

**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**

06 September 2018

**Test Report: COV/1599133/2018**

Dear Mr Lloyd

Analysis of your sample(s) submitted on 23 August 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: *L. Ellis*

Name: L. Ellis

Title: Chemistry Operations Manager



# Report Summary



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

Date of Issue: **06 September 2018**

Report Number: **COV/1599133/2018**

Issue **1**

This issue replaces  
all previous issues

**Job Description:** Trehir Landfill Site

**Job Location:** Caerphilly

Number of Samples  
included in this report **14**

Job Received: **23 August 2018**

Number of Test Results  
included in this report **105**

Analysis Commenced: **24 August 2018**

Signed:

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry Operations Manager**

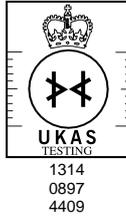
ALS Environmental Ltd was responsible for sampling.

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/1599133/2018**

Issue **1**

Laboratory Number: **17438451**

Sample **1** of **14**

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

Sample Point Description: **03**

Sample Description: **03**

Sample Matrix: **Land Leachate**

Sample Date/Time: **23 August 2018 10:26**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	18.0	Deg C	24/08/2018	N Cov	FIELD
pH	7.5	pH units	25/08/2018	Y Cov	WAS039
Conductivity- Electrical 20C	4050	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	168	mg/l	28/08/2018	Y Cov	WAS055
BOD + ATU (5 day)	102	mg/l	30/08/2018	Y Cov	WAS001
COD (Total)	2770	mg/l	04/09/2018	Y Cov	WAS040
Chloride as Cl, High Level	450	mg/l	26/08/2018	Y Cov	WAS036

#### Analyst Comments for 17438451:

This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised. {\*/}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:

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry Operations Manager**

**ALS Environmental Ltd**

Torrington Avenue, Coventry, CV4 9GU  
Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438452**

Sample **2** of **14**

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

Sample Point Description: **08**

Sample Description: **08**

Sample Matrix: **Land Leachate**

Sample Date/Time: **23 August 2018 09:55**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.8	Deg C	24/08/2018	N Cov	FIELD
pH	7.5	pH units	25/08/2018	Y Cov	WAS039
Conductivity- Electrical 20C	817	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	28/08/2018	Y Cov	WAS036
BOD + ATU (5 day)	3	mg/l	30/08/2018	Y Cov	WAS001
COD (Total)	39.0	mg/l	04/09/2018	Y Cov	WAS040
Chloride as Cl, High Level	87.7	mg/l	26/08/2018	Y Cov	WAS036

#### Analyst Comments for 17438452:

This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised. {\*/}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:

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry 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/1599133/2018**

Issue **1**

Laboratory Number: **17438453**

Sample **3** of **14**

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

Sample Point Description: **N2**

Sample Description: **N2**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 13:22**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.7	Deg C	24/08/2018	N Cov	FIELD
pH	7.2	pH units	25/08/2018	Y Cov	WAS039
Conductivity- Electrical 20C	194	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	28/08/2018	N Cov	WAS036
Chloride as Cl	11.1	mg/l	28/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	5.2	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	16.0	mg/l	04/09/2018	Y Cov	WAS040
Water Level to top of Casing	12.51	m	28/08/2018	N Cov	COM05

**Analyst Comments for 17438453:**

This sample has been analysed for Dissolved Oxygen, Fixed, COD (Total) 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:	Name: <b>L. Ellis</b>	Date: <b>06 September 2018</b>
	Title: <b>Chemistry Operations Manager</b>	

# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438454**

Sample **4** of **14**

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

Sample Point Description: **N5**

Sample Description: **N5**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 10:40**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.5	Deg C	24/08/2018	N Cov	FIELD
pH	7.0	pH units	05/09/2018	Y Cov	WAS039
Conductivity- Electrical 20C	1170	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	1.91	mg/l	28/08/2018	N Cov	WAS036
Chloride as Cl	178	mg/l	28/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	0.9	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	107	mg/l	04/09/2018	Y Cov	WAS040
Water Level to top of Casing	7.37	m	28/08/2018	N Cov	COM05

**Analyst Comments for 17438454:**

This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) 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:	Name: <b>L. Ellis</b>	Date: <b>06 September 2018</b>
	Title: <b>Chemistry Operations Manager</b>	

# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438455**

Sample **5** of **14**

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

Sample Point Description: **N8**

Sample Description: **N8**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 10:00**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.1	Deg C	24/08/2018	N Cov	FIELD
pH	7.3	pH units	05/09/2018	Y Cov	WAS039
Conductivity- Electrical 20C	834	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	28/08/2018	N Cov	WAS036
Chloride as Cl	193	mg/l	28/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	29.0	mg/l	04/09/2018	Y Cov	WAS040
Water Level to top of Casing	4.10	m	28/08/2018	N Cov	COM05

**Analyst Comments for 17438455:**

This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) 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:	Name: <b>L. Ellis</b>	Date: <b>06 September 2018</b>
	Title: <b>Chemistry Operations Manager</b>	

# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438456**

Sample **6** of **14**

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

Sample Point Description: **NBH1**

Sample Description: **NBH1**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 11:20**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	16.1	Deg C	24/08/2018	N Cov	FIELD
pH	7.1	pH units	05/09/2018	Y Cov	WAS039
Conductivity- Electrical 20C	2110	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	29.3	mg/l	28/08/2018	N Cov	WAS036
Chloride as Cl	339	mg/l	28/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	484	mg/l	04/09/2018	Y Cov	WAS040
Water Level to top of Casing	5.99	m	28/08/2018	N Cov	COM05

**Analyst Comments for 17438456:**

This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) 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:  Name: **L. Ellis** Date: **06 September 2018**  
Title: **Chemistry Operations Manager**

# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438457**

Sample **7** of **14**

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

Sample Point Description: **NBH3**

Sample Description: **NBH3**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 12:10**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.3	Deg C	24/08/2018	N Cov	FIELD
pH	6.9	pH units	25/08/2018	Y Cov	WAS039
Conductivity- Electrical 20C	1690	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	44.2	mg/l	28/08/2018	N Cov	WAS036
Chloride as Cl	97.8	mg/l	28/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	3.6	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	86.0	mg/l	04/09/2018	Y Cov	WAS040
Water Level to top of Casing	9.05	m	28/08/2018	N Cov	COM05

**Analyst Comments for 17438457:**

This sample has been analysed for Dissolved Oxygen, Fixed, COD (Total) 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: *L. Ellis*

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry Operations Manager**

# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438458**

Sample **8** of **14**

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

Sample Point Description: **NBH5**

Sample Description: **NBH5**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 13:05**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.5	Deg C	24/08/2018	N Cov	FIELD
pH	6.6	pH units	30/08/2018	Y Cov	WAS039
Conductivity- Electrical 20C	477	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	28/08/2018	N Cov	WAS036
Chloride as Cl	19.8	mg/l	28/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	2.0	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	18.0	mg/l	04/09/2018	Y Cov	WAS040
Water Level to top of Casing	7.71	m	28/08/2018	N Cov	COM05

**Analyst Comments for 17438458:**

This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) 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: *L. Ellis*

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry Operations Manager**

# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438459**

Sample **9** of **14**

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

Sample Point Description: **W1**

Sample Description: **W1**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 09:19**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.3	Deg C	24/08/2018	N Cov	FIELD
pH	7.9	pH units	25/08/2018	Y Cov	WAS039
Conductivity- Electrical 20C	542	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	28/08/2018	N Cov	WAS036
Chloride as Cl	21.5	mg/l	28/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	9.2	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	12.0	mg/l	04/09/2018	Y Cov	WAS040

**Analyst Comments for 17438459:**

This sample has been analysed for Dissolved Oxygen, Fixed, COD (Total) 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: *L. Ellis*

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry Operations Manager**

**ALS Environmental Ltd**

Torrington Avenue, Coventry, CV4 9GU  
Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438460**

Sample **10** of **14**

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

Sample Point Description: **W2**

Sample Description: **W2**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 09:14**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.4	Deg C	24/08/2018	N Cov	FIELD
pH	8.1	pH units	25/08/2018	Y Cov	WAS039
Conductivity- Electrical 20C	543	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	28/08/2018	N Cov	WAS036
Chloride as Cl	20.5	mg/l	28/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	9.1	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	15.0	mg/l	04/09/2018	Y Cov	WAS040

**Analyst Comments for 17438460:**

This sample has been analysed for Dissolved Oxygen, Fixed, COD (Total) 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: *L. Ellis*

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry Operations Manager**

**ALS Environmental Ltd**

Torrington Avenue, Coventry, CV4 9GU  
Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438461**

