg/l	TM152			0.00303	0.00204		0.00153	0.00178	0.0025
				#	#	#	#	#	#	#
Zinc (diss.filt)	<0.00041 mg/l	TM152			0.00635	0.0029		0.00173	0.00268	0.00219
				#	#	#	#	#	#	#
Mercury (diss.filt)	<0.00001 mg/l	TM183			<0.00001	<0.00001		<0.00001	<0.00001	<0.00001
				#	#	#	#	#	#	#
Sulphate	<2 mg/l	TM184			35.9	30.9		41.7	138	49.4
				#	#	#	#	#	#	#
Chloride	<2 mg/l	TM184			3.3	3.3		6.7	10	8.2
				#	#	#	#	#	#	#
Cyanide, Total	<0.05 mg/l	TM227			<0.05	0.258		<0.05	<0.05	<0.05
				#	#	#	#	#	#	#
Cyanide, Free	<0.05 mg/l	TM227			<0.05	<0.05		<0.05	<0.05	<0.05
				#	#	#	#	#	#	#
Cyanide, Complex	<0.05 mg/l	TM227			<0.05	0.258		<0.05	<0.05	<0.05
				#	#	#	#	#	#	#
Thiocyanate	<0.05 mg/l	TM227			<0.05	<0.05		<0.05	<0.05	<0.05
				#	#	#	#	#	#	#
Iron (diss.filt)	<0.019 mg/l	TM228			0.023	0.135		0.294	0.33	<0.019
				#	#	#	#	#	#	#
pH	<1 pH Units	TM256			7.98	8.22		7.86	7.66	7.43
				#	#	#	#	#	#	#
Resorcinol	<0.01 mg/l	TM259			<0.01	<0.01		<0.01	<0.01	<0.01
				\$	\$	\$	\$	\$	\$	\$
Catechol	<0.01 mg/l	TM259			<0.01	<0.01		<0.01	<0.01	<0.01
				\$	\$	\$	\$	\$	\$	\$
Phenol	<0.002 mg/l	TM259			<0.002	<0.002		<0.002	<0.002	<0.002
				\$ #	\$ #	\$ #	\$ #	\$ #	\$ #	\$ #
Cresols	<0.006 mg/l	TM259			<0.006	<0.006		<0.006	<0.006	<0.006
				\$ #	\$ #	\$ #	\$ #	\$ #	\$ #	\$ #
Xylenols	<0.008 mg/l	TM259			<0.008	<0.008		<0.008	<0.008	<0.008
				\$ #	\$ #	\$ #	\$ #	\$ #	\$ #	\$ #
1-Naphthol	<0.01 mg/l	TM259			<0.01	0.01		<0.01	<0.01	<0.01
				\$	\$	\$	\$	\$	\$	\$
2,3,5-Trimethylphenol	<0.003 mg/l	TM259			<0.003	<0.003		<0.003	<0.003	<0.003
				\$ #	\$ #	\$ #	\$ #	\$ #	\$ #	\$ #
2-Isopropylphenol	<0.006 mg/l	TM259			<0.006	<0.006		<0.006	<0.006	<0.006
				\$ #	\$ #	\$ #	\$ #	\$ #	\$ #	\$ #
Phenols, Total Detected 8 Speciated	<0.045 mg/l	TM259			<0.045	<0.045		<0.045	<0.045	<0.045
				\$	\$	\$	\$	\$	\$	\$
Sulphur, Free	<0.05 mg/l	TM294			<0.05	<0.05		<0.05	<0.05	<0.05

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

PAH Spec MS - Aqueous (W)

[illegible]

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

TPH CWG (W)[illegible]

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

VOC MS (W)

[illegible]

CERTIFICATE OF ANALYSIS

Validated

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
6443195	CBH3	4.30	LIQUID	Phenols by HPLC (W)	1-Naphthol	Analysis carried out on unpreserved sample
6443195	CBH3	4.30	LIQUID	Phenols by HPLC (W)	2,3,5-Trimethylphenol	Analysis carried out on unpreserved sample
6443195	CBH3	4.30	LIQUID	Phenols by HPLC (W)	2-Isopropylphenol	Analysis carried out on unpreserved sample
6443195	CBH3	4.30	LIQUID	Phenols by HPLC (W)	Catechol	Analysis carried out on unpreserved sample
6443195	CBH3	4.30	LIQUID	Phenols by HPLC (W)	Cresols	Analysis carried out on unpreserved sample
6443195	CBH3	4.30	LIQUID	Phenols by HPLC (W)	Phenol	Analysis carried out on unpreserved sample
6443195	CBH3	4.30	LIQUID	Phenols by HPLC (W)	Phenols, Total Detected 8 Speciated	Analysis carried out on unpreserved sample
6443195	CBH3	4.30	LIQUID	Phenols by HPLC (W)	Resorcinol	Analysis carried out on unpreserved sample
6443195	CBH3	4.30	LIQUID	Phenols by HPLC (W)	Xylenols	Analysis carried out on unpreserved sample
6443304	CBH2	4.37	LIQUID	Phenols by HPLC (W)	1-Naphthol	Analysis carried out on unpreserved sample
6443304	CBH2	4.37	LIQUID	Phenols by HPLC (W)	2,3,5-Trimethylphenol	Analysis carried out on unpreserved sample
6443304	CBH2	4.37	LIQUID	Phenols by HPLC (W)	2-Isopropylphenol	Analysis carried out on unpreserved sample
6443304	CBH2	4.37	LIQUID	Phenols by HPLC (W)	Catechol	Analysis carried out on unpreserved sample
6443304	CBH2	4.37	LIQUID	Phenols by HPLC (W)	Cresols	Analysis carried out on unpreserved sample
6443304	CBH2	4.37	LIQUID	Phenols by HPLC (W)	Phenol	Analysis carried out on unpreserved sample
6443304	CBH2	4.37	LIQUID	Phenols by HPLC (W)	Phenols, Total Detected 8 Speciated	Analysis carried out on unpreserved sample
6443304	CBH2	4.37	LIQUID	Phenols by HPLC (W)	Resorcinol	Analysis carried out on unpreserved sample
6443304	CBH2	4.37	LIQUID	Phenols by HPLC (W)	Xylenols	Analysis carried out on unpreserved sample
6443421	CBH9	3.88	LIQUID	Phenols by HPLC (W)	1-Naphthol	Analysis carried out on unpreserved sample
6443421	CBH9	3.88	LIQUID	Phenols by HPLC (W)	2,3,5-Trimethylphenol	Analysis carried out on unpreserved sample
6443421	CBH9	3.88	LIQUID	Phenols by HPLC (W)	2-Isopropylphenol	Analysis carried out on unpreserved sample
6443421	CBH9	3.88	LIQUID	Phenols by HPLC (W)	Catechol	Analysis carried out on unpreserved sample
6443421	CBH9	3.88	LIQUID	Phenols by HPLC (W)	Cresols	Analysis carried out on unpreserved sample
6443421	CBH9	3.88	LIQUID	Phenols by HPLC (W)	Phenol	Analysis carried out on unpreserved sample
6443421	CBH9	3.88	LIQUID	Phenols by HPLC (W)	Phenols, Total Detected 8 Speciated	Analysis carried out on unpreserved sample
6443421	CBH9	3.88	LIQUID	Phenols by HPLC (W)	Resorcinol	Analysis carried out on unpreserved sample
6443421	CBH9	3.88	LIQUID	Phenols by HPLC (W)	Xylenols	Analysis carried out on unpreserved sample
6443508	BH13	3.84	LIQUID	Phenols by HPLC (W)	1-Naphthol	Analysis carried out on unpreserved sample
6443508	BH13	3.84	LIQUID	Phenols by HPLC (W)	2,3,5-Trimethylphenol	Analysis carried out on unpreserved sample
6443508	BH13	3.84	LIQUID	Phenols by HPLC (W)	2-Isopropylphenol	Analysis carried out on unpreserved sample
6443508	BH13	3.84	LIQUID	Phenols by HPLC (W)	Catechol	Analysis carried out on unpreserved sample
6443508	BH13	3.84	LIQUID	Phenols by HPLC (W)	Cresols	Analysis carried out on unpreserved sample
6443508	BH13	3.84	LIQUID	Phenols by HPLC (W)	Phenol	Analysis carried out on unpreserved sample
6443508	BH13	3.84	LIQUID	Phenols by HPLC (W)	Phenols, Total Detected 8 Speciated	Analysis carried out on unpreserved sample
6443508	BH13	3.84	LIQUID	Phenols by HPLC (W)	Resorcinol	Analysis carried out on unpreserved sample
6443508	BH13	3.84	LIQUID	Phenols by HPLC (W)	Xylenols	Analysis carried out on unpreserved sample

CERTIFICATE OF ANALYSIS

Validated

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
6443618	BH14	4.20	LIQUID	Phenols by HPLC (W)	1-Naphthol	Analysis carried out on unpreserved sample
6443618	BH14	4.20	LIQUID	Phenols by HPLC (W)	2,3,5-Trimethylphenol	Analysis carried out on unpreserved sample
6443618	BH14	4.20	LIQUID	Phenols by HPLC (W)	2-Isopropylphenol	Analysis carried out on unpreserved sample
6443618	BH14	4.20	LIQUID	Phenols by HPLC (W)	Catechol	Analysis carried out on unpreserved sample
6443618	BH14	4.20	LIQUID	Phenols by HPLC (W)	Cresols	Analysis carried out on unpreserved sample
6443618	BH14	4.20	LIQUID	Phenols by HPLC (W)	Phenol	Analysis carried out on unpreserved sample
6443618	BH14	4.20	LIQUID	Phenols by HPLC (W)	Phenols, Total Detected 8 Speciated	Analysis carried out on unpreserved sample
6443618	BH14	4.20	LIQUID	Phenols by HPLC (W)	Resorcinol	Analysis carried out on unpreserved sample
6443618	BH14	4.20	LIQUID	Phenols by HPLC (W)	Xylenols	Analysis carried out on unpreserved sample

Note : Test results may be compromised

CERTIFICATE OF ANALYSIS

Validated

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
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)		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		
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		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		
TM294		Determination of Free Sulphur in liquids by HPLC		

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

CERTIFICATE OF ANALYSIS

Validated

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:
Test Completion Dates

Lab Sample No(s)	6440456	6440457	6440452	6440453	6440454
Customer Sample Ref.	BH13	BH14	CBH2	CBH3	CBH9
AGS Ref.					
Depth	3,84	4,20	4,37	4,30	3,88
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Ammoniacal Nitrogen	08-Nov-2012	08-Nov-2012	08-Nov-2012	08-Nov-2012	08-Nov-2012
Anions by Kone (w)	09-Nov-2012	09-Nov-2012	06-Nov-2012	08-Nov-2012	09-Nov-2012
Conductivity (at 20 deg.C)	02-Nov-2012	02-Nov-2012	02-Nov-2012	02-Nov-2012	02-Nov-2012
Cyanide Comp/Free/Total/Thiocyanate	02-Nov-2012	02-Nov-2012	02-Nov-2012	02-Nov-2012	02-Nov-2012
Dissolved Metals by ICP-MS	07-Nov-2012	07-Nov-2012	07-Nov-2012	07-Nov-2012	07-Nov-2012
EPH CWG (Aliphatic) Aqueous GC (W)	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012
EPH CWG (Aromatic) Aqueous GC (W)	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012
Free Sulphur	05-Nov-2012	05-Nov-2012	05-Nov-2012	05-Nov-2012	05-Nov-2012
GRO by GC-FID (W)	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012
Mercury Dissolved	07-Nov-2012	07-Nov-2012	07-Nov-2012	07-Nov-2012	07-Nov-2012
Metals by iCap-OES Dissolved (W)	06-Nov-2012	06-Nov-2012	06-Nov-2012	06-Nov-2012	06-Nov-2012
PAH Spec MS - Aqueous (W)	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	08-Nov-2012
pH Value	07-Nov-2012	07-Nov-2012	08-Nov-2012	08-Nov-2012	07-Nov-2012
Phenols by HPLC (W)	07-Nov-2012	07-Nov-2012	07-Nov-2012	07-Nov-2012	07-Nov-2012
Sulphide	02-Nov-2012	02-Nov-2012	02-Nov-2012	02-Nov-2012	02-Nov-2012
Suspended Solids	06-Nov-2012	06-Nov-2012	07-Nov-2012	07-Nov-2012	07-Nov-2012
Total Organic and Inorganic Carbon	03-Nov-2012	03-Nov-2012	03-Nov-2012	03-Nov-2012	03-Nov-2012
TPH CWG (W)	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012
VOC MS (W)	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

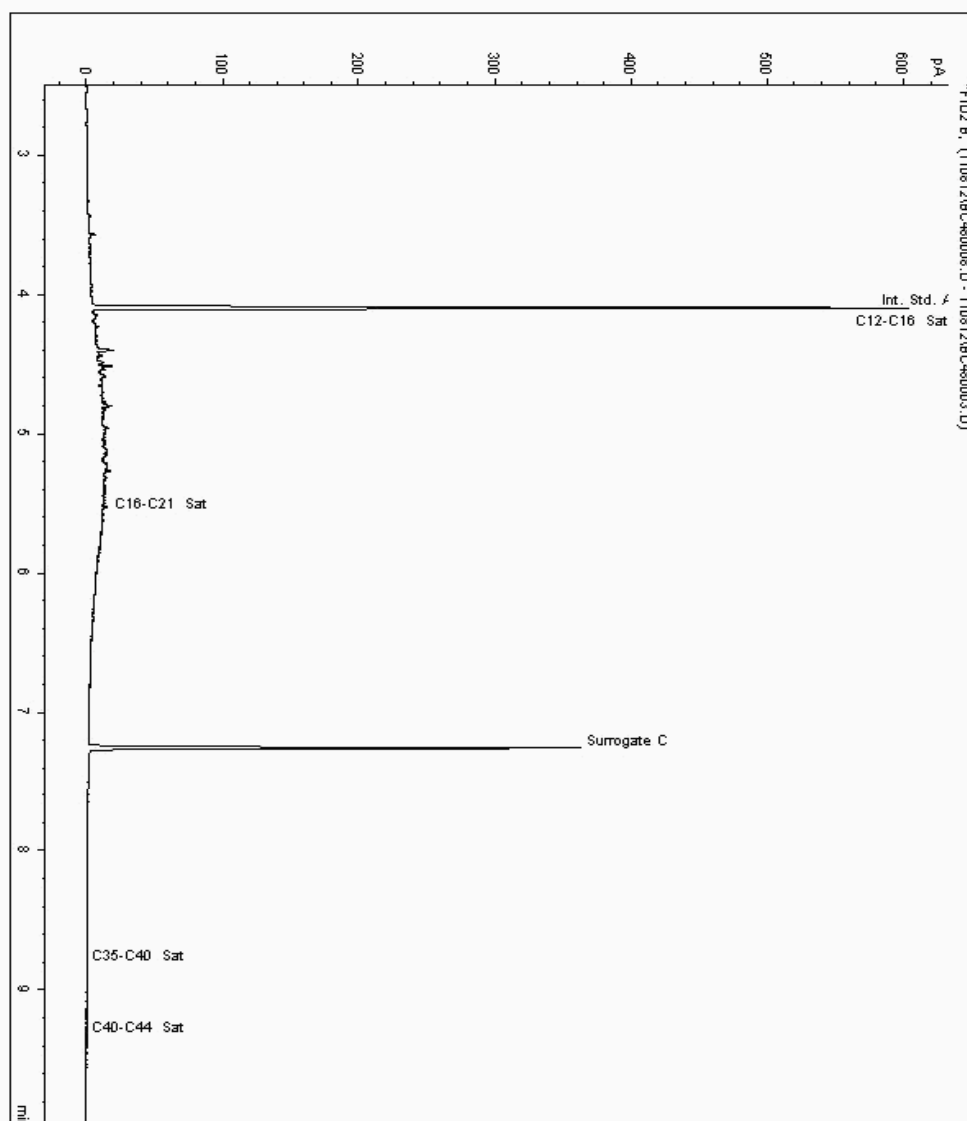
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No: 6443183
Sample ID: CBH3

Depth: 4,30

Alcontrol/Geochem Analytical Services
Speciated TPH - SATS (C12 - C40)

Sample Identity: 6233921-6443183
Date Acquired: 09/11/2012 09:38:40 PM
Units: ppb
Dilution: 1
CF: 1
Multiplier: 0.008



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

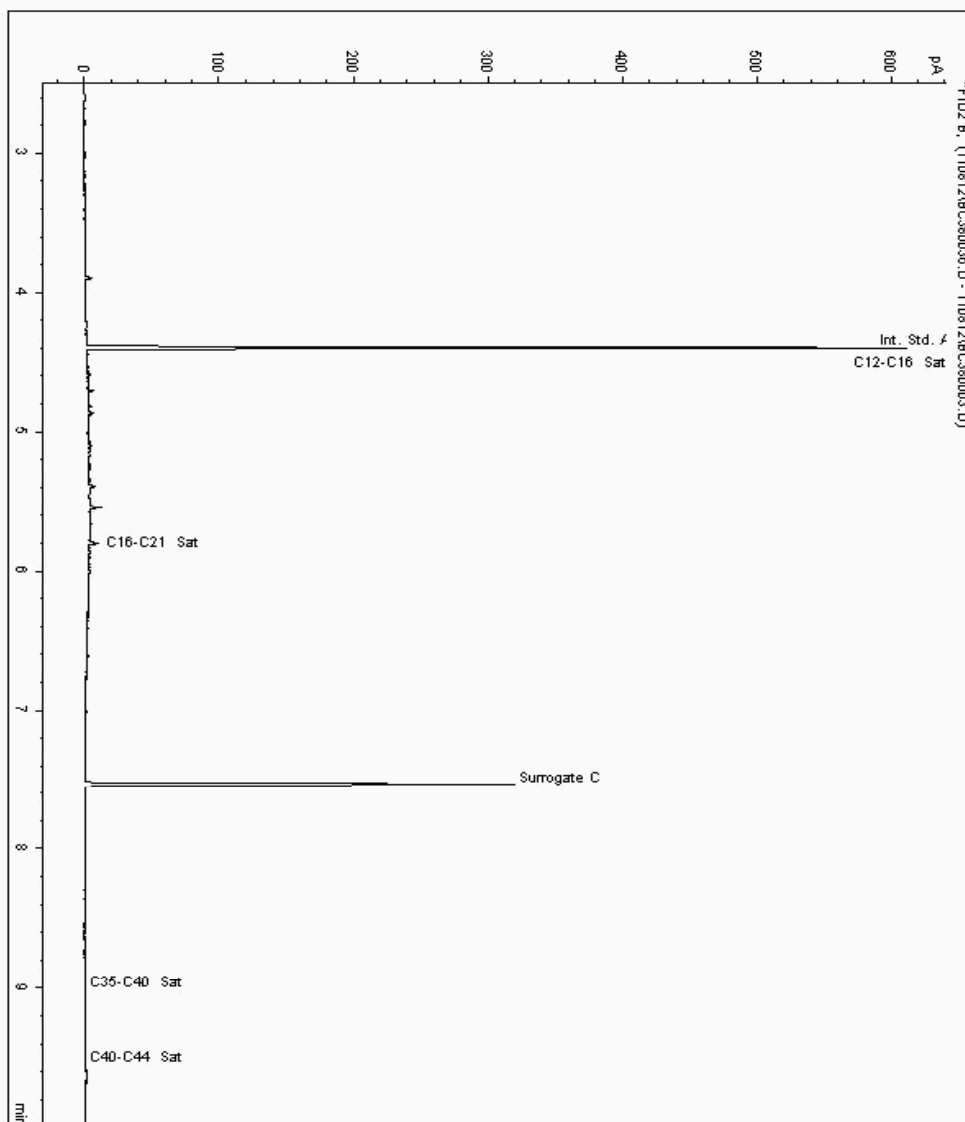
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 6443289
Sample ID : CBH2

