

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

31 May 2018

**Test Report: COV/1554878/2018**

Dear Mr Lloyd

Analysis of your sample(s) submitted on 24 May 2018 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,

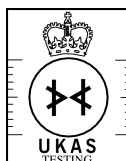
Signed: 

Name: A. Horobin

Title: Organic Operations Manager



# Report Summary



1314  
0897  
4409



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

Date of Issue: **31 May 2018**

Report Number: **COV/1554878/2018**

Issue **1**

This issue replaces  
all previous issues

**Job Description:** Trehir Landfill Site

**Job Location:** Caerphilly

Number of Samples  
included in this report **19**

Job Received: **24 May 2018**

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

Analysis Commenced: **24 May 2018**

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

ALS Environmental Ltd was responsible for sampling.

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/1554878/2018**

Issue **1**

Laboratory Number: **17143521**

Sample **1** of **19**

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

Sample Point Description: **03**

Sample Description: **03**

Sample Matrix: **Land Leachate**

Sample Date/Time: **24 May 2018 11:10**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	17.7	Deg C	24/05/2018	N Cov	FIELD
pH	7.5	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	3320	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	180	mg/l	29/05/2018	Y Cov	WAS055
BOD + ATU (5 day)	11	mg/l	30/05/2018	Y Cov	WAS001
COD (Total)	201	mg/l	29/05/2018	Y Cov	WAS040
Chloride as Cl, High Level	279	mg/l	29/05/2018	Y Cov	WAS036

## Analyst Comments for 17143521:

{/\*}Ammonia analysed by colorimetric analysis.{\*/}

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

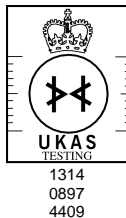
Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143522**

Sample **2** of **19**

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

Sample Point Description: **08**

Sample Description: **08**

Sample Matrix: **Land Leachate**

Sample Date/Time: **24 May 2018 09:52**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.5	Deg C	24/05/2018	N Cov	FIELD
pH	7.9	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	1810	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	72.0	mg/l	29/05/2018	Y Cov	WAS055
BOD + ATU (5 day)	4	mg/l	30/05/2018	Y Cov	WAS001
COD (Total)	98.0	mg/l	29/05/2018	Y Cov	WAS040
Chloride as Cl, High Level	170	mg/l	29/05/2018	Y Cov	WAS036

## Analyst Comments for 17143522:

{/\*}Ammonia analysed by colorimetric analysis.{\*/}

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143523**

Sample **3** of **19**

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

Sample Point Description: **MHL28**

Sample Description: **MHL28**

Sample Matrix: **Land Leachate**

Sample Date/Time: **24 May 2018 10:55**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	17.0	Deg C	24/05/2018	N Cov	FIELD
pH	8.0	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	3340	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	194	mg/l	29/05/2018	Y Cov	WAS055
BOD + ATU (5 day)	11	mg/l	30/05/2018	Y Cov	WAS001
COD (Total)	205	mg/l	29/05/2018	Y Cov	WAS040
Chloride as Cl, High Level	287	mg/l	29/05/2018	Y Cov	WAS036

## Analyst Comments for 17143523:

{/\*}Ammonia analysed by colorimetric analysis.{\*/}

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143524**

Sample **4** of **19**

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

Sample Point Description: **N2**

Sample Description: **N2**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 10:45**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	11.6	Deg C	24/05/2018	N Cov	FIELD
pH	6.9	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	184	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	8.3	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	2.9	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	<11.0	mg/l	29/05/2018	Y Cov	WAS040
Water Level to top of Casing	8.94	m	30/05/2018	N Cov	COM05

## Analyst Comments for 17143524:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143525**

Sample **5** of **19**

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

Sample Point Description: **N5**

Sample Description: **N5**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 12:35**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.1	Deg C	24/05/2018	N Cov	FIELD
pH	7.6	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	1030	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	1.50	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	146	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	1.6	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	85.0	mg/l	29/05/2018	Y Cov	WAS040
Water Level to top of Casing	7.97	m	30/05/2018	N Cov	COM05

