

**Primary Discharge
SWO1 - Coachford
145231E 072297N**

Coachford Septic Tank

NOTES

1. Dimensions are not to be scaled from drawing.
2. This drawing is to be read in conjunction with the WWDL Application.
3. This drawing is to be read in conjunction with all other application drawings.



Cork County Council,
Southern Division.

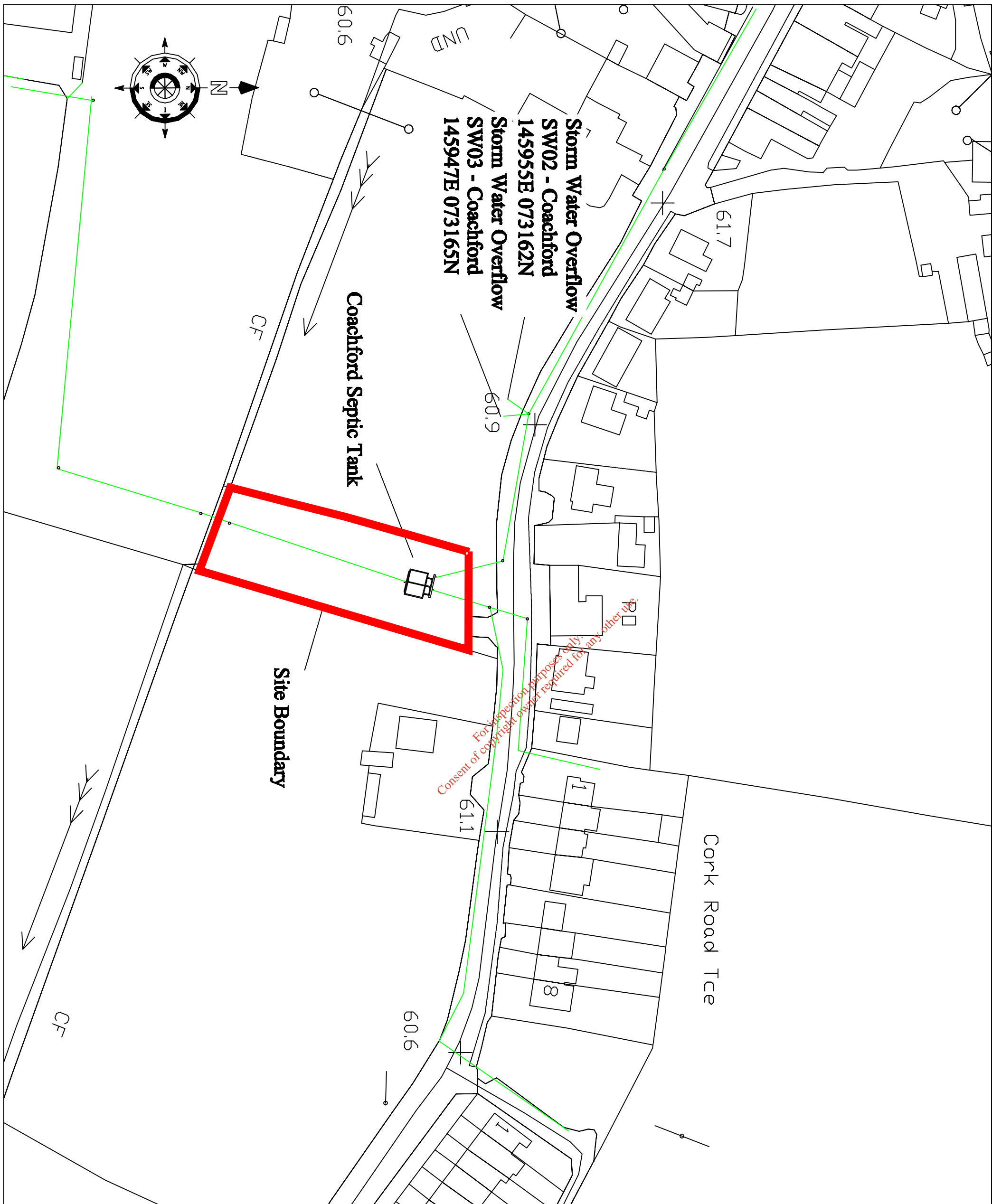
PATRICIA POWER
DIRECTOR OF SERVICES
COUNTY HALL,
CORK.