Depth : 4.37

Alcontrol/Geochem Analytical Services
Speciated TPH - SATS (C12 - C40)

Sample Identity: 6233899-6443289
Date Acquired : 09/11/12 02:18:01 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.008



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

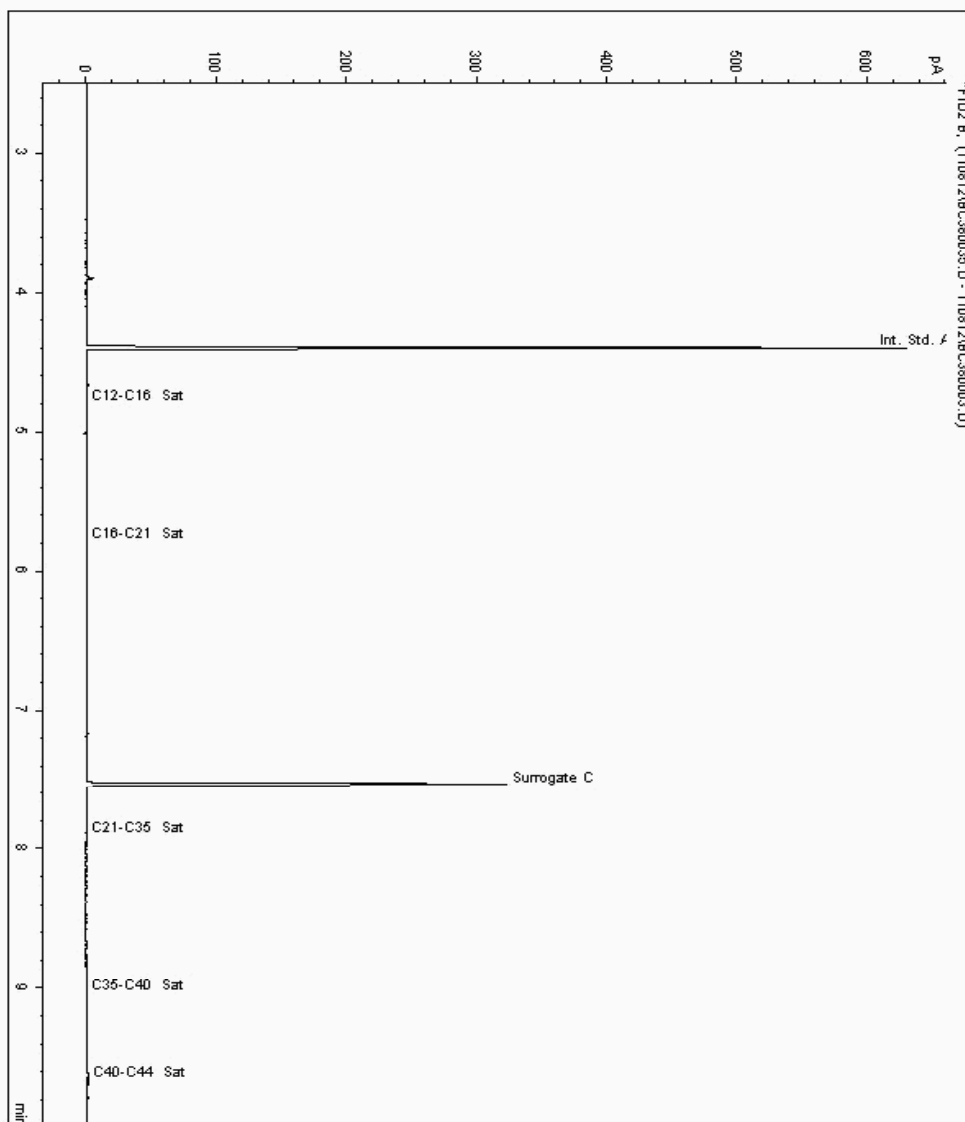
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 6443408
Sample ID : CBH9

Depth : 3,88

Alcontrol/Geochem Analytical Services
Speciated TPH - SATS (C12 - C40)

Sample Identity: 6233942-6443408
Date Acquired : 09/11/12 01:59:27 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.008



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

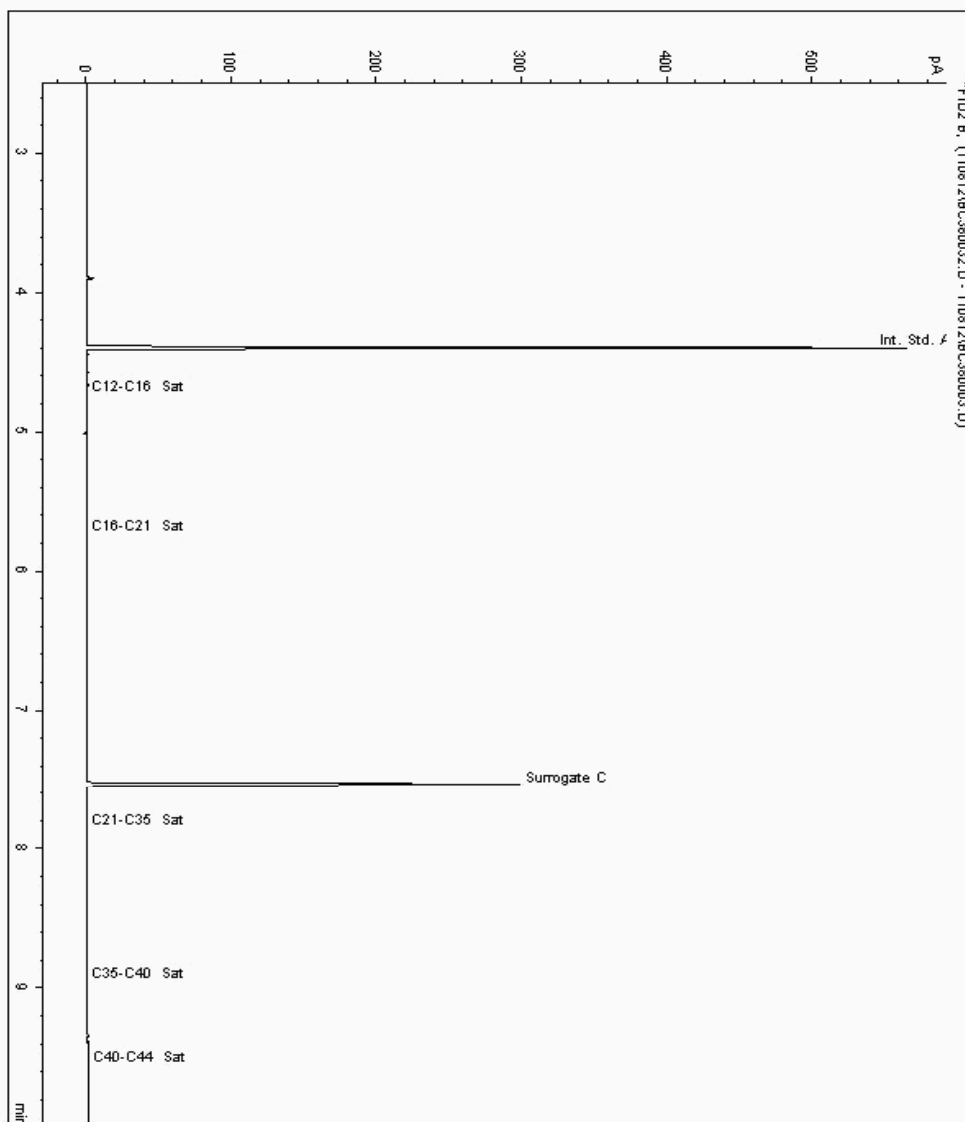
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 6443494
Sample ID : BH13

Depth : 3,84

Alcontrol/Geochem Analytical Services
Speciated TPH - SATS (C12 - C40)

Sample Identity: 6233963-6443494
Date Acquired : 09/11/12 01:04:21 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.008



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

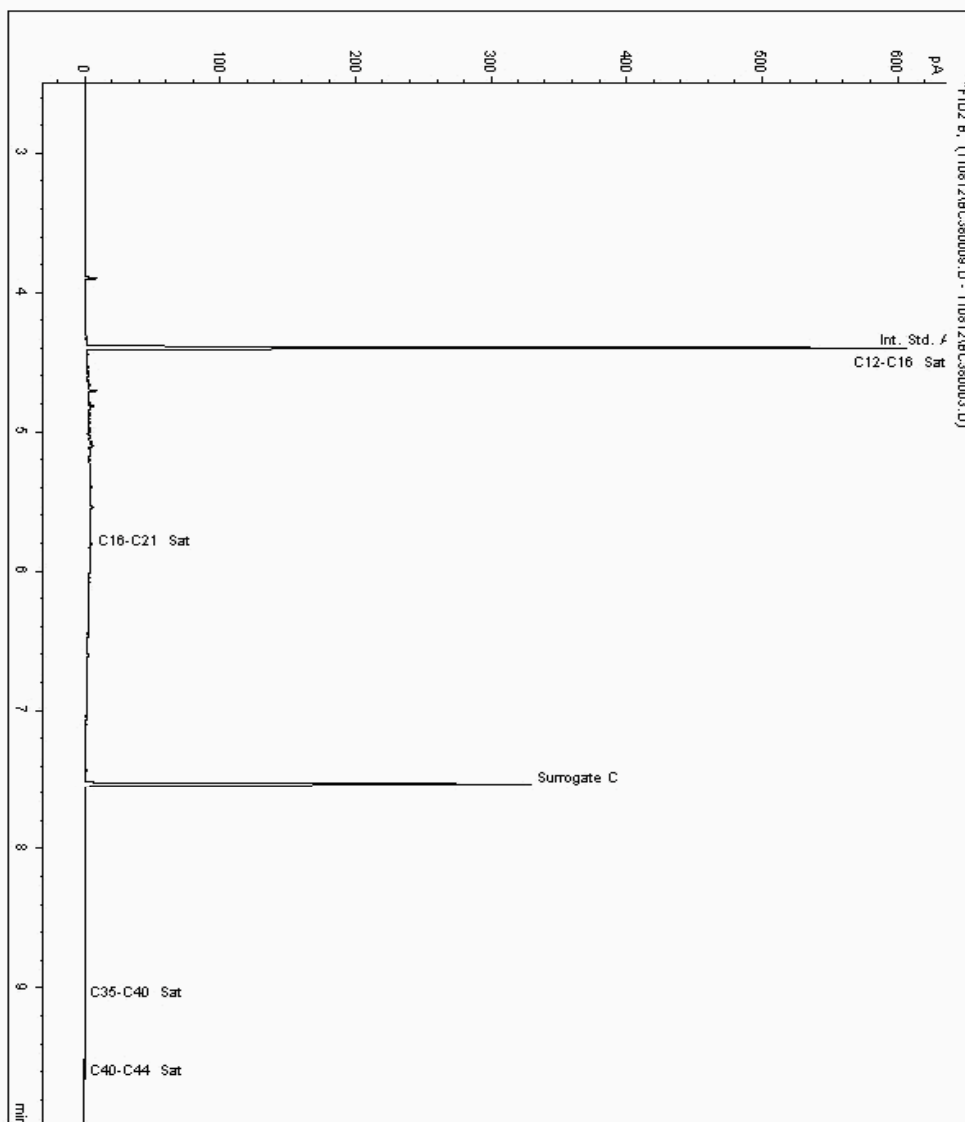
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 6443608
Sample ID : BH14

Depth : 4.20

Alcontrol/Geochem Analytical Services
Speciated TPH - SATS (C12 - C40)

Sample Identity: 6233998-6443608
Date Acquired : 08/11/12 19:30:20 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.009



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

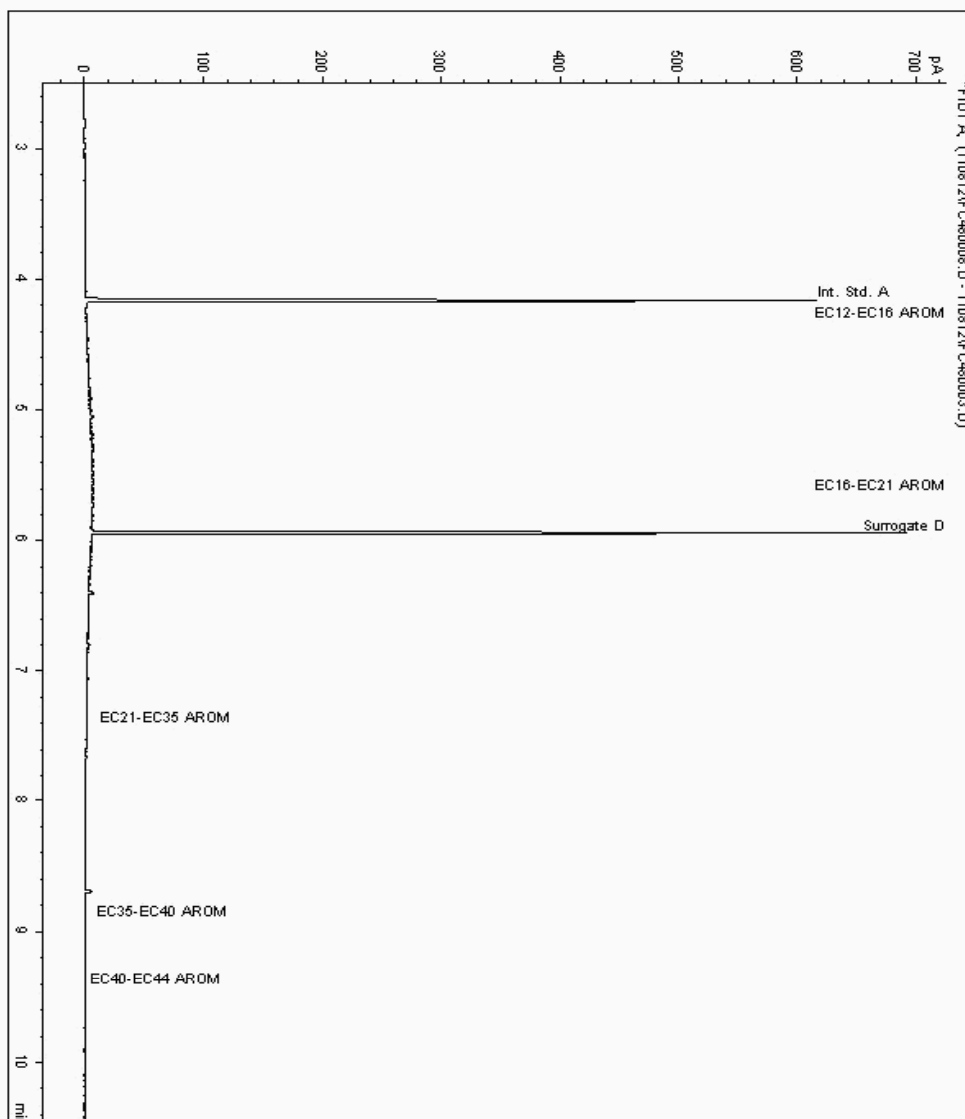
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 6443183
Sample ID : CBH3

Depth : 4,30

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 6233922-6443183
Date Acquired : 09/11/2012 09:38:39 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.008



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

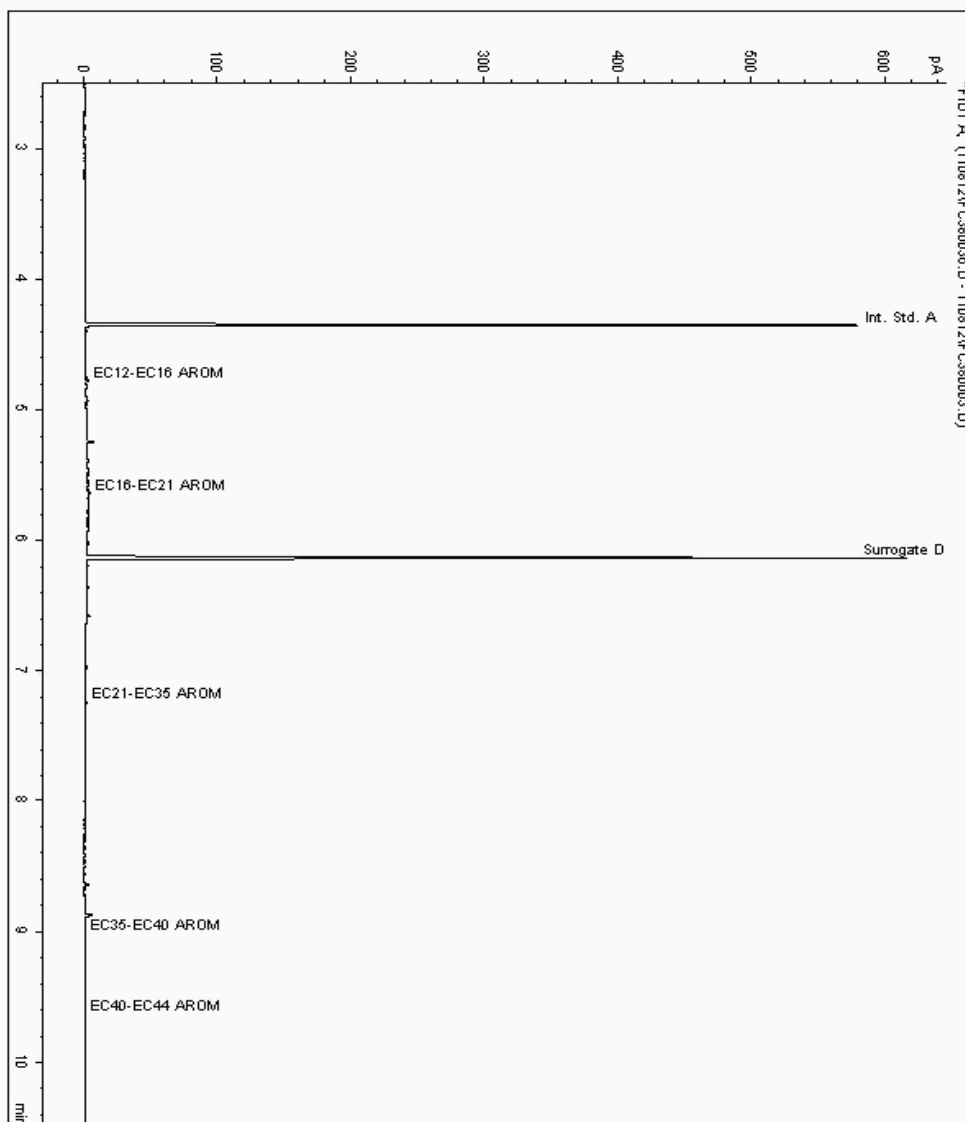
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 6443289
Sample ID : CBH2