## Analyst Comments for 17143525:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143526**

Sample **6** of **19**

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

Sample Point Description: **N6**

Sample Description: **N6**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 12:00**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	11.8	Deg C	24/05/2018	N Cov	FIELD
pH	7.5	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	944	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	17.4	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	56.9	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	0.5	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	28.0	mg/l	29/05/2018	Y Cov	WAS040
Water Level to top of Casing	0.00	m	30/05/2018	N Cov	COM05

## Analyst Comments for 17143526:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575



# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143527**

Sample **7** of **19**

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

Sample Point Description: **N8**

Sample Description: **N8**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 10:35**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	11.6	Deg C	24/05/2018	N Cov	FIELD
pH	7.8	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	865	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	202	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	1.4	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	24.0	mg/l	29/05/2018	Y Cov	WAS040
Water Level to top of Casing	2.80	m	30/05/2018	N Cov	COM05

## Analyst Comments for 17143527:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143528**

Sample **8** of **19**

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

Sample Point Description: **NBH1**

Sample Description: **NBH1**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 11:20**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	17.6	Deg C	24/05/2018	N Cov	FIELD
pH	7.6	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	1860	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	38.7	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	273	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	0.5	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	221	mg/l	29/05/2018	Y Cov	WAS040
Water Level to top of Casing	4.10	m	30/05/2018	N Cov	COM05

## Analyst Comments for 17143528:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143529**

Sample **9** of **19**

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

Sample Point Description: **NBH2**

Sample Description: **NBH2**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 11:55**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.8	Deg C	24/05/2018	N Cov	FIELD
pH	6.9	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	2520	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	113	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	173	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	101	mg/l	29/05/2018	Y Cov	WAS040
Water Level to top of Casing	2.63	m	30/05/2018	N Cov	COM05

## Analyst Comments for 17143529:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143530**

Sample **10** of **19**

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

Sample Point Description: **NBH3**

Sample Description: **NBH3**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 12:22**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.3	Deg C	24/05/2018	N Cov	FIELD
pH	7.0	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	1410	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	24.5	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	58.1	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	2.4	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	130	mg/l	29/05/2018	Y Cov	WAS040
Water Level to top of Casing	6.55	m	30/05/2018	N Cov	COM05

## Analyst Comments for 17143530:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143531**

Sample **11** of **19**

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

Sample Point Description: **NBH4**

Sample Description: **NBH4**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 11:40**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.9	Deg C	24/05/2018	N Cov	FIELD
pH	6.7	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	508	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	13.8	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	6.7	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	41.0	mg/l	29/05/2018	Y Cov	WAS040
Water Level to top of Casing	17.21	m	30/05/2018	N Cov	COM05

## Analyst Comments for 17143531:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

Torrington Avenue, Coventry, CV4 9GU  
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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143532**

Sample **12** of **19**

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

Sample Point Description: **NBH5**

Sample Description: **NBH5**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 10:07**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	10.6	Deg C	24/05/2018	N Cov	FIELD
pH	7.1	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	581	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	0.67	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	21.5	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	1.4	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	19.0	mg/l	29/05/2018	Y Cov	WAS040
Water Level to top of Casing	7.17	m	30/05/2018	N Cov	COM05

## Analyst Comments for 17143532:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143533**

Sample **13** of **19**

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

Sample Point Description: **NBH6**

Sample Description: **NBH6**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 10:30**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.9	Deg C	24/05/2018	N Cov	FIELD
pH	7.4	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	174	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	11.6	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	12.9	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	<11.0	mg/l	25/05/2018	Y Cov	WAS040
Water Level to top of Casing	16.24	m	30/05/2018	N Cov	COM05