Job Title:
**Coachford
Wastewater Discharge
Licence Application**

Drawing Title:
**General Site Layout 2
C1 Map 8**

Scale:	1:25000 @ A3	Surveyed by:	LL	Drawn by:	LLATH
Designed by:	NO'M	Checked by:	NO'M	Date:	June 2009
Drawing number:	C1 Map 8	Rev:	-		

Date	Drawn/Checked	Revision Description



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Cork County Council,
Southern Division.

PATRICIA POWER
DIRECTOR OF SERVICES
COUNTY HALL,
CORK.

Job Title:
**Coachford
Wastewater Discharge
Licence Application**

Drawing Title:

**Septic Tank
General Site Layout 2
C1 Map 9**

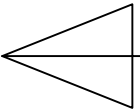
Scale:	1:1000 @ A3	Drawn by:	LLA TH
Designed by:	LL	Checked by:	LLA TH
Drawing number:	N.A./M	Date:	June 2009
		Rev:	-

Storm Overflow

Inflow

Primary Settlement Tank

Outfall to River Lee
145231E 072297N



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DIRECTOR OF SERVICES
COUNTY HALL,
CORK.

Job Title:
**Coachford
Wastewater Discharge
Licence Application**

Drawing Title:
**Coachford
Process Flow Diagram
C1 - Drawing 1**

Scale:	Drawn by:
Not to Scale	LL & TM
Designed by:	Date:
N.A.M	June 2009
Drawing number:	Rev:
C1 - Drawing 1	-

Accreditation Certificate

Cork County Council

Wastewater Testing Laboratory, Inniscarra, Co. Cork

Testing Laboratory

Registration number: **016T**

is accredited by the Irish National Accreditation Board (INAB) to undertake testing as detailed in the Schedule bearing the Registration Number detailed above, in compliance with the International Standard ISO/IEC 17025:2005 2nd Edition "General Requirements for the Competence of Testing and Calibration Laboratories"
(This Certificate must be read in conjunction with the Annexed Schedule of Accreditation)

Date of award of accreditation: **01:10:2002**

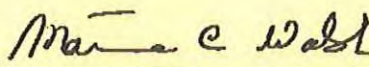
Date of last renewal of accreditation: **20:09:2007**

Expiry date of this certificate of accreditation: **20:09:2012**

This Accreditation shall remain in force until further notice subject to continuing compliance with INAB accreditation criteria, ISO/IEC 17025 and any further requirements specified by the Irish National Accreditation Board.

Manager: 

Mr Tom Dempsey

Chairperson: 

Dr Máire Walsh

Issued on 20th September 2007

Organisations are subject to annual surveillance and are re-assessed every five years. The renewal date on this Certificate confirms the latest date of renewal of accreditation. To confirm the validity of this Certificate, please contact the Irish National Accreditation Board.

The INAB is a signatory of the European co-operation for Accreditation (EA) Testing Multilateral Agreement (MLA) and the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement.

Schedule of Accreditation



(Annex to Accreditation Certificate)

Permanent Laboratory:
Category A

CORK COUNTY COUNCIL

Chemistry Testing Laboratory

Initial Registration Date : 25-April-1991
Postal Address: Waste Water Laboratory
(Address of other locations as they apply) Inniscarra
Co. Cork
Telephone: +353 (21) 4532700
Fax: +353 (21) 4532777
E-mail:
Contact Name: Ms M Cherry
Facilities: Normally not available for Public testing

Schedule of Accreditation



Permanent Laboratory:
Category A

THE IRISH NATIONAL ACCREDITATION BOARD (INAB) is the Irish body for the accreditation of organisations including laboratories.

