

Appendix I

Water Quality





Customer Name:		Date Sampled:	13/11/2014
Company Name:	Fehily Timoney	Date Received:	13/11/2014
Address:	Core House	Date Analysis Started:	13/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 1
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3317		

TEST REPORT

Parameter	Result	Units	Method
pH	8.43	pH units	SOP004
Ammonia	0.30	mg/l NH3-N	SOP007
Total Suspended Solids	10	mg/l	SOP003
Total Phosphorous	0.46	mg/l P	SOP006
Nitrite	0.004	mg/l NO2-N	SOP009
Conductivity	353	µS/cm @ 20°C	SOP010
Dissolved Oxygen	10.10	mg/l O2	SOP013
BOD	<2	mg/l O2	SOP001
Turbidity	14.28	NTU	SOP036
Chloride	20.3	mg/l Cl-	SOP033
Sulphate	<2	mg/l SO4 ²⁻	SOP017
Alkalinity (Total)	162	mg/l CaCO3	SOP022
Reactive Phosphorous	0.35	mg/l P	SOP011
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C



Customer Name:		Date Sampled:	13/11/2014
Company Name:	Fehily Timoney	Date Received:	13/11/2014
Address:	Core House	Date Analysis Started:	13/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 1
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3317		

TEST REPORT

Parameter	Result	Units	Method
Nitrate	1.1	mg/l NO3-N	SOP008
Dissolved Inorganic Nitrogen	1.400	mg/l	SOP110
Total Oxidised Nitrogen	1.104	mg/l	SOP105

Comments:	
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Signed: Niall Mathews

Date: 04/12/2014

Mr Niall Mathews - Authorised Signatory

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Customer Name:		Date Sampled:	13/11/2014
Company Name:	Fehily Timoney	Date Received:	13/11/2014
Address:	Core House	Date Analysis Started:	13/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 2
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3318		

TEST REPORT

Parameter	Result	Units	Method
BOD	<2	mg/l O ₂	SOP001
pH	8.50	pH units	SOP004
Ammonia	0.05	mg/l NH ₃ -N	SOP007
Total Suspended Solids	8	mg/l	SOP003
Total Phosphorous	0.49	mg/l P	SOP006
Nitrite	0.010	mg/l NO ₂ -N	SOP009
Conductivity	579	µS/cm @ 20°C	SOP010
Dissolved Oxygen	9.82	mg/l O ₂	SOP013
Turbidity	6.62	NTU	SOP036
Chloride	21.1	mg/l Cl ⁻	SOP033
Alkalinity (Total)	303	mg/l CaCO ₃	SOP022
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C
Reactive Phosphorous	0.27	mg/l P	SOP011
Sulphate	<2	mg/l SO ₄ ²⁻	SOP017



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	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 2
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3318		

TEST REPORT

Parameter	Result	Units	Method
Dissolved Inorganic Nitrogen	0.954	mg/l	SOP110
Nitrate	1.7	mg/l NO3-N	SOP008
Total Oxidised Nitrogen	1.710	mg/l	SOP105

Comments:	
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Address:	Core House	Date Analysis Started:	13/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 3
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3319		

TEST REPORT

Parameter	Result	Units	Method
BOD	<2	mg/l O ₂	SOP001
pH	8.22	pH units	SOP004
Ammonia	0.13	mg/l NH ₃ -N	SOP007
Total Suspended Solids	2	mg/l	SOP003
Total Phosphorous	0.44	mg/l P	SOP006
Nitrite	0.010	mg/l NO ₂ -N	SOP009
Conductivity	584	µS/cm @ 20°C	SOP010
Dissolved Oxygen	8.00	mg/l O ₂	SOP013
Turbidity	4.85	NTU	SOP036
Chloride	17.3	mg/l Cl ⁻	SOP033
Alkalinity (Total)	292	mg/l CaCO ₃	SOP022
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C
Reactive Phosphorous	0.35	mg/l P	SOP011
Sulphate	10	mg/l SO ₄ ²⁻	SOP017