Depth : 4.37

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 6233900-6443289
Date Acquired : 09/11/12 02:18:01 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.008



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

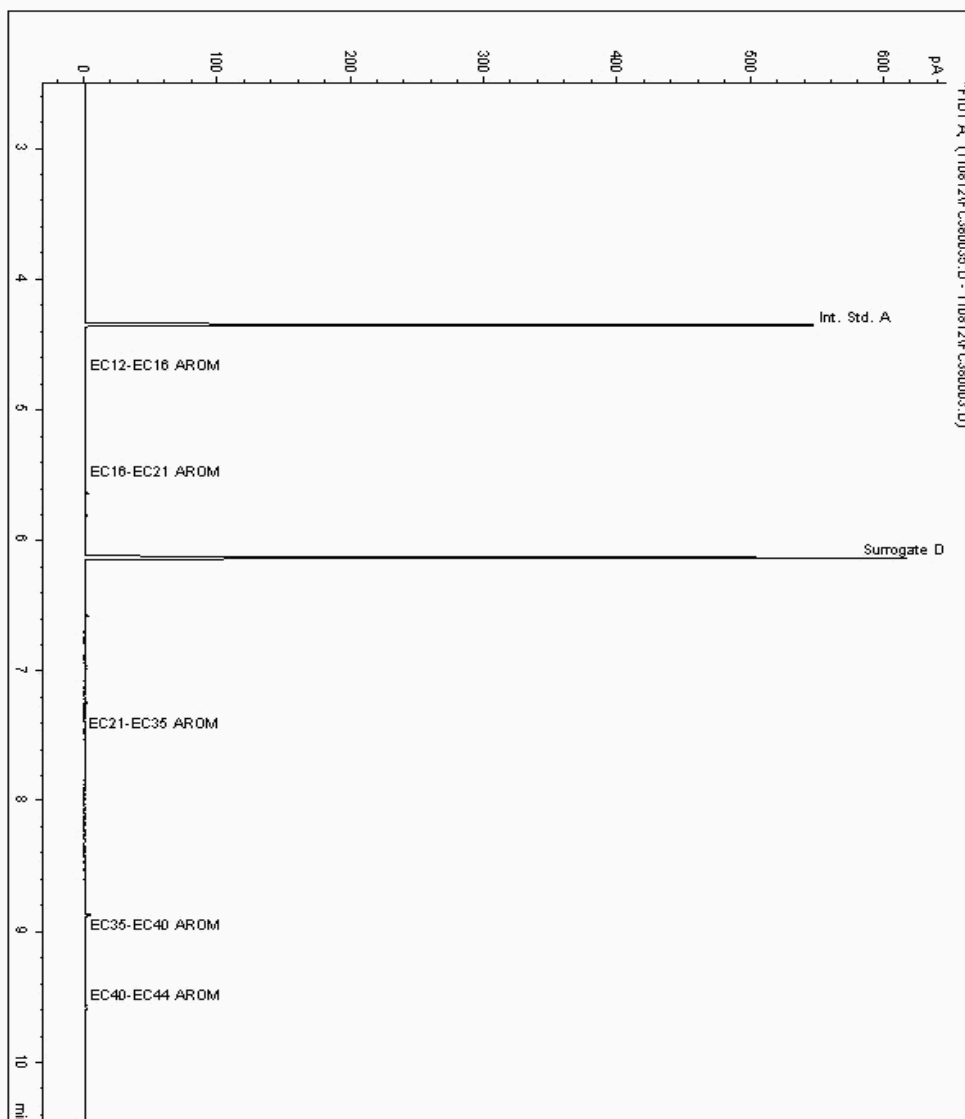
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 6443408
Sample ID : CBH9

Depth : 3,88

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 6233943-6443408
Date Acquired : 09/11/12 01:59:27 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.008



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

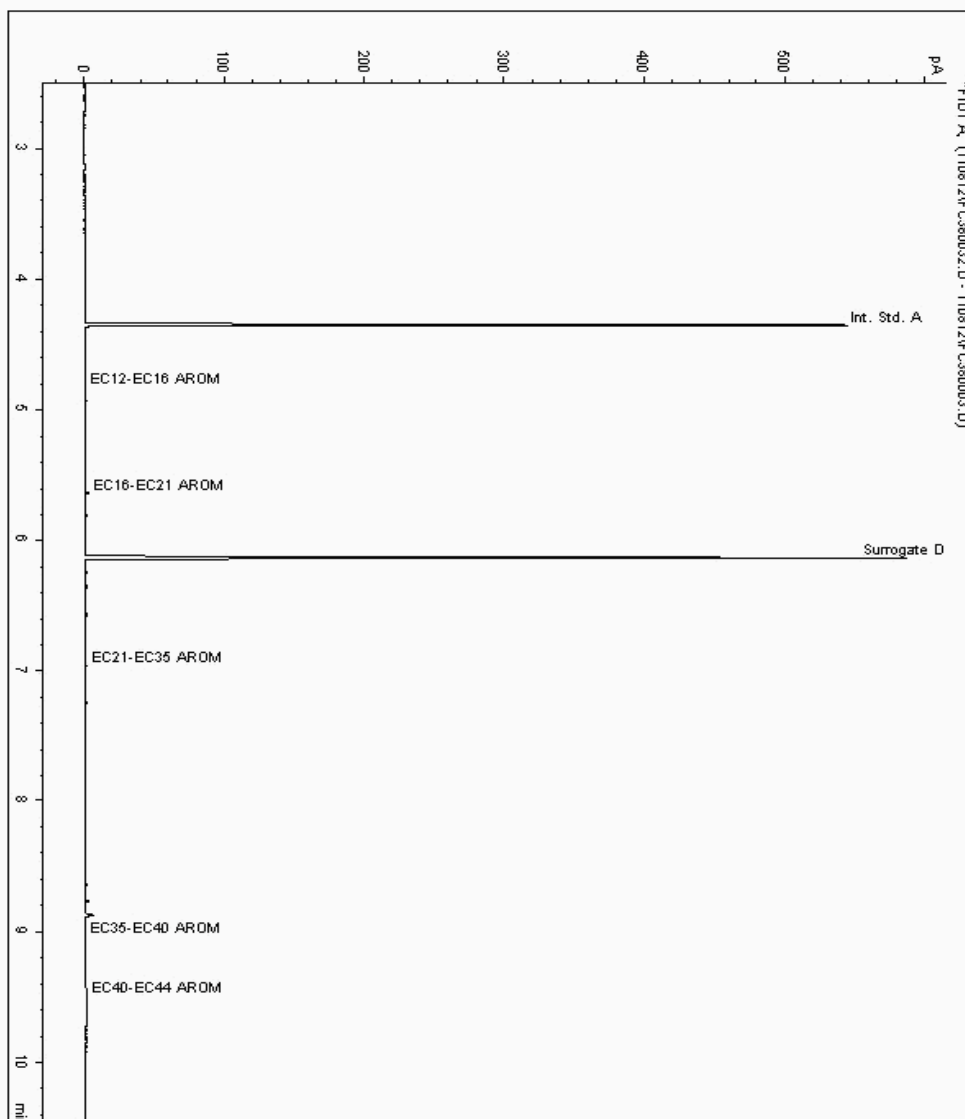
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 6443494
Sample ID : BH13

Depth : 3,84

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 6233964-6443494
Date Acquired : 09/11/12 01:04:21 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.008



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

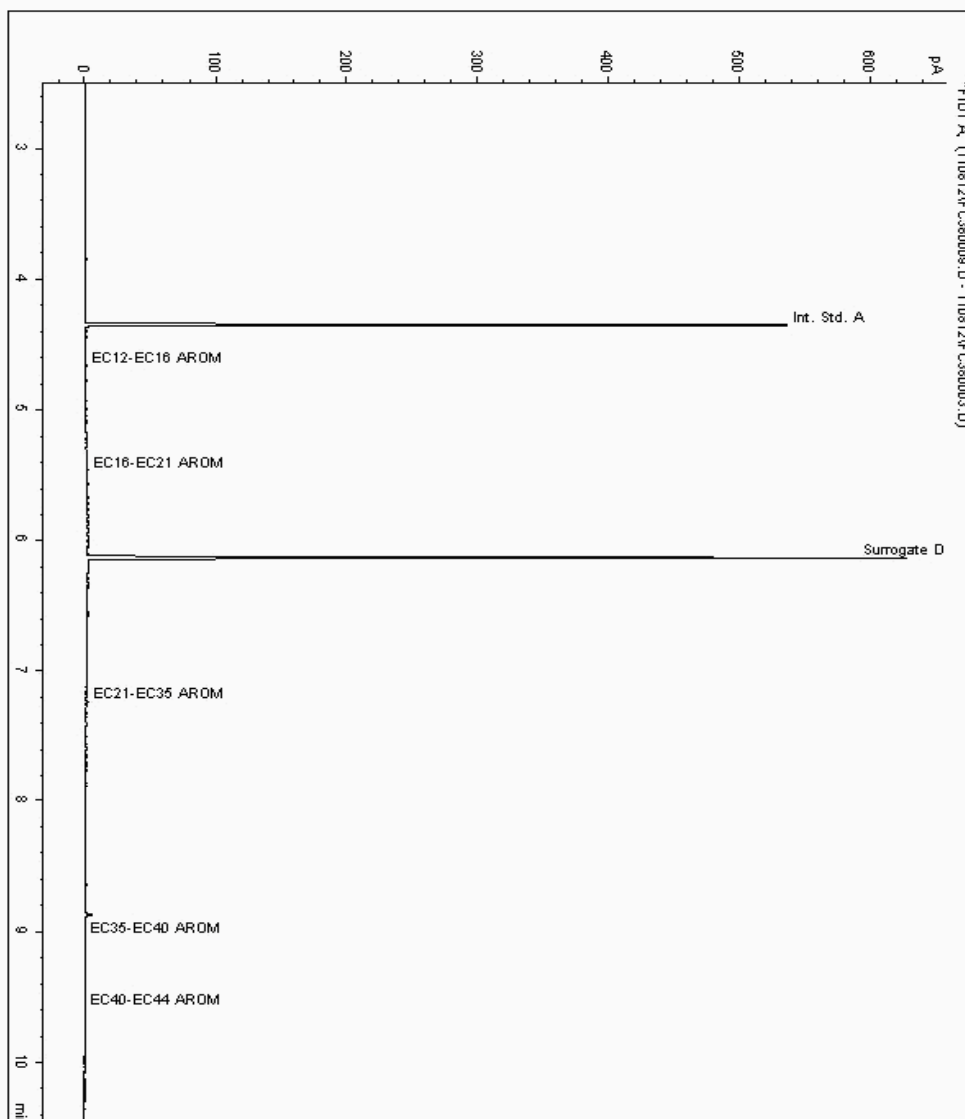
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 6443608
Sample ID : BH14

Depth : 4.20

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 6233999-6443608
Date Acquired : 08/11/12 19:30:19 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.009



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

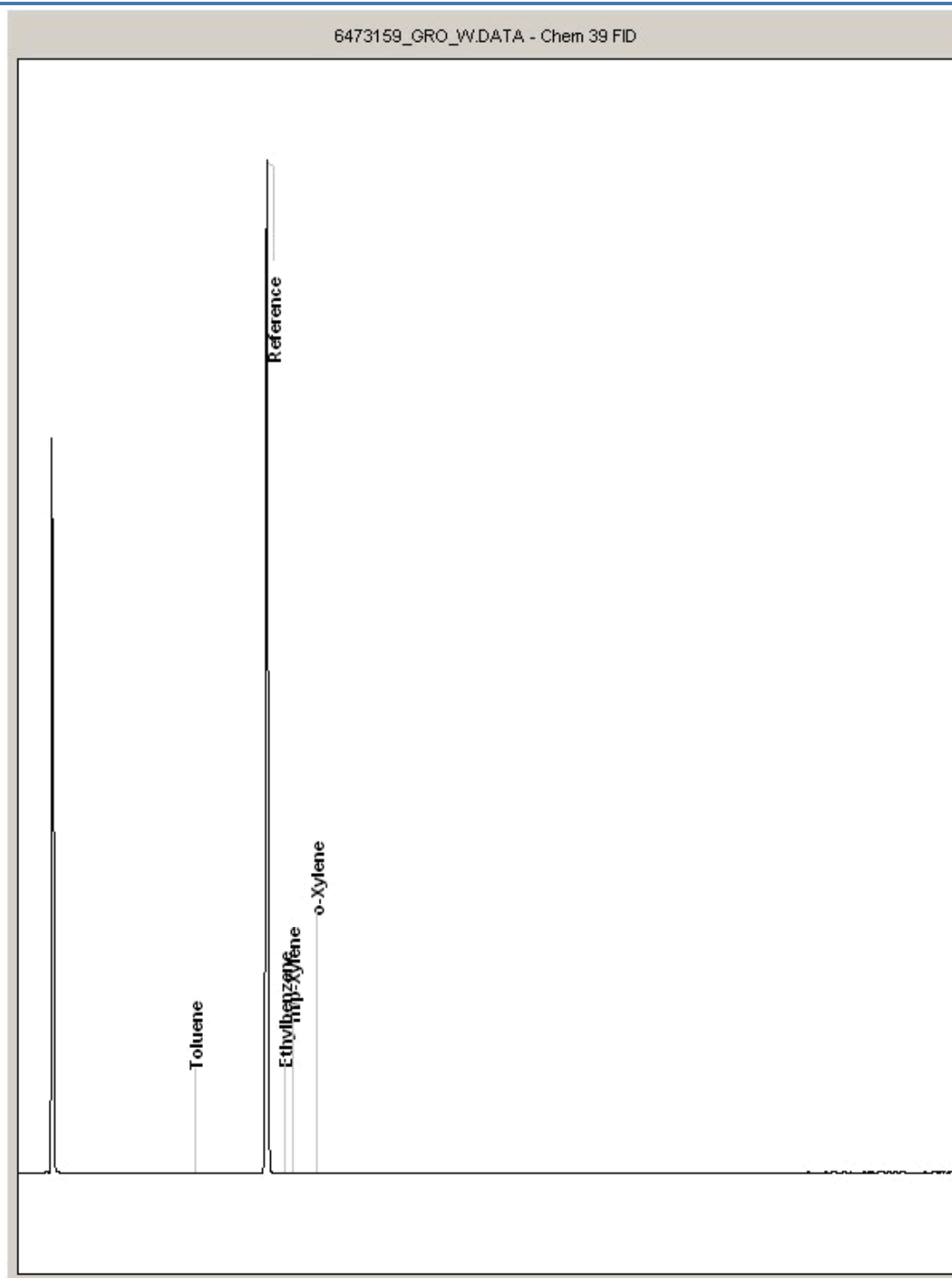
Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 6473159
Sample ID : CBH9

