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

03 November 2017

Test Report: COV/1455379/2017

Dear Mr Lloyd

Analysis of your sample(s) submitted on 23 October 2017 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: G. Coiley

Title: Group Projects and IT Manager

Report Summary

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ALS Environmental

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

Date of Issue: **03 November 2017**

Report Number: **COV/1455379/2017** Issue **1**

This issue replaces all previous issues

Job Description: Trehir Landfill Site

Job Location: Caerphilly

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

Job Received: **23 October 2017**

Number of Test Results included in this report **142**

Analysis Commenced: **25 October 2017**

Signed: CACoiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT 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.

Certificate of Analysis

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Report Number: **COV/1455379/2017** Issue **1**

Laboratory Number: **16524134** Sample **1** of **19**

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

Sample Point Description: **03**

Sample Description: **03**

Sample Matrix: **Land Leachate**

Sample Date/Time: **23 October 2017** **11:45**

Sample Received: **23 October 2017**

Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	17.8	Deg C	25/10/2017	N	Cov	FIELD
pH	7.5	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	2080	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	93.3	mg/l	27/10/2017	Y	Cov	WAS055
BOD + ATU (5 day)	8	mg/l	30/10/2017	Y	Cov	WAS001
COD (Total)	144	mg/l	27/10/2017	Y	Cov	WAS040
Chloride as Cl, High Level	143	mg/l	30/10/2017	Y	Cov	WAS036

Analyst Comments for 16524134: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: CAColley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**

Laboratory Number: **16524135** Sample **2** of **19**

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

Sample Point Description: **08**

Sample Description: **08**

Sample Matrix: **Land Leachate**

Sample Date/Time: **23 October 2017** **10:15**

Sample Received: **23 October 2017**

Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	15.0	Deg C	25/10/2017	N	Cov	FIELD
pH	7.6	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	1360	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	39.8	mg/l	31/10/2017	Y	Cov	WAS036
BOD + ATU (5 day)	3	mg/l	30/10/2017	Y	Cov	WAS001
COD (Total)	62.0	mg/l	27/10/2017	Y	Cov	WAS040
Chloride as Cl, High Level	95.1	mg/l	30/10/2017	Y	Cov	WAS036

Analyst Comments for 16524135: This sample has been analysed for pH, Ammoniacal Nitrogen as N 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

Certificate of Analysis

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Report Number: **COV/1455379/2017** Issue **1**

Laboratory Number: **16524136** Sample **3** of **19**

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

Sample Point Description: **MHL28**

Sample Description: **MHL28**

Sample Matrix: **Land Leachate**

Sample Date/Time: **23 October 2017** **11:20**

Sample Received: **23 October 2017**

Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	17.4	Deg C	25/10/2017	N	Cov	FIELD
pH	7.5	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	1870	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	77.4	mg/l	27/10/2017	Y	Cov	WAS055
BOD + ATU (5 day)	5	mg/l	30/10/2017	Y	Cov	WAS001
COD (Total)	99.0	mg/l	27/10/2017	Y	Cov	WAS040
Chloride as Cl, High Level	126	mg/l	30/10/2017	Y	Cov	WAS036

Analyst Comments for 16524136: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**
Laboratory Number: **16524137** Sample **4** of **19**

Sample Source: **Caerphilly County B.C.**
Sample Point Description: **N2**
Sample Description: **N2**
Sample Matrix: **Ground Water**
Sample Date/Time: **23 October 2017** **10:15**
Sample Received: **23 October 2017**
Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	11.3	Deg C	25/10/2017	N	Cov	FIELD
pH	6.9	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	202	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	6.5	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	2.8	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	<11.0	mg/l	27/10/2017	Y	Cov	WAS040
Water Level to top of Casing	3.95	m	25/10/2017	N	Cov	COM05

Analyst Comments for 16524137: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**
Laboratory Number: **16524138** Sample **5** of **19**

Sample Source: **Caerphilly County B.C.**
Sample Point Description: **N5**
Sample Description: **N5**
Sample Matrix: **Ground Water**
Sample Date/Time: **23 October 2017** **12:30**
Sample Received: **23 October 2017**
Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	12.9	Deg C	25/10/2017	N	Cov	FIELD
pH	7.1	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	1410	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	2.68	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	218	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	1.9	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	172	mg/l	29/10/2017	Y	Cov	WAS040
Water Level to top of Casing	6.34	m	25/10/2017	N	Cov	COM05

Analyst Comments for 16524138: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**
Laboratory Number: **16524139** Sample **6** of **19**