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	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 3
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3319		

TEST REPORT

Parameter	Result	Units	Method
Dissolved Inorganic Nitrogen	1.842	mg/l	SOP110
Total Oxidised Nitrogen	2.510	mg/l	SOP105
Nitrate	2.5	mg/l NO3-N	SOP008

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Address:	Core House	Date Analysis Started:	13/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 4
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3320		

TEST REPORT

Parameter	Result	Units	Method
BOD	2.11	mg/l O ₂	SOP001
pH	8.32	pH units	SOP004
Ammonia	0.17	mg/l NH ₃ -N	SOP007
Total Suspended Solids	5	mg/l	SOP003
Nitrite	<0.004	mg/l NO ₂ -N	SOP009
Conductivity	366	µS/cm @ 20°C	SOP010
Dissolved Oxygen	9.96	mg/l O ₂	SOP013
Turbidity	7.84	NTU	SOP036
Chloride	27.5	mg/l Cl ⁻	SOP033
Alkalinity (Total)	177	mg/l CaCO ₃	SOP022
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C
Reactive Phosphorous	0.44	mg/l P	SOP011
Sulphate	<2	mg/l SO ₄ ²⁻	SOP017
Total Phosphorous	0.42	mg/l P	SOP006



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	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 4
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3320		

TEST REPORT

Parameter	Result	Units	Method
Dissolved Inorganic Nitrogen	1.968	mg/l	SOP110
Total Oxidised Nitrogen	2.000	mg/l	SOP105
Nitrate	2.0	mg/l NO3-N	SOP008

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Address:	Core House	Date Analysis Started:	13/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 5
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3321		

TEST REPORT

Parameter	Result	Units	Method
BOD	2.03	mg/l O ₂	SOP001
pH	8.32	pH units	SOP004
Ammonia	0.06	mg/l NH ₃ -N	SOP007
Total Suspended Solids	8	mg/l	SOP003
Total Phosphorous	0.58	mg/l P	SOP006
Nitrite	<0.004	mg/l NO ₂ -N	SOP009
Conductivity	308	µS/cm @ 20°C	SOP010
Dissolved Oxygen	9.03	mg/l O ₂	SOP013
Turbidity	7.71	NTU	SOP036
Chloride	31.0	mg/l Cl ⁻	SOP033
Alkalinity (Total)	162	mg/l CaCO ₃	SOP022
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C
Reactive Phosphorous	0.43	mg/l P	SOP011
Sulphate	<2	mg/l SO ₄ ²⁻	SOP017



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Address:	Core House	Date Analysis Started:	13/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 5
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3321		

TEST REPORT

Parameter	Result	Units	Method
Nitrate	1.3	mg/l NO3-N	SOP008
Dissolved Inorganic Nitrogen	0.460	mg/l	SOP110
Total Oxidised Nitrogen	1.300	mg/l	SOP105

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Address:	Core House	Date Analysis Started:	13/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 6
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3322		

TEST REPORT

Parameter	Result	Units	Method
BOD	<2	mg/l O ₂	SOP001
pH	8.42	pH units	SOP004
Ammonia	0.05	mg/l NH ₃ -N	SOP007
Total Suspended Solids	6	mg/l	SOP003
Total Phosphorous	0.32	mg/l P	SOP006
Nitrite	0.008	mg/l NO ₂ -N	SOP009
Conductivity	500	µS/cm @ 20°C	SOP010
Dissolved Oxygen	8.82	mg/l O ₂	SOP013
Turbidity	7.36	NTU	SOP036
Chloride	23.3	mg/l Cl ⁻	SOP033
Alkalinity (Total)	238	mg/l CaCO ₃	SOP022
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C
Reactive Phosphorous	0.20	mg/l P	SOP011
Sulphate	57	mg/l SO ₄ ²⁻	SOP017



