ALcontrol Laboratories

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Greater London
SW19 4DR

Attention: Gary Marshall

PRELIMINARY/INTERIM REPORT

Date:	09 September 2015
Customer:	H_URS_WIM
Sample Delivery Group (SDG):	150828-44
Your Reference:	
Location:	Stag Brewery
Report No:	329060

We received 4 samples on Friday August 28, 2015 and 4 of these samples were scheduled for analysis which was completed on Wednesday September 09, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

This is a preliminary report which has not had final authorisation.

Approved By:

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11977692	BH210		0.80	26/08/2015
11977693	BH210		2.20 - 2.80	26/08/2015
11977694	BH211		0.70	26/08/2015
11977695	BH211		2.20	26/08/2015

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

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	11977692			11977693			11977694			11977695		
			Customer Sample Reference	BH210			BH210			BH211			BH211		
			AGS Reference												
			Depth (m)	0.80			2.20 - 2.80			0.70			2.20		
			Container	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)
Ammonium Soil by Titration	All	NDPs: 0 Tests: 4			X			X			X			X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2			X						X				
Asbestos Quant. - Waste Limit	All	NDPs: 0 Tests: 1			X										
Easily Liberated Sulphide	All	NDPs: 0 Tests: 4			X			X			X			X	
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 4		X			X			X			X		
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 4		X			X			X			X		
GRO by GC-FID (S)	All	NDPs: 0 Tests: 4			X			X			X			X	
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 4			X			X			X			X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 4		X			X			X			X		
PAH by GCMS	All	NDPs: 0 Tests: 4		X			X			X			X		
pH	All	NDPs: 0 Tests: 4			X			X			X			X	
Sample description	All	NDPs: 0 Tests: 4		X			X			X			X		
Total Organic Carbon	All	NDPs: 0 Tests: 4		X			X			X			X		
Total Sulphate	All	NDPs: 0 Tests: 4		X			X			X			X		
TPH CWG GC (S)	All	NDPs: 0 Tests: 4		X			X			X			X		

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
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Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			11977692	BH210		0.80	250g Amber Jar (AL
							400g Tub (ALE214)
							60g VOC (ALE215)
			11977693	BH210		2.20 - 2.80	250g Amber Jar (AL
							400g Tub (ALE214)
							60g VOC (ALE215)
			11977694	BH211		0.70	250g Amber Jar (AL
							400g Tub (ALE214)
							60g VOC (ALE215)
			11977695	BH211		2.20	250g Amber Jar (AL
							400g Tub (ALE214)
							60g VOC (ALE215)
VOC MS (S)	All	NDPs: 0 Tests: 4					
				X			
				X			
				X			
				X			

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**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
11977692	BH210	0.80	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None
11977693	BH210	2.20 - 2.80	Light Brown	Loamy Sand	0.1 - 2 mm	Vegetation	Stones
11977694	BH211	0.70	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	Vegetation
11977695	BH211	2.20	Light Brown	Loamy Sand	0.1 - 2 mm	Stones	Vegetation

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

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

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

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Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH210	BH210	BH211	BH211		
			Depth (m)	0.80	2.20 - 2.80	0.70	2.20		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-44	150828-44	150828-44	150828-44		
			Lab Sample No.(s)	11977692	11977693	11977694	11977695		
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		13	6.9	12	8.9		
Exchangeable Ammonia as NH4	<15 mg/kg	TM024		45.6 M	<15 M	<15 M	<15 M		
Organic Carbon, Total	<0.2 %	TM132		0.358 M	<0.2 M	<0.2 M	<0.2 M		
pH	1 pH Units	TM133		9.67 M	8.35 M	10.3 M	8.66 M		
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #		
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 ♦ #	<15 ♦ #	<15 ♦ #	<15 ♦ #		
Arsenic	<0.6 mg/kg	TM181		23.6 M	20.2 M	11.8 M	19.5 M		
Cadmium	<0.02 mg/kg	TM181		0.449 M	0.341 M	0.347 M	0.391 M		
Chromium	<0.9 mg/kg	TM181		25.9 M	16.6 M	17 M	24.1 M		
Copper	<1.4 mg/kg	TM181		31.2 M	5.29 M	9.01 M	6.47 M		
Lead	<0.7 mg/kg	TM181		32.7 M	5.73 M	44.5 M	7.8 M		
Mercury	<0.14 mg/kg	TM181		<0.14 M	<0.14 M	0.152 M	<0.14 M		
Nickel	<0.2 mg/kg	TM181		24.5 M	21.2 M	16.5 M	22.6 M		
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #	<1 #		
Zinc	<1.9 mg/kg	TM181		43.4 M	21.9 M	41.3 M	28.4 M		
Sulphate, Total	<48 mg/kg	TM221		481 M	<48 M	545 M	88.2 M		

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Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH210	BH210	BH211	BH211		
			Depth (m)	0.80	2.20 - 2.80	0.70	2.20		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-44	150828-44	150828-44	150828-44		
			Lab Sample No.(s)	11977692	11977693	11977694	11977695		
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		103	102	97.1	95.7		
Acenaphthene-d10 % recovery**	%	TM218		98.9	94.5	95.1	96.4		
Phenanthrene-d10 % recovery**	%	TM218		95.9	94.2	92.9	96.8		
Chrysene-d12 % recovery**	%	TM218		92.5	78.5	92	88.1		
Perylene-d12 % recovery**	%	TM218		94.6	86.2	97	95.7		
Naphthalene	<9 µg/kg	TM218		<9 M	<9 M	53.8 M	<9 M		
Acenaphthylene	<12 µg/kg	TM218		<12 M	<12 M	14.8 M	<12 M		
Acenaphthene	<8 µg/kg	TM218		<8 M	<8 M	48.1 M	<8 M		
Fluorene	<10 µg/kg	TM218		<10 M	<10 M	48.6 M	<10 M		
Phenanthrene	<15 µg/kg	TM218		27.7 M	<15 M	352 M	<15 M		
Anthracene	<16 µg/kg	TM218		<16 M	<16 M	78.8 M	<16 M		
Fluoranthene	<17 µg/kg	TM218		47 M	<17 M	389 M	<17 M		
Pyrene	<15 µg/kg	TM218		43.6 M	<15 M	317 M	<15 M		
Benz(a)anthracene	<14 µg/kg	TM218		48.1 M	<14 M	174 M	<14 M		
Chrysene	<10 µg/kg	TM218		28.5 M	<10 M	151 M	<10 M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		38.8 M	<15 M	199 M	<15 M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		18.1 M	<14 M	90.7 M	<14 M		
Benzo(a)pyrene	<15 µg/kg	TM218		30 M	<15 M	147 M	<15 M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		<18 M	<18 M	77.5 M	<18 M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	<23 M	<23 M	<23 M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		28.6 M	<24 M	105 M	<24 M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		311	<118	2250	<118		

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Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH210	BH210	BH211	BH211		
			Depth (m)	0.80	2.20 - 2.80	0.70	2.20		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-44	150828-44	150828-44	150828-44		
			Lab Sample No.(s)	11977692	11977693	11977694	11977695		
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		105	119	109	110		
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089		<44 M	<44 M	5160 M	<44 M		
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 M	<5 M	<5 M	<5 M		
Benzene	<10 µg/kg	TM089		<10 M	<10 M	<10 M	<10 M		
Toluene	<2 µg/kg	TM089		<2 M	<2 M	<2 M	<2 M		
Ethylbenzene	<3 µg/kg	TM089		<3 M	<3 M	<3 M	<3 M		
m,p-Xylene	<6 µg/kg	TM089		<6 M	<6 M	<6 M	<6 M		
o-Xylene	<3 µg/kg	TM089		<3 M	<3 M	<3 M	<3 M		
sum of detected mpo xylene by GC	<9 µg/kg	TM089		<9	<9	<9	<9		
sum of detected BTEX by GC	<24 µg/kg	TM089		<24	<24	<24	<24		
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	<10		
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	34.2	<10		
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	1010	13.1		
Aliphatics >C10-C12	<10 µg/kg	TM089		<10	<10	2060	<10		
Aliphatics >C12-C16	<100 µg/kg	TM173		<100	<100	15100	<100		
Aliphatics >C16-C21	<100 µg/kg	TM173		3150	<100	23200	<100		
Aliphatics >C21-C35	<100 µg/kg	TM173		18600	<100	57300	<100		
Aliphatics >C35-C44	<100 µg/kg	TM173		1920	<100	10600	<100		
Total Aliphatics >C12-C44	<100 µg/kg	TM173		23700	<100	106000	<100		
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10		
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	671	<10		
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	<10	1380	<10		
Aromatics >EC12-EC16	<100 µg/kg	TM173		<100	<100	4150	<100		
Aromatics >EC16-EC21	<100 µg/kg	TM173		<100	<100	10500	<100		
Aromatics >EC21-EC35	<100 µg/kg	TM173		4960	<100	26600	<100		
Aromatics >EC35-EC44	<100 µg/kg	TM173		1400	<100	10500	<100		
Aromatics >EC40-EC44	<100 µg/kg	TM173		<100	<100	3890	<100		
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		6360	<100	51900	<100		
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		30000	<100	163000	<100		

PRELIMINARY/INTERIM REPORT

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Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH210	BH210	BH211	BH211		
			Depth (m)	0.80	2.20 - 2.80	0.70	2.20		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-44	150828-44	150828-44	150828-44		
			Lab Sample No.(s)	11977692	11977693	11977694	11977695		
			AGS Reference						
Dibromofluoromethane**	%	TM116		130	119	128	123		
Toluene-d8**	%	TM116		102	111	103	111		
4-Bromofluorobenzene**	%	TM116		89.8	102	94.5	102		
Dichlorodifluoromethane	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M		
Chloromethane	<7 µg/kg	TM116		<7 #	<7 #	<7 #	<7 #		
Vinyl Chloride	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M		
Bromomethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Chloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Trichlorofluorormethane	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M		
1,1-Dichloroethene	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
Carbon Disulphide	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M		
Dichloromethane	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
trans-1,2-Dichloroethene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,1-Dichloroethane	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M		
cis-1,2-Dichloroethene	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M		
2,2-Dichloropropane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Bromochloromethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Chloroform	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M		
1,1,1-Trichloroethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M		
1,1-Dichloropropene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Carbontetrachloride	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,2-Dichloroethane	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M		
Benzene	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M		
Trichloroethene	<9 µg/kg	TM116		<9 #	<9 #	<9 #	<9 #		
1,2-Dichloropropane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Dibromomethane	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M		
Bromodichloromethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M		
cis-1,3-Dichloropropene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Toluene	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M		
trans-1,3-Dichloropropene	<10 µg/kg	TM116		<10	<10	<10	<10		
1,1,2-Trichloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		

PRELIMINARY/INTERIM REPORT

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Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
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aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
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**	% 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
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1-5&+§@	Sample deviation (see appendix)

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			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-44	150828-44	150828-44	150828-44		
			Lab Sample No.(s)	11977692	11977693	11977694	11977695		
			AGS Reference						
1,3-Dichloropropane	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M		
Tetrachloroethene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M		
Dibromochloromethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,2-Dibromoethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Chlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M		
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Ethylbenzene	<4 µg/kg	TM116		<4 M	<4 M	<4 M	<4 M		
p/m-Xylene	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
o-Xylene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Styrene	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
Bromoform	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Isopropylbenzene	<5 µg/kg	TM116		<5 #	<5 #	<5 #	<5 #		
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,2,3-Trichloropropane	<16 µg/kg	TM116		<16 M	<16 M	<16 M	<16 M		
Bromobenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Propylbenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
2-Chlorotoluene	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M		
1,3,5-Trimethylbenzene	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M		
4-Chlorotoluene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
tert-Butylbenzene	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 M		
1,2,4-Trimethylbenzene	<9 µg/kg	TM116		<9 #	<9 #	<9 #	<9 #		
sec-Butylbenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
4-Isopropyltoluene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,3-Dichlorobenzene	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M		
1,4-Dichlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M		
n-Butylbenzene	<11 µg/kg	TM116		<11	<11	<11	<11		
1,2-Dichlorobenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 M		
Tert-amyl methyl ether	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
1,2,4-Trichlorobenzene	<20 µg/kg	TM116		<20	<20	<20	<20		
Hexachlorobutadiene	<20 µg/kg	TM116		<20	<20	<20	<20		
Naphthalene	<13 µg/kg	TM116		<13 M	<13 M	<13 M	<13 M		

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH210	BH210	BH211	BH211		
			Depth (m)	0.80	2.20 - 2.80	0.70	2.20		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-44	150828-44	150828-44	150828-44		
			Lab Sample No.(s)	11977692	11977693	11977694	11977695		
			AGS Reference						
1,2,3-Trichlorobenzene	<20 µg/kg	TM116		<20 #	<20 #	<20 #	<20 #		

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BH210 0.80 SOLID 26/08/2015 00:00:00 29/08/2015 10:30:50 150828-44 11977692 TM048	03/09/2015	Rebecca Rawlings	Loose fibres in soil	Trace (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BH211 0.70 SOLID 26/08/2015 00:00:00 29/08/2015 10:17:28 150828-44 11977694 TM048	03/09/2015	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM 304				
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer		

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

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11977692	11977693	11977694	11977695
Customer Sample Ref.	BH210	BH210	BH211	BH211
AGS Ref.				
Depth	0.80	2.20 - 2.80	0.70	2.20
Type	SOLID	SOLID	SOLID	SOLID
Ammonium Soil by Titration	09-Sep-2015	08-Sep-2015	09-Sep-2015	08-Sep-2015
Asbestos ID in Solid Samples	03-Sep-2015		03-Sep-2015	
Easily Liberated Sulphide	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015
EPH CWG (Aliphatic) GC (S)	04-Sep-2015	03-Sep-2015	04-Sep-2015	03-Sep-2015
EPH CWG (Aromatic) GC (S)	04-Sep-2015	03-Sep-2015	04-Sep-2015	03-Sep-2015
GRO by GC-FID (S)	04-Sep-2015	02-Sep-2015	07-Sep-2015	02-Sep-2015
Hexavalent Chromium (s)	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015
Metals in solid samples by OES	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015
PAH by GCMS	03-Sep-2015	03-Sep-2015	03-Sep-2015	03-Sep-2015
pH	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015
Sample description	29-Aug-2015	28-Aug-2015	29-Aug-2015	28-Aug-2015
Total Organic Carbon	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015
Total Sulphate	08-Sep-2015	04-Sep-2015	07-Sep-2015	04-Sep-2015
TPH CWG GC (S)	04-Sep-2015	03-Sep-2015	07-Sep-2015	03-Sep-2015
VOC MS (S)	02-Sep-2015	02-Sep-2015	02-Sep-2015	02-Sep-2015

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

ASSOCIATED AQC DATA

Ammonium Soil by Titration

Component	Method Code	QC 1292	QC 1205
Exchangeable Ammonium as NH4	TM024	**86.07** 79.30 : 104.61	**98.01** 79.30 : 104.61

Easily Liberated Sulphide

Component	Method Code	QC 1219	QC 1231
Easily Liberated Sulphide	TM180	**93.21** 49.14 : 123.89	**94.71** 49.14 : 123.89

EPH CWG (Aliphatic) GC (S)

Component	Method Code	QC 1165	QC 1197
Total Aliphatics >C12-C35	TM173	**97.92** 69.19 : 111.75	**92.08** 71.67 : 116.67

EPH CWG (Aromatic) GC (S)

Component	Method Code	QC 1197
Total Aromatics >EC12-EC35	TM173	**85.33** 59.92 : 107.95

GRO by GC-FID (S)

Component	Method Code	QC 1100	QC 1290	QC 1294
Benzene by GC (Moisture Corrected)	TM089	**110.0** 82.67 : 117.96	**100.0** 76.23 : 120.71	**101.5** 79.00 : 121.00
Ethylbenzene by GC (Moisture Corrected)	TM089	**110.5** 80.45 : 118.61	**100.5** 73.32 : 122.02	**104.0** 79.00 : 121.00
m & p Xylene by GC (Moisture Corrected)	TM089	**110.0** 79.25 : 119.43	**100.75** 72.90 : 122.64	**104.25** 79.00 : 121.00
MTBE GC-FID (Moisture Corrected)	TM089	**114.5** 79.10 : 122.51	**101.0** 72.17 : 124.81	**106.5** 74.48 : 125.29
o Xylene by GC (Moisture Corrected)	TM089	**111.5** 80.03 : 117.19	**100.5** 71.65 : 124.40	**104.5** 79.00 : 121.00
QC	TM089	**102.79** 75.74 : 124.65	**105.5** 55.00 : 145.00	**98.6** 73.70 : 123.60
Toluene by GC (Moisture Corrected)	TM089	**110.5** 82.06 : 117.54	**100.5** 74.60 : 120.38	**102.5** 79.00 : 121.00

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Hexavalent Chromium (s)

Component	Method Code	QC 1299	QC 1285
Hexavalent Chromium	TM151	**100.0** 92.20 : 106.60	**102.0** 92.20 : 106.60

Metals in solid samples by OES

Component	Method Code	QC 1206	QC 1292
Aluminium	TM181	**99.23** 86.49 : 129.71	**108.46** 86.49 : 129.71
Antimony	TM181	**94.27** 77.50 : 122.50	**95.34** 77.50 : 122.50
Arsenic	TM181	**92.92** 82.63 : 117.37	**92.92** 82.63 : 117.37
Barium	TM181	**96.24** 79.45 : 120.55	**99.25** 79.45 : 120.55
Beryllium	TM181	**98.91** 85.92 : 121.27	**100.31** 85.92 : 121.27
Boron	TM181	**105.34** 77.41 : 143.83	**109.92** 77.41 : 143.83
Cadmium	TM181	**95.8** 81.95 : 118.05	**95.63** 81.95 : 118.05
Chromium	TM181	**93.33** 81.29 : 118.71	**96.47** 81.29 : 118.71
Cobalt	TM181	**95.83** 83.86 : 116.14	**96.67** 83.86 : 116.14
Copper	TM181	**97.7** 78.57 : 121.43	**98.51** 78.57 : 121.43
Iron	TM181	**95.86** 87.50 : 122.82	**101.38** 87.50 : 122.82
Lead	TM181	**93.7** 74.18 : 117.25	**92.91** 74.18 : 117.25
Manganese	TM181	**100.0** 82.91 : 117.09	**100.0** 82.91 : 117.09
Mercury	TM181	**94.3** 81.99 : 118.01	**93.47** 81.99 : 118.01
Molybdenum	TM181	**92.2** 81.45 : 118.55	**92.36** 81.45 : 118.55
Nickel	TM181	**95.93** 79.64 : 120.36	**97.67** 79.64 : 120.36
Phosphorus	TM181	**97.76** 81.03 : 118.97	**97.32** 81.03 : 118.97
Selenium	TM181	**105.3** 87.05 : 121.93	**105.47** 87.05 : 121.93
Strontium	TM181	**98.08** 83.64 : 116.36	**98.47** 83.64 : 116.36
Thallium	TM181	**87.56** 77.50 : 122.50	**91.38** 77.50 : 122.50
Tin	TM181	**92.03** 78.30 : 113.98	**92.69** 78.30 : 113.98
Titanium	TM181	**103.91** 71.02 : 128.98	**103.13** 71.02 : 128.98

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Metals in solid samples by OES

		QC 1206	QC 1292
Vanadium	TM181	**93.53** 86.61 : 113.39	**95.0** 86.61 : 113.39
Zinc	TM181	**97.73** 89.82 : 114.54	**98.05** 89.82 : 114.54

PAH by GCMS

Component	Method Code	QC 1134	QC 1154	QC 1106
Acenaphthene	TM218	**88.5** 78.41 : 114.87	**92.0** 77.34 : 118.20	**91.5** 78.84 : 114.36
Acenaphthylene	TM218	**80.5** 72.38 : 111.60	**86.5** 62.65 : 116.35	**85.5** 65.50 : 119.50
Anthracene	TM218	**89.5** 72.78 : 117.53	**89.5** 73.54 : 114.21	**91.0** 75.54 : 110.88
Benz(a)anthracene	TM218	**88.0** 79.50 : 130.50	**102.5** 74.99 : 132.24	**97.5** 78.02 : 127.38
Benzo(a)pyrene	TM218	**91.0** 79.50 : 130.50	**102.0** 80.75 : 127.25	**99.5** 79.21 : 128.01
Benzo(b)fluoranthene	TM218	**87.5** 78.10 : 127.57	**99.5** 75.84 : 127.12	**96.0** 86.21 : 131.42
Benzo(ghi)perylene	TM218	**95.0** 81.67 : 122.61	**97.0** 74.74 : 124.03	**95.0** 80.11 : 120.52
Benzo(k)fluoranthene	TM218	**97.0** 81.20 : 118.10	**98.0** 80.00 : 125.00	**97.0** 78.77 : 120.72
Chrysene	TM218	**94.5** 80.60 : 117.80	**98.0** 77.24 : 120.84	**94.5** 78.77 : 118.99
Dibenzo(ah)anthracene	TM218	**104.0** 77.93 : 124.42	**96.5** 76.00 : 122.50	**93.5** 76.39 : 122.63
Fluoranthene	TM218	**91.5** 80.39 : 114.39	**92.5** 78.51 : 118.75	**95.0** 77.25 : 117.75
Fluorene	TM218	**92.0** 79.50 : 118.50	**93.0** 76.95 : 117.18	**95.5** 79.28 : 117.35
Indeno(123cd)pyrene	TM218	**100.0** 80.30 : 128.30	**98.5** 75.34 : 127.46	**93.0** 78.87 : 122.50
Naphthalene	TM218	**97.5** 82.25 : 118.25	**95.0** 76.24 : 112.91	**93.0** 74.75 : 118.25
Phenanthrene	TM218	**95.5** 71.53 : 114.48	**93.5** 76.49 : 119.30	**95.0** 78.61 : 113.98
Pyrene	TM218	**91.5** 79.12 : 114.39	**91.0** 78.25 : 118.17	**94.0** 76.15 : 115.26

pH

Component	Method Code	QC 1218	QC 1227
pH	TM133	**100.25** 97.19 : 102.81	**100.5** 97.19 : 102.81

Total Organic Carbon

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Total Organic Carbon

Component	Method Code	QC 1245	QC 1297
Total Organic Carbon	TM132	**98.17** 89.40 : 103.09	**97.72** 89.40 : 103.09

Total Sulphate

Component	Method Code	QC 1235	QC 1273	QC 1292
Total Sulphate	TM221	**102.27** 78.49 : 121.51	**103.79** 78.49 : 121.51	**99.24** 78.49 : 121.51

VOC MS (S)

Component	Method Code	QC 1172	QC 1128
1,1,1,2-tetrachloroethane	TM116	**101.0** 76.60 : 121.00	**95.6** 83.24 : 124.28
1,1,1-Trichloroethane	TM116	**96.2** 77.80 : 123.40	**100.8** 81.77 : 121.07
1,1,2-Trichloroethane	TM116	**90.6** 75.40 : 119.80	**100.4** 79.24 : 112.23
1,1-Dichloroethane	TM116	**99.8** 80.84 : 124.49	**103.0** 72.58 : 116.06
1,2-Dichloroethane	TM116	**104.8** 91.00 : 135.67	**118.8** 77.50 : 122.50
1,4-Dichlorobenzene	TM116	**105.6** 80.88 : 114.60	**96.2** 73.23 : 116.39
2-Chlorotoluene	TM116	**94.2** 74.00 : 117.20	**85.6** 69.22 : 110.64
4-Chlorotoluene	TM116	**90.2** 71.20 : 113.20	**89.0** 68.57 : 106.26
Benzene	TM116	**97.6** 79.60 : 125.20	**103.2** 84.33 : 124.27
Carbon Disulphide	TM116	**99.4** 74.91 : 122.14	**110.4** 77.20 : 122.80
Carbontetrachloride	TM116	**100.2** 76.80 : 121.20	**98.2** 84.20 : 119.90
Chlorobenzene	TM116	**102.0** 83.47 : 116.82	**102.4** 85.28 : 129.96
Chloroform	TM116	**98.4** 82.00 : 128.80	**108.2** 82.73 : 119.72
Chloromethane	TM116	**117.2** 74.62 : 135.86	**123.4** 55.16 : 145.46
Cis-1,2-Dichloroethene	TM116	**103.6** 81.20 : 128.00	**108.4** 73.56 : 118.93
Dibromomethane	TM116	**88.4** 73.40 : 116.60	**104.4** 73.40 : 116.60
Dichloromethane	TM116	**101.6** 86.60 : 137.00	**113.2** 76.16 : 121.98

PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

		QC 1172	QC 1128
Ethylbenzene	TM116	**96.6** 73.60 : 115.60	**94.0** 80.07 : 125.98
Hexachlorobutadiene	TM116	**114.0** 33.65 : 130.56	**69.0** 30.92 : 132.28
Isopropylbenzene	TM116	**92.0** 72.52 : 117.52	**82.6** 69.27 : 125.32
Naphthalene	TM116	**107.0** 83.23 : 126.48	**110.0** 79.15 : 121.98
o-Xylene	TM116	**92.4** 69.60 : 110.40	**77.6** 75.46 : 111.52
p/m-Xylene	TM116	**94.1** 71.30 : 112.70	**90.2** 76.97 : 121.75
Sec-Butylbenzene	TM116	**116.4** 59.20 : 125.20	**69.6** 49.27 : 129.90
Tetrachloroethene	TM116	**104.6** 85.92 : 127.92	**102.2** 87.96 : 133.65
Toluene	TM116	**90.2** 76.08 : 110.17	**99.0** 79.23 : 114.58
Trichloroethene	TM116	**96.4** 78.17 : 121.37	**94.6** 84.09 : 114.24
Trichlorofluoromethane	TM116	**102.2** 83.78 : 132.82	**107.4** 76.22 : 114.82
Vinyl Chloride	TM116	**94.6** 66.81 : 138.46	**98.2** 59.68 : 118.68

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

PRELIMINARY/INTERIM REPORT

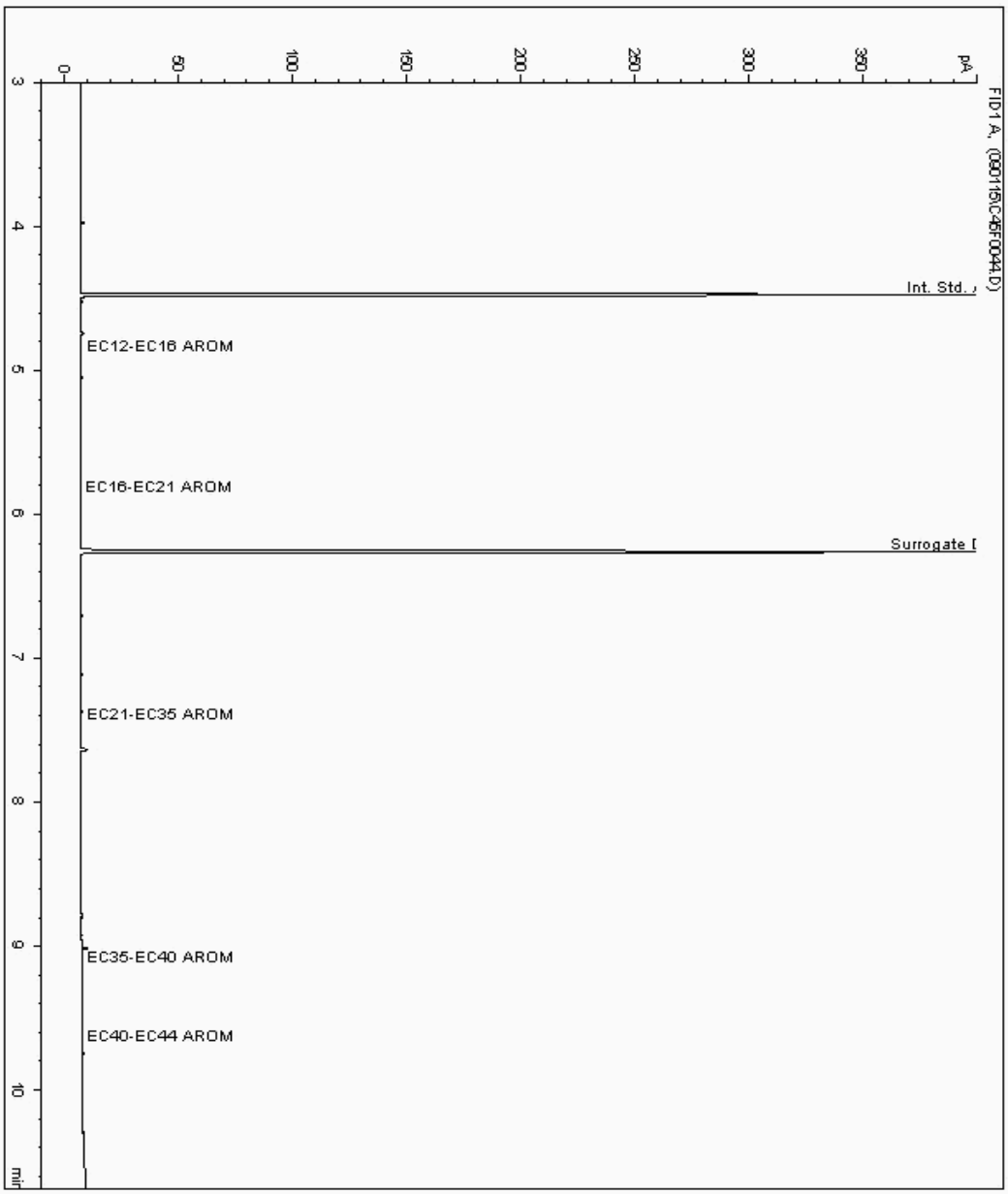
SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S) **Sample No :** 11980752 **Sample ID :** BH210 **Depth :** 2.20 - 2.80

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

Sample Identity: 11364106-
Date Acquired : 02/09/15 06:29:40 PM
Units : ppb
Dilution: BH210[2.20 - 2.80] ->



PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

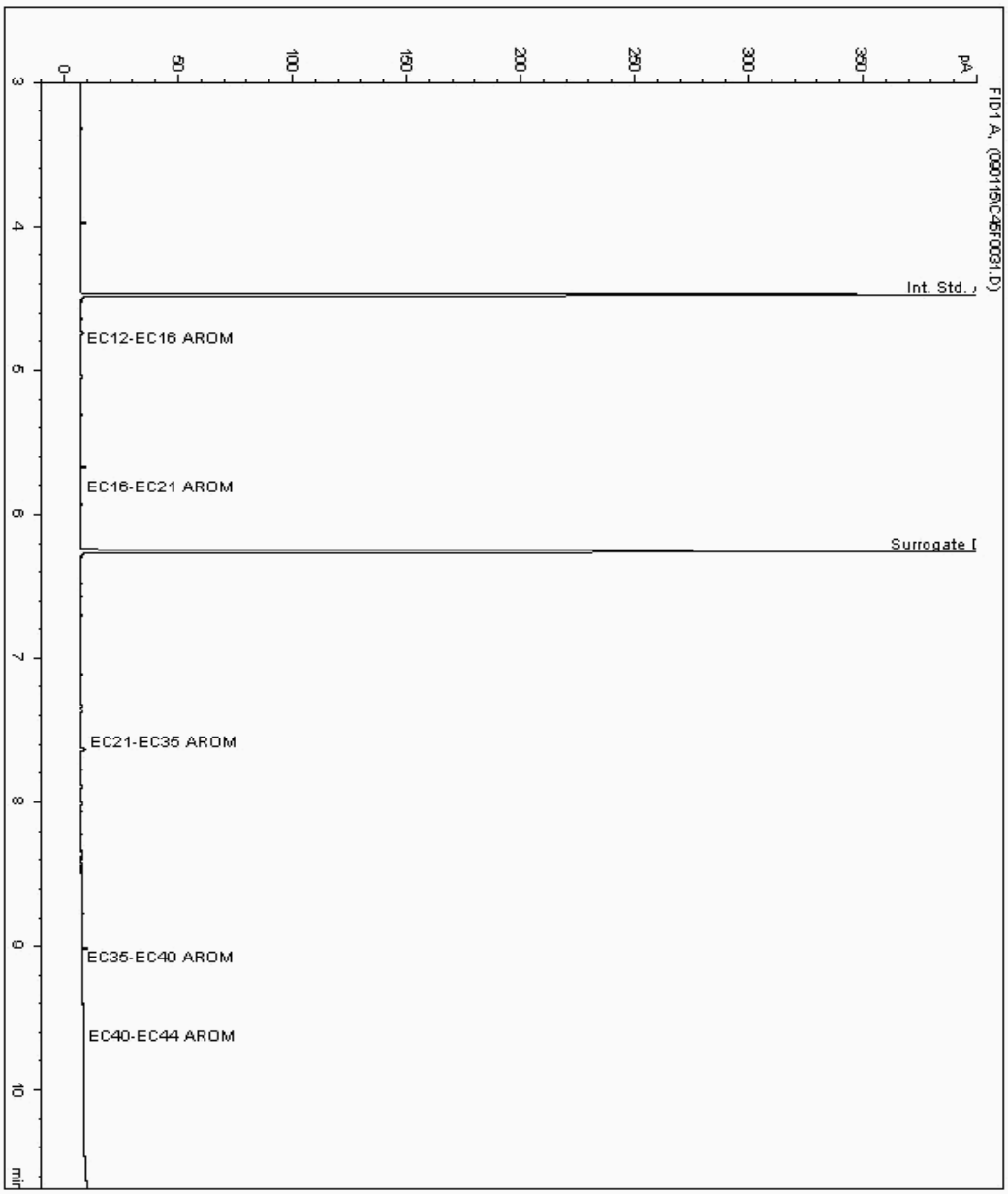
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11980788
Sample ID : BH211

Depth : 2.20

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

Sample Identity: l1364130-
Date Acquired : 02/09/15 02:28:55 PM
Units : ppb
Dilution: BH211[2.20] ->



PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

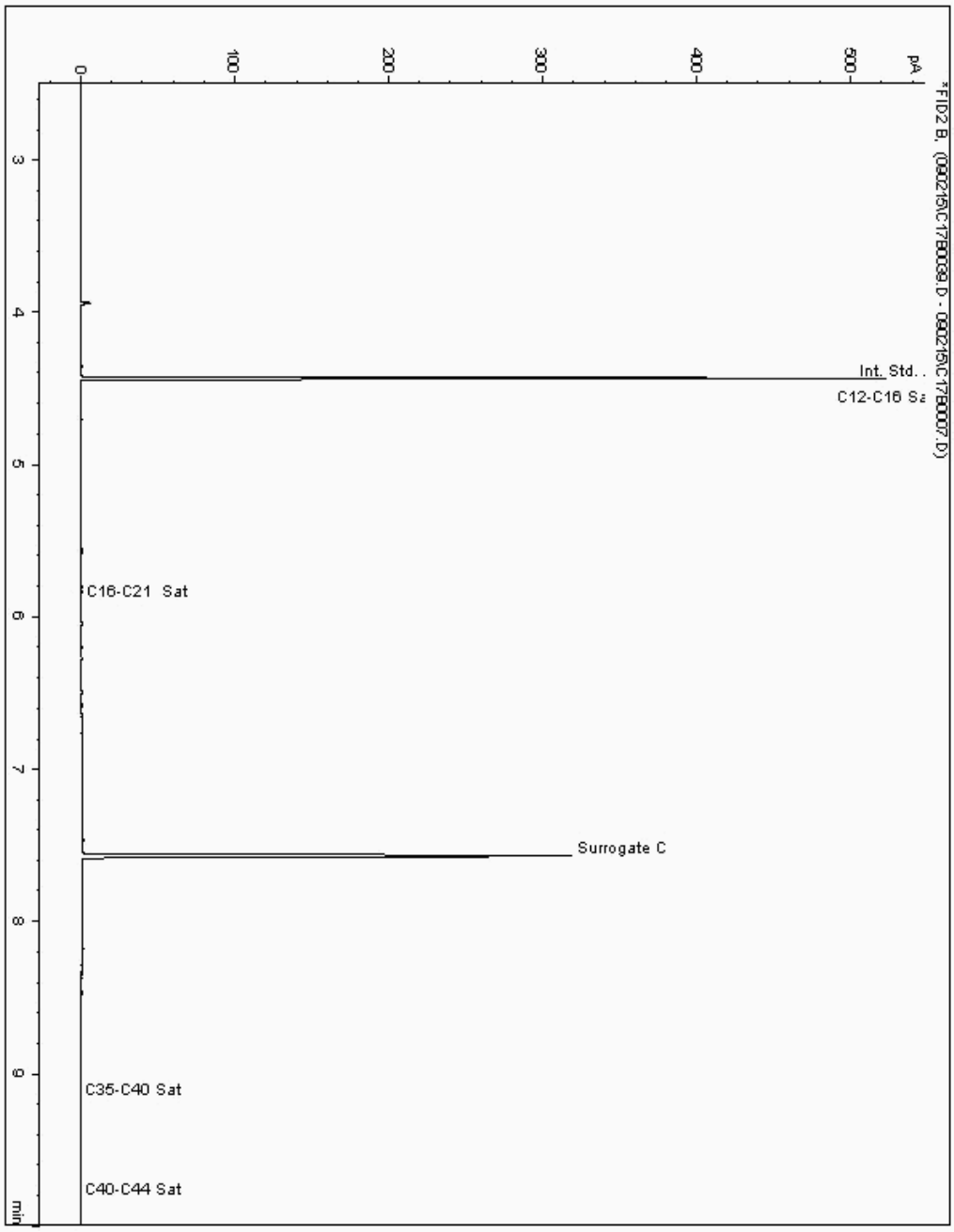
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11982958
Sample ID : BH210

Depth : 0.80

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

Sample Identity: 11364091-
Date Acquired : 03/09/2015 00:07:46 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.980



PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

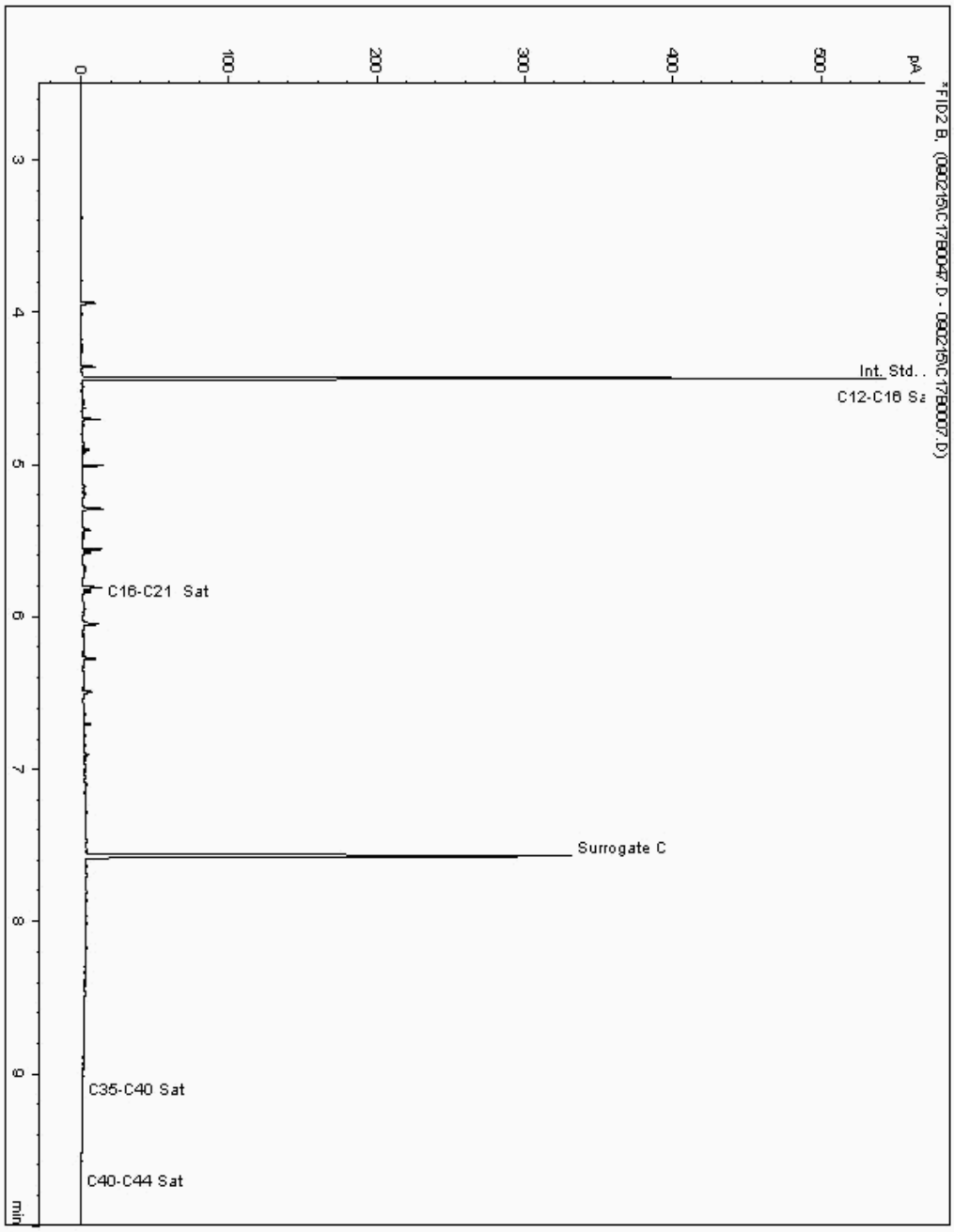
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11983028
Sample ID : BH211

Depth : 0.70

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

Sample Identity: 11364117-
Date Acquired : 03/09/2015 02:19:12 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.960

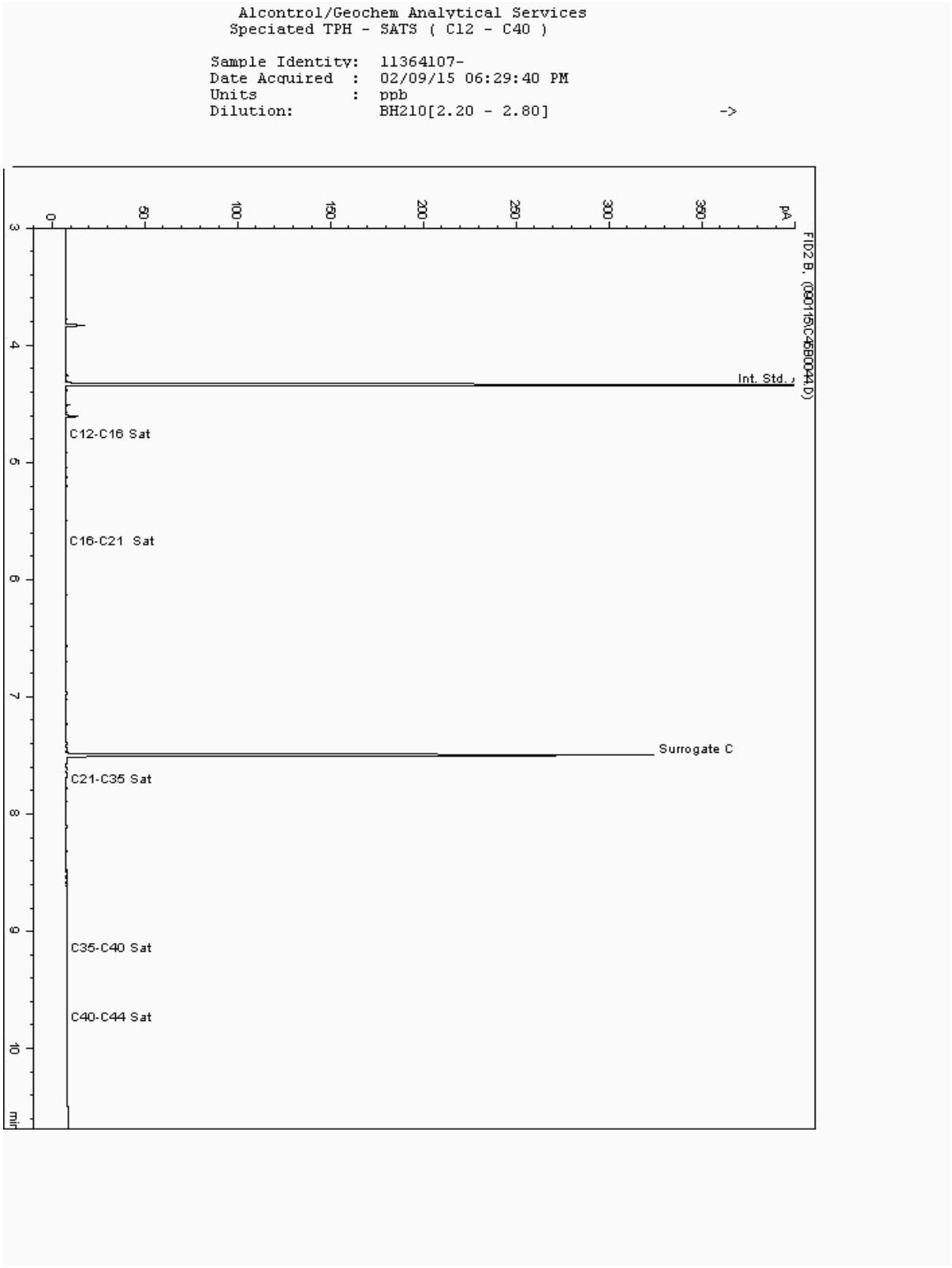


PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S) **Sample No :** 11980752 **Sample ID :** BH210 **Depth :** 2.20 - 2.80

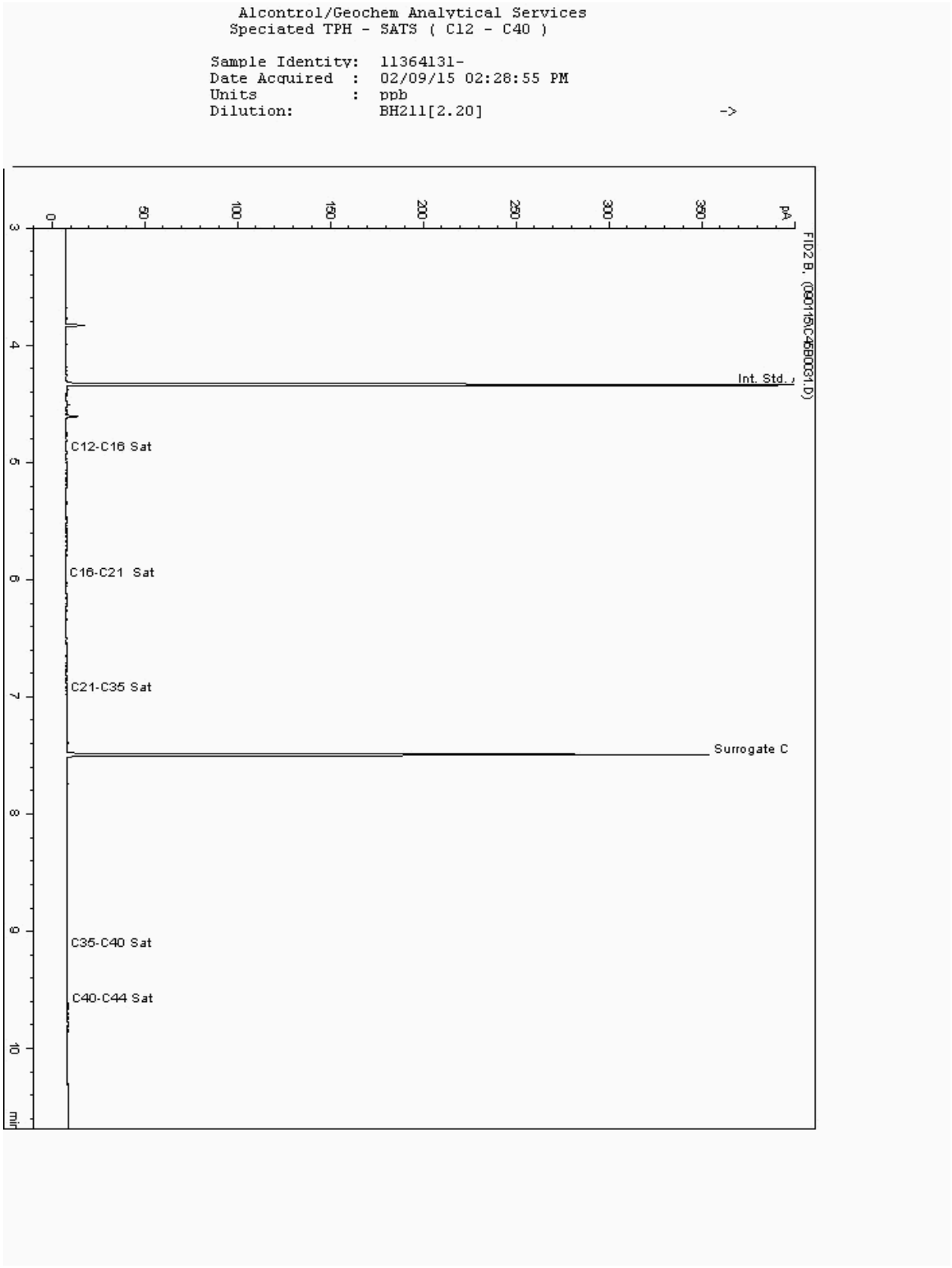


PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S) **Sample No :** 11980788 **Sample ID :** BH211 **Depth :** 2.20



PRELIMINARY/INTERIM REPORT

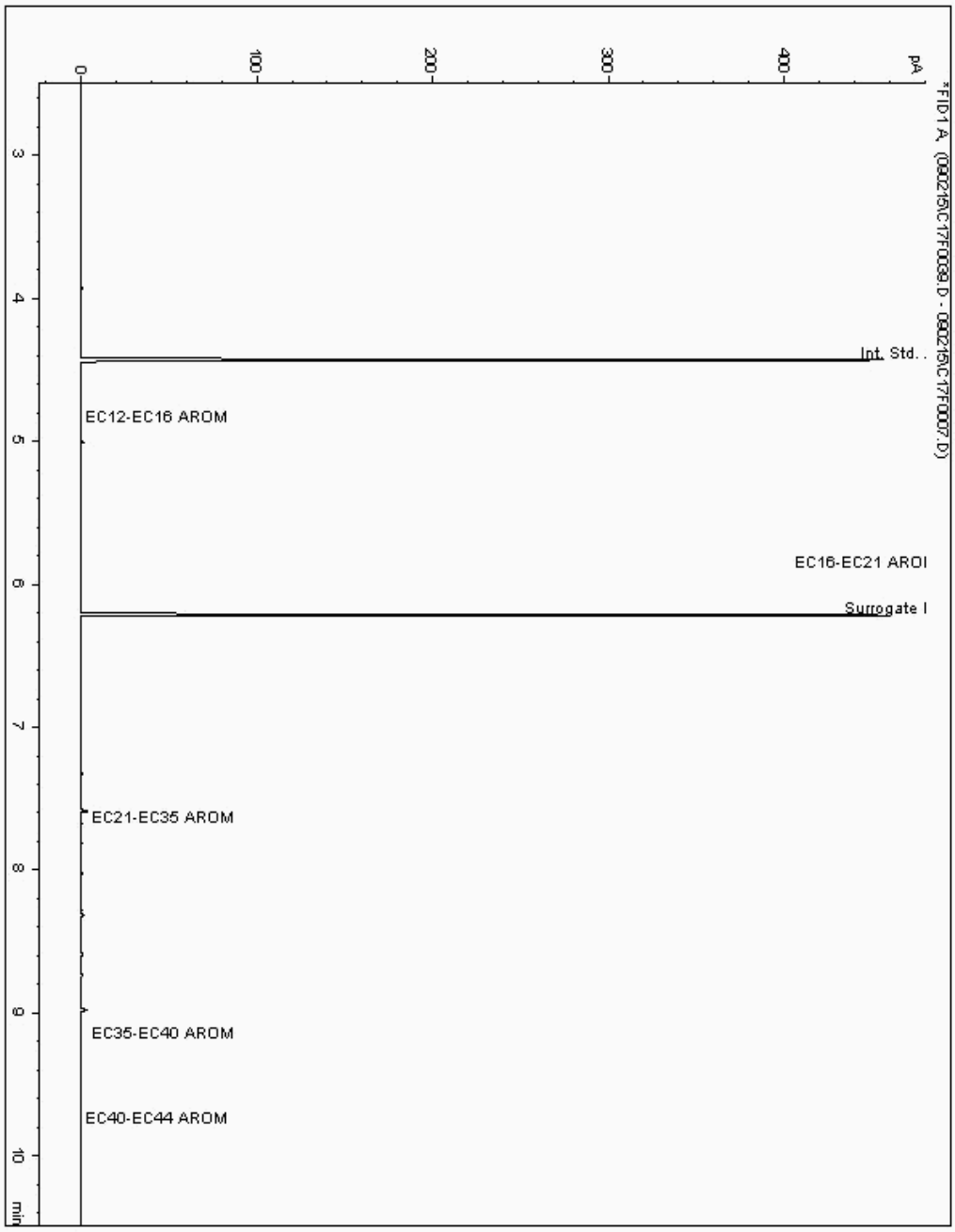
SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S) **Sample No :** 11982958 **Sample ID :** BH210 **Depth :** 0.80

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

Sample Identity: 11364092-
Date Acquired : 03/09/2015 00:07:46 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.980



PRELIMINARY/INTERIM REPORT

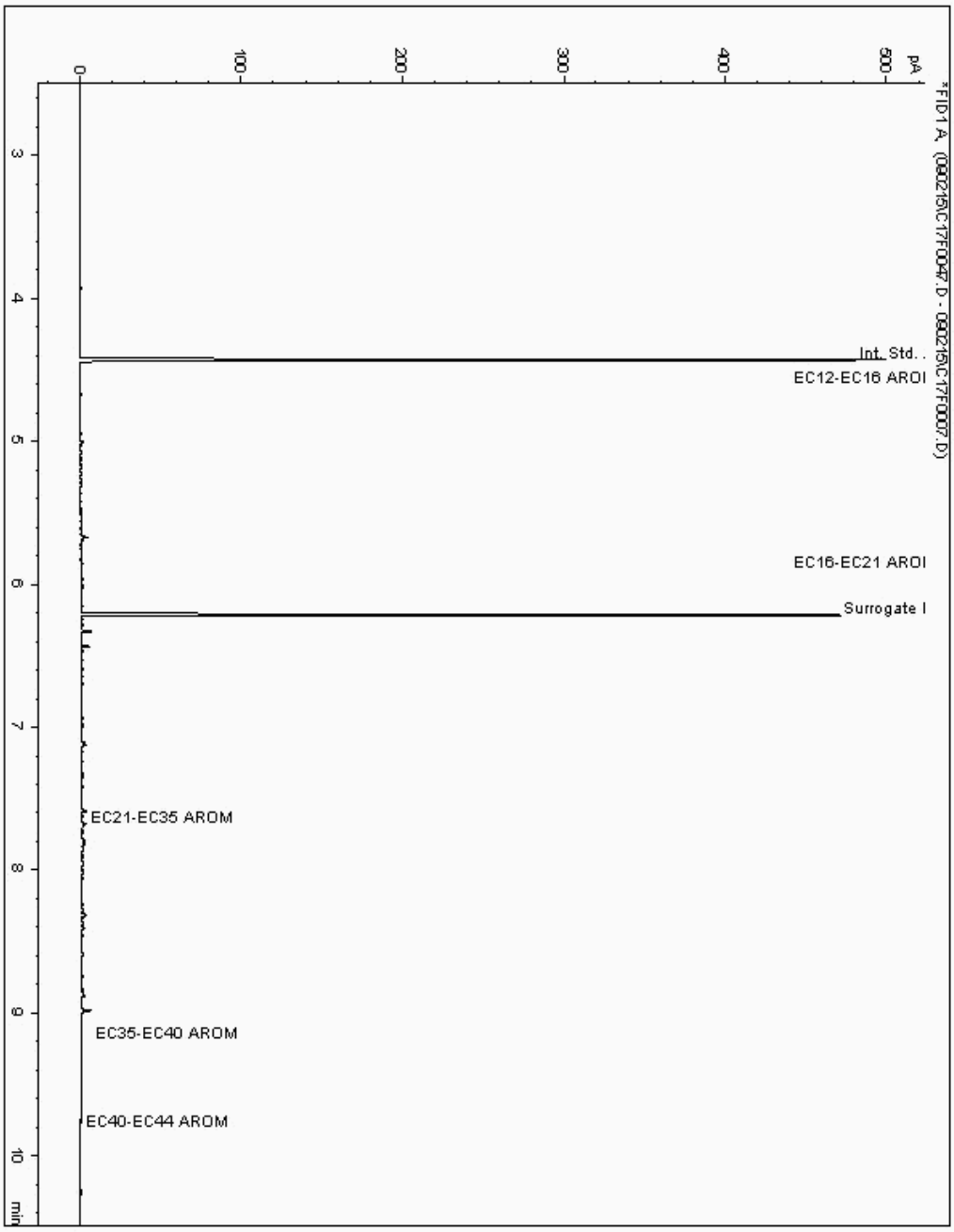
SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S) **Sample No :** 11983028 **Sample ID :** BH211 **Depth :** 0.70

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

Sample Identity: 11364118-
Date Acquired : 03/09/2015 02:19:11 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.960



PRELIMINARY/INTERIM REPORT

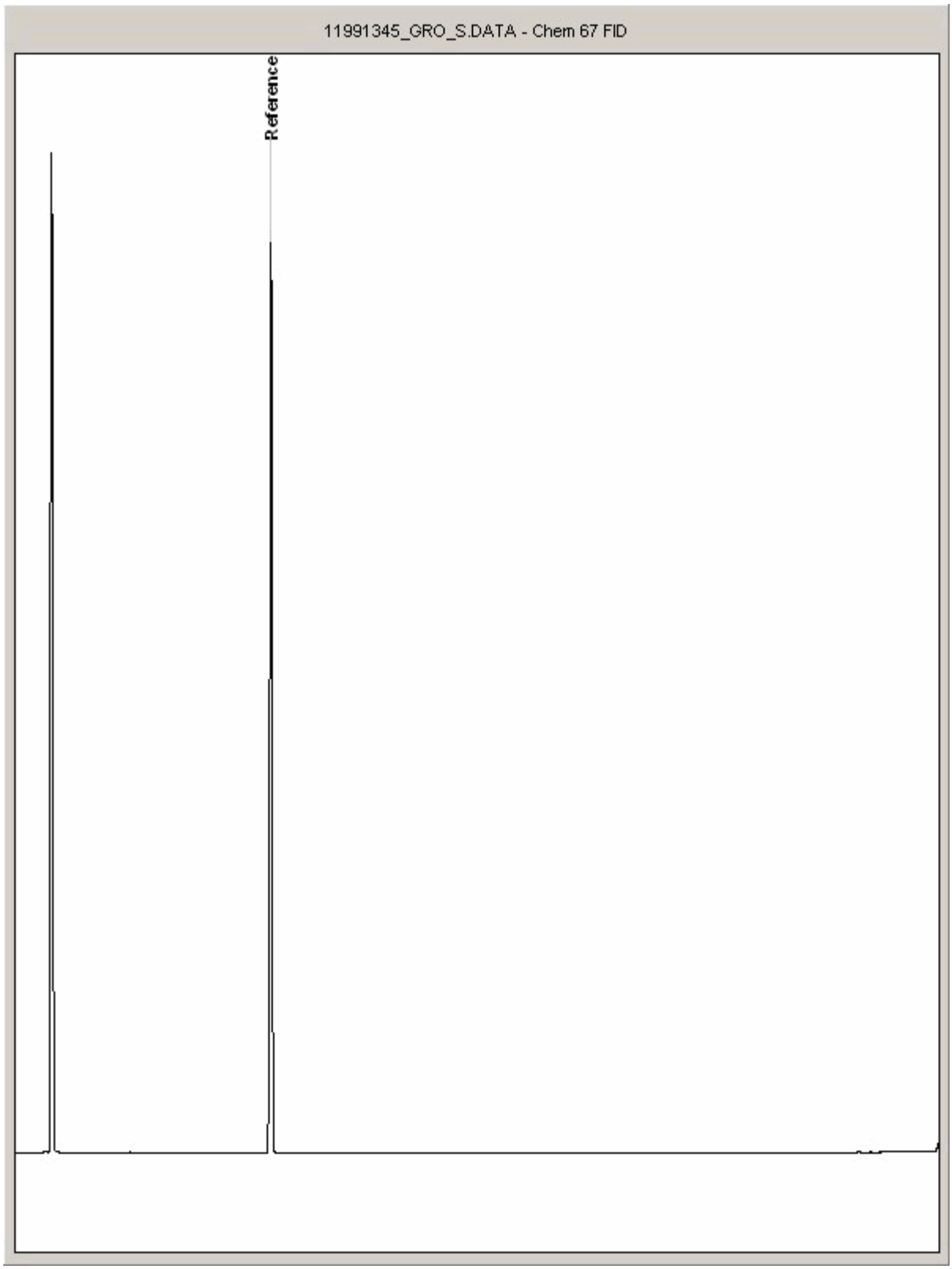
SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11991345
Sample ID : BH210

Depth : 2.20 - 2.80



PRELIMINARY/INTERIM REPORT

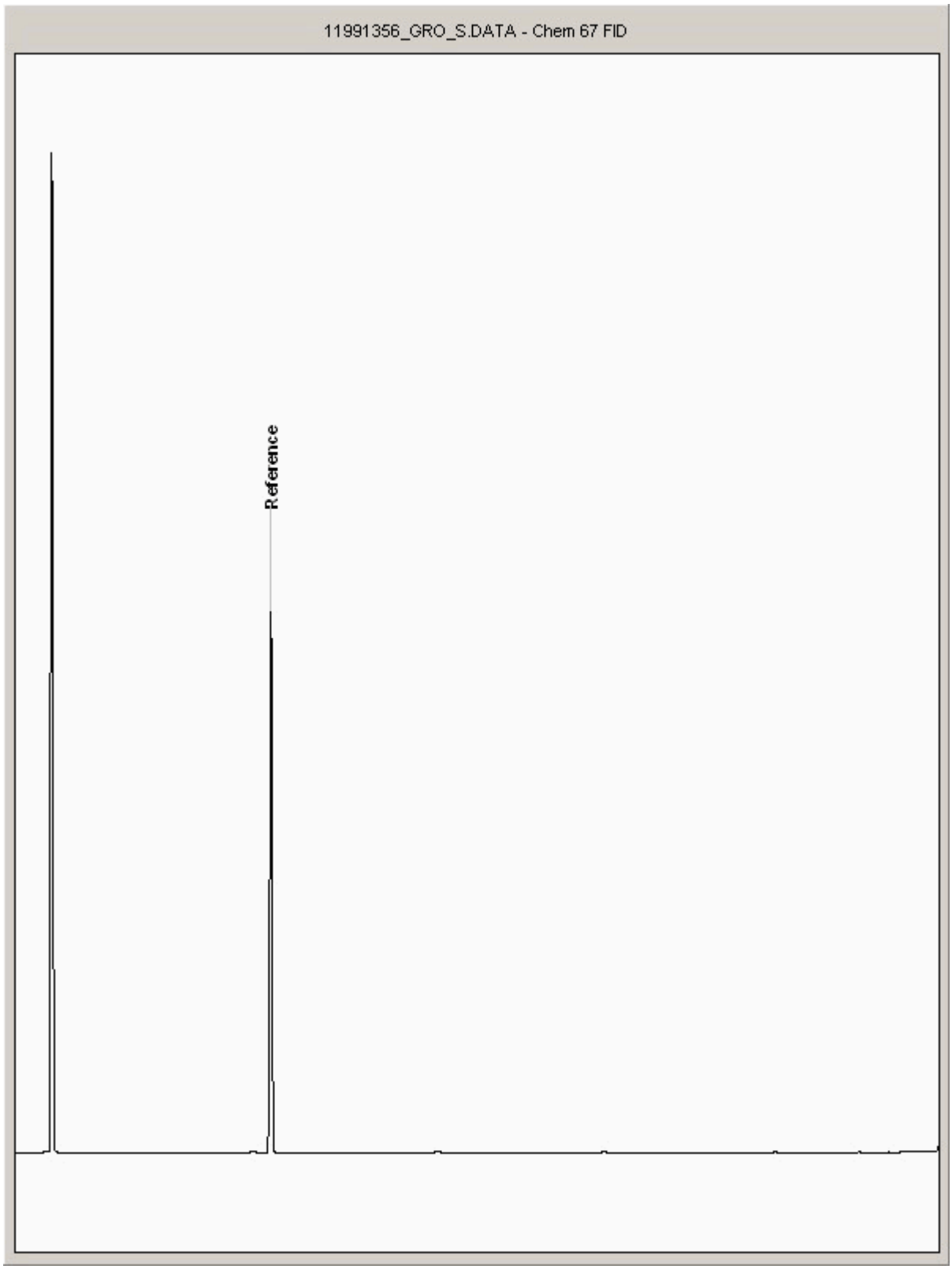
SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11991356
Sample ID : BH211

Depth : 2.20



PRELIMINARY/INTERIM REPORT

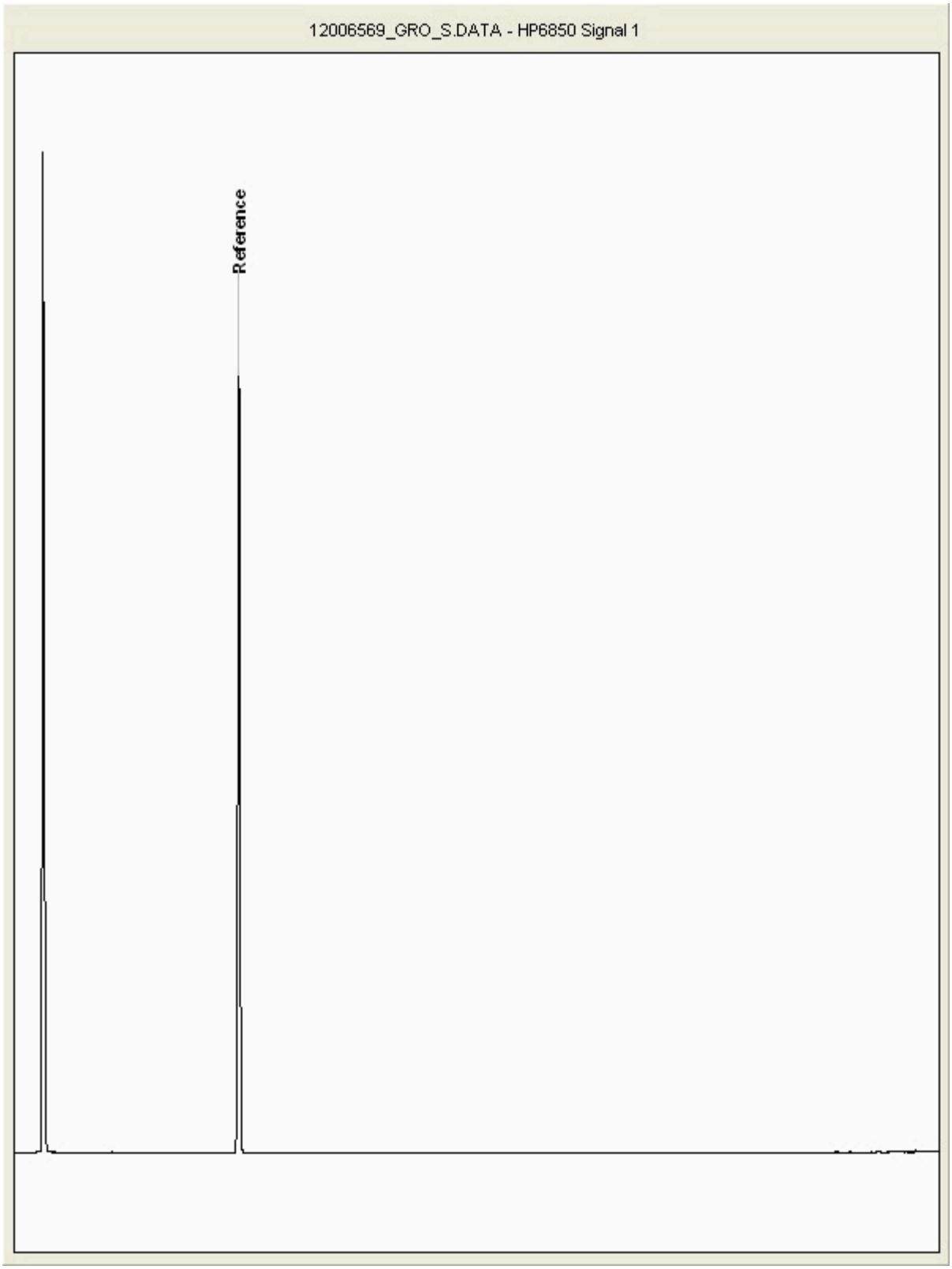
SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 12006569
Sample ID : BH210

Depth : 0.80



PRELIMINARY/INTERIM REPORT

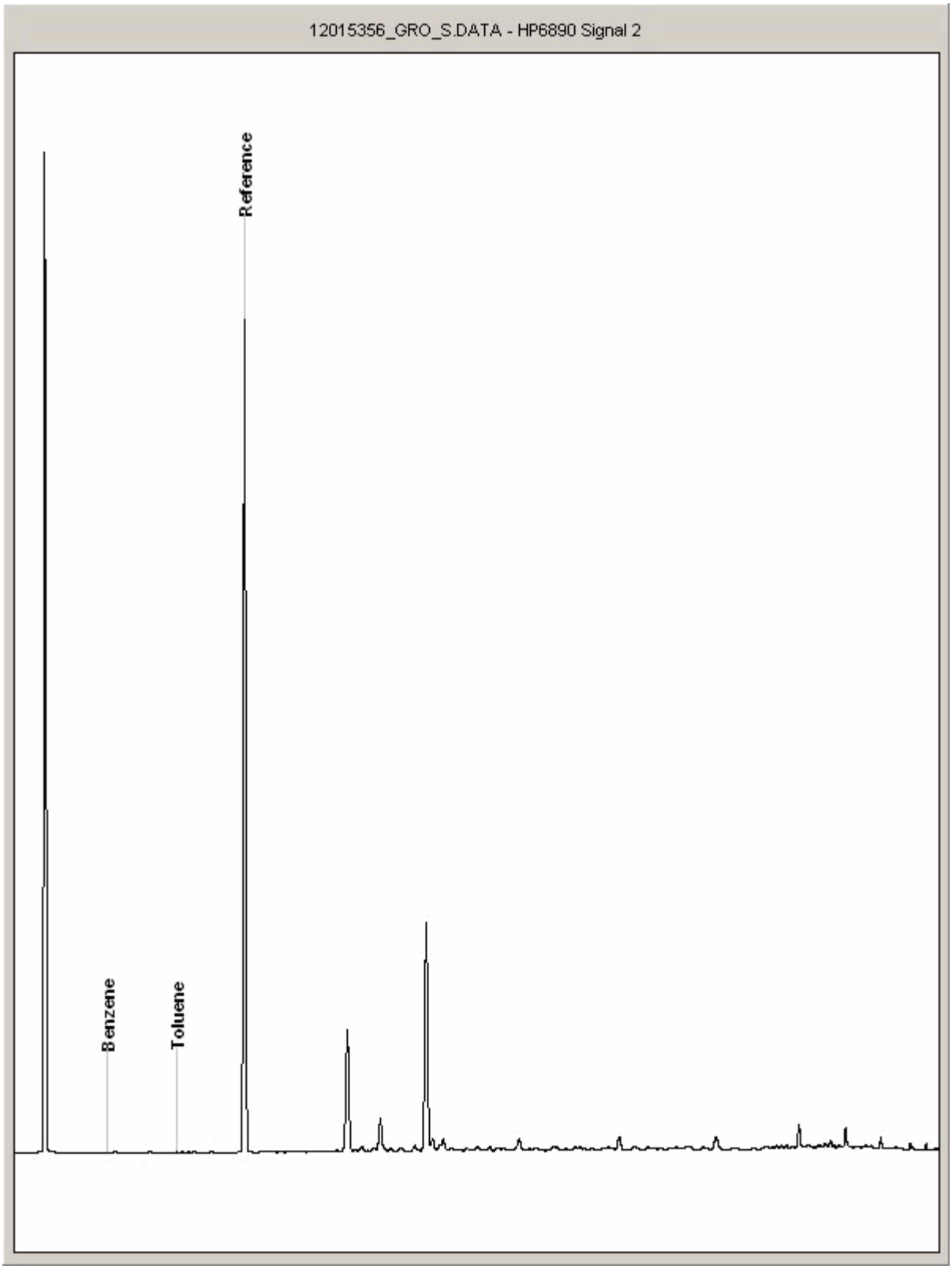
SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 12015356
Sample ID : BH211

Depth : 0.70



PRELIMINARY/INTERIM REPORT

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS 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 both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos 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 screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

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. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

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 Dimethyphenol, 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 14).