Sample Source: **Caerphilly County B.C.**
Sample Point Description: **N6**
Sample Description: **N6**
Sample Matrix: **Ground Water**
Sample Date/Time: **23 October 2017** **12:15**
Sample Received: **23 October 2017**
Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	12.7	Deg C	25/10/2017	N	Cov	FIELD
pH	7.0	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	1010	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	18.2	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	64.0	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	96.0	mg/l	27/10/2017	Y	Cov	WAS040
Water Level to top of Casing	0.00	m	25/10/2017	N	Cov	COM05

Analyst Comments for 16524139: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**
Laboratory Number: **16524140** Sample **7** of **19**

Sample Source: **Caerphilly County B.C.**
Sample Point Description: **N8**
Sample Description: **N8**
Sample Matrix: **Ground Water**
Sample Date/Time: **23 October 2017** **11:15**
Sample Received: **23 October 2017**
Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	12.0	Deg C	25/10/2017	N	Cov	FIELD
pH	7.3	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	879	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	0.45	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	196	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	1.6	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	17.0	mg/l	27/10/2017	Y	Cov	WAS040
Water Level to top of Casing	4.40	m	25/10/2017	N	Cov	COM05

Analyst Comments for 16524140: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**
Laboratory Number: **16524141** Sample **8** of **19**

Sample Source: **Caerphilly County B.C.**
Sample Point Description: **NBH1**
Sample Description: **NBH1**
Sample Matrix: **Ground Water**
Sample Date/Time: **23 October 2017** **12:00**
Sample Received: **23 October 2017**
Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	15.8	Deg C	25/10/2017	N	Cov	FIELD
pH	7.2	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	2160	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	43.0	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	269	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	1110	mg/l	27/10/2017	Y	Cov	WAS040
Water Level to top of Casing	5.60	m	25/10/2017	N	Cov	COM05

Analyst Comments for 16524141: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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ALS Environmental

Report Number: **COV/1455379/2017** Issue **1**
Laboratory Number: **16524142** Sample **9** of **19**

Sample Source: **Caerphilly County B.C.**
Sample Point Description: **NBH2**
Sample Description: **NBH2**
Sample Matrix: **Ground Water**
Sample Date/Time: **23 October 2017** **11:55**
Sample Received: **23 October 2017**
Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	15.1	Deg C	25/10/2017	N	Cov	FIELD
pH	7.0	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	2320	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	112	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	146	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	148	mg/l	27/10/2017	Y	Cov	WAS040
Water Level to top of Casing	2.50	m	25/10/2017	N	Cov	COM05

Analyst Comments for 16524142: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**
Laboratory Number: **16524143** Sample **10** of **19**

Sample Source: **Caerphilly County B.C.**
Sample Point Description: **NBH3**
Sample Description: **NBH3**
Sample Matrix: **Ground Water**
Sample Date/Time: **23 October 2017** **11:20**
Sample Received: **23 October 2017**
Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	14.6	Deg C	25/10/2017	N	Cov	FIELD
pH	6.8	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	958	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	9.23	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	23.2	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	2.2	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	65.0	mg/l	27/10/2017	Y	Cov	WAS040
Water Level to top of Casing	5.95	m	25/10/2017	N	Cov	COM05

Analyst Comments for 16524143: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**

Laboratory Number: **16524144** Sample **11** of **19**

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

Sample Point Description: **NBH5**

Sample Description: **NBH5**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 October 2017** **10:45**

Sample Received: **23 October 2017**

Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	12.6	Deg C	25/10/2017	N	Cov	FIELD
pH	6.6	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	636	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	0.90	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	14.9	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	2.0	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	25.0	mg/l	27/10/2017	Y	Cov	WAS040
Water Level to top of Casing	5.82	m	25/10/2017	N	Cov	COM05

Analyst Comments for 16524144: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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

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Report Number: **COV/1455379/2017** Issue **1**

Laboratory Number: **16524145** Sample **12** of **19**

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

Sample Point Description: **NBH6**

Sample Description: **NBH6**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 October 2017** **10:35**

Sample Received: **23 October 2017**

Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	11.5	Deg C	25/10/2017	N	Cov	FIELD
pH	6.9	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	260	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	6.0	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	6.1	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	86.0	mg/l	27/10/2017	Y	Cov	WAS040
Water Level to top of Casing	10.05	m	25/10/2017	N	Cov	COM05

Analyst Comments for 16524145: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

Certificate of Analysis

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4409

Report Number: **COV/1455379/2017** Issue **1**

Laboratory Number: **16524146** Sample **13** of **19**

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

Sample Point Description: **W1**

Sample Description: **W1**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 October 2017** **09:45**

Sample Received: **23 October 2017**

Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	11.4	Deg C	25/10/2017	N	Cov	FIELD
pH	7.6	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	255	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	14.0	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	5.9	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	22.0	mg/l	27/10/2017	Y	Cov	WAS040

Analyst Comments for 16524146: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**

Laboratory Number: **16524147** Sample **14** of **19**

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

Sample Point Description: **W2**

Sample Description: **W2**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 October 2017** **09:50**

