

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

28 August 2018

Test Report: COV/1580370/2018

Dear Mr Lloyd

Analysis of your sample(s) submitted on 17 July 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,

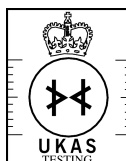
Signed: 

Name: D. Lewis

Title: Inorganic Team Leader



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: **28 August 2018**

Report Number: **COV/1580370/2018**

Issue **1**

This issue replaces
all previous issues

Job Description: Trehir Landfill Site

Job Location: Caerphilly

Number of Samples
included in this report **15**

Job Received: **17 July 2018**

Number of Test Results
included in this report **112**

Analysis Commenced: **17 July 2018**

Signed: 

Name: **D. Lewis**

Date: **28 August 2018**

Title: **Inorganic Team Leader**

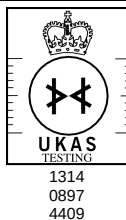
ALS Environmental Ltd was responsible for sampling.

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/1580370/2018**

Issue **1**

Laboratory Number: **17315527**

Sample **1** of **15**

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

Sample Point Description: **03**

Sample Description: **03**

Sample Matrix: **Land Leachate**

Sample Date/Time: **17 July 2018 10:01**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	16.9	Deg C	17/07/2018	N Cov	FIELD
pH	7.7	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	5420	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	281	mg/l	21/07/2018	Y Cov	WAS055
BOD + ATU (5 day)	14	mg/l	23/07/2018	Y Cov	WAS001
COD (Total)	473	mg/l	02/08/2018	Y Cov	WAS040
Chloride as Cl, High Level	556	mg/l	21/07/2018	Y Cov	WAS036

Analyst Comments for 17315527:

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: **D. Lewis**

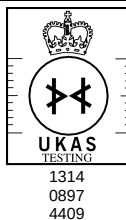
Date: **28 August 2018**

Title: **Inorganic Team Leader**

ALS Environmental Ltd

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315528**

Sample **2** of **15**

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

Sample Point Description: **08**

Sample Description: **08**

Sample Matrix: **Land Leachate**

Sample Date/Time: **17 July 2018 09:20**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.4	Deg C	17/07/2018	N Cov	FIELD
pH	7.7	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	961	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	2.80	mg/l	21/07/2018	Y Cov	WAS036
BOD + ATU (5 day)	3	mg/l	23/07/2018	Y Cov	WAS001
COD (Total)	57.0	mg/l	24/07/2018	Y Cov	WAS040
Chloride as Cl, High Level	126	mg/l	21/07/2018	Y Cov	WAS036

Analyst Comments for 17315528:

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

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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: **D. Lewis**

Date: **28 August 2018**

Title: **Inorganic Team Leader**

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315529**

Sample **3** of **15**

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

Sample Point Description: **MHL28**

Sample Description: **MHL28**

Sample Matrix: **Land Leachate**

Sample Date/Time: **17 July 2018 09:43**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.7	Deg C	17/07/2018	N Cov	FIELD
pH	7.7	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	4050	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	234	mg/l	21/07/2018	Y Cov	WAS055
BOD + ATU (5 day)	15	mg/l	23/07/2018	Y Cov	WAS001
COD (Total)	347	mg/l	04/08/2018	Y Cov	WAS040
Chloride as Cl, High Level	422	mg/l	21/07/2018	Y Cov	WAS036

Analyst Comments for 17315529:

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: **D. Lewis**

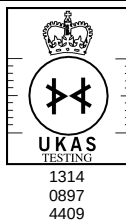
Date: **28 August 2018**

Title: **Inorganic Team Leader**

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315530**

Sample **4** of **15**

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

Sample Point Description: **N2**

Sample Description: **N2**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 12:45**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	11.6	Deg C	17/07/2018	N Cov	FIELD
pH	6.8	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	188	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/07/2018	N Cov	WAS036
Chloride as Cl	8.0	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	1.5	mg/l	19/07/2018	Y Cov	WAS052
COD (Total)	28.0	mg/l	24/07/2018	Y Cov	WAS040
Water Level to top of Casing	12.22	m	17/07/2018	N Cov	COM05

Analyst Comments for 17315530:

This sample has been analysed for 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: **D. Lewis**

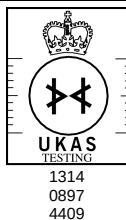
Date: **28 August 2018**

Title: **Inorganic Team Leader**

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315531**

Sample **5** of **15**

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

Sample Point Description: **N5**

Sample Description: **N5**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 10:05**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	11.7	Deg C	17/07/2018	N Cov	FIELD
pH	7.0	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	1300	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	2.33	mg/l	18/07/2018	N Cov	WAS036
Chloride as Cl	203	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	19/07/2018	Y Cov	WAS052
COD (Total)	101	mg/l	24/07/2018	Y Cov	WAS040
Water Level to top of Casing	10.72	m	17/07/2018	N Cov	COM05