Depth : 3,88



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

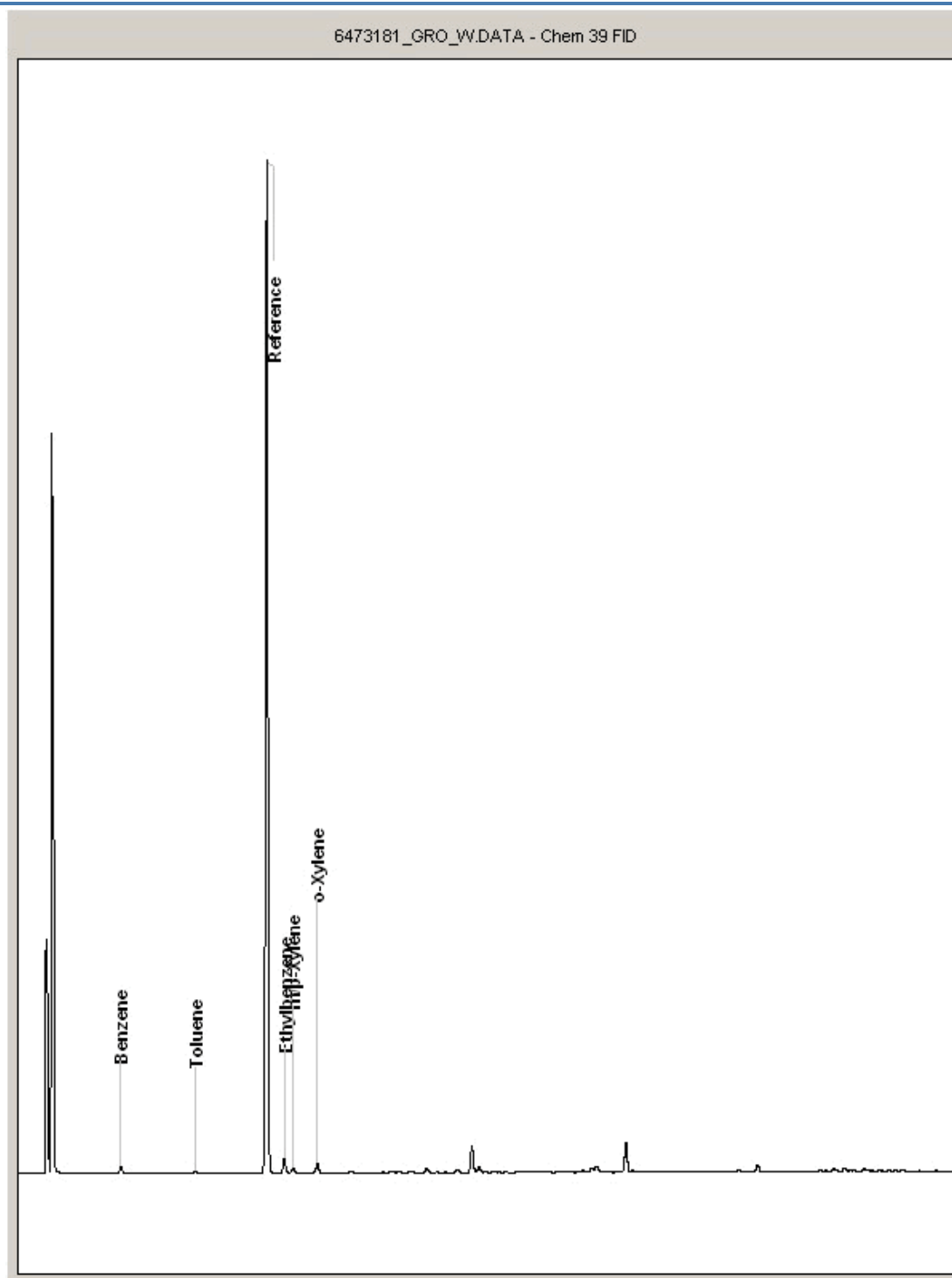
Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 6473181
Sample ID : CBH2

Depth : 4.37



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

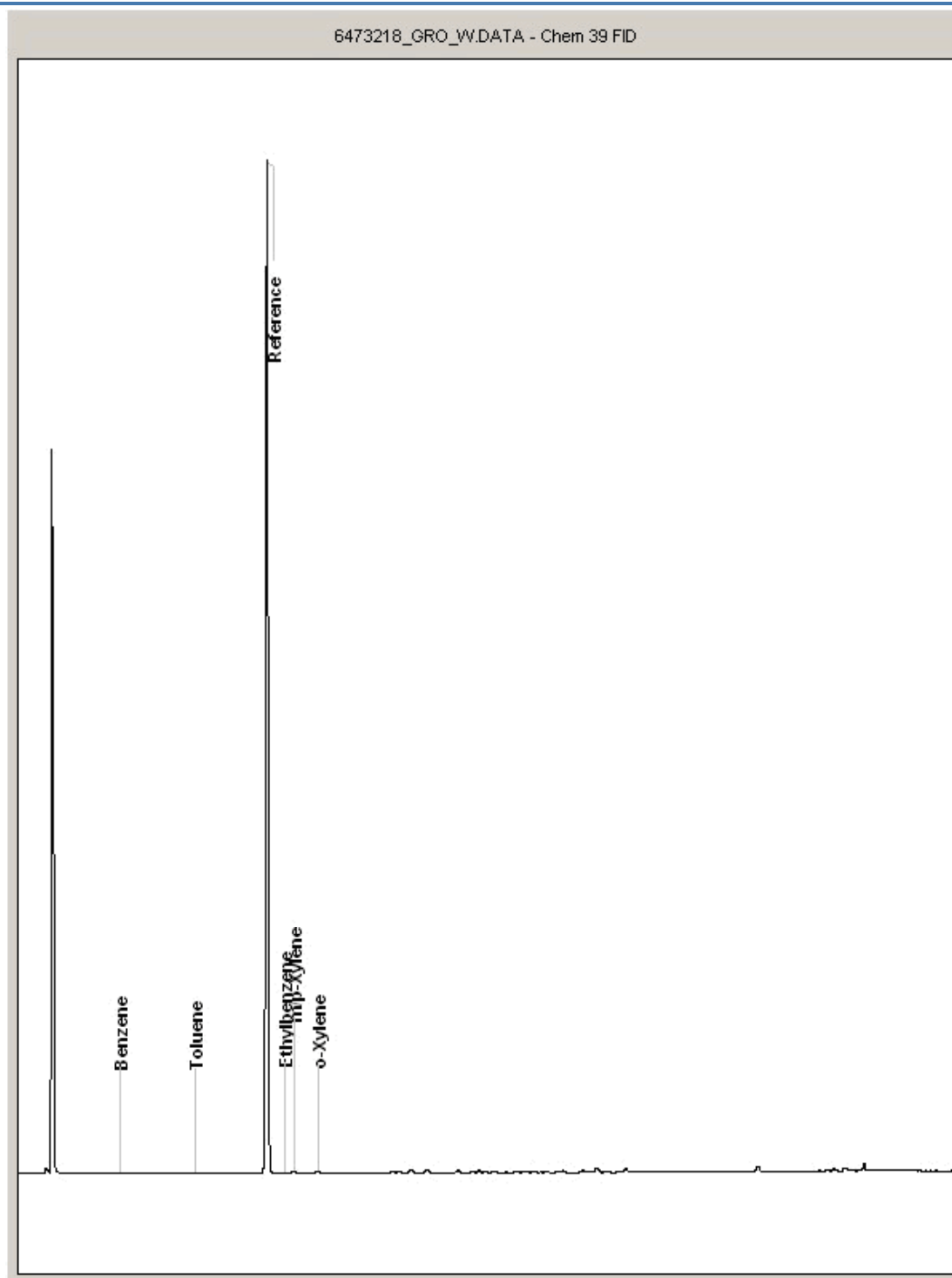
Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 6473218
Sample ID : BH14

Depth : 4,20



SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

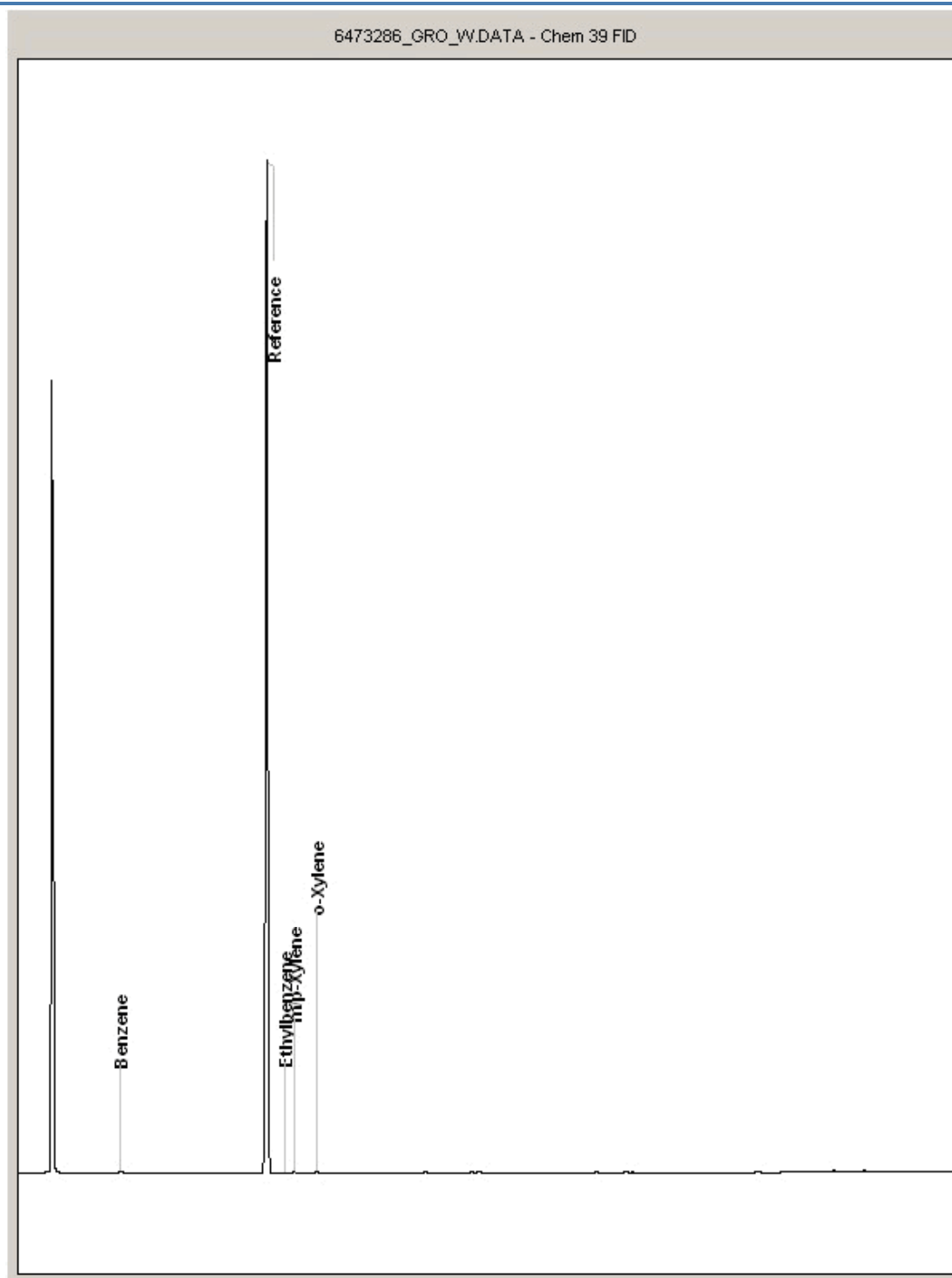
Order Number: PO 67590
Report Number: 201306
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 6473286
Sample ID : BH13

Depth : 3,84



CERTIFICATE OF ANALYSIS

SDG: 121101-64
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number: PO 67590
Report Number: 201306
Superseded Report:

Appendix

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, 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 2 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** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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 GC/FID/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 GC/FID 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 GC/MS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY				
ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOX THERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOX THERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DCM	SOX THERM	HPLC
PHENOLS BY GC/MS	WET	DCM	SOX THERM	GC/MS
HERBICIDES	D&C	HEXANE/ACETONE	SOX THERM	GC/MS
PESTICIDES	D&C	HEXANE/ACETONE	SOX THERM	GC/MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC/FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC/FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC/FID
EPH CWB BY GC	D&C	HEXANE/ACETONE	END OVER END	GC/FID
PCBAROCLOR 1254 / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC/MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC/MS
>C6-C40	WET	HEXANE/ACETONE	SHAKER	GC/FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC/FID
SEM VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC/MS

LIQUID MATRICES EXTRACTION SUMMARY			
ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH/MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC/MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC/FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC/FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC/FID
PCB7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC/MS
PCBAROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC/MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC/MS
FREESULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PESTICROPP	DCM	LIQUID/LIQUID SHAKE	GC/MS
THIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC/MS
PHENOLS/MS	ACETONE	SOLID PHASE EXTRACTION	GC/MS
TPH by INFRARED (IR)	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
MINERAL OIL by IR	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
GLYCOLS	NONE	DIRECT INJECTION	GC/FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description 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).

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.



Celtic
Columbus House
Greenmeadow Springs
Tongwynlais
Cardiff
South Glamorgan
CF15 7NE

Attention: Ian Wright

CERTIFICATE OF ANALYSIS

Date:	27 October 2012
Customer:	H_CELTIC_CDF
Sample Delivery Group (SDG):	121018-100
Your Reference:	C1538
Location:	Willow Works, Merthyr
Report No:	199398

We received 7 samples on Thursday October 18, 2012 and 1 of these samples were scheduled for analysis which was completed on Saturday October 27, 2012. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

Approved By:

Sonia McWhan

Operations Manager



CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number:
Report Number: 199398
Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
6364354	CBH2		1.80	15/10/2012
6364365	CBH2		4.00	16/10/2012
6364349	CBH3		1.50	16/10/2012
6364370	CBH3		4.00	16/10/2012
6364367	TP2		3.00	12/10/2012
6364361	TP3		3.50 - 4.00	12/10/2012

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

CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
 Job: H_CELTIC_CDF-49
 Client Reference: C1538

Location: Willow Works, Merthyr
 Customer: Celtic
 Attention: Ian Wright

Order Number:
 Report Number: 199398
 Superseded Report:

SOLID Results Legend X Test N No Determination Possible	Lab Sample No(s)		6364347
	Customer Sample Reference		CBH1
	AGS Reference		
	Depth (m)		
	Container		60g VOC (ALE215) 250g Amber Jar (AL) 1kg TUB
Anions by Kone (w)	All	NDPs: 0 Tests: 1	X
CEN 2:1 Readings	All	NDPs: 0 Tests: 1	X
CEN 8:1 Readings	All	NDPs: 0 Tests: 1	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1	X
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 1	X
Fluoride	All	NDPs: 0 Tests: 1	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 1	X
Mercury Dissolved	All	NDPs: 0 Tests: 1	X
Mineral Oil	All	NDPs: 0 Tests: 1	X
PAH Value of soil	All	NDPs: 0 Tests: 1	X
PCBs by GCMS	All	NDPs: 0 Tests: 1	X
Phenols by HPLC (W)	All	NDPs: 0 Tests: 1	X
Sample description	All	NDPs: 0 Tests: 1	X
Total Dissolved Solids	All	NDPs: 0 Tests: 1	X
Total Organic Carbon	All	NDPs: 0 Tests: 1	X

CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number:
Report Number: 199398
Superseded Report:

CERTIFICATE OF ANALYSIS

Validated

SDG:	121018-100	Location:	Willow Works, Merthyr	Order Number:	
Job:	H_CELTIC_CDF-49	Customer:	Celtic	Report Number:	199398
Client Reference:	C1538	Attention:	Ian Wright	Superseded Report:	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm	
Lab Sample No(s)		Customer Sample Ref.		Depth (m)		Colour	Description	Grain size	Inclusions	Inclusions 2
6364347		CBH1				Black	N/A	2 - 10 mm	None	Stones

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.

CERTIFICATE OF ANALYSIS

SDG: 121018-100
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number:
Report Number: 199398
Superseded Report:

[illegible]

SDG: 121018-100
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number:
Report Number: 199398
Superseded Report:

GRO by GC-FID (S)

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number:
Report Number: 199398
Superseded Report:



CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number:
Report Number: 199398
Superseded Report:

SDG: 121018-100
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number:
Report Number: 199398
Superseded Report:

CEN 10:1 CUMULATIVE TWO STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457

Client Reference

Mass Sample taken (kg)	0.198
Mass of dry sample (kg)	0.175
Particle Size <4mm	>95%

Site Location

Willow Works, Merthyr

Moisture Content Ratio (%)	13.5
Dry Matter Content Ratio (%)	88.1

Case

SDG	121018-100
Lab Sample Number(s)	6364347
Sampled Date	16-Oct-2012
Customer Sample Ref.	CBH1
Depth (m)	

Landfill Waste Acceptance Criteria Limits

Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
----------------------	---	--------------------------

Solid Waste Analysis

Total Organic Carbon (%)	2.14
Loss on Ignition (%)	-
Sum of BTEX (mg/kg)	0.0861
Sum of 7 PCBs (mg/kg)	<0.02
Mineral Oil (mg/kg)	159
PAH Sum of 17 (mg/kg)	<10
pH (pH Units)	-
ANC to pH 6 (mol/kg)	-
ANC to pH 4 (mol/kg)	-

3	5	6
-	-	-
6	-	-
1	-	-
500	-	-
100	-	-
-	-	-
-	-	-
-	-	-

Eluate Analysis

C ₂ Conc ⁿ in 2:1 eluate	C ₈ Conc ⁿ in 8:1 eluate	A ₂ 2:1 conc ⁿ leached	A ₂₋₁₀ Cumulative conc ⁿ leached
--	--	--	--

**Limit values for compliance leaching test
using BS EN 12457-3 at L/S 10 l/kg**

Leach Test Information

Leach Test Information	2:1	8:1
Date Prepared	19-Oct-2012	22-Oct-2012
pH (pH Units)	8.237	8.373
Conductivity (µS/cm)	228.00	80.70
Temperature (°C)	20.50	19.80
Volume Leachant (Litres)	0.326	1.400
Volume of Eluate VE1 (Litres)	0.270	

CERTIFICATE OF ANALYSIS

Validated

SDG:	121018-100	Location:	Willow Works, Merthyr	Order Number:	
Job:	H_CELTIC_CDF-49	Customer:	Celtic	Report Number:	199398
Client Reference:	C1538	Attention:	Ian Wright	Superseded Report:	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
 Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
 Mceris Certification does not apply to leachates
 27/10/2012 10:02:29

Arsenic	0.000812	0.000676	0.00162	0.00697	0.5	2	25
Barium	0.0473	0.0106	0.0945	0.163	20	100	300
Cadmium	<0.0001	<0.0001	<0.0002	<0.001	0.04	1	5
Chromium	<0.00022	0.000228	<0.00044	<0.0022	0.5	10	70
Copper	0.00226	<0.00085	0.00451	<0.0085	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.00002	<0.0001	0.01	0.2	2
Molybdenum	0.00498	0.00157	0.00994	0.0209	0.5	10	30
Nickel	<0.00015	0.000361	<0.0003	0.00305	0.4	10	40
Lead	0.00005	0.000044	0.0000999	0.000449	0.5	10	50
Antimony	0.000856	<0.00016	0.00171	<0.0016	0.06	0.7	5
Selenium	0.00126	<0.00039	0.00251	<0.0039	0.1	0.5	7
Zinc	0.00279	<0.00041	0.00557	0.0043	4	50	200
Chloride	<2	<2	<4	<20	800	15000	25000
Fluoride	<0.5	<0.5	<0.999	<5	10	150	500
Sulphate (soluble)	57.2	13.3	114	201	1000	20000	50000
Total Dissolved Solids	183	70.2	365	876	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.032	<0.16	1	-	-
Dissolved Organic Carbon	3.59	<3	7.17	<30	500	800	1000