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

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. 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.

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

21. 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.

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

23. 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 themajor 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.

24. 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 C4 -C10 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
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	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 TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
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-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
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

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

Visual Estimation Of Fibre Content

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

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials 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.

Last Updated : 2010/09/08

SDG:	150828-44	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329060
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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AECOM
St. George's House
2nd Floor
5 St. George's Road
Wimbledon
Greater London
SW19 4DR

Attention: Gary Marshall

CERTIFICATE OF ANALYSIS

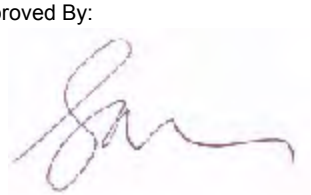
Date:	09 September 2015
Customer:	H_URS_WIM
Sample Delivery Group (SDG):	150828-48
Your Reference:	
Location:	Stag Brewery
Report No:	329008

We received 4 samples on Friday August 28, 2015 and 4 of these samples were scheduled for analysis which was completed on Wednesday September 09, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11977832	BH212		0.60	27/08/2015
11977833	BH212		1.80 - 2.50	27/08/2015
11977835	BH213		0.60	27/08/2015
11977837	BH213		1.70 - 2.00	27/08/2015

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

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	11977832			11977833			11977835			11977837		
			Customer Sample Reference	BH212			BH212			BH213			BH213		
			AGS Reference												
			Depth (m)	0.60			1.80 - 2.50			0.60			1.70 - 2.00		
			Container	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)
Ammonium Soil by Titration	All	NDPs: 0 Tests: 4			X			X			X			X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2			X						X				
Easily Liberated Sulphide	All	NDPs: 0 Tests: 4			X			X			X			X	
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 4		X			X			X			X		
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 4		X			X			X			X		
GRO by GC-FID (S)	All	NDPs: 0 Tests: 4				X			X			X			X
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 4			X			X			X			X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 4		X			X			X			X		
PAH by GCMS	All	NDPs: 0 Tests: 4		X			X			X			X		
pH	All	NDPs: 0 Tests: 4			X			X			X			X	
Sample description	All	NDPs: 0 Tests: 4		X			X			X			X		
Total Organic Carbon	All	NDPs: 0 Tests: 4		X			X			X			X		
Total Sulphate	All	NDPs: 0 Tests: 4		X			X			X			X		
TPH CWG GC (S)	All	NDPs: 0 Tests: 4		X			X			X			X		
VOC MS (S)	All	NDPs: 0 Tests: 4				X			X			X			X

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**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
11977832	BH212	0.60	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11977833	BH212	1.80 - 2.50	Light Brown	Sand	0.1 - 2 mm	Stones	None
11977835	BH213	0.60	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	Tile/Insulation Board
11977837	BH213	1.70 - 2.00	Light Brown	Sand	0.1 - 2 mm	Stones	None

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

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring 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:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH212	BH212	BH213	BH213		
			Depth (m)	0.60	1.80 - 2.50	0.60	1.70 - 2.00		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	27/08/2015	27/08/2015	27/08/2015	27/08/2015		
			Sampled Time	00:00:00	00:00:00	00:00:00	00:00:00		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-48	150828-48	150828-48	150828-48		
			Lab Sample No.(s)	11977832	11977833	11977835	11977837		
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		7	5.7	17	6.5		
Exchangeable Ammonia as NH4	<15 mg/kg	TM024		18.2 M	<15 M	<15 M	<15 M		
Organic Carbon, Total	<0.2 %	TM132		<0.2 M	<0.2 M	2.07 M	<0.2 M		
pH	1 pH Units	TM133		8.95 M	7.72 M	8.04 M	7.84 M		
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #		
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 ♦ #	<15 ♦ #	<15 ♦ #	<15 ♦ #		
Arsenic	<0.6 mg/kg	TM181		19.2 M	18.8 M	19.1 M	19.1 M		
Cadmium	<0.02 mg/kg	TM181		1.44 M	0.393 M	0.547 M	0.389 M		
Chromium	<0.9 mg/kg	TM181		6.94 M	16.9 M	17.1 M	20.2 M		
Copper	<1.4 mg/kg	TM181		13.9 M	4.3 M	29.6 M	6.42 M		
Lead	<0.7 mg/kg	TM181		271 M	5.92 M	2910 M	6.91 M		
Mercury	<0.14 mg/kg	TM181		<0.14 M	<0.14 M	<0.14 M	<0.14 M		
Nickel	<0.2 mg/kg	TM181		6.81 M	19.2 M	14.7 M	22 M		
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #	<1 #		
Zinc	<1.9 mg/kg	TM181		276 M	23.4 M	906 M	26.2 M		
Sulphate, Total	<48 mg/kg	TM221		1090 M	49.6 M	7440 M	80.7 M		

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH212	BH212	BH213	BH213		
			Depth (m)	0.60	1.80 - 2.50	0.60	1.70 - 2.00		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	27/08/2015	27/08/2015	27/08/2015	27/08/2015		
			Sampled Time	00:00:00	00:00:00	00:00:00	00:00:00		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-48	150828-48	150828-48	150828-48		
			Lab Sample No.(s)	11977832	11977833	11977835	11977837		
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		97.6	94.5	98.6	96.2		
Acenaphthene-d10 % recovery**	%	TM218		94.2	90.6	95	92.2		
Phenanthrene-d10 % recovery**	%	TM218		91.1	87.3	91.2	89.6		
Chrysene-d12 % recovery**	%	TM218		91.4	77.2	90.4	79		
Perylene-d12 % recovery**	%	TM218		97.3	78.4	95.7	80.7		
Naphthalene	<9 µg/kg	TM218		<9 M	<9 M	27.4 M	<9 M		
Acenaphthylene	<12 µg/kg	TM218		20.5 M	<12 M	27.8 M	<12 M		
Acenaphthene	<8 µg/kg	TM218		<8 M	<8 M	15.9 M	<8 M		
Fluorene	<10 µg/kg	TM218		<10 M	<10 M	12.1 M	<10 M		
Phenanthrene	<15 µg/kg	TM218		218 M	<15 M	329 M	<15 M		
Anthracene	<16 µg/kg	TM218		85.9 M	<16 M	71.8 M	<16 M		
Fluoranthene	<17 µg/kg	TM218		1270 M	<17 M	820 M	<17 M		
Pyrene	<15 µg/kg	TM218		975 M	<15 M	729 M	<15 M		
Benz(a)anthracene	<14 µg/kg	TM218		927 M	<14 M	449 M	<14 M		
Chrysene	<10 µg/kg	TM218		908 M	<10 M	414 M	<10 M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		1460 M	<15 M	588 M	<15 M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		503 M	<14 M	255 M	<14 M		
Benzo(a)pyrene	<15 µg/kg	TM218		1050 M	<15 M	485 M	<15 M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		668 M	<18 M	270 M	<18 M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		195 M	<23 M	73.2 M	<23 M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		755 M	<24 M	358 M	<24 M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		9030	<118	4920	<118		

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH212	BH212	BH213	BH213		
			Depth (m)	0.60	1.80 - 2.50	0.60	1.70 - 2.00		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	27/08/2015	27/08/2015	27/08/2015	27/08/2015		
			Sampled Time	00:00:00	00:00:00	00:00:00	00:00:00		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-48	150828-48	150828-48	150828-48		
			Lab Sample No.(s)	11977832	11977833	11977835	11977837		
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		114	127	76	110		
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089		<44 M	<44 M	<44 M	<44 M		
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 M	<5 M	<5 M	<5 M		
Benzene	<10 µg/kg	TM089		<10 M	<10 M	<10 M	<10 M		
Toluene	<2 µg/kg	TM089		<2 M	<2 M	<2 M	<2 M		
Ethylbenzene	<3 µg/kg	TM089		<3 M	<3 M	<3 M	<3 M		
m,p-Xylene	<6 µg/kg	TM089		<6 M	<6 M	<6 M	<6 M		
o-Xylene	<3 µg/kg	TM089		<3 M	<3 M	<3 M	<3 M		
sum of detected mpo xylene by GC	<9 µg/kg	TM089		<9	<9	<9	<9		
sum of detected BTEX by GC	<24 µg/kg	TM089		<24	<24	<24	<24		
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	<10		
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	<10	<10		
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	<10	<10		
Aliphatics >C10-C12	<10 µg/kg	TM089		<10	<10	<10	<10		
Aliphatics >C12-C16	<100 µg/kg	TM173		<100	<100	<100	<100		
Aliphatics >C16-C21	<100 µg/kg	TM173		<100	<100	<100	<100		
Aliphatics >C21-C35	<100 µg/kg	TM173		<100	<100	6060	<100		
Aliphatics >C35-C44	<100 µg/kg	TM173		<100	<100	<100	<100		
Total Aliphatics >C12-C44	<100 µg/kg	TM173		<100	<100	6060	<100		
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10		
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	<10	<10		
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	<10	<10	<10		
Aromatics >EC12-EC16	<100 µg/kg	TM173		<100	<100	2150	<100		
Aromatics >EC16-EC21	<100 µg/kg	TM173		496	<100	10600	<100		
Aromatics >EC21-EC35	<100 µg/kg	TM173		4600	<100	31100	<100		
Aromatics >EC35-EC44	<100 µg/kg	TM173		<100	<100	10900	<100		
Aromatics >EC40-EC44	<100 µg/kg	TM173		<100	<100	3970	<100		
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		5100	<100	54800	<100		
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		5100	<100	60900	<100		

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH212	BH212	BH213	BH213		
			Depth (m)	0.60	1.80 - 2.50	0.60	1.70 - 2.00		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	27/08/2015	27/08/2015	27/08/2015	27/08/2015		
			Sampled Time	00:00:00	00:00:00	00:00:00	00:00:00		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-48	150828-48	150828-48	150828-48		
			Lab Sample No.(s)	11977832	11977833	11977835	11977837		
			AGS Reference						
Dibromofluoromethane**	%	TM116		114	124	121	116		
Toluene-d8**	%	TM116		102	111	108	110		
4-Bromofluorobenzene**	%	TM116		94.1	105	85.4	104		
Dichlorodifluoromethane	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M		
Chloromethane	<7 µg/kg	TM116		<7 #	<7 #	<7 #	<7 #		
Vinyl Chloride	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M		
Bromomethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Chloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Trichlorofluorormethane	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M		
1,1-Dichloroethene	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
Carbon Disulphide	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M		
Dichloromethane	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
trans-1,2-Dichloroethene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,1-Dichloroethane	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M		
cis-1,2-Dichloroethene	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M		
2,2-Dichloropropane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Bromochloromethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Chloroform	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M		
1,1,1-Trichloroethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M		
1,1-Dichloropropene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Carbontetrachloride	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,2-Dichloroethane	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M		
Benzene	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M		
Trichloroethene	<9 µg/kg	TM116		<9 #	<9 #	<9 #	<9 #		
1,2-Dichloropropane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Dibromomethane	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M		
Bromodichloromethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M		
cis-1,3-Dichloropropene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Toluene	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M		
trans-1,3-Dichloropropene	<10 µg/kg	TM116		<10	<10	<10	<10		
1,1,2-Trichloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH212	BH212	BH213	BH213		
			Depth (m)	0.60	1.80 - 2.50	0.60	1.70 - 2.00		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	27/08/2015	27/08/2015	27/08/2015	27/08/2015		
			Sampled Time	00:00:00	00:00:00	00:00:00	00:00:00		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-48	150828-48	150828-48	150828-48		
			Lab Sample No.(s)	11977832	11977833	11977835	11977837		
			AGS Reference						
1,3-Dichloropropane	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M		
Tetrachloroethene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M		
Dibromochloromethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,2-Dibromoethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Chlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M		
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Ethylbenzene	<4 µg/kg	TM116		<4 M	<4 M	<4 M	<4 M		
p/m-Xylene	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
o-Xylene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Styrene	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
Bromoform	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Isopropylbenzene	<5 µg/kg	TM116		<5 #	<5 #	<5 #	<5 #		
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,2,3-Trichloropropane	<16 µg/kg	TM116		<16 M	<16 M	<16 M	<16 M		
Bromobenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
Propylbenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
2-Chlorotoluene	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M		
1,3,5-Trimethylbenzene	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M		
4-Chlorotoluene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
tert-Butylbenzene	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 M		
1,2,4-Trimethylbenzene	<9 µg/kg	TM116		<9 #	<9 #	<9 #	<9 #		
sec-Butylbenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
4-Isopropyltoluene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,3-Dichlorobenzene	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M		
1,4-Dichlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M		
n-Butylbenzene	<11 µg/kg	TM116		<11	<11	<11	<11		
1,2-Dichlorobenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M		
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 M		
Tert-amyl methyl ether	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
1,2,4-Trichlorobenzene	<20 µg/kg	TM116		<20	<20	<20	<20		
Hexachlorobutadiene	<20 µg/kg	TM116		<20	<20	<20	<20		
Naphthalene	<13 µg/kg	TM116		<13 M	<13 M	<13 M	<13 M		

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH212	BH212	BH213	BH213		
			Depth (m)	0.60	1.80 - 2.50	0.60	1.70 - 2.00		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	27/08/2015	27/08/2015	27/08/2015	27/08/2015		
			Sampled Time	00:00:00	00:00:00	00:00:00	00:00:00		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-48	150828-48	150828-48	150828-48		
			Lab Sample No.(s)	11977832	11977833	11977835	11977837		
			AGS Reference						
1,2,3-Trichlorobenzene	<20 µg/kg	TM116		<20 #	<20 #	<20 #	<20 #		

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BH212 0.60 SOLID 27/08/2015 00:00:00 29/08/2015 13:54:20 150828-48 11977832 TM048	03/09/2015	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BH213 0.60 SOLID 27/08/2015 00:00:00 29/08/2015 13:59:40 150828-48 11977835 TM048	03/09/2015	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer		

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

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11977832	11977833	11977835	11977837
Customer Sample Ref.	BH212	BH212	BH213	BH213
AGS Ref.				
Depth	0.60	1.80 - 2.50	0.60	1.70 - 2.00
Type	SOLID	SOLID	SOLID	SOLID
Ammonium Soil by Titration	08-Sep-2015	08-Sep-2015	09-Sep-2015	08-Sep-2015
Asbestos ID in Solid Samples	03-Sep-2015		03-Sep-2015	
Easily Liberated Sulphide	08-Sep-2015	07-Sep-2015	08-Sep-2015	08-Sep-2015
EPH CWG (Aliphatic) GC (S)	04-Sep-2015	03-Sep-2015	04-Sep-2015	03-Sep-2015
EPH CWG (Aromatic) GC (S)	04-Sep-2015	03-Sep-2015	04-Sep-2015	03-Sep-2015
GRO by GC-FID (S)	04-Sep-2015	02-Sep-2015	02-Sep-2015	02-Sep-2015
Hexavalent Chromium (s)	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015
Metals in solid samples by OES	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015
PAH by GCMS	03-Sep-2015	03-Sep-2015	03-Sep-2015	03-Sep-2015
pH	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015
Sample description	29-Aug-2015	28-Aug-2015	29-Aug-2015	28-Aug-2015
Total Organic Carbon	07-Sep-2015	03-Sep-2015	07-Sep-2015	03-Sep-2015
Total Sulphate	04-Sep-2015	07-Sep-2015	04-Sep-2015	07-Sep-2015
TPH CWG GC (S)	04-Sep-2015	03-Sep-2015	04-Sep-2015	03-Sep-2015
VOC MS (S)	02-Sep-2015	02-Sep-2015	02-Sep-2015	02-Sep-2015

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

ASSOCIATED AQC DATA

Ammonium Soil by Titration

Component	Method Code	QC 1292	QC 1205
Exchangeable Ammonium as NH4	TM024	**86.07** 79.30 : 104.61	**98.01** 79.30 : 104.61

Easily Liberated Sulphide

Component	Method Code	QC 1262	QC 1219
Easily Liberated Sulphide	TM180	**88.38** 49.14 : 123.89	**93.21** 49.14 : 123.89

EPH CWG (Aliphatic) GC (S)

Component	Method Code	QC 1165	QC 1197
Total Aliphatics >C12-C35	TM173	**97.92** 69.19 : 111.75	**92.08** 71.67 : 116.67

EPH CWG (Aromatic) GC (S)

Component	Method Code	QC 1197
Total Aromatics >EC12-EC35	TM173	**85.33** 59.92 : 107.95

GRO by GC-FID (S)

Component	Method Code	QC 1100	QC 1232
Benzene by GC (Moisture Corrected)	TM089	**110.0** 82.67 : 117.96	**104.0** 76.33 : 121.87
Ethylbenzene by GC (Moisture Corrected)	TM089	**110.5** 80.45 : 118.61	**105.5** 75.73 : 123.83
m & p Xylene by GC (Moisture Corrected)	TM089	**110.0** 79.25 : 119.43	**104.5** 75.52 : 120.32
MTBE GC-FID (Moisture Corrected)	TM089	**114.5** 79.10 : 122.51	**101.5** 77.89 : 119.70
o Xylene by GC (Moisture Corrected)	TM089	**111.5** 80.03 : 117.19	**100.0** 74.15 : 124.59
QC	TM089	**102.79** 75.74 : 124.65	**101.18** 62.31 : 122.61
Toluene by GC (Moisture Corrected)	TM089	**110.5** 82.06 : 117.54	**101.0** 77.91 : 122.33

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Hexavalent Chromium (s)

Component	Method Code	QC 1299	QC 1285
Hexavalent Chromium	TM151	**100.0** 92.20 : 106.60	**102.0** 92.20 : 106.60

Metals in solid samples by OES

Component	Method Code	QC 1235	QC 1206
Aluminium	TM181	**98.46** 86.49 : 129.71	**99.23** 86.49 : 129.71
Antimony	TM181	**97.13** 77.50 : 122.50	**94.27** 77.50 : 122.50
Arsenic	TM181	**92.92** 82.63 : 117.37	**92.92** 82.63 : 117.37
Barium	TM181	**95.49** 79.45 : 120.55	**96.24** 79.45 : 120.55
Beryllium	TM181	**100.47** 85.92 : 121.27	**98.91** 85.92 : 121.27
Boron	TM181	**99.24** 77.41 : 143.83	**105.34** 77.41 : 143.83
Cadmium	TM181	**96.47** 81.95 : 118.05	**95.8** 81.95 : 118.05
Chromium	TM181	**93.73** 81.29 : 118.71	**93.33** 81.29 : 118.71
Cobalt	TM181	**96.5** 83.86 : 116.14	**95.83** 83.86 : 116.14
Copper	TM181	**99.46** 78.57 : 121.43	**97.7** 78.57 : 121.43
Iron	TM181	**97.24** 87.50 : 122.82	**95.86** 87.50 : 122.82
Lead	TM181	**94.09** 74.18 : 117.25	**93.7** 74.18 : 117.25
Manganese	TM181	**100.0** 82.91 : 117.09	**100.0** 82.91 : 117.09
Mercury	TM181	**92.46** 81.99 : 118.01	**94.3** 81.99 : 118.01
Molybdenum	TM181	**93.79** 81.45 : 118.55	**92.2** 81.45 : 118.55
Nickel	TM181	**95.93** 79.64 : 120.36	**95.93** 79.64 : 120.36
Phosphorus	TM181	**98.21** 81.03 : 118.97	**97.76** 81.03 : 118.97
Selenium	TM181	**108.21** 87.05 : 121.93	**105.3** 87.05 : 121.93
Strontium	TM181	**96.55** 83.64 : 116.36	**98.08** 83.64 : 116.36
Thallium	TM181	**88.72** 77.50 : 122.50	**87.56** 77.50 : 122.50
Tin	TM181	**92.69** 78.30 : 113.98	**92.03** 78.30 : 113.98
Titanium	TM181	**97.66** 71.02 : 128.98	**103.91** 71.02 : 128.98

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Metals in solid samples by OES

		QC 1235	QC 1206
Vanadium	TM181	**93.53** 86.61 : 113.39	**93.53** 86.61 : 113.39
Zinc	TM181	**98.05** 89.82 : 114.54	**97.73** 89.82 : 114.54

PAH by GCMS

Component	Method Code	QC 1154	QC 1196
Acenaphthene	TM218	**92.0** 77.34 : 118.20	**89.5** 78.75 : 116.25
Acenaphthylene	TM218	**86.5** 62.65 : 116.35	**85.5** 76.45 : 110.05
Anthracene	TM218	**89.5** 73.54 : 114.21	**89.0** 67.15 : 124.45
Benz(a)anthracene	TM218	**102.5** 74.99 : 132.24	**97.5** 82.00 : 127.00
Benzo(a)pyrene	TM218	**102.0** 80.75 : 127.25	**99.5** 75.60 : 124.20
Benzo(b)fluoranthene	TM218	**99.5** 75.84 : 127.12	**99.0** 81.20 : 121.77
Benzo(ghi)perylene	TM218	**97.0** 74.74 : 124.03	**96.0** 77.49 : 119.12
Benzo(k)fluoranthene	TM218	**98.0** 80.00 : 125.00	**96.5** 83.50 : 116.50
Chrysene	TM218	**98.0** 77.24 : 120.84	**95.5** 78.35 : 114.42
Dibenzo(ah)anthracene	TM218	**96.5** 76.00 : 122.50	**95.0** 77.15 : 122.45
Fluoranthene	TM218	**92.5** 78.51 : 118.75	**92.5** 79.08 : 114.40
Fluorene	TM218	**93.0** 76.95 : 117.18	**91.5** 79.03 : 113.38
Indeno(123cd)pyrene	TM218	**98.5** 75.34 : 127.46	**96.5** 75.65 : 125.15
Naphthalene	TM218	**95.0** 76.24 : 112.91	**92.5** 77.25 : 112.60
Phenanthrene	TM218	**93.5** 76.49 : 119.30	**92.0** 78.25 : 115.44
Pyrene	TM218	**91.0** 78.25 : 118.17	**91.0** 78.07 : 114.06

pH

Component	Method Code	QC 1218	QC 1227
pH	TM133	**100.25** 97.19 : 102.81	**100.5** 97.19 : 102.81

Total Organic Carbon

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Total Organic Carbon

Component	Method Code	QC 1254	QC 1297
Total Organic Carbon	TM132	**100.46** 88.82 : 111.18	**97.72** 89.40 : 103.09

Total Sulphate

Component	Method Code	QC 1235	QC 1273
Total Sulphate	TM221	**102.27** 78.49 : 121.51	**103.79** 78.49 : 121.51

VOC MS (S)

Component	Method Code	QC 1172	QC 1128
1,1,1,2-tetrachloroethane	TM116	**101.0** 76.60 : 121.00	**95.6** 83.24 : 124.28
1,1,1-Trichloroethane	TM116	**96.2** 77.80 : 123.40	**100.8** 81.77 : 121.07
1,1,2-Trichloroethane	TM116	**90.6** 75.40 : 119.80	**100.4** 79.24 : 112.23
1,1-Dichloroethane	TM116	**99.8** 80.84 : 124.49	**103.0** 72.58 : 116.06
1,2-Dichloroethane	TM116	**104.8** 91.00 : 135.67	**118.8** 77.50 : 122.50
1,4-Dichlorobenzene	TM116	**105.6** 80.88 : 114.60	**96.2** 73.23 : 116.39
2-Chlorotoluene	TM116	**94.2** 74.00 : 117.20	**85.6** 69.22 : 110.64
4-Chlorotoluene	TM116	**90.2** 71.20 : 113.20	**89.0** 68.57 : 106.26
Benzene	TM116	**97.6** 79.60 : 125.20	**103.2** 84.33 : 124.27
Carbon Disulphide	TM116	**99.4** 74.91 : 122.14	**110.4** 77.20 : 122.80
Carbontetrachloride	TM116	**100.2** 76.80 : 121.20	**98.2** 84.20 : 119.90
Chlorobenzene	TM116	**102.0** 83.47 : 116.82	**102.4** 85.28 : 129.96
Chloroform	TM116	**98.4** 82.00 : 128.80	**108.2** 82.73 : 119.72
Chloromethane	TM116	**117.2** 74.62 : 135.86	**123.4** 55.16 : 145.46
Cis-1,2-Dichloroethene	TM116	**103.6** 81.20 : 128.00	**108.4** 73.56 : 118.93
Dibromomethane	TM116	**88.4** 73.40 : 116.60	**104.4** 73.40 : 116.60
Dichloromethane	TM116	**101.6** 86.60 : 137.00	**113.2** 76.16 : 121.98

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

		QC 1172	QC 1128
Ethylbenzene	TM116	**96.6** 73.60 : 115.60	**94.0** 80.07 : 125.98
Hexachlorobutadiene	TM116	**114.0** 33.65 : 130.56	**69.0** 30.92 : 132.28
Isopropylbenzene	TM116	**92.0** 72.52 : 117.52	**82.6** 69.27 : 125.32
Naphthalene	TM116	**107.0** 83.23 : 126.48	**110.0** 79.15 : 121.98
o-Xylene	TM116	**92.4** 69.60 : 110.40	**77.6** 75.46 : 111.52
p/m-Xylene	TM116	**94.1** 71.30 : 112.70	**90.2** 76.97 : 121.75
Sec-Butylbenzene	TM116	**116.4** 59.20 : 125.20	**69.6** 49.27 : 129.90
Tetrachloroethene	TM116	**104.6** 85.92 : 127.92	**102.2** 87.96 : 133.65
Toluene	TM116	**90.2** 76.08 : 110.17	**99.0** 79.23 : 114.58
Trichloroethene	TM116	**96.4** 78.17 : 121.37	**94.6** 84.09 : 114.24
Trichlorofluoromethane	TM116	**102.2** 83.78 : 132.82	**107.4** 76.22 : 114.82
Vinyl Chloride	TM116	**94.6** 66.81 : 138.46	**98.2** 59.68 : 118.68

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

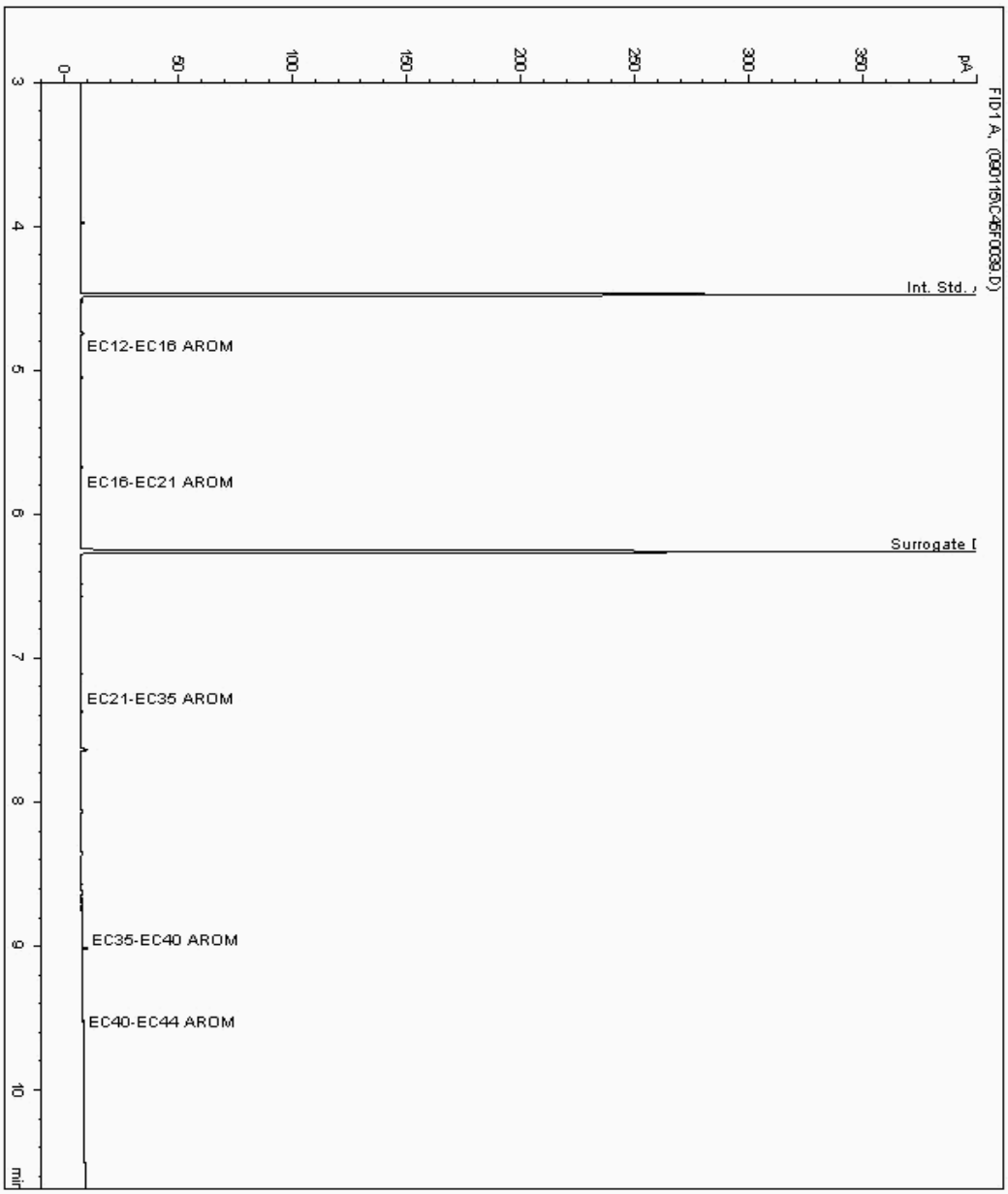
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11980853
Sample ID : BH212

Depth : 1.80 - 2.50

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

Sample Identity: 11364041-
Date Acquired : 02/09/15 04:50:05 PM
Units : ppb
Dilution: BH212[1.80 - 2.50] ->



CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

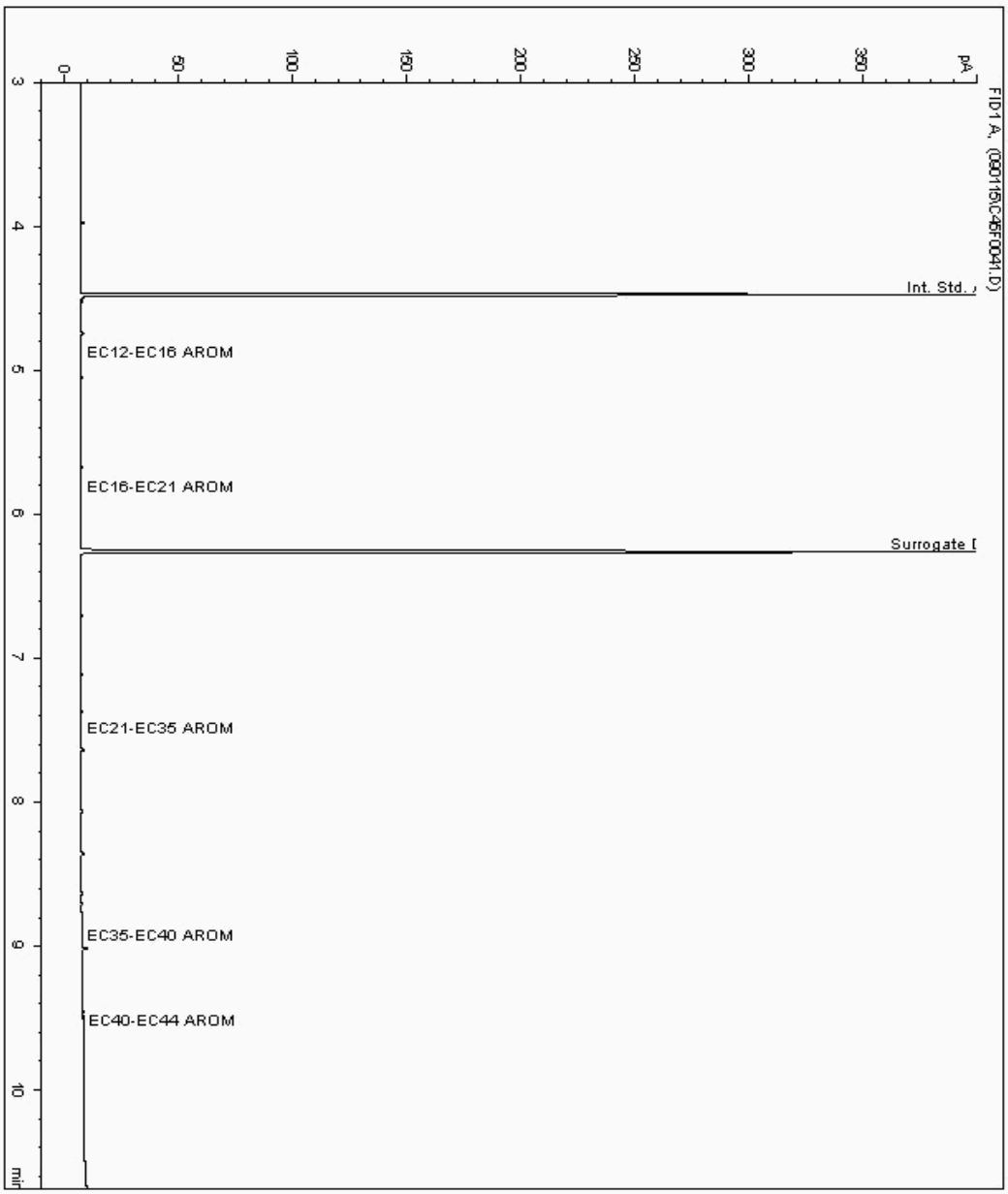
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11980893
Sample ID : BH213

Depth : 1.70 - 2.00

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

Sample Identity: 11364075-
Date Acquired : 02/09/15 05:29:55 PM
Units : ppb
Dilution: BH213[1.70 - 2.00] ->



CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

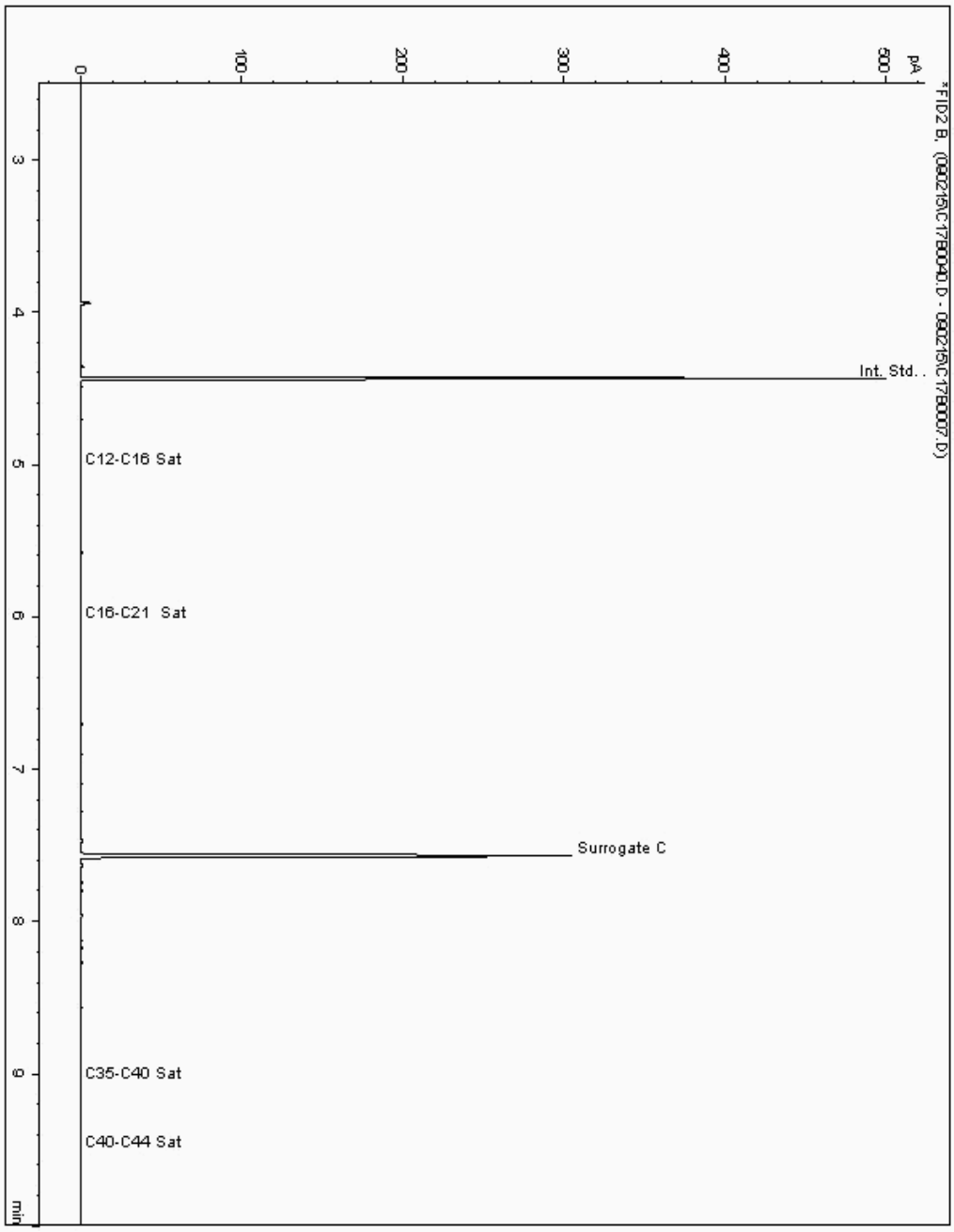
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11984526
Sample ID : BH213

Depth : 0.60

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

Sample Identity: 11364051-
Date Acquired : 03/09/2015 00:27:38 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.970



CERTIFICATE OF ANALYSIS

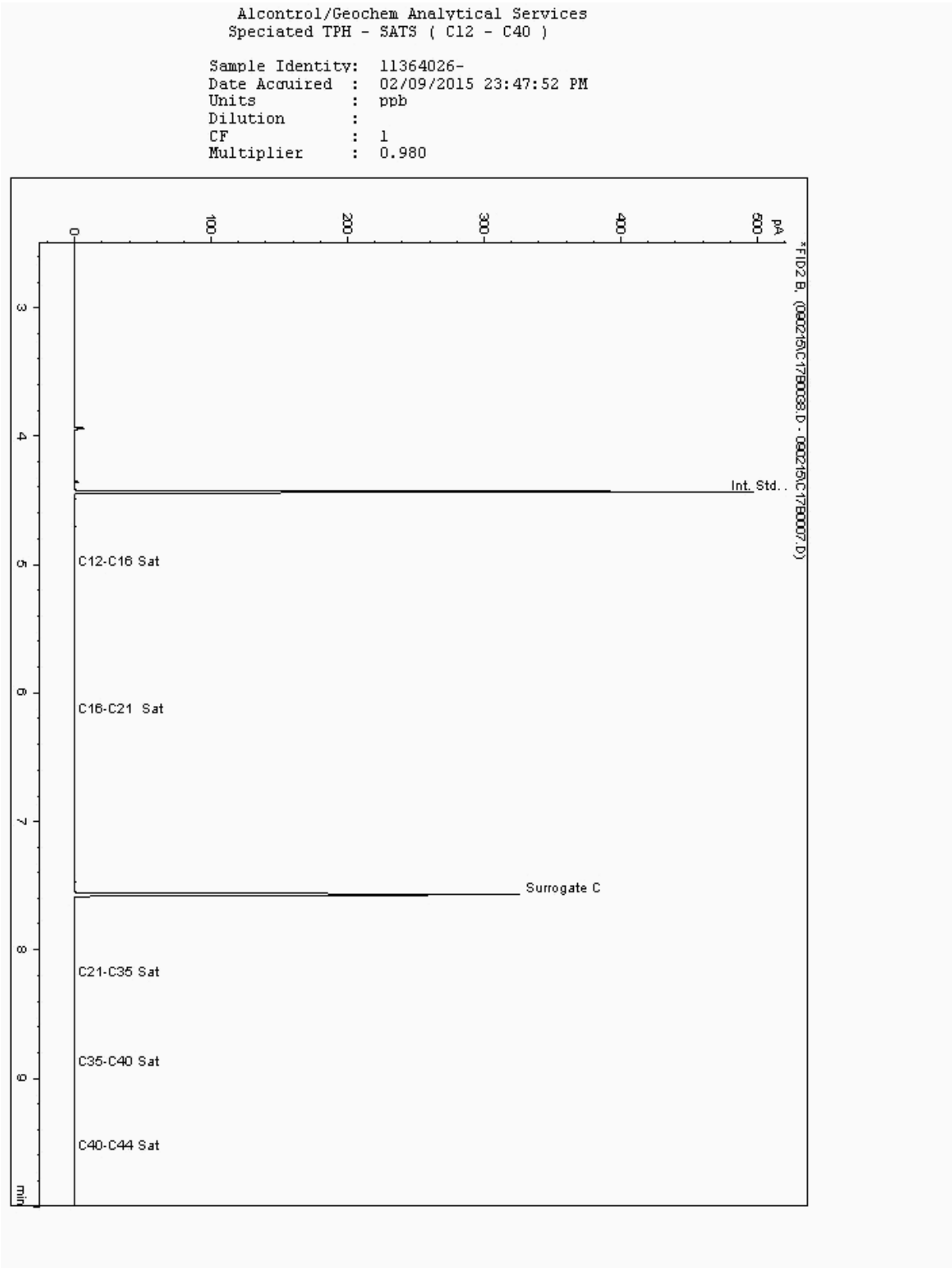
SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11984654
Sample ID : BH212

Depth : 0.60



CERTIFICATE OF ANALYSIS

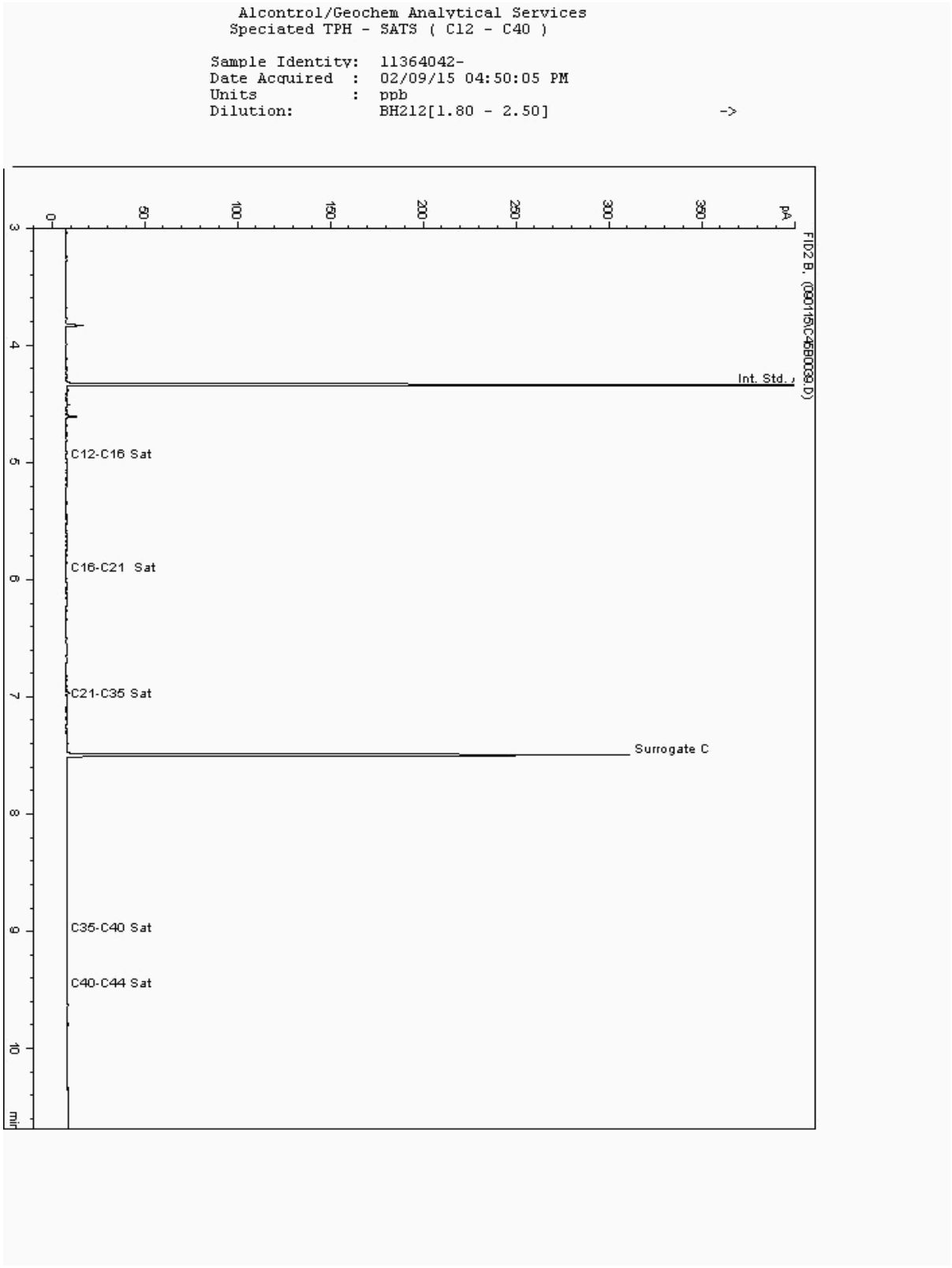
SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 11980853
Sample ID : BH212

Depth : 1.80 - 2.50

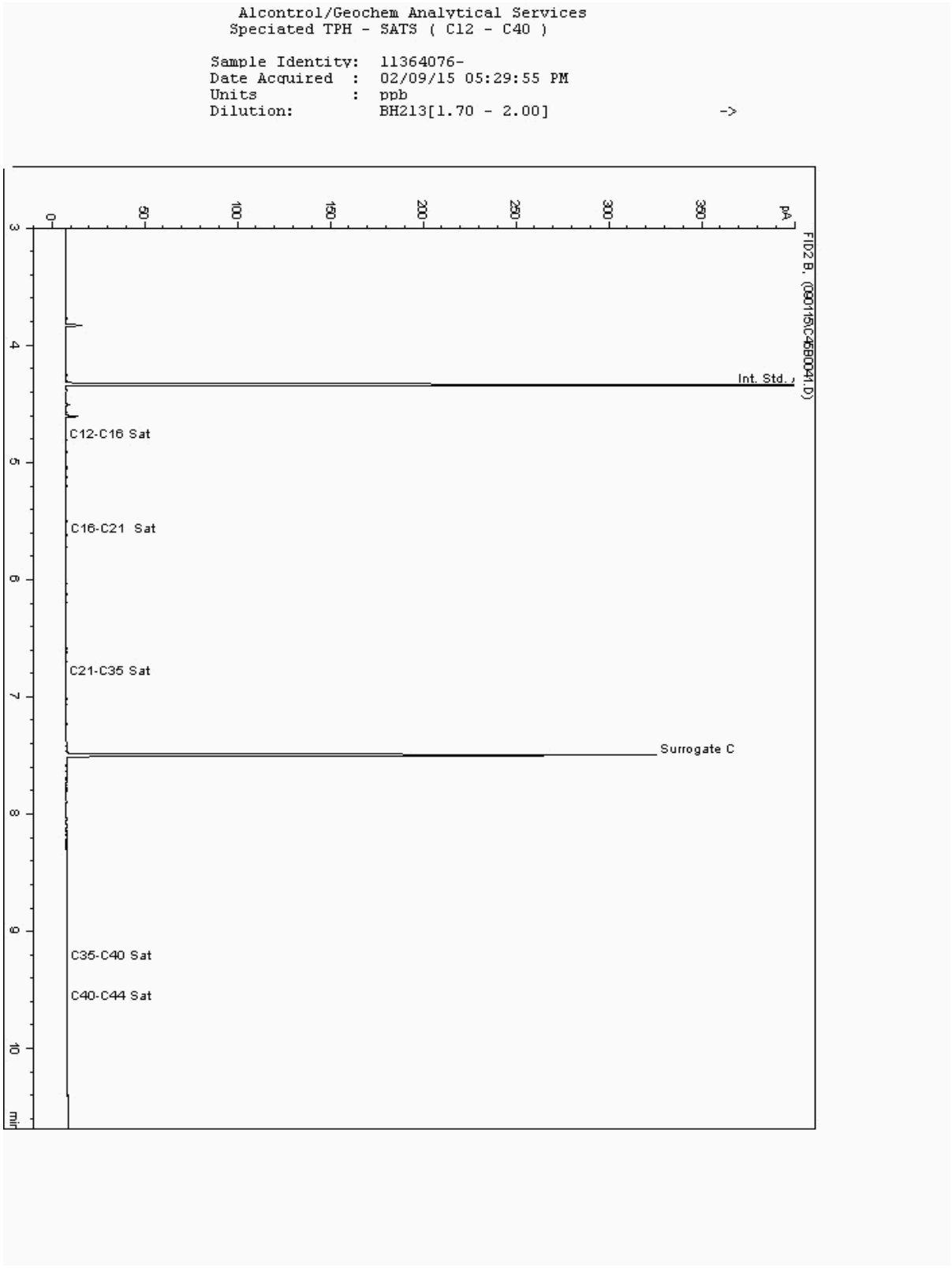


CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S) **Sample No :** 11980893 **Sample ID :** BH213 **Depth :** 1.70 - 2.00



CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

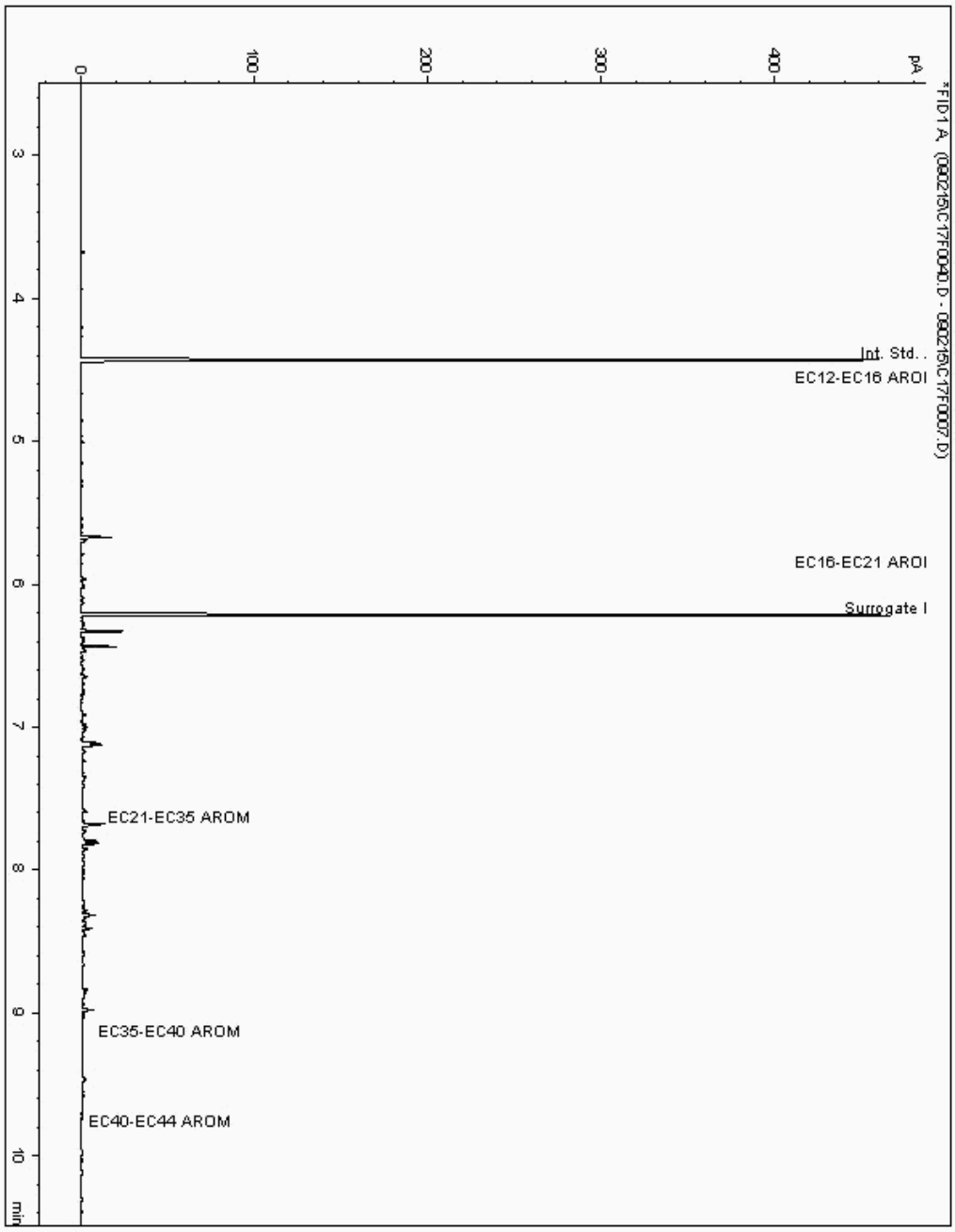
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 11984526
Sample ID : BH213

Depth : 0.60

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

Sample Identity: 11364052-
Date Acquired : 03/09/2015 00:27:38 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.970



CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

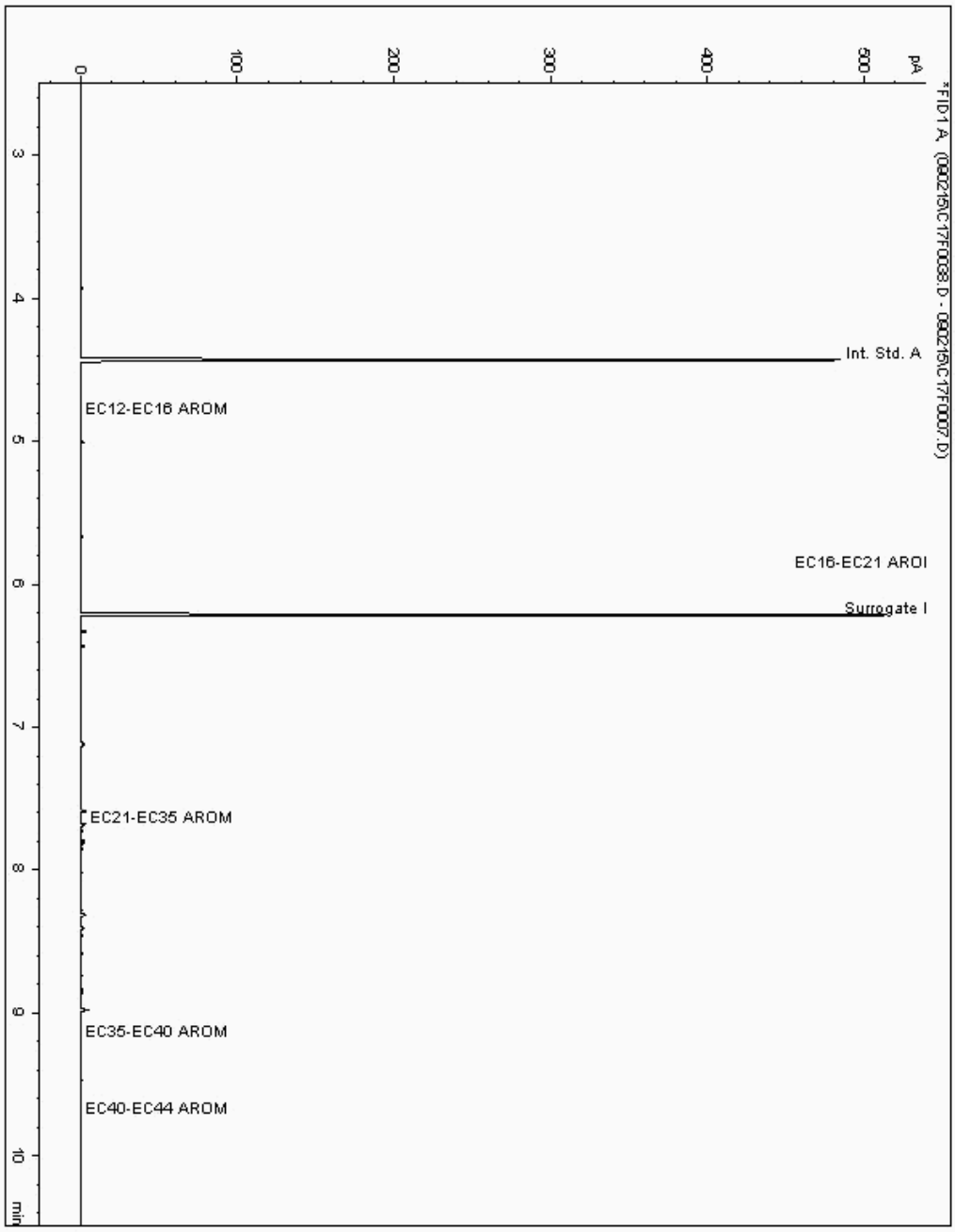
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 11984654
Sample ID : BH212

Depth : 0.60

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

Sample Identity: 11364027-
Date Acquired : 02/09/2015 23:47:52 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.980



CERTIFICATE OF ANALYSIS

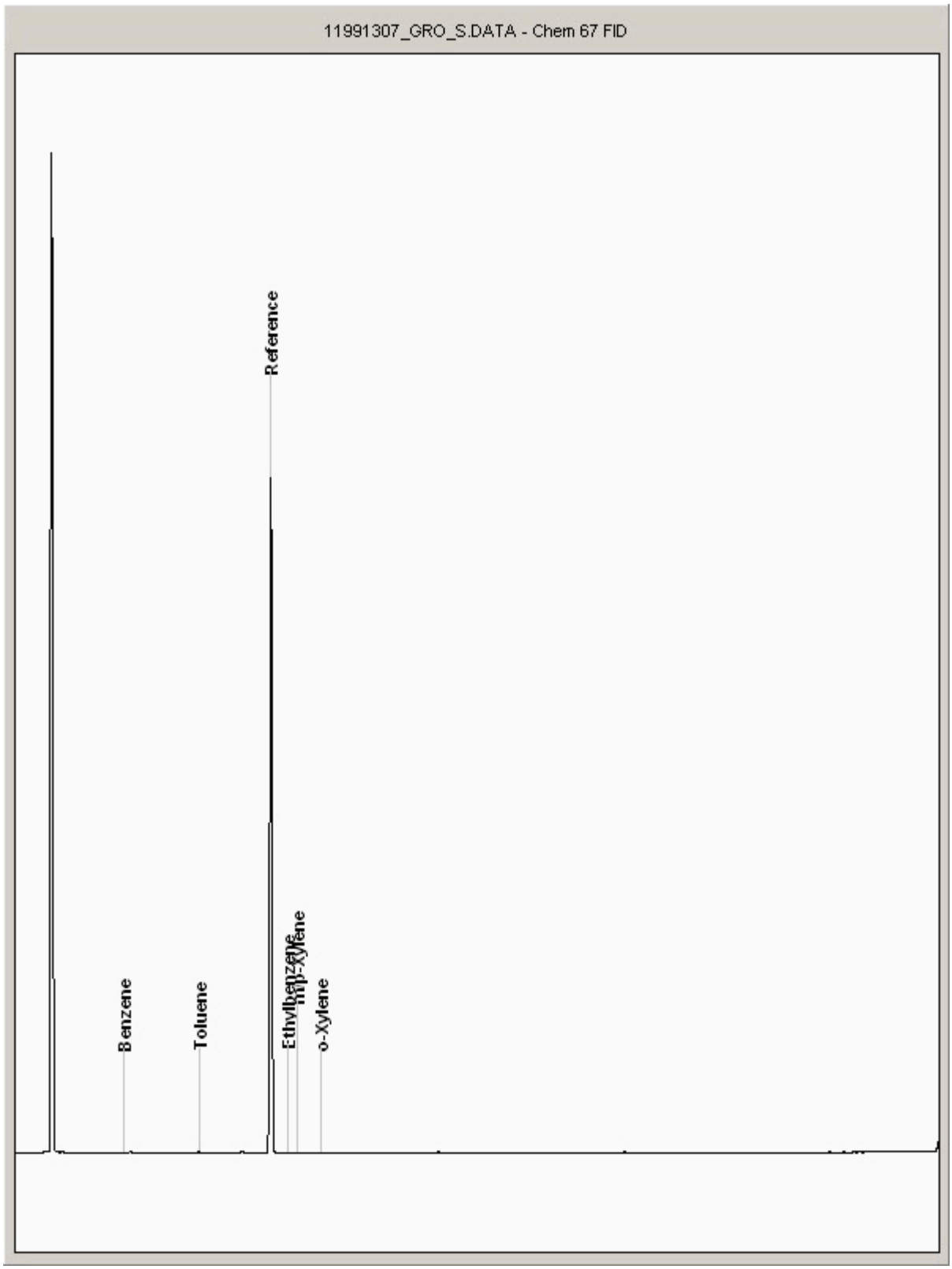
SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11991307
Sample ID : BH213

Depth : 0.60



CERTIFICATE OF ANALYSIS

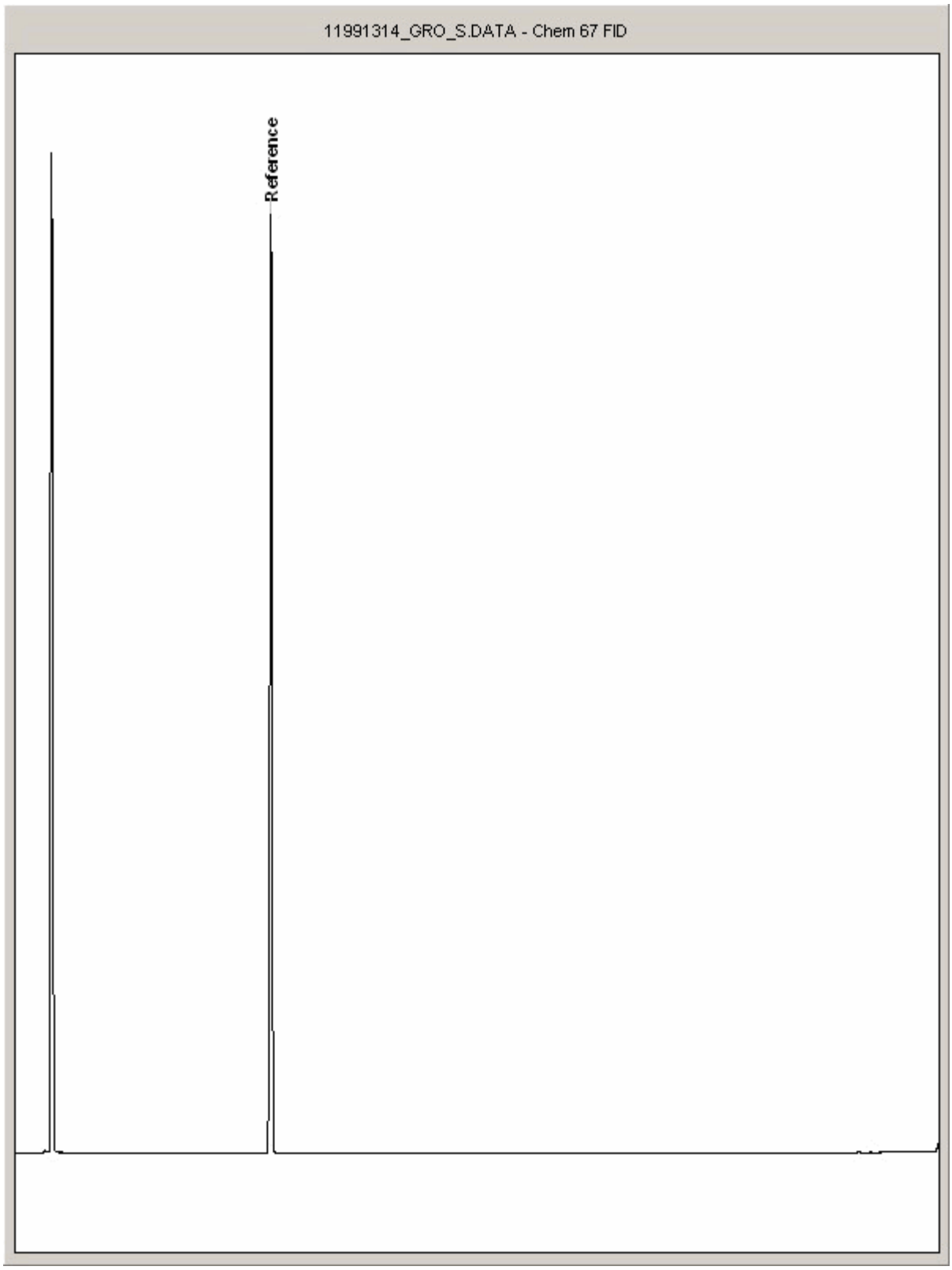
SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11991314
Sample ID : BH212

Depth : 1.80 - 2.50



CERTIFICATE OF ANALYSIS

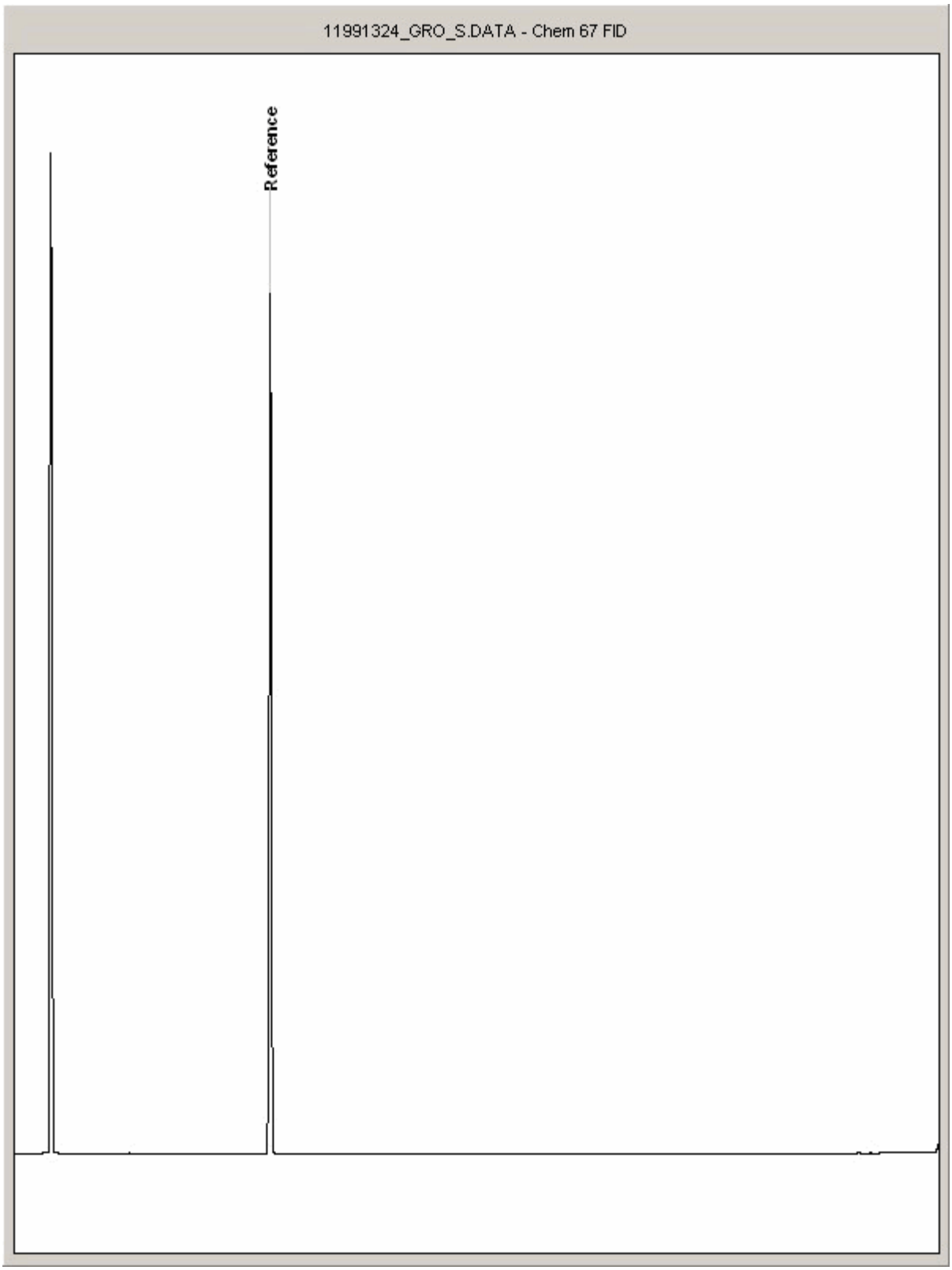
SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11991324
Sample ID : BH213

Depth : 1.70 - 2.00



CERTIFICATE OF ANALYSIS

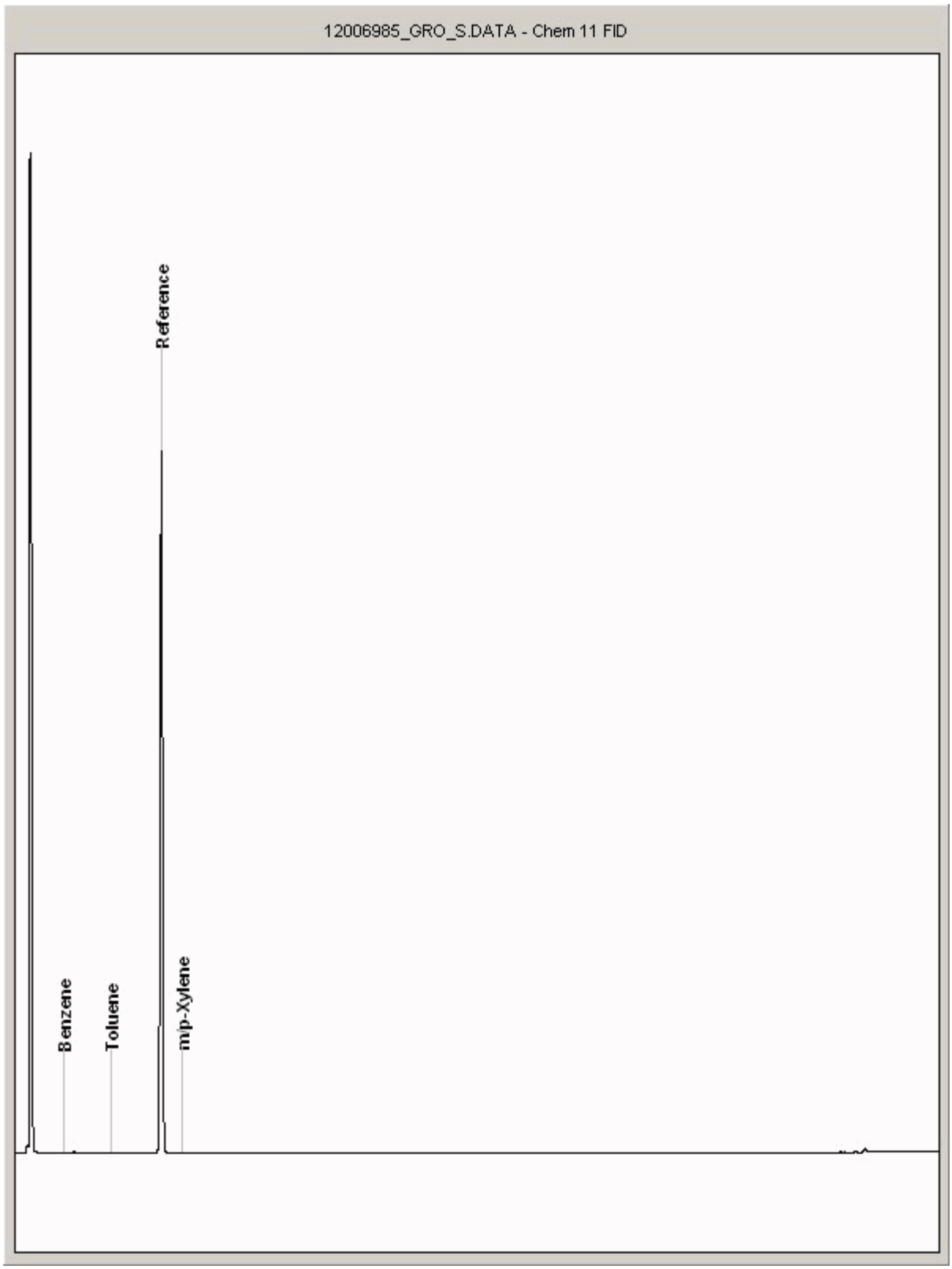
SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 12006985
Sample ID : BH212

Depth : 0.60



CERTIFICATE OF ANALYSIS

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS 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 both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos 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 screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

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. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

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 Dimethyphenol, 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 14).

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

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. 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.

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

21. 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.

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

23. 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 themajor 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.

24. 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 C4 -C10 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
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	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 TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
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-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
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

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

Visual Estimation Of Fibre Content

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

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials 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.

Last Updated : 2010/09/08

SDG:	150828-48	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329008
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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AECOM
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Wimbledon
Greater London
SW19 4DR

Attention: Gary Marshall

CERTIFICATE OF ANALYSIS

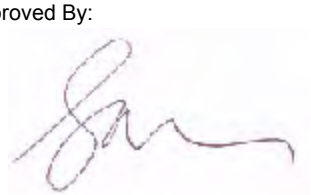
Date:	09 September 2015
Customer:	H_URS_WIM
Sample Delivery Group (SDG):	150828-57
Your Reference:	
Location:	Stag Brewery
Report No:	329023

We received 5 samples on Friday August 28, 2015 and 4 of these samples were scheduled for analysis which was completed on Wednesday September 09, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11978081	BH8A		0.50	26/08/2015
11978082	BH8A		0.90	26/08/2015
11978083	BH8A		3.00 - 3.50	26/08/2015
11978079	BH9A		0.50	26/08/2015
11978080	BH9A		2.20 - 3.30	26/08/2015

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

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SOLID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)			11978081			11978083			11978079			11978080		
Customer Sample Reference			BH8A			BH8A			BH9A			BH9A		
AGS Reference														
Depth (m)			0.50			3.00 - 3.50			0.50			2.20 - 3.30		
Container			250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)
Ammonium Soil by Titration	All	NDPs: 0 Tests: 4		X			X			X			X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2		X						X				
Easily Liberated Sulphide	All	NDPs: 0 Tests: 4		X			X			X			X	
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 4	X			X			X			X		
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 4	X			X			X			X		
GRO by GC-FID (S)	All	NDPs: 0 Tests: 4			X			X			X			X
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 4		X			X			X			X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 4	X			X			X			X		
PAH by GCMS	All	NDPs: 0 Tests: 4	X			X			X			X		
pH	All	NDPs: 0 Tests: 4		X			X			X			X	
Sample description	All	NDPs: 0 Tests: 4	X			X			X			X		
Total Organic Carbon	All	NDPs: 0 Tests: 4	X			X			X			X		
Total Sulphate	All	NDPs: 0 Tests: 4	X			X			X			X		
TPH CWG GC (S)	All	NDPs: 0 Tests: 4	X			X			X			X		
VOC MS (S)	All	NDPs: 0 Tests: 4			X			X			X			X

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**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
11978081	BH8A	0.50	Black	Sand	0.1 - 2 mm	Stones	None
11978083	BH8A	3.00 - 3.50	Light Brown	Sand	0.1 - 2 mm	Stones	None
11978079	BH9A	0.50	Light Brown	Sand	0.1 - 2 mm	Stones	None
11978080	BH9A	2.20 - 3.30	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	None

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

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring 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:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH8A	BH8A	BH9A	BH9A		
			Depth (m)	0.50	3.00 - 3.50	0.50	2.20 - 3.30		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-57	150828-57	150828-57	150828-57		
			Lab Sample No.(s)	11978081	11978083	11978079	11978080		
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		17	9.5	7.3	14		
Exchangeable Ammonia as NH4	<15 mg/kg	TM024		<15 M	18.4 M	<15 M	71.4 M		
Organic Carbon, Total	<0.2 %	TM132		19.1 M	<0.2 M	<0.2 M	0.443 M		
pH	1 pH Units	TM133		8.38 M	7.66 M	10.2 M	11.2 M		
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #		
Sulphide, Easily liberated	<15 mg/kg	TM180		40.4 ♦ #	<15 ♦ #	<15 ♦ #	252 ♦ #		
Arsenic	<0.6 mg/kg	TM181		13.7 M	14.7 M	16.5 M	15.5 M		
Cadmium	<0.02 mg/kg	TM181		0.344 M	0.338 M	0.395 M	0.378 M		
Chromium	<0.9 mg/kg	TM181		13.9 M	19.1 M	18.9 M	21.1 M		
Copper	<1.4 mg/kg	TM181		80.7 M	5.98 M	8.36 M	12 M		
Lead	<0.7 mg/kg	TM181		41.4 M	6.89 M	12.4 M	23.7 M		
Mercury	<0.14 mg/kg	TM181		<0.14 M	<0.14 M	<0.14 M	<0.14 M		
Nickel	<0.2 mg/kg	TM181		37.6 M	18.8 M	23.6 M	20.7 M		
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #	<1 #		
Zinc	<1.9 mg/kg	TM181		24.4 M	25.5 M	34.5 M	62.4 M		
Sulphate, Total	<48 mg/kg	TM221		775 M	80.9 M	212 M	1040 M		

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
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diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH8A	BH8A	BH9A	BH9A		
			Depth (m)	0.50	3.00 - 3.50	0.50	2.20 - 3.30		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-57	150828-57	150828-57	150828-57		
			Lab Sample No.(s)	11978081	11978083	11978079	11978080		
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		122	101	99	95.4		
Acenaphthene-d10 % recovery**	%	TM218		124	97.4	98.4	94.8		
Phenanthrene-d10 % recovery**	%	TM218		118	93.6	96.9	93.4		
Chrysene-d12 % recovery**	%	TM218		99.3	83.8	92.1	84.9		
Perylene-d12 % recovery**	%	TM218		96.2	83.6	99	91.4		
Naphthalene	<9 µg/kg	TM218		111 M	<9 M	<9 M	32.7 M		
Acenaphthylene	<12 µg/kg	TM218		16 M	<12 M	<12 M	15 M		
Acenaphthene	<8 µg/kg	TM218		<8 M	<8 M	<8 M	11 M		
Fluorene	<10 µg/kg	TM218		<10 M	<10 M	<10 M	54.6 M		
Phenanthrene	<15 µg/kg	TM218		215 M	<15 M	<15 M	360 M		
Anthracene	<16 µg/kg	TM218		33.2 M	<16 M	<16 M	105 M		
Fluoranthene	<17 µg/kg	TM218		237 M	<17 M	<17 M	400 M		
Pyrene	<15 µg/kg	TM218		186 M	<15 M	16.7 M	317 M		
Benz(a)anthracene	<14 µg/kg	TM218		128 M	<14 M	24.7 M	283 M		
Chrysene	<10 µg/kg	TM218		137 M	<10 M	<10 M	218 M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		193 M	<15 M	24.6 M	306 M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		59.9 M	<14 M	<14 M	108 M		
Benzo(a)pyrene	<15 µg/kg	TM218		122 M	<15 M	18.2 M	259 M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		76.6 M	<18 M	<18 M	121 M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	<23 M	<23 M	40.4 M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		108 M	<24 M	<24 M	144 M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		1620	<118	<118	2780		

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

TPH CWG (S)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH8A	BH8A	BH9A	BH9A		
			Depth (m)	0.50	3.00 - 3.50	0.50	2.20 - 3.30		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-57	150828-57	150828-57	150828-57		
			Lab Sample No.(s)	11978081	11978083	11978079	11978080		
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		72	107	113	97		
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089		<44 M	<44 M	178 M	106 M		
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 M	<5 M	<5 M	<5 M		
Benzene	<10 µg/kg	TM089		<10 M	<10 M	<10 M	<10 M		
Toluene	<2 µg/kg	TM089		2.42 M	<2 M	<2 M	<2 M		
Ethylbenzene	<3 µg/kg	TM089		<3 M	<3 M	<3 M	<3 M		
m,p-Xylene	<6 µg/kg	TM089		<6 M	<6 M	<6 M	<6 M		
o-Xylene	<3 µg/kg	TM089		<3 M	<3 M	<3 M	<3 M		
sum of detected mpo xylene by GC	<9 µg/kg	TM089		<9	<9	<9	<9		
sum of detected BTEX by GC	<24 µg/kg	TM089		<24	<24	<24	<24		
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	<10		
Aliphatics >C6-C8	<10 µg/kg	TM089		14.5	<10	<10	19.7		
Aliphatics >C8-C10	<10 µg/kg	TM089		10.9	<10	11.9	22		
Aliphatics >C10-C12	<10 µg/kg	TM089		<10	<10	87.4	25.5		
Aliphatics >C12-C16	<100 µg/kg	TM173		555	<100	<100	1290		
Aliphatics >C16-C21	<100 µg/kg	TM173		1230	<100	<100	3060		
Aliphatics >C21-C35	<100 µg/kg	TM173		5830	<100	<100	6690		
Aliphatics >C35-C44	<100 µg/kg	TM173		567	<100	<100	<100		
Total Aliphatics >C12-C44	<100 µg/kg	TM173		8180	<100	<100	11000		
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10		
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	<10	15.1		
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	<10	58.3	17.4		
Aromatics >EC12-EC16	<100 µg/kg	TM173		<100	<100	<100	2810		
Aromatics >EC16-EC21	<100 µg/kg	TM173		<100	<100	<100	19400		
Aromatics >EC21-EC35	<100 µg/kg	TM173		<100	<100	<100	66300		
Aromatics >EC35-EC44	<100 µg/kg	TM173		<100	<100	<100	16400		
Aromatics >EC40-EC44	<100 µg/kg	TM173		<100	<100	<100	5980		
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		<100	<100	<100	105000		
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		8220	<100	111	116000		

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
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tot.unfilt	Total / unfiltered sample.
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1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH8A	BH8A	BH9A	BH9A		
			Depth (m)	0.50	3.00 - 3.50	0.50	2.20 - 3.30		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-57	150828-57	150828-57	150828-57		
			Lab Sample No.(s)	11978081	11978083	11978079	11978080		
			AGS Reference						
Dibromofluoromethane**	%	TM116		114	109	120	112		
Toluene-d8**	%	TM116		102	101	102	102		
4-Bromofluorobenzene**	%	TM116		88.1	95	96.1	92.2		
Dichlorodifluoromethane	<6 µg/kg	TM116		<60 M	<6 M	<6 M	<6 M		
Chloromethane	<7 µg/kg	TM116		<70 #	<7 #	<7 #	<7 #		
Vinyl Chloride	<6 µg/kg	TM116		<60 M	<6 M	<6 M	<6 M		
Bromomethane	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Chloroethane	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Trichlorofluorormethane	<6 µg/kg	TM116		<60 M	<6 M	<6 M	<6 M		
1,1-Dichloroethene	<10 µg/kg	TM116		<100 #	<10 #	<10 #	<10 #		
Carbon Disulphide	<7 µg/kg	TM116		<70 M	<7 M	<7 M	<7 M		
Dichloromethane	<10 µg/kg	TM116		<100 #	<10 #	<10 #	<10 #		
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
trans-1,2-Dichloroethene	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
1,1-Dichloroethane	<8 µg/kg	TM116		<80 M	<8 M	<8 M	<8 M		
cis-1,2-Dichloroethene	<6 µg/kg	TM116		<60 M	<6 M	<6 M	<6 M		
2,2-Dichloropropane	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Bromochloromethane	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Chloroform	<8 µg/kg	TM116		<80 M	<8 M	<8 M	<8 M		
1,1,1-Trichloroethane	<7 µg/kg	TM116		<70 M	<7 M	<7 M	<7 M		
1,1-Dichloropropene	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Carbontetrachloride	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
1,2-Dichloroethane	<5 µg/kg	TM116		<50 M	<5 M	<5 M	<5 M		
Benzene	<9 µg/kg	TM116		<90 M	<9 M	<9 M	<9 M		
Trichloroethene	<9 µg/kg	TM116		<90 #	<9 #	<9 #	<9 #		
1,2-Dichloropropane	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Dibromomethane	<9 µg/kg	TM116		<90 M	<9 M	<9 M	<9 M		
Bromodichloromethane	<7 µg/kg	TM116		<70 M	<7 M	<7 M	<7 M		
cis-1,3-Dichloropropene	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Toluene	<7 µg/kg	TM116		<70 M	<7 M	<7 M	<7 M		
trans-1,3-Dichloropropene	<10 µg/kg	TM116		<100	<10	<10	<10		
1,1,2-Trichloroethane	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
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tot.unfilt	Total / unfiltered sample.
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**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH8A	BH8A	BH9A	BH9A		
			Depth (m)	0.50	3.00 - 3.50	0.50	2.20 - 3.30		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-57	150828-57	150828-57	150828-57		
			Lab Sample No.(s)	11978081	11978083	11978079	11978080		
			AGS Reference						
1,3-Dichloropropane	<7 µg/kg	TM116		<70 M	<7 M	<7 M	<7 M		
Tetrachloroethene	<5 µg/kg	TM116		<50 M	<5 M	<5 M	<5 M		
Dibromochloromethane	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
1,2-Dibromoethane	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Chlorobenzene	<5 µg/kg	TM116		<50 M	<5 M	<5 M	<5 M		
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Ethylbenzene	<4 µg/kg	TM116		<40 M	<4 M	<4 M	<4 M		
p/m-Xylene	<10 µg/kg	TM116		<100 #	<10 #	<10 #	<10 #		
o-Xylene	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Styrene	<10 µg/kg	TM116		<100 #	<10 #	<10 #	<10 #		
Bromoform	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Isopropylbenzene	<5 µg/kg	TM116		<50 #	<5 #	<5 #	<5 #		
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
1,2,3-Trichloropropane	<16 µg/kg	TM116		<160 M	<16 M	<16 M	<16 M		
Bromobenzene	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
Propylbenzene	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
2-Chlorotoluene	<9 µg/kg	TM116		<90 M	<9 M	<9 M	<9 M		
1,3,5-Trimethylbenzene	<8 µg/kg	TM116		<80 M	<8 M	<8 M	<8 M		
4-Chlorotoluene	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
tert-Butylbenzene	<14 µg/kg	TM116		<140 M	<14 M	<14 M	<14 M		
1,2,4-Trimethylbenzene	<9 µg/kg	TM116		<90 #	<9 #	<9 #	<9 #		
sec-Butylbenzene	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
4-Isopropyltoluene	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
1,3-Dichlorobenzene	<8 µg/kg	TM116		<80 M	<8 M	<8 M	<8 M		
1,4-Dichlorobenzene	<5 µg/kg	TM116		<50 M	<5 M	<5 M	<5 M		
n-Butylbenzene	<11 µg/kg	TM116		<110	<11	<11	<11		
1,2-Dichlorobenzene	<10 µg/kg	TM116		<100 M	<10 M	<10 M	<10 M		
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<140 M	<14 M	<14 M	<14 M		
Tert-amyl methyl ether	<10 µg/kg	TM116		<100 #	<10 #	<10 #	<10 #		
1,2,4-Trichlorobenzene	<20 µg/kg	TM116		<200	<20	<20	<20		
Hexachlorobutadiene	<20 µg/kg	TM116		<200	<20	<20	<20		
Naphthalene	<13 µg/kg	TM116		<130 M	<13 M	<13 M	<13 M		

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
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Component	LOD/Units	Method	Customer Sample R	BH8A	BH8A	BH9A	BH9A		
			Depth (m)	0.50	3.00 - 3.50	0.50	2.20 - 3.30		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	26/08/2015	26/08/2015	26/08/2015	26/08/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/08/2015	28/08/2015	28/08/2015	28/08/2015		
			SDG Ref	150828-57	150828-57	150828-57	150828-57		
			Lab Sample No.(s)	11978081	11978083	11978079	11978080		
			AGS Reference						
1,2,3-Trichlorobenzene	<20 µg/kg	TM116		<200 #	<20 #	<20 #	<20 #		

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BH8A 0.50 SOLID 26/08/2015 00:00:00 01/09/2015 12:03:31 150828-57 11978081 TM048	4/9/15	Kevin Hughes	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BH9A 0.50 SOLID 26/08/2015 00:00:00 01/09/2015 11:54:18 150828-57 11978079 TM048	4/9/15	Kevin Hughes	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer		
TM243		Mixed Anions In Soils By Kone		

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

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11978081	11978083	11978079	11978080
Customer Sample Ref.	BH8A	BH8A	BH9A	BH9A
AGS Ref.				
Depth	0.50	3.00 - 3.50	0.50	2.20 - 3.30
Type	SOLID	SOLID	SOLID	SOLID
Ammonium Soil by Titration	09-Sep-2015	08-Sep-2015	09-Sep-2015	08-Sep-2015
Asbestos ID in Solid Samples	04-Sep-2015		04-Sep-2015	
Easily Liberated Sulphide	08-Sep-2015	07-Sep-2015	08-Sep-2015	07-Sep-2015
EPH CWG (Aliphatic) GC (S)	04-Sep-2015	03-Sep-2015	04-Sep-2015	03-Sep-2015
EPH CWG (Aromatic) GC (S)	04-Sep-2015	03-Sep-2015	04-Sep-2015	03-Sep-2015
GRO by GC-FID (S)	02-Sep-2015	02-Sep-2015	03-Sep-2015	02-Sep-2015
Hexavalent Chromium (s)	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015
Metals in solid samples by OES	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015
PAH by GCMS	03-Sep-2015	03-Sep-2015	08-Sep-2015	04-Sep-2015
pH	08-Sep-2015	08-Sep-2015	08-Sep-2015	04-Sep-2015
Sample description	01-Sep-2015	29-Aug-2015	01-Sep-2015	29-Aug-2015
Total Organic Carbon	07-Sep-2015	03-Sep-2015	07-Sep-2015	03-Sep-2015
Total Sulphate	07-Sep-2015	07-Sep-2015	07-Sep-2015	04-Sep-2015
TPH CWG GC (S)	04-Sep-2015	03-Sep-2015	04-Sep-2015	03-Sep-2015
VOC MS (S)	03-Sep-2015	02-Sep-2015	02-Sep-2015	02-Sep-2015

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

ASSOCIATED AQC DATA

Ammonium Soil by Titration

Component	Method Code	QC 1292	QC 1205
Exchangeable Ammonium as NH4	TM024	**86.07** 79.30 : 104.61	**98.01** 79.30 : 104.61

Easily Liberated Sulphide

Component	Method Code	QC 1262	QC 1219
Easily Liberated Sulphide	TM180	**88.38** 49.14 : 123.89	**93.21** 49.14 : 123.89

EPH CWG (Aliphatic) GC (S)

Component	Method Code	QC 1182	QC 1194	QC 1146
Total Aliphatics >C12-C35	TM173	**85.21** 62.50 : 112.50	**87.08** 70.80 : 111.51	**90.21** 71.67 : 116.67

EPH CWG (Aromatic) GC (S)

Component	Method Code	QC 1182	QC 1194	QC 1146
Total Aromatics >EC12-EC35	TM173	**82.67** 60.62 : 126.95	**82.67** 65.21 : 121.32	**83.33** 59.92 : 107.95

GRO by GC-FID (S)

Component	Method Code	QC 1105	QC 1173
Benzene by GC (Moisture Corrected)	TM089	**83.5** 79.00 : 121.00	**95.0** 76.33 : 121.87
Ethylbenzene by GC (Moisture Corrected)	TM089	**83.5** 79.00 : 121.00	**99.0** 75.73 : 123.83
m & p Xylene by GC (Moisture Corrected)	TM089	**83.75** 79.00 : 121.00	**97.5** 75.52 : 120.32
MTBE GC-FID (Moisture Corrected)	TM089	**85.5** 74.48 : 125.29	**94.0** 77.89 : 119.70
o Xylene by GC (Moisture Corrected)	TM089	**83.5** 79.00 : 121.00	**93.5** 74.15 : 124.59
QC	TM089	**112.68** 73.70 : 123.60	**99.2** 62.31 : 122.61
Toluene by GC (Moisture Corrected)	TM089	**83.5** 79.00 : 121.00	**93.5** 77.91 : 122.33

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Hexavalent Chromium (s)

Component	Method Code	QC 1299	QC 1285
Hexavalent Chromium	TM151	**100.0** 92.20 : 106.60	**102.0** 92.20 : 106.60

Metals in solid samples by OES

Component	Method Code	QC 1272	QC 1286	QC 1235
Aluminium	TM181	**108.46** 86.49 : 129.71	**109.23** 86.49 : 129.71	**98.46** 86.49 : 129.71
Antimony	TM181	**98.92** 77.50 : 122.50	**98.21** 77.50 : 122.50	**97.13** 77.50 : 122.50
Arsenic	TM181	**94.69** 82.63 : 117.37	**93.81** 82.63 : 117.37	**92.92** 82.63 : 117.37
Barium	TM181	**99.25** 79.45 : 120.55	**99.25** 79.45 : 120.55	**95.49** 79.45 : 120.55
Beryllium	TM181	**101.09** 85.92 : 121.27	**101.24** 85.92 : 121.27	**100.47** 85.92 : 121.27
Boron	TM181	**112.21** 77.41 : 143.83	**115.27** 77.41 : 143.83	**99.24** 77.41 : 143.83
Cadmium	TM181	**97.65** 81.95 : 118.05	**97.31** 81.95 : 118.05	**96.47** 81.95 : 118.05
Chromium	TM181	**109.41** 81.29 : 118.71	**99.22** 81.29 : 118.71	**93.73** 81.29 : 118.71
Cobalt	TM181	**97.83** 83.86 : 116.14	**97.17** 83.86 : 116.14	**96.5** 83.86 : 116.14
Copper	TM181	**100.68** 78.57 : 121.43	**100.14** 78.57 : 121.43	**99.46** 78.57 : 121.43
Iron	TM181	**102.76** 87.50 : 122.82	**100.69** 87.50 : 122.82	**97.24** 87.50 : 122.82
Lead	TM181	**95.28** 74.18 : 117.25	**93.7** 74.18 : 117.25	**94.09** 74.18 : 117.25
Manganese	TM181	**100.0** 82.91 : 117.09	**100.0** 82.91 : 117.09	**100.0** 82.91 : 117.09
Mercury	TM181	**94.47** 81.99 : 118.01	**93.97** 81.99 : 118.01	**92.46** 81.99 : 118.01
Molybdenum	TM181	**100.64** 81.45 : 118.55	**94.75** 81.45 : 118.55	**93.79** 81.45 : 118.55
Nickel	TM181	**109.88** 79.64 : 120.36	**98.26** 79.64 : 120.36	**95.93** 79.64 : 120.36
Phosphorus	TM181	**99.11** 81.03 : 118.97	**97.91** 81.03 : 118.97	**98.21** 81.03 : 118.97
Selenium	TM181	**106.5** 87.05 : 121.93	**107.01** 87.05 : 121.93	**108.21** 87.05 : 121.93
Strontium	TM181	**102.3** 83.64 : 116.36	**102.68** 83.64 : 116.36	**96.55** 83.64 : 116.36
Thallium	TM181	**92.21** 77.50 : 122.50	**90.55** 77.50 : 122.50	**88.72** 77.50 : 122.50
Tin	TM181	**94.35** 78.30 : 113.98	**93.69** 78.30 : 113.98	**92.69** 78.30 : 113.98
Titanium	TM181	**103.91** 71.02 : 128.98	**103.13** 71.02 : 128.98	**97.66** 71.02 : 128.98

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Metals in solid samples by OES

		QC 1272	QC 1286	QC 1235
Vanadium	TM181	**97.06** 86.61 : 113.39	**96.76** 86.61 : 113.39	**93.53** 86.61 : 113.39
Zinc	TM181	**100.97** 89.82 : 114.54	**100.32** 89.82 : 114.54	**98.05** 89.82 : 114.54

PAH by GCMS

Component	Method Code	QC 1191	QC 1196	QC 1106	QC 1137
Acenaphthene	TM218	**85.5** 70.00 : 130.00	**89.5** 78.75 : 116.25	**91.5** 78.84 : 114.36	**96.0** 78.84 : 114.36
Acenaphthylene	TM218	**78.0** 70.00 : 130.00	**85.5** 76.45 : 110.05	**85.5** 65.50 : 119.50	**90.0** 65.50 : 119.50
Anthracene	TM218	**79.0** 70.00 : 130.00	**89.0** 67.15 : 124.45	**91.0** 75.54 : 110.88	**97.5** 75.54 : 110.88
Benz(a)anthracene	TM218	**81.0** 70.00 : 130.00	**97.5** 82.00 : 127.00	**97.5** 78.02 : 127.38	**104.0** 78.02 : 127.38
Benzo(a)pyrene	TM218	**80.0** 70.00 : 130.00	**99.5** 75.60 : 124.20	**99.5** 79.21 : 128.01	**105.5** 79.21 : 128.01
Benzo(b)fluoranthene	TM218	**78.0** 70.00 : 130.00	**99.0** 81.20 : 121.77	**96.0** 86.21 : 131.42	**101.5** 86.21 : 131.42
Benzo(ghi)perylene	TM218	**83.0** 70.00 : 130.00	**96.0** 77.49 : 119.12	**95.0** 80.11 : 120.52	**100.0** 80.11 : 120.52
Benzo(k)fluoranthene	TM218	**79.0** 70.00 : 130.00	**96.5** 83.50 : 116.50	**97.0** 78.77 : 120.72	**103.0** 78.77 : 120.72
Chrysene	TM218	**77.5** 70.00 : 130.00	**95.5** 78.35 : 114.42	**94.5** 78.77 : 118.99	**100.5** 78.77 : 118.99
Dibenzo(ah)anthracene	TM218	**79.0** 70.00 : 130.00	**95.0** 77.15 : 122.45	**93.5** 76.39 : 122.63	**100.0** 76.39 : 122.63
Fluoranthene	TM218	**83.5** 70.00 : 130.00	**92.5** 79.08 : 114.40	**95.0** 77.25 : 117.75	**101.0** 77.25 : 117.75
Fluorene	TM218	**86.0** 70.00 : 130.00	**91.5** 79.03 : 113.38	**95.5** 79.28 : 117.35	**98.5** 79.28 : 117.35
Indeno(123cd)pyrene	TM218	**78.5** 70.00 : 130.00	**96.5** 75.65 : 125.15	**93.0** 78.87 : 122.50	**99.0** 78.87 : 122.50
Naphthalene	TM218	**91.5** 70.00 : 130.00	**92.5** 77.25 : 112.60	**93.0** 74.75 : 118.25	**95.0** 74.75 : 118.25
Phenanthrene	TM218	**84.0** 70.00 : 130.00	**92.0** 78.25 : 115.44	**95.0** 78.61 : 113.98	**100.5** 78.61 : 113.98
Pyrene	TM218	**82.5** 70.00 : 130.00	**91.0** 78.07 : 114.06	**94.0** 76.15 : 115.26	**99.5** 76.15 : 115.26

pH

Component	Method Code	QC 1208	QC 1218	QC 1227	QC 1293
pH	TM133	**100.13** 97.19 : 102.81	**100.25** 97.19 : 102.81	**100.5** 97.19 : 102.81	**100.63** 97.19 : 102.81

Total Organic Carbon

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Total Organic Carbon

Component	Method Code	QC 1254	QC 1245
Total Organic Carbon	TM132	**100.46** 88.82 : 111.18	**98.17** 89.40 : 103.09

Total Sulphate

Component	Method Code	QC 1218	QC 1273
Total Sulphate	TM221	**115.15** 78.49 : 121.51	**103.79** 78.49 : 121.51

VOC MS (S)

Component	Method Code	QC 1128	QC 1175
1,1,1,2-tetrachloroethane	TM116	**95.6** 83.24 : 124.28	**102.6** 83.24 : 124.28
1,1,1-Trichloroethane	TM116	**100.8** 81.77 : 121.07	**102.4** 81.77 : 121.07
1,1,2-Trichloroethane	TM116	**100.4** 79.24 : 112.23	**94.2** 79.24 : 112.23
1,1-Dichloroethane	TM116	**103.0** 72.58 : 116.06	**106.6** 72.58 : 116.06
1,2-Dichloroethane	TM116	**118.8** 77.50 : 122.50	**112.0** 77.50 : 122.50
1,4-Dichlorobenzene	TM116	**96.2** 73.23 : 116.39	**95.4** 73.23 : 116.39
2-Chlorotoluene	TM116	**85.6** 69.22 : 110.64	**86.6** 69.22 : 110.64
4-Chlorotoluene	TM116	**89.0** 68.57 : 106.26	**87.4** 68.57 : 106.26
Benzene	TM116	**103.2** 84.33 : 124.27	**106.0** 84.33 : 124.27
Carbon Disulphide	TM116	**110.4** 77.20 : 122.80	**107.4** 77.20 : 122.80
Carbontetrachloride	TM116	**98.2** 84.20 : 119.90	**102.8** 84.20 : 119.90
Chlorobenzene	TM116	**102.4** 85.28 : 129.96	**103.2** 85.28 : 129.96
Chloroform	TM116	**108.2** 82.73 : 119.72	**106.6** 82.73 : 119.72
Chloromethane	TM116	**123.4** 55.16 : 145.46	**117.2** 55.16 : 145.46
Cis-1,2-Dichloroethene	TM116	**108.4** 73.56 : 118.93	**108.4** 73.56 : 118.93
Dibromomethane	TM116	**104.4** 73.40 : 116.60	**98.0** 73.40 : 116.60
Dichloromethane	TM116	**113.2** 76.16 : 121.98	**108.2** 76.16 : 121.98

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

		QC 1128	QC 1175
Ethylbenzene	TM116	**94.0** 80.07 : 125.98	**99.2** 80.07 : 125.98
Hexachlorobutadiene	TM116	**69.0** 30.92 : 132.28	**89.2** 30.92 : 132.28
Isopropylbenzene	TM116	**82.6** 69.27 : 125.32	**92.6** 69.27 : 125.32
Naphthalene	TM116	**110.0** 79.15 : 121.98	**107.4** 79.15 : 121.98
o-Xylene	TM116	**77.6** 75.46 : 111.52	**84.8** 75.46 : 111.52
p/m-Xylene	TM116	**90.2** 76.97 : 121.75	**96.6** 76.97 : 121.75
Sec-Butylbenzene	TM116	**69.6** 49.27 : 129.90	**85.8** 49.27 : 129.90
Tetrachloroethene	TM116	**102.2** 87.96 : 133.65	**110.6** 87.96 : 133.65
Toluene	TM116	**99.0** 79.23 : 114.58	**100.6** 79.23 : 114.58
Trichloroethene	TM116	**94.6** 84.09 : 114.24	**98.4** 84.09 : 114.24
Trichlorofluoromethane	TM116	**107.4** 76.22 : 114.82	**104.4** 76.22 : 114.82
Vinyl Chloride	TM116	**98.2** 59.68 : 118.68	**100.8** 59.68 : 118.68

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

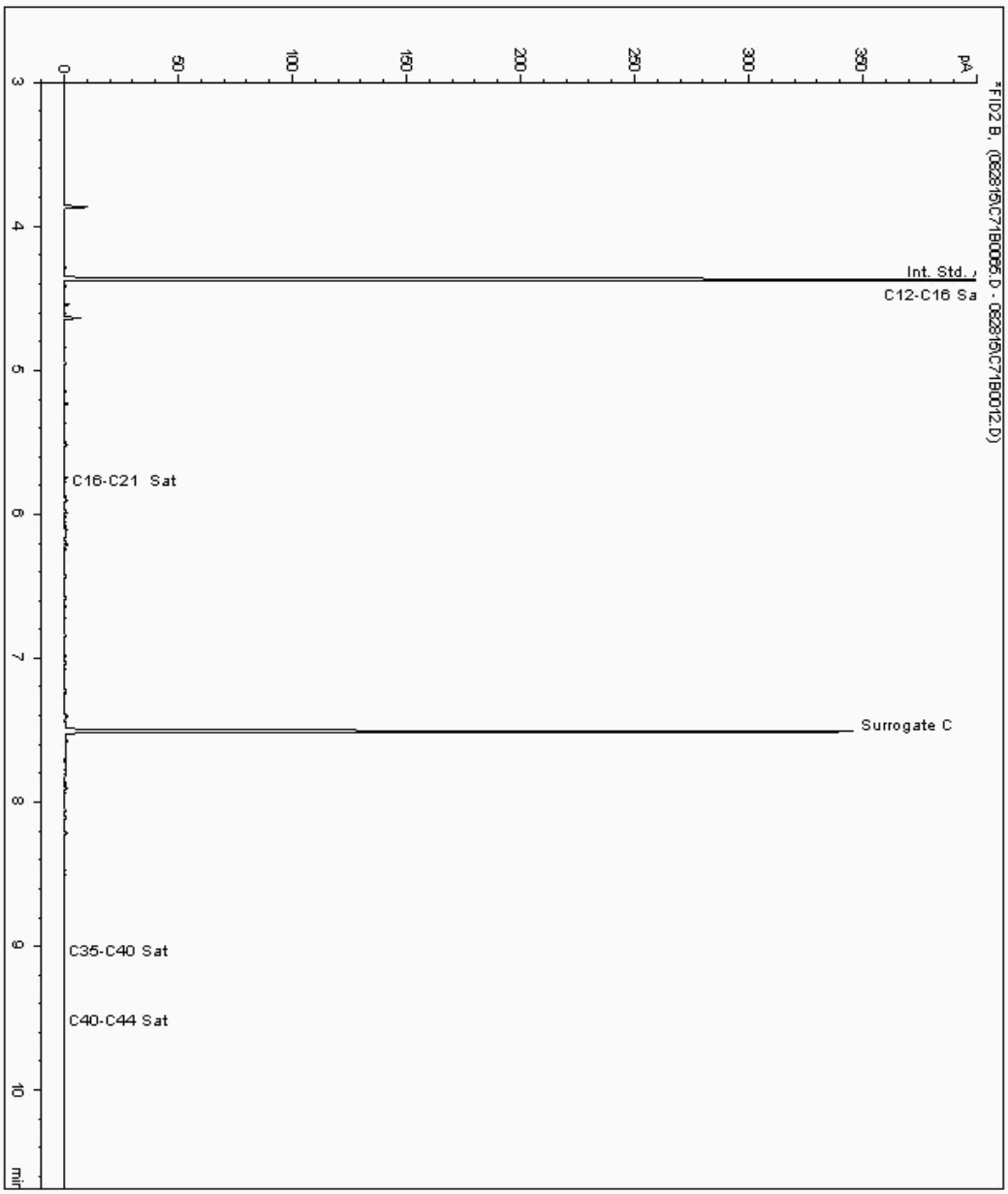
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11982640
Sample ID : BH9A

Depth : 2.20 - 3.30

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

Sample Identity: l1364862-
Date Acquired : 02/09/2015 08:42:03 PM
Units : ppb
Dilution: BH9A[2.20 - 3.30] ->



CERTIFICATE OF ANALYSIS

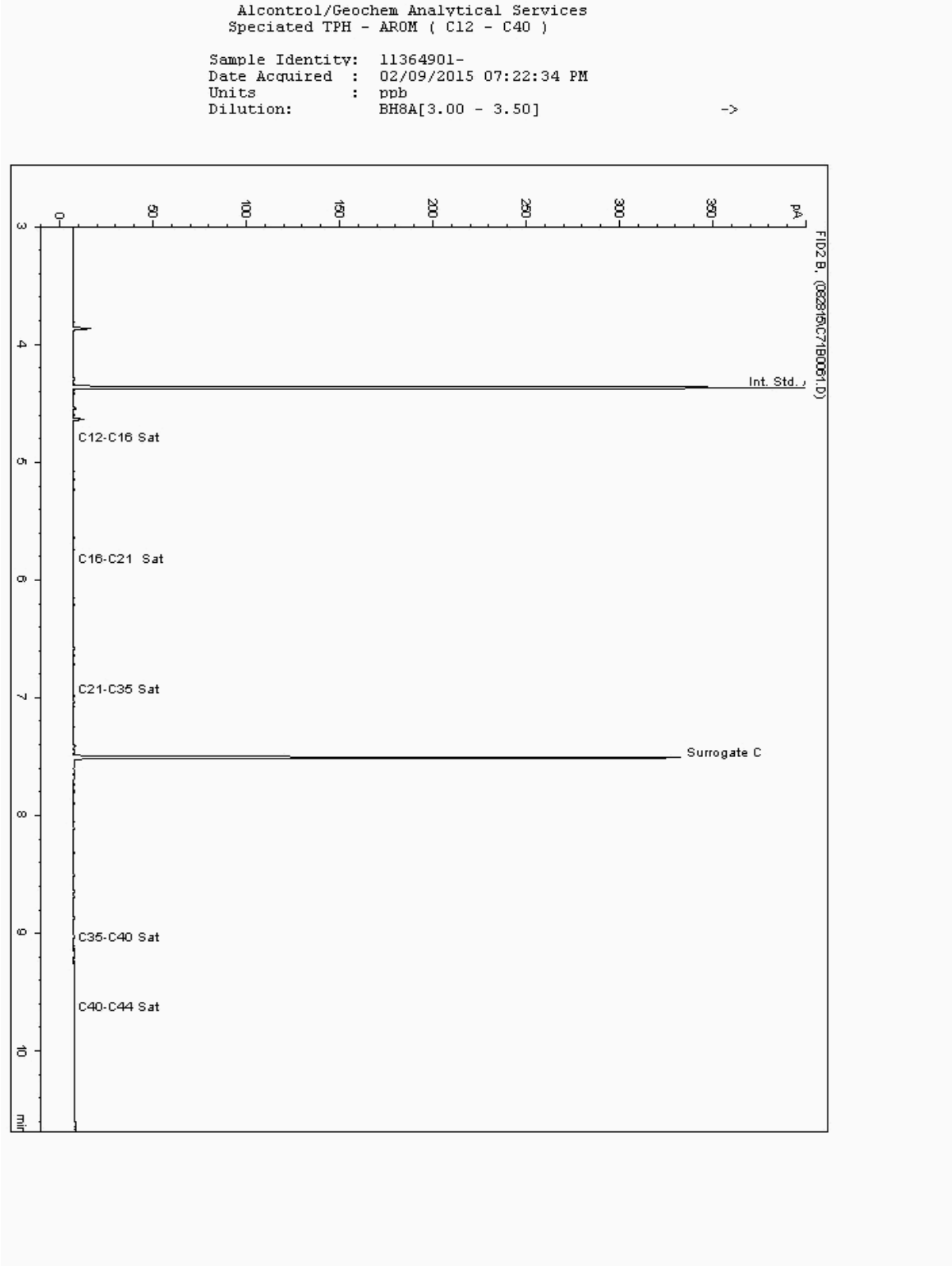
SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11982647
Sample ID : BH8A

Depth : 3.00 - 3.50



CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

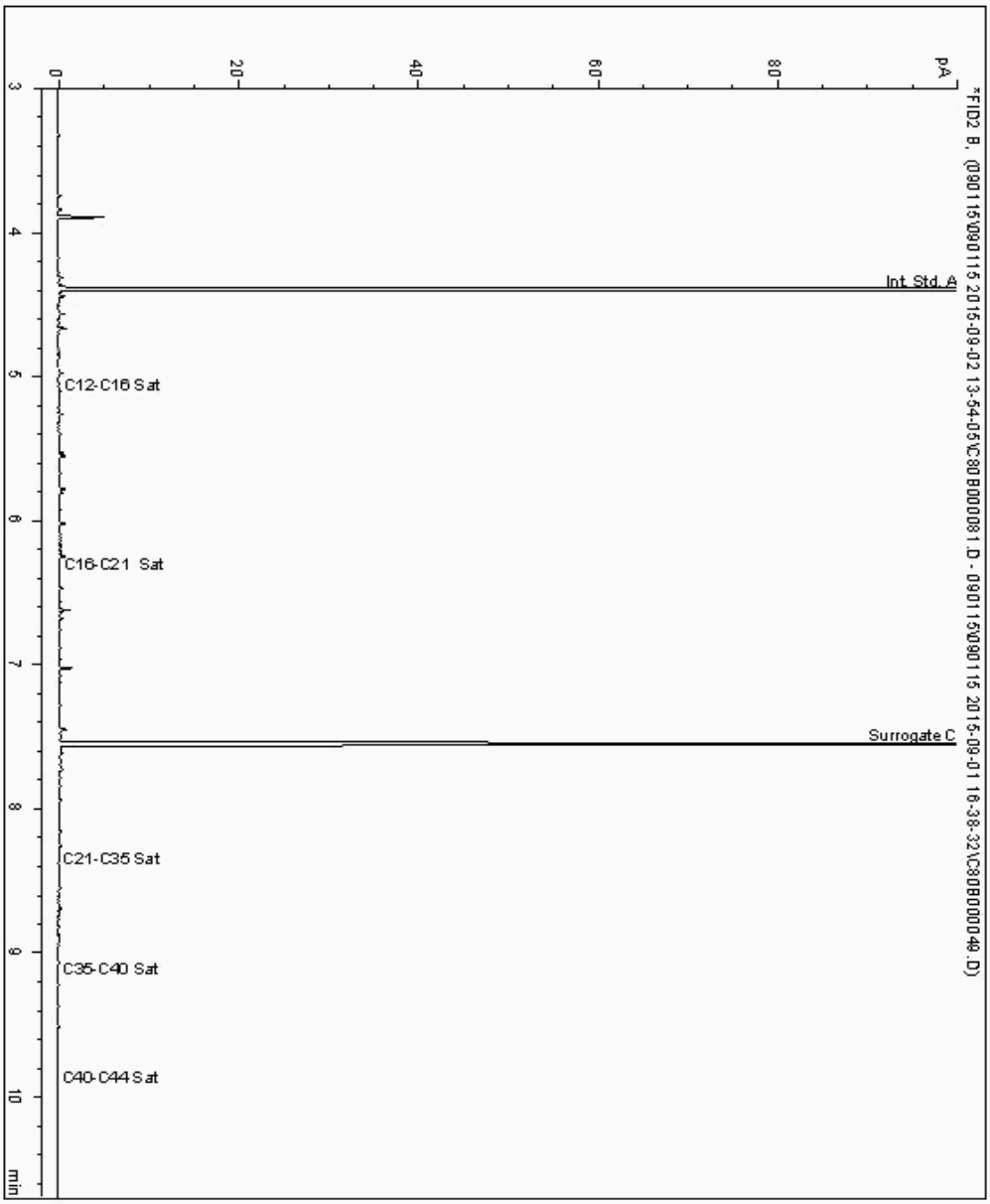
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11989024
Sample ID : BH9A

Depth : 0.50

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

Sample Identity: 11364846-
Date Acquired : 02/09/15 15:29:04
Units : ppb
Dilution :
CF : 1
Multiplier : 0.980



CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

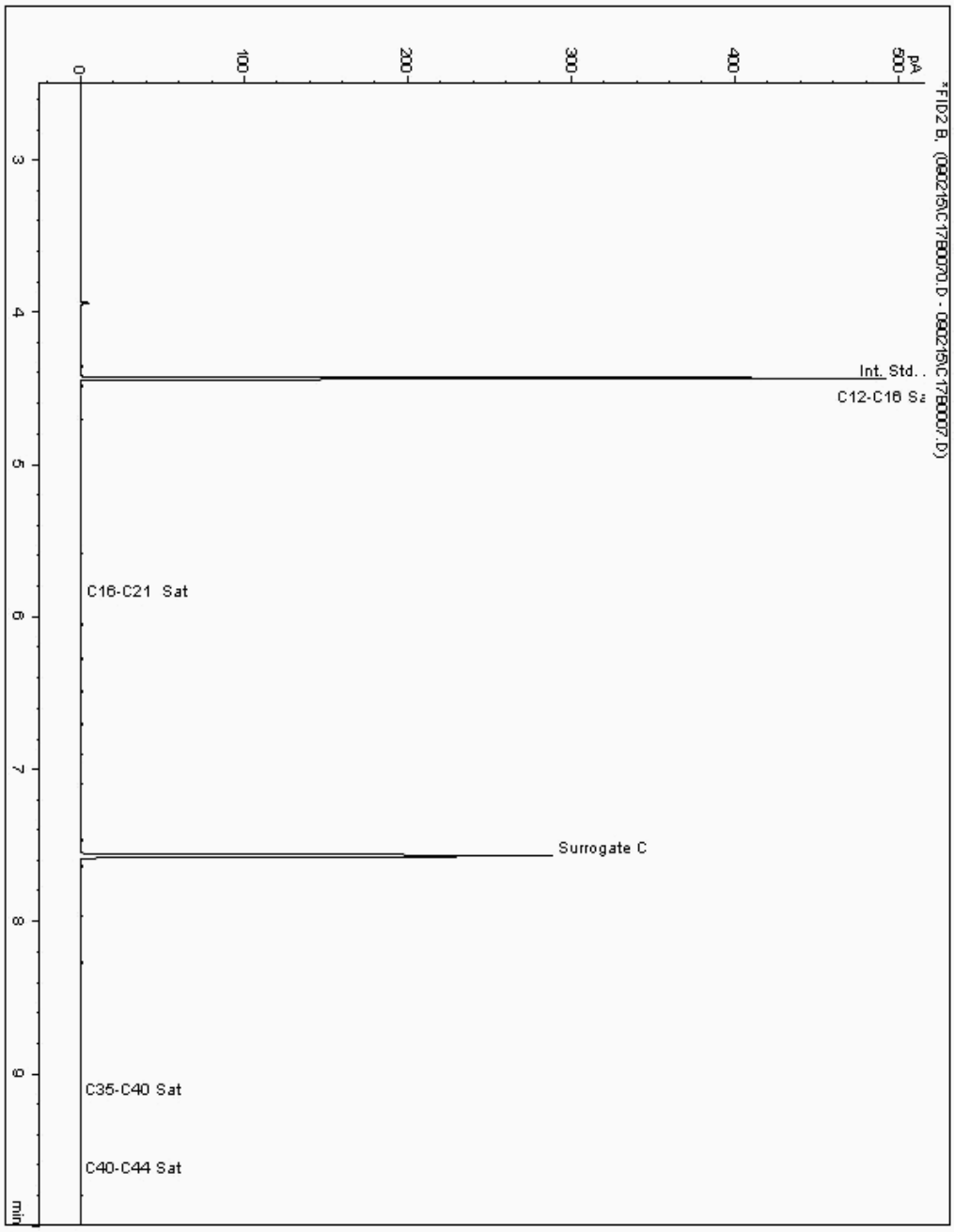
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11989052
Sample ID : BH8A