Laboratory accreditation is available to testing and calibration facilities operated by manufacturing organisations, government departments, educational institutions and commercial testing/calibration services. Indeed, any organisation involved in testing, measurement or calibration in any area of technology can seek accreditation for the work it is undertaking.

Each accredited laboratory has been assessed by skilled specialist assessors and found to meet criteria which are in compliance with ISO/IEC 17025 or ISO/IEC 15189 (medical laboratories). Frequent audits, together with periodic inter-laboratory test programmes, ensure that these standards of operation are maintained.

Testing and Calibration Categories:

- Category A:** Permanent laboratory calibration and testing where the laboratory is erected on a fixed location for a period expected to be greater than three years.
- Category B:** Site calibration and testing that is performed by staff sent out on site by a permanent laboratory that is accredited by the Irish National Accreditation Board.
- Category C:** Site calibration and testing that is performed in a site/mobile laboratory or by staff sent out by such a laboratory, the operation of which is the responsibility of a permanent laboratory accredited by the Irish National Accreditation Board.
- Category D:** Site calibration and testing that is performed on site by individuals and organisations that do not have a permanent calibration/testing laboratory. Testing may be performed using
- portable test equipment
 - a site laboratory
 - a mobile laboratory or
 - equipment from a mobile or site laboratory

Standard Specification or Test Procedure Used:

The standard specification or test procedure that is accredited is the issue that is current on the date of the most recent visit, unless otherwise stated.

Glossary of Terms

Facilities:

- Public calibration/testing service:** Commercial operations which actively seek work from others.
- Conditionally available for public calibration/testing:** Established for another primary purpose but, more commonly than not, is available for outside work.
- Normally not available for public calibration/testing:** Unavailable for public calibration/testing more often than not.

Laboratory users wishing to obtain assurance that calibration or test results are reliable and carried out to the Irish National Accreditation Board criteria should insist on receiving an accredited calibration certificate or test report. Users should contact the laboratory directly to ensure that this scope of accreditation is current. INAB will, on request, verify the status and scope.

Scope of Accreditation



Cork County Council
Chemical Testing Laboratory

Permanent Laboratory:
 Category A

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters .01 Waters for domestic purposes <i>Surface and ground waters</i>	<p>Chemical analysis:</p> <p>Biochemical Oxygen Demand 2 - 145,000 mg/l</p> <p>Chloride 5 - 1,000 mg/l</p> <p>ph 2 - 12</p> <p>Suspended Solids 0.5 - 17,500 mg/l</p> <p>Chemical Oxygen Demand 21 - 135 mg/l 120 - 670,000 mg/l</p> <p>Total phosphorus 0.2 - 5,300 mg/l</p> <p>Ammonia 0.1 - 1,000 mg/l NH₃ - N</p>	<p>Documented in-house methods based on Standard Methods for the Examination of Water & Wastewater 21 st Edition APHA (See Note 1)</p> <p>CP No. 1 Membrane electrode</p> <p>CP No. 7 Argentometric method</p> <p>CP No. 5 Electrometry</p> <p>CP No. 3 Gravimetric</p> <p>CP No. 6 Reflux - colourmetric method</p> <p>US-EPA Approved method/HACH Method CP No.20</p> <p>Documented in-house method CP22 by Konelab based on Method for the Examination of Waters and Associated Material HMSO:1981</p>

