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**Mr Lloyd**  
**Caerphilly County B.C.**  
**Caerphilly County Borough**  
**Council**  
**Unit B5**  
**Tiryberth Depot**  
**Hengoed CF82 8AU**  
**Caerphilly**

03 October 2016

**Test Report: COV/1318986/2016**

Dear Mr Lloyd

Analysis of your sample(s) submitted on 19 September 2016 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed: 

Name: A. Horobin

Title: Organic Operations Manager



# Report Summary



**Mr Rhodri Lloyd  
Caerphilly County B.C.  
Caerphilly County Borough  
Council  
Unit B5  
Tiryberth Depot  
Hengoed  
Caerphilly**

Date of Issue: **03 October 2016**

Report Number: **COV/1318986/2016**

Issue **1**

**Job Description:** Trehir Landfill Site

**Job Location:** Caerphilly

Number of Samples  
included in this report **20**

Job Received: **19 September 2016**

Number of Test Results  
included in this report **143**

Analysis Commenced: **19 September 2016**

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

ALS Environmental Ltd was responsible for sampling. Sampling is not covered by our UKAS accreditation.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

This communication has been sent to you by ALS Environmental Ltd. Registered in England and Wales. Registration No. 02148934. Registered Office: ALS Environmental Limited, Torrington Avenue, Coventry, CV4 9GU.

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# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564019**

Sample **1** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **08**

Sample Description: **08**

Sample Matrix: **Land Leachate**

Sample Date/Time: **19 September 2016 13:13**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.1	Deg C	19/09/2016	N Cov	FIELD
pH	8.2	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1260	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	35.3	mg/l	23/09/2016	Y Cov	WAS036
BOD + ATU (5 day)	4	mg/l	02/10/2016	Y Cov	WAS001
COD (Total)	67.0	mg/l	22/09/2016	Y Cov	WAS040
Chloride as Cl, High Level	134	mg/l	30/09/2016	Y Cov	WAS036

**Analyst Comments for 15564019:**

{/\*}Ammonia analysed by colorimetric method{\*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564020**

Sample **2** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **MHL28**

Sample Description: **MHL28**

Sample Matrix: **Land Leachate**

Sample Date/Time: **19 September 2016 12:40**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.0	Deg C	19/09/2016	N Cov	FIELD
pH	7.9	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	3010	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	196	mg/l	25/09/2016	Y Cov	WAS055
BOD + ATU (5 day)	19	mg/l	02/10/2016	Y Cov	WAS001
COD (Total)	323	mg/l	22/09/2016	Y Cov	WAS040
Chloride as Cl, High Level	339	mg/l	30/09/2016	Y Cov	WAS036

**Analyst Comments for 15564020:**

{/\*}Ammonia analysed by colorimetric method{\*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564021**

Sample **3** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **N2**

Sample Description: **N2**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 10:32**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.1	Deg C	19/09/2016	N Cov	FIELD
pH	7.0	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	136	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	12.6	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	6.4	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	14.0	mg/l	22/09/2016	Y Cov	WAS040
Water Level to top of Casing	7.42	m	19/09/2016	N Cov	IN SITU M

**Analyst Comments for 15564021:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564022**

Sample **4** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **N5**

Sample Description: **N5**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 12:25**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.0	Deg C	19/09/2016	N Cov	FIELD
pH	7.2	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	326	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	32.1	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	4.7	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	60.0	mg/l	22/09/2016	Y Cov	WAS040
Water Level to top of Casing	6.98	m	19/09/2016	N Cov	IN SITU M

**Analyst Comments for 15564022:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564023**

Sample **5** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **N6**

Sample Description: **N6**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 12:10**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.3	Deg C	19/09/2016	N Cov	FIELD
pH	7.2	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	907	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	19.3	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	66.3	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	0.5	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	69.0	mg/l	22/09/2016	Y Cov	WAS040
Water Level to top of Casing	0.00	m	19/09/2016	N Cov	IN SITU M

**Analyst Comments for 15564023:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin* Name: **A. Horobin** Date: **03 October 2016**  
Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564024**

Sample **6** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **N8**

Sample Description: **N8**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 12:55**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.8	Deg C	19/09/2016	N Cov	FIELD
pH	7.7	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	800	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	2.29	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	188	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	1.7	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	35.0	mg/l	22/09/2016	Y Cov	WAS040
Water Level to top of Casing	4.19	m	19/09/2016	N Cov	IN SITU M

**Analyst Comments for 15564024:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).  
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564025**

Sample **7** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **NBH1**

Sample Description: **NBH1**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 11:45**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.3	Deg C	19/09/2016	N Cov	FIELD
pH	7.4	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1490	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	42.4	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	143	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	1.7	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	109	mg/l	22/09/2016	Y Cov	WAS040
Water Level to top of Casing	3.22	m	19/09/2016	N Cov	IN SITU M

**Analyst Comments for 15564025:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin* Name: **A. Horobin** Date: **03 October 2016**  
Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564026**

Sample **8** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **NBH3**

Sample Description: **NBH3**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 11:05**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.9	Deg C	19/09/2016	N Cov	FIELD
pH	7.1	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1110	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	19.8	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	42.3	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	1.7	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	62.0	mg/l	22/09/2016	Y Cov	WAS040
Water Level to top of Casing	6.50	m	19/09/2016	N Cov	IN SITU M

**Analyst Comments for 15564026:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin* Name: **A. Horobin** Date: **03 October 2016**  
Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564027**