Depth : 0.50

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

Sample Identity: 11364879-
Date Acquired : 03/09/2015 09:03:05 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.950



CERTIFICATE OF ANALYSIS

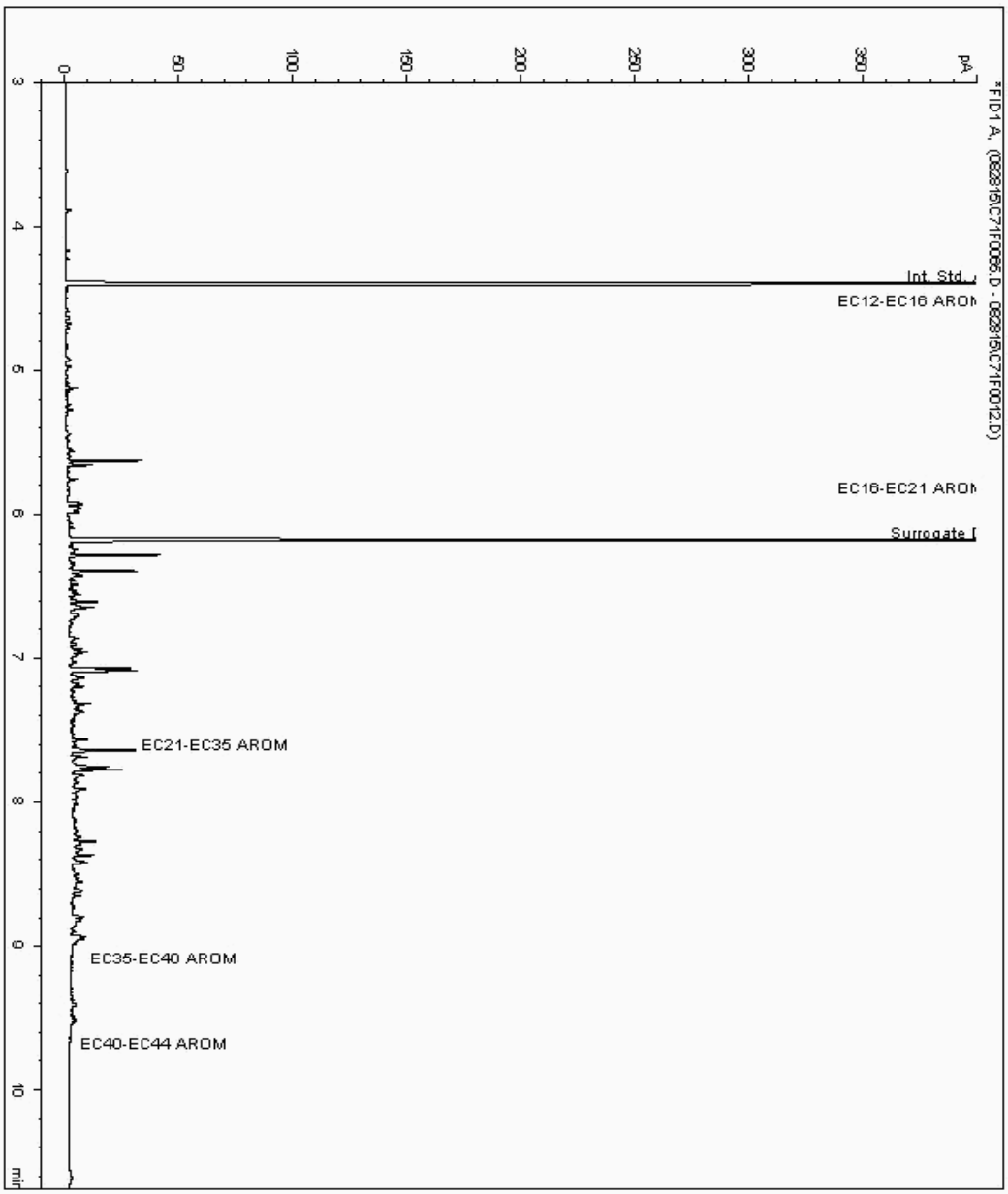
SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S) **Sample No :** 11982640 **Sample ID :** BH9A **Depth :** 2.20 - 3.30

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

Sample Identity: l1364863-
Date Acquired : 02/09/2015 08:42:03 PM
Units : ppb
Dilution: BH9A[2.20 - 3.30] ->

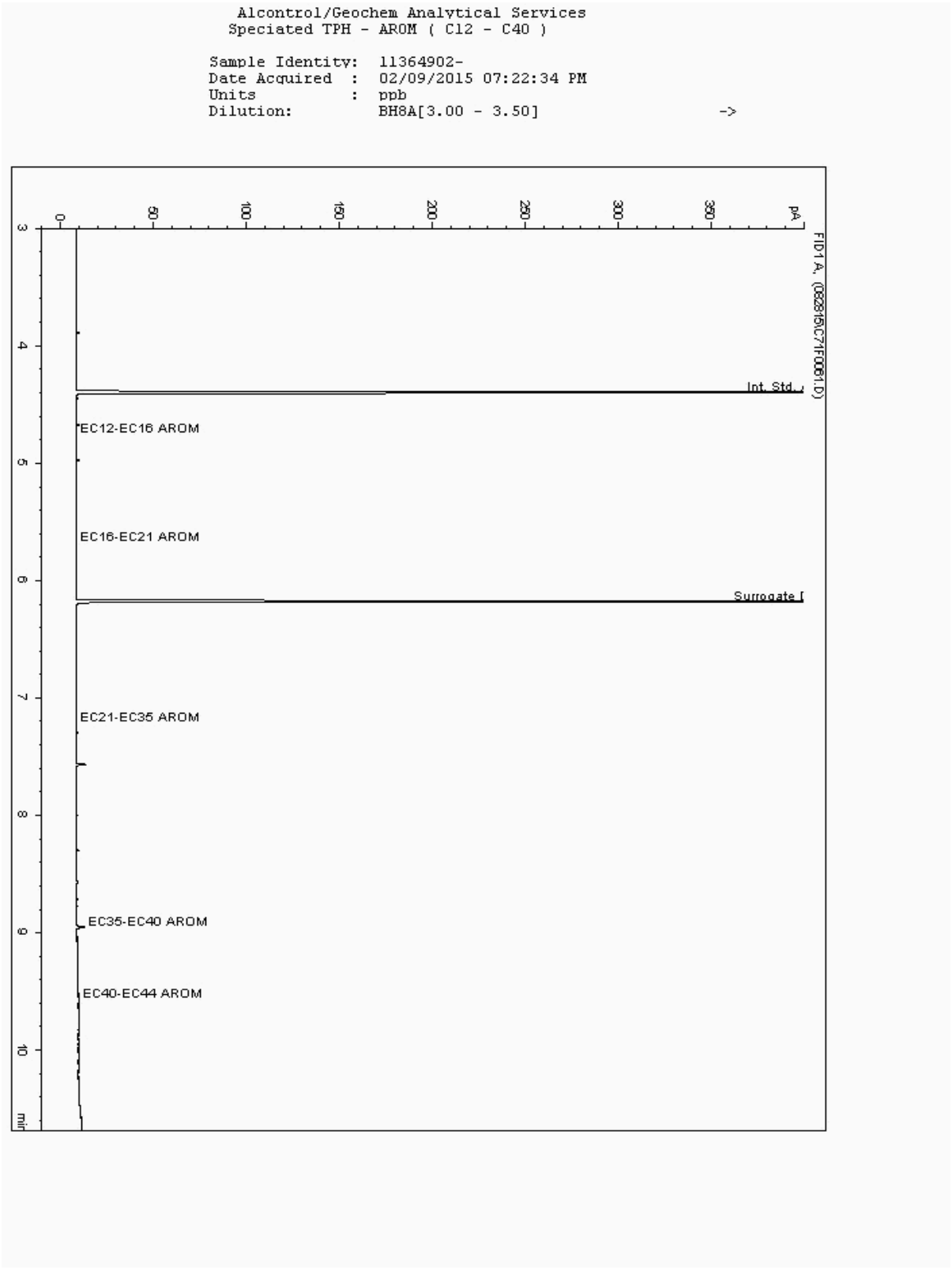


CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S) **Sample No :** 11982647 **Sample ID :** BH8A **Depth :** 3.00 - 3.50



CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

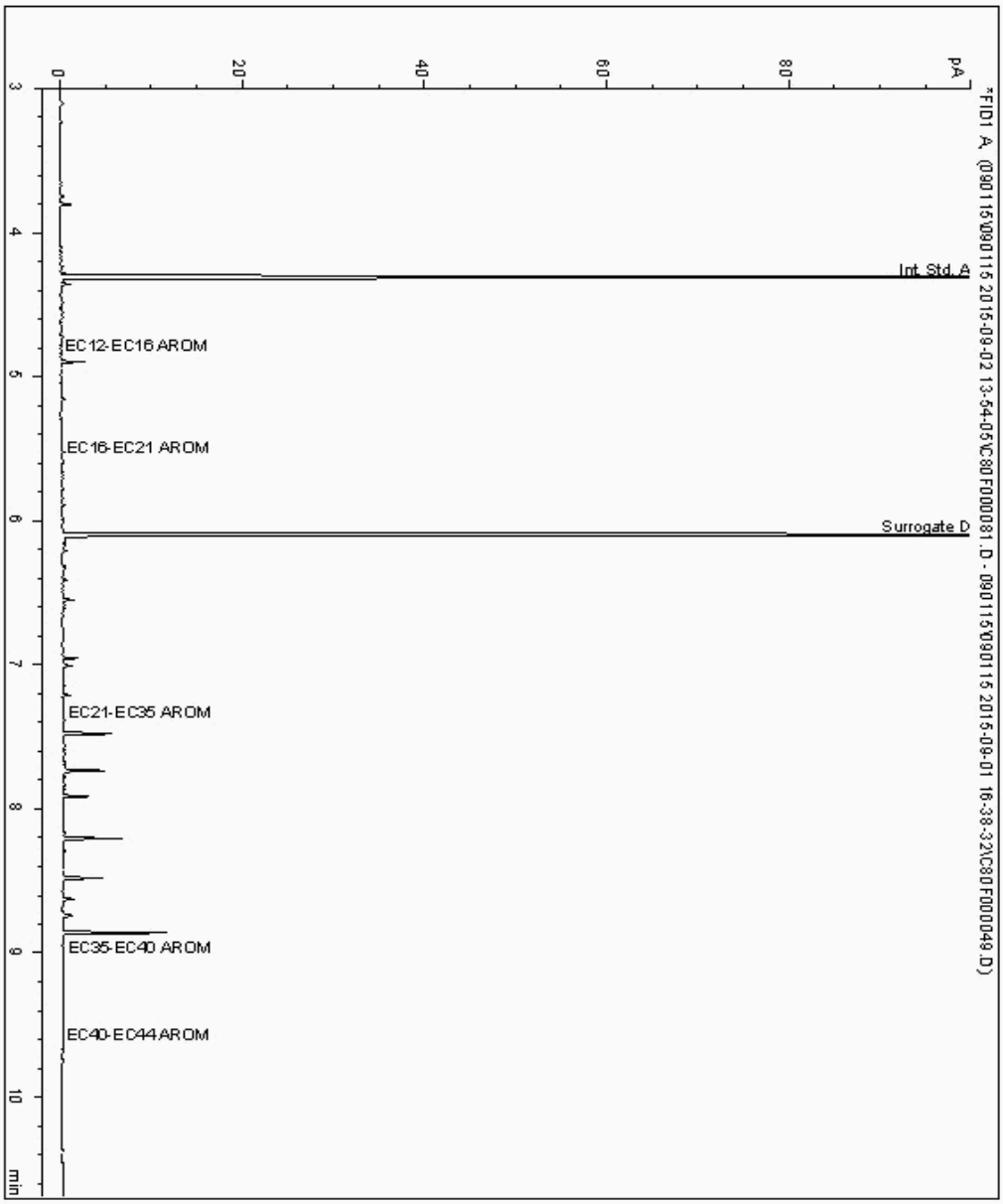
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 11989024
Sample ID : BH9A

Depth : 0.50

Alcontrol/Geochem Analytical Services
Speciated TPH - AROMS (C12 - C44)

Sample Identity: 11364847-
Date Acquired : 02/09/15 15:29:04
Units : ppb
Dilution :
CF : 1
Multiplier : 0.980



CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

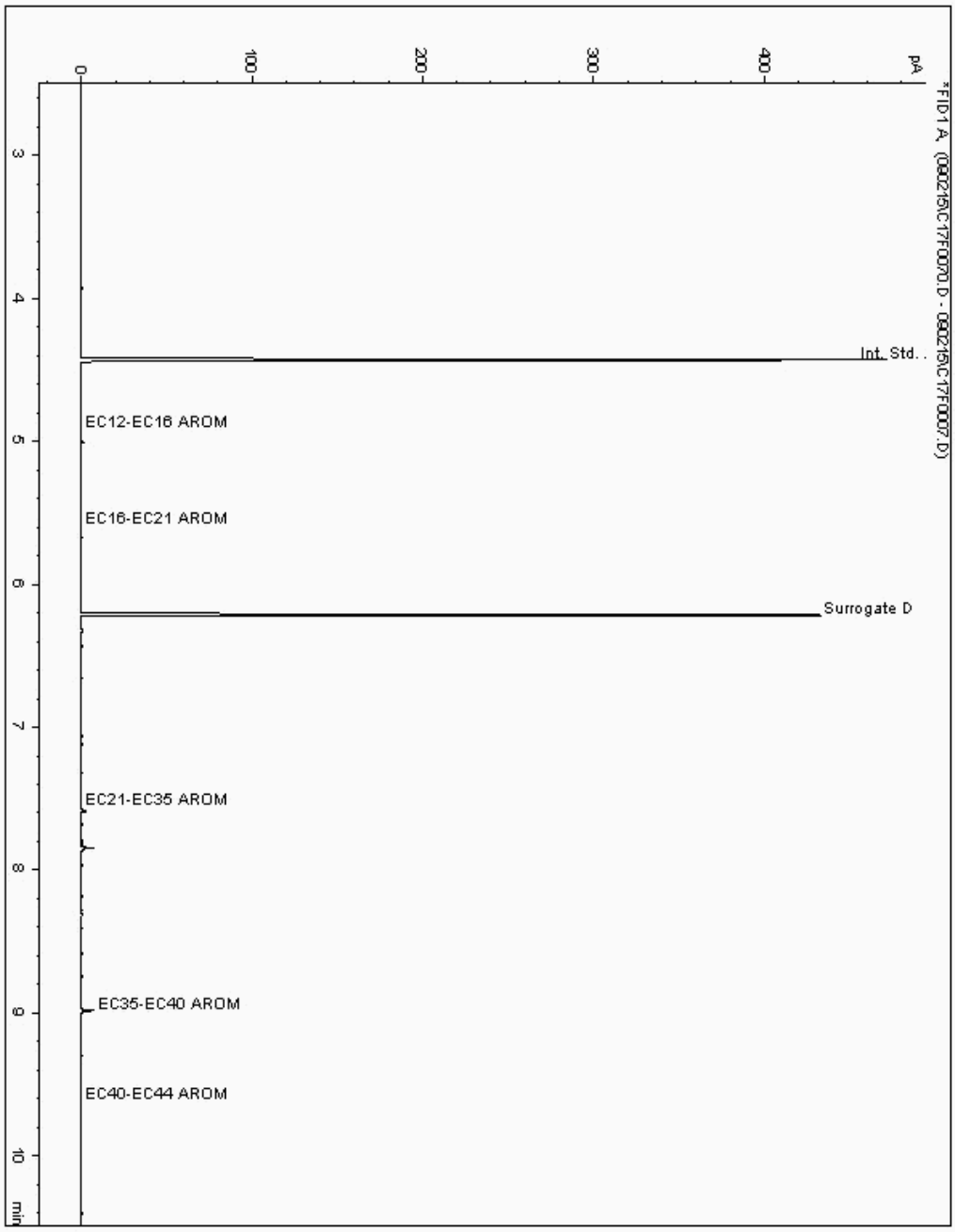
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 11989052
Sample ID : BH8A

Depth : 0.50

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

Sample Identity: 11364880-
Date Acquired : 03/09/2015 09:03:05 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.950



CERTIFICATE OF ANALYSIS

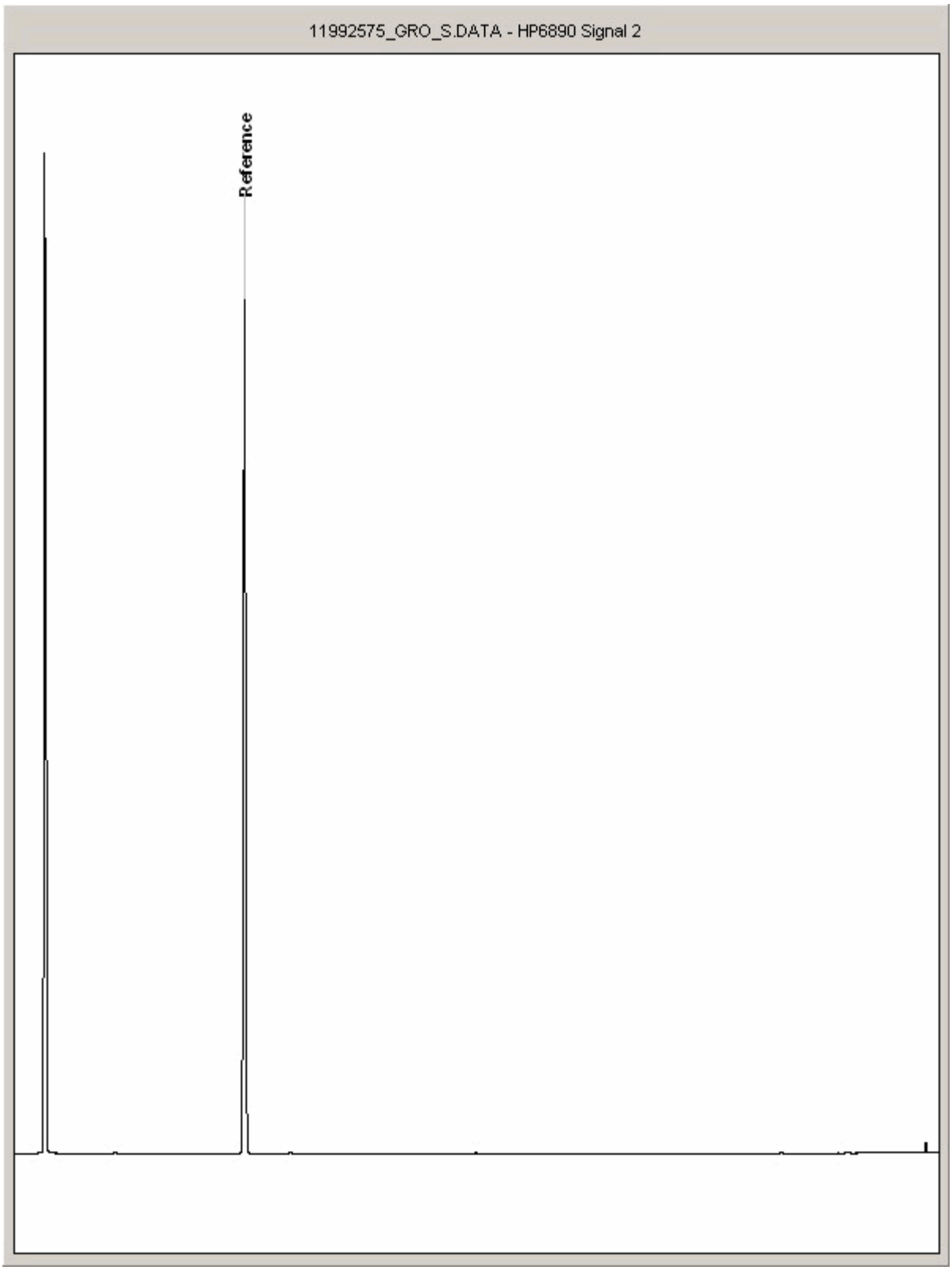
SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11992575
Sample ID : BH8A

Depth : 3.00 - 3.50



CERTIFICATE OF ANALYSIS

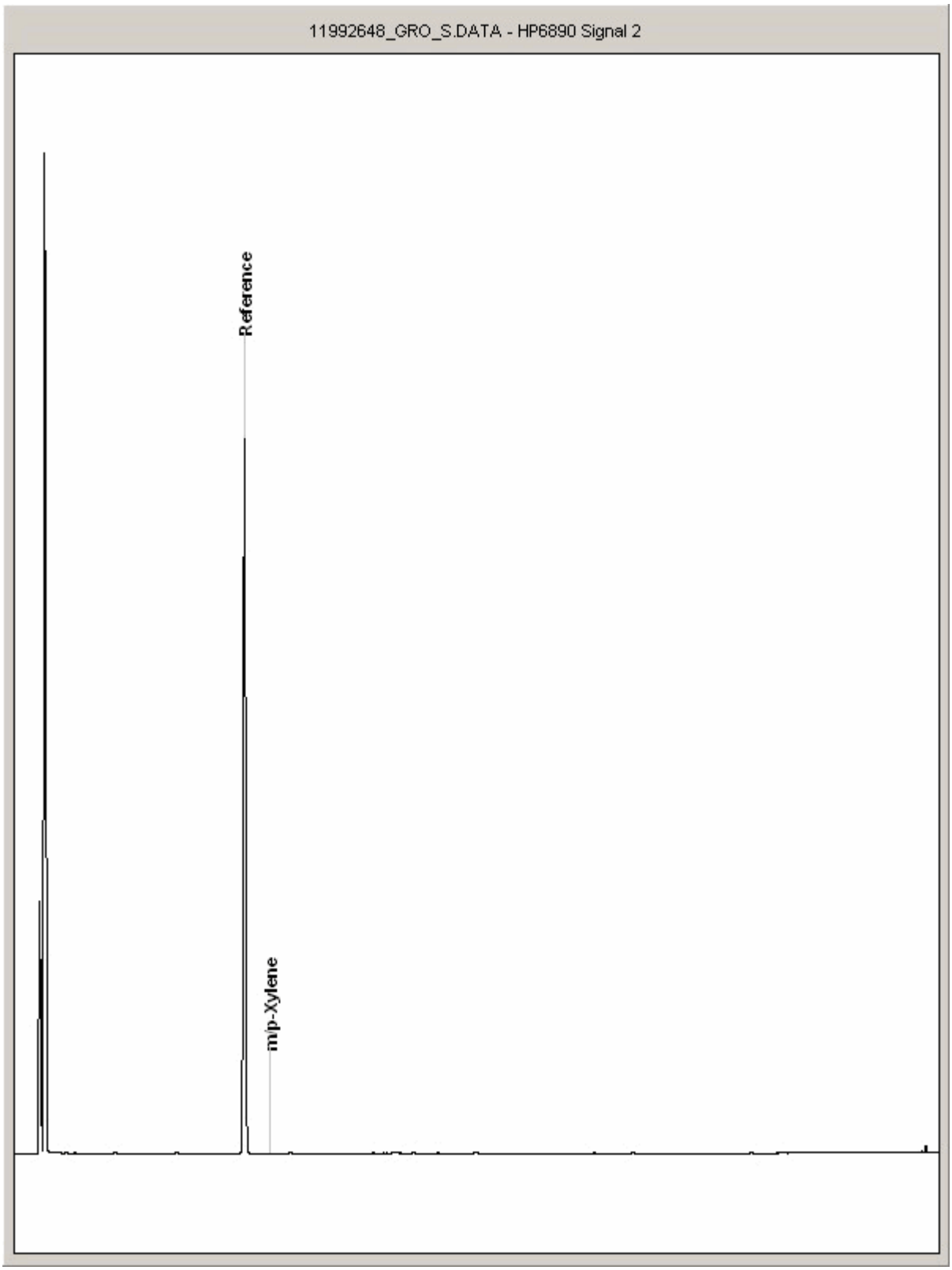
SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11992648
Sample ID : BH9A

Depth : 2.20 - 3.30



CERTIFICATE OF ANALYSIS

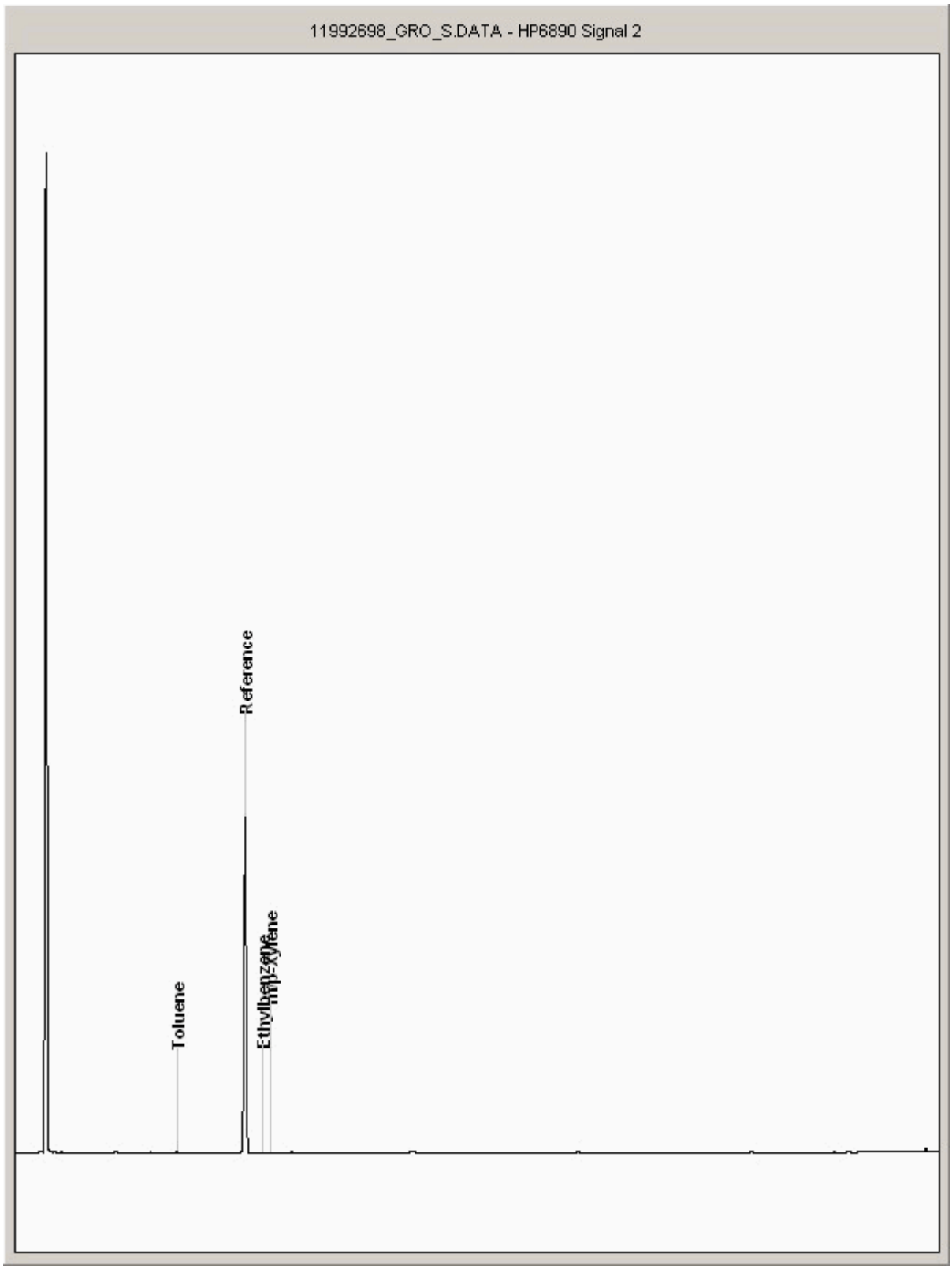
SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11992698
Sample ID : BH8A

Depth : 0.50



CERTIFICATE OF ANALYSIS

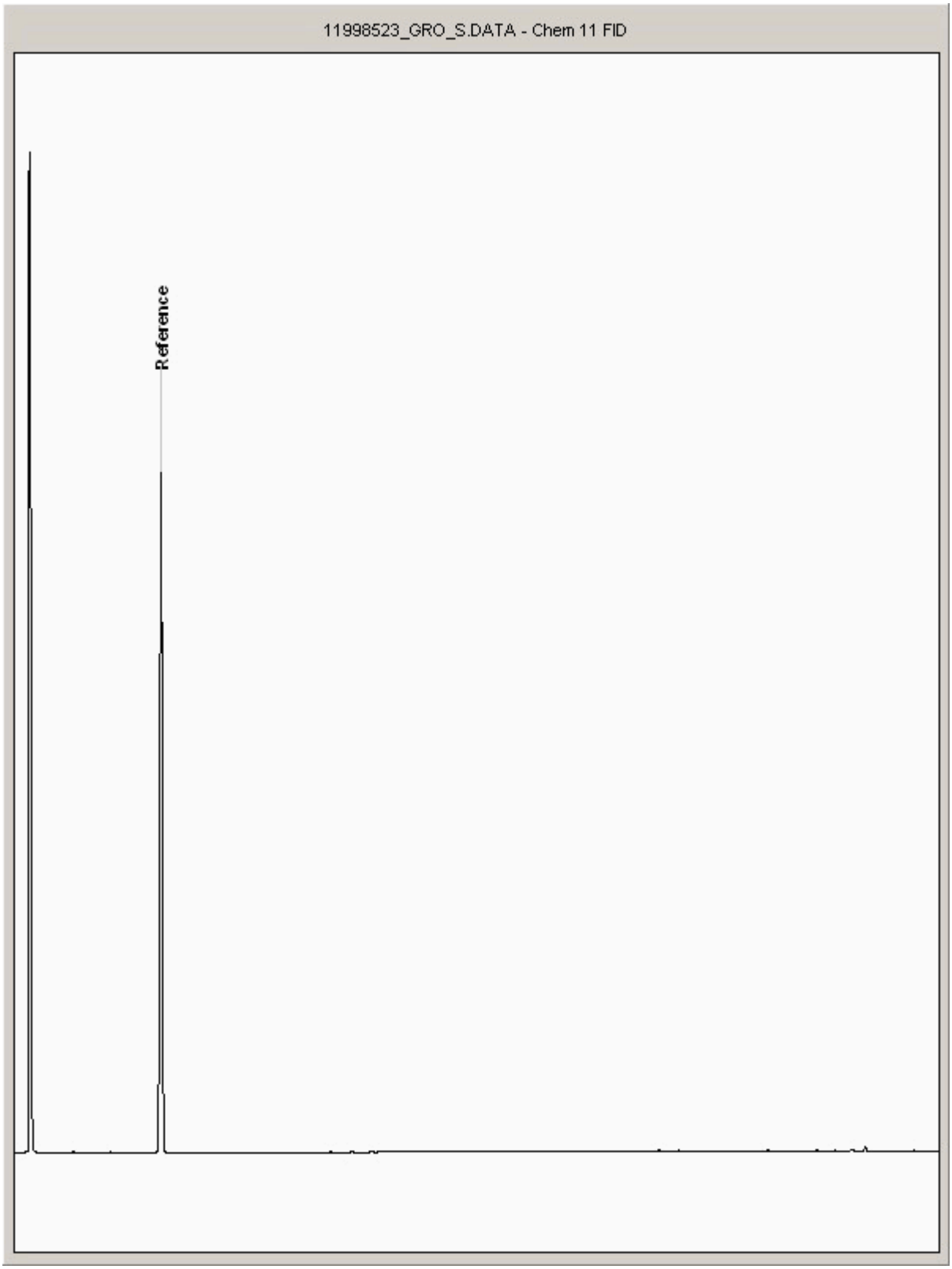
SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11998523
Sample ID : BH9A

Depth : 0.50



CERTIFICATE OF ANALYSIS

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS 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 both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos 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 screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

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. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

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 Dimethyphenol, 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 14).

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

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. 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.

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

21. 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.

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

23. 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 themajor 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.

24. 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 C4 -C10 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
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	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 TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
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-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
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

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

Visual Estimation Of Fibre Content

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

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials 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.

Last Updated : 2010/09/08

SDG:	150828-57	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329023
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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AECOM
St. George's House
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Wimbledon
Greater London
SW19 4DR

Attention: Gary Marshall

CERTIFICATE OF ANALYSIS

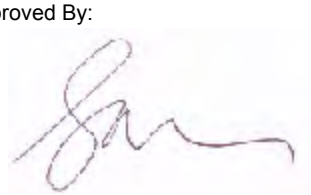
Date:	10 September 2015
Customer:	H_URS_WIM
Sample Delivery Group (SDG):	150829-68
Your Reference:	
Location:	Stag Brewery
Report No:	329373

We received 4 samples on Saturday August 29, 2015 and 4 of these samples were scheduled for analysis which was completed on Thursday September 10, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11984669	BH3A		0.50	28/08/2015
11984670	BH3A		1.50 - 2.00	28/08/2015
11984671	BH5A		0.50	28/08/2015
11984672	BH5A		2.50 - 3.00	28/08/2015

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

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	11984669	11984670	11984671	11984672
			Customer Sample Reference	BH3A	BH3A	BH5A	BH5A
			AGS Reference				
			Depth (m)	0.50	1.50 - 2.00	0.50	2.50 - 3.00
			Container	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)
Ammonium Soil by Titration	All	NDPs: 0 Tests: 3			X				X			X			
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 3			X				X			X			
Easily Liberated Sulphide	All	NDPs: 0 Tests: 3			X				X			X			
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 3	X				X			X					
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 3	X				X			X					
GRO by GC-FID (S)	All	NDPs: 0 Tests: 3				X					X				X
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 3		X				X				X			
Metals in solid samples by OES	All	NDPs: 0 Tests: 3	X				X			X					
PAH by GCMS	All	NDPs: 0 Tests: 3	X				X			X					
pH	All	NDPs: 0 Tests: 3		X				X				X			
Sample description	All	NDPs: 0 Tests: 4	X			X	X			X					
Total Organic Carbon	All	NDPs: 0 Tests: 3	X				X			X					
Total Sulphate	All	NDPs: 0 Tests: 3	X				X			X					
TPH CWG GC (S)	All	NDPs: 0 Tests: 3	X				X			X					
VOC MS (S)	All	NDPs: 0 Tests: 3			X				X						X

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**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
11984669	BH3A	0.50	Dark Brown	Sand	0.1 - 2 mm	Stones	None
11984670	BH3A	1.50 - 2.00	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
11984671	BH5A	0.50	Light Brown	Sand	0.1 - 2 mm	Stones	Vegetation
11984672	BH5A	2.50 - 3.00	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None

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

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring 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:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3A	BH5A	BH5A			
			Depth (m)	0.50	0.50	2.50 - 3.00			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	28/08/2015	28/08/2015	28/08/2015			
			Sampled Time	.	.	.			
			Date Received	29/08/2015	29/08/2015	29/08/2015			
			SDG Ref	150829-68	150829-68	150829-68			
			Lab Sample No.(s)	11984669	11984671	11984672			
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		6.3	7	5.8			
Exchangeable Ammonia as NH4	<15 mg/kg	TM024		<15 M	27.7 M	<15 M			
Organic Carbon, Total	<0.2 %	TM132		1.52 M	1.33 M	<0.2 M			
pH	1 pH Units	TM133		8.22 M	7.86 M	7.86 M			
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #			
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 & #	<15 & #	<15 & #			
Arsenic	<0.6 mg/kg	TM181		18.9 M	19.1 M	22.4 M			
Cadmium	<0.02 mg/kg	TM181		0.475 M	1.13 M	0.533 M			
Chromium	<0.9 mg/kg	TM181		19.5 M	25.4 M	21.6 M			
Copper	<1.4 mg/kg	TM181		49.3 M	28 M	3.56 M			
Lead	<0.7 mg/kg	TM181		178 M	85.7 M	9.05 M			
Mercury	<0.14 mg/kg	TM181		0.151 M	1.9 M	<0.14 M			
Nickel	<0.2 mg/kg	TM181		29.2 M	17.1 M	20.7 M			
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #			
Zinc	<1.9 mg/kg	TM181		89.3 M	101 M	28.6 M			
Sulphate, Total	<48 mg/kg	TM221		579 M	356 M	95.9 M			

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3A	BH5A	BH5A			
			Depth (m)	0.50	0.50	2.50 - 3.00			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	28/08/2015	28/08/2015	28/08/2015			
			Sampled Time	.	.	.			
			Date Received	29/08/2015	29/08/2015	29/08/2015			
			SDG Ref	150829-68	150829-68	150829-68			
			Lab Sample No.(s)	11984669	11984671	11984672			
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		95	96.9	97.3			
Acenaphthene-d10 % recovery**	%	TM218		90.7	92.6	96			
Phenanthrene-d10 % recovery**	%	TM218		89.2	90.5	94.6			
Chrysene-d12 % recovery**	%	TM218		83.6	85	86.6			
Perylene-d12 % recovery**	%	TM218		87.7	92.4	90.2			
Naphthalene	<9 µg/kg	TM218		34.7 M	15.9 M	<9 M			
Acenaphthylene	<12 µg/kg	TM218		29.9 M	28.9 M	<12 M			
Acenaphthene	<8 µg/kg	TM218		<8 M	9.32 M	<8 M			
Fluorene	<10 µg/kg	TM218		<10 M	<10 M	<10 M			
Phenanthrene	<15 µg/kg	TM218		188 M	147 M	<15 M			
Anthracene	<16 µg/kg	TM218		36 M	39.9 M	<16 M			
Fluoranthene	<17 µg/kg	TM218		445 M	417 M	<17 M			
Pyrene	<15 µg/kg	TM218		384 M	359 M	29.8 M			
Benz(a)anthracene	<14 µg/kg	TM218		245 M	227 M	<14 M			
Chrysene	<10 µg/kg	TM218		291 M	236 M	24.5 M			
Benzo(b)fluoranthene	<15 µg/kg	TM218		459 M	391 M	23.5 M			
Benzo(k)fluoranthene	<14 µg/kg	TM218		134 M	132 M	<14 M			
Benzo(a)pyrene	<15 µg/kg	TM218		289 M	260 M	<15 M			
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		210 M	156 M	<18 M			
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		63.4 M	46.8 M	<23 M			
Benzo(g,h,i)perylene	<24 µg/kg	TM218		245 M	196 M	<24 M			
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		3050	2660	<118			

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3A	BH5A	BH5A			
			Depth (m)	0.50	0.50	2.50 - 3.00			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	28/08/2015	28/08/2015	28/08/2015			
			Sampled Time	.	.	.			
			Date Received	29/08/2015	29/08/2015	29/08/2015			
			SDG Ref	150829-68	150829-68	150829-68			
			Lab Sample No.(s)	11984669	11984671	11984672			
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		69	72	99			
GRO TOT (Moisture Corrected)	<44 µg/kg	TM089		<44 M	<44 M	<44 M			
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 M	<5 M	<5 M			
Benzene	<10 µg/kg	TM089		<10 M	<10 M	<10 M			
Toluene	<2 µg/kg	TM089		<2 M	<2 M	<2 M			
Ethylbenzene	<3 µg/kg	TM089		5.34 M	<3 M	<3 M			
m,p-Xylene	<6 µg/kg	TM089		<6 M	<6 M	<6 M			
o-Xylene	<3 µg/kg	TM089		<3 M	<3 M	<3 M			
sum of detected mpo xylene by GC	<9 µg/kg	TM089		<9	<9	<9			
sum of detected BTEX by GC	<24 µg/kg	TM089		<24	<24	<24			
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10			
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	<10			
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	<10			
Aliphatics >C10-C12	<10 µg/kg	TM089		<10	<10	<10			
Aliphatics >C12-C16	<100 µg/kg	TM173		<100	<100	<100			
Aliphatics >C16-C21	<100 µg/kg	TM173		3140	234	<100			
Aliphatics >C21-C35	<100 µg/kg	TM173		9790	6660	<100			
Aliphatics >C35-C44	<100 µg/kg	TM173		3030	968	<100			
Total Aliphatics >C12-C44	<100 µg/kg	TM173		15900	7860	<100			
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10			
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10			
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	<10			
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	<10	<10			
Aromatics >EC12-EC16	<100 µg/kg	TM173		714	358	<100			
Aromatics >EC16-EC21	<100 µg/kg	TM173		4780	2620	<100			
Aromatics >EC21-EC35	<100 µg/kg	TM173		24700	16100	<100			
Aromatics >EC35-EC44	<100 µg/kg	TM173		12700	8050	<100			
Aromatics >EC40-EC44	<100 µg/kg	TM173		5160	2870	<100			
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		42900	27100	<100			
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		58900	35000	<100			

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3A	BH5A	BH5A			
			Depth (m)	0.50	0.50	2.50 - 3.00			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	28/08/2015	28/08/2015	28/08/2015			
			Sampled Time	.	.	.			
			Date Received	29/08/2015	29/08/2015	29/08/2015			
			SDG Ref	150829-68	150829-68	150829-68			
			Lab Sample No.(s)	11984669	11984671	11984672			
			AGS Reference						
Dibromofluoromethane**	%	TM116		116	122	120			
Toluene-d8**	%	TM116		104	103	113			
4-Bromofluorobenzene**	%	TM116		69.3	72.4	102			
Dichlorodifluoromethane	<6 µg/kg	TM116		<6 M	<6 M	<6 M			
Chloromethane	<7 µg/kg	TM116		<7 #	<7 #	<7 #			
Vinyl Chloride	<6 µg/kg	TM116		<6 M	<6 M	<6 M			
Bromomethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
Chloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
Trichlorofluorormethane	<6 µg/kg	TM116		<6 M	<6 M	<6 M			
1,1-Dichloroethene	<10 µg/kg	TM116		<10 #	<10 #	<10 #			
Carbon Disulphide	<7 µg/kg	TM116		<7 M	<7 M	<7 M			
Dichloromethane	<10 µg/kg	TM116		<10 #	<10 #	<10 #			
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
trans-1,2-Dichloroethene	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
1,1-Dichloroethane	<8 µg/kg	TM116		<8 M	<8 M	<8 M			
cis-1,2-Dichloroethene	<6 µg/kg	TM116		<6 M	<6 M	<6 M			
2,2-Dichloropropane	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
Bromochloromethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
Chloroform	<8 µg/kg	TM116		<8 M	<8 M	<8 M			
1,1,1-Trichloroethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M			
1,1-Dichloropropene	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
Carbontetrachloride	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
1,2-Dichloroethane	<5 µg/kg	TM116		<5 M	<5 M	<5 M			
Benzene	<9 µg/kg	TM116		<9 M	<9 M	<9 M			
Trichloroethene	<9 µg/kg	TM116		<9 #	<9 #	<9 #			
1,2-Dichloropropane	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
Dibromomethane	<9 µg/kg	TM116		<9 M	<9 M	<9 M			
Bromodichloromethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M			
cis-1,3-Dichloropropene	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
Toluene	<7 µg/kg	TM116		<7 M	<7 M	<7 M			
trans-1,3-Dichloropropene	<10 µg/kg	TM116		<10	<10	<10			
1,1,2-Trichloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M			

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3A	BH5A	BH5A
			Depth (m)	0.50	0.50	2.50 - 3.00
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	28/08/2015	28/08/2015	28/08/2015
			Sampled Time	.	.	.
			Date Received	29/08/2015	29/08/2015	29/08/2015
			SDG Ref	150829-68	150829-68	150829-68
			Lab Sample No.(s)	11984669	11984671	11984672
			AGS Reference			
1,3-Dichloropropane	<7 µg/kg	TM116		<7 M	<7 M	<7 M
Tetrachloroethene	<5 µg/kg	TM116		<5 M	<5 M	<5 M
Dibromochloromethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M
1,2-Dibromoethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M
Chlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M
Ethylbenzene	<4 µg/kg	TM116		4.45 M	<4 M	<4 M
p/m-Xylene	<10 µg/kg	TM116		<10 #	<10 #	<10 #
o-Xylene	<10 µg/kg	TM116		<10 M	<10 M	<10 M
Styrene	<10 µg/kg	TM116		<10 #	<10 #	<10 #
Bromoform	<10 µg/kg	TM116		<10 M	<10 M	<10 M
Isopropylbenzene	<5 µg/kg	TM116		<5 #	<5 #	<5 #
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M
1,2,3-Trichloropropane	<16 µg/kg	TM116		<16 M	<16 M	<16 M
Bromobenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M
Propylbenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M
2-Chlorotoluene	<9 µg/kg	TM116		<9 M	<9 M	<9 M
1,3,5-Trimethylbenzene	<8 µg/kg	TM116		<8 M	<8 M	<8 M
4-Chlorotoluene	<10 µg/kg	TM116		<10 M	<10 M	<10 M
tert-Butylbenzene	<14 µg/kg	TM116		<14 M	<14 M	<14 M
1,2,4-Trimethylbenzene	<9 µg/kg	TM116		<9 #	<9 #	<9 #
sec-Butylbenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M
4-Isopropyltoluene	<10 µg/kg	TM116		<10 M	<10 M	<10 M
1,3-Dichlorobenzene	<8 µg/kg	TM116		<8 M	<8 M	<8 M
1,4-Dichlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M
n-Butylbenzene	<11 µg/kg	TM116		<11	<11	<11
1,2-Dichlorobenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<14 M	<14 M	<14 M
Tert-amyl methyl ether	<10 µg/kg	TM116		<10 #	<10 #	<10 #
1,2,4-Trichlorobenzene	<20 µg/kg	TM116		<20	<20	<20
Hexachlorobutadiene	<20 µg/kg	TM116		<20	<20	<20
Naphthalene	<13 µg/kg	TM116		<13 M	<13 M	<13 M

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3A	BH5A	BH5A			
			Depth (m)	0.50	0.50	2.50 - 3.00			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	28/08/2015	28/08/2015	28/08/2015			
			Sampled Time	.	.	.			
			Date Received	29/08/2015	29/08/2015	29/08/2015			
			SDG Ref	150829-68	150829-68	150829-68			
			Lab Sample No.(s)	11984669	11984671	11984672			
			AGS Reference						
1,2,3-Trichlorobenzene	<20 µg/kg	TM116		<20 #	<20 #	<20 #			

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BH3A 0.50 SOLID 28/08/2015 00:00:00 01/09/2015 10:13:47 150829-68 11984669 TM048	2/9/15	Kevin Hughes	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BH5A 0.50 SOLID 28/08/2015 00:00:00 01/09/2015 10:15:44 150829-68 11984671 TM048	2/9/15	Kevin Hughes	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	BH5A 2.50 - 3.00 SOLID 28/08/2015 00:00:00 03/09/2015 03:31:51 150829-68 11984672 TM048	09/09/2015	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer		

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

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11984669	11984670	11984671	11984672
Customer Sample Ref.	BH3A	BH3A	BH5A	BH5A
AGS Ref.				
Depth	0.50	1.50 - 2.00	0.50	2.50 - 3.00
Type	SOLID	SOLID	SOLID	SOLID
Ammonium Soil by Titration	09-Sep-2015		09-Sep-2015	09-Sep-2015
Asbestos ID in Solid Samples	02-Sep-2015		02-Sep-2015	09-Sep-2015
Easily Liberated Sulphide	08-Sep-2015		08-Sep-2015	08-Sep-2015
EPH CWG (Aliphatic) GC (S)	02-Sep-2015		02-Sep-2015	03-Sep-2015
EPH CWG (Aromatic) GC (S)	02-Sep-2015		02-Sep-2015	03-Sep-2015
GRO by GC-FID (S)	02-Sep-2015		02-Sep-2015	02-Sep-2015
Hexavalent Chromium (s)	04-Sep-2015		04-Sep-2015	10-Sep-2015
Metals in solid samples by OES	07-Sep-2015		07-Sep-2015	04-Sep-2015
PAH by GCMS	03-Sep-2015		03-Sep-2015	03-Sep-2015
pH	09-Sep-2015		09-Sep-2015	09-Sep-2015
Sample description	01-Sep-2015	29-Aug-2015	01-Sep-2015	29-Aug-2015
Total Organic Carbon	07-Sep-2015		10-Sep-2015	07-Sep-2015
Total Sulphate	04-Sep-2015		04-Sep-2015	04-Sep-2015
TPH CWG GC (S)	02-Sep-2015		02-Sep-2015	03-Sep-2015
VOC MS (S)	02-Sep-2015		02-Sep-2015	02-Sep-2015

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

ASSOCIATED AQC DATA

Ammonium Soil by Titration

Component	Method Code	QC 1205
Exchangeable Ammonium as NH4	TM024	**98.01** 79.30 : 104.61

Easily Liberated Sulphide

Component	Method Code	QC 1231
Easily Liberated Sulphide	TM180	**94.71** 49.14 : 123.89

EPH CWG (Aliphatic) GC (S)

Component	Method Code	QC 1182	QC 1194
Total Aliphatics >C12-C35	TM173	**85.21** 62.50 : 112.50	**87.08** 70.80 : 111.51

EPH CWG (Aromatic) GC (S)

Component	Method Code	QC 1182	QC 1194
Total Aromatics >EC12-EC35	TM173	**82.67** 60.62 : 126.95	**82.67** 65.21 : 121.32

GRO by GC-FID (S)

Component	Method Code	QC 1141
Benzene by GC (Moisture Corrected)	TM089	**93.0** 76.33 : 121.87
Ethylbenzene by GC (Moisture Corrected)	TM089	**91.5** 75.73 : 123.83
m & p Xylene by GC (Moisture Corrected)	TM089	**92.0** 75.52 : 120.32
MTBE GC-FID (Moisture Corrected)	TM089	**95.0** 77.89 : 119.70
o Xylene by GC (Moisture Corrected)	TM089	**91.0** 74.15 : 124.59
QC	TM089	**93.51** 62.31 : 122.61
Toluene by GC (Moisture Corrected)	TM089	**92.0** 77.91 : 122.33

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Hexavalent Chromium (s)

Component	Method Code	QC 1187	QC 1229
Hexavalent Chromium	TM151	**96.0** 92.20 : 106.60	**100.0** 92.20 : 106.60

Metals in solid samples by OES

Component	Method Code	QC 1293	QC 1251
Aluminium	TM181	**96.15** 86.49 : 129.71	**118.46** 86.49 : 129.71
Antimony	TM181	**95.34** 77.50 : 122.50	**94.62** 77.50 : 122.50
Arsenic	TM181	**90.27** 82.63 : 117.37	**95.58** 82.63 : 117.37
Barium	TM181	**100.75** 79.45 : 120.55	**100.75** 79.45 : 120.55
Beryllium	TM181	**98.76** 85.92 : 121.27	**101.55** 85.92 : 121.27
Boron	TM181	**88.55** 77.41 : 143.83	**129.01** 77.41 : 143.83
Cadmium	TM181	**93.28** 81.95 : 118.05	**94.29** 81.95 : 118.05
Chromium	TM181	**90.2** 81.29 : 118.71	**102.75** 81.29 : 118.71
Cobalt	TM181	**92.33** 83.86 : 116.14	**98.17** 83.86 : 116.14
Copper	TM181	**99.32** 78.57 : 121.43	**99.05** 78.57 : 121.43
Iron	TM181	**96.55** 87.50 : 122.82	**104.83** 87.50 : 122.82
Lead	TM181	**93.7** 74.18 : 117.25	**91.34** 74.18 : 117.25
Manganese	TM181	**98.0** 82.91 : 117.09	**103.4** 82.91 : 117.09
Mercury	TM181	**90.28** 81.99 : 118.01	**93.63** 81.99 : 118.01
Molybdenum	TM181	**91.24** 81.45 : 118.55	**91.88** 81.45 : 118.55
Nickel	TM181	**92.44** 79.64 : 120.36	**100.0** 79.64 : 120.36
Phosphorus	TM181	**94.34** 81.03 : 118.97	**97.32** 81.03 : 118.97
Selenium	TM181	**102.05** 87.05 : 121.93	**102.91** 87.05 : 121.93
Strontium	TM181	**90.04** 83.64 : 116.36	**103.07** 83.64 : 116.36
Thallium	TM181	**93.03** 77.50 : 122.50	**86.57** 77.50 : 122.50
Tin	TM181	**90.03** 78.30 : 113.98	**91.69** 78.30 : 113.98
Titanium	TM181	**90.63** 71.02 : 128.98	**114.06** 71.02 : 128.98

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Metals in solid samples by OES

		QC 1293	QC 1251
Vanadium	TM181	**89.12** 86.61 : 113.39	**97.94** 86.61 : 113.39
Zinc	TM181	**95.29** 89.82 : 114.54	**101.14** 89.82 : 114.54

PAH by GCMS

Component	Method Code	QC 1179	QC 1161
Acenaphthene	TM218	**92.5** 79.96 : 117.68	**85.0** 76.50 : 121.50
Acenaphthylene	TM218	**87.0** 76.25 : 113.75	**84.5** 73.50 : 118.50
Anthracene	TM218	**92.0** 75.14 : 109.30	**86.0** 74.25 : 117.75
Benz(a)anthracene	TM218	**96.0** 82.90 : 120.19	**95.5** 82.07 : 118.33
Benzo(a)pyrene	TM218	**96.0** 82.80 : 121.21	**92.0** 79.75 : 116.97
Benzo(b)fluoranthene	TM218	**96.0** 81.11 : 119.79	**98.5** 82.41 : 117.15
Benzo(ghi)perylene	TM218	**88.5** 81.23 : 116.67	**89.0** 77.09 : 114.38
Benzo(k)fluoranthene	TM218	**92.0** 79.07 : 114.76	**95.5** 81.43 : 115.17
Chrysene	TM218	**93.5** 77.94 : 118.46	**94.5** 82.50 : 113.51
Dibenzo(ah)anthracene	TM218	**92.0** 79.94 : 120.03	**92.5** 81.00 : 120.00
Fluoranthene	TM218	**94.0** 77.89 : 110.15	**90.0** 78.67 : 117.61
Fluorene	TM218	**95.0** 80.93 : 113.54	**87.5** 76.50 : 121.50
Indeno(123cd)pyrene	TM218	**92.5** 80.37 : 120.17	**91.0** 79.19 : 117.60
Naphthalene	TM218	**94.5** 79.70 : 112.37	**90.0** 77.00 : 117.50
Phenanthrene	TM218	**95.0** 78.44 : 113.95	**88.5** 75.00 : 123.00
Pyrene	TM218	**92.0** 81.17 : 112.33	**88.0** 77.82 : 116.98

pH

Component	Method Code	QC 1220	QC 1256
pH	TM133	**101.39** 96.22 : 103.78	**100.88** 97.19 : 102.81

Total Organic Carbon

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Total Organic Carbon

Component	Method Code	QC 1297	QC 1208	QC 1227
Total Organic Carbon	TM132	**97.72** 89.40 : 103.09	**99.54** 89.40 : 103.09	**95.89** 89.40 : 103.09

Total Sulphate

Component	Method Code	QC 1235	QC 1298
Total Sulphate	TM221	**102.27** 78.49 : 121.51	**117.42** 78.49 : 121.51

VOC MS (S)

Component	Method Code	QC 1154
1,1,1,2-tetrachloroethane	TM116	**105.0** 76.60 : 121.00
1,1,1-Trichloroethane	TM116	**102.2** 77.80 : 123.40
1,1,2-Trichloroethane	TM116	**94.4** 75.40 : 119.80
1,1-Dichloroethane	TM116	**107.0** 80.84 : 124.49
1,2-Dichloroethane	TM116	**109.4** 91.00 : 135.67
1,4-Dichlorobenzene	TM116	**105.4** 80.88 : 114.60
2-Chlorotoluene	TM116	**102.8** 74.00 : 117.20
4-Chlorotoluene	TM116	**97.2** 71.20 : 113.20
Benzene	TM116	**100.6** 79.60 : 125.20
Carbon Disulphide	TM116	**104.4** 74.91 : 122.14
Carbontetrachloride	TM116	**101.4** 76.80 : 121.20
Chlorobenzene	TM116	**103.4** 83.47 : 116.82
Chloroform	TM116	**108.0** 82.00 : 128.80
Chloromethane	TM116	**129.8** 74.62 : 135.86
Cis-1,2-Dichloroethene	TM116	**113.4** 81.20 : 128.00
Dibromomethane	TM116	**94.4** 73.40 : 116.60
Dichloromethane	TM116	**111.8** 86.60 : 137.00

CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (S)

		QC 1154
Ethylbenzene	TM116	**97.8** 73.60 : 115.60
Hexachlorobutadiene	TM116	**86.2** 33.65 : 130.56
Isopropylbenzene	TM116	**101.0** 72.52 : 117.52
Naphthalene	TM116	**106.0** 83.23 : 126.48
o-Xylene	TM116	**92.2** 69.60 : 110.40
p/m-Xylene	TM116	**93.6** 71.30 : 112.70
Sec-Butylbenzene	TM116	**105.0** 59.20 : 125.20
Tetrachloroethene	TM116	**105.8** 85.92 : 127.92
Toluene	TM116	**92.6** 76.08 : 110.17
Trichloroethene	TM116	**101.2** 78.17 : 121.37
Trichlorofluoromethane	TM116	**109.0** 83.78 : 132.82
Vinyl Chloride	TM116	**101.6** 66.81 : 138.46

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

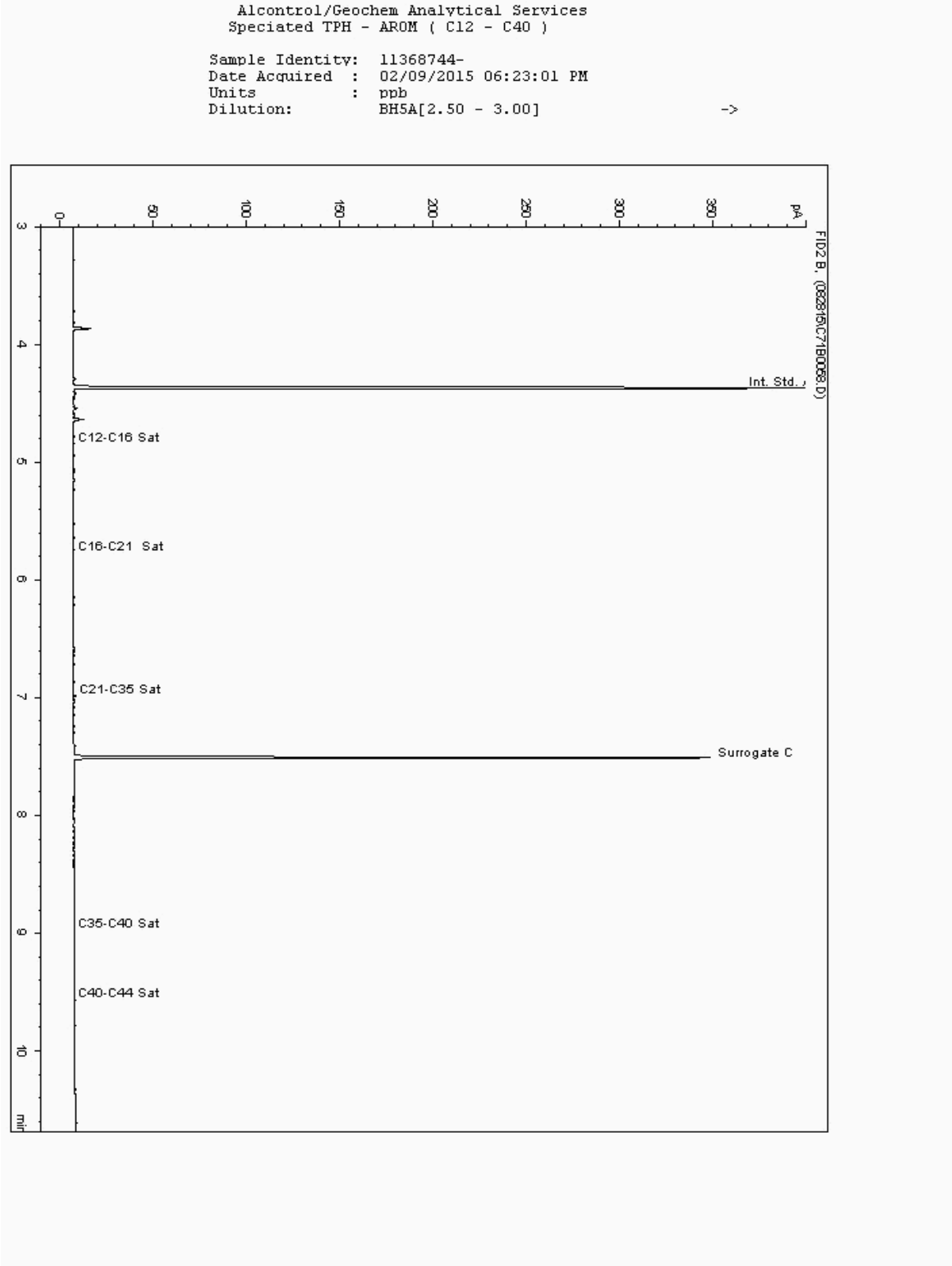
SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11985336
Sample ID : BH5A

Depth : 2.50 - 3.00



CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

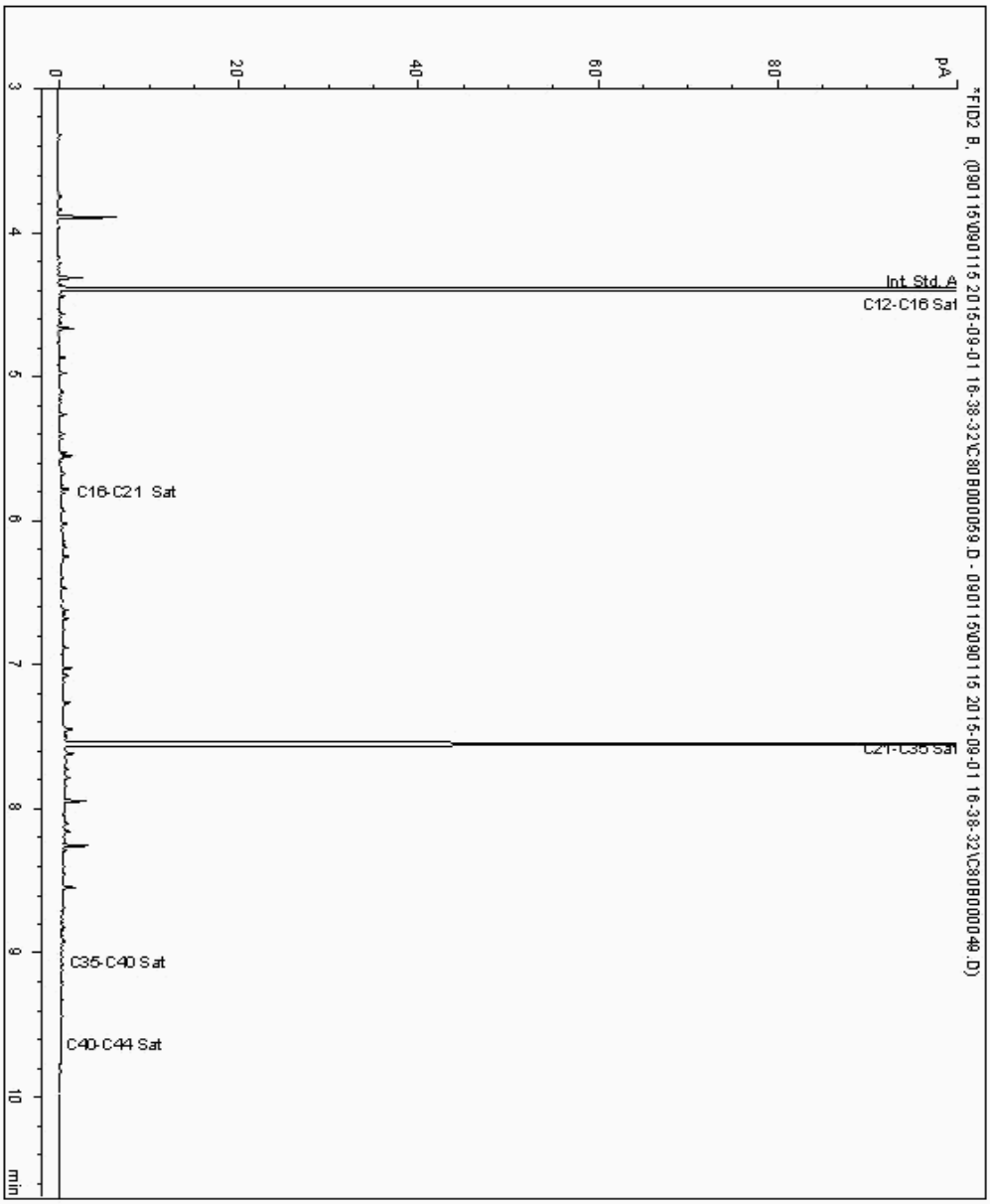
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11987620
Sample ID : BH3A