Scope of Accreditation



Cork County Council
Chemical Testing Laboratory

Permanent Laboratory:
 Category A

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766 Waters .01 Waters for domestic purposes <i>Surface and ground waters</i>	Orthophosphate as P (Konelab) Range: 0.005-1.00 mg O-PO4 P/L High Range: 1000 mg O-PO4 P/L Method Detection Limit: 0.02 mg O-PO4 P/L Chloride (Konelab) Range: 25-250 mg/L Cl- High Range Conc.: 86,000 mg/L Cl- Method Detection Limit: 25 mg/L Cl- Sulphate (Konelab) Range: 30-250 mg/L SO4/L High Range Conc.: 35,000 mg/L SO4/L Method Detection Limit: 30 mg SO4/L	CP No. 23 Ascorbic Acid Method CP No. 24 Ferricyanide Method CP No. 25 Documented in-house method by Konelab based on method for the examination of waters and waste waters and associated material HMSO: 1981

Scope of Accreditation



Cork County Council Chemical Testing Laboratory

Permanent Laboratory:
Category A

INAB Classification number (P9)	Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
766	Waters	Chemical analysis	Documented in-house methods based on Standard Methods for the Examination of Water & Wastewater 21 st Edition APHA (See Note 1)
.05	Trade Wastes <i>Industrial effluents</i> <i>Urban Wastewater</i> <i>Municipal Wastewater</i>	Biochemical Oxygen Demand 2 - 145,000 mg/l Chloride 5 - 1,000 mg/l pH 2 - 12 Suspended Solids 0.5 - 17,500 mg/l Chemical Oxygen Demand 21 - 135 mg/l 120 - 670,000 mg/l Total phosphorus 0.2 - 5,300 mg/l Ammonia 0.1 - 1,000 mg/l NH ₃ -N	CP No. 1 Membrane electrode CP No. 7 Argentometric method CP No. 5 Electrometry CP No. 3 Gravimetric CP No. 6 Reflux - colourmetric method US-EPA Approved method/HACH Method CP No.20 Documented in-house method CP22 by Konelab based on Method for the Examination of Waters and Associated Material HMSO: 1981.

Notes
1. APHA American Public Health Association, USA, 21st Edition

Scope of Accreditation



Cork County Council

Permanent Laboratory:

Chemical Testing Laboratory

Category A

INAB Classification number (P9)	Type of test/properties measured	Standard specifications
Materials/products tested	Range of measurement	Equipment/techniques used
766 Waters	Chemical analysis	Documented in-house methods based on Standard Methods for the Examination of Water & Wastewater 21 st Edition APHA (See Note 1)
.05 Trade Wastes <i>Industrial effluents</i> <i>Urban Wastewater</i> <i>Municipal Wastewater</i>	Orthophosphate as P (Konelab) Range: 0.005 - 1.00 mg O-PO4 P/L High Range: 1000 mg O-PO4 P/L Method Detection Limit: 0.02 mg O-PO4 P/L	CP No. 1 Membrane electrode CP No. 23 Ascorbic Acid Method
	Chloride (Konelab) Range: 25-250 mg/L Cl- High Range Conc.: 86,600 mg /L Cl- Method Detection Limit: 25mg / L Cl-	CP No. 24 Ferricyanide Method
	Sulphate (Konelab)) Range: 30-250 mg/L SO4 /L High Range Conc.: 35,000 mg/L SO4 /L Method Detection Limit: 30 mg SO4 /L	CP No. 25 Documented in-house method by Konelab based on method for the examination of waters and waste waters and associated material HMSO: 1981

Notes
1. APHA American Public Health Association, USA, 21st Edition

Attachment E4 Coachford Inlet Table E4

Sample Date	28/01/2009				
Sample	Influent	Influent	Influent	Influent	Average
Sample Code	GT147				
Flow M ³ /Day	*				
pH	6.9				
Temperature °C	*				
Cond 20 °C	328				
SS mg/L	13				
NH ₃ mg/L	4.3				
BOD mg/L	27				
COD mg/L	42				
TN mg/L	12.4				
Nitrite mg/L	0.0527				
Nitrate mg/L	9.5				
TP mg/L	3				
O-PO ₄ -P mg/L	0.36				
SO ₄ mg/L	<30				
Phenols µg/L	<0.10				
Atrazine µg/L	<0.01				
Dichloromethane µg/L	<1				
Simazine µg/L	<0.01				
Toluene µg/L	<1				
Tributyltin µg/L	*				
Xylenes µg/L	<1				
Arsenic µg/L	<0.96				
Chromium ug/L	<20				
Copper ug/L	<20				
Cyanide µg/L	<5				
Fluoride µg/L	31				
Lead ug/L	<20				
Nickel ug/L	<20				
Zinc ug/L	<20				
Boron ug/L	<20				
Cadmium ug/L	<20				
Mercury µg/L	2				
Selenium µg/L	1.4				
Barium ug/L	62				