## Analyst Comments for 17143533:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143534**

Sample **14** of **19**

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

Sample Point Description: **W1**

Sample Description: **W1**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 09:20**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.0	Deg C	24/05/2018	N Cov	FIELD
pH	8.4	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	506	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	18.0	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	9.5	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	<11.0	mg/l	27/05/2018	Y Cov	WAS040

## Analyst Comments for 17143534:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143535**

Sample **15** of **19**

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

Sample Point Description: **W2**

Sample Description: **W2**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 09:26**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.8	Deg C	24/05/2018	N Cov	FIELD
pH	8.0	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	493	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	18.1	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	9.6	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	<11.0	mg/l	29/05/2018	Y Cov	WAS040

## Analyst Comments for 17143535:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143536**

Sample **16** of **19**

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

Sample Point Description: **W3**

Sample Description: **W3**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 09:32**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.8	Deg C	24/05/2018	N Cov	FIELD
pH	8.1	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	494	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	18.6	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	10.4	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	<11.0	mg/l	29/05/2018	Y Cov	WAS040

## Analyst Comments for 17143536:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143537**

Sample **17** of **19**

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

Sample Point Description: **Land Drain 1**

Sample Description: **Land Drain 1a**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 09:42**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.1	Deg C	24/05/2018	N Cov	FIELD
pH	8.1	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	2630	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	128	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	258	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	2.4	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	159	mg/l	29/05/2018	Y Cov	WAS040

## Analyst Comments for 17143537:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143538**

Sample **18** of **19**

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

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

Sample Description: **Land Drain 1b**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 09:41**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	11.6	Deg C	24/05/2018	N Cov	FIELD
pH	7.3	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	719	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	7.67	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	69.6	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	4.6	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	32.0	mg/l	29/05/2018	Y Cov	WAS040

## Analyst Comments for 17143538:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1554878/2018**

Issue **1**

Laboratory Number: **17143539**

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

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

Sample Point Description: **Land Drain 2**

Sample Description: **Land Drain 2**

Sample Matrix: **Ground Water**

Sample Date/Time: **24 May 2018 10:01**

Sample Received: **24 May 2018**

Analysis Complete: **31 May 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.2	Deg C	24/05/2018	N Cov	FIELD
pH	8.5	pH units	25/05/2018	Y Cov	WAS039
Conductivity- Electrical 20C	841	uS/cm	25/05/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/05/2018	N Cov	WAS036
Chloride as Cl	70.1	mg/l	25/05/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	10.6	mg/l	30/05/2018	Y Cov	WAS052
COD (Total)	16.0	mg/l	29/05/2018	Y Cov	WAS040

## Analyst Comments for 17143539:

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

This issue replaces all previous issues

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

Analysed at: CHE = Chester(CH5 3US), CTD = Coatbridge(ML5 4FR), COV = Coventry(CV4 9GU), 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.

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

**ANALYST COMMENTS FOR REPORT COV/1554878/2018**
**Issue 1**

This issue replaces  
all previous issues

**Date of Issue: 31 May 2018**

Sample No	Analysis Comments
17143521	{/*}Ammonia analysed by colorimetric analysis.{*/}
17143522	{/*}Ammonia analysed by colorimetric analysis.{*/}
17143523	{/*}Ammonia analysed by colorimetric analysis.{*/}
17143524	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143525	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143526	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143527	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143528	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143529	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143530	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143531	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143532	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143533	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143534	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143535	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143536	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143537	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143538	This sample has been analysed for Dissolved Oxygen, Fixed outside recommended stability times. It is therefore possible that the results provided may be compromised.
17143539	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 I Horobin*

Name: **A. Horobin**

Date: **31 May 2018**

Title: **Organic Operations Manager**

**DETERMINAND COMMENTS FOR REPORT COV/1554878/2018****Date of Issue: 31 May 2018****ISSUE 1**This issue replaces  
all previous issues

Sample No	Description	Determinand	Comments

Signed: <i>A I Horobin</i>	Name: <b>A. Horobin</b>	Date: <b>31 May 2018</b>
	Title: <b>Organic Operations Manager</b>	