Depth : 0.50

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

Sample Identity: 11368708-
Date Acquired : 02/09/15 09:07:08
Units : ppb
Dilution :
CF : 1
Multiplier : 0.950



CERTIFICATE OF ANALYSIS

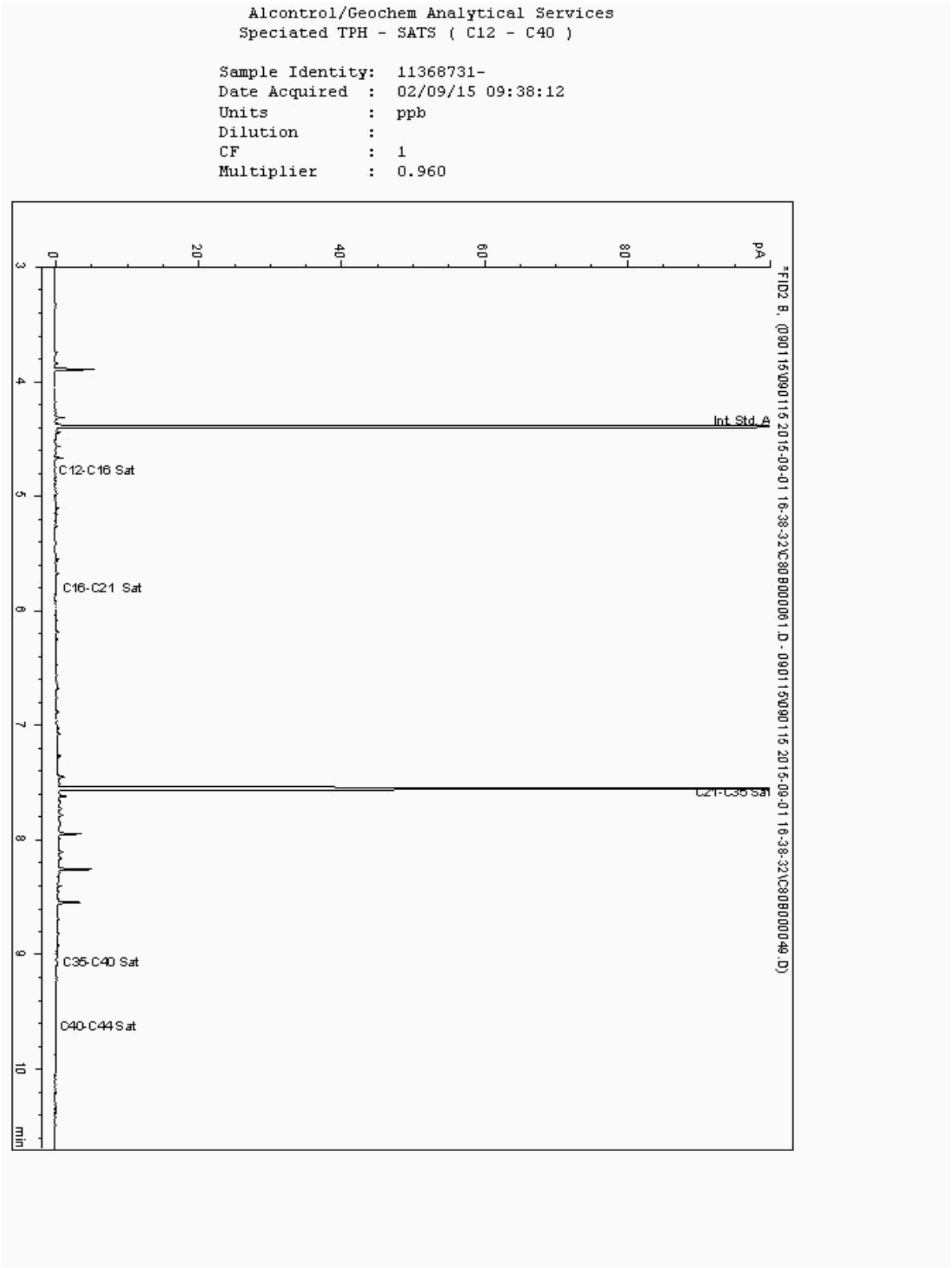
SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 11988122
Sample ID : BH5A

Depth : 0.50



CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

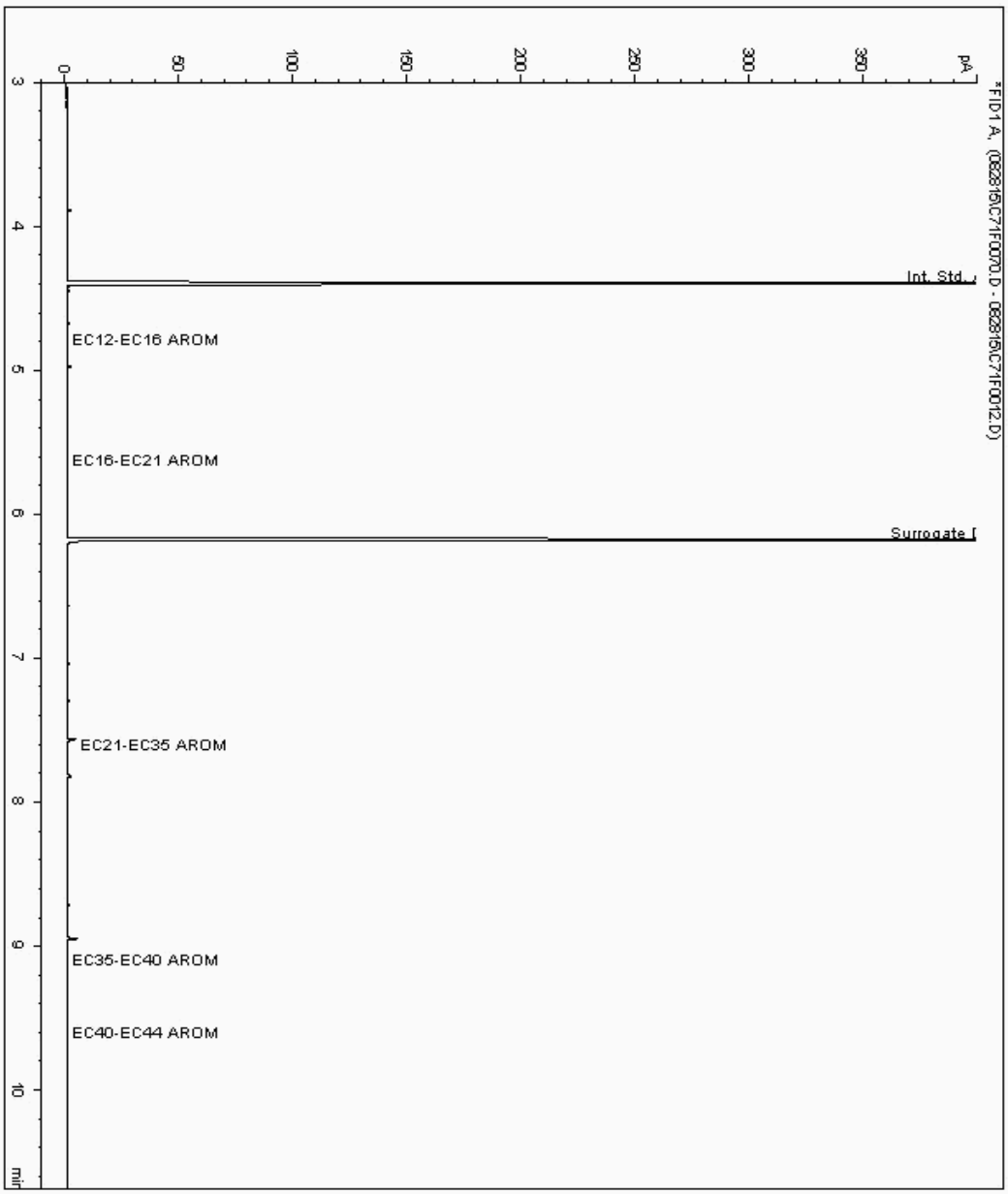
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 11985336
Sample ID : BH5A

Depth : 2.50 - 3.00

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

Sample Identity: l1368745-
Date Acquired : 03/09/2015 11:49:12 PM
Units : ppb
Dilution: BH5A[2.50 - 3.00] ->



CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

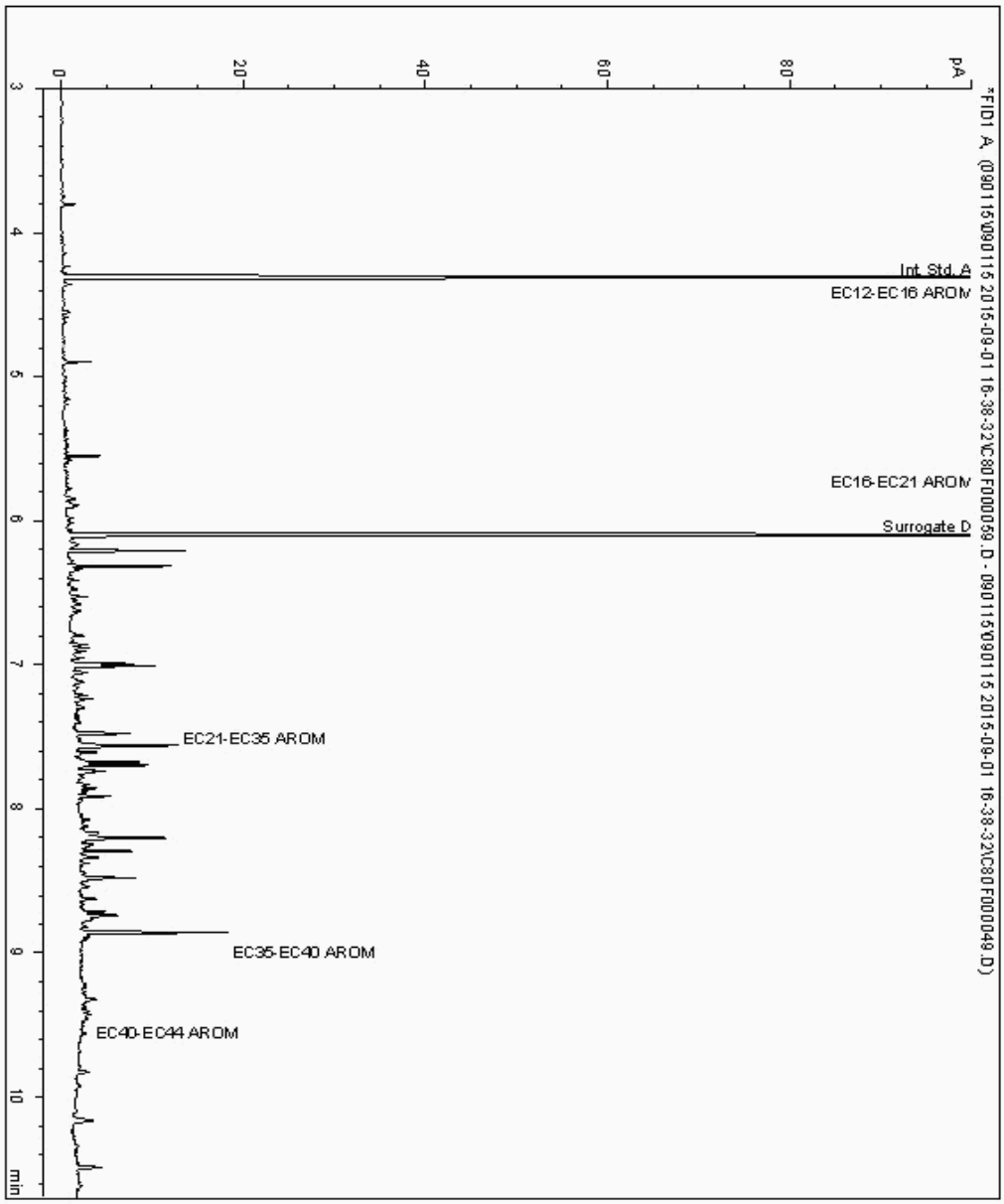
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 11987620
Sample ID : BH3A

Depth : 0.50

Alcontrol/Geochem Analytical Services
Speciated TPH - AROMS (C12 - C44)

Sample Identity: 11368709-
Date Acquired : 02/09/15 09:07:08
Units : ppb
Dilution :
CF : 1
Multiplier : 0.950



CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

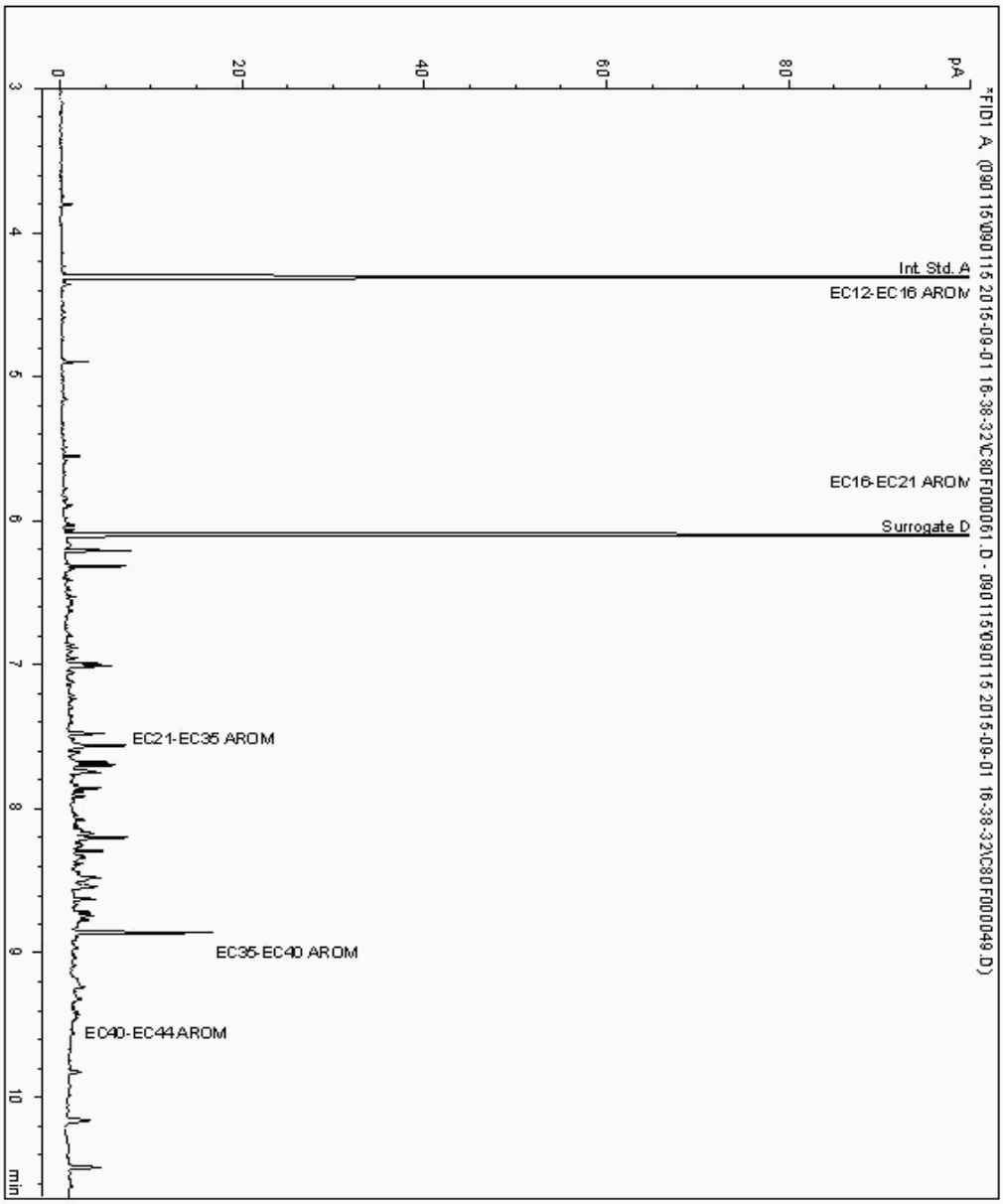
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 11988122
Sample ID : BH5A

Depth : 0.50

Alcontrol/Geochem Analytical Services
Speciated TPH - AROMS (C12 - C44)

Sample Identity: 11368732-
Date Acquired : 02/09/15 09:38:12
Units : ppb
Dilution :
CF : 1
Multiplier : 0.960



CERTIFICATE OF ANALYSIS

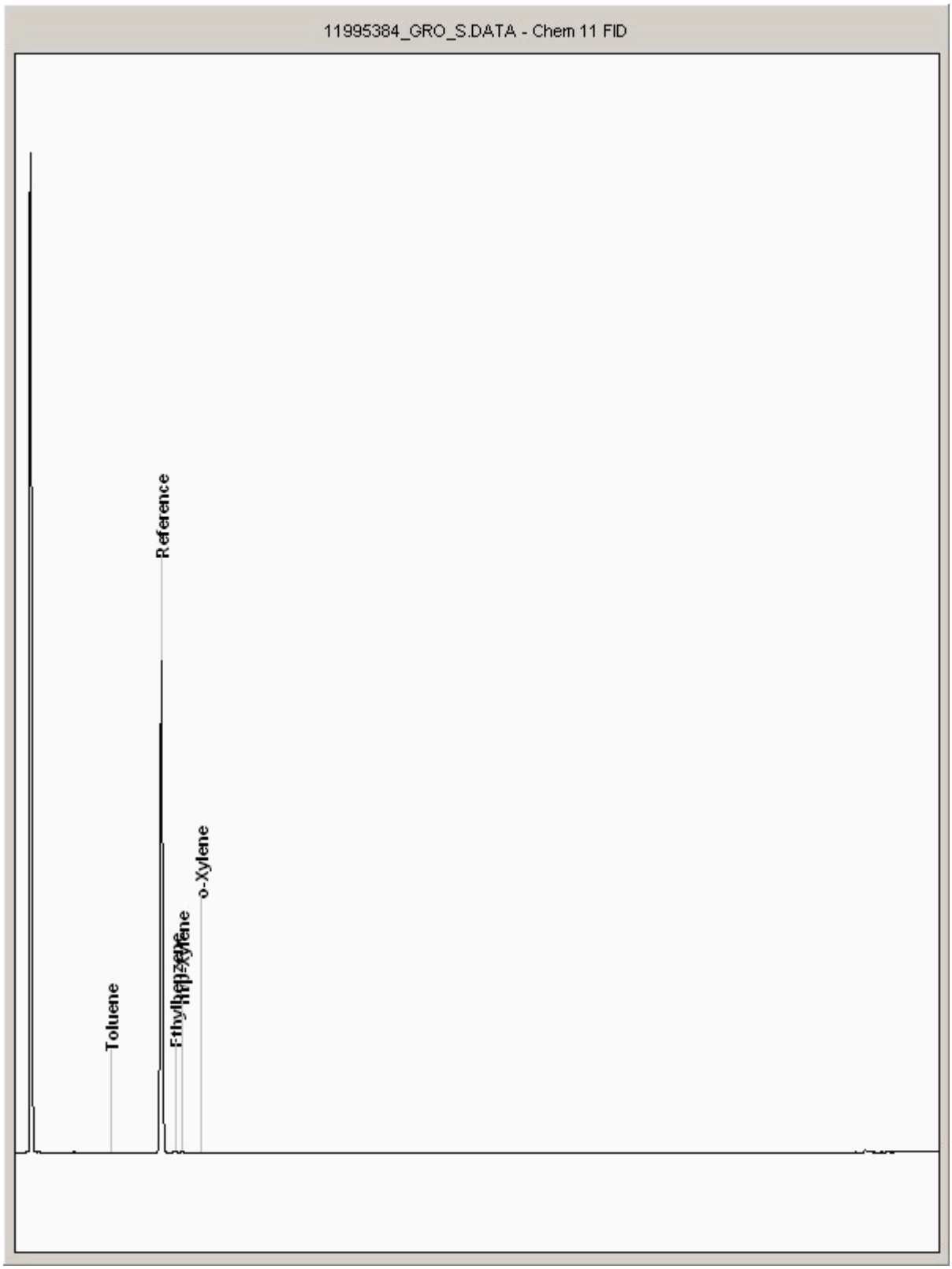
SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11995384
Sample ID : BH3A

Depth : 0.50



CERTIFICATE OF ANALYSIS

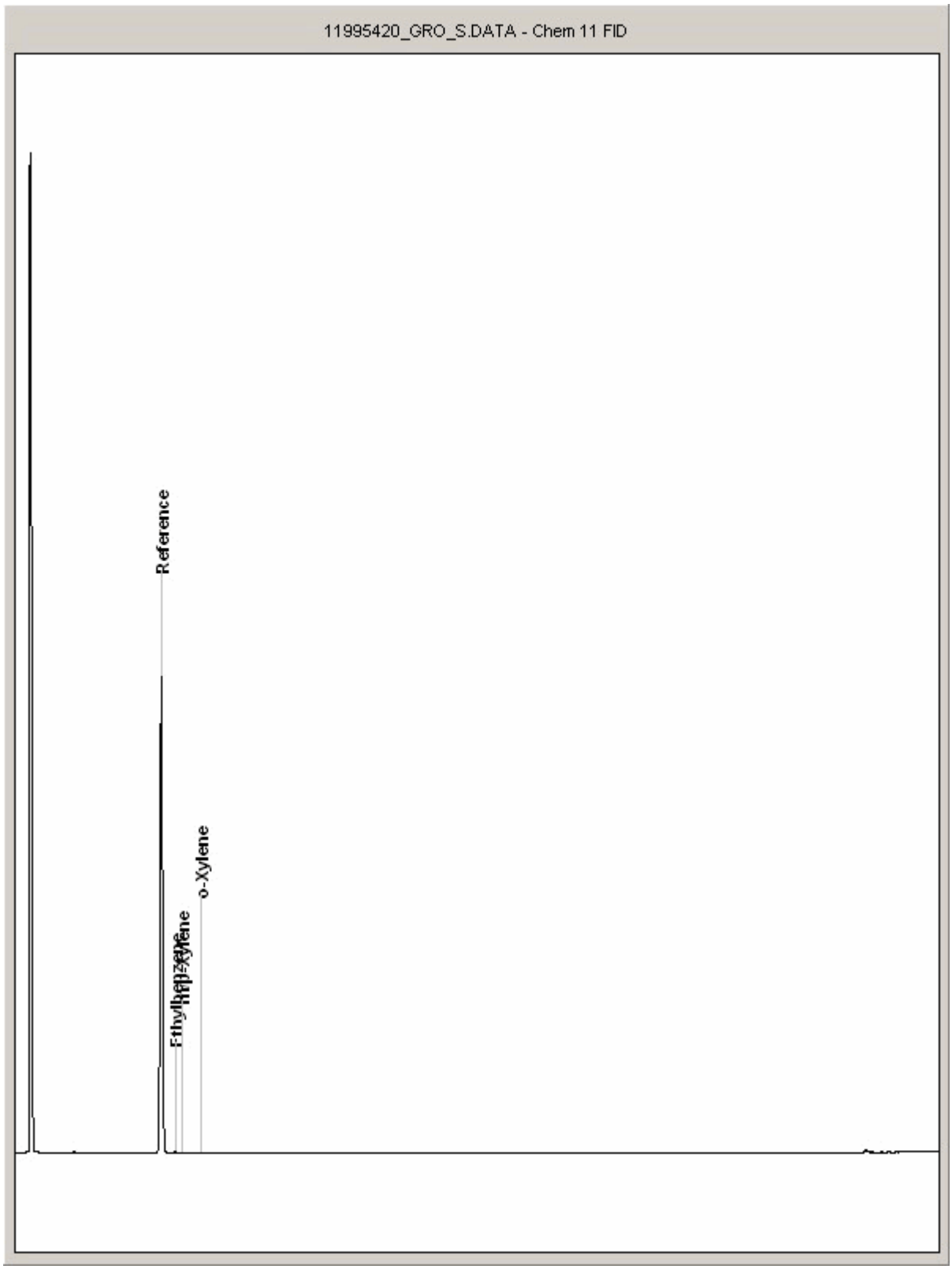
SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11995420
Sample ID : BH5A

Depth : 0.50



CERTIFICATE OF ANALYSIS

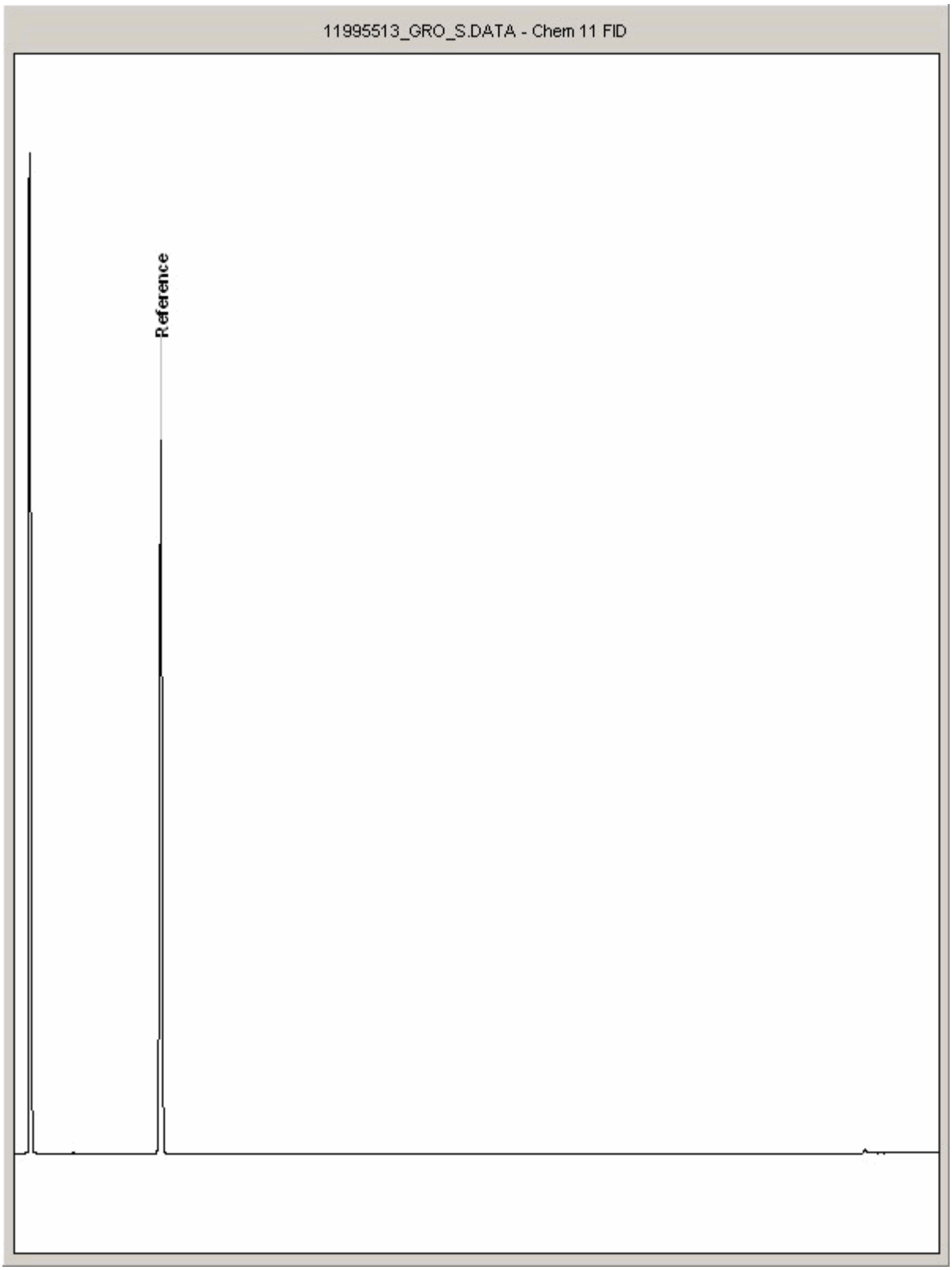
SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11995513
Sample ID : BH5A

Depth : 2.50 - 3.00



CERTIFICATE OF ANALYSIS

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS 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 both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos 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 screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

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. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

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 Dimethyphenol, 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 14).

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

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. 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.

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

21. 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.

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

23. 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 themajor 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.

24. 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 C4 -C10 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
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	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 TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
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-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
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

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

Visual Estimation Of Fibre Content

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

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials 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.

Last Updated : 2010/09/08

SDG:	150829-68	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329373
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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AECOM
St. George's House
2nd Floor
5 St. George's Road
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Greater London
SW19 4DR

Attention: Gary Marshall

CERTIFICATE OF ANALYSIS

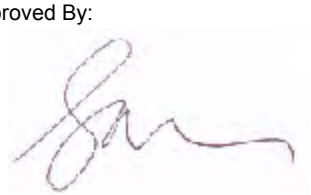
Date:	14 September 2015
Customer:	H_URS_WIM
Sample Delivery Group (SDG):	150902-38
Your Reference:	
Location:	Stag Brewery
Report No:	329713

We received 8 samples on Wednesday September 02, 2015 and 8 of these samples were scheduled for analysis which was completed on Monday September 14, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11995368	BH3			01/09/2015
11995366	BH4			01/09/2015
11995367	BH5			01/09/2015
11995371	BH8			01/09/2015
11995370	BH109			01/09/2015
11995369	BH110			01/09/2015
11995372	BH111			01/09/2015
11995373	DUP01			01/09/2015

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

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

	Lab Sample No(s)		11995368							11995366							11995367							11995371							11995370							11995369				
	Customer Sample Reference		BH3							BH4							BH5							BH8							BH109							BH110				
	AGS Reference																																									
	Depth (m)																																									
	Container		0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 8					X							X							X							X							X							X
Anions by Kone (w)	All	NDPs: 0 Tests: 8			X							X							X							X							X							X		
COD Unfiltered	All	NDPs: 0 Tests: 8		X							X							X							X							X							X			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 8						X							X							X							X							X						
Dissolved W, Nb and Zr by ICP-MS	All	NDPs: 0 Tests: 8						X							X							X							X							X						
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 8	X							X							X							X							X							X				
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 8	X							X							X							X							X							X				
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 8	X							X							X							X							X							X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 8							X							X							X							X							X					
Mercury Dissolved	All	NDPs: 0 Tests: 8				X							X							X							X							X							X	
pH Value	All	NDPs: 0 Tests: 8			X							X							X							X							X							X		
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 7	X							X							X							X							X							X				
Total EPH (aq)	All	NDPs: 0 Tests: 8	X							X							X							X							X							X				
TPH CWG (W)	All	NDPs: 0 Tests: 8	X							X							X							X							X							X				
VOC MS (W)	All	NDPs: 0 Tests: 8							X							X							X							X							X					

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lab Sample No(s)				11995369							11995372							11995373
Customer Sample Reference				BH110							BH111							DUP01
AGS Reference																		
Depth (m)																		
Container			HNO3 Filtered (ALE	Vial (ALE297)	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 8							X							X		
Anions by Kone (w)	All	NDPs: 0 Tests: 8					X							X				
COD Unfiltered	All	NDPs: 0 Tests: 8				X							X					
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 8	X							X							X	
Dissolved W, Nb and Zr by ICP-MS	All	NDPs: 0 Tests: 8	X							X							X	
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 8			X							X						
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 8			X							X						
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 8			X							X						
GRO by GC-FID (W)	All	NDPs: 0 Tests: 8		X							X							X
Mercury Dissolved	All	NDPs: 0 Tests: 8						X							X			
pH Value	All	NDPs: 0 Tests: 8					X							X				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 7			X													
Total EPH (aq)	All	NDPs: 0 Tests: 8			X							X						
TPH CWG (W)	All	NDPs: 0 Tests: 8			X							X						
VOC MS (W)	All	NDPs: 0 Tests: 8		X							X							X

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3	BH4	BH5	BH8	BH109	BH110
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015
			Sampled Time	.	00:00:00	.	.	.	.
			Date Received	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015
			SDG Ref	150902-38	150902-38	150902-38	150902-38	150902-38	150902-38
			Lab Sample No.(s)	11995368	11995366	11995367	11995371	11995370	11995369
			AGS Reference						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		<0.2 #	<0.2 #	0.508 #	0.619 #	1.23 #	<0.2 #
Ammoniacal Nitrogen as NH4	<0.3 mg/l	TM099		<0.3 #	<0.3 #	0.653 #	0.796 #	1.58 #	<0.3 #
COD, unfiltered	<7 mg/l	TM107		<7 #	8.09 #	21.2 #	10.5 #	190 #	<7 #
Antimony (diss.filt)	<0.16 µg/l	TM152		0.415	0.36	<0.16	0.726	0.64	0.464
Arsenic (diss.filt)	<0.12 µg/l	TM152		7.32 #	5.08 #	5.12 #	15.7 #	32.6 #	14 #
Barium (diss.filt)	<0.03 µg/l	TM152		64.2 #	22.1 #	47.9 #	83.4 #	18.2 #	40.7 #
Beryllium (diss.filt)	<0.07 µg/l	TM152		<0.07 #	<0.07 #	<0.07 #	<0.07 #	<0.07 #	<0.07 #
Boron (diss.filt)	<9.4 µg/l	TM152		152 #	52.7 #	99.2 #	130 #	107 #	137 #
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Chromium (diss.filt)	<0.22 µg/l	TM152		3.62 #	1.53 #	2.26 #	3.98 #	3.56 #	3.44 #
Cobalt (diss.filt)	<0.06 µg/l	TM152		2.33 #	0.594 #	3.15 #	2.77 #	9.39 #	4.36 #
Copper (diss.filt)	<0.85 µg/l	TM152		1.13 #	0.939 #	1.09 #	1.4 #	1.26 #	1.29 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.034 #	0.066 #	0.057 #	0.033 #	0.085 #	0.04 #
Manganese (diss.filt)	<0.04 µg/l	TM152		91.2 #	8.89 #	860 #	169 #	1320 #	126 #
Nickel (diss.filt)	<0.15 µg/l	TM152		6.92 #	1.77 #	5.5 #	7.03 #	11 #	6.1 #
Selenium (diss.filt)	<0.39 µg/l	TM152		9.06 #	0.781 #	1.67 #	1.92 #	3 #	13.2 #
Thallium (diss.filt)	<0.96 µg/l	TM152		<0.96	<0.96	<0.96	<0.96	<0.96	<0.96
Vanadium (diss.filt)	<0.24 µg/l	TM152		1.56 #	1.61 #	1.33 #	1.56 #	1.57 #	1.33 #
Zinc (diss.filt)	<0.41 µg/l	TM152		8.79 #	12.6 #	5.59 #	9.92 #	27.4 #	4.62 #
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #	<46 #	<46 #	159 #	<46 #
Total EPH (C6-C40) (aq)	<100 µg/l	TM172		<100	<100	<100	<100	159	<100
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Sulphate	<2 mg/l	TM184		57.4 #	43 #	79.9 #	61.6 #	75 #	55.2 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		0.465 #	7.3 #	1.55 #	0.302 #	0.297 #	0.216 #
Nitrate as NO3	<0.3 mg/l	TM184		5.18 #	21.5 #	6.42 #	4.42 #	0.942 #	5.64 #
pH	<1 pH Units	TM256		7.45 #	7.1 #	7.39 #	7.38 #	7.49 #	7.52 #
Silver (diss.filt)	<1.5 µg/l	TM283		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH111	DUP01				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	01/09/2015	01/09/2015				
			Sampled Time	.	.				
			Date Received	02/09/2015	02/09/2015				
			SDG Ref	150902-38	150902-38				
			Lab Sample No.(s)	11995372	11995373				
			AGS Reference						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		4.74 #	<0.2 #				
Ammoniacal Nitrogen as NH4	<0.3 mg/l	TM099		6.09 #	<0.3 #				
COD, unfiltered	<7 mg/l	TM107		43.5 #	<7 #				
Antimony (diss.filt)	<0.16 µg/l	TM152		0.199	0.816				
Arsenic (diss.filt)	<0.12 µg/l	TM152		22 #	4.8 #				
Barium (diss.filt)	<0.03 µg/l	TM152		104 #	21.4 #				
Beryllium (diss.filt)	<0.07 µg/l	TM152		<0.07 #	<0.07 #				
Boron (diss.filt)	<9.4 µg/l	TM152		65.1 #	52.2 #				
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #				
Chromium (diss.filt)	<0.22 µg/l	TM152		3.75 #	1.22 #				
Cobalt (diss.filt)	<0.06 µg/l	TM152		1.79 #	0.262 #				
Copper (diss.filt)	<0.85 µg/l	TM152		<0.85 #	1.13 #				
Lead (diss.filt)	<0.02 µg/l	TM152		<0.02 #	0.028 #				
Manganese (diss.filt)	<0.04 µg/l	TM152		2270 #	7.19 #				
Nickel (diss.filt)	<0.15 µg/l	TM152		3.85 #	1.81 #				
Selenium (diss.filt)	<0.39 µg/l	TM152		2.87 #	0.897 #				
Thallium (diss.filt)	<0.96 µg/l	TM152		<0.96	<0.96				
Vanadium (diss.filt)	<0.24 µg/l	TM152		1.07 #	1.45 #				
Zinc (diss.filt)	<0.41 µg/l	TM152		6 #	5.01 #				
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		65.8 #	<46 #				
Total EPH (C6-C40) (aq)	<100 µg/l	TM172		<100	<100				
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #				
Sulphate	<2 mg/l	TM184		37.5 #	42.3 #				
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	7.28 #				
Nitrate as NO3	<0.3 mg/l	TM184		0.94 #	21.9 #				
pH	<1 pH Units	TM256		7.32 #	7.14 #				
Silver (diss.filt)	<1.5 µg/l	TM283		<1.5	<1.5				

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3	BH4	BH5	BH8	BH109	BH110
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015
			Sampled Time	.	00:00:00	.	.	.	.
			Date Received	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015
			SDG Ref	150902-38	150902-38	150902-38	150902-38	150902-38	150902-38
			Lab Sample No.(s)	11995368	11995366	11995367	11995371	11995370	11995369
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<2	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<2	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<2	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<2 #	<4 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3	BH4	BH5	BH8	BH109	BH110
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015
			Sampled Time	.	00:00:00	.	.	.	.
			Date Received	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015
			SDG Ref	150902-38	150902-38	150902-38	150902-38	150902-38	150902-38
			Lab Sample No.(s)	11995368	11995366	11995367	11995371	11995370	11995369
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #	<10 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<2	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<2	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<2	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<2 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	BH111
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	01/09/2015
Sampled Time	.
Date Received	02/09/2015
SDG Ref	150902-38
Lab Sample No.(s)	11995372
AGS Reference	

Component	LOD/Units	Method	
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176	5.42 #
4-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176	<1
Azobenzene (aq)	<1 µg/l	TM176	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176	<1 #
Acenaphthene (aq)	<1 µg/l	TM176	<1 #
Anthracene (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	BH111
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	01/09/2015
Sampled Time	.
Date Received	02/09/2015
SDG Ref	150902-38
Lab Sample No.(s)	11995372
AGS Reference	

Component	LOD/Units	Method	
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 #
Carbazole (aq)	<1 µg/l	TM176	<1 #
Chrysene (aq)	<1 µg/l	TM176	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 #
Fluoranthene (aq)	<1 µg/l	TM176	<1 #
Fluorene (aq)	<1 µg/l	TM176	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176	<1
Phenol (aq)	<1 µg/l	TM176	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176	<1 #
Naphthalene (aq)	<1 µg/l	TM176	<1 #
Isophorone (aq)	<1 µg/l	TM176	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1
Phenanthrene (aq)	<1 µg/l	TM176	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 #
Pyrene (aq)	<1 µg/l	TM176	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

TPH CWG (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3	BH4	BH5	BH8	BH109	BH110
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015
			Sampled Time	.	00:00:00	.	.	.	.
			Date Received	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015
			SDG Ref	150902-38	150902-38	150902-38	150902-38	150902-38	150902-38
			Lab Sample No.(s)	11995368	11995366	11995367	11995371	11995370	11995369
			AGS Reference						
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #	<7 #	<7 #	<7 #
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #	<4 #	<4 #	<4 #
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #	<8 #	<8 #	<8 #
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28	<28	<28	<28
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
EPH (C6-C10)	<100 µg/l	TM245		<100	<100	<100	<100	<100	<100

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

TPH CWG (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH111	DUP01				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	01/09/2015	01/09/2015				
			Sampled Time	.	.				
			Date Received	02/09/2015	02/09/2015				
			SDG Ref	150902-38	150902-38				
			Lab Sample No.(s)	11995372	11995373				
			AGS Reference						
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #				
Benzene	<7 µg/l	TM245		<7 #	<7 #				
Toluene	<4 µg/l	TM245		<4 #	<4 #				
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #				
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #				
o-Xylene	<3 µg/l	TM245		<3 #	<3 #				
Sum of detected BTEX	<28 µg/l	TM245		<28	<28				
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10				
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10				
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10				
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10				
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10				
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10				
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10				
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10				
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	<10				
GRO >C5-C10	<10 µg/l	TM245		<10	<10				
EPH (C6-C10)	<100 µg/l	TM245		<100	<100				

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3	BH4	BH5	BH8	BH109	BH110
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015
			Sampled Time	.	00:00:00	.	.	.	.
			Date Received	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015
			SDG Ref	150902-38	150902-38	150902-38	150902-38	150902-38	150902-38
			Lab Sample No.(s)	11995368	11995366	11995367	11995371	11995370	11995369
			AGS Reference						
Dibromofluoromethane**	%	TM208		88.6 1	92.5 1	89.5 1	88.4 1	88.2 1	87.9 1
Toluene-d8**	%	TM208		81.8 1	82.6 1	81.9 1	81.5 1	82.2 1	83.1 1
4-Bromofluorobenzene**	%	TM208		81.4 1	79.4 1	80.6 1	77.1 1	79.5 1	81 1
Dichlorodifluoromethane	<1 µg/l	TM208		<1 1	<1 1	<1 1	<1 1	<1 1	<1 1
Chloromethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Vinyl chloride	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Bromomethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Chloroethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Carbon disulphide	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Dichloromethane	<3 µg/l	TM208		<3 1 #	<3 1 #	<3 1 #	<3 1 #	<3 1 #	<3 1 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1 1	<1 1	<1 1	<1 1	<1 1	<1 1
Bromochloromethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Chloroform	<1 µg/l	TM208		<1 1 #	1.57 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Carbontetrachloride	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1 1	<1 1	<1 1	<1 1	<1 1	<1 1
Benzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Trichloroethene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Dibromomethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Bromodichloromethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Toluene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3	BH4	BH5	BH8	BH109	BH110
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015
			Sampled Time	.	00:00:00	.	.	.	.
			Date Received	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015
			SDG Ref	150902-38	150902-38	150902-38	150902-38	150902-38	150902-38
			Lab Sample No.(s)	11995368	11995366	11995367	11995371	11995370	11995369
			AGS Reference						
1,3-Dichloropropane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Tetrachloroethene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Dibromochloromethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Chlorobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Ethylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
m,p-Xylene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
o-Xylene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Styrene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Bromoform	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Isopropylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 1	<1 1	<1 1	<1 1	<1 1	<1 1
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Bromobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Propylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
4-iso-Propyltoluene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
n-Butylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 1	<1 1	<1 1	<1 1	<1 1	<1 1
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1 1	<1 1	<1 1	<1 1	<1 1	<1 1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
Naphthalene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH3	BH4	BH5	BH8	BH109	BH110
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015	01/09/2015
			Sampled Time	.	00:00:00	.	.	.	.
			Date Received	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015	02/09/2015
			SDG Ref	150902-38	150902-38	150902-38	150902-38	150902-38	150902-38
			Lab Sample No.(s)	11995368	11995366	11995367	11995371	11995370	11995369
			AGS Reference						
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #	<1 1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1 1	<1 1	<1 1	<1 1	<1 1	<1 1

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH111	DUP01				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	01/09/2015	01/09/2015				
			Sampled Time	.	.				
			Date Received	02/09/2015	02/09/2015				
			SDG Ref	150902-38	150902-38				
			Lab Sample No.(s)	11995372	11995373				
			AGS Reference						
Dibromofluoromethane**	%	TM208		91.7 1	90.5 1				
Toluene-d8**	%	TM208		80.4 1	80.1 1				
4-Bromofluorobenzene**	%	TM208		77.9 1	78 1				
Dichlorodifluoromethane	<1 µg/l	TM208		<1 1	<1 1				
Chloromethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
Vinyl chloride	<1 µg/l	TM208		<1 1 #	<1 1 #				
Bromomethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
Chloroethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
Trichlorofluoromethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,1-Dichloroethene	<1 µg/l	TM208		<1 1 #	<1 1 #				
Carbon disulphide	<1 µg/l	TM208		<1 1 #	<1 1 #				
Dichloromethane	<3 µg/l	TM208		<3 1 #	<3 1 #				
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 1 #	<1 1 #				
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,1-Dichloroethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 1 #	<1 1 #				
2,2-Dichloropropane	<1 µg/l	TM208		<1 1	<1 1				
Bromochloromethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
Chloroform	<1 µg/l	TM208		<1 1 #	1.41 1 #				
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,1-Dichloropropene	<1 µg/l	TM208		<1 1 #	<1 1 #				
Carbontetrachloride	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,2-Dichloroethane	<1 µg/l	TM208		<1 1	<1 1				
Benzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
Trichloroethene	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,2-Dichloropropane	<1 µg/l	TM208		<1 1 #	<1 1 #				
Dibromomethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
Bromodichloromethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 1 #	<1 1 #				
Toluene	<1 µg/l	TM208		<1 1 #	<1 1 #				
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 1 #	<1 1 #				

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH111	DUP01				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	01/09/2015	01/09/2015				
			Sampled Time	.	.				
			Date Received	02/09/2015	02/09/2015				
			SDG Ref	150902-38	150902-38				
			Lab Sample No.(s)	11995372	11995373				
			AGS Reference						
1,3-Dichloropropane	<1 µg/l	TM208		<1 1 #	<1 1 #				
Tetrachloroethene	<1 µg/l	TM208		<1 1 #	<1 1 #				
Dibromochloromethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,2-Dibromoethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
Chlorobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 1 #	<1 1 #				
Ethylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
m,p-Xylene	<1 µg/l	TM208		<1 1 #	<1 1 #				
o-Xylene	<1 µg/l	TM208		<1 1 #	<1 1 #				
Styrene	<1 µg/l	TM208		<1 1 #	<1 1 #				
Bromoform	<1 µg/l	TM208		<1 1 #	<1 1 #				
Isopropylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 1	<1 1				
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 1 #	<1 1 #				
Bromobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
Propylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
2-Chlorotoluene	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
4-Chlorotoluene	<1 µg/l	TM208		<1 1 #	<1 1 #				
tert-Butylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
sec-Butylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
4-iso-Propyltoluene	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
n-Butylbenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 1	<1 1				
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1 1	<1 1				
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
Hexachlorobutadiene	<1 µg/l	TM208		<1 1 #	<1 1 #				
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 1 #	<1 1 #				
Naphthalene	<1 µg/l	TM208		<1 1 #	<1 1 #				

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH111	DUP01				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	01/09/2015	01/09/2015				
			Sampled Time	.	.				
			Date Received	02/09/2015	02/09/2015				
			SDG Ref	150902-38	150902-38				
			Lab Sample No.(s)	11995372	11995373				
			AGS Reference						
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 1 #	<1 1 #				
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1 1	<1 1				

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
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		
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		
TM283		Determination of Dissolved Niobium, Tungsten, and Zirconium in Water Matrices by ICP-MS		

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

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11995368	11995366	11995367	11995371	11995370	11995369	11995372	11995373
Customer Sample Ref.	BH3	BH4	BH5	BH8	BH109	BH110	BH111	DUP01
AGS Ref.								
Depth								
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Ammoniacal Nitrogen	08-Sep-2015	08-Sep-2015	07-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015
Anions by Kone (w)	09-Sep-2015	09-Sep-2015	09-Sep-2015	09-Sep-2015	09-Sep-2015	09-Sep-2015	09-Sep-2015	09-Sep-2015
COD Unfiltered	05-Sep-2015	05-Sep-2015	05-Sep-2015	05-Sep-2015	05-Sep-2015	05-Sep-2015	05-Sep-2015	05-Sep-2015
Dissolved Metals by ICP-MS	09-Sep-2015	09-Sep-2015	09-Sep-2015	09-Sep-2015	09-Sep-2015	08-Sep-2015	09-Sep-2015	09-Sep-2015
Dissolved W, Nb and Zr by ICP-MS	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015
EPH (DRO) (C10-C40) Aqueous (W)	10-Sep-2015	10-Sep-2015	10-Sep-2015	10-Sep-2015	10-Sep-2015	10-Sep-2015	10-Sep-2015	10-Sep-2015
EPH CWG (Aliphatic) Aqueous GC (W)	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015
EPH CWG (Aromatic) Aqueous GC (W)	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015
GRO by GC-FID (W)	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015	08-Sep-2015
Mercury Dissolved	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015
Nitrite by Kone (w)	06-Sep-2015	06-Sep-2015	06-Sep-2015	06-Sep-2015	06-Sep-2015	06-Sep-2015	06-Sep-2015	06-Sep-2015
pH Value	10-Sep-2015	10-Sep-2015	10-Sep-2015	10-Sep-2015	10-Sep-2015	10-Sep-2015	10-Sep-2015	10-Sep-2015
SVOC MS (W) - Aqueous	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	
Total EPH (aq)	11-Sep-2015	11-Sep-2015	11-Sep-2015	11-Sep-2015	11-Sep-2015	11-Sep-2015	11-Sep-2015	11-Sep-2015
TPH CWG (W)	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015	14-Sep-2015
VOC MS (W)	04-Sep-2015	04-Sep-2015	04-Sep-2015	03-Sep-2015	04-Sep-2015	04-Sep-2015	03-Sep-2015	03-Sep-2015

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

ASSOCIATED AQC DATA

Ammoniacal Nitrogen

Component	Method Code	QC 1224	QC 1233	QC 1270
Ammoniacal Nitrogen as N	TM099	**96.0** 91.84 : 108.16	**102.8** 91.84 : 108.16	**102.0** 91.84 : 108.16

Anions by Kone (w)

Component	Method Code	QC 1236	QC 1219
Chloride	TM184	94.64 : 106.82	94.23 : 107.50
Phosphate (Ortho as PO4)	TM184	96.40 : 108.40	**105.6** 96.41 : 109.80
Sulphate (soluble)	TM184	**99.6** 96.47 : 104.74	94.38 : 108.93
TON as NO3	TM184	**102.5** 93.05 : 112.12	93.93 : 110.49

COD Unfiltered

Component	Method Code	QC 1264	QC 1268	QC 1273
COD	TM107	**100.57** 95.90 : 102.57	**100.19** 95.90 : 102.57	**99.43** 95.90 : 102.57

Dissolved Metals by ICP-MS

Component	Method Code	QC 1270	QC 1278
Aluminium	TM152	**106.13** 88.58 : 117.87	**104.93** 88.58 : 117.87
Antimony	TM152	**101.73** 87.01 : 109.33	**101.73** 87.01 : 109.33
Arsenic	TM152	**102.4** 89.45 : 113.51	**98.67** 89.45 : 113.51
Barium	TM152	**102.4** 90.47 : 113.85	**102.67** 90.47 : 113.85
Beryllium	TM152	**96.27** 84.68 : 120.26	**105.6** 84.68 : 120.26
Boron	TM152	**95.6** 82.95 : 121.47	**100.13** 82.95 : 121.47
Cadmium	TM152	**101.47** 90.40 : 113.29	**103.6** 90.40 : 113.29
Chromium	TM152	**100.13** 90.01 : 114.05	**102.53** 90.01 : 114.05
Cobalt	TM152	**100.67** 87.14 : 117.85	**100.93** 87.14 : 117.85
Copper	TM152	**100.67** 88.43 : 114.27	**103.6** 88.43 : 114.27
Lead	TM152	**95.33** 89.53 : 109.90	**96.0** 89.53 : 109.90

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Dissolved Metals by ICP-MS

		QC 1270	QC 1278
Lithium	TM152	**97.07** 84.32 : 123.11	**105.33** 84.32 : 123.11
Manganese	TM152	**99.87** 91.43 : 113.17	**103.2** 91.43 : 113.17
Molybdenum	TM152	**102.13** 80.73 : 113.85	**101.2** 80.73 : 113.85
Nickel	TM152	**100.0** 87.68 : 113.94	**100.53** 87.68 : 113.94
Phosphorus	TM152	**106.67** 86.68 : 118.34	**100.8** 86.68 : 118.34
Selenium	TM152	**101.33** 91.03 : 113.34	**100.93** 91.03 : 113.34
Strontium	TM152	**101.07** 90.44 : 114.09	**102.13** 90.44 : 114.09
Tellurium	TM152	**104.53** 80.93 : 116.91	**102.53** 80.93 : 116.91
Thallium	TM152	**96.13** 90.27 : 111.31	**96.4** 90.27 : 111.31
Tin	TM152	**100.27** 83.07 : 112.37	**100.53** 83.07 : 112.37
Titanium	TM152	**102.53** 92.65 : 111.58	**101.87** 92.65 : 111.58
Uranium	TM152	**92.13** 88.60 : 110.35	**97.33** 88.60 : 110.35
Vanadium	TM152	**100.4** 88.43 : 116.60	**103.07** 88.43 : 116.60
Zinc	TM152	**99.87** 89.84 : 113.06	**105.33** 89.84 : 113.06

Dissolved W, Nb and Zr by ICP-MS

Component	Method Code	QC 1290
Bismuth	TM283	**92.13** 66.55 : 123.56
Niobium	TM283	**107.6** 85.00 : 115.00
Silver	TM283	**105.33** 81.37 : 112.35
Tungsten	TM283	**85.87** 85.00 : 115.00
Zirconium	TM283	**102.27** 85.00 : 115.00

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1208	QC 1212
EPH (DRO) (C10-C40)	TM172	**96.5** 59.22 : 112.78	**77.0** 59.47 : 106.15

EPH CWG (Aliphatic) Aqueous GC (W)

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

EPH CWG (Aliphatic) Aqueous GC (W)

Component	Method Code	QC 1219
Total Aliphatics >C12-C35	TM174	**79.17** 66.67 : 110.42

EPH CWG (Aromatic) Aqueous GC (W)

Component	Method Code	QC 1220
Total Aromatics >EC12-EC35	TM174	**88.67** 63.00 : 121.00

GRO by GC-FID (W)

Component	Method Code	QC 1199	QC 1175	QC 1286
Benzene by GC	TM245	**95.5** 76.72 : 118.62	**104.5** 79.00 : 121.00	**90.0** 77.50 : 122.50
Ethylbenzene by GC	TM245	**90.0** 74.74 : 116.76	**104.0** 79.00 : 121.00	**87.5** 77.50 : 122.50
m & p Xylene by GC	TM245	**89.75** 73.06 : 114.58	**103.5** 79.00 : 121.00	**87.75** 77.50 : 122.50
MTBE GC-FID	TM245	**98.5** 80.00 : 121.03	**108.0** 79.00 : 121.00	**92.0** 77.50 : 122.50
o Xylene by GC	TM245	**90.0** 70.00 : 130.00	**103.0** 79.00 : 121.00	**87.5** 77.50 : 122.50
QC	TM245	**101.89** 70.00 : 130.00	**104.28** 79.00 : 121.00	**102.19** 74.88 : 125.54
Toluene by GC	TM245	**92.0** 79.35 : 119.27	**105.0** 79.00 : 121.00	**88.5** 77.50 : 122.50

Mercury Dissolved

Component	Method Code	QC 1262	QC 1200
Mercury Dissolved (CVAF)	TM183	**98.5** 73.51 : 120.83	**95.5** 73.51 : 120.83

pH Value

Component	Method Code	QC 1201	QC 1215
pH	TM256	**101.08** 99.20 : 102.85	**100.54** 99.37 : 102.65

SVOC MS (W) - Aqueous

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SVOC MS (W) - Aqueous

Component	Method Code	QC 1208	QC 1247
4-Bromophenylphenyleth er	TM176	**87.2** 55.04 : 128.00	**82.4** 65.62 : 120.95
Benzo(a)anthracene	TM176	**87.2** 52.64 : 123.68	**82.4** 62.83 : 114.26
Benzo(a)pyrene	TM176	**79.68** 49.60 : 114.40	**80.8** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**93.6** 49.04 : 127.76	**82.4** 45.10 : 118.90
Hexachlorobutadiene	TM176	**77.52** 42.80 : 108.20	**61.28** 43.12 : 110.32
Naphthalene	TM176	**92.0** 47.20 : 116.80	**85.6** 69.48 : 118.94
Nitrobenzene	TM176	**88.8** 58.70 : 110.90	**79.52** 69.13 : 107.62
Phenol	TM176	**50.08** 30.25 : 79.75	**49.12** 30.92 : 74.19

VOC MS (W)

Component	Method Code	QC 1188	QC 1162
1,1,1,2-Tetrachloroethan e	TM208	**91.0** 84.25 : 114.84	**94.5** 87.29 : 112.22
1,1,1-Trichloroethane	TM208	**90.0** 84.67 : 111.97	**91.5** 83.02 : 113.68
1,1-Dichloroethane	TM208	**93.5** 80.19 : 121.45	**95.0** 77.85 : 123.56
1,2-Dichloroethane	TM208	**94.0** 77.68 : 127.05	**96.5** 80.96 : 124.37
2-Chlorotoluene	TM208	**91.0** 85.81 : 116.77	**96.5** 84.42 : 112.35
4-Chlorotoluene	TM208	**92.0** 87.22 : 115.45	**96.5** 88.70 : 113.67
Benzene	TM208	**91.0** 82.30 : 120.49	**95.0** 85.85 : 118.22
Bromomethane	TM208	**101.0** 76.16 : 123.35	**103.0** 78.68 : 126.84
Carbontetrachloride	TM208	**93.0** 83.96 : 117.98	**93.5** 82.06 : 117.49
Chlorobenzene	TM208	**93.0** 85.75 : 114.88	**97.5** 77.50 : 122.50
Chloroform	TM208	**95.0** 84.84 : 119.97	**100.0** 77.50 : 122.50
Chloromethane	TM208	**117.5** 53.63 : 141.38	**113.0** 64.99 : 145.80
Cis-1,2-Dichloroethene	TM208	**104.0** 81.65 : 120.44	**108.0** 82.70 : 120.11
Dichloromethane	TM208	**94.0** 79.31 : 122.56	**99.5** 80.45 : 125.21
Ethylbenzene	TM208	**89.5** 80.74 : 110.74	**90.0** 81.00 : 111.00
Hexachlorobutadiene	TM208	**98.5** 68.91 : 121.59	**99.0** 79.39 : 111.07
o-Xylene	TM208	**91.0** 85.43 : 113.21	**95.0** 84.32 : 113.42

CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (W)

		QC 1188	QC 1162
p/m-Xylene	TM208	**89.25** 80.94 : 113.51	**92.75** 82.25 : 112.25
Tert-butyl methyl ether	TM208	**98.0** 59.77 : 129.51	**93.0** 76.57 : 125.98
Tetrachloroethene	TM208	**91.0** 83.21 : 115.40	**93.5** 84.88 : 110.14
Toluene	TM208	**90.0** 86.02 : 114.04	**93.0** 85.71 : 113.18
Trichloroethene	TM208	**91.0** 83.50 : 113.50	**94.0** 87.32 : 112.88
Vinyl Chloride	TM208	**92.5** 63.71 : 124.88	**88.0** 67.57 : 130.24

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

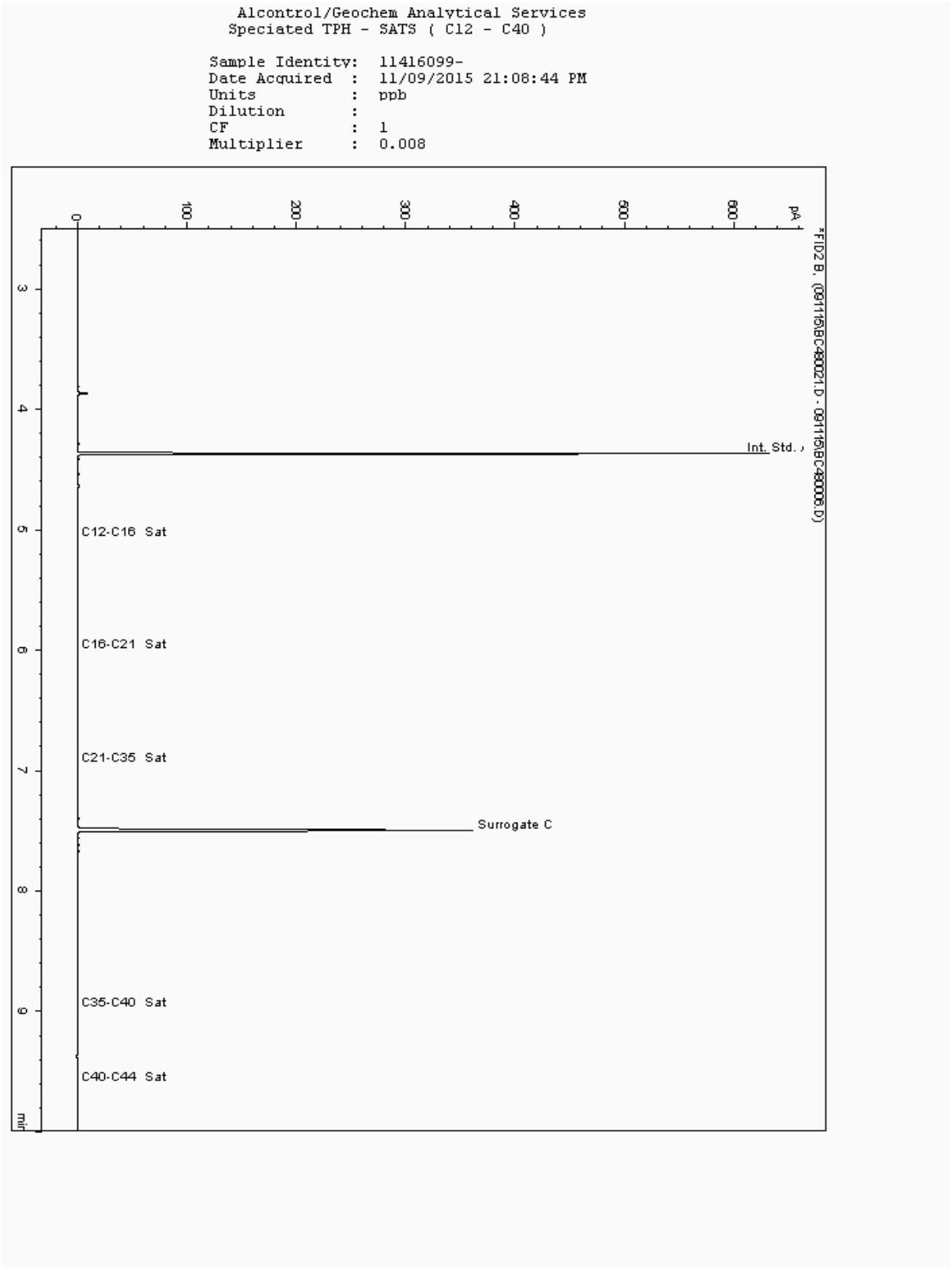
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041687
Sample ID : BH109