Analyst Comments for 17315531:

This sample has been analysed for 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: **D. Lewis**

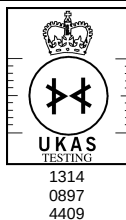
Date: **28 August 2018**

Title: **Inorganic Team Leader**

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315532**

Sample **6** of **15**

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

Sample Point Description: **N8**

Sample Description: **N8**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 09:25**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.2	Deg C	17/07/2018	N Cov	FIELD
pH	7.1	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	813	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/07/2018	N Cov	WAS036
Chloride as Cl	193	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	19/07/2018	Y Cov	WAS052
COD (Total)	35.0	mg/l	24/07/2018	Y Cov	WAS040
Water Level to top of Casing	3.74	m	17/07/2018	N Cov	COM05

Analyst Comments for 17315532:

This sample has been analysed for 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: **D. Lewis**

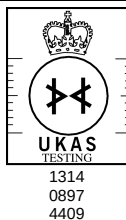
Date: **28 August 2018**

Title: **Inorganic Team Leader**

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315533**

Sample **7** of **15**

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

Sample Point Description: **NBH1**

Sample Description: **NBH1**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 10:44**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.5	Deg C	17/07/2018	N Cov	FIELD
pH	7.0	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	2180	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	40.7	mg/l	18/07/2018	N Cov	WAS036
Chloride as Cl	317	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	19/07/2018	Y Cov	WAS052
COD (Total)	198	mg/l	02/08/2018	Y Cov	WAS040
Water Level to top of Casing	5.42	m	17/07/2018	N Cov	COM05

Analyst Comments for 17315533:

This sample has been analysed for 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: **D. Lewis**

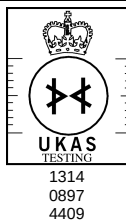
Date: **28 August 2018**

Title: **Inorganic Team Leader**

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315534**

Sample **8** of **15**

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

Sample Point Description: **NBH2**

Sample Description: **NBH2**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 11:10**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.9	Deg C	17/07/2018	N Cov	FIELD
pH	7.0	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	3640	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	196	mg/l	21/07/2018	Y Cov	WAS055
Chloride as Cl	349	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	19/07/2018	Y Cov	WAS052
COD (Total)	214	mg/l	02/08/2018	Y Cov	WAS040
Water Level to top of Casing	4.00	m	17/07/2018	N Cov	COM05

Analyst Comments for 17315534:

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

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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.

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Signed:

Name: **D. Lewis**

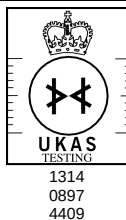
Date: **28 August 2018**

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315535**

Sample **9** of **15**

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

Sample Point Description: **NBH3**

Sample Description: **NBH3**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 11:40**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	16.7	Deg C	17/07/2018	N Cov	FIELD
pH	7.1	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	1820	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	56.0	mg/l	18/07/2018	N Cov	WAS036
Chloride as Cl	89.7	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	4.6	mg/l	19/07/2018	Y Cov	WAS052
COD (Total)	116	mg/l	02/08/2018	Y Cov	WAS040
Water Level to top of Casing	10.04	m	17/07/2018	N Cov	COM05

Analyst Comments for 17315535:

This sample has been analysed for 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.

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

Signed:

Name: **D. Lewis**

Date: **28 August 2018**

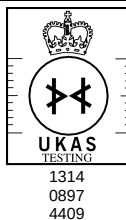
Title: **Inorganic Team Leader**

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Page 10 of 18

Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315536**

Sample **10** of **15**

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

Sample Point Description: **NBH5**

Sample Description: **NBH5**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 12:40**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.8	Deg C	17/07/2018	N Cov	FIELD
pH	6.4	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	473	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/07/2018	N Cov	WAS036
Chloride as Cl	18.8	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	8.2	mg/l	19/07/2018	Y Cov	WAS052
COD (Total)	18.0	mg/l	01/08/2018	Y Cov	WAS040
Water Level to top of Casing	9.20	m	17/07/2018	N Cov	COM05

Analyst Comments for 17315536:

This sample has been analysed for 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: **D. Lewis**

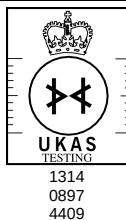
Date: **28 August 2018**

Title: **Inorganic Team Leader**

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/1580370/2018**

Issue **1**

Laboratory Number: **17315537**

Sample **11** of **15**

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

Sample Point Description: **W1**

Sample Description: **W1**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 08:49**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.5	Deg C	17/07/2018	N Cov	FIELD
pH	8.1	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	595	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/07/2018	N Cov	WAS036
Chloride as Cl	18.4	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	9.5	mg/l	20/07/2018	Y Cov	WAS052
COD (Total)	<11.0	mg/l	01/08/2018	Y Cov	WAS040