CERTIFICATE OF ANALYSIS

Validated

SDG:	121018-100	Location:	Willow Works, Merthyr	Order Number:	
Job:	H_CELTIC_CDF-49	Customer:	Celtic	Report Number:	199398
Client Reference:	C1538	Attention:	Ian Wright	Superseded Report:	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
PM114		Leaching Procedure for CEN Two Stage Batch Test 2:1/8:1 Cumulative		
TM061	Method for the Determination of EPH, Massachusetts Dept. of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM123	BS 2690: Part 121:1981	The Determination of Total Dissolved Solids in Water		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM213	In-house Method	Rapid Determination of PAHs by GC-FID		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		

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

CERTIFICATE OF ANALYSIS

Validated

SDG: 121018-100
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number:
Report Number: 199398
Superseded Report:

Test Completion Dates

Lab Sample No(s)	6364347
Customer Sample Ref.	CBH1
AGS Ref.	
Depth	
Type	SOLID
Anions by Kone (w)	26-Oct-2012
CEN 2:1 Leachate (2 Stage)	19-Oct-2012
CEN 2:1 Readings	24-Oct-2012
CEN 8:1 Leachate (2 Stage)	24-Oct-2012
CEN 8:1 Readings	24-Oct-2012
Dissolved Metals by ICP-MS	26-Oct-2012
Dissolved Organic/Inorganic Carbon	25-Oct-2012
Fluoride	26-Oct-2012
GRO by GC-FID (S)	25-Oct-2012
Mercury Dissolved	26-Oct-2012
Mineral Oil	26-Oct-2012
PAH Value of soil	24-Oct-2012
PCBs by GCMS	25-Oct-2012
Phenols by HPLC (W)	27-Oct-2012
Sample description	19-Oct-2012
Total Dissolved Solids	26-Oct-2012
Total Organic Carbon	25-Oct-2012

CERTIFICATE OF ANALYSIS

SDG: 121018-100
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number:
Report Number: 199398
Superseded Report:

Chromatogram

Analysis: Mineral Oil

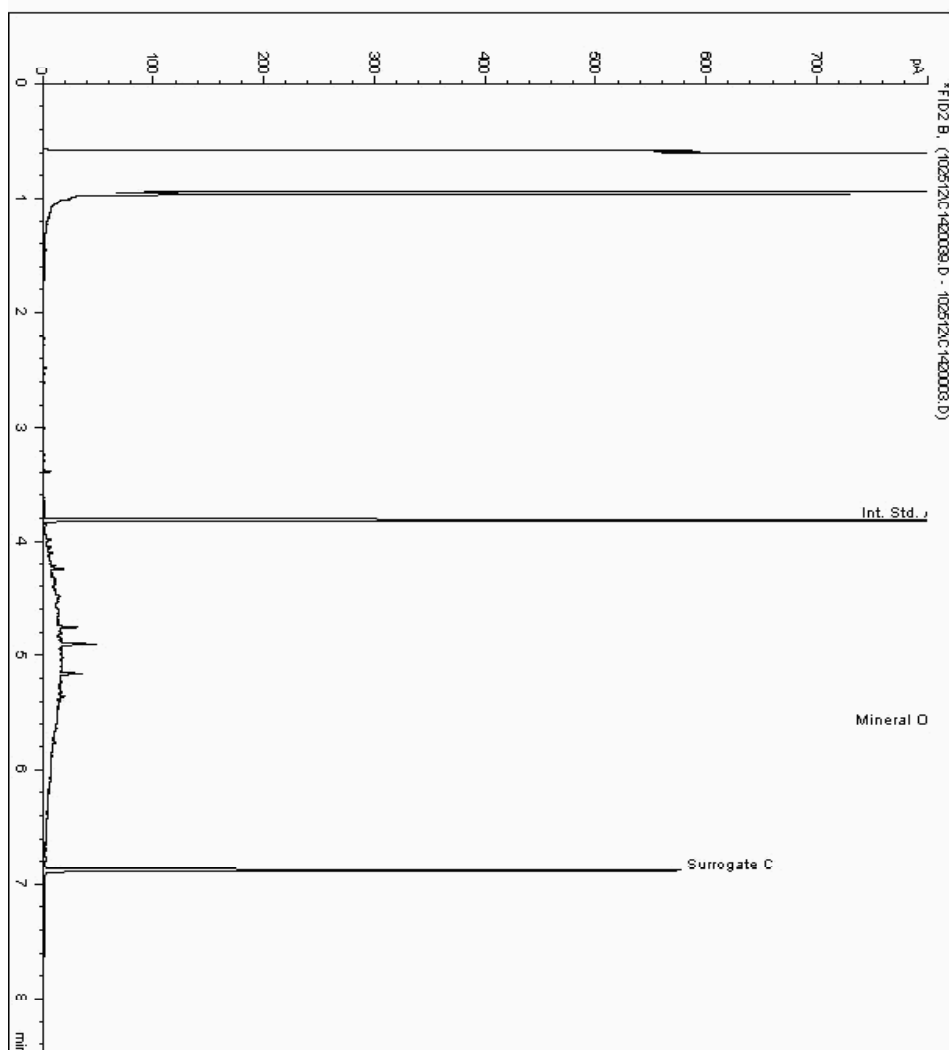
Sample No : 6392019
Sample ID : CBH1

Depth :

Alcontrol/Geochem Analytical Services
Mineral Oil Range Organics (C10 - C40)

Sample Identity : 6167579-6392019
Date Acquired : 25/10/12 23:23:19 PM
Units : mg/kg
Sample Multiplier : 0.000
Dilution :

#	Compound Name	Main Peak Area	Amount
1	Int. Std. A	734.0	50.000
2	Mineral Oil	1997.5	158.824
3	Surrogate C	467.4	41.608
Combined Peak Area		3198.9	



CERTIFICATE OF ANALYSIS

SDG: 121018-100
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

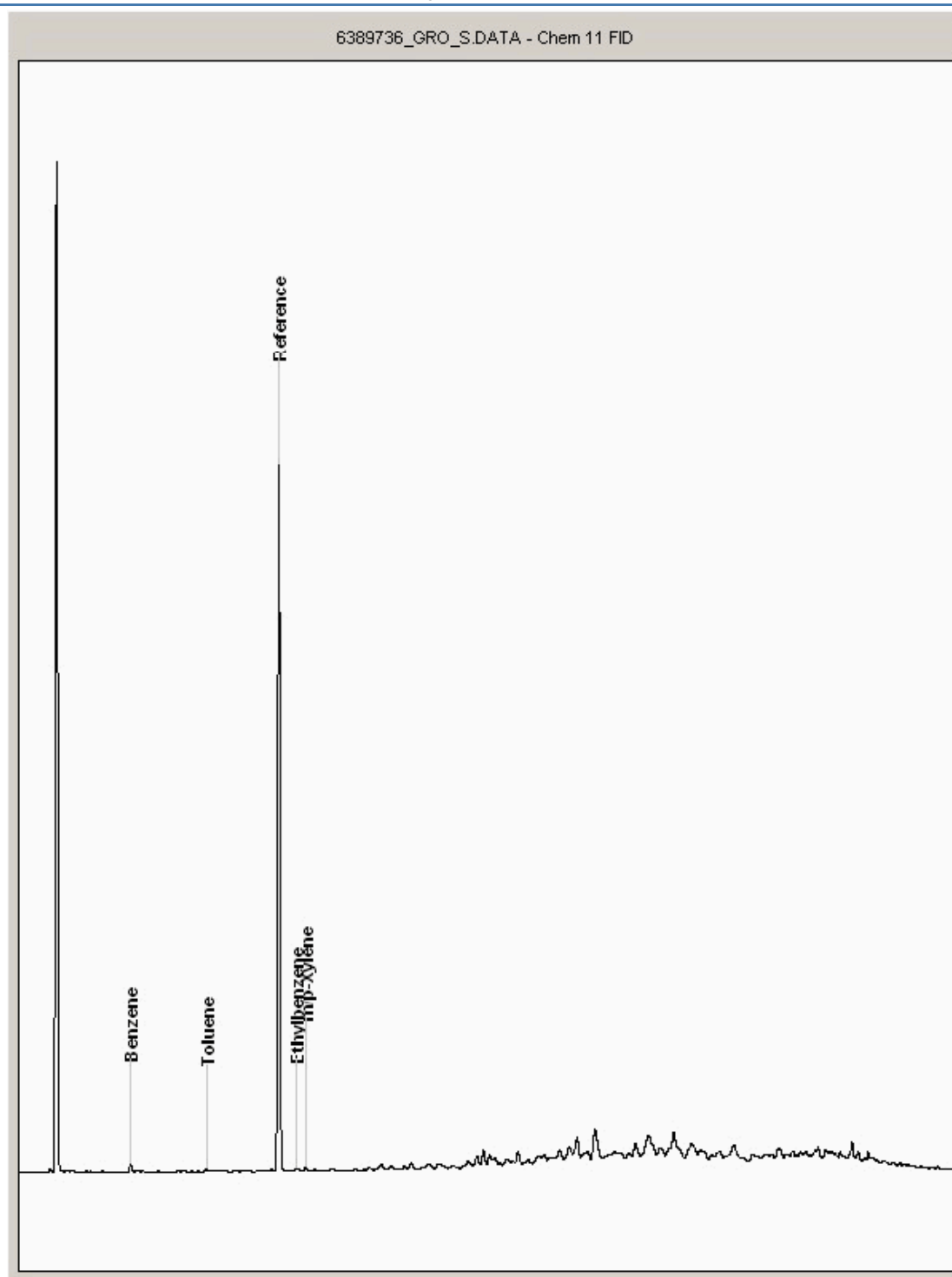
Order Number:
Report Number: 199398
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 6389736
Sample ID : CBH1

Depth :



CERTIFICATE OF ANALYSIS

SDG: 121018-100
Job: H_CELTIC_CDF-49
Client Reference: C1538

Location: Willow Works, Merthyr
Customer: Celtic
Attention: Ian Wright

Order Number:
Report Number: 199398
Superseded Report:

Appendix

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, 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 2 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** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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 specified 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.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENTEXTRACTABLE MATTER	D&C	DCM	SOXITHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXITHERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DCM	SOXITHERM	HPLC
PHENOLS BY GOMS	WET	DCM	SOXITHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXITHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXITHERM	GCMS
EPH (DFO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWSBY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCBAROCLOR 1254/PCBCON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218	GCMS
>C6-C40	WET	HEXANE/ACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-FID
SBM VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-FID
EPH CWS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-FID
PCBT CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCBAROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREESULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PESTICROPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	ACETONE	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	STIRRED EXTRACTION (STIR-BAR)	R
MINERAL OIL by IR	TCE	STIRRED EXTRACTION (STIR-BAR)	R
GLYCOLS	NONE	DIRECT INJECTION	GC-FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description 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).

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 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.



QF08

BOREHOLE MONITORING RECORD SHEET

Site: Willow Works, Merthyr Tydfil					Date: 22/10/12		Engineer: J. Howe / C. Snyder							
Barometric Pressure					Weather Conditions									
(and trend over monitoring period)														
Borehole	LNAPL (m bgl)	Ground- water (m bgl)	DNAPL (m bgl)	Thickness (m)	Base of Well (m bgl)		Peak			Steady			Lowest	Gas Flow Rate (l/hr)
ID							CH ₄ (%)	CO ₂ (%)	PID ppm	CH ₄ (%)	CO ₂ (%)	PID ppm	O ₂ (%)	
CBH1	Light product on probe	3.91			5.49	5.49			89					
CBH2	Sheen	4.62			6.77	6.77			8.1					
CBH3	-	4.2			5.42	5.42			0.5					
CBH4	Sheen	3.87			5.67	5.67			35.2					
CBH5	Sheen	4.15			8.18	8.18			40.8					
BH103	Light product on probe	3.98			11.78	11.78			28.8					
WS in Tank (WWU)	Heavy product on probe	0.78			1.38	1.38			0.7					
(Record surface ground conditions, temperature)														



QF08

BOREHOLE MONITORING RECORD SHEET

Site: Willow Works, Merthyr Tydfil					Date: 30/10/12		Engineer: J. Howe / C. Snyder						
Barometric Pressure (and trend over monitoring period)					Weather Conditions								
Borehole	LNAPL (m bgl)	Ground-water (m bgl)	DNAPL (m bgl)	Thickness (m)	Base of Well (m bgl)	Peak			Steady			Lowest	Gas Flow Rate (l/hr)
ID						CH ₄ (%)	CO ₂ (%)	PID ppm	CH ₄ (%)	CO ₂ (%)	PID ppm	O ₂ (%)	
CBH1	Light product on probe	3.81	-		5.46								
CBH2	-	4.37	-		6.43								
CBH3	-	4.3	-		5.57								
CBH5	Light product on probe	3.96	-		5.6								
CBH6	Product on Probe	4.11	-		7.83								
CBH9	-	3.88	-		5.98								
BH13	-	3.84	-		4.4								
BH14	-	4.2	-		9.67								
BH103	Product on Probe	4.06	-		11.76								
BH105	-	4.21	-		15.67								
Remarks:													
(Record surface ground conditions, temperature)													



QF08

BOREHOLE MONITORING RECORD SHEET

Site: Willow Works, Merthyr Tydfil					Date: 06/11/12		Engineer: J. Howe / C. Snyder						
Barometric Pressure (and trend over monitoring period)					Weather Conditions								
Borehole	LNAPL (m bgl)	Ground-water (m bgl)	DNAPL (m bgl)	Thickness (m)	Base of Well (m bgl)	Peak			Steady			Lowest	Gas Flow Rate (l/hr)
ID						CH ₄ (%)	CO ₂ (%)	PID ppm	CH ₄ (%)	CO ₂ (%)	PID ppm	O ₂ (%)	
CBH1	3.67	3.69		0.02									
CBH2	Sheen	4.14											
CBH3	Sheen	4.11											
CBH5	Sheen with Str odours	3.7											
CBH6	3.89	3.9		0.01									
CBH9	Sheen	3.7											
BH13	-	3.72											
BH14	-	-											
BH103	3.9	4		0.1									
BH105	3.89	3.91		0.02									
BH201	-	3.7											
Remarks:													
(Record surface ground conditions, temperature)													

C1538 NGPH WILLOW WORKS MERTHYR

Date Commencement 15/10/2012

Date Finish 19/10/2012

	Product	Water
Initial Volumes Removed to Commence Test	0.3 L	0

[illegible]

C1538 NGPH WILLOW WORKS MERTHYR

Date Commencement	15/10/2012
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Starting Data	DTP	DTW	PRODUCT THICKNESS
	3.94	4.68	0.74

Measured Recovery Times (s)

[illegible]

The Hazardous Waste Regulations 2005: Consignment Note



PART A Notification details

1 Consignment note code: **0EJ748102897**

2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):

Walters, Ng-Site, Willow Works,
Abercrombie Ind Est, Merthyr,
CF48 1YF.

3 Premises code (where applicable): **0EJ748**

4 The waste will be taken to (name, address and postcode):

Egon Waste Services Limited Unit A13, Severn Road, Treforest Industrial Estate,
Pontypridd, CF37 5TA Tel: (01443) 841833 Fax: (01443) 841801
E-mail: enquiries@egonwasteservices.co.uk

5 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):

PART B Description of the waste

If continuation sheet used, tick here ☐1 The process giving rise to the waste(s) was: **Civil Eng Const**2 SIC for the process giving rise to the waste: **45.2113**

3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are:		Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
			Component	Concentration (% or mg/kg)			
Oil Water	160708	Low	Hydrocarbon	10%	Liquid	H7	
						H14	

The information given below is to be completed for each EWC identified

EWC code	UN Identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements
160708	Non	Hazardous	for	transport	

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are:

1

1 Carrier name: **Steve Hart**

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
Egon Waste Services Limited Unit A13, Severn Road, Treforest Industrial Estate,
Pontypridd, CF37 5TA Tel: (01443) 841833 Fax: (01443) 841801
E-mail: enquiries@egonwasteservices.co.uk

2 Carrier registration no./reason for exemption:

CB/NP 3497 SR3 Vehicle registration no. (or mode of transport, if not road): **KS08 VMD**Signature **[Signature]**Date **31/10/2012** Time **11:11**

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

1 Consignor name:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

AS AboveSignature **[Signature]**Date **31/10/2012** Time **11:11**

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)

1 I received this waste at the address given in A4 on:

Date **31/10/2012** Time **11:11**

2 Vehicle registration no. (or mode of transport if not road):

Name:

3 Where waste is rejected please provide details:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

I certify that waste permit/exempt waste operation number:

authorises the management of the waste described in B at the address given in A4.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are:

Signature

Date **31/10/2012** Time **11:11**

WALTERS

Nº 33286

Hirwaun House, Hirwaun Industrial Estate, Hirwaun, Aberdare CF44 9UL
Tel: 01685 815100 Fax: 01685 815101

DUTY OF CARE: CONTROLLED WASTE TRANSFER NOTE

Section A - Description of Waste

1. Please describe the waste being transferred: SCRAP
2. How is the waste contained? (Tick one box, stating number or insert weights in section 3)
Loose ☐ Sacks ☐ Skip ☒ Drum ☐ Other ☐ Describe: _____ No: _____
3. What is the weight of the waste? (Kg) Gross: _____ Tare: _____ Nett: _____
4. Please give the six figure European Waste Catalogue Number (EWC Code) for the waste, by ticking one box.
Concrete, Bricks* ☐ 170107 Tarmac* ☐ 170301 Iron and Steel* ☒ 170405
Soils* ☐ 170504 Other ☐ (insert EWC Code) _____
- * Waste not contaminated with dangerous substances or mixed with other wastes. 43-1111 SIC for the process

Section B - Current holder of the waste (Transferor) I confirm that I have fulfilled my duty to apply the Waste Hierarchy as required by Regulation 12 of the Waste Regulations 2011 (England & Wales)

1. Full Name and Address (BLOCK CAPITALS): WALTERS UK DO MERTHYR Signature: _____
2. Which of the following are you? (Please tick one or more boxes)
Producer of the waste ☒ Holder of waste disposal or Waste management licence ☐ Licence number: _____
Importer of the waste ☐ Exempt from requirements to have a waste disposal or waste management licence ☐ Issued by: _____
Give reason: _____

Section C - Person collecting the waste (Transferee)

1. Full Name (BLOCK CAPITALS): MARTIN LLOYD Vehicle No: CN08AIF
2. Name and Address of Company: AS ABOVE
3. Which of the following are you? (Please tick one or more boxes)
Authorised for transport purposes ☒ Specify which purpose: _____
Holder of waste disposal or waste management licence ☐ Licence No: _____
Issued by: _____
Registered Waste Carrier (Please tick one box)
Walters UK Ltd.....SEW/697177/CB ☒
Walters Environmental Ltd.....EAN/943239 ☐
Other carrier; _____ ☐
(state name, number and who issued)

Section D

1. Address of place of transfer/collection point: BAYLISS
2. Tip registration number: _____ Date of Transfer: 12/10/12 Times of Transfer: _____
3. Name and address of broker who arranged this transfer (if applicable): _____
- Signatures Transferor [Signature] Transferee _____
Full Names (BLOCK CAPS) Rebecca _____
Representing BAYLISS _____

BAYLISS METALS
PLOT G2 . PRINCES WAY
BRIDGEND INDUSTRIAL ESTATE
BRIDGEND
CF31 3AQ
Tel: 0800 3895261
Email Address: Info@baylissrecovery.com

Vehicle Reg. **CN08AVF**

Transaction No. **264**

Customer **WALTERS LTD**

Commodity **HEAVYIRON** **HEAVY IRON**

Price/Tonne **£180.00**
Goods Charge **£586.80**

First Weight	20160	kg	060415	12/10/2012 09:24:37	99
Second Weight	16860	kg	060416	12/10/2012 09:30:49	99
Net Weight	3300	kg			
Net Weight Adj.	3260	kg			

Operators Signature **Drivers Signature**

A record of the weights used on this transaction will be kept for six months

**The Hazardous Waste Regulations 2005:
Consignment Note**

WALTERS ENVIRONMENTAL

Nº 00603**CONSIGNEE'S COPY****PART A Notification details**

- 1 Consignment note code: **0EJ748 WAL01**
- 2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):
**WILLOW WORKS NATIONAL GRID COMPOUND
THE WILLOWS
ABERCANNID IND EST
MERTHYR TYDAIL CF48 1YE.**
- 3 Premises code (where applicable): **0EJ748**

- 4 The waste will be taken to (name, address and postcode):
**HILLS WASTE
PARK FARM
MOPES LANE
SWINDON SN6 4HG**

- 5 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):

PART B Description of the wasteIf continuation sheet used, tick here ☐

- 1 The process giving rise to the waste(s) was: **DEMOLITION**

- 2 SIC for the process giving rise to the waste: **45 11 1**

- 3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components of the waste and their concentrations are:		Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
			Component	Concentration (% or mg/kg)			
Bois	1 7 0 6 0 5	20000	CHRYSOPLYE	70.1 %	SOLID	H7	BIN CONTAINER

The information given below is to be completed for each EWC identified

EWC code	Packing group(s)	UN identification number(s)	Proper shipping name(s)	UN class(es)	Special handling requirements
1 7 0 6 0 5	N/A.	N/A	N/A	N/A.	