Depth :



CERTIFICATE OF ANALYSIS

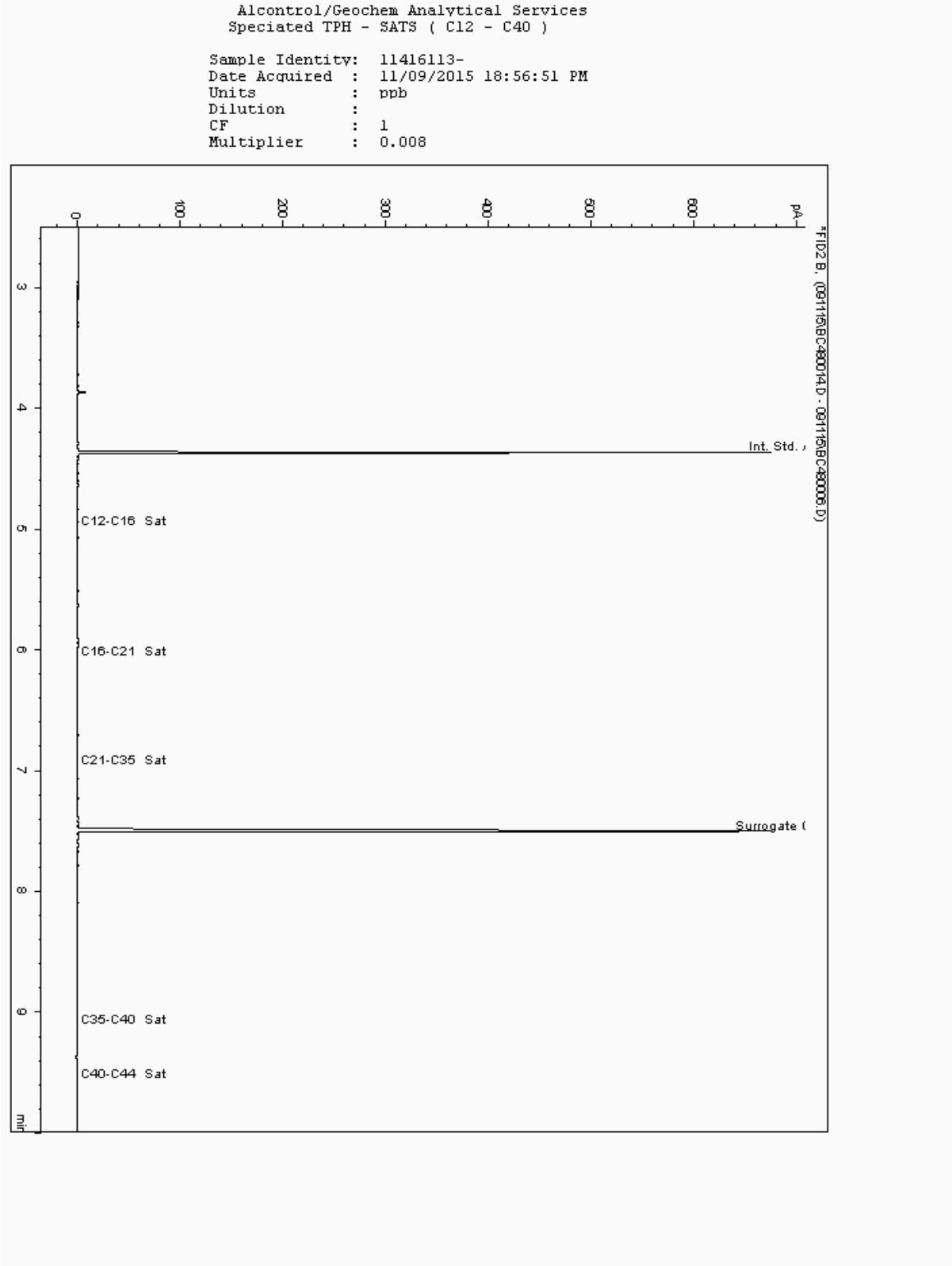
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041693
Sample ID : BH111

Depth :



CERTIFICATE OF ANALYSIS

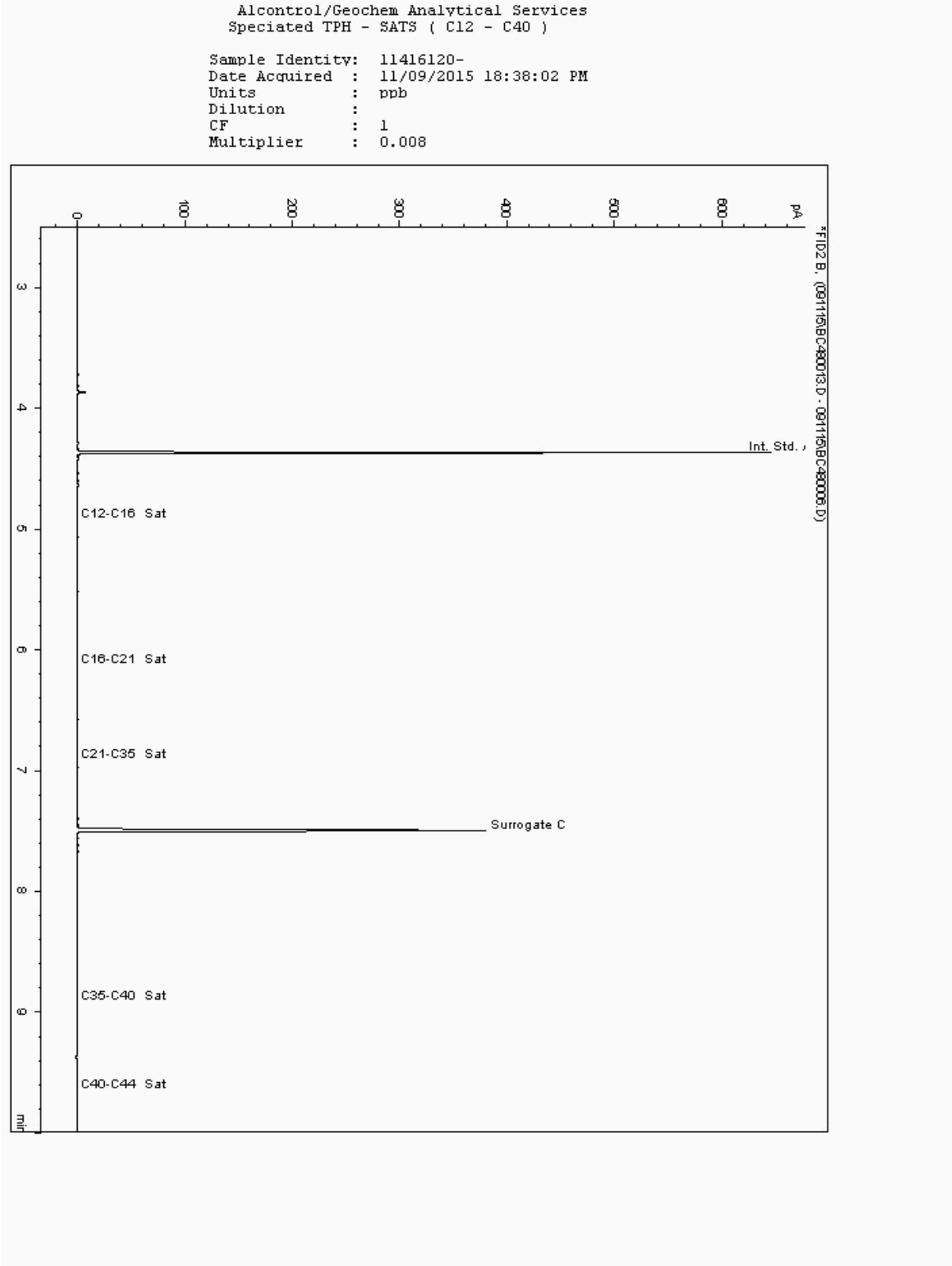
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041696
Sample ID : DUP01

Depth :



CERTIFICATE OF ANALYSIS

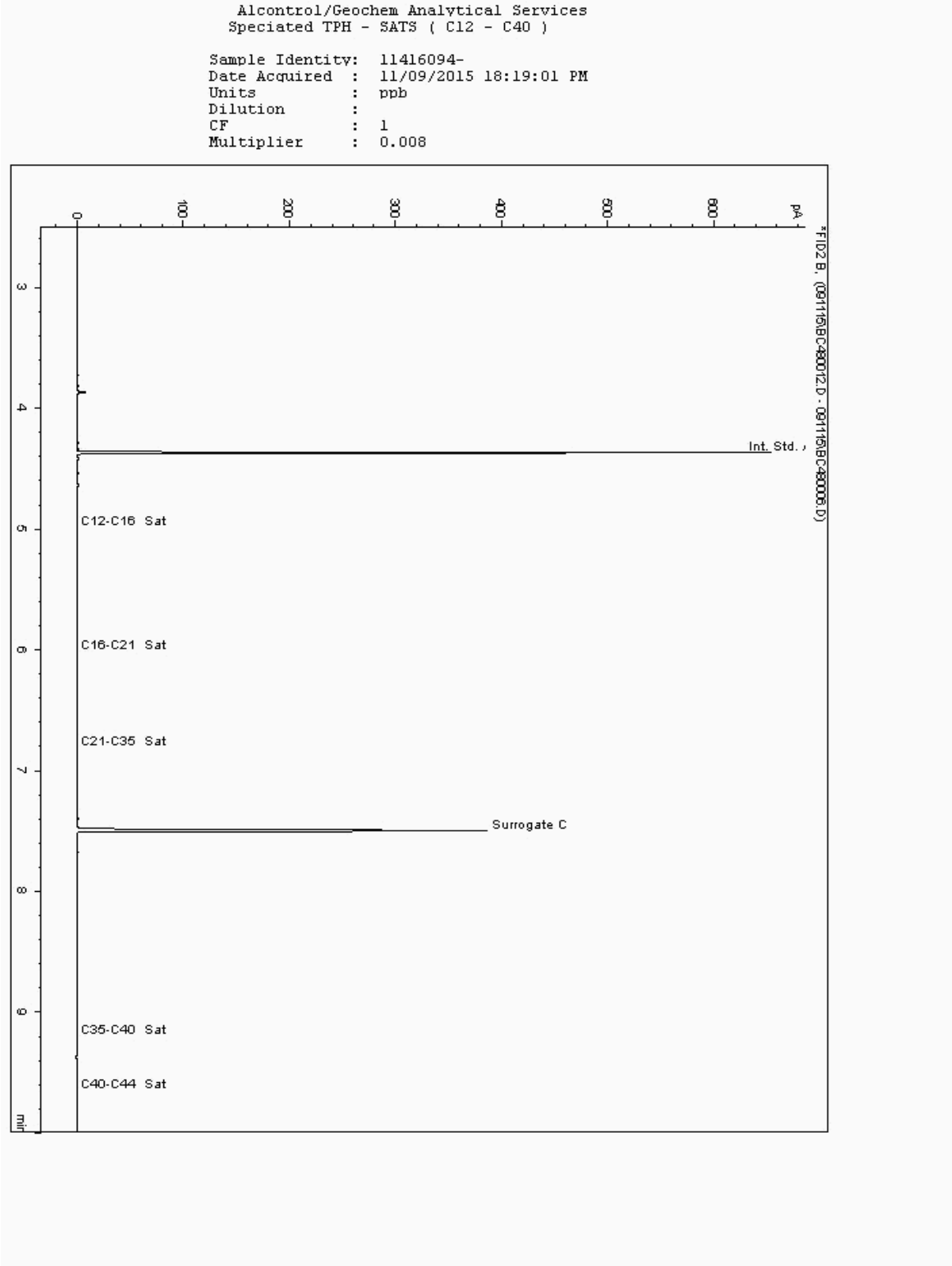
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041700
Sample ID : BH110

Depth :



CERTIFICATE OF ANALYSIS

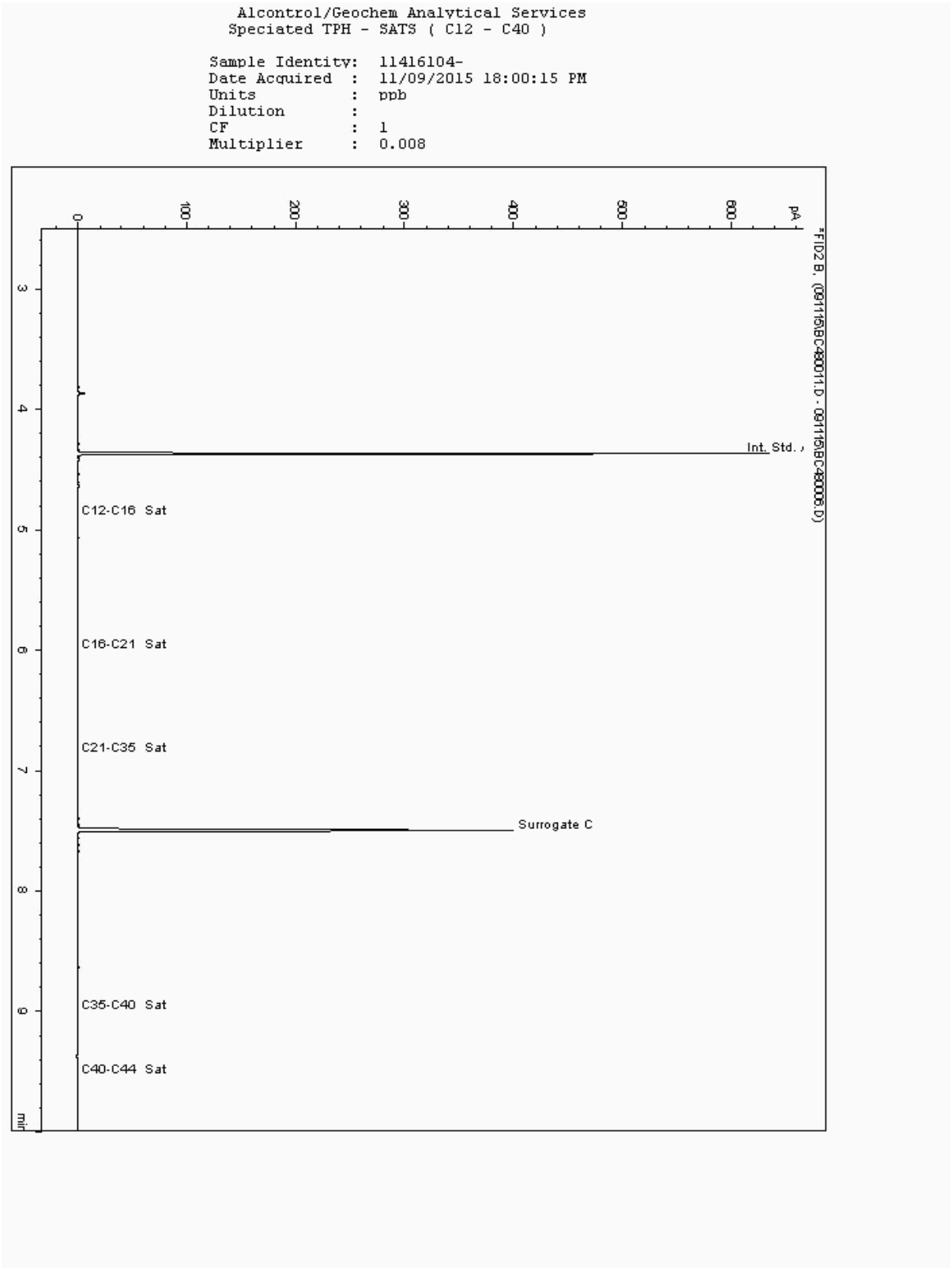
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041705
Sample ID : BH8

Depth :



CERTIFICATE OF ANALYSIS

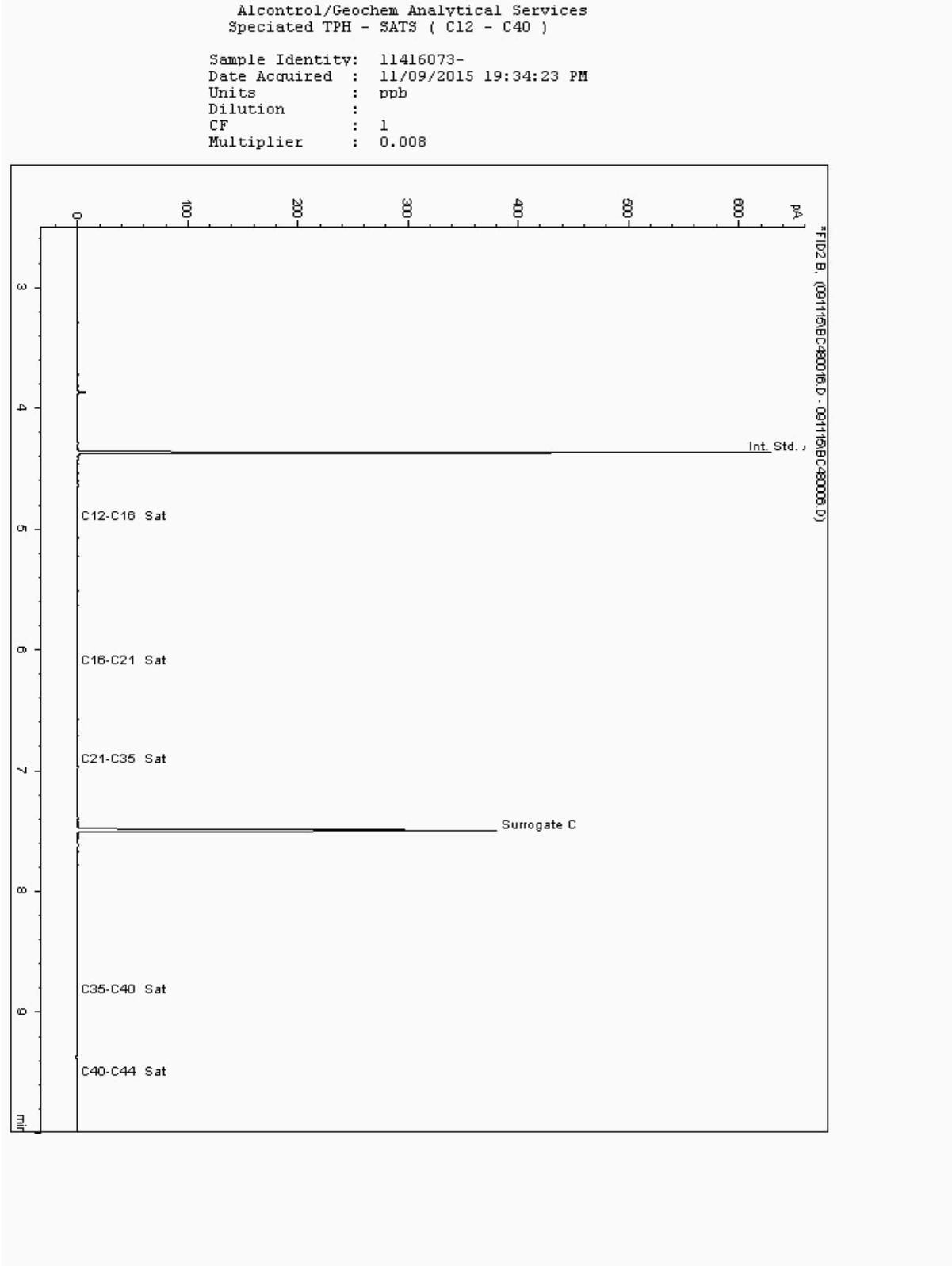
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041823
Sample ID : BH4

Depth :



CERTIFICATE OF ANALYSIS

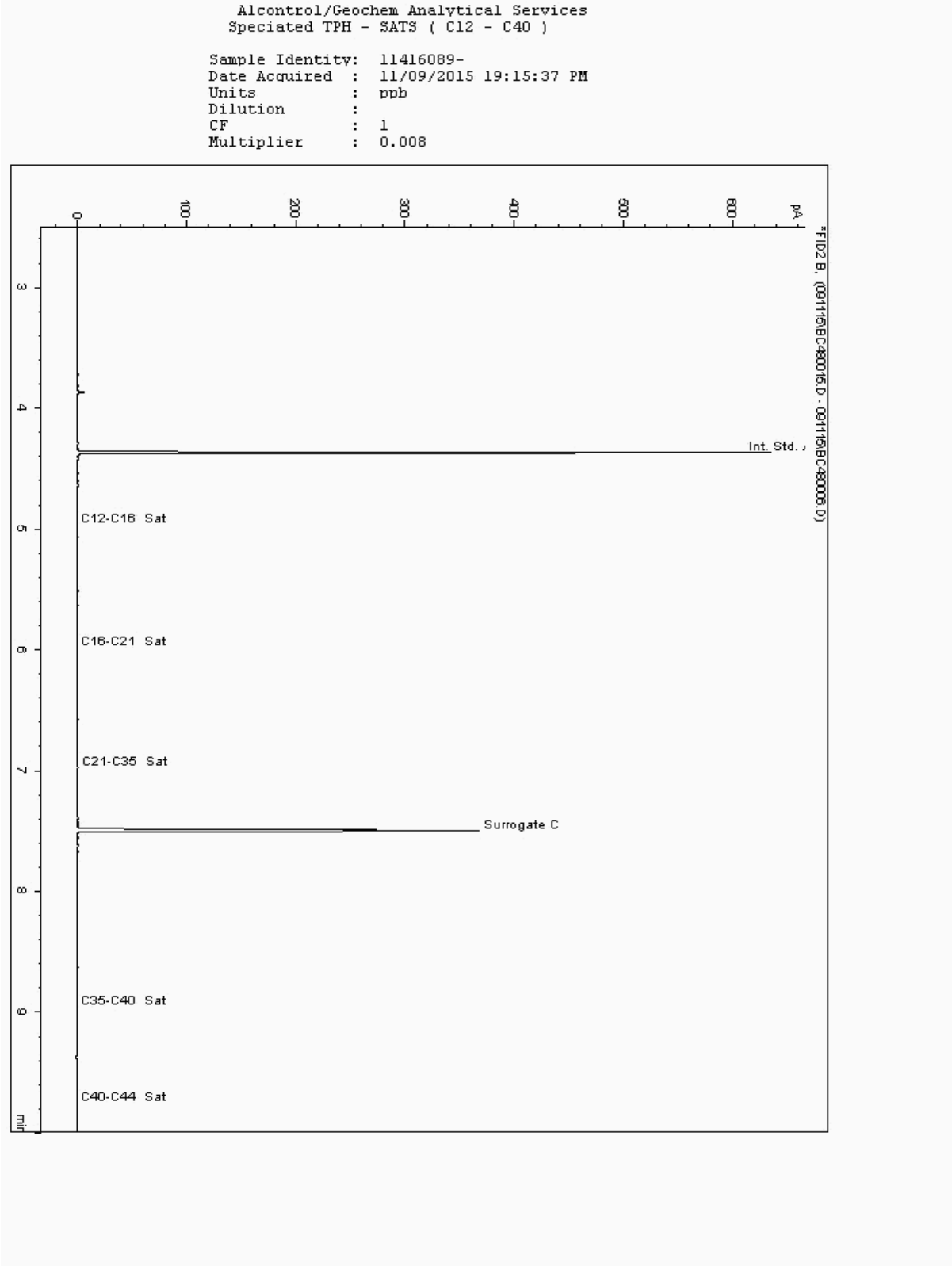
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041835
Sample ID : BH3

Depth :



CERTIFICATE OF ANALYSIS

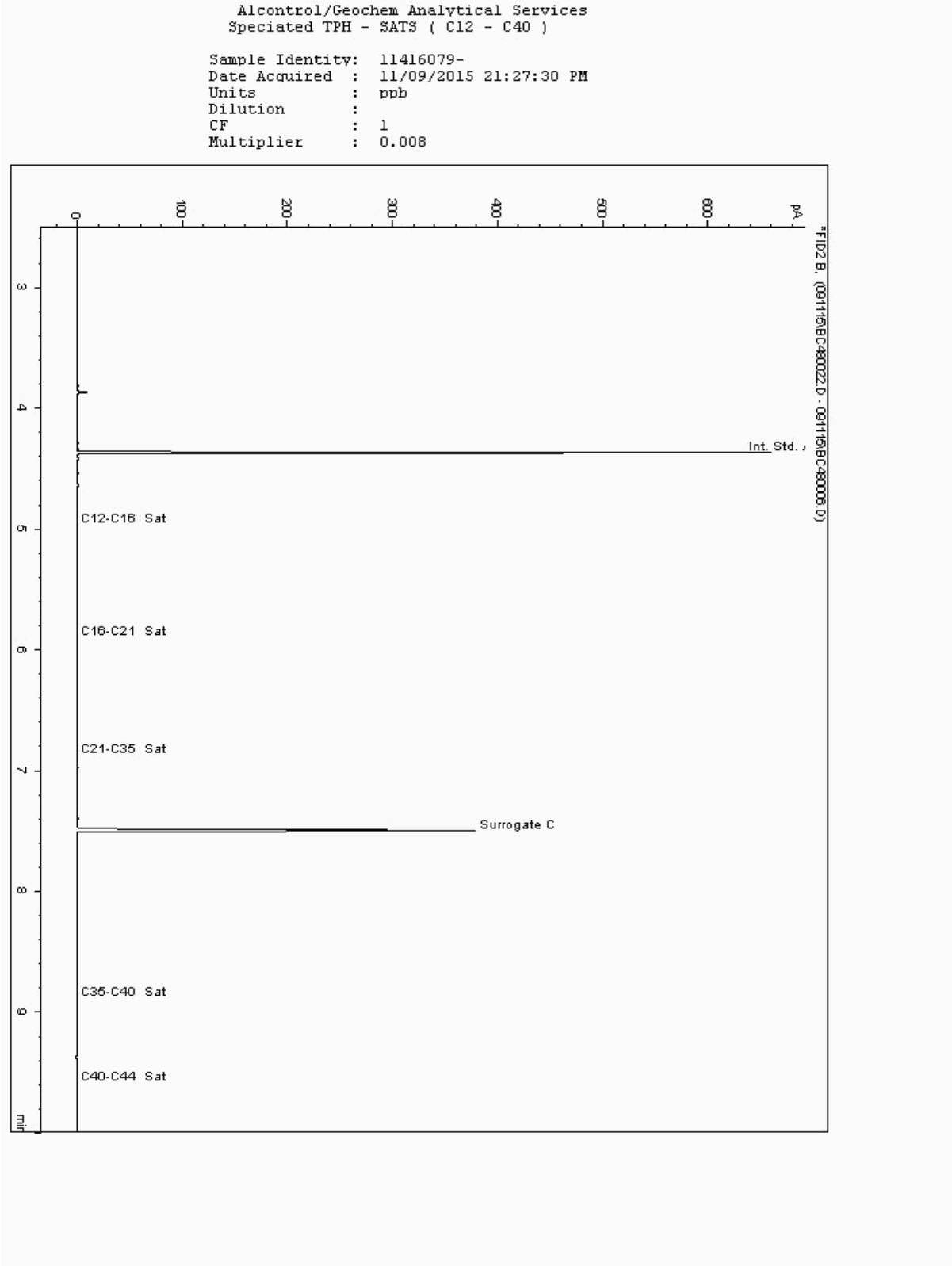
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041844
Sample ID : BH5

Depth :



CERTIFICATE OF ANALYSIS

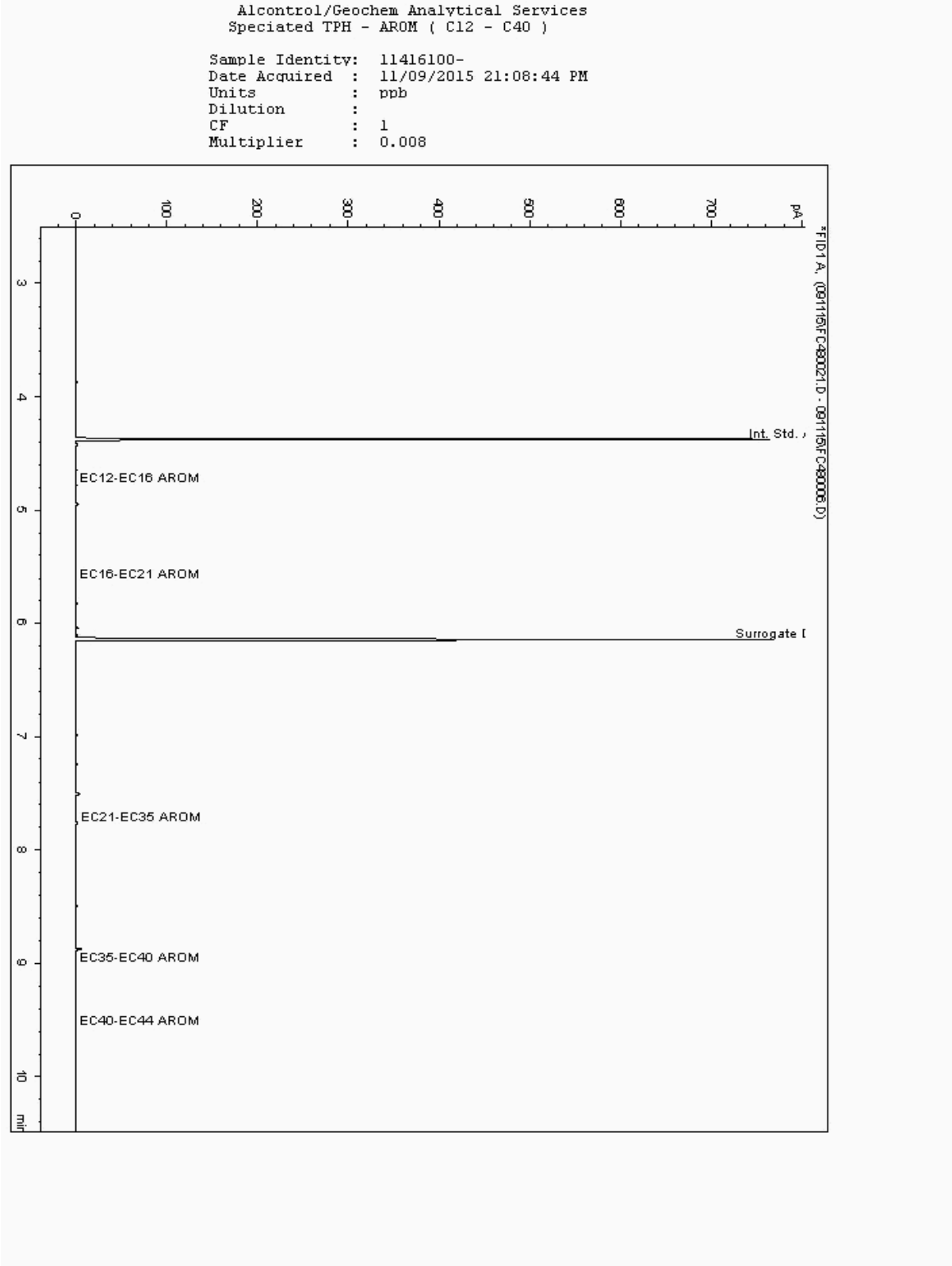
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041687
Sample ID : BH109

Depth :



CERTIFICATE OF ANALYSIS

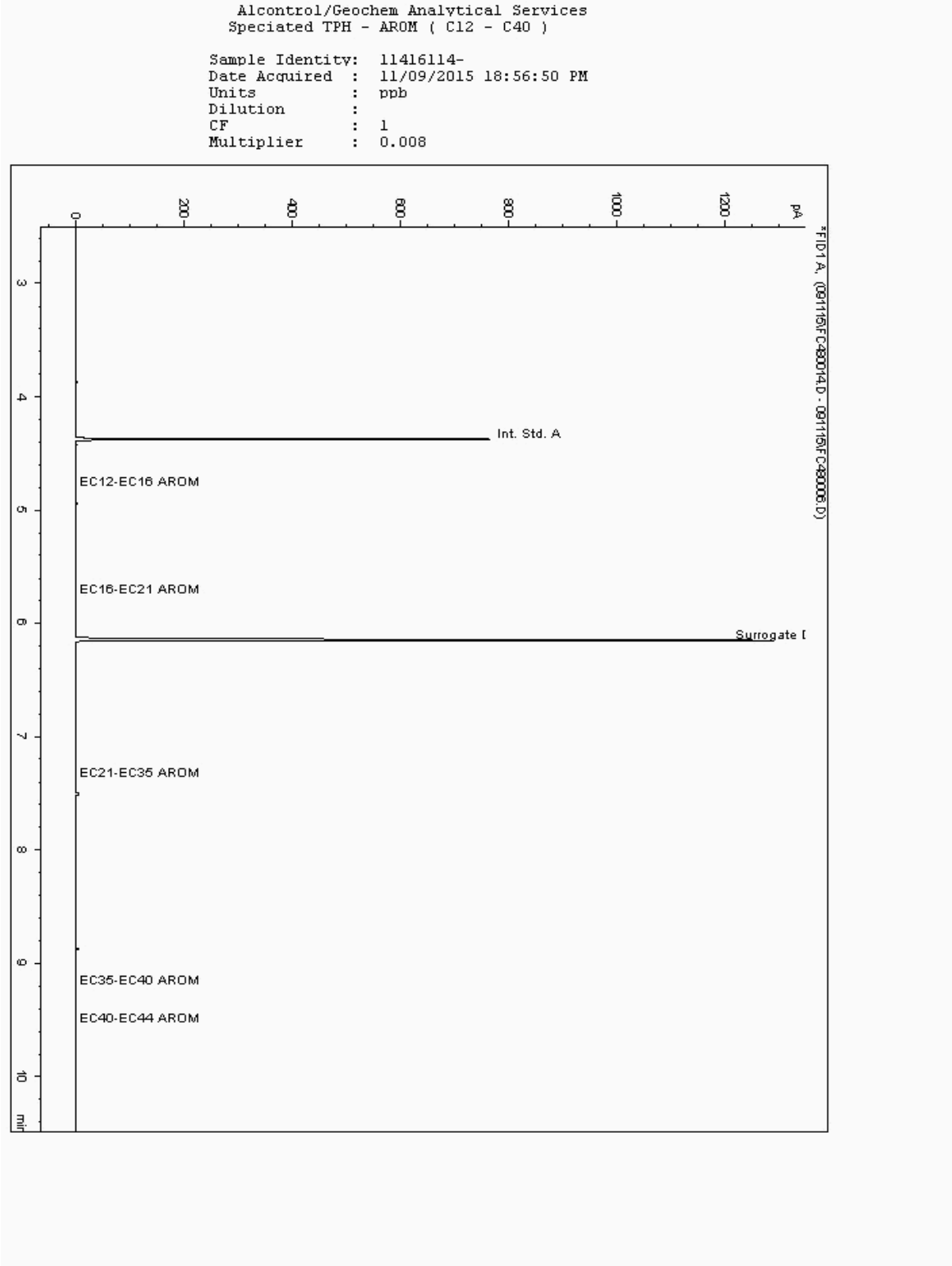
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041693
Sample ID : BH111

Depth :



CERTIFICATE OF ANALYSIS

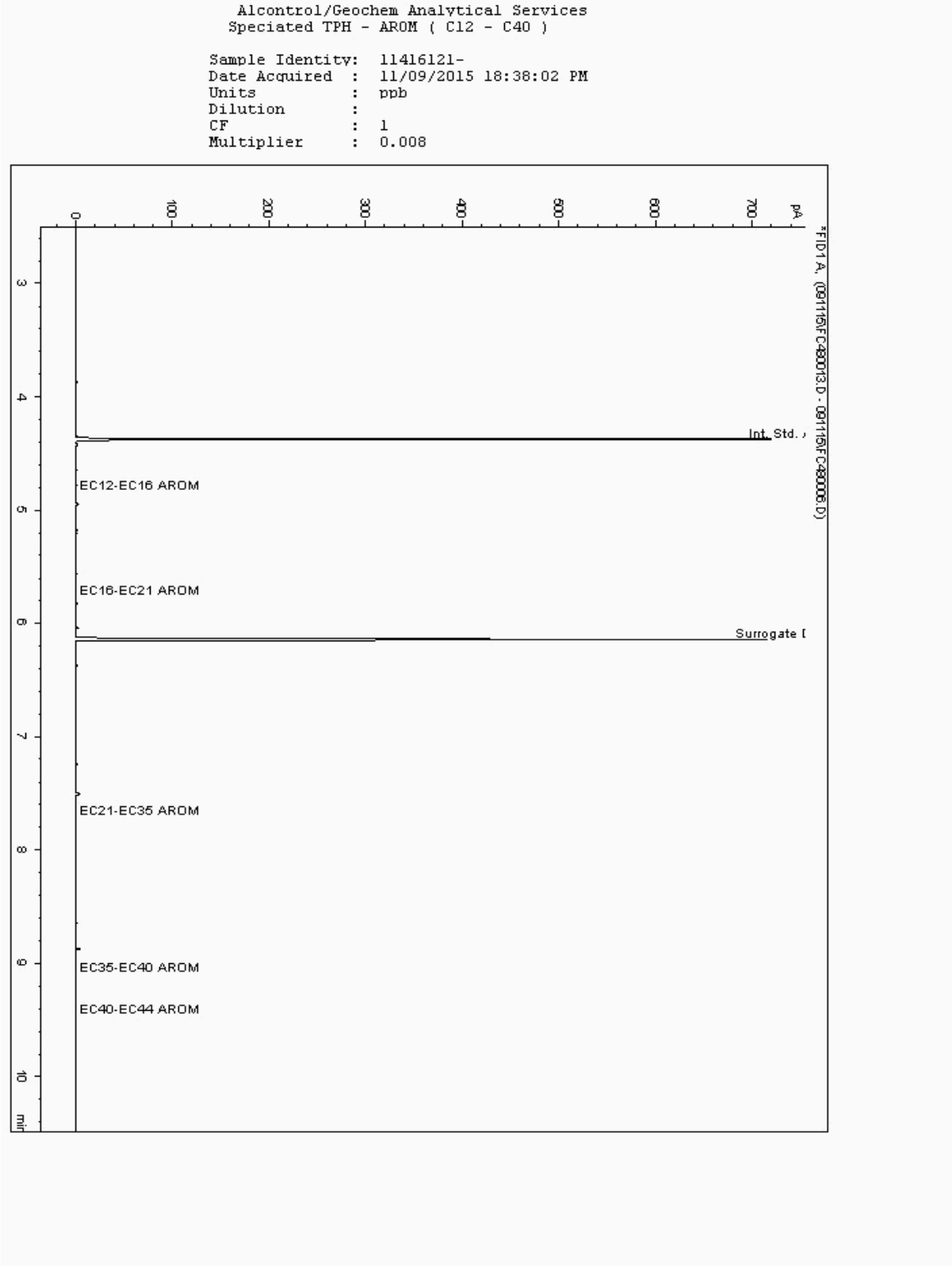
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041696
Sample ID : DUP01

Depth :



CERTIFICATE OF ANALYSIS

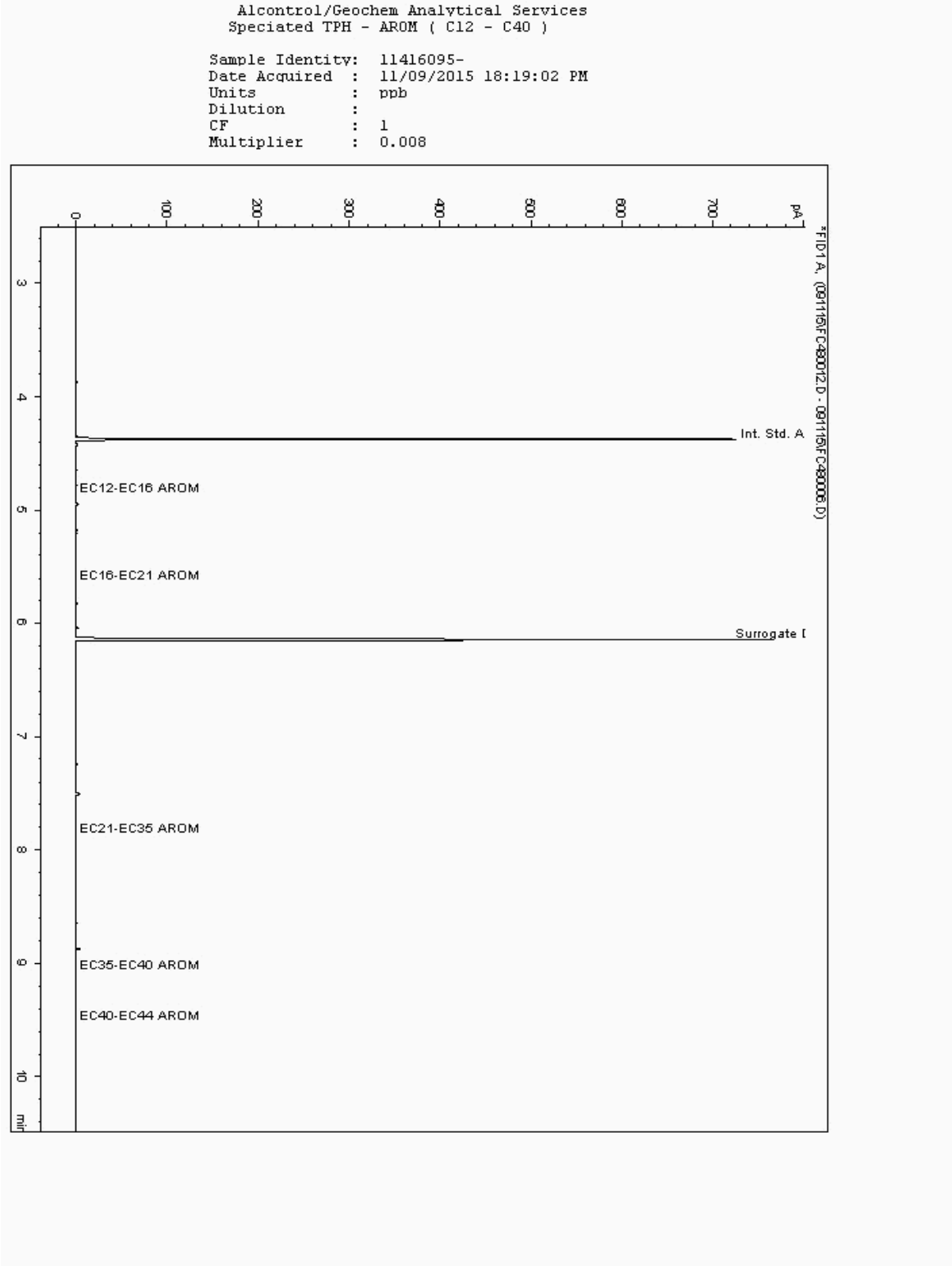
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041700
Sample ID : BH110

Depth :

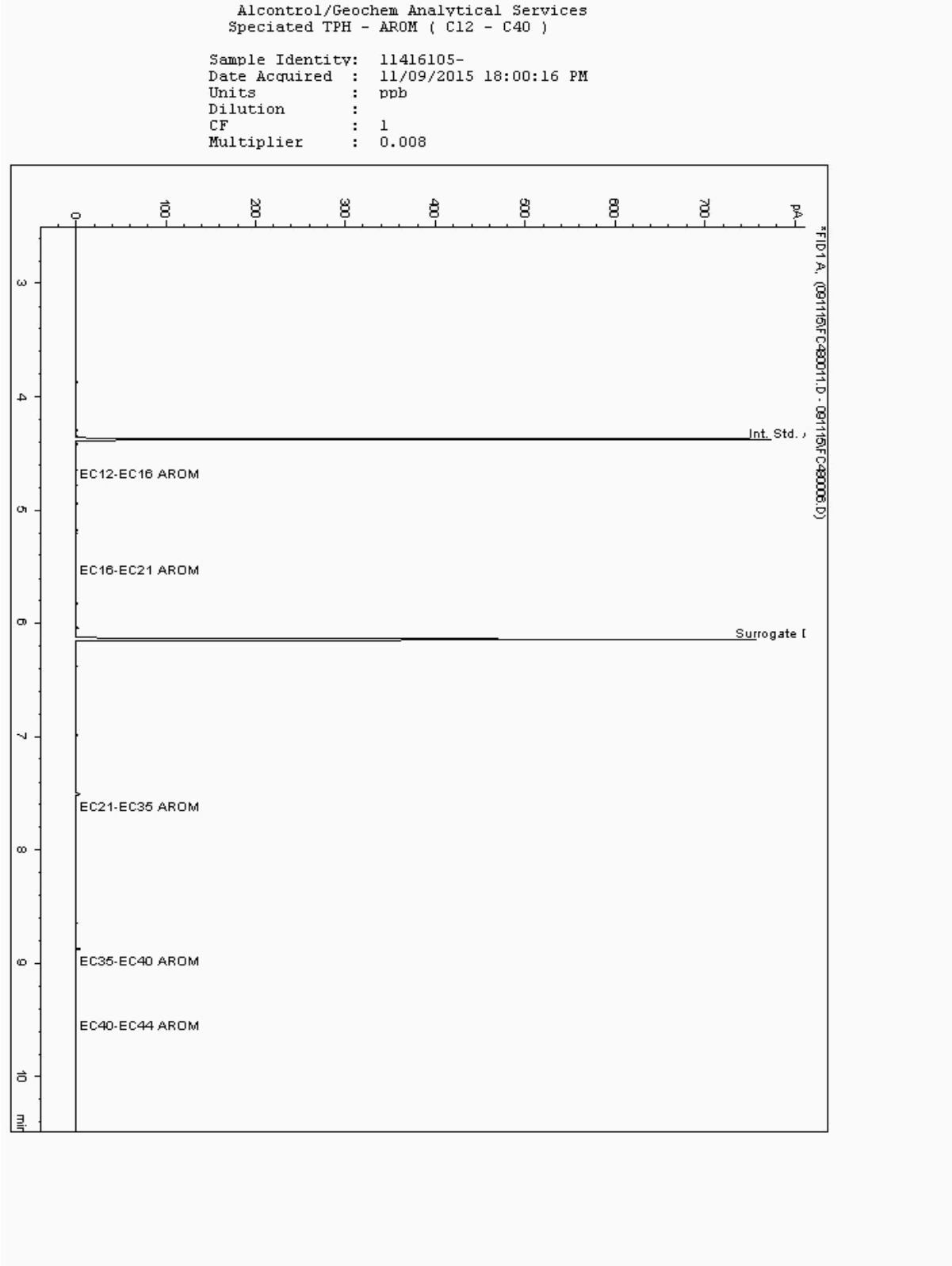


CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) **Sample No :** 12041705 **Sample ID :** BH8 **Depth :**



CERTIFICATE OF ANALYSIS

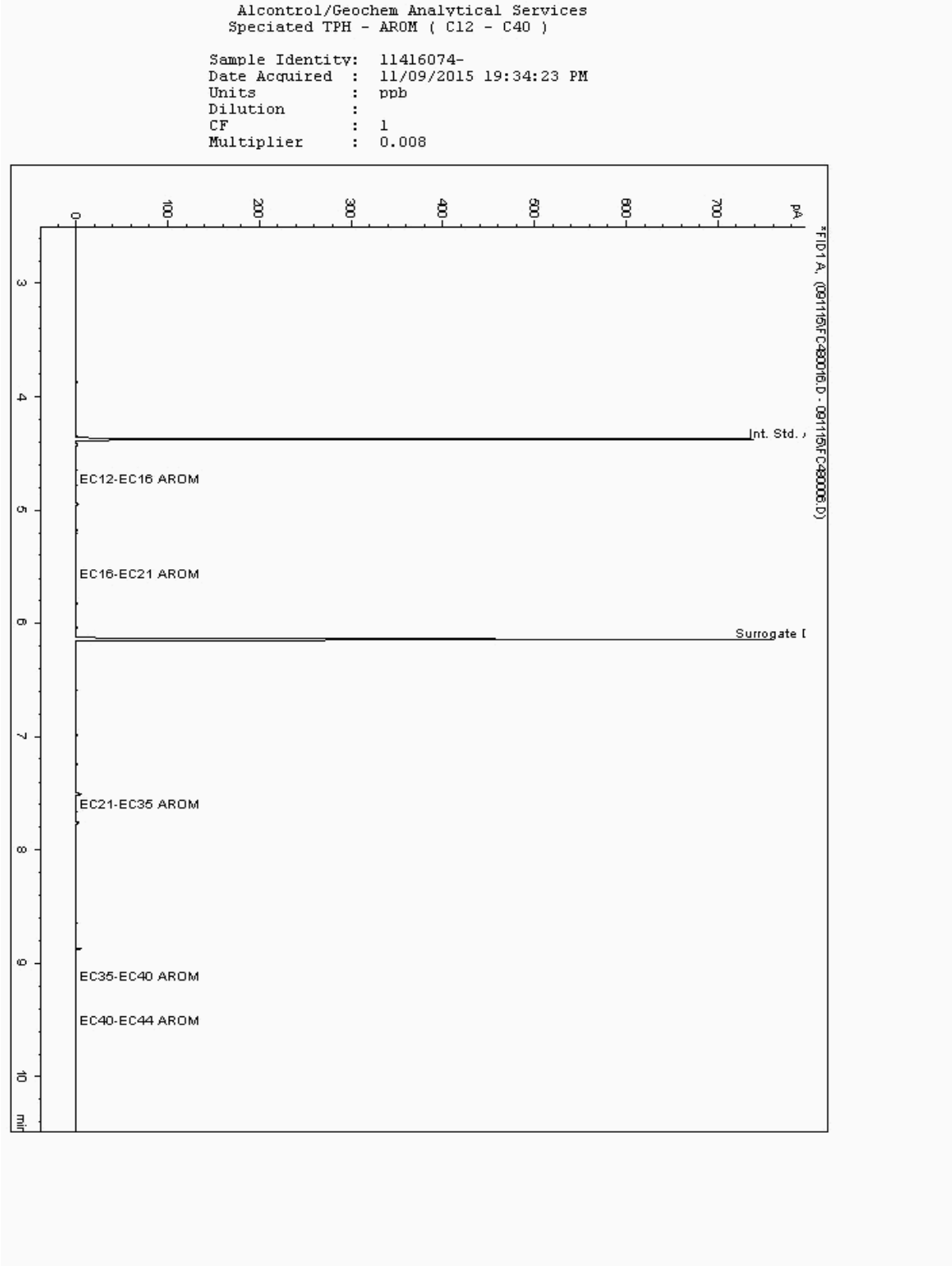
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

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

Sample No : 12041823
Sample ID : BH4

Depth :



CERTIFICATE OF ANALYSIS

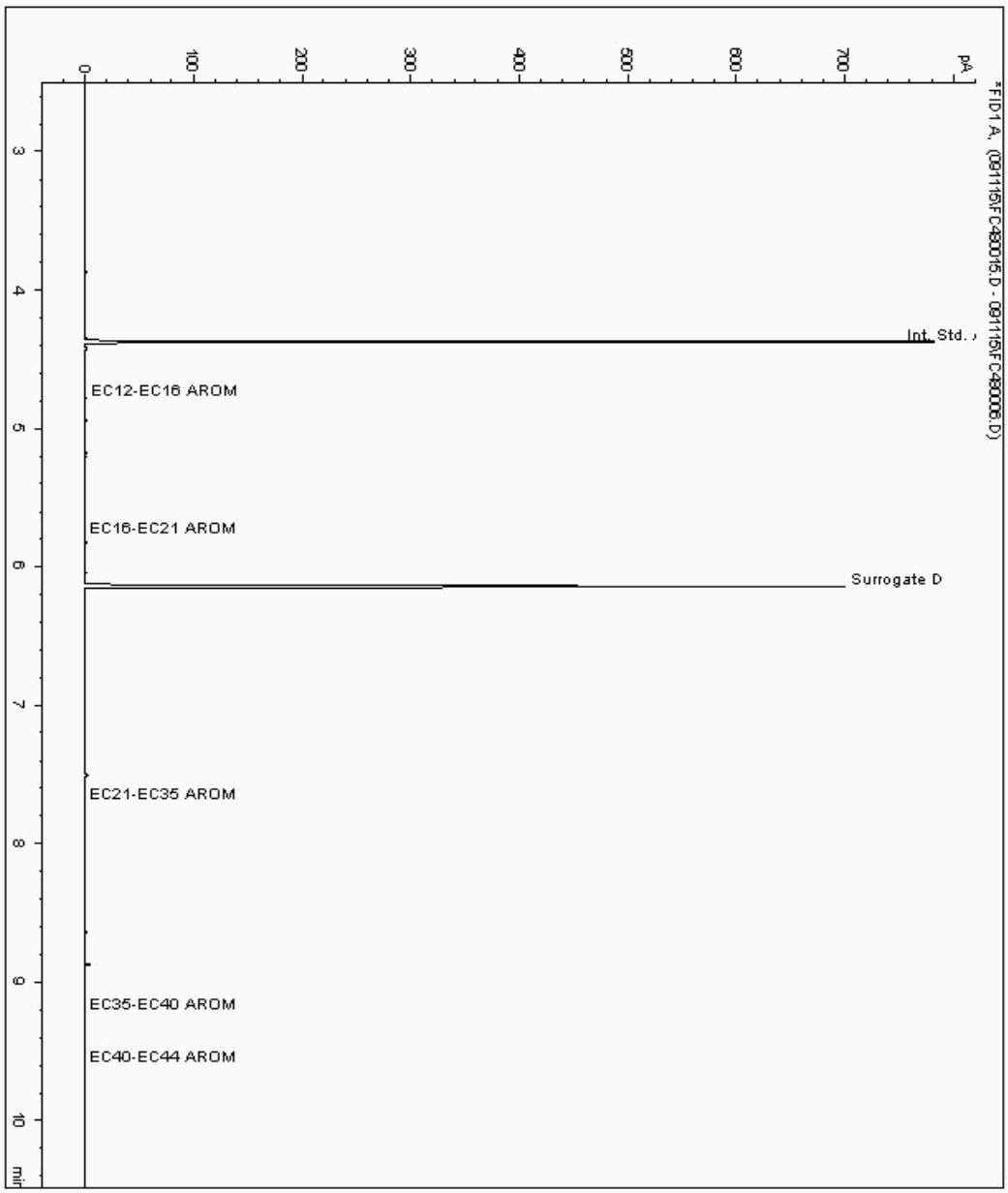
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) **Sample No :** 12041835 **Sample ID :** BH3 **Depth :**

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

Sample Identity: 11416090-
Date Acquired : 11/09/2015 19:15:37 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.008

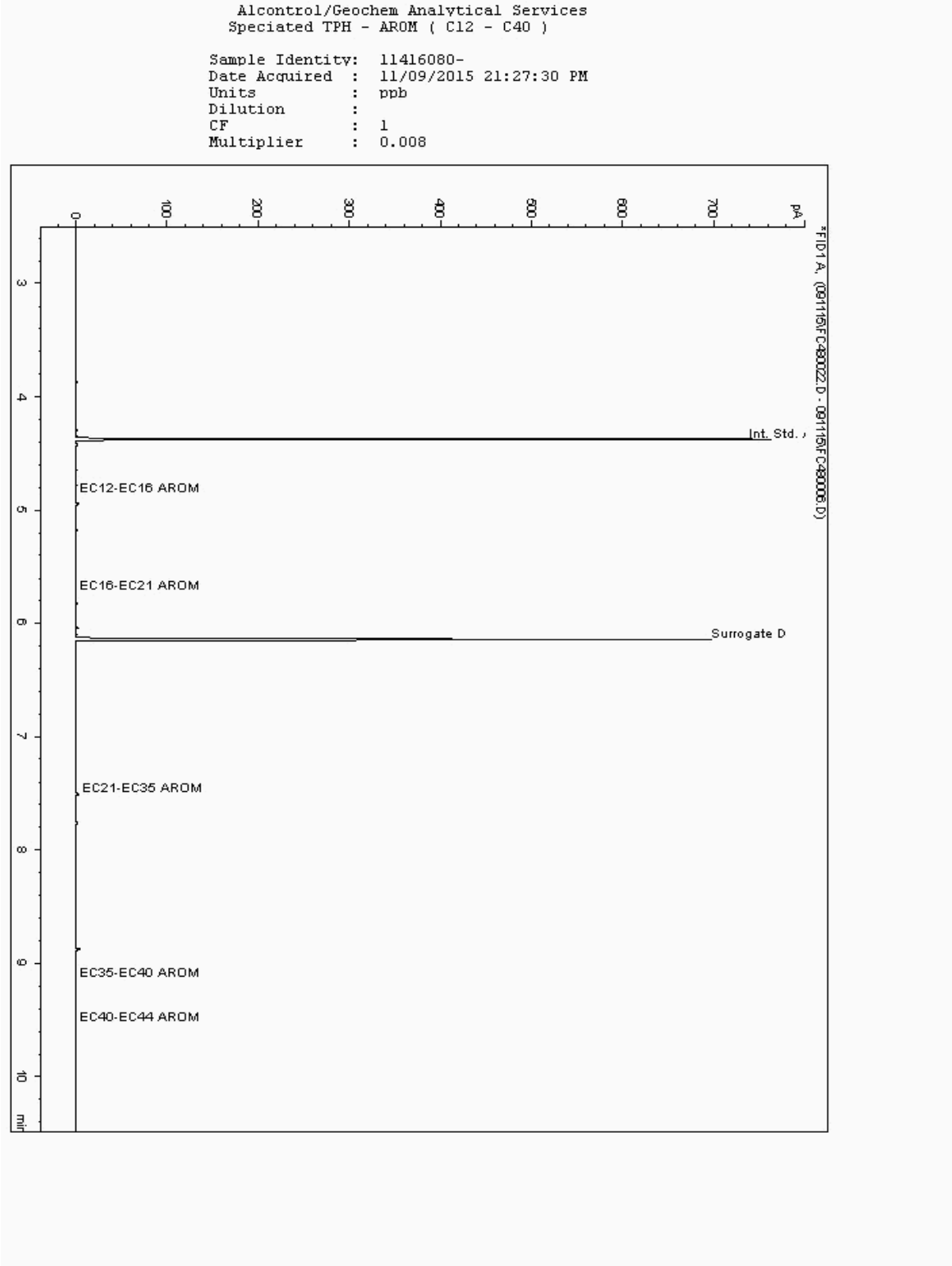


CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) **Sample No :** 12041844 **Sample ID :** BH5 **Depth :**



CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

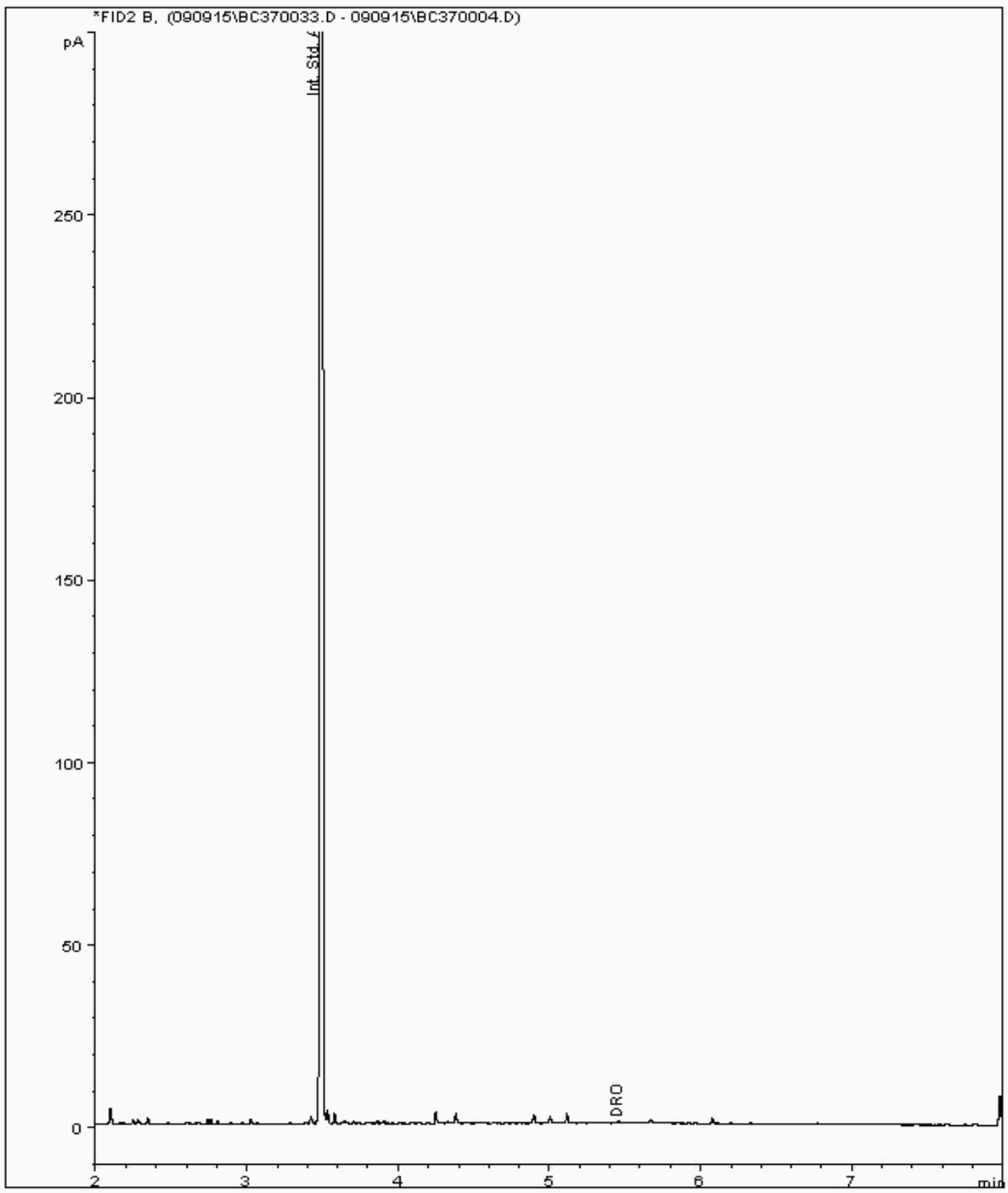
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12010785
Sample ID : BH8

Depth :

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

Sample Identity: 11378749-
Date Acquired : 10/09/2015 03:40:25 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