Analyst Comments for 17315537:

This sample has been analysed for 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: **D. Lewis**

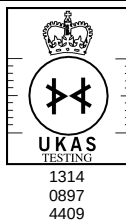
Date: **28 August 2018**

Title: **Inorganic Team Leader**

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315538**

Sample **12** of **15**

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

Sample Point Description: **W2**

Sample Description: **W2**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 08:42**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.5	Deg C	17/07/2018	N Cov	FIELD
pH	8.2	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	603	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/07/2018	N Cov	WAS036
Chloride as Cl	19.2	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	9.9	mg/l	20/07/2018	Y Cov	WAS052
COD (Total)	15.0	mg/l	24/07/2018	Y Cov	WAS040

Analyst Comments for 17315538:

This sample has been analysed for 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: **D. Lewis**

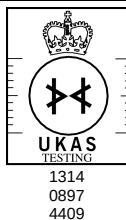
Date: **28 August 2018**

Title: **Inorganic Team Leader**

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315539**

Sample **13** of **15**

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

Sample Point Description: **W3**

Sample Description: **W3**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 08:37**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.5	Deg C	17/07/2018	N Cov	FIELD
pH	7.2	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	596	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/07/2018	N Cov	WAS036
Chloride as Cl	19.4	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	10.0	mg/l	20/07/2018	Y Cov	WAS052
COD (Total)	<11.0	mg/l	24/07/2018	Y Cov	WAS040

Analyst Comments for 17315539:

This sample has been analysed for 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: **D. Lewis**

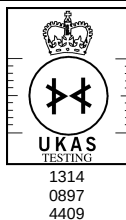
Date: **28 August 2018**

Title: **Inorganic Team Leader**

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315540**

Sample **14** of **15**

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

Sample Point Description: **Land Drain 1**

Sample Description: **Land Drain 1a**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 09:04**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	15.2	Deg C	17/07/2018	N Cov	FIELD
pH	7.7	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	1900	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	34.3	mg/l	18/07/2018	N Cov	WAS036
Chloride as Cl	263	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	3.7	mg/l	20/07/2018	Y Cov	WAS052
COD (Total)	109	mg/l	24/07/2018	Y Cov	WAS040

Analyst Comments for 17315540:

This sample has been analysed for 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: **D. Lewis**

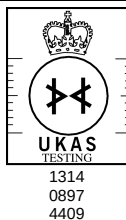
Date: **28 August 2018**

Title: **Inorganic Team Leader**

ALS Environmental Ltd

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Certificate of Analysis



Report Number: **COV/1580370/2018**

Issue **1**

Laboratory Number: **17315541**

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

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

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

Sample Description: **Land Drain 1b**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 July 2018 09:09**

Sample Received: **17 July 2018**

Analysis Complete: **06 August 2018**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.8	Deg C	17/07/2018	N Cov	FIELD
pH	7.2	pH units	18/07/2018	Y Cov	WAS039
Conductivity- Electrical 20C	706	uS/cm	18/07/2018	Y Cov	WAS039
Ammoniacal Nitrogen as N	7.21	mg/l	18/07/2018	N Cov	WAS036
Chloride as Cl	76.9	mg/l	18/07/2018	N Cov	WAS036
Dissolved Oxygen, Fixed	5.2	mg/l	20/07/2018	Y Cov	WAS052
COD (Total)	37.0	mg/l	24/07/2018	Y Cov	WAS040

Analyst Comments for 17315541:

This sample has been analysed for 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: **D. Lewis**

Date: **28 August 2018**

Title: **Inorganic Team Leader**

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ANALYST COMMENTS FOR REPORT COV/1580370/2018
Issue 1

This issue replaces
all previous issues

Date of Issue: 28 August 2018

Sample No	Analysis Comments
17315527	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.{*/ }
17315528	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.{*/ }
17315529	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.{*/ }
17315530	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17315531	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17315532	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17315533	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17315534	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.{*/ }
17315535	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17315536	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17315537	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17315538	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17315539	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17315540	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.
17315541	This sample has been analysed for COD (Total) outside recommended stability times. It is therefore possible that the results provided may be compromised.

Signed: 

Name: **D. Lewis**

Date: **28 August 2018**

Title: **Inorganic Team Leader**

DETERMINAND COMMENTS FOR REPORT COV/1580370/2018

Date of Issue: 28 August 2018

ISSUE 1

This issue replaces
all previous issues

Sample No	Description	Determinand	Comments

Signed:



Name: D. Lewis

Date: 28 August 2018

Title: Inorganic Team Leader