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If a schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

- 1 Carrier name: **MARTIN LLOYD**

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

**WALTERS ENVIRONMENTAL LTD.
HILTON HOUSE
ABERCANNID IND EST
MERTHYR TYDAIL CF48 1YE.**

- 2 Carrier registration no./reason for exemption:

EAN 943239

- 3 Vehicle registration no. (or mode of transport, if not road):

CN08 AVF

Signature **x**

Date **22 10 2012** Time **17:15**

PART D Consignor's certificate

I certify that the information in A, B and C above is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the Waste Hierarchy as required by Regulation 12 of the Waste Regulations 2011 (England and Wales).

- 1 Consignor name: **P.L. THORNE**

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

**WALTERS ENVIRONMENTAL
HILTON HOUSE
HILTON IND EST
ABERCANNID CF48 1YE.**

Signature **P.L. Thorne**

Date **22 10 2012** Time **17:15**

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
1 7 0 6 0 5	7580	acc	D05

- 1 I received this waste at the address given in A4 on: Date **23 10 2012** Time **10:52**

- 2 Vehicle registration no. (or mode of transport if not road):

CN08 AVF

- 3 Where waste is rejected please provide details:

I certify that waste management licence/permit/authorised exemption no(s)

BK04181S

authorises the management of the waste described in B at the address given in A4.

Name:

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

**HILLS WASTE SOLUTIONS LTD
PARKGATE FARM LANDFILL
MOPES LANE, PURTON
SWINDON
WILTSHIRE SN6 4HG
TEL: 01793 771759**

Signature

Date **23 10 2012** Time **10:58**



SALES ADVICE & CONTROLLED WASTE
TRANSFER NOTE FOR LANDFILL

Waste/Account Incoming

Hills Waste Solutions Ltd

Head Office

Ailesbury Court

High Street

MARLBOROUGH SN8 1AA

Tel No: 01672 516999

Fax No: 01672 516213

VAT No: 194 3718 37

Trans Date: 23/10/2012

Ticket Number: 4/7068

Disp Point: Parkgate Asb LF

Lic/Permit Nbr: BK0418IS

Disposal Facility: Parkgate

Issuing Auth: WEST THAMES EA

CUSTOMER ADDRESS	WALTERS ENVIRONMENTAL LTD HIRWAUN HOUSE HIRWAUN INDUSTRIAL ESTATE HIRWAUN, ABERDARE MID GLAMORGAN CF44 9UL	DELIVERY/ PRODUCER ADDRESS	
ACCOUNT NUMBER	W10090	S.I.C. CODE	
CUSTOMER ORDER No.		CWTN No.	
FLEET No.		WEIGHTS	DATE TIME TALLY No
VEHICLE REG	CN08AVF	23860 kg	GROSS 23/10/2012 10:58 41299
VEHICLE TYPE	30.6M Hooklift	16180 kg	TARE 23/10/2012 11:29 41303
		7680 kg	NETT
HAULIER CODE	261	0	QUANTITY Consignment Note Charge Applied
HAULIER NAME	WALTERS ENVIRONMENTAL LTD		
WASTE CARRIER No	CB/NM3185PQ		
ISSUING AUTH	SOUTH WEST		
EXPIRY DATE	01/10/2013		
PRODUCT CODE	10036		
MATERIAL DESCRIPTION	Hazardous Asbestos - Construction		
EWCODE	17 06 05		
HAZARDOUS CODES	H7		
SOURCE	Cardiff UA		
OPERATOR'S NAME	Mark Clarkson	OPERATOR'S SIGNATURE	
CUSTOMER'S NAME		CUSTOMER'S SIGNATURE	
From the 30th October 2007 it is a legal requirement that all waste for Landfill is pre-treated. By signing this document you are confirming that the above conditions have been complied with. I declare that the waste hierarchy has been considered in deciding the most appropriate waste management option for the waste being transferred.			
HAULIER'S NAME	martin	HAULIER'S SIGNATURE	
CONSIGNMENT No's.			
OEJ748/WAL01			
SUBJECT TO HILLS WASTE SOLUTIONS LIMITED TERMS & CONDITIONS OF BUSINESS WHICH ARE AVAILABLE FOR INSPECTION AT THE COMPANY'S HEAD OFFICE. REGISTERED IN ENGLAND AND WALES No. 571289			

A record of the weights used for this transaction
is available for six months



WALTERS

Nº 33553

Hirwaun House, Hirwaun Industrial Estate, Hirwaun, Aberdare CF44 9UL
Tel: 01685 815100 Fax: 01685 815101

DUTY OF CARE: CONTROLLED WASTE TRANSFER NOTE

Section A - Description of Waste

1. Please describe the waste being transferred: Inert rubble (brick/conc/block)
2. How is the waste contained? (Tick one box, stating number or insert weights in section 3)
Loose ☐ Sacks ☐ Skip ☒ Drum ☐ Other ☐ Describe: 35 yrd. No:
3. What is the weight of the waste? (Kg) Gross: Tare: Nett: 5t
4. Please give the six figure European Waste Catalogue Number (EWC Code) for the waste, by ticking one box.
Concrete, Bricks* ☒ 170107 Tarmac* ☐ 170301 Iron and Steel* ☐ 170405
Soils* ☐ 170504 Other ☐ (insert EWC Code)
* Waste not contaminated with dangerous substances or mixed with other wastes. / SIC for the process

Section B - Current holder of the waste (Transferor) I confirm that I have fulfilled my duty to apply the Waste Hierarchy as required by Regulation 12 of the Waste Regulations 2011 (England & Wales)

1. Full Name and Address (BLOCK CAPITALS): Willow Works Site, Merconaid
Signature: [Signature]
2. Which of the following are you? (Please tick one or more boxes)
Producer of the waste ☒ Holder of waste disposal or Waste management licence ☐ Licence number:
Importer of the waste ☐ Exempt from requirements to have a waste disposal or waste management licence ☐ Issued by:
Give reason:

Section C - Person collecting the waste (Transferee)

1. Full Name (BLOCK CAPITALS): Martin Lloyd Vehicle No: CN08 AVE
2. Name and Address of Company: Walters UK Ltd, Hirwaun House, Aberdare CF44 9UL
3. Which of the following are you? (Please tick one or more boxes)
Authorised for transport purposes ☐ Specify which purpose
Holder of waste disposal or waste management licence ☐ Licence No:
Issued by:
Registered Waste Carrier (Please tick one box)
Walters UK Ltd.....SEW/697177/CB ☒
Walters Environmental Ltd.....EAN/943239 ☐
Other carrier; (state name, number and who issued)

Section D

1. Address of place of transfer/collection point: Costain Ltd, Port Talbot PDR
2. Tip registration number: EPR/SB3932AF Date of Transfer: 12/10/12 Times of Transfer:
3. Name and address of broker who arranged this transfer (if applicable):
- Signatures Transferor: [Signature] Transferee:
- Full Names (BLOCK CAPS) Walters UK Ltd
- Representing Walters UK Ltd

**The Hazardous Waste Regulations 2005:
Consignment Note**

WALTERS ENVIRONMENTAL

Nº 00603**CONSIGNEE'S COPY****PART A Notification details**

- 1 Consignment note code: **0EJ748 WAL01**
- 2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):
**WILLOW WORKS NATIONAL GRID COORDINATE
THE WILLOWS
ABERDARE IND EST
MERTHYR TYDIAL C4481YE.**
- 3 Premises code (where applicable): **0EJ748**

- 4 The waste will be taken to (name, address and postcode):
**HILLS WASTE
PARK FARM
MOPES LANE
SWINDON SN6 4HG**
- 5 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):

PART B Description of the wasteIf continuation sheet used, tick here ☐

- 1 The process giving rise to the waste(s) was: **DEMOLITION**
- 2 SIC for the process giving rise to the waste: **45 11 1**
- 3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components of the waste and their concentrations are:		Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
			Component	Concentration (% or mg/kg)			
B012	170605	20000	CHRYSOPLYE	70.1%	SOLID	H7	BIN CONTAINER

The information given below is to be completed for each EWC identified

EWC code	Packing group(s)	UN identification number(s)	Proper shipping name(s)	UN class(es)	Special handling requirements
170605	N/A.	N/A	N/A	N/A.	

PART C Carrier's certificate(If more than one carrier is used, please attach schedule for subsequent carriers. If a schedule of carriers is attached tick here. ☐)

I certify that I today collected the consignment and that the details in A2, A4 and B3 are correct and I have been advised of any specific handling requirements.

1 Carrier name: **MARTIN LLOYD**

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

**WALTERS ENVIRONMENTAL LTD.
HILTON HOUSE
ABERDARE C4481YE**

2 Carrier registration no./reason for exemption:

EA9 943239

3 Vehicle registration no. (or mode of transport, if not road):

CN08 AVFSignature **x**Date **22/10/2012** Time **17:15****PART D Consignor's certificate**

I certify that the information in A, B and C above is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the Waste Hierarchy as required by Regulation 12 of the Waste Regulations 2011 (England and Wales).

1 Consignor name: **P.L. THORNE**

On behalf of (name, address, postcode, telephone, e-mail, facsimile):

**WALTERS ENVIRONMENTAL
HILTON HOUSE
HILTON IND EST
ABERDARE C4481YE**Signature **P.L. Thorne**Date **22/10/2012** Time **17:15****PART E Consignee's certificate** (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)
170605	7580	acc	D05

1 I received this waste at the address given in A4 on: Date **23/10/2012** Time **10:52**

2 Vehicle registration no. (or mode of transport if not road):

CN08 AVF

3 Where waste is rejected please provide details:

I certify that waste management licence/permit/authorised exemption no(s)

BK04181S

authorises the management of the waste described in B at the address given in A4.

Name: **Chlorine**

On behalf of (name, address, postcode, telephone, e-mail, facsimile):
**HILLS WASTE SOLUTIONS LTD
PARKGATE FARM LANDFILL
MOPES LANE, PURTON
SWINDON
WILTSHIRE SN6 4HG
TEL: 01793 771759**

Signature **W**Date **23/10/2012** Time **10:58**



SALES ADVICE & CONTROLLED WASTE
TRANSFER NOTE FOR LANDFILL

Waste/Account Incoming

Hills Waste Solutions Ltd

Head Office

Ailesbury Court

High Street

MARLBOROUGH SN8 1AA

Tel No: 01672 516999

Fax No: 01672 516213

VAT No: 194 3718 37

Trans Date: 23/10/2012

Ticket Number: 4/7068

Disp Point: Parkgate Asb LF

Lic/Permit Nbr: BK0418IS

Disposal Facility: Parkgate

Issuing Auth: WEST THAMES EA

CUSTOMER ADDRESS	WALTERS ENVIRONMENTAL LTD HIRWAUN HOUSE HIRWAUN INDUSTRIAL ESTATE HIRWAUN, ABERDARE MID GLAMORGAN CF44 9UL	DELIVERY/ PRODUCER ADDRESS				
ACCOUNT NUMBER	W10090	S.I.C. CODE				
CUSTOMER ORDER No.		CWTN No.				
FLEET No.		WEIGHTS		DATE	TIME	TALLY No
VEHICLE REG	CN08AVF	23860 kg	GROSS	23/10/2012	10:58	41299
VEHICLE TYPE	30.6M Hooklift	16180 kg	TARE	23/10/2012	11:29	41303
		7680 kg	NETT			
HAULIER CODE	261	0	QUANTITY	Consignment Note Charge Applied		
HAULIER NAME	WALTERS ENVIRONMENTAL LTD					
WASTE CARRIER No	CB/NM3185PQ					
ISSUING AUTH	SOUTH WEST					
EXPIRY DATE	01/10/2013					
PRODUCT CODE	10036					
MATERIAL DESCRIPTION	Hazardous Asbestos - Construction					
EWCODE	17 06 05					
HAZARDOUS CODES	H7					
SOURCE	Cardiff UA					
OPERATOR'S NAME	Mark Clarkson	OPERATOR'S SIGNATURE				
CUSTOMER'S NAME		CUSTOMER'S SIGNATURE				
From the 30th October 2007 it is a legal requirement that all waste for Landfill is pre-treated. By signing this document you are confirming that the above conditions have been complied with. I declare that the waste hierarchy has been considered in deciding the most appropriate waste management option for the waste being transferred.						
HAULIER'S NAME	martin	HAULIER'S SIGNATURE				
CONSIGNMENT No's.						
OEJ748/WAL01						
SUBJECT TO HILLS WASTE SOLUTIONS LIMITED TERMS & CONDITIONS OF BUSINESS WHICH ARE AVAILABLE FOR INSPECTION AT THE COMPANY'S HEAD OFFICE. REGISTERED IN ENGLAND AND WALES No. 571289						

A record of the weights used for this transaction
is available for six months



NAS LABORATORIES

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Fax: 01443 229596

☐ Fuel Compound
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St Peter
Jersey
JE3 7BP

Tel: 01534 747598
Fax: 01534 744979

☐ Unit A
Adelaide Business Centre
Apollo Road
Belfast
BT12 6HP

Tel: 02890 681592
Fax: 02890 681593

Certificate of Analysis for Personal Air test

Page 1 of 1	Certificate No:	12F5615-002	Analyst Reference:	CC 54
Date of receipt of samples / sampling:	11-10-12	Analysis date:	11-10-12	Issue date:

Customer name, address and contact details:	Site address:
Walkers UK Limited Hirwaun House Hirwaun ind Est Hirwaun Aberdare PCT CF44 9UL	Willow Works National grid Compound The Willows Aberdare ind Est Merthyr Tydfil CF48 1XF

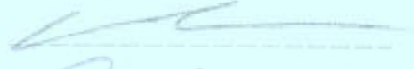
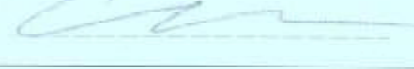
Operative's name:	Lee Thorne	Respirator worn:	Disposable P3
Work location:	PreFab building		
Description of work being done:	Removal of AC Roof Sheets		
Activity undertaken during test:	Banksmann Car Machinery		
Purpose of test: (tick)	Comparison with 4 hour control limit	☒ Comparison with 10 minute exposure level	Assessment of respiratory protective equipment
Location slides counted:	on site	In-house risk assessment completed?	☒ Yes / No

Microscope	M6	Flow meter	#7	Stopwatch	Sw6	Field Blanks	Fibres	Fields
Thermometer	Th14	Temperature reading (°C)	17.2	Tally counters (a & b)	Tc6A	FB01	marked	
Barometer	B21	Barometric pressure (hPa)	980	HSE test slide band	Band 5	FB02		
Stage micrometer	54	Measured graticule diameter (µm)	100	Exp filter diameter (mm)	22.2	FB03		

Sample No.	Pump No.	Cowl No.	Time Started	Time Stopped	Sample Duration (Min)	Flow rate (L/min)			Volume Sampled (litres)	No. of Fibres	No. of Fields	Limit of Quantification	Concentration fibres/ml (fibres/cm³)
						Initial	Interim	Final					
1	P52	k6/04	11:10	11:56	26	20	✓	20	52	12	200	0.24	20.4
						END							

Comments:

All testing has been conducted in accordance with in-house Technical Procedures Manual section N-3 and HSE guidance HSG248. See comments for any deviations from methods.