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	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 6
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3322		

TEST REPORT

Parameter	Result	Units	Method
Dissolved Inorganic Nitrogen	1.361	mg/l	SOP110
Nitrate	1.8	mg/l NO3-N	SOP008
Total Oxidised Nitrogen	1.808	mg/l	SOP105

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Company Name:	Fehily Timoney	Date Received:	13/11/2014
Address:	Core House	Date Analysis Started:	13/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 7
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3323		

TEST REPORT

Parameter	Result	Units	Method
BOD	<2	mg/l O ₂	SOP001
pH	8.06	pH units	SOP004
Ammonia	0.28	mg/l NH ₃ -N	SOP007
Total Suspended Solids	2	mg/l	SOP003
Total Phosphorous	0.34	mg/l P	SOP006
Nitrite	0.017	mg/l NO ₂ -N	SOP009
Conductivity	563	µS/cm @ 20°C	SOP010
Dissolved Oxygen	6.95	mg/l O ₂	SOP013
Turbidity	6.16	NTU	SOP036
Chloride	22.9	mg/l Cl ⁻	SOP033
Alkalinity (Total)	236	mg/l CaCO ₃	SOP022
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C
Reactive Phosphorous	0.22	mg/l P	SOP011
Dissolved Inorganic Nitrogen	2.097	mg/l	SOP110



Customer Name:		Date Sampled:	13/11/2014
Company Name:	Fehily Timoney	Date Received:	13/11/2014
Address:	Core House	Date Analysis Started:	13/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 7
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3323		

TEST REPORT

Parameter	Result	Units	Method
Nitrate	2.1	mg/l NO ₃ -N	SOP008
Total Oxidised Nitrogen	2.117	mg/l	SOP105
Sulphate	100	mg/l SO ₄ ²⁻	SOP017

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Customer Name:		Date Sampled:	18/11/2014
Company Name:	Fehily Timoney	Date Received:	18/11/2014
Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 1
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3371		

TEST REPORT

Parameter	Result	Units	Method
BOD	<2	mg/l O ₂	SOP001
pH	7.75	pH units	SOP004
Ammonia	0.21	mg/l NH ₃ -N	SOP007
Total Suspended Solids	8	mg/l	SOP003
Total Phosphorous	0.45	mg/l P	SOP006
Nitrate	1.6	mg/l NO ₃ -N	SOP008
Nitrite	0.004	mg/l NO ₂ -N	SOP009
Conductivity	492	µS/cm @ 20°C	SOP010
Dissolved Oxygen	8.22	mg/l O ₂	SOP013
Sulphate	<2	mg/l SO ₄ ²⁻	SOP017
Alkalinity (Total)	297	mg/l CaCO ₃	SOP022
Chloride	21.9	mg/l Cl ⁻	SOP033
Turbidity	5.52	NTU	SOP036
Dissolved Inorganic Nitrogen	1.578	mg/l	SOP110
Reactive Phosphorous	0.42	mg/l P	SOP011



Customer Name:		Date Sampled:	18/11/2014
Company Name:	Fehily Timoney	Date Received:	18/11/2014
Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 1
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3371		

TEST REPORT

Parameter	Result	Units	Method
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C
Total Oxidised Nitrogen	1.604	mg/l	SOP105

Comments:	
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Company Name:	Fehily Timoney	Date Received:	18/11/2014
Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 2
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3372		

TEST REPORT

Parameter	Result	Units	Method
BOD	<2	mg/l O ₂	SOP001
pH	7.69	pH units	SOP004
Ammonia	0.08	mg/l NH ₃ -N	SOP007
Total Suspended Solids	4	mg/l	SOP003
Total Phosphorous	0.55	mg/l P	SOP006
Nitrate	0.4	mg/l NO ₃ -N	SOP008
Nitrite	0.011	mg/l NO ₂ -N	SOP009
Conductivity	604	µS/cm @ 20°C	SOP010
Dissolved Oxygen	7.39	mg/l O ₂	SOP013
Sulphate	20	mg/l SO ₄ ²⁻	SOP017
Alkalinity (Total)	363	mg/l CaCO ₃	SOP022
Chloride	22.9	mg/l Cl ⁻	SOP033
Turbidity	4.78	NTU	SOP036
Dissolved Inorganic Nitrogen	0.444	mg/l	SOP110
Reactive Phosphorous	0.26	mg/l P	SOP011