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Attachment E4 Coachford Discharge Outlet Table E4

Sample Date	07/02/2008	19/06/2008	10/07/2008	03/09/2008	09/10/2008	16/10/2008	22/01/2009	28/01/2009	12/02/2009	02/04/2009	06/05/2009				
Sample	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Average	Kg/Day	Kg/year
Sample Code	GS059	GS576	GS631	GS846	GS1035	GS1091	GT070	GT146	GT199	GT440	GT621				
Flow M ³ /Day	*	*	*	*	*	*	*	*	*	*	*				
pH	6.9	7.3	*	7.3	*	7	6.7	6.8	*	7.4	7.3		7.0875		
Temperature °C	*	*	*	*	*	*	*	*	*	*	*				
Cond 20°C	*	587	449	345	*	*	*	335	*	*	480		439.2		
SS mg/L	15	69	63	103	46	33	18	17	57	71	35		47.90909		
NH ₃ mg/L	5.1		10.8	12.9	*	14.3	1.4	4.9	*	*	*		8.233333		
BOD mg/L	29.05	127	40	83	1.3	57	22	30	67	135	72		60.30455		
COD mg/L	60	336	133	191	324	99	40	55	108	310	125		161.9091		
TN mg/L	40	*	16.9	28	*	*	11.2	12.1	16	56.7	*		25.84286		
Nitrite mg/L	*	*	*	*	*	*	*	0.077	*	*	*		0.077		
Nitrate mg/L	*	*	*	*	*	*	*	9.42	*	*	*		9.42		
TP mg/L	0.8	4.5	2.3	2.3	*	*	1.9	3.3	1.6	4.2	*		2.6125		
O-PO ₄ -P mg/L	0.43	2.74	<0.05	*	*	1.14	*	0.39	*	*	*		1.175		
SO ₄ mg/L	<30	*	*	*	*	*	<30	<30	*	*	*		<30		
Phenols µg/L	*	*	*	*	*	*	*	<0.10	*	*	*		<0.10		
Atrazine µg/L	*	*	*	*	*	*	*	<0.01	*	*	*		<0.01		
Dichloromethane	*	*	*	*	*	*	*	<1	*	*	*		<1		
Simazine µg/L	*	*	*	*	*	*	*	<0.01	*	*	*		<0.01		
Toluene µg/L	*	*	*	*	*	*	*	<1	*	*	*		<1		
Tributyltin µg/L	*	*	*	*	*	*	*	*	*	*	*		*		
Xylenes µg/L	*	*	*	*	*	*	*	<1	*	*	*		<1		
Arsenic µg/L	*	*	*	*	*	*	*	<0.96	*	*	*		<0.96		
Chromium ug/L	<20	<20	<20	<20	*	*	<20	<20	<20	*	*		<20		
Copper ug/L	10	10	50	10	*	*	10	10	10	*	*		15.71429		
Cyanide µg/L	*	*	*	*	*	*	*	<5	*	*	*		<5		
Fluoride µg/L	*	*	*	*	*	*	*	31	*	*	*		31		
Lead ug/L	25	61	10	10	*	*	10	10	10	*	*		19.42857		
Nickel ug/L	<20	<20	<20	<20	*	*	<20	<20	<20	*	*		<20		
Zinc ug/L	10	45	43	10	*	*	10	10	307	*	*		62.14286		
Boron ug/L	10	444	132	10	*	*	46	10	10	*	*		94.57143		
Cadmium ug/L	<20	<20	<20	<20	*	*	<20	<20	<20	*	*		<20		
Mercury µg/L	*	*	*	*	*	*	*	<0.2	*	*	*		<0.2		
Selenium µg/L	*	*	*	*	*	*	*	2.5	*	*	*		2.5		
Barium ug/L	61	115	144	67	*	*	74	65	77	*	*		86.14286		

