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**Ms John**  
**Caerphilly County B.C.**  
**Civic Centre**  
**Pontlanfraith**  
**Blackwood NP12 2YW**  
**Caerphilly**

02 March 2016

**Test Report: COV/1258767/2016**

Dear Ms John

Analysis of your sample(s) submitted on 17 February 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: R. Stocks

Title: Inorganic Team Leader



# Report Summary



**Ms Maria John  
Caerphilly County B.C.  
Civic Centre  
Pontlanfraith  
Blackwood  
Caerphilly  
NP12 2YW**

Date of Issue: **02 March 2016**

Report Number: **COV/1258767/2016**

Issue **1**

**Job Description:** Trehir Landfill Site

**Job Location:** Caerphilly

Number of Samples  
included in this report **21**

Job Received: **17 February 2016**

Number of Test Results  
included in this report **155**

Analysis Commenced: **17 February 2016**

Signed:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

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.

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# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126747**

Sample **1** of **21**

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

Sample Point Description: **03**

Sample Description: **03**

Sample Matrix: **Land Leachate**

Sample Date/Time: **17 February 2016 12:00**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.0	Deg C	17/02/2016	N Cov	FIELD
pH	8.0	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1890	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	95.7	mg/l	20/02/2016	Y Cov	WAS055
BOD + ATU (5 day)	5	mg/l	25/02/2016	N Cov	WAS001
COD (Total)	125	mg/l	22/02/2016	Y Cov	WAS040
Chloride as Cl, High Level	143	mg/l	29/02/2016	Y Cov	WAS036

Analyst Comments for 15126747:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126748**

Sample **2** of **21**

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

Sample Point Description: **08**

Sample Description: **08**

Sample Matrix: **Land Leachate**

Sample Date/Time: **17 February 2016 09:45**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.7	Deg C	17/02/2016	N Cov	FIELD
pH	8.3	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1350	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	52.6	mg/l	20/02/2016	Y Cov	WAS055
BOD + ATU (5 day)	4	mg/l	25/02/2016	N Cov	WAS001
COD (Total)	121	mg/l	22/02/2016	Y Cov	WAS040
Chloride as Cl, High Level	170	mg/l	29/02/2016	Y Cov	WAS036

Analyst Comments for 15126748:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126749**

Sample **3** of **21**

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

Sample Point Description: **MHL28**

Sample Description: **MHL28**

Sample Matrix: **Land Leachate**

Sample Date/Time: **17 February 2016 10:40**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.8	Deg C	17/02/2016	N Cov	FIELD
pH	8.3	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1520	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	74.3	mg/l	20/02/2016	Y Cov	WAS055
BOD + ATU (5 day)	2	mg/l	25/02/2016	N Cov	WAS001
COD (Total)	95.0	mg/l	22/02/2016	Y Cov	WAS040
Chloride as Cl, High Level	117	mg/l	29/02/2016	Y Cov	WAS036

Analyst Comments for 15126749:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126750**

Sample **4** of **21**

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

Sample Point Description: **N2**

Sample Description: **N2**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 09:15**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	10.1	Deg C	17/02/2016	N Cov	FIELD
pH	7.7	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	197	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	8.9	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	3.9	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	20.0	mg/l	22/02/2016	Y Cov	WAS040
Water Level to top of Casing	6.10	m	17/02/2016	N Cov	IN SITU M

Analyst Comments for 15126750:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126751**

Sample **5** of **21**

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

Sample Point Description: **N6**

Sample Description: **N6**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 12:10**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	11.1	Deg C	17/02/2016	N Cov	FIELD
pH	7.4	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	910	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	17.9	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	54.8	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	39.0	mg/l	22/02/2016	Y Cov	WAS040
Water Level to top of Casing	<0.1	m	17/02/2016	N Cov	IN SITU M

Analyst Comments for 15126751:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126752**