Sample **9** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **NBH4**

Sample Description: **NBH4**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 10:55**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.3	Deg C	19/09/2016	N Cov	FIELD
pH	6.9	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	395	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	15.3	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	6.8	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	61.0	mg/l	22/09/2016	Y Cov	WAS040
Water Level to top of Casing	17.49	m	19/09/2016	N Cov	IN SITU M

**Analyst Comments for 15564027:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564028**

Sample **10** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **NBH5**

Sample Description: **NBH5**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 10:19**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.0	Deg C	19/09/2016	N Cov	FIELD
pH	6.7	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	519	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	20.4	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	3.6	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	1020	mg/l	22/09/2016	Y Cov	WAS040
Water Level to top of Casing	6.74	m	19/09/2016	N Cov	IN SITU M

**Analyst Comments for 15564028:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin* Name: **A. Horobin** Date: **03 October 2016**  
Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564029**

Sample **11** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **NBH6**

Sample Description: **NBH6**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 10:00**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.2	Deg C	19/09/2016	N Cov	FIELD
pH	7.0	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	266	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	9.4	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	2.7	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	37.0	mg/l	22/09/2016	Y Cov	WAS040
Water Level to top of Casing	13.84	m	19/09/2016	N Cov	IN SITU M

**Analyst Comments for 15564029:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).  
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564030**

Sample **12** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **NBH7**

Sample Description: **NBH7**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 11:30**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Services Misc Text	Analyst Com	Text	21/09/2016	N Cov	DESCRIP.

**Analyst Comments for 15564030:** No Analyst Comment

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).  
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564031**

Sample **13** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **W1**

Sample Description: **W1**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 13:25**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.1	Deg C	19/09/2016	N Cov	FIELD
pH	8.4	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	406	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	15.6	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	10.5	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	<11.0	mg/l	22/09/2016	Y Cov	WAS040

**Analyst Comments for 15564031:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).  
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564032**

Sample **14** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **W2**

Sample Description: **W2**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 13:26**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.1	Deg C	19/09/2016	N Cov	FIELD
pH	8.4	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	406	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	15.6	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	10.0	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	<11.0	mg/l	22/09/2016	Y Cov	WAS040

**Analyst Comments for 15564032:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564033**

Sample **15** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **W3**

Sample Description: **W3**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 13:20**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.1	Deg C	19/09/2016	N Cov	FIELD
pH	8.4	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	406	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	15.7	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	10.2	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	<11.0	mg/l	22/09/2016	Y Cov	WAS040

**Analyst Comments for 15564033:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin* Name: **A. Horobin** Date: **03 October 2016**  
Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564034**

Sample **16** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **W5**

Sample Description: **W5**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 10:59**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.0	Deg C	19/09/2016	N Cov	FIELD
pH	7.7	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	127	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	11.3	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	10.0	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	14.0	mg/l	22/09/2016	Y Cov	WAS040

**Analyst Comments for 15564034:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).  
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564035**

Sample **17** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **Groundwater Sump**

Sample Description: **SUMP**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 12:45**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.1	Deg C	19/09/2016	N Cov	FIELD
pH	7.5	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1350	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	21.2	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	181	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	2.9	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	2280	mg/l	22/09/2016	Y Cov	WAS040

**Analyst Comments for 15564035:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564036**

Sample **18** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **Land Drain 1**

Sample Description: **LAND DRAIN 1a**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 13:10**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.7	Deg C	19/09/2016	N Cov	FIELD
pH	7.9	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	2340	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	125	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	268	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	3.1	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	188	mg/l	22/09/2016	Y Cov	WAS040

**Analyst Comments for 15564036:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).  
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin* Name: **A. Horobin** Date: **03 October 2016**  
Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564037**

Sample **19** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **Land Drain 1b**

Sample Description: **LAND DRAIN 1b**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 13:10**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.7	Deg C	19/09/2016	N Cov	FIELD
pH	7.7	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	570	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	2.62	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	46.4	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	7.9	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	26.0	mg/l	22/09/2016	Y Cov	WAS040

**Analyst Comments for 15564037:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

# Certificate of Analysis



Report Number: **COV/1318986/2016**

Issue **1**

Laboratory Number: **15564038**

Sample **20** of **20**

Sample Source: **Caerphilly County B.C.**

Sample Point Description: **Land Drain 2**

Sample Description: **LAND DRAIN 2**

Sample Matrix: **Ground Water**

Sample Date/Time: **19 September 2016 13:15**

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.0	Deg C	19/09/2016	N Cov	FIELD
pH	8.3	pH units	21/09/2016	Y Cov	WAS039
Conductivity- Electrical 20C	924	uS/cm	21/09/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	20/09/2016	N Cov	WAS036
Chloride as Cl	114	mg/l	20/09/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	8.9	mg/l	03/10/2016	Y Cov	WAS052
COD (Total)	50.0	mg/l	22/09/2016	Y Cov	WAS040

**Analyst Comments for 15564038:**

This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**Date of Issue: 03 October 2016**

Sample No	Analysis Comments
15564019	{/*}Ammonia analysed by colorimetric method{*/}
15564020	{/*}Ammonia analysed by colorimetric method{*/}
15564021	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564022	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564023	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564024	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564025	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564026	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564027	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564028	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564029	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564030	
15564031	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564032	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564033	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564034	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564035	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564036	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564037	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
15564038	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Signed: *A Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

DETERMINAND COMMENTS FOR REPORT COV/1318986/2016

ISSUE 1

Date of Issue : 03 October 2016

Sample No	Description	Determinand	Comments

Signed: *A. Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**