Sample **11** of **14**

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

Sample Point Description: **W3**

Sample Description: **W3**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 09:00**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.4	Deg C	24/08/2018	N Cov	FIELD
pH	7.8	pH units	30/08/2018	Y Cov	WAS039
Conductivity- Electrical 20C	556	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/08/2018	N Cov	WAS036
Chloride as Cl	19.1	mg/l	25/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	9.8	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	12.0	mg/l	04/09/2018	Y Cov	WAS040

**Analyst Comments for 17438461:**

This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) 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: *L. Ellis*

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry Operations Manager**

# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438462**

Sample **12** of **14**

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

Sample Point Description: **W5**

Sample Description: **W5**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 12:13**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	16.0	Deg C	24/08/2018	N Cov	FIELD
pH	7.8	pH units	25/08/2018	Y Cov	WAS039
Conductivity- Electrical 20C	130	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	28/08/2018	N Cov	WAS036
Chloride as Cl	16.9	mg/l	28/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	8.9	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	15.0	mg/l	04/09/2018	Y Cov	WAS040

**Analyst Comments for 17438462:**

This sample has been analysed for Dissolved Oxygen, Fixed, COD (Total) 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: *L. Ellis*

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry Operations Manager**

**ALS Environmental Ltd**

Torrington Avenue, Coventry, CV4 9GU  
Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438463**

Sample **13** of **14**

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

Sample Point Description: **Land Drain 2**

Sample Description: **Land Drain 2**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 09:41**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.9	Deg C	24/08/2018	N Cov	FIELD
pH	8.1	pH units	30/08/2018	Y Cov	WAS039
Conductivity- Electrical 20C	1160	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	28/08/2018	N Cov	WAS036
Chloride as Cl	130	mg/l	28/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	8.0	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	29.0	mg/l	04/09/2018	Y Cov	WAS040

#### Analyst Comments for 17438463:

This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) 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: *L. Ellis*

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry Operations Manager**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1599133/2018**

Issue **1**

Laboratory Number: **17438543**

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

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

Sample Point Description: **NBH2**

Sample Description: **NBH2**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 August 2018 11:45**

Sample Received: **23 August 2018**

Analysis Complete: **06 September 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.2	Deg C	28/08/2018	N Cov	FIELD
pH	7.1	pH units	30/08/2018	Y Cov	WAS039
Conductivity- Electrical 20C	3830	uS/cm	25/08/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	203	mg/l	30/08/2018	Y Cov	WAS055
Chloride as Cl	372	mg/l	28/08/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	30/08/2018	Y Cov	WAS052
COD (Total)	219	mg/l	04/09/2018	Y Cov	WAS040
Water Level to top of Casing	4.12	m	28/08/2018	N Cov	COM05

#### Analyst Comments for 17438543:

This sample has been analysed for pH, Dissolved Oxygen, Fixed, Ammoniacal Nitrogen as N, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised. {/\*}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: *L. Ellis*

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry Operations Manager**

**ALS Environmental Ltd**

Torrington Avenue, Coventry, CV4 9GU  
Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

**Date of Issue: 06 September 2018**

Sample No	Analysis Comments
17438451	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised. {/ *}Ammonia analysed by colorimetric analysis.{*/ }
17438452	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised. {/ *}Ammonia analysed by colorimetric analysis.{*/ }
17438453	This sample has been analysed for Dissolved Oxygen, Fixed, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17438454	This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17438455	This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17438456	This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17438457	This sample has been analysed for Dissolved Oxygen, Fixed, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17438458	This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17438459	This sample has been analysed for Dissolved Oxygen, Fixed, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17438460	This sample has been analysed for Dissolved Oxygen, Fixed, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17438461	This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17438462	This sample has been analysed for Dissolved Oxygen, Fixed, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17438463	This sample has been analysed for pH, Dissolved Oxygen, Fixed, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17438543	This sample has been analysed for pH, Dissolved Oxygen, Fixed, Ammoniacal Nitrogen as N, COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised. {/ *}Ammonia analysed by colorimetric analysis.{*/ }

Signed: *L. Ellis*

Name: **L. Ellis**

Date: **06 September 2018**

Title: **Chemistry Operations Manager**

**DETERMINAND COMMENTS FOR REPORT COV/1599133/2018**

**ISSUE 1**

**Date of Issue: 06 September 2018**

This issue replaces  
all previous issues

Sample No	Description	Determinand	Comments

Signed: 	Name: <b>L. Ellis</b>	Date: <b>06 September 2018</b>
	Title: <b>Chemistry Operations Manager</b>	