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Company Name:	Fehily Timoney	Date Received:	18/11/2014
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	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 2
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3372		

TEST REPORT

Parameter	Result	Units	Method
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C
Total Oxidised Nitrogen	0.411	mg/l	SOP105

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Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 3
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3373		

TEST REPORT

Parameter	Result	Units	Method
BOD	<2	mg/l O ₂	SOP001
pH	7.52	pH units	SOP004
Ammonia	0.08	mg/l NH ₃ -N	SOP007
Total Suspended Solids	<2	mg/l	SOP003
Total Phosphorous	0.44	mg/l P	SOP006
Nitrate	1.8	mg/l NO ₃ -N	SOP008
Nitrite	0.016	mg/l NO ₂ -N	SOP009
Conductivity	633	µS/cm @ 20°C	SOP010
Dissolved Oxygen	5.64	mg/l O ₂	SOP013
Sulphate	19	mg/l SO ₄ ²⁻	SOP017
Alkalinity (Total)	400	mg/l CaCO ₃	SOP022
Chloride	17.6	mg/l Cl ⁻	SOP033
Turbidity	2.51	NTU	SOP036
Dissolved Inorganic Nitrogen	1.716	mg/l	SOP110
Reactive Phosphorous	0.38	mg/l P	SOP011



Customer Name:		Date Sampled:	18/11/2014
Company Name:	Fehily Timoney	Date Received:	18/11/2014
Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 3
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3373		

TEST REPORT

Parameter	Result	Units	Method
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C
Total Oxidised Nitrogen	1.816	mg/l	SOP105

Comments:	
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Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 4
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3374		

TEST REPORT

Parameter	Result	Units	Method
BOD	<2	mg/l O ₂	SOP001
pH	7.47	pH units	SOP004
Ammonia	0.28	mg/l NH ₃ -N	SOP007
Total Suspended Solids	4	mg/l	SOP003
Total Phosphorous	0.34	mg/l P	SOP006
Nitrate	1.2	mg/l NO ₃ -N	SOP008
Nitrite	<0.004	mg/l NO ₂ -N	SOP009
Conductivity	397	µS/cm @ 20°C	SOP010
Dissolved Oxygen	7.44	mg/l O ₂	SOP013
Sulphate	<2	mg/l SO ₄ ²⁻	SOP017
Alkalinity (Total)	213	mg/l CaCO ₃	SOP022
Turbidity	3.24	NTU	SOP036
Dissolved Inorganic Nitrogen	1.385	mg/l	SOP110
Reactive Phosphorous	0.30	mg/l P	SOP011
Diesel Range Organics	<50	µg/l	Sub-C



Customer Name:		Date Sampled:	18/11/2014
Company Name:	Fehily Timoney	Date Received:	18/11/2014
Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 4
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3374		

TEST REPORT

Parameter	Result	Units	Method
Petrol Range Organics	<1	µg/l	Sub-C
Chloride	15.4	mg/l Cl-	SOP033
Total Oxidised Nitrogen	1.200	mg/l	SOP105

Comments:	
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Signed: Niall Mathews

Date: 04/12/2014

Mr Niall Mathews - Authorised Signatory

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VAT No: 9672901T
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Customer Name:		Date Sampled:	18/11/2014
Company Name:	Fehily Timoney	Date Received:	18/11/2014
Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 5
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3375		