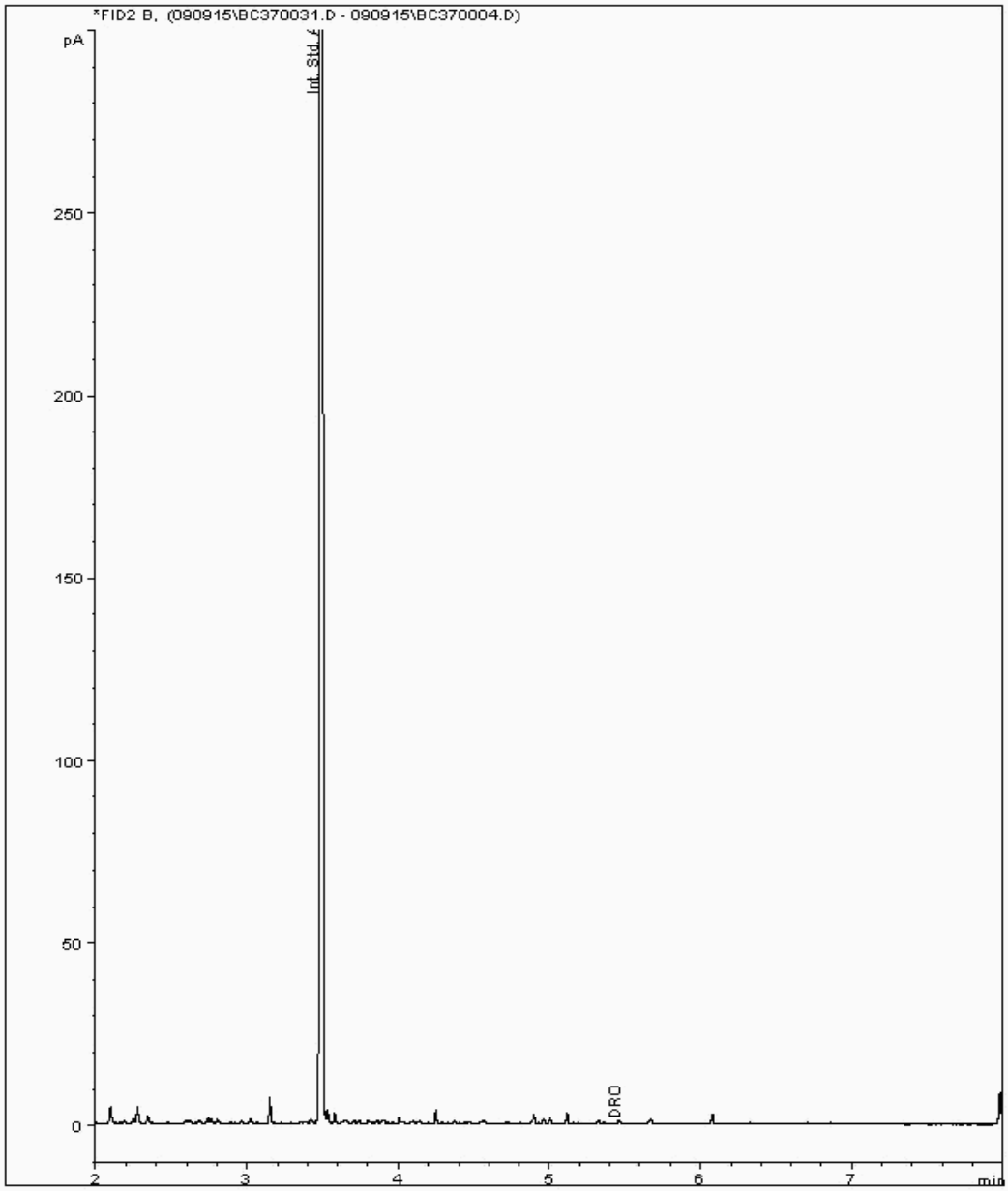
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12010813
Sample ID : DUP01

Depth :

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

Sample Identity: 11378785-
Date Acquired : 10/09/2015 02:56:26 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

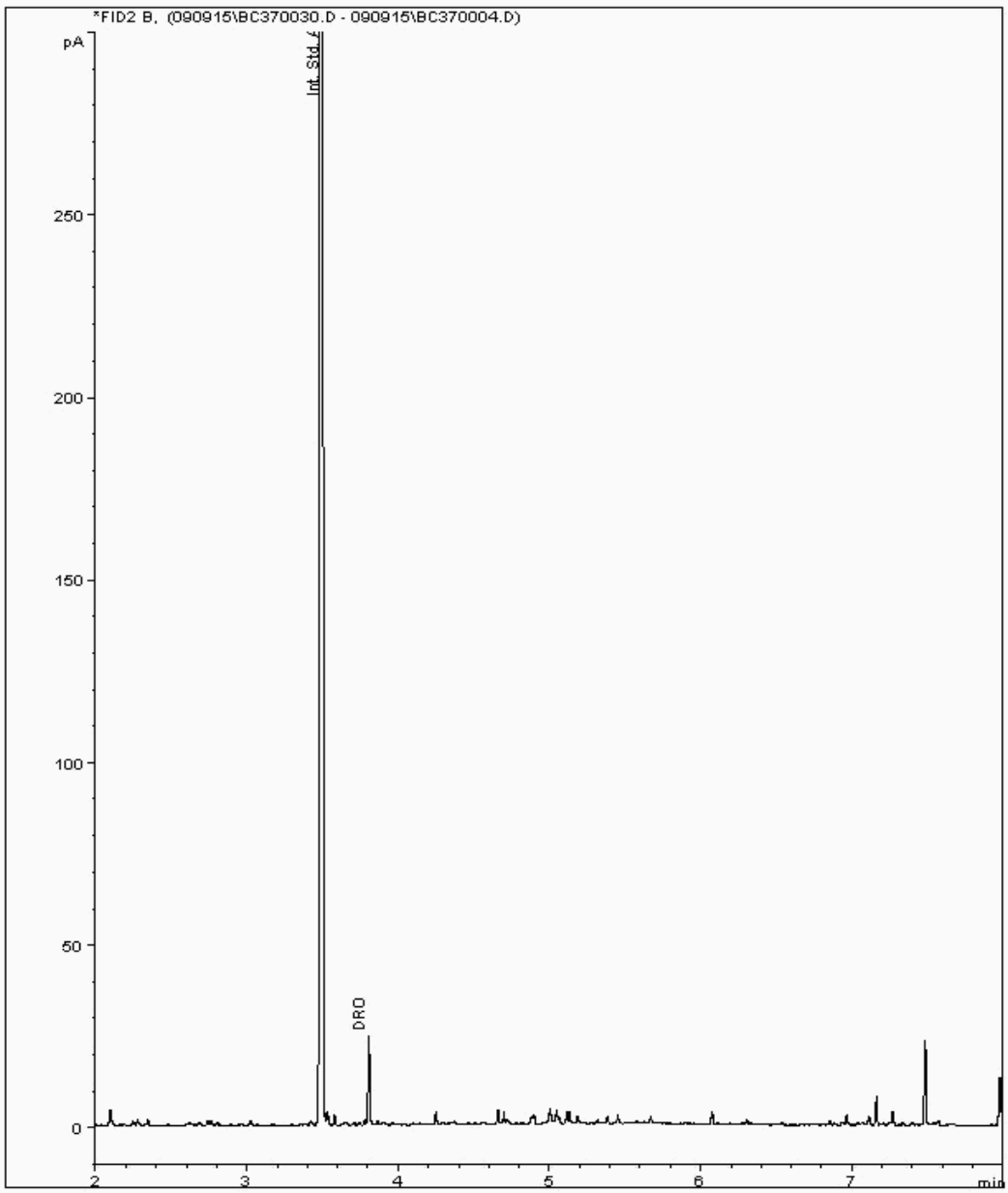
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12010836
Sample ID : BH111

Depth :

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

Sample Identity: 11378767-
Date Acquired : 10/09/2015 02:34:21 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

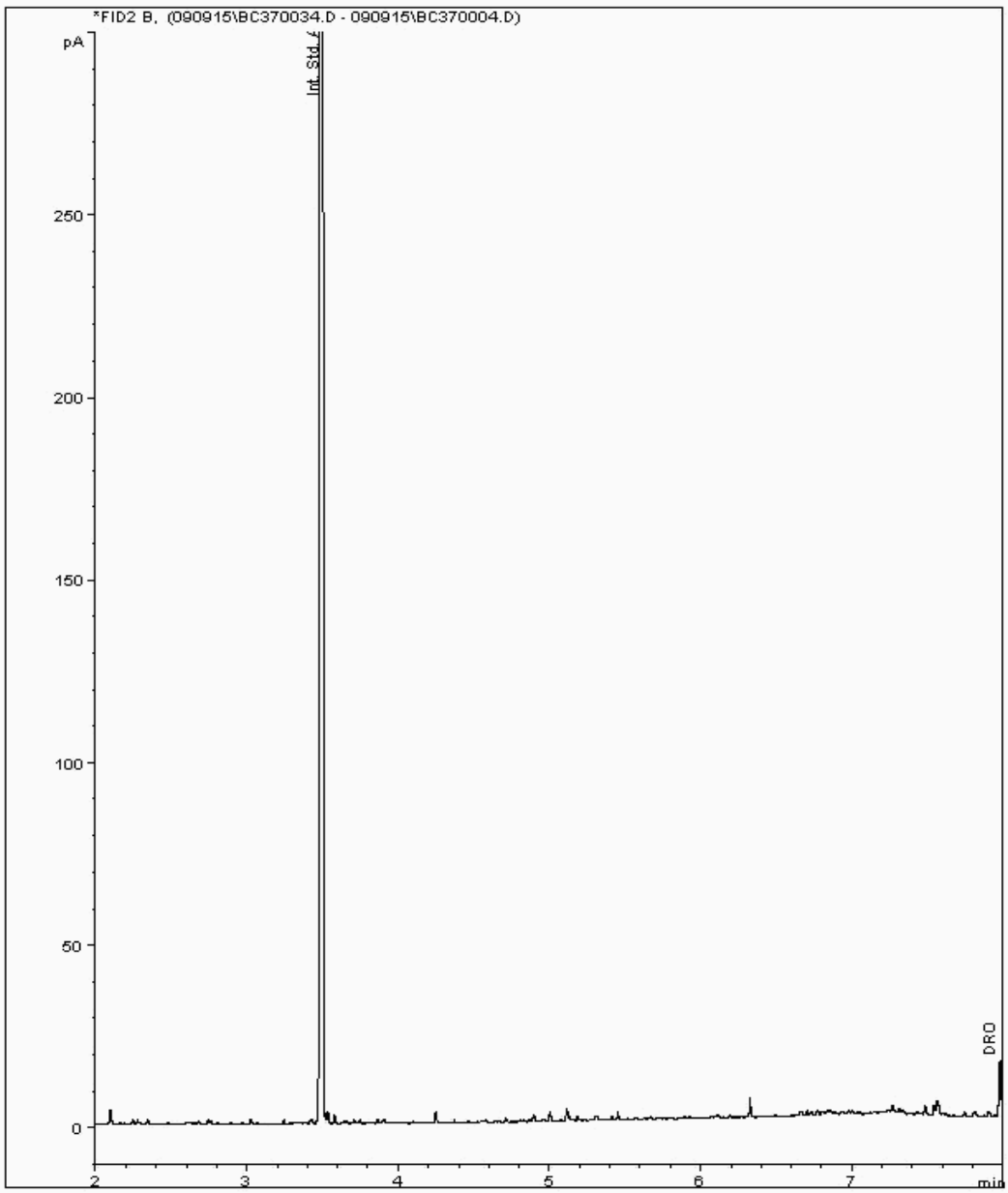
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12010862
Sample ID : BH109

Depth :

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

Sample Identity: l1378728-
Date Acquired : 10/09/2015 04:02:28 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

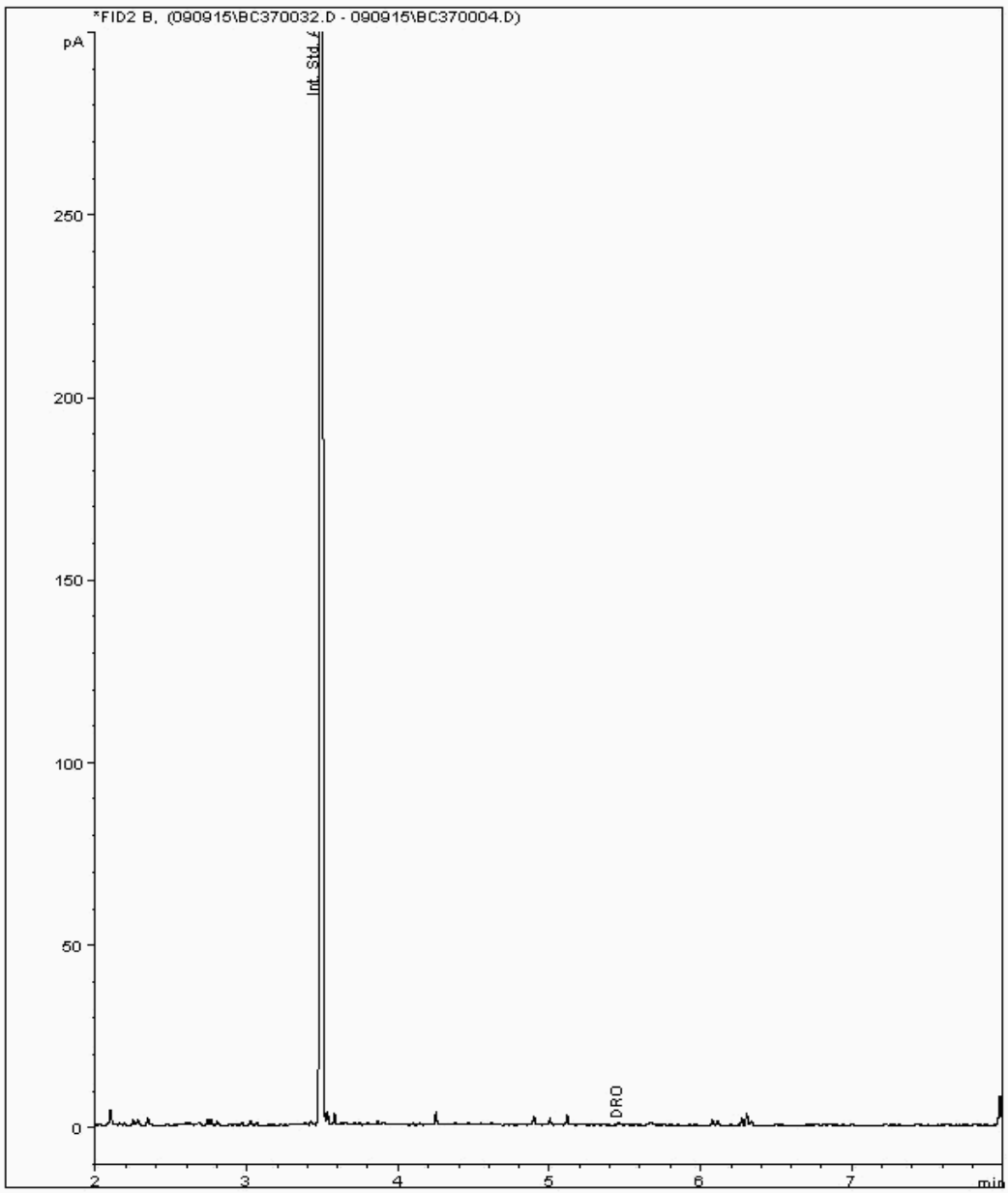
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12010877
Sample ID : BH110

Depth :

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

Sample Identity: 11378714-
Date Acquired : 10/09/2015 03:18:35 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

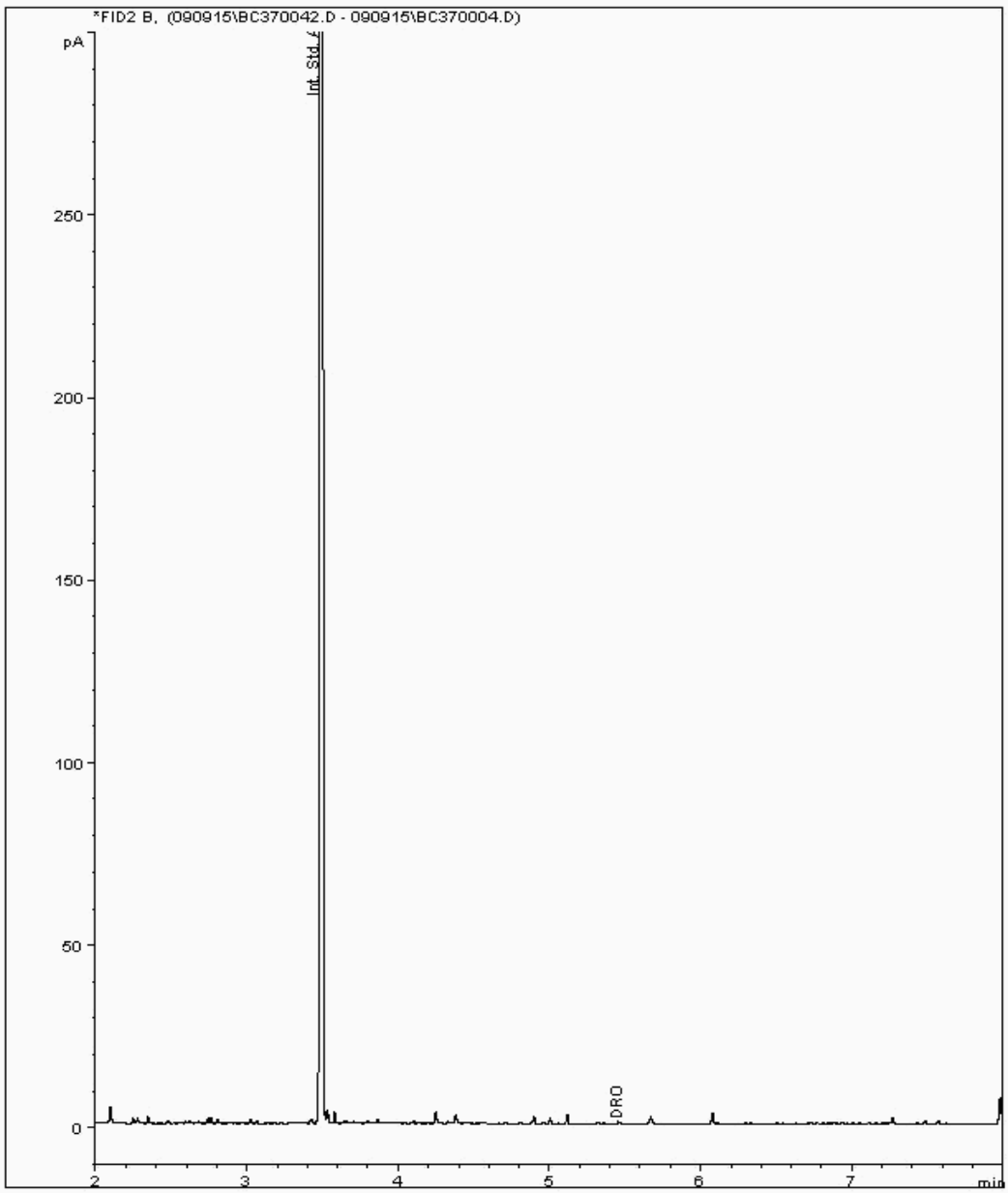
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12012900
Sample ID : BH5

Depth :

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

Sample Identity: 11378677-
Date Acquired : 10/09/2015 06:59:22 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

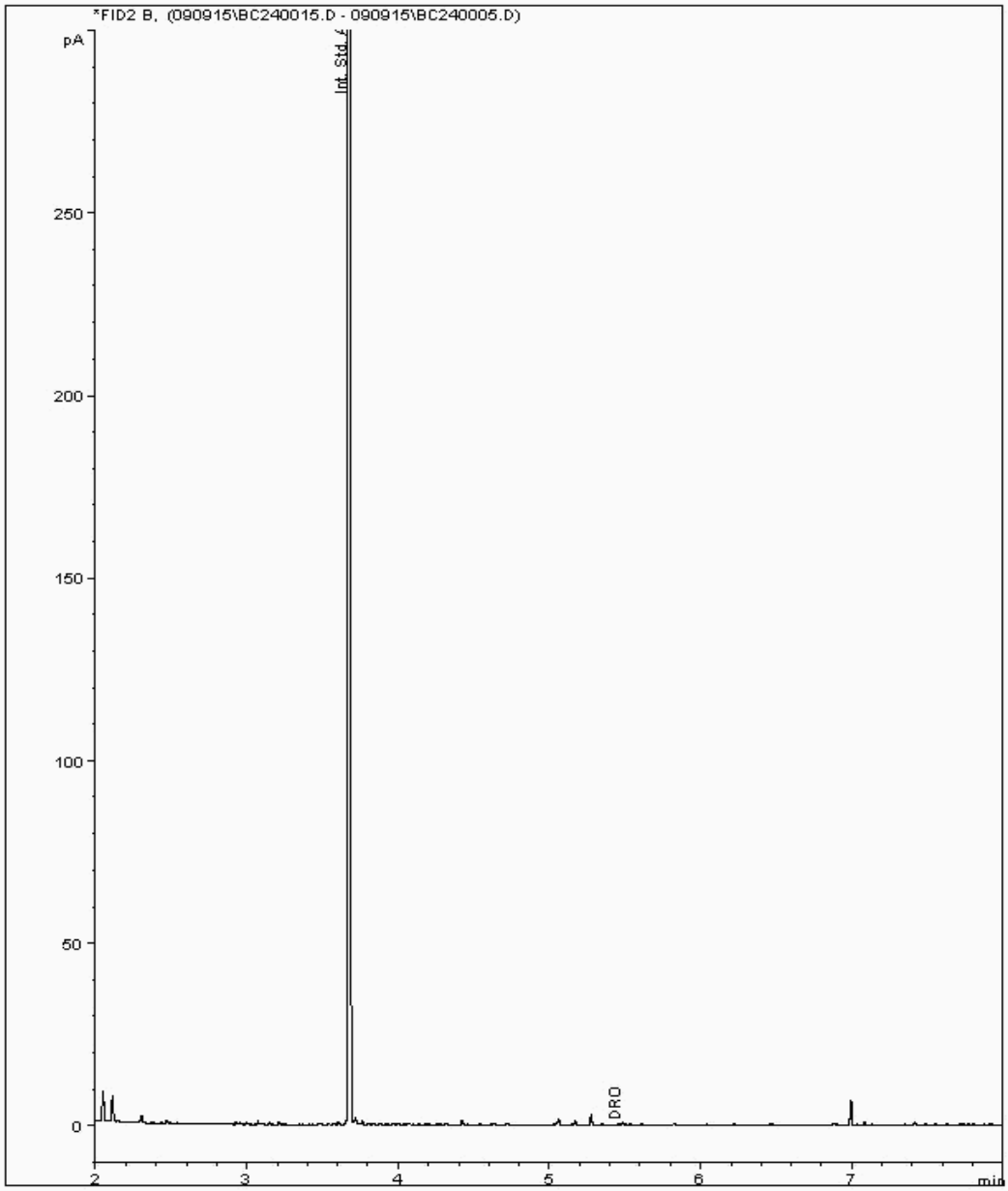
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12012997
Sample ID : BH3

Depth :

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

Sample Identity: 11378700-
Date Acquired : 09/09/2015 21:21:25 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

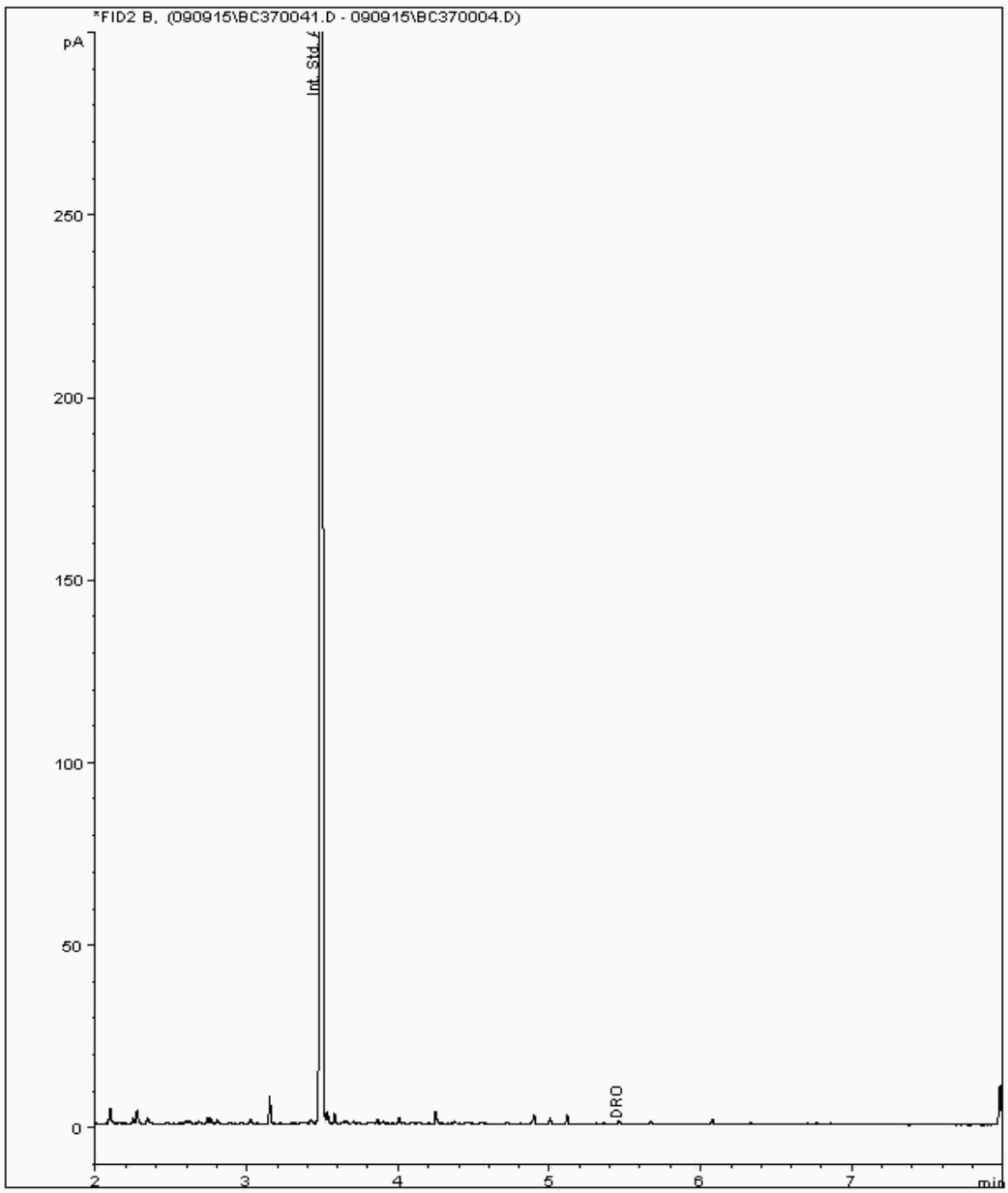
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12013027
Sample ID : BH4

Depth :

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

Sample Identity: l1378662-
Date Acquired : 10/09/2015 06:37:21 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

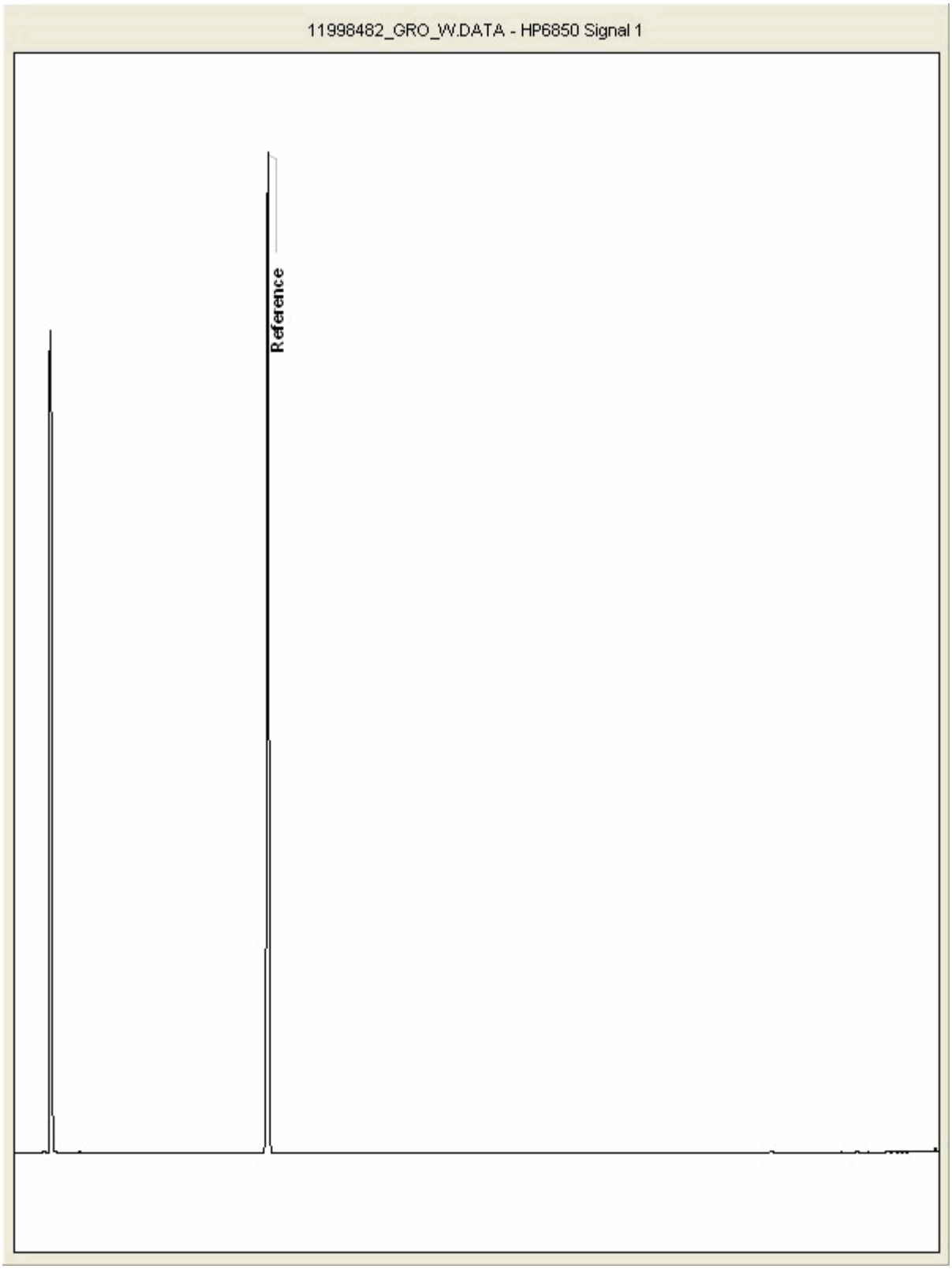
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11998482
Sample ID : BH8

Depth :



CERTIFICATE OF ANALYSIS

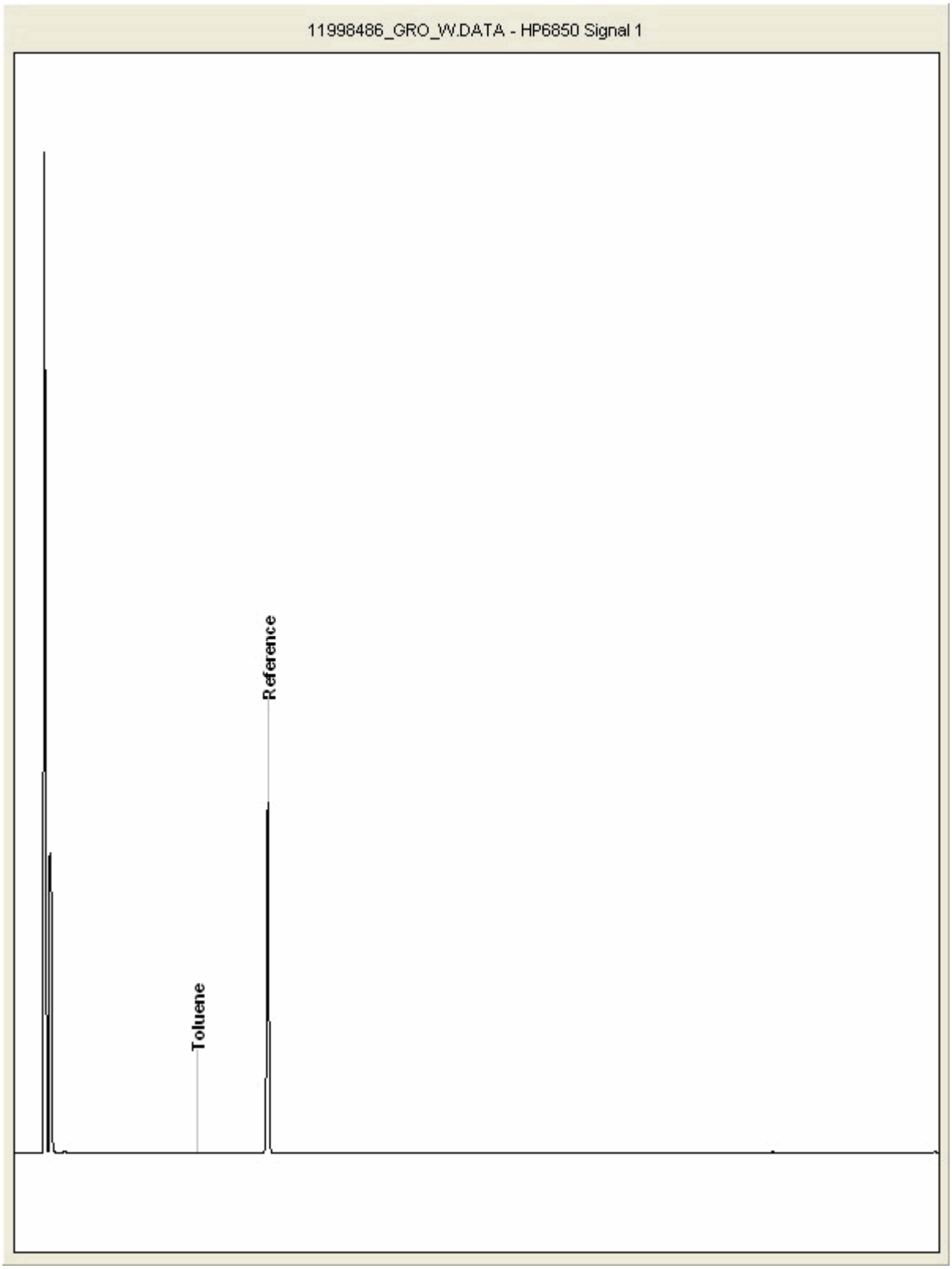
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11998486
Sample ID : BH111

Depth :



CERTIFICATE OF ANALYSIS

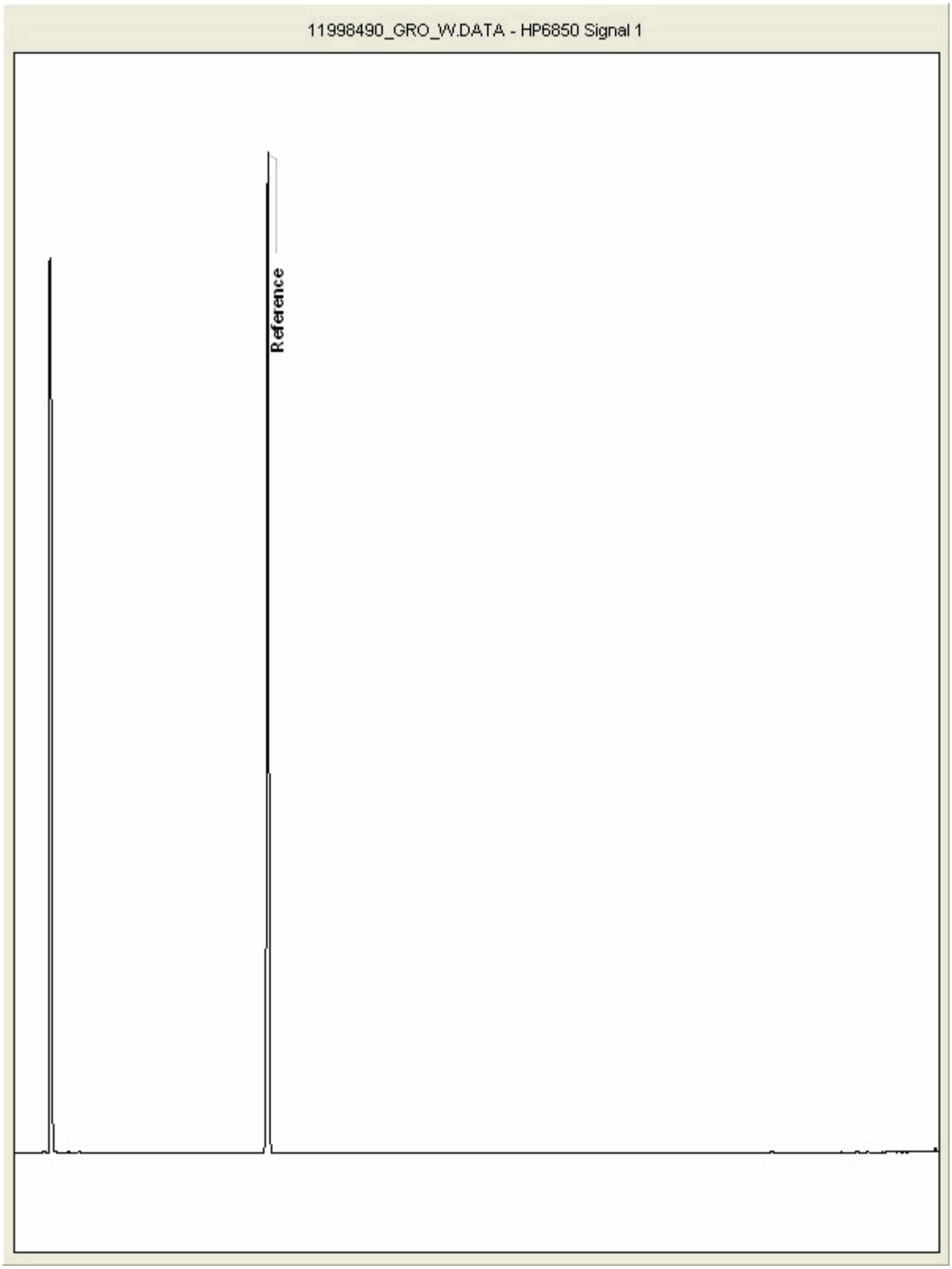
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11998490
Sample ID : BH109

Depth :



CERTIFICATE OF ANALYSIS

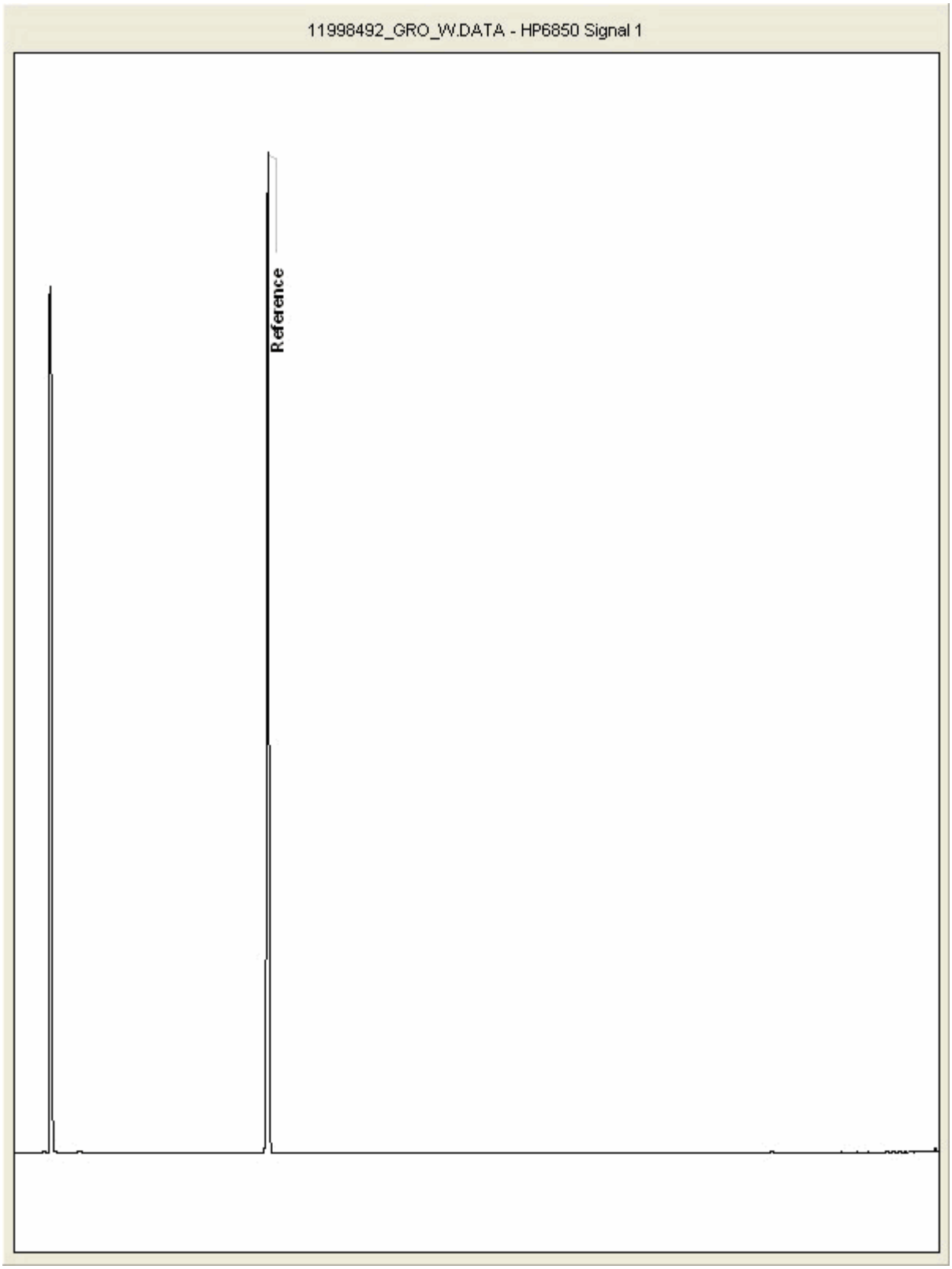
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11998492
Sample ID : BH110

Depth :

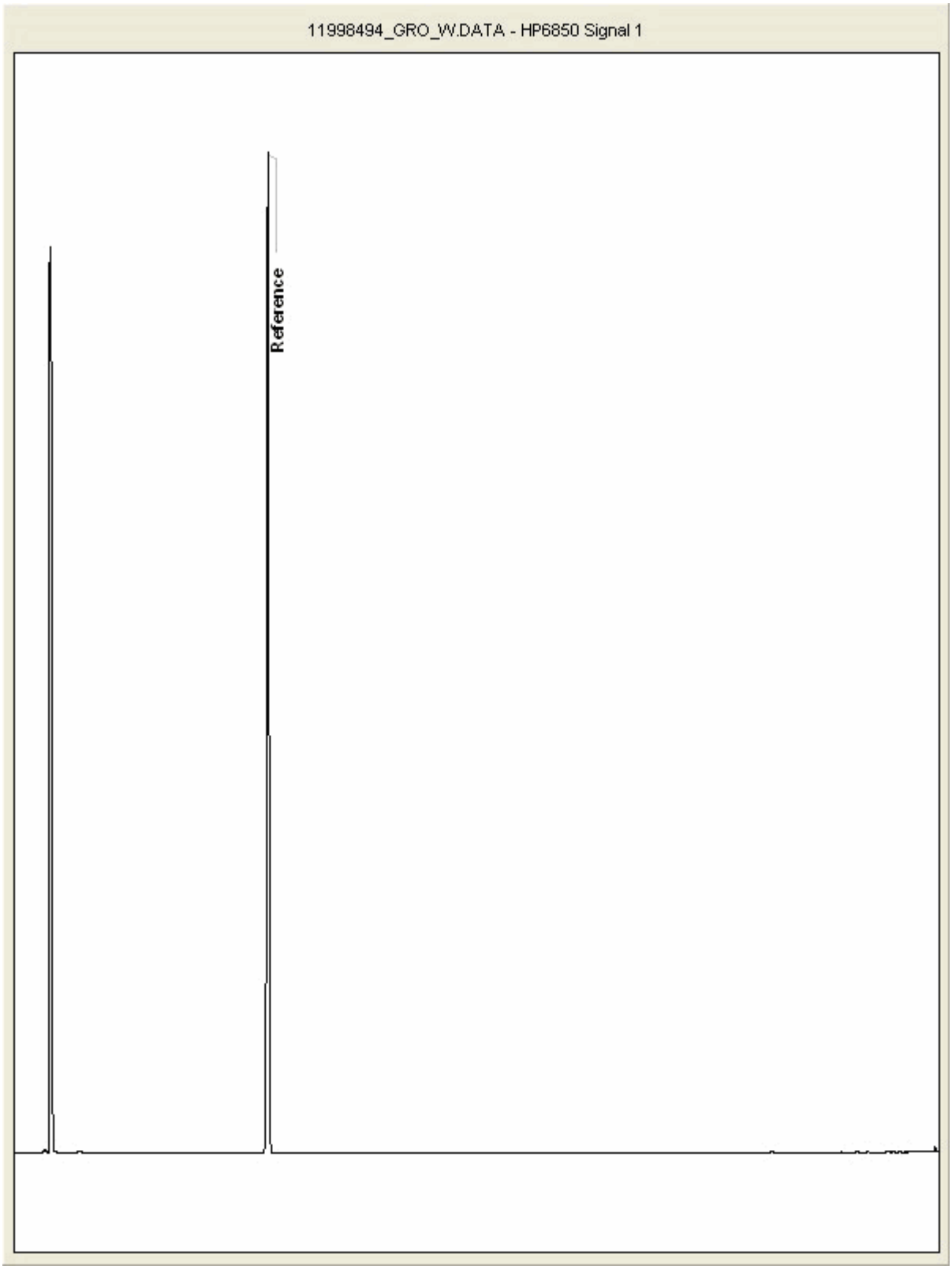


CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis:	GRO by GC-FID (W)	**Sample No :**	11998494	**Depth :**	
		Sample ID :	BH5		



CERTIFICATE OF ANALYSIS

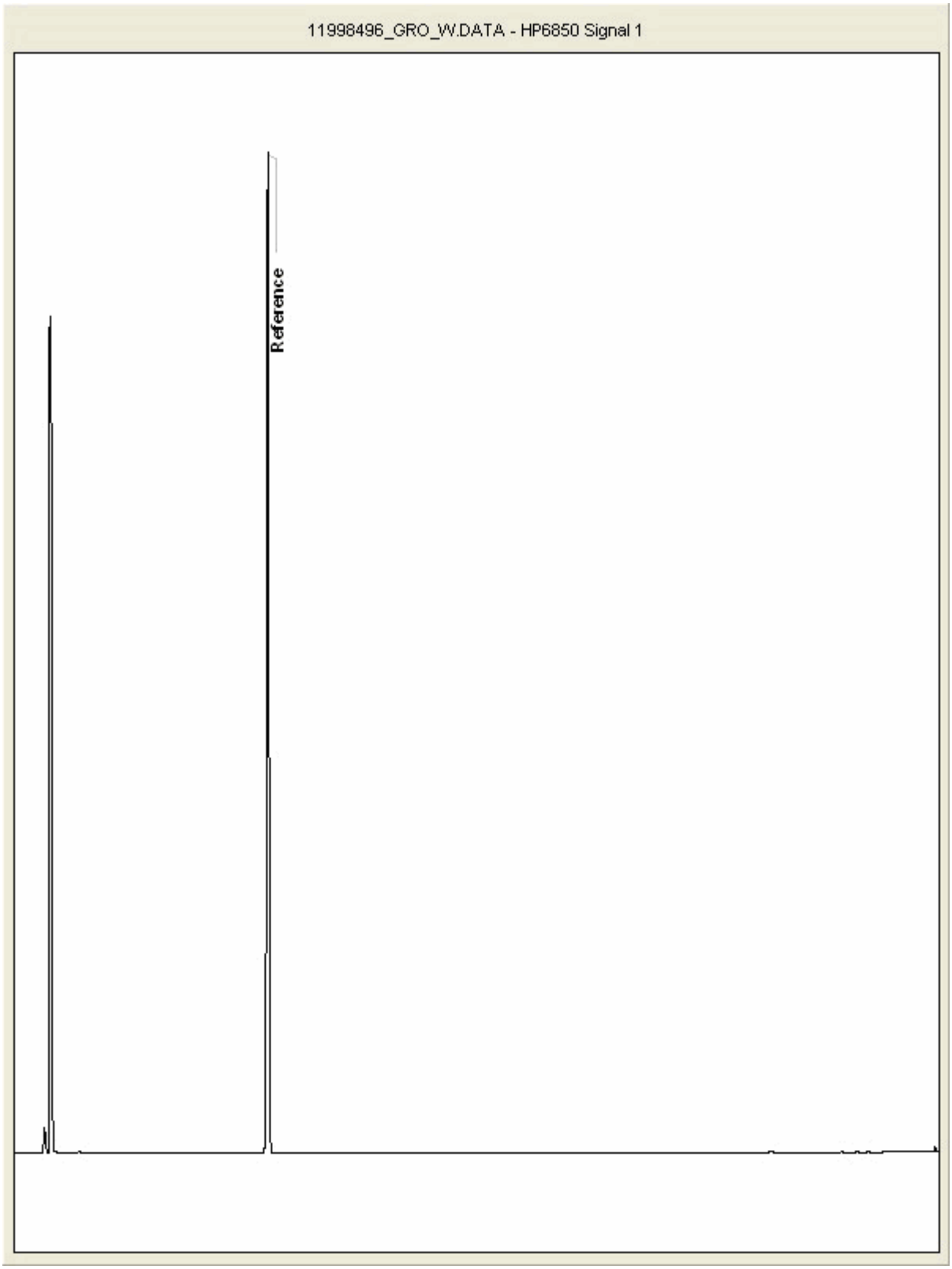
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11998496
Sample ID : BH3

Depth :



CERTIFICATE OF ANALYSIS

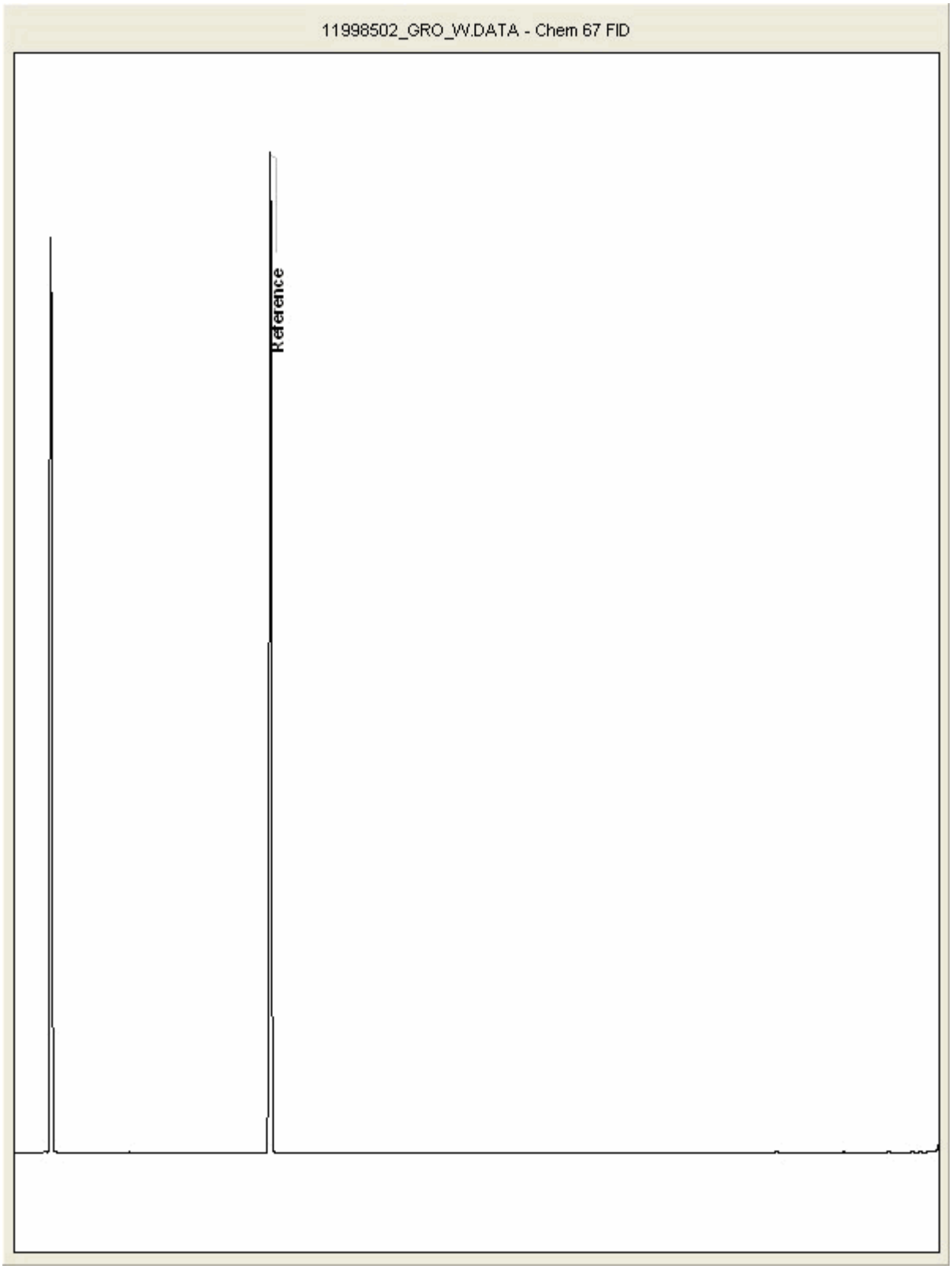
SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11998502
Sample ID : BH4

Depth :

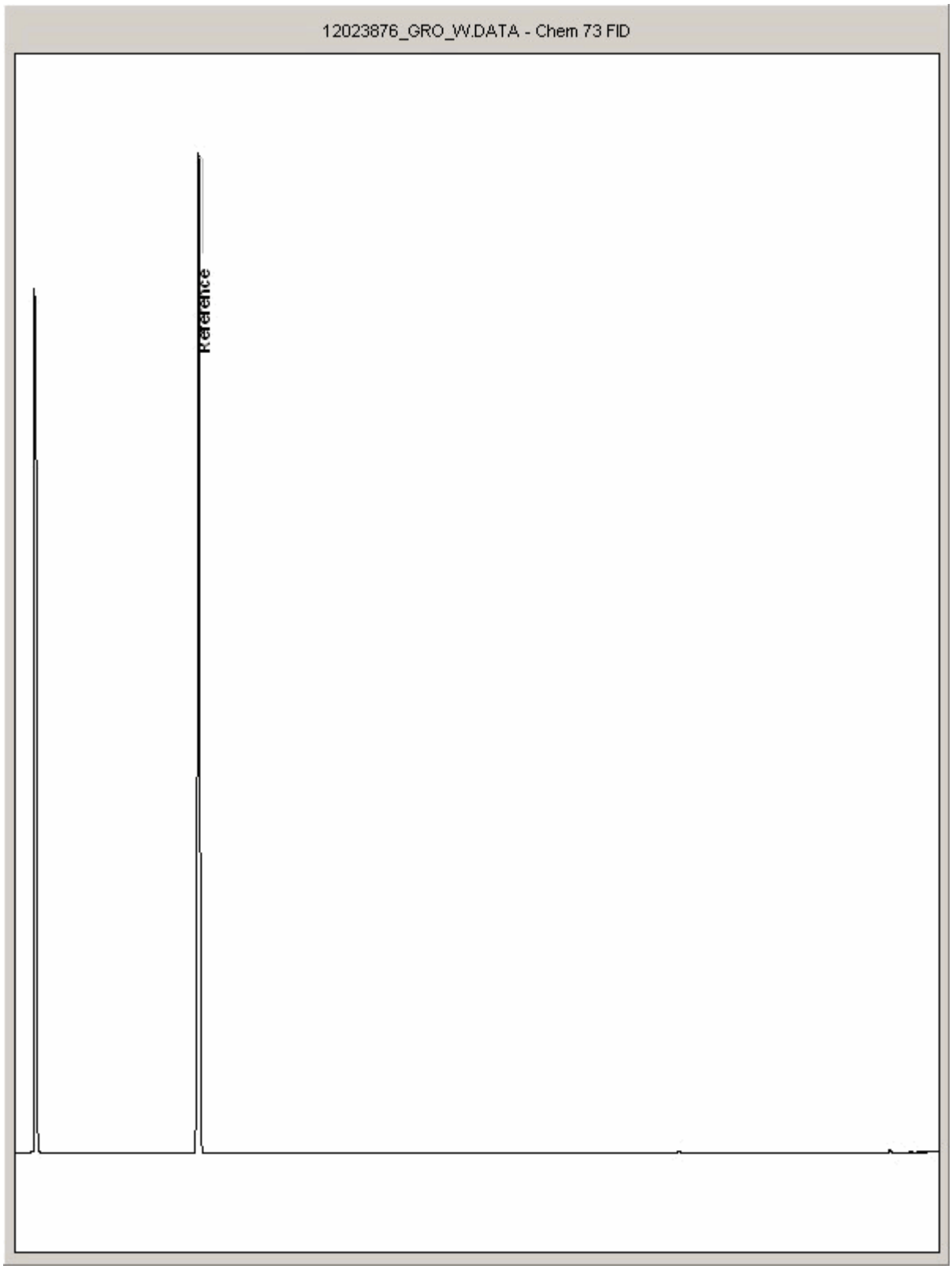


CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis:	GRO by GC-FID (W)	**Sample No :**	12023876	**Depth :**	
		Sample ID :	DUP01		



CERTIFICATE OF ANALYSIS

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS 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 both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos 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 screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

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. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

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 Dimethyphenol, 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 14).

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

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. 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.

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

21. 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.

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

23. 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 themajor 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.

24. 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 C4 -C10 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
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	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 TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
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-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
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

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

Visual Estimation Of Fibre Content

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

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials 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.

Last Updated : 2010/09/08

SDG:	150902-38	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329713
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH_4 by the BRE method, VOC TICS and SVOC TICS.