Sample **6** of **21**

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

Sample Point Description: **N8**

Sample Description: **N8**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 10:10**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.0	Deg C	17/02/2016	N Cov	FIELD
pH	8.0	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	874	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	4.42	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	175	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	53.0	mg/l	22/02/2016	Y Cov	WAS040
Water Level to top of Casing	3.26	m	23/02/2016	N Cov	IN SITU M

Analyst Comments for 15126752:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

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# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126753**

Sample **7** of **21**

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

Sample Point Description: **NBH1**

Sample Description: **NBH1**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 11:55**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.0	Deg C	23/02/2016	N Cov	FIELD
pH	7.6	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1220	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	18.8	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	74.0	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	2.1	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	121	mg/l	22/02/2016	Y Cov	WAS040
Water Level to top of Casing	5.84	m	17/02/2016	N Cov	IN SITU M

Analyst Comments for 15126753:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126754**

Sample **8** of **21**

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

Sample Point Description: **NBH3**

Sample Description: **NBH3**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 11:40**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.2	Deg C	23/02/2016	N Cov	FIELD
pH	7.1	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	725	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	8.16	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	45.6	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	4.3	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	149	mg/l	22/02/2016	Y Cov	WAS040
Water Level to top of Casing	5.60	m	17/02/2016	N Cov	IN SITU M

Analyst Comments for 15126754:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

**ALS Environmental Ltd**

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

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126755**

Sample **9** of **21**

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

Sample Point Description: **NBH4**

Sample Description: **NBH4**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 11:00**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.0	Deg C	23/02/2016	N Cov	FIELD
pH	7.2	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	513	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	11.3	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	2.7	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	112	mg/l	22/02/2016	Y Cov	WAS040
Water Level to top of Casing	15.90	m	17/02/2016	N Cov	IN SITU M

Analyst Comments for 15126755:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126756**

Sample **10** of **21**

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

Sample Point Description: **NBH5**

Sample Description: **NBH5**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 10:20**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.6	Deg C	23/02/2016	N Cov	FIELD
pH	7.3	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	458	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	0.94	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	17.3	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	2.2	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	35.0	mg/l	22/02/2016	Y Cov	WAS040
Water Level to top of Casing	6.20	m	17/02/2016	N Cov	IN SITU M

Analyst Comments for 15126756:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

**ALS Environmental Ltd**

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# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126757**

Sample **11** of **21**

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

Sample Point Description: **NBH6**

Sample Description: **NBH6**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 10:05**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.0	Deg C	23/02/2016	N Cov	FIELD
pH	7.4	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	116	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	12.2	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	6.5	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	56.0	mg/l	22/02/2016	Y Cov	WAS040
Water Level to top of Casing	10.73	m	17/02/2016	N Cov	IN SITU M

Analyst Comments for 15126757:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

**ALS Environmental Ltd**

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

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# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126758**

Sample **12** of **21**

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

Sample Point Description: **W1**

Sample Description: **W1**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 09:10**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	11.1	Deg C	17/02/2016	N Cov	FIELD
pH	8.1	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	654	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	119	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	11.1	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	22.0	mg/l	22/02/2016	Y Cov	WAS040

Analyst Comments for 15126758:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126759**

Sample **13** of **21**

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

Sample Point Description: **W2**

Sample Description: **W2**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 09:10**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	11.2	Deg C	17/02/2016	N Cov	FIELD
pH	7.9	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	429	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	1.00	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	62.3	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	9.9	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	24.0	mg/l	22/02/2016	Y Cov	WAS040

Analyst Comments for 15126759:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126760**

Sample **14** of **21**

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

Sample Point Description: **W3**

Sample Description: **W3**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 09:25**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	11.1	Deg C	17/02/2016	N Cov	FIELD
pH	7.8	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	666	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	119	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	10.7	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	20.0	mg/l	22/02/2016	Y Cov	WAS040

Analyst Comments for 15126760:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126761**

Sample **15** of **21**

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

Sample Point Description: **W5**

Sample Description: **W5**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 10:25**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.0	Deg C	17/02/2016	N Cov	FIELD
pH	7.6	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	112	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	15.1	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	10.8	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	19.0	mg/l	22/02/2016	Y Cov	WAS040