Print name	C. Colburn	Signed sampler	
Print name	C. Colburn	Signed analyst	

Opinions and interpretations expressed herein are outside the scope of the UKAS accreditation for this laboratory

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Belfast
BT12 6HP

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Fax: 02890 681593

Certificate of Analysis for Airborne Fibre Concentration

Page 1 of 2	Certificate No:	12F5613-001	Analyst Reference:	CC 53
Date of receipt of samples / sampling:	11-10-12	Analysis date:	11-10-12	Issue date:

Customer name, address and contact details: Whiters Ute Limited Hirwaun House Hirwaun Ind Est Hirwaun Aberdare CF82 9UL	Site address: Willow Works National Grid Campbell The Willows Aberdare Ind Est METHYR TYDFIL CF48 1YF
---	--

Location:	Prefab Building		
Material removed / worked on:	Corrugated Cement Roof Sheets		
Areas to be assessed and brief description of works:	Resinifer Monitoring during the demolition of a prefabricated Building with AC Roof		
Location slides counted:		In-house risk assessment completed?	Yes / No

Microscope	on site	Flow meter	F7	Stopwatch	Sw6	Stage micrometer	54
Thermometer	12.4	Temperature reading (°C)	17.7	Tally counters (a & b)	126.5	Measured graticule diameter (µm)	100
Barometer	1021	Barometric pressure (hPa)	1020	HSE test slide band	Band 3	Exposed filter diameter (mm)	22.2

Type of test:	Background = B	Leak test = L	Reassurance = R	Field blank = FB
---------------	----------------	---------------	-----------------	------------------

Sample No.	Type of Test	Pump No.	Cowl No.	Time Started	Time Stopped	Sample Duration (Min)	Flow rate (L/min)			Volume Sampled (litres)	No. of Fibres	No. of Fields	Limit of Quantification	Concentration fibres / m³ (fibres / cm³)
1	L	P13	h6/1	11-10	12-10	60	8.0	✓	8.0	480	6	200	0.010	20.01
2	L	P9	h6/3	11-10	12-10	60	8.0	✓	8.0	480	2	200	0.010	20.01
3	L	P31	h6/10	11-11	12-11	60	8.0	✓	8.0	480	3	200	0.010	20.01
4	L	P29	h6/5	11-11	12-11	60	8.0	✓	8.0	480	3	200	0.010	20.01
							End							

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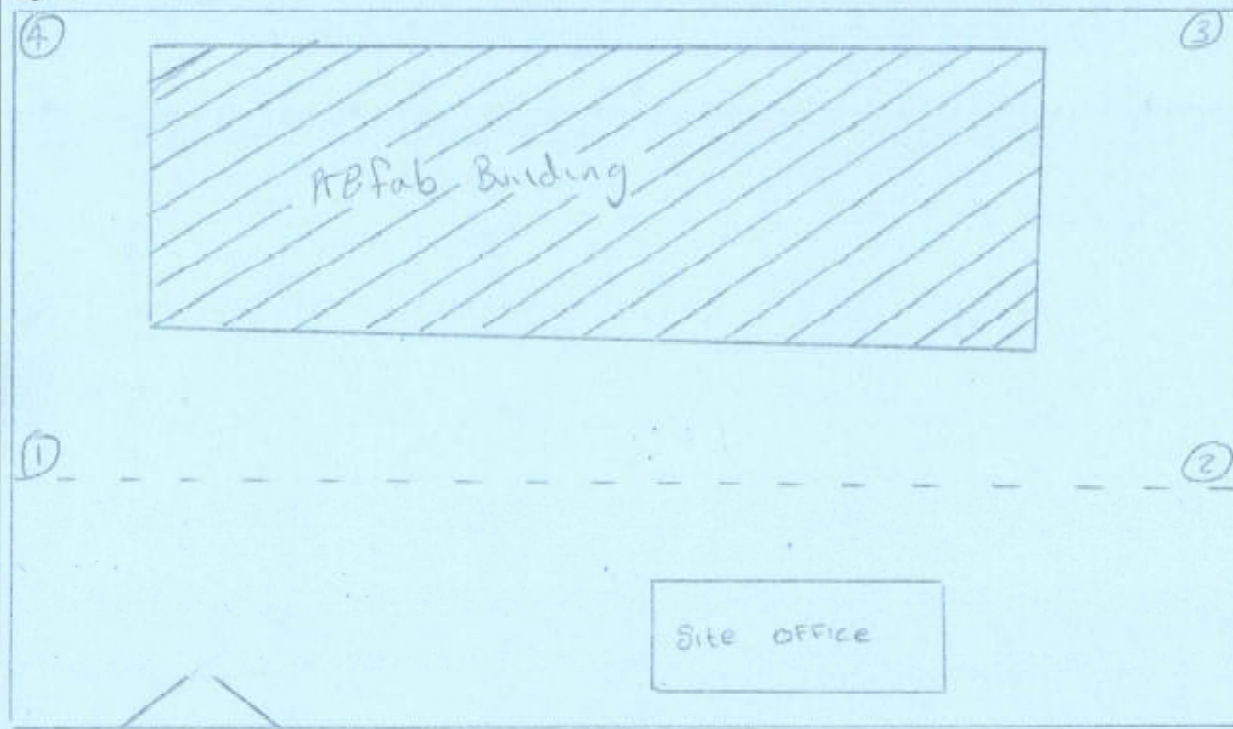


NAS LABORATORIES

Certificate of Analysis for Airborne Fibre Concentration

Page 2 of 2	Certificate No:	12F5615 -001	Issue date:	11-10-12
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Diagram



All testing has been conducted in accordance with in-house Technical Procedures Manual section N-3 and HSE guidance HSG248. See comments for any deviations from methods.

Comments:

None.

Requirements:	Yes / No	Comments:
Have all stipulations of HSG248 been met? (see comments box if not)	yes	/
Are the results of all of the tests less than 0.01 fibres / cm ³ of air?	yes	/

Print name C. Colburn

Signed sampler

Print name C. Colburn

Signed analyst

Opinions and interpretations expressed herein are outside the scope of the UKAS accreditation for this laboratory

NAS Laboratories Limited Innovation House Bridgend Road Bryncae Rhondda Cynon Taf CF72 9RP
www.nasltd.co.uk Email: enquiries@nasltd.co.uk



Date: _____

71/016

Wind Direction: $150^\circ + 20^\circ$

PID Calibration Based: With

Location	Time
----------	------

Year	Number of cases
1990	10
1991	15
1992	20
1993	25
1994	30
1995	35
1996	40
1997	45
1998	50
1999	55
2000	60
2001	65
2002	70
2003	75
2004	80
2005	85
2006	90
2007	95
2008	100
2009	105
2010	110
2011	115
2012	120
2013	125
2014	130
2015	135
2016	140
2017	145
2018	150
2019	155
2020	160
2021	165
2022	170
2023	175
2024	180
2025	185
2026	190
2027	195
2028	200
2029	205
2030	210
2031	215
2032	220
2033	225
2034	230
2035	235
2036	240
2037	245
2038	250
2039	255
2040	260
2041	265
2042	270
2043	275
2044	280
2045	285
2046	290
2047	295
2048	300
2049	305
2050	310
2051	315
2052	320
2053	325
2054	330
2055	335
2056	340
2057	345
2058	350
2059	355
2060	360
2061	365
2062	370
2063	375
2064	380
2065	385
2066	390
2067	395
2068	400
2069	405
2070	410
2071	415
2072	420
2073	425
2074	430
2075	435
2076	440
2077	445
2078	450
2079	455
2080	460
2081	465
2082	470
2083	475
2084	480
2085	485
2086	490
2087	495
2088	500
2089	505
2090	510
2091	515
2092	520
2093	525
2094	530
2095	535
2096	540
2097	545
2098	550
2099	555
2100	560

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2017	11
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7/25

十	三
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[illegible][illegible]

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1000

1000

THE UNIVERSITY OF CHICAGO

Intensity

1 No detectable odour

3 Moderate odour (odor)

5 Very strong odour (w

Abstract

Vapour Trigger Values Off site receptors Sleep Work at _____ ppm (6 min TWA) at site boundary On site receptors PPE Criteria _____ ppm (15 min TWA) at treatment area Sleep Work at _____ ppm (15 min TWA) at treatment area when PPE worn Odour limit and action values: Action level: Iracively 3 Ederix 3 Sleep work Criteria: Iracively 4 Ederix 4	Dust action/limit value General Dust Exposure Action Limit Values _____ $\mu\text{g}/\text{m}^3$ (PM10 15 min TWA)
Noise exposure limit values and action values Action Level: 80 dBA (5 min average) when ear protection worn Sleep work Criteria 85 dBA (5 min average) Off site receptors > 5 dB background values background with no site	

[illegible]

was 1 by

QF07 - WTL Monitoring Proforma

Vapour Trigger Values CH site receptors Step Work at _____ ppm (5 min TWA) at site boundary On site receptors RPE Criteria _____ ppm (15 min TWA) at treatment area Step Work at _____ ppm (15 min TWA) at treatment area when RPE worn Odour limits and action values: Action level: Intensity 3: Entert 3 Step work Criteria: Intensity 4: Entert 4	Dust action/limit value General Dust Exposure Action Limit Values: _____ $\mu\text{g}/\text{m}^3$ (PM: 0.15 min TWA)
Risks exposure limit values and action values Action Level: 80 $\text{dB}(A)$ (5 min average) when ear protection worn Step work Criteria 85 $\text{dB}(A)$ (5 min average) CH site receptors > 5 dB background values background value for site: _____ dB	

Odour Monitoring Criteria	Exient (assuming odour detectable, if not then C)
Intensity	1 Local & transient (only during brief periods when wind drops or blows)
1 No detectable odour	2 Transient as above, but detected away from installation boundary
2 Faint odour (barely detectable, need to stand still and breathe facing into the wind)	3 Persistent, but fairly localized
3 Moderate odour (odour easily detected while walking & breathing normally, possibly offensive)	4 Persistent and pervasive up to 50m from plant or installation boundary
4 Strong odour (bearable, but offensive odour)	5 Persistent and widespread (odour detected >50 m from installation boundary)
5 Very strong odour (very offensive, possibly causing nuisance)	

Dust action limit value _____
 General Dust Exposure Action Limit Values: _____ $\mu\text{g}/\text{m}^3$ (PM10 15 min TWV)
 i) Floor dust _____
 ii) Stop work Criteria for ceiling dust (15 min average) _____
 iii) Oil silt receptors _____
 iv) >5 db background values _____
 v) Background values for steel _____
 vi) _____

Weather: Wind Direction: m.B.:	OC	N
Peak over \$ mins (ppm)	0.0	Average over \$ mins (idea)
0.0	69.9	
0.0	69.7	

5 Very strong odour (very offensive, possibly causing nausea),

2. The sister and widespread (about 20 million individuals) boundary,

QF07 - MTL Monitoring Proforma

Vapour Traps/Volumes		Dust action/limit value
Crit. site receptors Sump WWA at _____ ppm (5 min TWA) at site boundary On site receptors RPE Criteria _____ ppm (15 min TWA) at treatment area Sump Work at _____ ppm, 15 min TWA at treatment area when RPE worn	Certified Dust Exposure Action Limit Values _____ $\mu\text{g}/\text{m}^3$ (P100 15 min TWA)	
Odour limit and action values: Action level: Intensity 3 Extent 3 Sump work Criteria: Intensity 4 Extent 4	Notice exposure limit values and action values Action Level: 80 dB(A) (5 min average) when ear protection worn Sump work Criteria: 80 dB(A) (5 min average) Crit. site receptors > 5 dB background values background value for site: _____ dB	

Odour Monitoring Criteria	Intensity	Extent (assuming odour detectable, if not then 0)
1. No noticeable odour	1. Local & transient (only during brief periods when wind drops or blows)	
2. Faint odour (barely detectable, need to stand still and inhale facing into the wind)	2. Transient as above, but detected away from installation boundary	
3. Moderate odour (odour easily detected while walking & breathing normally, possibly offensive)	3. Persistent, but fairly localized	
4. Strong odour (pleasant, but offensive odour)	4. Persistent and pervasive up to 50cm from plant or installation boundary	
5. Very strong odour (very offensive, possibly causing nuisance)	5. Persistent and widespread (odour detected >50 m from installation boundary)	

Date: 11/2/2019

10/10/20

PID Calibration

93119

10

M1 1130 C.O.D

10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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[illegible]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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[illegible]

100

1 No detectable odour

4 Strong odour, unbearable, but often

Vapour/Traffic Values On site receptors Step Work at _____ ppm (5 min TWA) at site boundary On site receptors RPE Criteria _____ ppm (15 min TWA) at treatment area Step Work at _____ ppm (15 min TWA) at treatment area when RPE worn Colour limit and action values: Action level: Intensity 3 Extern 3 Step work: Intensity 4 Extern 4	Dust action/limit value General Dust Exposure Action Limit Values: _____ $\mu\text{g}/\text{m}^3$ (PM: 0-15 min TWA)
Please tape/zone limit values and action values: Action Level: 80 dB/A (5 m average) when ear protect on worn Step work Criteria 85 dB/A (5 m average) On site receptors 4-5 dB background values background value for site _____ dB	

[illegible]⁴ No detectable correlation.

4 Strong odour, 'bearable', but offensive

QF07 - MTL Monitoring Performance

Round Number:	1
Weather:	Light Cloud
Wind Direction:	Calm
Wind Speed:	

Vibration Tripper Values: On site receptors: Stop Work at _____ ppm (5 min TWV) at site boundary On site receptors: RPE Criteria _____ ppm (15 min TWV) at treatment area Stop Work at _____ ppm (15 min TWV) at treatment area when RPE worn Odour limit and action values: Action level: Intensity 3 Extent 3 Stop work Criteria Intensity 4 Extent 4	Dust action/limit value General Dust Exposure Action Limit Values: _____ ppm (5 min TWV) Moisture exposure limit values and action reduces Action Level: 30 dB(A) (5 min average) where ear protection worn Stop work Criteria 85 dB(A) (5 min average) Off site receptors >= 20 background values background value for site _____ dB
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[illegible]

Odour Monitoring Criteria

- 1 No detectable odour
- 2 Faint odour (barely detectable, need to stand still and inhale facing into the wind)
- 3 Moderate odour (odour easily detected while walking & breathing normally, possibly offensive)
- 4 Strong odour (fearable, but offensive odour)
- 5 Very strong odour (very offensive, possibly causing nausea)

Extent (assuming odour detectable, if not then 0)

- 1 Local & transient (only during brief periods when wind crops or blows)
- 2 Transient but above, but detaches away from installation boundary
- 3 Persistent, but fairly localised
- 4 Persistent and pervasive up to 50m from plant or installation boundary
- 5 Persistent and widespread (local detected >50 m from installation boundary)



QF07 - MTL Monitoring Programme

Site: Willow Leas

Date: 22/10/12

Round Number: _____

Weather: overcast/rain

Wind Direction: calm

Wind Speed: _____

Wind Gust: _____

Wind Direction: _____

Wind Speed: _____

Wind Gust: _____

Wind Direction: _____

Wind Speed: _____

Wind Gust: _____

Wind Direction: _____

Wind Speed: _____

Wind Gust: _____

Wind Direction: _____

Wind Speed: _____

Wind Gust: _____

Wind Direction: _____

Wind Speed: _____

Wind Gust: _____

Wind Direction: _____

Wind Speed: _____

Wind Gust: _____

Wind Direction: _____

Wind Speed: _____

Wind Gust: _____

Vapour Trigger Values		Dust attentional value
On site receptors		General Dust Exposure Action Limit Values: _____ $\mu\text{g}/\text{m}^3$ (PM10 15 min TWA)
Stop Work at _____	ppm (5 min TWA) at site boundary	
On site receptors		Notes exposure limit values and action values
RPE Criteria _____	ppm (15 min TWA) at treatment area	Action Level: 80 dB(A) (5 min average) when ear protection worn
Stop Work at _____	ppm (15 min TWA) at treatment area when RPE worn	Stop work Criteria: 85 dB(A) (5 min average)
Odour limit and action values		On site receptors
Action level: Intensity 3 Extent 3		> 45 dB background values
Stop work Criteria: Intensity 4 Extent 4		Background value for site: _____ dB

Location	Time	VOC		NOISE		DUST						ODOUR		Comments
		Average over 5 mins (ppm)	Peak over 5 mins (ppm)	Average over 5 mins (dB(A))	Peak over 5 mins (dB(A))	TSP (µg/m ³)	PM10 (µg/m ³)	PM2.5 (µg/m ³)	PM1 (µg/m ³)	Intensity 1-5	Extent 1-5			
M1	0745	0.0	0.0	65.4	82.1	Rain	---	---	---	---	---	1	1	
M2	1000	0.0	0.0	66.7	75.4	Rain	---	---	---	---	---	1	1	
23/10/12														
M1	1415	0.0	0.0	65.3	81.3	32.4	27.4	24.7	32.4	12.90	12.67	5.37	6.67	1
M2	1435	0.0	0.0	68.9	70.6	63.3	26.9	52.5	28.6	14.75	14.69	7.19	5.86	1
24/10/12														
M1	1115	0.0	0.0	63.2	72.6	89.9	91.4	74.1	76.2	44.75	49.51	17.61	17.82	1
M2	1135	0.0	0.0	68.1	80.5	71.3	102.7	72.7	45.15	44.40	16.90	16.68	1	1

Odour Monitoring Criteria

Intensity:

- 1 No detectable odour
- 2 Faint odour (barely detectable, need to stand still and inhale facing into the wind)
- 3 Moderate odour (odour easily detected while walking & breathing normally, possibly offensive)
- 4 Strong odour (bearable, but offensive odour)
- 5 Very strong odour (very offensive, possibly causing nausea)

Extent (assuming odour detectable, if not then 0):

- 1 Local & transient (only during brief periods when wind drops or blows)
- 2 Transient as above, but detected away from installation boundary
- 3 Persistent, but fairly localised
- 4 Persistent and pervasive up to 50m from plant or installation boundary
- 5 Persistent and widespread (odour detected >50 m from installation boundary)

