

**ALS Environmental Ltd**  
Torrington Avenue  
Coventry  
CV4 9GU

T: +44 (0)24 7642 1213  
F: +44 (0)24 7685 6575  
[www.alsenvironmental.co.uk](http://www.alsenvironmental.co.uk)

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

03 October 2016

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

Dear Mr Lloyd

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

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

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

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

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

Yours Sincerely,

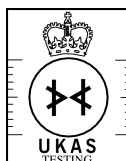
Signed: 

Name: A. Horobin

Title: Organic Operations Manager



# Report Summary



1314  
0897  
4409



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

Date of Issue: **03 October 2016**

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

Issue **1**

**Job Description:** Trehir Landfill Site

**Job Location:** Caerphilly

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

Job Received: **19 September 2016**

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

Analysis Commenced: **19 September 2016**

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

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

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

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

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

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

(c) ALS Environmental Ltd 2016. All rights reserved. We, ALS Environmental Ltd, are the owner of all copyright in this report. You must not copy, reproduce, amend or adapt this report, its contents or any format in which it is delivered without our prior written agreement. If you copy, reproduce, amend, or adapt this report in any way without our agreement you will be liable for any damage or loss to us. In the event of a dispute the copy of the report held by us shall be the reference copy.

**ALS Environmental Ltd**

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

**Page 1 of 23**

# Certificate of Analysis



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

Issue **1**

Laboratory Number: **15564019**

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

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

Sample Point Description: **08**

Sample Description: **08**

Sample Matrix: **Land Leachate**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564019:

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564020**

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

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

Sample Point Description: **MHL28**

Sample Description: **MHL28**

Sample Matrix: **Land Leachate**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564020:

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564021**

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

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

Sample Point Description: **N2**

Sample Description: **N2**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

**Analyst Comments for 15564021:**

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564022**

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

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

Sample Point Description: **N5**

Sample Description: **N5**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564022:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564023**

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

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

Sample Point Description: **N6**

Sample Description: **N6**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564023:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564024**

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

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

Sample Point Description: **N8**

Sample Description: **N8**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

**Analyst Comments for 15564024:**

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564025**

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

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

Sample Point Description: **NBH1**

Sample Description: **NBH1**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564025:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564026**

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

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

Sample Point Description: **NBH3**

Sample Description: **NBH3**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

**Analyst Comments for 15564026:**

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564027**

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

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

Sample Point Description: **NBH4**

Sample Description: **NBH4**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564027:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564028**

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

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

Sample Point Description: **NBH5**

Sample Description: **NBH5**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

**Analyst Comments for 15564028:**

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564029**

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

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

Sample Point Description: **NBH6**

Sample Description: **NBH6**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

**Analyst Comments for 15564029:**

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564030**

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

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

Sample Point Description: **NBH7**

Sample Description: **NBH7**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

**Analyst Comments for 15564030:**

No Analyst Comment

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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

**Page 13 of 23**

# Certificate of Analysis



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

Issue **1**

Laboratory Number: **15564031**

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

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

Sample Point Description: **W1**

Sample Description: **W1**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564031:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564032**

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

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

Sample Point Description: **W2**

Sample Description: **W2**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564032:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564033**

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

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

Sample Point Description: **W3**

Sample Description: **W3**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564033:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564034**

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

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

Sample Point Description: **W5**

Sample Description: **W5**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564034:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564035**

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

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

Sample Point Description: **Groundwater Sump**

Sample Description: **SUMP**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564035:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564036**

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

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

Sample Point Description: **Land Drain 1**

Sample Description: **LAND DRAIN 1a**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564036:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564037**

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

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

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

Sample Description: **LAND DRAIN 1b**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564037:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**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/1318986/2016**

Issue **1**

Laboratory Number: **15564038**

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

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

Sample Point Description: **Land Drain 2**

Sample Description: **LAND DRAIN 2**

Sample Matrix: **Ground Water**

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

Sample Received: **19 September 2016**

Analysis Complete: **03 October 2016**

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

## Analyst Comments for 15564038:

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

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

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

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

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

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **03 October 2016**

Title: **Organic Operations Manager**

**ALS Environmental Ltd**

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

# ANALYST COMMENTS FOR REPORT

COV/1318986/2016

Issue 1

Date of Issue: 03 October 2016

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

Signed: A. Horobin

Name: A. Horobin

Date: 03 October 2016

Title: Organic Operations Manager

## DETERMINAND COMMENTS FOR REPORT COV/1318986/2016

ISSUE 1

Date of Issue : 03 October 2016

| Sample No | Description | Determinand | Comments |
|-----------|-------------|-------------|----------|
|           |             |             |          |

Signed:

A I Horobin

Name: A. Horobin

Date: 03 October 2016

Title: Organic Operations Manager