1/2 LOD for statistical purposes

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Attachment E4 Coachford Upstream Table E4

Sample Date	28/01/2009	02/04/2009					
Sample	River	River	River	River	River	River	Average
Sample Code	GT148	GT441					
Flow M ³ /Day	*	*					
pH	7.3	*					7.3
Temperature °C	*	*					
Cond 20°C	114	*					114
SS mg/L	<2.5	*					
NH ₃ mg/L	<0.1	*					
BOD mg/L	<1	*					
COD mg/L	<21	*					
TN mg/L	1.6	*					1.6
Nitrite mg/L	0.00478	*					0.00478
Nitrate mg/L	1.4	*					1.4
TP mg/L	<0.20	*					<0.20
O-PO ₄ -P mg/L	<0.05	<0.05					<0.05
SO ₄ mg/L	30	*					30
Phenols µg/L	<0.10	*					<0.10
Atrazine µg/L	<0.01	*					<0.01
Dichloromethane	<1	*					<1
Simazine µg/L	<0.01	*					<0.01
Toluene µg/L	<1	*					<1
Tributyltin µg/L	*	*					*
Xylenes µg/L	<1	*					<1
Arsenic µg/L	<0.96	*					<0.96
Chromium ug/L	<20	<20					<20
Copper ug/L	<20	<20					<20
Cyanide µg/L	<5	*					<5
Fluoride µg/L	38	*					38
Lead ug/L	<20	<20					<20
Nickel ug/L	<20	<20					<20
Zinc ug/L	<20	<20					<20
Boron ug/L	<20	<20					<20
Cadmium ug/L	<20	<20					<20
Mercury µg/L	<0.2	*					<0.2
Selenium µg/L	1	*					1
Barium ug/L	62	75.7					68.85

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Attachment E4 Coachford Downstream Table E4

Sample Date	28/01/2009	02/04/2009					
Sample	River	River	River	River	River	River	Average
Sample Code	GT149	GT442					
Flow M ³ /Day	*	*					
pH	7.2	*					7.2
Temperature °C	*	*					
Cond 20°C	116	*					116
SS mg/L	<2.5	*					
NH ₃ mg/L	<0.1	*					
BOD mg/L	<1	*					
COD mg/L	<21	*					
TN mg/L	1.8	*					1.8
Nitrite mg/L	0.00502	*					0.00502
Nitrate mg/L	1.64	*					1.64
TP mg/L	<0.20	*					<0.20
O-PO ₄ -P mg/L	<0.05	<0.05					<0.05
SO ₄ mg/L	<30	*					<30
Phenols µg/L	<0.10	*					<0.10
Atrazine µg/L	<0.01	*					<0.01
Dichloromethane	<1	*					<1
Simazine µg/L	<0.01	*					<0.01
Toluene µg/L	<1	*					<1
Tributyltin µg/L	*	*					*
Xylenes µg/L	<1	*					<1
Arsenic µg/L	<0.96	*					<0.96
Chromium ug/L	<20	<20					<20
Copper ug/L	<20	<20					<20
Cyanide µg/L	<5	*					<5
Fluoride µg/L	33	*					33
Lead ug/L	<20	<20					<20
Nickel ug/L	<20	<20					<20
Zinc ug/L	<20	<20					<20
Boron ug/L	<20	<20					<20
Cadmium ug/L	<20	<20					<20
Mercury µg/L	<0.2	*					<0.2
Selenium µg/L	0.8	*					0.8
Barium ug/L	62	<20					62

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