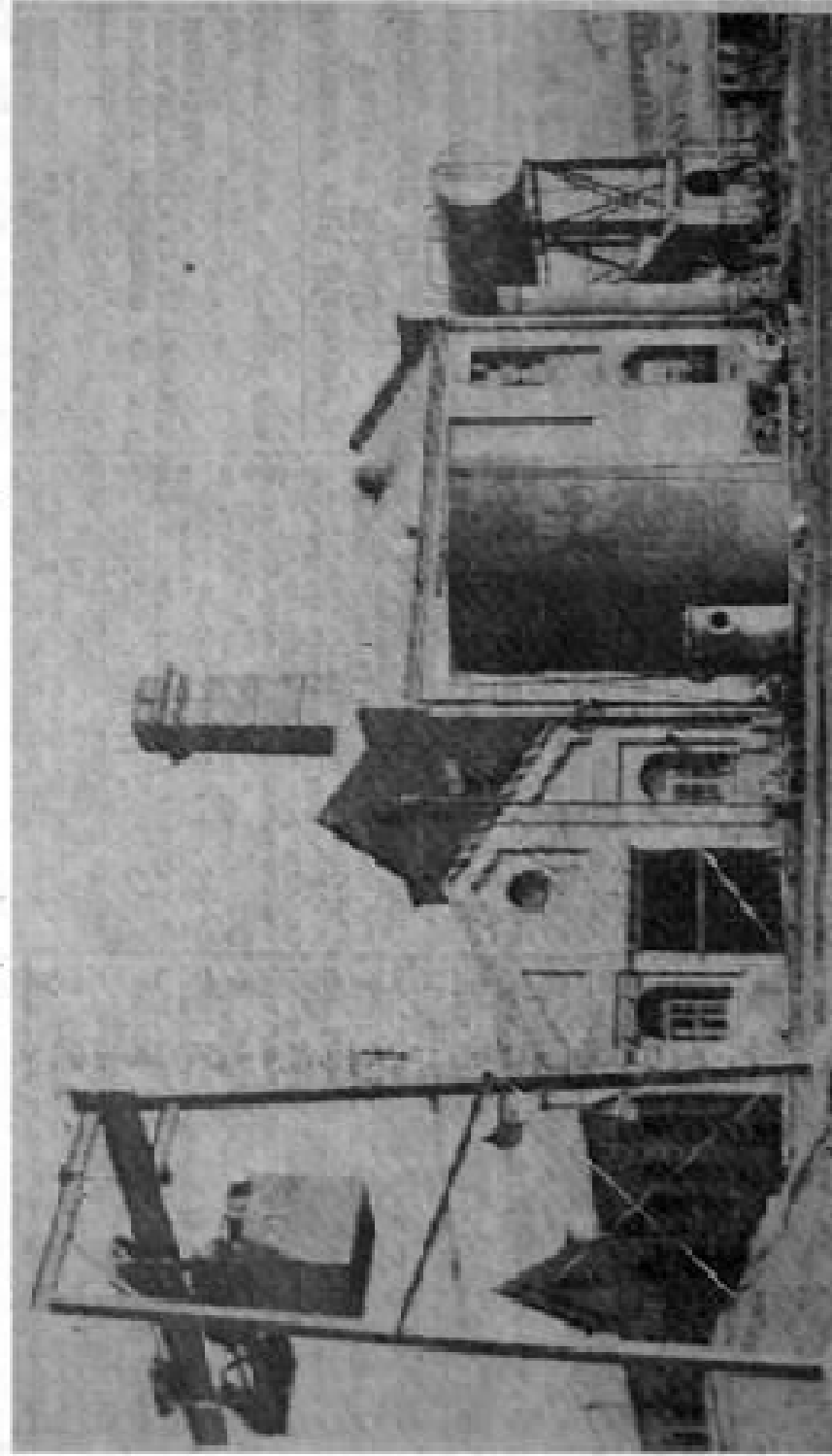




Big Firm Will At Dowlais

... Ltd. have closed down
... mpany is to be set up to

Going!



The sprawling refectory house and ancillary buildings at The Willows Gas Works (above) are scheduled for demolition. The two familiar gasholders, which are not in the picture,

**GIRL RUSHED
TO CHEPSTOW**

Offered As Site For Factory

THE WALES GAS BOARD has suggested to the Board of Trade that land suitable for a factory site will be available at the Brandy Bridge, Merthyr, as soon as the 50-year-old Willows Gas Works has been pulled down.

Mr. D. E. West, manager of the Gas Board's Merthyr and Dowlais offices, said this week: "We are anxious that a suitable factory is ultimately constructed on this very adaptable site. It is already connected to the main railway line and road and water electricity and gas services are also laid on."

"The Gas Board has submitted the advantages of the site to the Board of Trade. The demolition contract has been placed with a Sheffield firm. A large quantity of steel work will probably be re-used by the purchasers," continued Mr. West, "but a lot of it will only be suitable for scrap. Certain plant and equipment which could be re-used for gasworks purposes has been set aside."

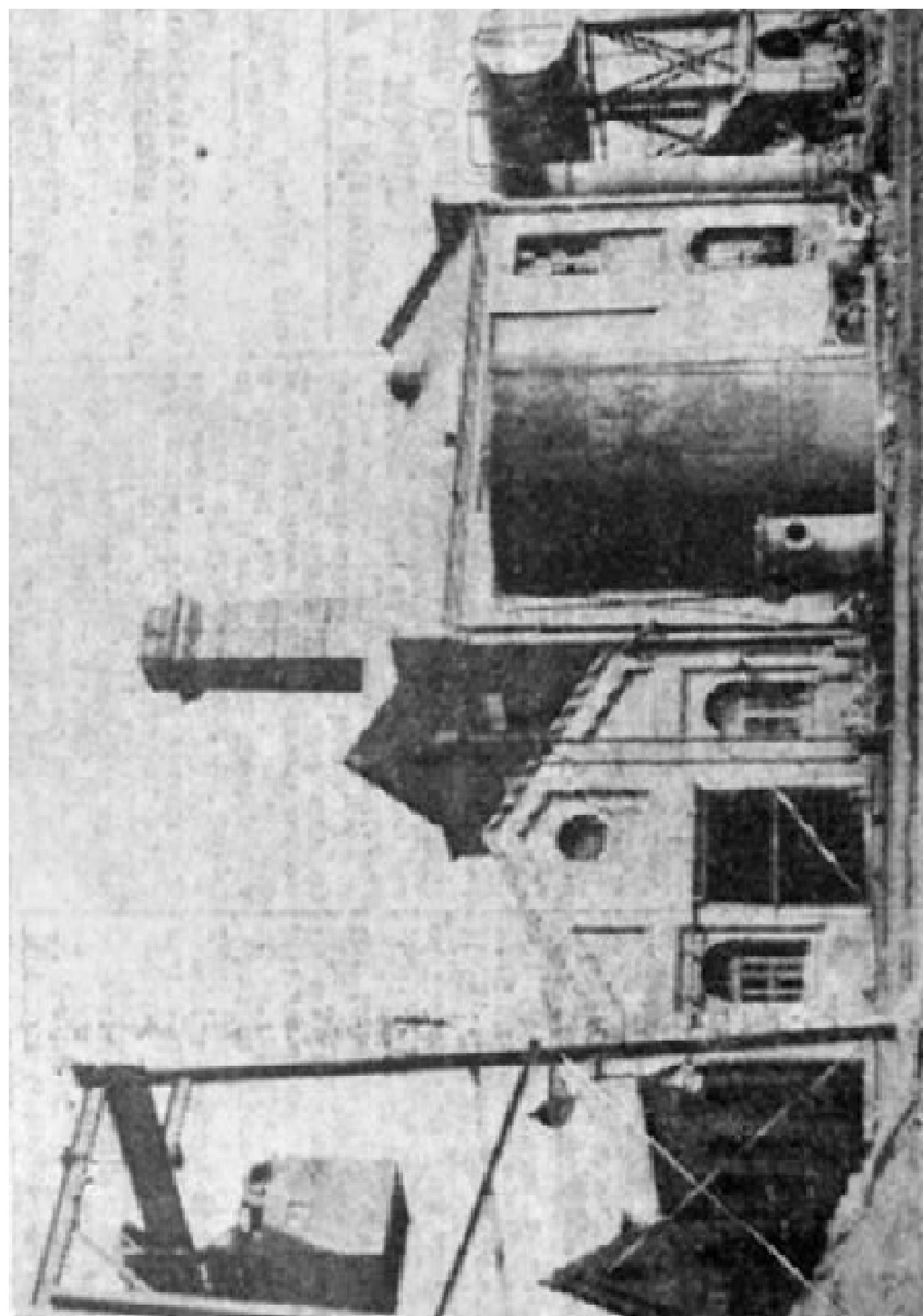
These well-known Merthyr landmarks, the two gasholders, will not, however, be dismantled. Containing about a million cubic feet of gas between them, they will be retained for storage purposes, while part of the site has been earmarked for a third and even larger gasholder.

The cleared site will cover about three acres.

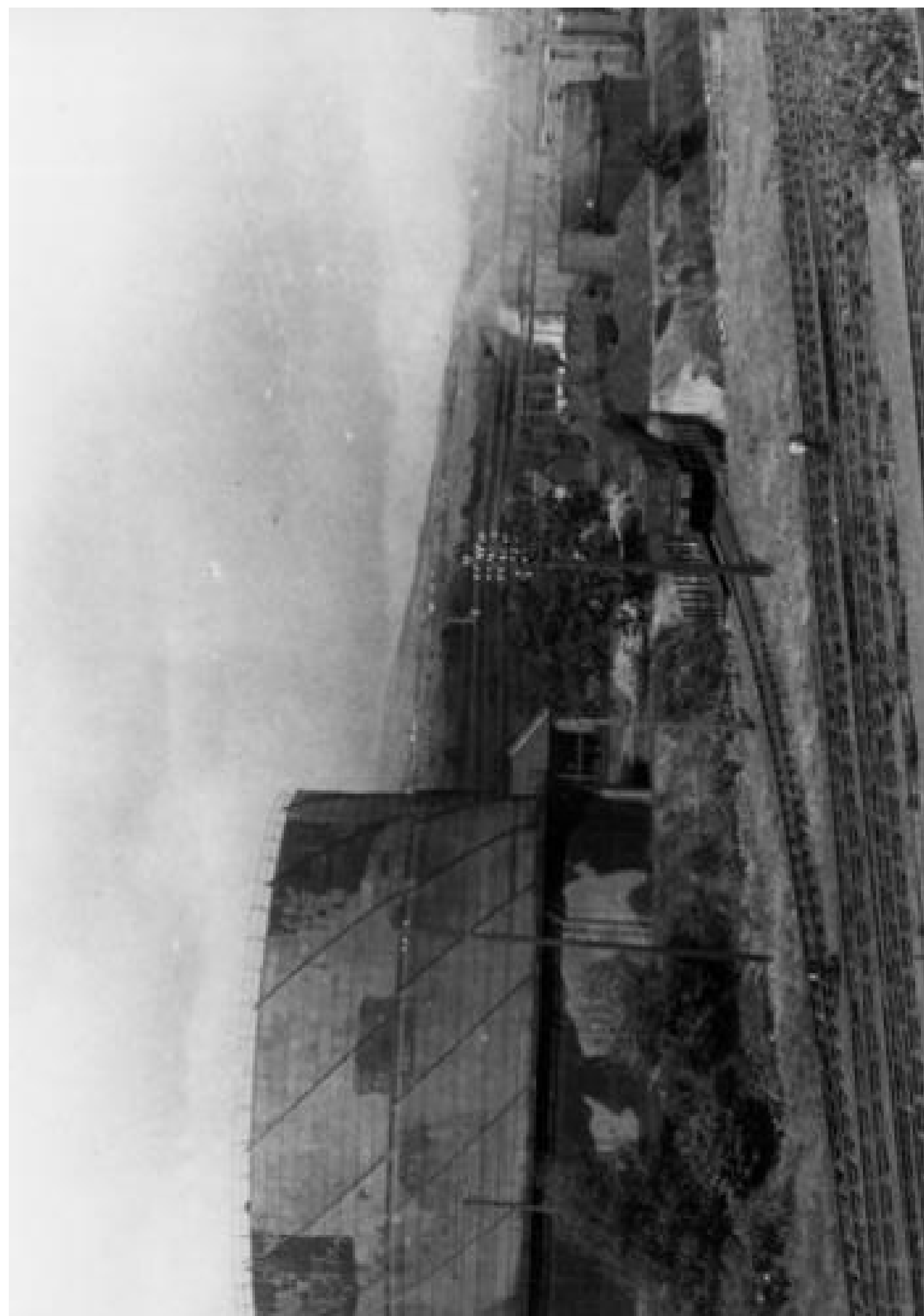
"It is interesting to note," said Mr. West, "that approximately half of the gas used in the Merthyr area is for indus-

PUMPING STATION

Subject to Ministry approval, the Taf Fechan Water Board have accepted the tender of









Multiple Hazard Proforma

All Fields in with asterix are Mandatory Fields and must be completed.
(Some fields have been pre populated, amend as required)

Date of Incident = N/A	Who's involved*: <i>indicate which applies</i>	
	NG Employee:	Contractor:
Incident Time = N/A	Reported by*: J. Howe (Celtic)	
Employee's Name*: <i>(Subjects name)</i>		
Name of Manager notified*: S. Rea	Date & Time Notified*: 12.10.12	
Responsible Department*: Remediation	Contact No*:	
Contractor Name*: Celtic Technologies	Contractor business name*:	
Supervisor's name*: J. Howe	What happened: = Multi Hazard Form	
Incident location*: Willow Works, Merthyr Tydfil <i>(insert 'Various' if multi site)</i>	Incident address*: Willow Works, The Willows, Abercanaid Ind Est, Merthyr Tydfil, CF48 1YF. <i>(insert 'Various' if multi site)</i>	
Source / Object = Multi Hazard Form		

Hazard No.	Type of Hazard	Description of hazard (Maximum 15)	Location of hazard	Action taken e.g., facilities reference.
1	Services	Potential for unchartered services throughout the site prior to SI works.	Throughout the Site	CAT&Genny and Vacuum excavation used to uncover services.
2	Uneven Surfaces / Trip hazard	Areas of spoil deposited throughout the site	Throughout the Site	Excavators used to level areas of the site
3	Asbestos	Chrysotile associated with the pre-fabricated building.	Former NG Storage Depot	Asbestos removed during the demolition works under a duty of care.
4	Leptospirosis	Vermin	Throughout the site	Contractors warned during the site induction of dangers of leptospirosis and that hands are to be washed prior to eating etc.
5				
6				

Multiple Hazard Proforma

All Fields in with asterix are Mandatory Fields and must be completed.
(Some fields have been pre populated, amend as required)

Date of Incident = N/A	Who's involved*: <i>indicate which applies</i>	
	NG Employee:	
Incident Time = N/A	Reported by*: J. Howe (Celtic)	
Employee's Name*: <i>(Subjects name)</i>		
Name of Manager notified*: S. Rea	Date & Time Notified*: 19.10.12	
Responsible Department*: Remediation	Contact No*:	
Contractor Name*: Celtic Technologies	Contractor business name*:	
Supervisor's name*: J. Howe	What happened: = Multi Hazard Form	
Incident location*: Willow Works, Merthyr Tydfil <i>(insert 'Various' if multi site)</i>	Incident address*: Willow Works, The Willows, Abercanaid Ind Est, Merthyr Tydfil, CF48 1YF. <i>(insert 'Various' if multi site)</i>	
Source / Object = Multi Hazard Form		

Hazard No.	Type of Hazard	Description of hazard (Maximum 15)	Location of hazard	Action taken e.g., facilities reference.
1		Wear on the steel rope used by the drill rig has casued it to frey.	At drilling location	Offending piece cut allowing steel rope to be re-looped and clammed.
2	Manual Handling	Heavy Californian chisel used during drilling works.	At Drilling Location	Two man lift required each time plus chisel to be transported by vehicle over any extended distance.
3	Services	WWU onsite to re-trace services within their compound prior to drilling works.	WWU Compound	Line of intermediate /medium pressure gas pipe marked on surface with paint. Heras fencing erected along the line of the pipe as an additional marker.
4	Contamination	Contamination associated with waters splashing drillers.	At Drilling Location	Tyvek suits provided as well as suitable gloves and eye protection.
5				

SHE Multi Hazard Report Template – Issue 3 – 31/12/2010
Multiple Hazard Proforma

All Fields in with asterix are Mandatory Fields and must be completed.
(Some fields have been pre populated, amend as required)

Date of Incident = N/A	Who's involved*: indicate which applies	
	NG Employee:	
Incident Time = N/A	Reported by*: J. Howe (Celtic)	
Employee's Name*: (Subjects name)		
Name of Manager notified*: S. Rea	Date & Time Notified*: 26.10.12	
Responsible Department*: Remediation	Contact No*:	
Contractor Name*: Celtic Technologies	Contractor business name*:	
Supervisor's name*: J. Howe	What happened: = Multi Hazard Form	
Incident location*: Willow Works, Merthyr Tydfil (insert 'Various' if multi site)	Incident address*: Willow Works, The Willows, Abercanaid Ind Est, Merthyr Tydfil, CF48 1YF. (insert 'Various' if multi site)	
Source / Object = Multi Hazard Form		

Hazard No.	Type of Hazard	Description of hazard (Maximum 15)	Location of hazard	Action taken e.g., facilities reference.
1	Chemical	Use of concrete to seal covers - irritant	At borehole locations	Overalls, glasses and gloves used by those involved in the process.
2	Chemical	Vapours associated with drilling location	At drilling location	PID used to monitor the areas and drillers 2 nd man asked to move away from the casing during times of chiselling.
3	Services	Drilling within WWU area	WWU Compound	Permit required and issued, stand off from the gas pipes agreed with WWU due to potential issues with vibration.
4	Chemical	Removal of drilling arisings	Various locations	Overalls, gloves, glasses etc worn during the removal of arising to a designated skip. Excavator used to load arisings into the skip.
5	Working adjacent to River Taff	Slippery and loose pathways when trying to gain access to the riverbank for sampling	Riverbank – outside of site boundary	2 persons undertook the works to reduce risks associated with lone working.

Multiple Hazard Proforma

All Fields in with asterix are Mandatory Fields and must be completed.
(Some fields have been pre populated, amend as required)

Date of Incident = Date of form received	Who's involved*: <i>indicate which applies</i>	
	NG Employee:	Contractor:
Incident Time = Time of form received	Reported by*:	
Name of Manager notified*: S. Rea		
Responsible Department*: Remediation	Contact No*:	
Contractor Name*: Celtic Technologies	Contractor business name*:	
Supervisor's name*: J. Howe	What happened: = Multi Hazard Form	
Incident location*: Willow Works, Merthyr Tydfil <i>(insert 'Various' if multi site)</i>	Incident address*: Willow Works, The Willows, Abercanaid Ind Est, Merthyr Tydfil, CF48 1YF. <i>(insert 'Various' if multi site)</i>	
Name of Manager notified*: S. Rea	Date & Time Notified*: 26.10.12	
Source / Object = Multi Hazard Form		

Hazard No.	Description of hazard (Maximum 15)	Location of hazard	Action taken e.g., facilities reference.
1	Trip – uneven concrete surface	Outside of site cabins	Raised section of concrete covered with gravels to elevate potential trip hazards.
2			
3			
4			