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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AECOM
St. George's House
2nd Floor
5 St. George's Road
Wimbledon
Greater London
SW19 4DR

Attention: Gary Marshall

CERTIFICATE OF ANALYSIS

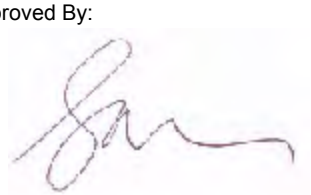
Date:	09 September 2015
Customer:	H_URS_WIM
Sample Delivery Group (SDG):	150903-66
Your Reference:	
Location:	Stag Brewery
Report No:	329161

We received 6 samples on Thursday September 03, 2015 and 6 of these samples were scheduled for analysis which was completed on Wednesday September 09, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
12003516	BH2			02/09/2015
12003511	BH7			01/09/2015
12003512	BH9			02/09/2015
12003513	BH10			01/09/2015
12003515	BH201A			02/09/2015
12003514	BH104B			02/09/2015

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

Validated

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

LIQUID

Results Legend

- **X** Test
- **N** No Determination Possible

Lab Sample No(s)			12003516						
Customer Sample Reference			BH2						
AGS Reference									
Depth (m)									
Container			0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 6					X		
Anions by Kone (w)	All	NDPs: 0 Tests: 6			X				
COD Unfiltered	All	NDPs: 0 Tests: 6		X					
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 6						X	
Dissolved W, Nb and Zr by ICP-MS	All	NDPs: 0 Tests: 6						X	
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 6	X						
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6							X
Mercury Dissolved	All	NDPs: 0 Tests: 6				X			
pH Value	All	NDPs: 0 Tests: 6			X				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 6	X						
Total EPH (aq)	All	NDPs: 0 Tests: 6	X						
VOC MS (W)	All	NDPs: 0 Tests: 6							X

Lab Sample No(s)	12003511							12003512						
Customer Sample Reference	BH7							BH9						
Container	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)
Ammoniacal Nitrogen					X							X		
Anions by Kone (w)			X							X				
COD Unfiltered		X							X					
Dissolved Metals by ICP-MS						X							X	
Dissolved W, Nb and Zr by ICP-MS						X							X	
EPH (DRO) (C10-C40) Aqueous (W)	X							X						
GRO by GC-FID (W)							X							X
Mercury Dissolved				X							X			
pH Value			X							X				
SVOC MS (W) - Aqueous	X							X						
Total EPH (aq)	X							X						
VOC MS (W)							X							X

Lab Sample No(s)	12003513							12003515						
Customer Sample Reference	BH10							BH201A						
Container	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)	HNO3 Filtered (ALE	Vial (ALE297)
Ammoniacal Nitrogen					X							X		
Anions by Kone (w)			X							X				
COD Unfiltered		X							X					
Dissolved Metals by ICP-MS						X							X	
Dissolved W, Nb and Zr by ICP-MS						X							X	
EPH (DRO) (C10-C40) Aqueous (W)	X							X						
GRO by GC-FID (W)							X							X
Mercury Dissolved				X							X			
pH Value			X							X				
SVOC MS (W) - Aqueous	X							X						
Total EPH (aq)	X							X						
VOC MS (W)							X							X

Lab Sample No(s)	12003514				
Customer Sample Reference	BH104B				
Container	0.5l glass bottle (AL	250ml BOD (ALE21	500ml Plastic (ALE2	Dissolved Metals Pr	H2SO4 (ALE244)
Ammoniacal Nitrogen					X
Anions by Kone (w)			X		
COD Unfiltered		X			
Dissolved Metals by ICP-MS					
Dissolved W, Nb and Zr by ICP-MS					
EPH (DRO) (C10-C40) Aqueous (W)	X				
GRO by GC-FID (W)					
Mercury Dissolved				X	
pH Value			X		
SVOC MS (W) - Aqueous	X				
Total EPH (aq)	X				
VOC MS (W)					

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	
			12003514	BH104B			HNO3 Filtered (ALE	Vial (ALE297)
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 6					X	
Dissolved W, Nb and Zr by ICP-MS	All	NDPs: 0 Tests: 6					X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6						X
VOC MS (W)	All	NDPs: 0 Tests: 6						X

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH2	BH7	BH9	BH10	BH201A	BH104B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/09/2015	01/09/2015	02/09/2015	01/09/2015	02/09/2015	02/09/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015
			SDG Ref	150903-66	150903-66	150903-66	150903-66	150903-66	150903-66
			Lab Sample No.(s)	12003516	12003511	12003512	12003513	12003515	12003514
			AGS Reference						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		0.268 #	0.707 #	5.66 #	<0.2 #	<0.2 #	<0.2 #
Ammoniacal Nitrogen as NH4	<0.3 mg/l	TM099		0.345 #	0.909 #	7.28 #	<0.3 #	<0.3 #	<0.3 #
COD, unfiltered	<7 mg/l	TM107		<7 #	10.1 #	3330 #	<7 #	<7 #	7.65 #
Antimony (diss.filt)	<0.16 µg/l	TM152		0.171	0.681	2.06	0.27	0.306	0.172
Arsenic (diss.filt)	<0.12 µg/l	TM152		39.4 #	45.4 #	14.4 #	3.79 #	6.51 #	17.3 #
Barium (diss.filt)	<0.03 µg/l	TM152		116 #	73.4 #	39.9 #	15.4 #	79.1 #	66 #
Beryllium (diss.filt)	<0.07 µg/l	TM152		<0.07 #	<0.07 #	<0.07 #	<0.07 #	<0.07 #	<0.07 #
Boron (diss.filt)	<9.4 µg/l	TM152		133 #	138 #	27.8 #	82.3 #	106 #	140 #
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	0.228 #	<0.1 #	<0.1 #	<0.1 #
Chromium (diss.filt)	<0.22 µg/l	TM152		2.23 #	5.24 #	7.52 #	1.21 #	2.27 #	1.71 #
Cobalt (diss.filt)	<0.06 µg/l	TM152		0.3 #	3.29 #	9.27 #	0.337 #	11.8 #	1.25 #
Copper (diss.filt)	<0.85 µg/l	TM152		1.95 #	1.59 #	61.3 #	1.16 #	1.08 #	1.74 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.059 #	0.072 #	22.8 #	<0.02 #	0.098 #	0.057 #
Manganese (diss.filt)	<0.04 µg/l	TM152		772 #	1200 #	983 #	23 #	1180 #	665 #
Nickel (diss.filt)	<0.15 µg/l	TM152		6.63 #	8.43 #	12.3 #	2.26 #	18.4 #	8.43 #
Selenium (diss.filt)	<0.39 µg/l	TM152		9.71 #	1.13 #	1.87 #	1.86 #	1.76 #	7.19 #
Thallium (diss.filt)	<0.96 µg/l	TM152		<0.96	<0.96	<0.96	<0.96	<0.96	<0.96
Vanadium (diss.filt)	<0.24 µg/l	TM152		0.657 #	2.35 #	7.67 #	0.759 #	0.941 #	0.67 #
Zinc (diss.filt)	<0.41 µg/l	TM152		15.7 #	11.2 #	280 #	1.27 #	17.5 #	11.9 #
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #	1430 #	<46 #	<46 #	<46 #
Total EPH (C6-C40) (aq)	<100 µg/l	TM172		<100	<100	1430	<100	<100	<100
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	0.0171 #	<0.01 #	<0.01 #	<0.01 #
Sulphate	<2 mg/l	TM184		457 #	74.5 #	<2 #	70.1 #	82.2 #	287 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	0.07 #	14.1 #	4.46 #	0.056 #	<0.05 #
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	0.926 #	<0.3 #	18.7 #	9.17 #	2.01 #
pH	<1 pH Units	TM256		7.59 #	7.9 #	7.55 #	7.56 #	8.09 #	7.22 #
Silver (diss.filt)	<1.5 µg/l	TM283		<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH2	BH7	BH9	BH10	BH201A	BH104B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/09/2015	01/09/2015	02/09/2015	01/09/2015	02/09/2015	02/09/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015
			SDG Ref	150903-66	150903-66	150903-66	150903-66	150903-66	150903-66
			Lab Sample No.(s)	12003516	12003511	12003512	12003513	12003515	12003514
			AGS Reference						
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #	<7 #	<7 #	<7 #
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #	<4 #	<4 #	<4 #
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #	<8 #	<8 #	<8 #
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28	<28	<28	<28
GRO >C5-C10	<10 µg/l	TM245		<10	<10	281	<10	<10	<10
EPH (C6-C10)	<100 µg/l	TM245		<100	<100	<100		<100	<100

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH2	BH7	BH9	BH10	BH201A	BH104B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/09/2015	01/09/2015	02/09/2015	01/09/2015	02/09/2015	02/09/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015
			SDG Ref	150903-66	150903-66	150903-66	150903-66	150903-66	150903-66
			Lab Sample No.(s)	12003516	12003511	12003512	12003513	12003515	12003514
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<4	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<4	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	172 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<4	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<8 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH2	BH7	BH9	BH10	BH201A	BH104B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/09/2015	01/09/2015	02/09/2015	01/09/2015	02/09/2015	02/09/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015
			SDG Ref	150903-66	150903-66	150903-66	150903-66	150903-66	150903-66
			Lab Sample No.(s)	12003516	12003511	12003512	12003513	12003515	12003514
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	6.42 #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	4.69 #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	4.05 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<20 #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	6.12 #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<4	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	10.7	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<4	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	4.78 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH2	BH7	BH9	BH10	BH201A	BH104B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/09/2015	01/09/2015	02/09/2015	01/09/2015	02/09/2015	02/09/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015
			SDG Ref	150903-66	150903-66	150903-66	150903-66	150903-66	150903-66
			Lab Sample No.(s)	12003516	12003511	12003512	12003513	12003515	12003514
			AGS Reference						
Dibromofluoromethane**	%	TM208		89.4	87.9	83	117	90.6	119
Toluene-d8**	%	TM208		80.2	80.5	81.6	99.4	81.4	99.8
4-Bromofluorobenzene**	%	TM208		78.8	78.1	78.6	96.2	80.2	97.4
Dichlorodifluoromethane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	2.28 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH2	BH7	BH9	BH10	BH201A	BH104B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/09/2015	01/09/2015	02/09/2015	01/09/2015	02/09/2015	02/09/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015
			SDG Ref	150903-66	150903-66	150903-66	150903-66	150903-66	150903-66
			Lab Sample No.(s)	12003516	12003511	12003512	12003513	12003515	12003514
			AGS Reference						
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208		1.7 #	1.77 #	1.89 #	<1 #	1.8 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH2	BH7	BH9	BH10	BH201A	BH104B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/09/2015	01/09/2015	02/09/2015	01/09/2015	02/09/2015	02/09/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015	03/09/2015
			SDG Ref	150903-66	150903-66	150903-66	150903-66	150903-66	150903-66
			Lab Sample No.(s)	12003516	12003511	12003512	12003513	12003515	12003514
			AGS Reference						
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
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		
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		
TM283		Determination of Dissolved Niobium, Tungsten, and Zirconium in Water Matrices by ICP-MS		

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

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	12003516	12003511	12003512	12003513	12003515	12003514
Customer Sample Ref.	BH2	BH7	BH9	BH10	BH201A	BH104B
AGS Ref.						
Depth						
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Ammoniacal Nitrogen	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015
Anions by Kone (w)	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015	09-Sep-2015
COD Unfiltered	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015	04-Sep-2015	05-Sep-2015
Dissolved Metals by ICP-MS	06-Sep-2015	08-Sep-2015	06-Sep-2015	07-Sep-2015	08-Sep-2015	06-Sep-2015
Dissolved W, Nb and Zr by ICP-MS	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015
EPH (DRO) (C10-C40) Aqueous (W)	07-Sep-2015	07-Sep-2015	08-Sep-2015	07-Sep-2015	07-Sep-2015	08-Sep-2015
GRO by GC-FID (W)	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015
Mercury Dissolved	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015	07-Sep-2015	08-Sep-2015
Nitrite by Kone (w)	06-Sep-2015	06-Sep-2015	06-Sep-2015	06-Sep-2015	06-Sep-2015	09-Sep-2015
pH Value	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	08-Sep-2015	07-Sep-2015
SVOC MS (W) - Aqueous	07-Sep-2015	07-Sep-2015	08-Sep-2015	07-Sep-2015	07-Sep-2015	08-Sep-2015
Total EPH (aq)	08-Sep-2015	08-Sep-2015	08-Sep-2015	09-Sep-2015	08-Sep-2015	09-Sep-2015
VOC MS (W)	07-Sep-2015	07-Sep-2015	07-Sep-2015	09-Sep-2015	07-Sep-2015	09-Sep-2015

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

ASSOCIATED AQC DATA

Ammoniacal Nitrogen

Component	Method Code	QC 1214	QC 1207
Ammoniacal Nitrogen as N	TM099	**102.8** 91.84 : 108.16	**104.4** 91.84 : 108.16

Anions by Kone (w)

Component	Method Code	QC 1269	QC 1243
Chloride	TM184	**99.4** 94.64 : 106.82	94.23 : 107.50
Phosphate (Ortho as PO4)	TM184	96.40 : 108.40	**102.4** 96.41 : 109.80
Sulphate (soluble)	TM184	**101.2** 96.47 : 104.74	94.38 : 108.93
TON as NO3	TM184	**98.5** 93.05 : 112.12	93.93 : 110.49

COD Unfiltered

Component	Method Code	QC 1200	QC 1252
COD	TM107	**97.91** 95.90 : 102.57	**100.38** 95.90 : 102.57

Dissolved Metals by ICP-MS

Component	Method Code	QC 1282	QC 1276
Aluminium	TM152	**103.33** 88.58 : 117.87	**100.53** 88.58 : 117.87
Antimony	TM152	**100.4** 87.01 : 109.33	**100.53** 87.01 : 109.33
Arsenic	TM152	**99.87** 89.45 : 113.51	**100.67** 89.45 : 113.51
Barium	TM152	**99.33** 90.47 : 113.85	**98.53** 90.47 : 113.85
Beryllium	TM152	**102.13** 84.68 : 120.26	**102.4** 84.68 : 120.26
Boron	TM152	**98.93** 82.95 : 121.47	**99.73** 82.95 : 121.47
Cadmium	TM152	**102.93** 90.40 : 113.29	**101.73** 90.40 : 113.29
Chromium	TM152	**102.27** 90.01 : 114.05	**102.27** 90.01 : 114.05
Cobalt	TM152	**102.0** 87.14 : 117.85	**100.8** 87.14 : 117.85
Copper	TM152	**97.6** 88.43 : 114.27	**100.53** 88.43 : 114.27
Lead	TM152	**96.67** 89.53 : 109.90	**96.53** 89.53 : 109.90

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Dissolved Metals by ICP-MS

		QC 1282	QC 1276
Lithium	TM152	**103.07** 84.32 : 123.11	**102.8** 84.32 : 123.11
Manganese	TM152	**102.13** 91.43 : 113.17	**102.13** 91.43 : 113.17
Molybdenum	TM152	**98.27** 80.73 : 113.85	**98.93** 80.73 : 113.85
Nickel	TM152	**100.27** 87.68 : 113.94	**100.13** 87.68 : 113.94
Phosphorus	TM152	**88.93** 86.68 : 118.34	**100.93** 86.68 : 118.34
Selenium	TM152	**100.4** 91.03 : 113.34	**100.53** 91.03 : 113.34
Strontium	TM152	**102.0** 90.44 : 114.09	**100.67** 90.44 : 114.09
Tellurium	TM152	**90.27** 80.93 : 116.91	**85.6** 80.93 : 116.91
Thallium	TM152	**96.27** 90.27 : 111.31	**98.93** 90.27 : 111.31
Tin	TM152	**101.47** 83.07 : 112.37	**99.6** 83.07 : 112.37
Titanium	TM152	**102.93** 92.65 : 111.58	**101.07** 92.65 : 111.58
Uranium	TM152	**94.13** 88.60 : 110.35	**94.53** 88.60 : 110.35
Vanadium	TM152	**102.27** 88.43 : 116.60	**102.53** 88.43 : 116.60
Zinc	TM152	**95.73** 89.84 : 113.06	**101.6** 89.84 : 113.06

Dissolved W, Nb and Zr by ICP-MS

Component	Method Code	QC 1290
Bismuth	TM283	**92.13** 66.55 : 123.56
Niobium	TM283	**107.6** 85.00 : 115.00
Silver	TM283	**105.33** 81.37 : 112.35
Tungsten	TM283	**85.87** 85.00 : 115.00
Zirconium	TM283	**102.27** 85.00 : 115.00

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1284	QC 1280
EPH (DRO) (C10-C40)	TM172	**80.5** 59.47 : 106.15	**72.5** 59.22 : 112.78

GRO by GC-FID (W)

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

GRO by GC-FID (W)

Component	Method Code	QC 1234
Benzene by GC	TM245	**98.0** 77.50 : 122.50
Ethylbenzene by GC	TM245	**97.5** 77.50 : 122.50
m & p Xylene by GC	TM245	**97.75** 77.50 : 122.50
MTBE GC-FID	TM245	**101.0** 77.50 : 122.50
o Xylene by GC	TM245	**97.0** 77.50 : 122.50
QC	TM245	**104.67** 74.88 : 125.54
Toluene by GC	TM245	**98.5** 77.50 : 122.50

Mercury Dissolved

Component	Method Code	QC 1282	QC 1248
Mercury Dissolved (CVAF)	TM183	**108.0** 73.51 : 120.83	**96.1** 73.51 : 120.83

pH Value

Component	Method Code	QC 1280	QC 1258
pH	TM256	**101.62** 99.37 : 102.65	**101.08** 99.20 : 102.85

SVOC MS (W) - Aqueous

Component	Method Code	QC 1255	QC 1208	QC 1247
4-Bromophenylphenyleth er	TM176	**65.28** 55.04 : 128.00	**87.2** 55.04 : 128.00	**82.4** 65.62 : 120.95
Benzo(a)anthracene	TM176	**66.0** 52.64 : 123.68	**87.2** 52.64 : 123.68	**82.4** 62.83 : 114.26
Benzo(a)pyrene	TM176	**58.24** 49.60 : 114.40	**79.68** 49.60 : 114.40	**80.8** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**70.32** 49.04 : 127.76	**93.6** 49.04 : 127.76	**82.4** 45.10 : 118.90
Hexachlorobutadiene	TM176	**59.36** 42.80 : 108.20	**77.52** 42.80 : 108.20	**61.28** 43.12 : 110.32
Naphthalene	TM176	**67.92** 47.20 : 116.80	**92.0** 47.20 : 116.80	**85.6** 69.48 : 118.94
Nitrobenzene	TM176	**69.36** 58.70 : 110.90	**88.8** 58.70 : 110.90	**79.52** 69.13 : 107.62
Phenol	TM176	**38.08** 30.25 : 79.75	**50.08** 30.25 : 79.75	**49.12** 30.92 : 74.19

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

VOC MS (W)

Component	Method Code	QC 1272	QC 1223	QC 1239
1,1,1,2-Tetrachloroethane	TM208	**91.5** 84.25 : 114.84	**94.5** 77.50 : 122.50	**100.5** 84.25 : 114.84
1,1,1-Trichloroethane	TM208	**90.0** 84.67 : 111.97	**96.5** 77.50 : 122.50	**96.0** 84.67 : 111.97
1,1-Dichloroethane	TM208	**92.0** 80.19 : 121.45	**107.0** 77.50 : 122.50	**99.5** 80.19 : 121.45
1,2-Dichloroethane	TM208	**93.0** 77.68 : 127.05	**98.0** 77.50 : 122.50	**99.0** 77.68 : 127.05
2-Chlorotoluene	TM208	**93.0** 85.81 : 116.77	**97.0** 77.50 : 122.50	**99.0** 85.81 : 116.77
4-Chlorotoluene	TM208	**92.5** 87.22 : 115.45	**97.5** 77.50 : 122.50	**100.0** 87.22 : 115.45
Benzene	TM208	**90.5** 82.30 : 120.49	**103.0** 77.50 : 122.50	**101.0** 82.30 : 120.49
Bromomethane	TM208	**99.0** 76.16 : 123.35	**104.0** 75.87 : 132.10	**90.0** 76.16 : 123.35
Carbontetrachloride	TM208	**92.5** 83.96 : 117.98	**98.5** 77.50 : 122.50	**99.5** 83.96 : 117.98
Chlorobenzene	TM208	**94.5** 85.75 : 114.88	**99.5** 77.50 : 122.50	**100.0** 85.75 : 114.88
Chloroform	TM208	**94.0** 84.84 : 119.97	**103.0** 77.50 : 122.50	**104.5** 84.84 : 119.97
Chloromethane	TM208	**96.0** 53.63 : 141.38	**131.0** 77.12 : 138.43	**113.5** 53.63 : 141.38
Cis-1,2-Dichloroethene	TM208	**102.5** 81.65 : 120.44	**111.0** 77.50 : 122.50	**111.0** 81.65 : 120.44
Dichloromethane	TM208	**93.5** 79.31 : 122.56	**113.0** 77.50 : 122.50	**104.0** 79.31 : 122.56
Ethylbenzene	TM208	**89.5** 80.74 : 110.74	**96.0** 78.88 : 104.73	**94.0** 80.74 : 110.74
Hexachlorobutadiene	TM208	**101.5** 68.91 : 121.59	**81.5** 72.12 : 118.38	**91.5** 68.91 : 121.59
o-Xylene	TM208	**91.0** 85.43 : 113.21	**96.0** 82.27 : 108.61	**95.0** 85.43 : 113.21
p/m-Xylene	TM208	**90.0** 80.94 : 113.51	**97.0** 74.83 : 118.29	**95.0** 80.94 : 113.51
Tert-butyl methyl ether	TM208	**102.5** 59.77 : 129.51	**87.0** 75.13 : 130.32	**88.5** 59.77 : 129.51
Tetrachloroethene	TM208	**91.5** 83.21 : 115.40	**95.0** 82.93 : 109.54	**101.5** 83.21 : 115.40
Toluene	TM208	**90.0** 86.02 : 114.04	**96.5** 80.95 : 110.35	**98.5** 86.02 : 114.04
Trichloroethene	TM208	**92.0** 83.50 : 113.50	**96.5** 82.90 : 111.55	**96.5** 83.50 : 113.50
Vinyl Chloride	TM208	**84.5** 63.71 : 124.88	**105.5** 64.36 : 126.94	**82.0** 63.71 : 124.88

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

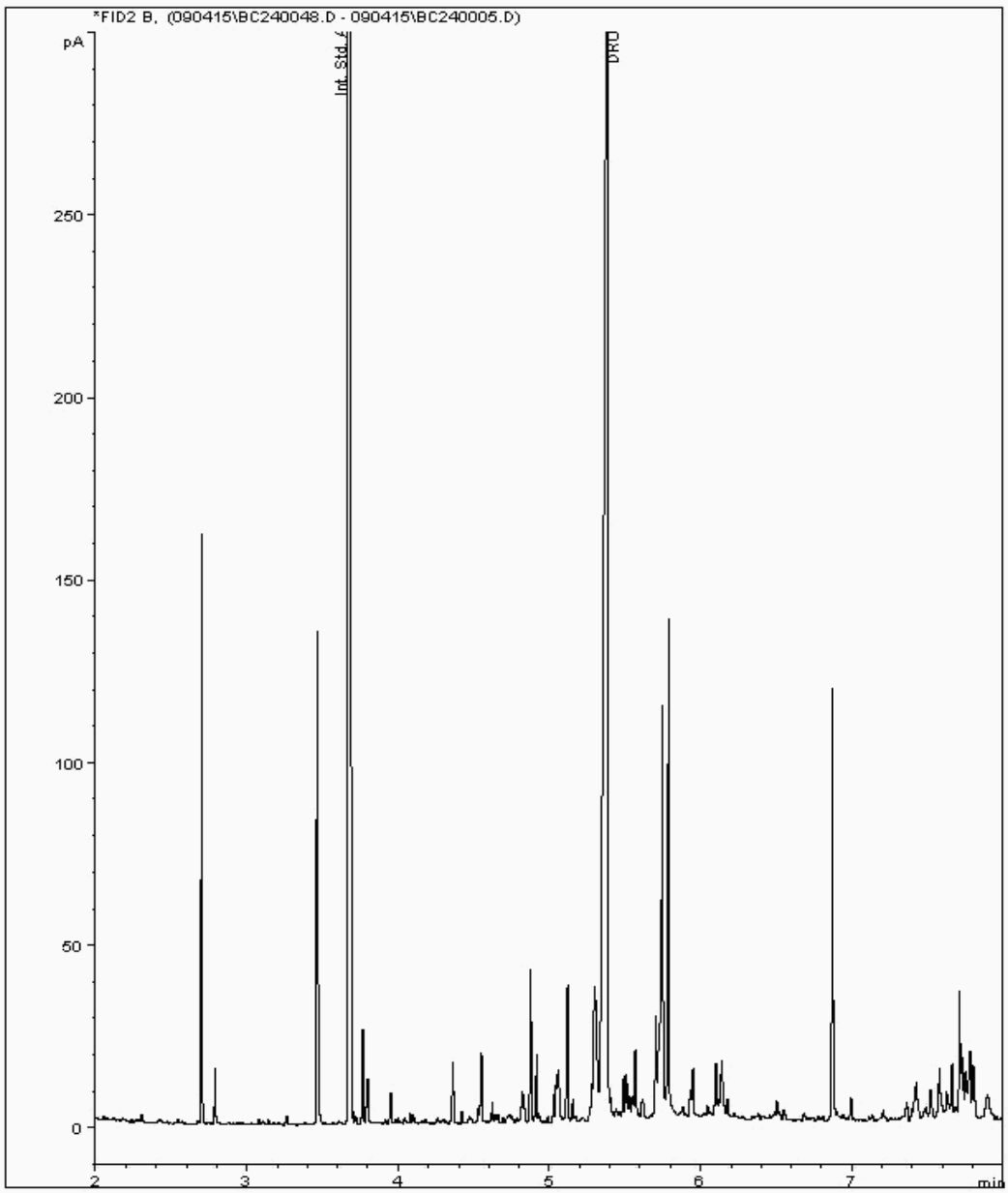
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12008285
Sample ID : BH9

Depth :

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

Sample Identity: 11385279-
Date Acquired : 07/09/2015 18:32:19 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

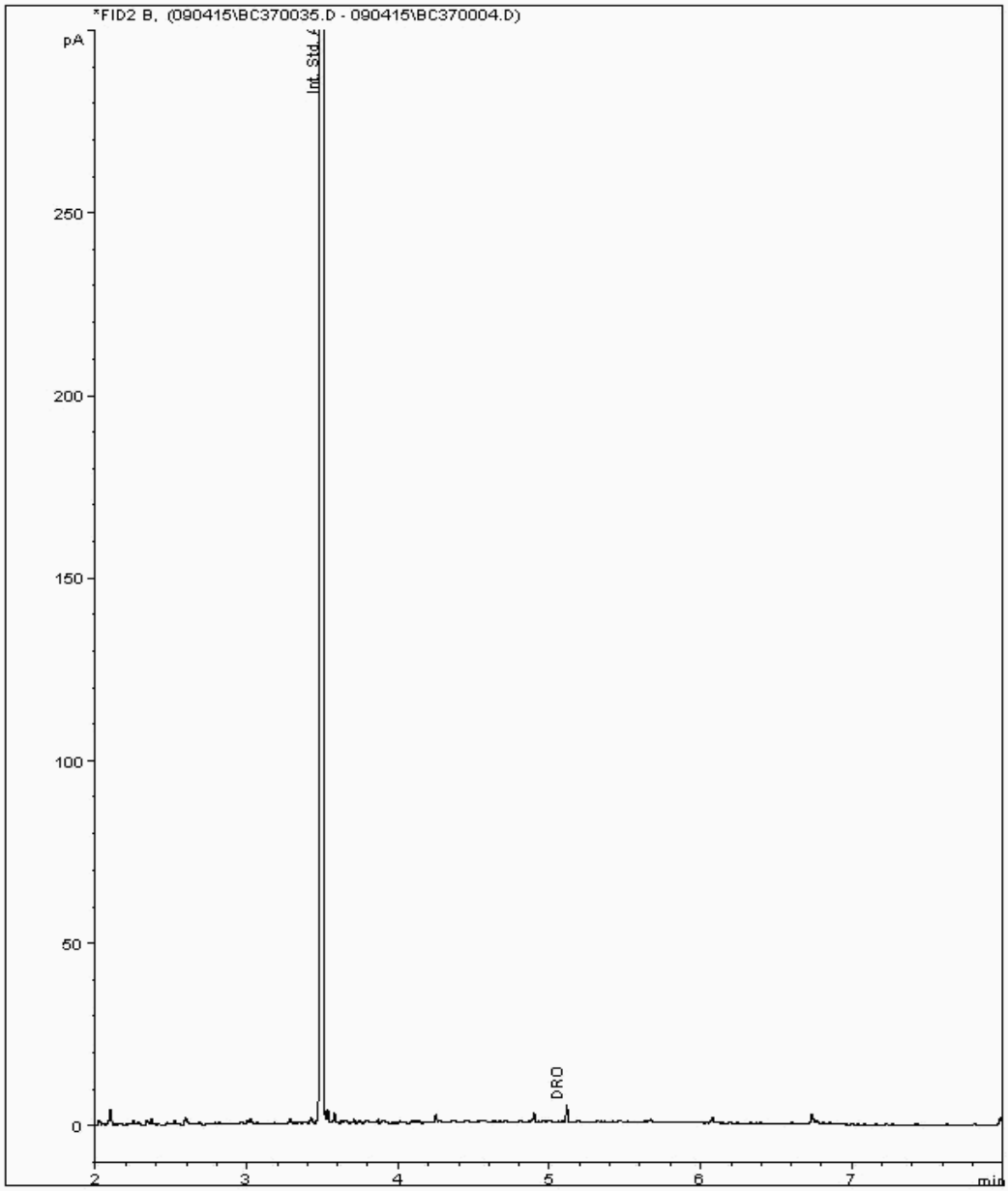
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12008287
Sample ID : BH7

Depth :

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

Sample Identity: l1385265-
Date Acquired : 05/09/2015 04:02:39 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

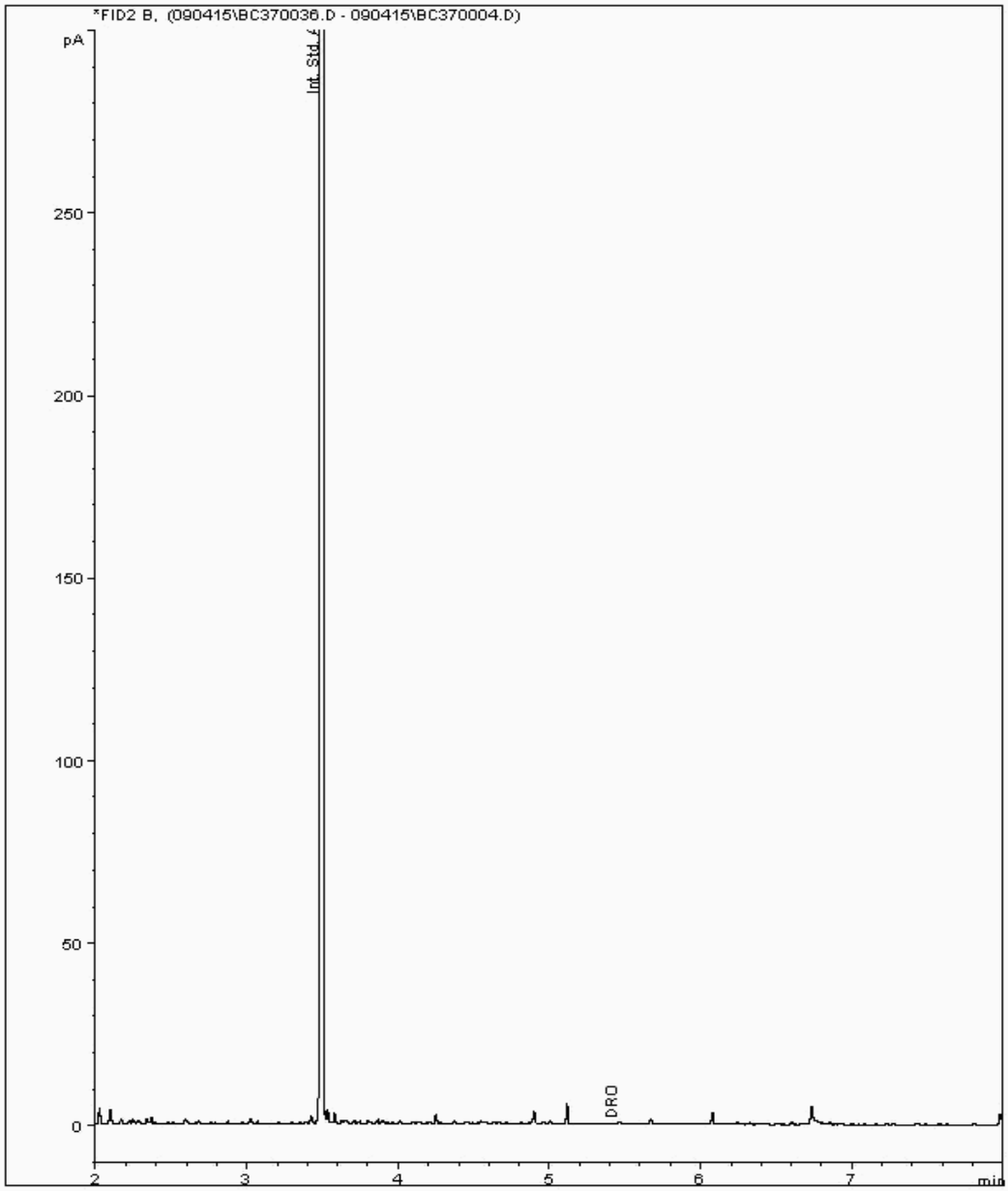
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12008289
Sample ID : BH201A

Depth :

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

Sample Identity: 11385324-
Date Acquired : 05/09/2015 04:25:24 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

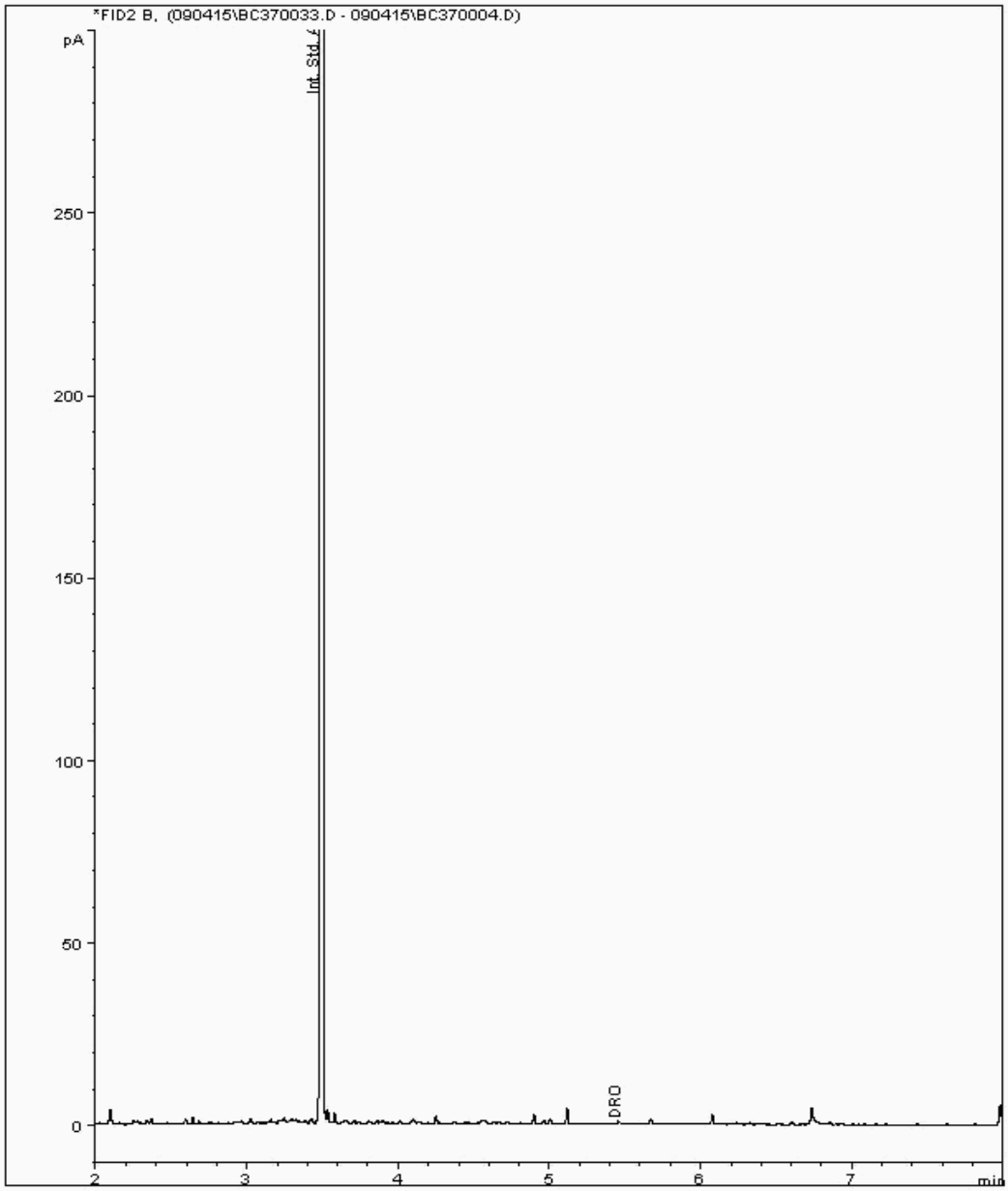
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12008291
Sample ID : BH2

Depth :

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

Sample Identity: 11385370-
Date Acquired : 05/09/2015 03:17:44 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

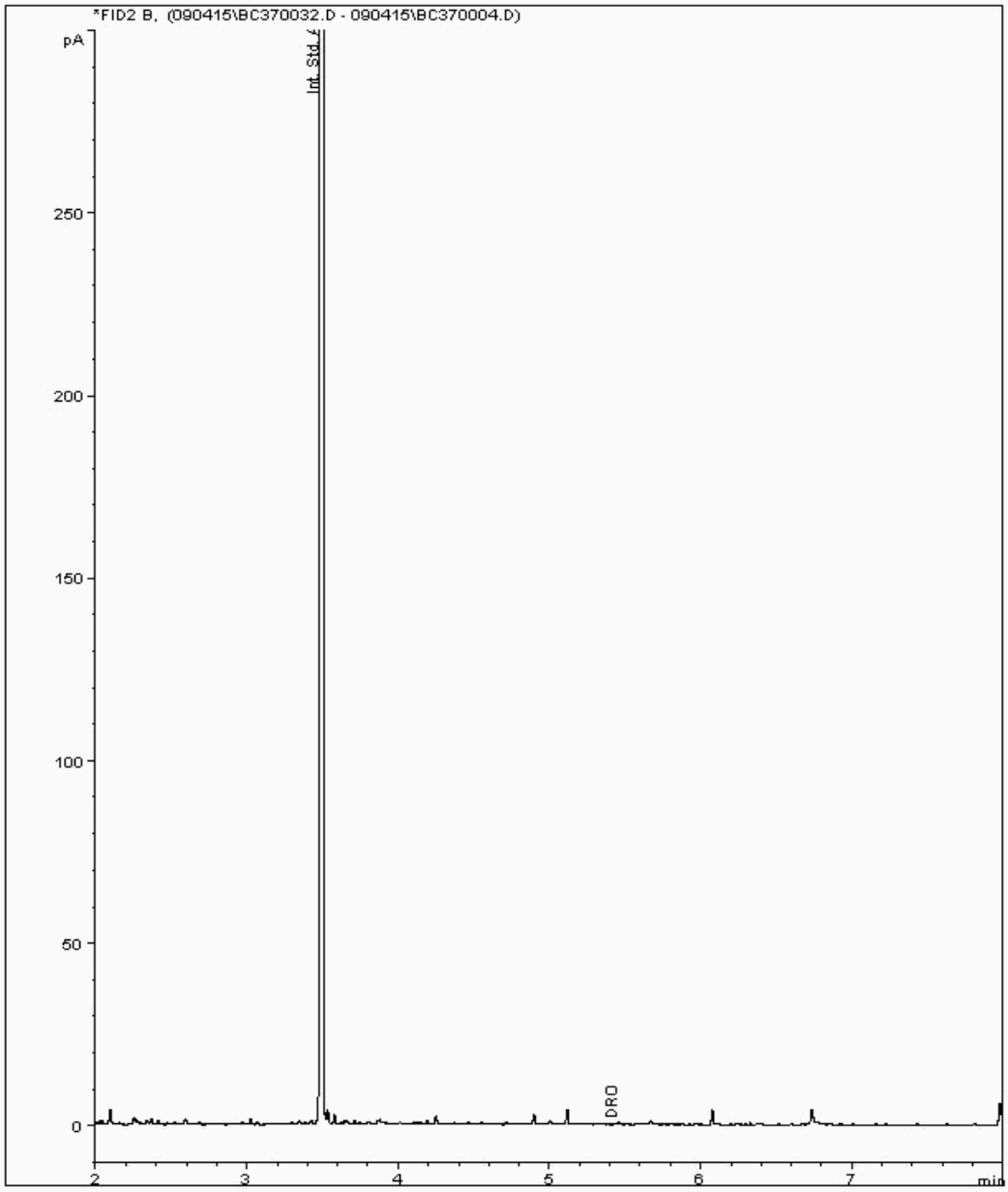
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12008293
Sample ID : BH10

Depth :

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

Sample Identity: 11385293-
Date Acquired : 05/09/2015 02:55:03 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

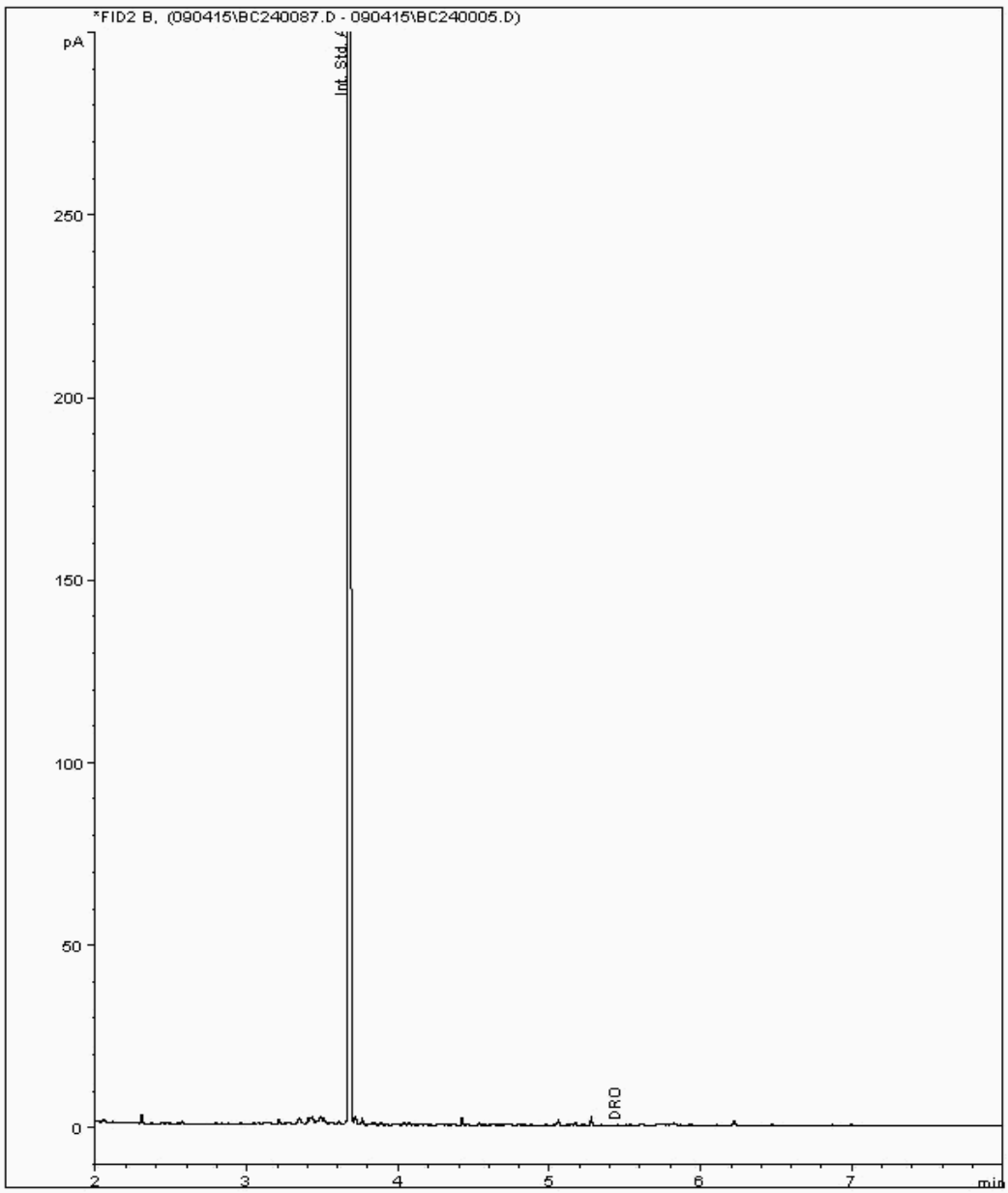
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12015642
Sample ID : BH104B

Depth :

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

Sample Identity: 11389081-
Date Acquired : 08/09/2015 12:08:27 PM
Units : mg/l

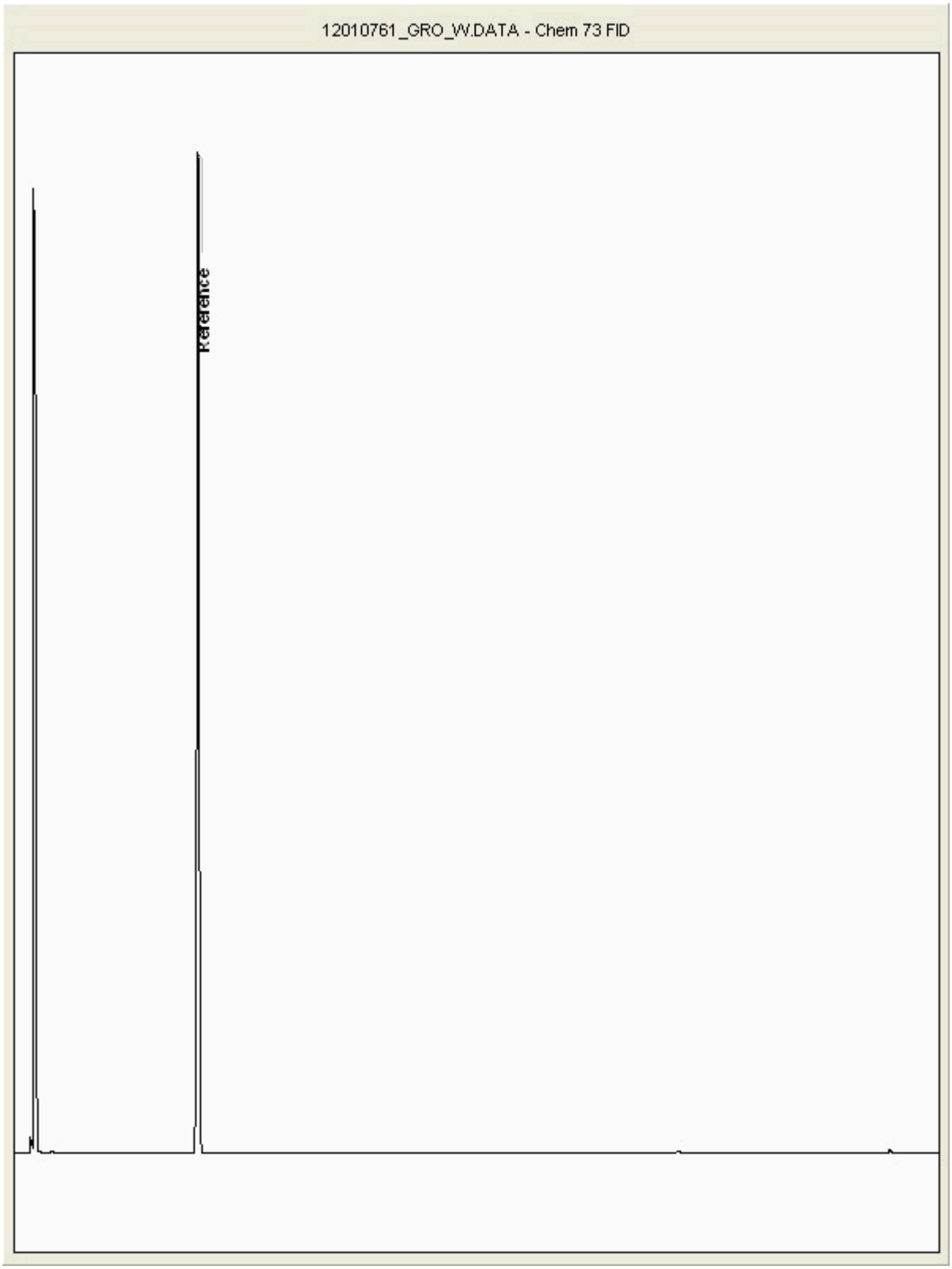


CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis:	GRO by GC-FID (W)	**Sample No :**	12010761	**Depth :**	
		Sample ID :	BH104B		



CERTIFICATE OF ANALYSIS

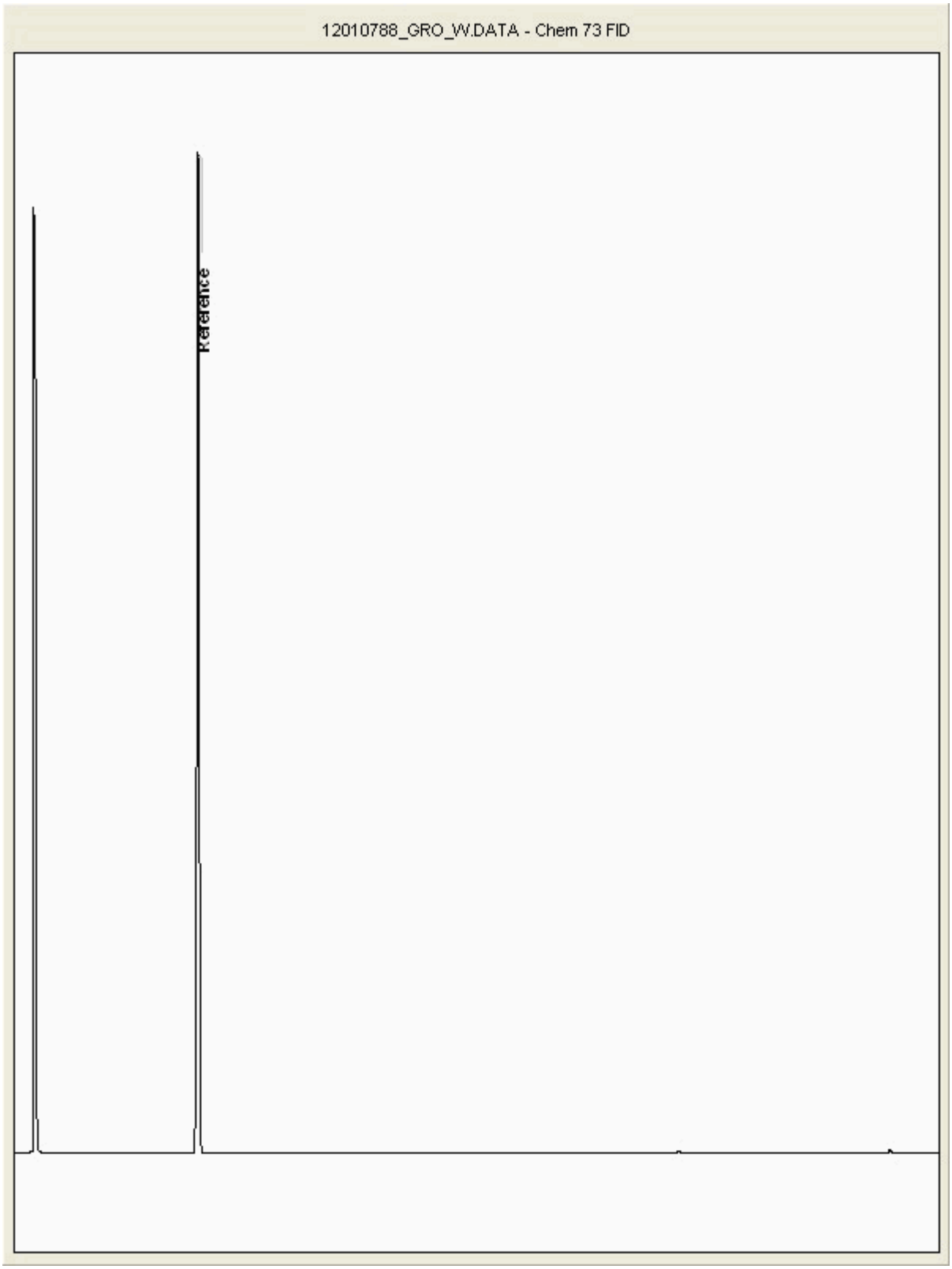
SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12010788
Sample ID : BH10

Depth :



CERTIFICATE OF ANALYSIS

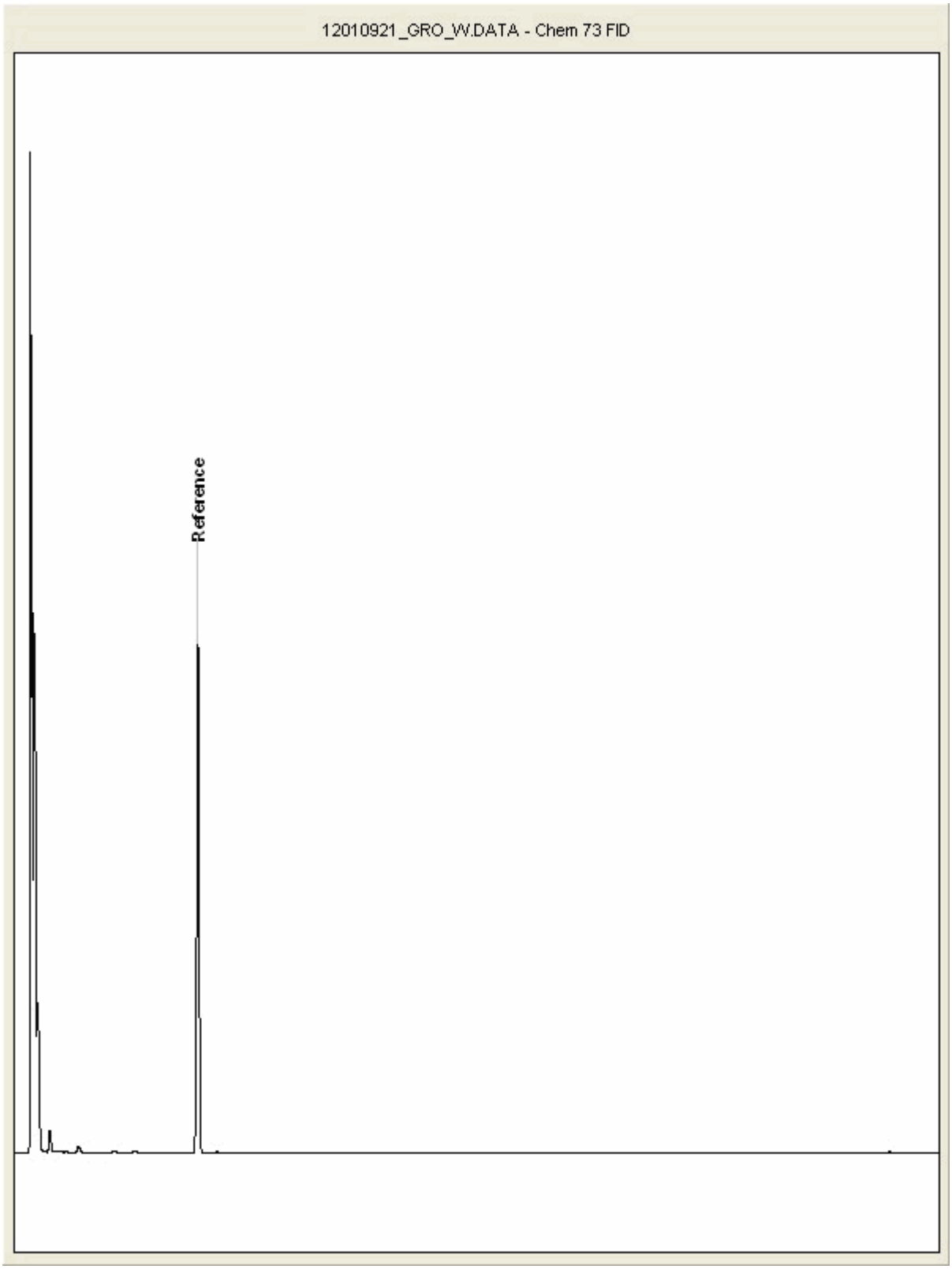
SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12010921
Sample ID : BH9

Depth :

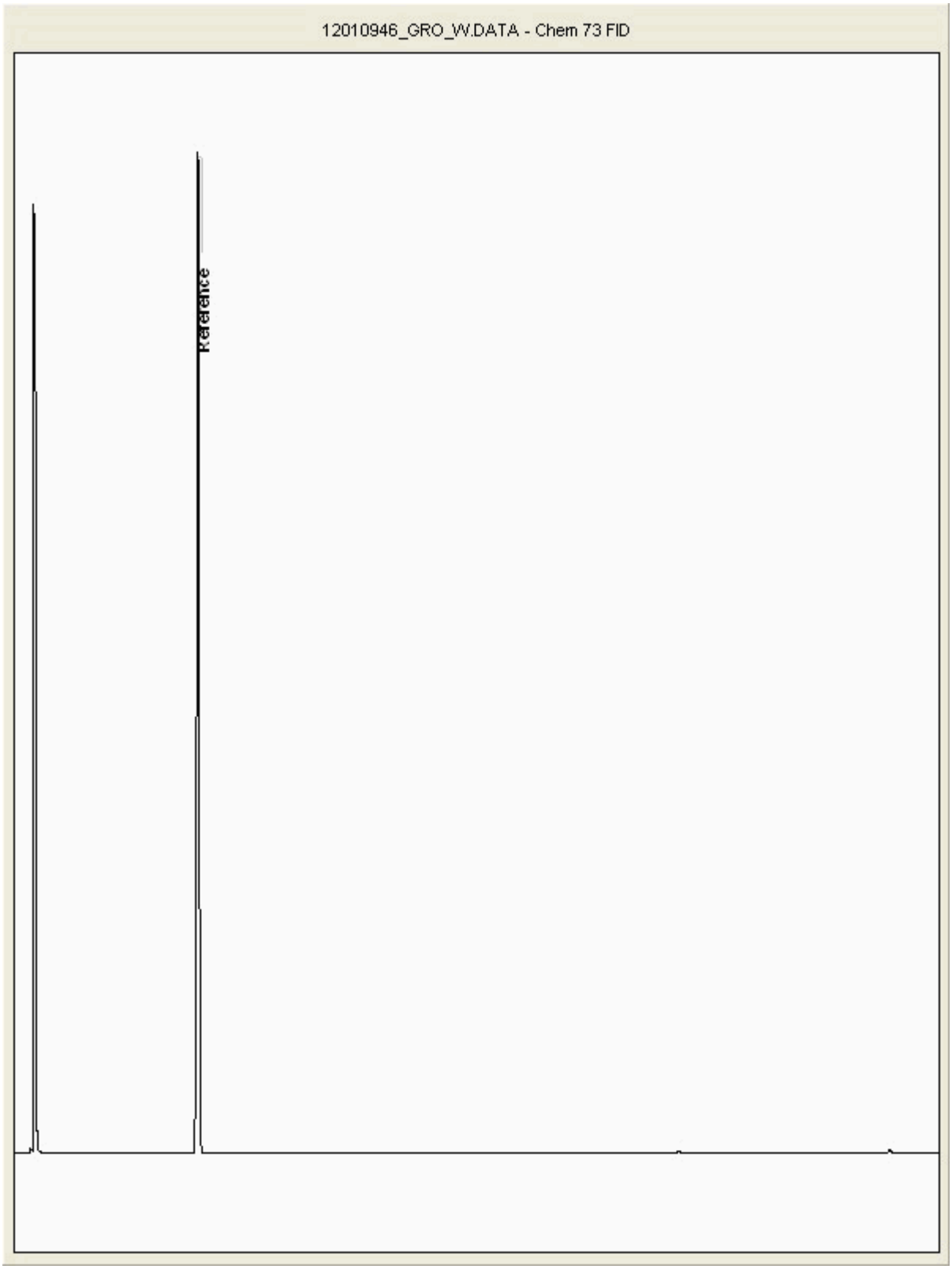


CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis:	GRO by GC-FID (W)	**Sample No :**	12010946	**Depth :**	
		Sample ID :	BH7		

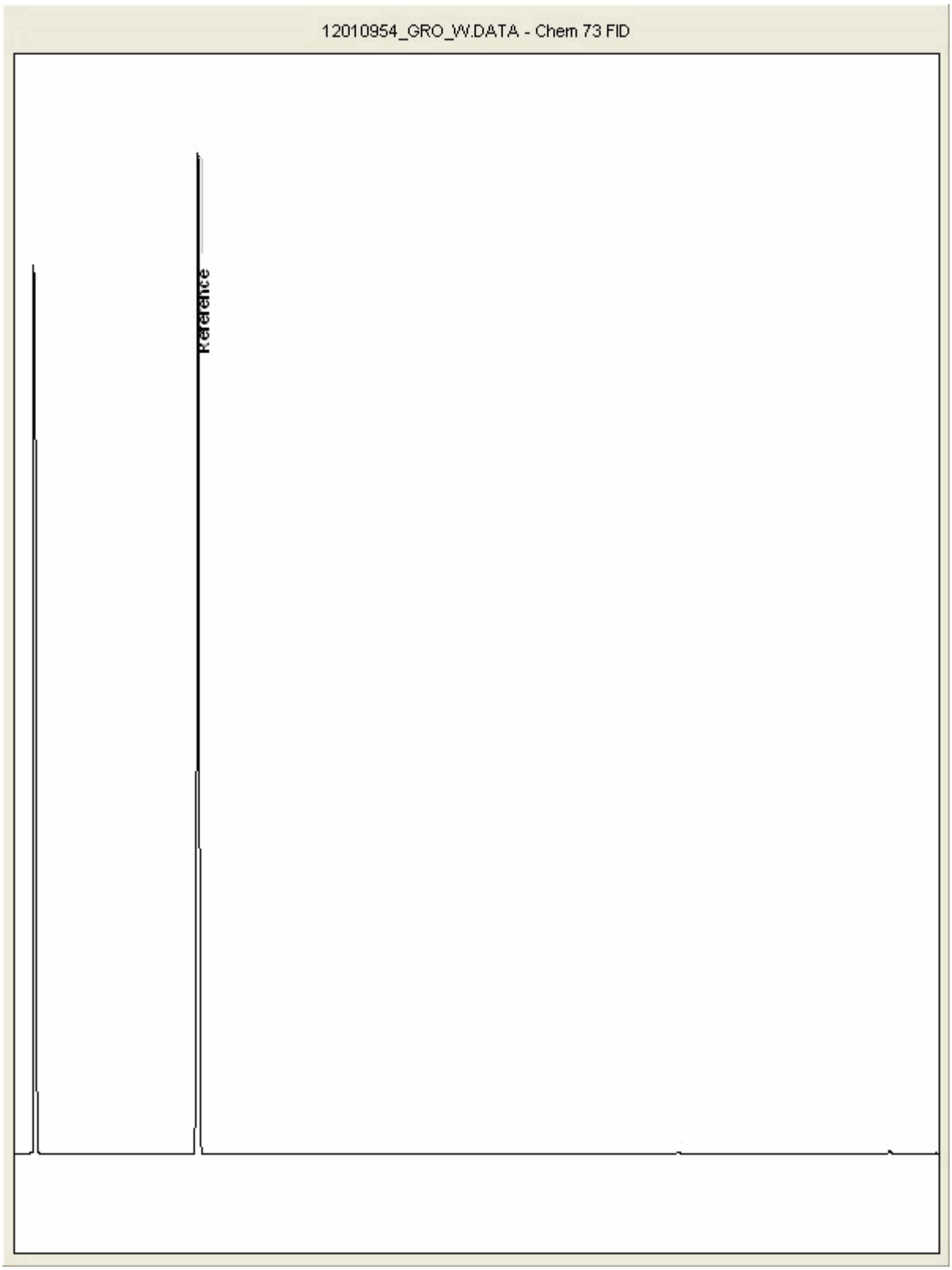


CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis:	GRO by GC-FID (W)	**Sample No :**	12010954	**Depth :**	
		Sample ID :	BH201A		



CERTIFICATE OF ANALYSIS

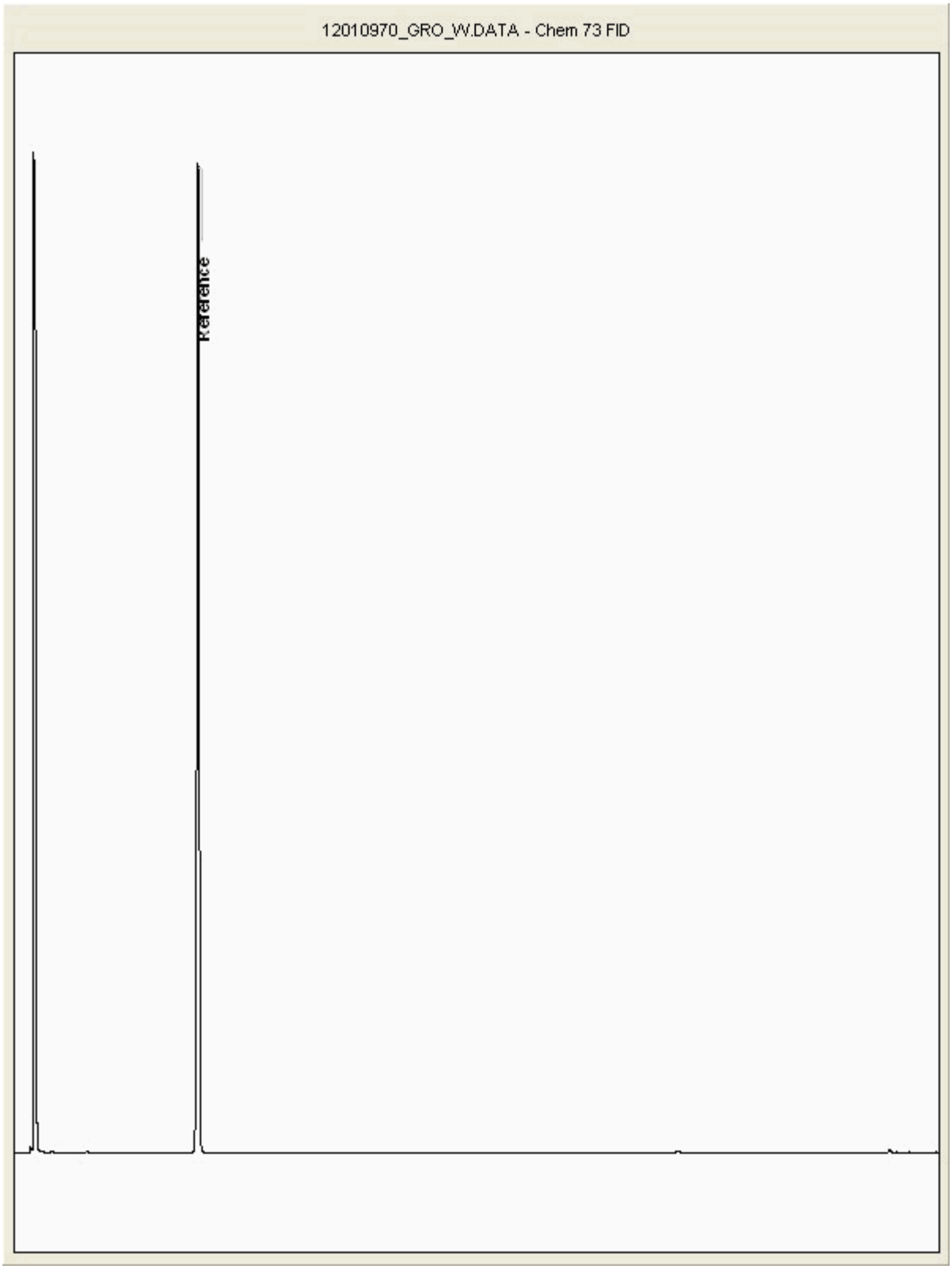
SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12010970
Sample ID : BH2

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS 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 both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos 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 screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

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. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

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 Dimethyphenol, 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 14).

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

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. 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.

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

21. 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.

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

23. 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 themajor 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.

24. 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 C4 -C10 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
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	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 TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
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-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
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

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

Visual Estimation Of Fibre Content

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

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials 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.

Last Updated : 2010/09/08

SDG:	150903-66	**Location:**	Stag Brewery	**Order Number:**	
Job:	H_URS_WIM-273	**Customer:**	AECOM	**Report Number:**	329161
Client Reference:		**Attention:**	Gary Marshall	**Superseded Report:**	

Appendix

General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

UK and Ireland Office Locations