Sample Received: **23 October 2017**

Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	11.5	Deg C	25/10/2017	N	Cov	FIELD
pH	7.5	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	443	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	2.27	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	34.6	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	8.9	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	24.0	mg/l	27/10/2017	Y	Cov	WAS040

Analyst Comments for 16524147: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

Certificate of Analysis

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Report Number: **COV/1455379/2017** Issue **1**

Laboratory Number: **16524148** Sample **15** of **19**

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

Sample Point Description: **W3**

Sample Description: **W3**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 October 2017** **09:55**

Sample Received: **23 October 2017**

Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	11.4	Deg C	25/10/2017	N	Cov	FIELD
pH	7.6	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	257	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	0.77	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	12.9	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	7.2	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	37.0	mg/l	27/10/2017	Y	Cov	WAS040

Analyst Comments for 16524148: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**

Laboratory Number: **16524149** Sample **16** of **19**

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

Sample Point Description: **W5**

Sample Description: **W5**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 October 2017** **11:05**

Sample Received: **23 October 2017**

Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	13.0	Deg C	25/10/2017	N	Cov	FIELD
pH	7.2	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	151	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	0.59	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	12.1	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	3.8	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	22.0	mg/l	27/10/2017	Y	Cov	WAS040

Analyst Comments for 16524149: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

Certificate of Analysis

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Report Number: **COV/1455379/2017** Issue **1**

Laboratory Number: **16524150** Sample **17** of **19**

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

Sample Point Description: **Land Drain 1**

Sample Description: **Land Drain 1a**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 October 2017** **10:05**

Sample Received: **23 October 2017**

Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	13.5	Deg C	25/10/2017	N	Cov	FIELD
pH	7.3	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	805	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	8.64	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	56.7	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	5.7	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	32.0	mg/l	27/10/2017	Y	Cov	WAS040

Analyst Comments for 16524150: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**

Laboratory Number: **16524151** Sample **18** of **19**

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

Sample Point Description: **Land Drain 1**

Sample Description: **Land Drain 1b**

Sample Matrix: **Ground Water**

Sample Date/Time: **23 October 2017** **10:08**

Sample Received: **23 October 2017**

Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	16.7	Deg C	25/10/2017	N	Cov	FIELD
pH	7.6	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	1950	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	75.3	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	135	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	5.1	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	105	mg/l	27/10/2017	Y	Cov	WAS040

Analyst Comments for 16524151: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

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Report Number: **COV/1455379/2017** Issue **1**
Laboratory Number: **16524152** Sample **19** of **19**

Sample Source: **Caerphilly County B.C.**
Sample Point Description: **Land Drain 2**
Sample Description: **Land Drain 2**
Sample Matrix: **Ground Water**
Sample Date/Time: **23 October 2017** **10:25**
Sample Received: **23 October 2017**
Analysis Complete: **03 November 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Field Temperature	12.4	Deg C	25/10/2017	N	Cov	FIELD
pH	7.9	pH units	02/11/2017	Y	Cov	WAS039
Conductivity- Electrical 20C	898	uS/cm	25/10/2017	Y	Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	25/10/2017	N	Cov	WAS036
Chloride as Cl	102	mg/l	25/10/2017	N	Cov	WAS036
Dissolved Oxygen, Fixed	7.7	mg/l	25/10/2017	Y	Cov	WAS052
COD (Total)	19.0	mg/l	27/10/2017	Y	Cov	WAS040

Analyst Comments for 16524152: This sample has been analysed for pH 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(CH4 9EP), 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. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed: G Coiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

ANALYST COMMENTS FOR REPORT COV/1455379/2017 Issue 1

This issue replaces all previous issues

Date of Issue: **03 November 2017**

Sample No	Analysis Comments
16524134	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised. {/*}Ammonia analysed by colorimetric analysis.{*/}
16524135	This sample has been analysed for pH, Ammoniacal Nitrogen as N outside recommended stability times. It is therefore possible that the results provided may be compromised. {/*}Ammonia analysed by colorimetric analysis.{*/}
16524136	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised. {/*}Ammonia analysed by colorimetric analysis.{*/}
16524137	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524138	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524139	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524140	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524141	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524142	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524143	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524144	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524145	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524146	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524147	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524148	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524149	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524150	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524151	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.
16524152	This sample has been analysed for pH outside recommended stability times. It is therefore possible that the results provided may be compromised.

Signed: CAColley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**

DETERMINAND COMMENTS FOR REPORT COV/1455379/2017

ISSUE 1

This issue replaces all previous issues

Date of Issue: 03 November 2017

Sample No	Description	Determinand	Comments

Signed: GCoiley

Name: **G. Coiley** Date: **03 November 2017**

Title: **Group Projects and IT Manager**