Analyst Comments for 15126761:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126762**

Sample **16** of **21**

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

Sample Point Description: **Groundwater Sump**

Sample Description: **Sump**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 10:35**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	14.2	Deg C	17/02/2016	N Cov	FIELD
pH	7.4	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	934	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	5.20	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	117	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	<0.5	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	7510	mg/l	22/02/2016	Y Cov	WAS040

Analyst Comments for 15126762:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126763**

Sample **17** of **21**

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

Sample Point Description: **W1**

Sample Description: **W1-Upper**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 10:15**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.6	Deg C	17/02/2016	N Cov	FIELD
pH	8.0	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	204	uS/cm	23/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	13.2	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	10.2	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	28.0	mg/l	22/02/2016	Y Cov	WAS040

Analyst Comments for 15126763:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126764**

Sample **18** of **21**

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

Sample Point Description: **W1**

Sample Description: **W1-Middle**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 10:10**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.0	Deg C	17/02/2016	N Cov	FIELD
pH	8.0	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	204	uS/cm	26/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	13.7	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	10.6	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	38.0	mg/l	22/02/2016	Y Cov	WAS040

Analyst Comments for 15126764:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126765**

Sample **19** of **21**

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

Sample Point Description: **Land Drain 1**

Sample Description: **Land Drain 1a**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 09:50**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.9	Deg C	17/02/2016	N Cov	FIELD
pH	8.4	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1860	uS/cm	26/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	96.4	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	152	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	5.3	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	127	mg/l	22/02/2016	Y Cov	WAS040

Analyst Comments for 15126765:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126766**

Sample **20** of **21**

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

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

Sample Description: **Land Drain 1b**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 09:52**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	12.2	Deg C	17/02/2016	N Cov	FIELD
pH	8.0	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	563	uS/cm	26/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	2.58	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	84.8	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	6.2	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	61.0	mg/l	22/02/2016	Y Cov	WAS040

Analyst Comments for 15126766:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

# Certificate of Analysis



Report Number: **COV/1258767/2016**

Issue **1**

Laboratory Number: **15126767**

Sample **21** of **21**

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

Sample Point Description: **Land Drain 2**

Sample Description: **Land Drain 2**

Sample Matrix: **Ground Water**

Sample Date/Time: **17 February 2016 09:40**

Sample Received: **17 February 2016**

Analysis Complete: **02 March 2016**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Field Temperature	13.2	Deg C	17/02/2016	N Cov	FIELD
pH	8.3	pH units	23/02/2016	Y Cov	WAS039
Conductivity- Electrical 20C	536	uS/cm	26/02/2016	Y Cov	WAS039
Ammoniacal Nitrogen as N	<0.41	mg/l	18/02/2016	N Cov	WAS036
Chloride as Cl	45.9	mg/l	18/02/2016	N Cov	WAS036
Dissolved Oxygen, Fixed	10.4	mg/l	19/02/2016	Y Cov	WAS052
COD (Total)	40.0	mg/l	22/02/2016	Y Cov	WAS040

Analyst Comments for 15126767:

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:

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

**ANALYST COMMENTS FOR REPORT**

**COV/1258767/2016**

**Issue 1**

Date of Issue: **02 March 2016**

Sample No	Analysis Comments
15126747	
15126748	
15126749	
15126750	
15126751	
15126752	
15126753	
15126754	
15126755	
15126756	
15126757	
15126758	
15126759	
15126760	
15126761	
15126762	
15126763	
15126764	
15126765	
15126766	
15126767	

Signed: 

Name: **R. Stocks**

Date: **02 March 2016**

Title: **Inorganic Team Leader**

DETERMINAND COMMENTS FOR REPORT COV/1258767/2016

ISSUE 1

Date of Issue : 02 March 2016

Sample No	Description	Determinand	Comments

Signed: 

Name: R. Stocks

Date: 02 March 2016

Title: Inorganic Team Leader