TEST REPORT

Parameter	Result	Units	Method
BOD	<2	mg/l O2	SOP001
pH	7.44	pH units	SOP004
Ammonia	0.11	mg/l NH3-N	SOP007
Total Suspended Solids	5	mg/l	SOP003
Nitrate	2.7	mg/l NO3-N	SOP008
Nitrite	<0.004	mg/l NO2-N	SOP009
Conductivity	313	µS/cm @ 20°C	SOP010
Dissolved Oxygen	7.43	mg/l O2	SOP013
Sulphate	<2	mg/l SO4 ²⁻	SOP017
Alkalinity (Total)	165	mg/l CaCO3	SOP022
Turbidity	4.42	NTU	SOP036
Dissolved Inorganic Nitrogen	1.939	mg/l	SOP110
Reactive Phosphorous	0.33	mg/l P	SOP011
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C



Customer Name:		Date Sampled:	18/11/2014
Company Name:	Fehily Timoney	Date Received:	18/11/2014
Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 5
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3375		

TEST REPORT

Parameter	Result	Units	Method
Chloride	19.0	mg/l Cl-	SOP033
Total Phosphorous	0.35	mg/l P	SOP006
Total Oxidised Nitrogen	2.703	mg/l	SOP105

Comments:	
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Customer Name:		Date Sampled:	18/11/2014
Company Name:	Fehily Timoney	Date Received:	18/11/2014
Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 6
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3376		

TEST REPORT

Parameter	Result	Units	Method
BOD	<2	mg/l O2	SOP001
pH	7.48	pH units	SOP004
Ammonia	0.08	mg/l NH3-N	SOP007
Total Suspended Solids	2	mg/l	SOP003
Nitrate	2.2	mg/l NO3-N	SOP008
Nitrite	0.009	mg/l NO2-N	SOP009
Conductivity	493	µS/cm @ 20°C	SOP010
Dissolved Oxygen	7.10	mg/l O2	SOP013
Sulphate	56	mg/l SO4 ²⁻	SOP017
Alkalinity (Total)	244	mg/l CaCO3	SOP022
Turbidity	4.71	NTU	SOP036
Dissolved Inorganic Nitrogen	2.114	mg/l	SOP110
Reactive Phosphorous	0.37	mg/l P	SOP011
Diesel Range Organics	<50	µg/l	Sub-C
Petrol Range Organics	<1	µg/l	Sub-C



Customer Name:		Date Sampled:	18/11/2014
Company Name:	Fehily Timoney	Date Received:	18/11/2014
Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 6
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3376		

TEST REPORT

Parameter	Result	Units	Method
Chloride	16.2	mg/l Cl-	SOP033
Total Phosphorous	0.56	mg/l P	SOP006
Total Oxidised Nitrogen	2.209	mg/l	SOP105

Comments:	
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Customer Name:		Date Sampled:	18/11/2014
Company Name:	Fehily Timoney	Date Received:	18/11/2014
Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 7
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 1 of 2
Sample ID:	G3377		

TEST REPORT

Parameter	Result	Units	Method
BOD	2.71	mg/l O ₂	SOP001
pH	7.20	pH units	SOP004
Ammonia	0.37	mg/l NH ₃ -N	SOP007
Total Suspended Solids	5	mg/l	SOP003
Total Phosphorous	0.37	mg/l P	SOP006
Nitrate	2.1	mg/l NO ₃ -N	SOP008
Nitrite	0.024	mg/l NO ₂ -N	SOP009
Conductivity	608	µS/cm @ 20°C	SOP010
Dissolved Oxygen	5.50	mg/l O ₂	SOP013
Alkalinity (Total)	275	mg/l CaCO ₃	SOP022
Chloride	22.8	mg/l Cl ⁻	SOP033
Turbidity	4.70	NTU	SOP036
Dissolved Inorganic Nitrogen	2.529	mg/l	SOP110
Reactive Phosphorous	0.31	mg/l P	SOP011
Diesel Range Organics	<50	µg/l	Sub-C



Customer Name:		Date Sampled:	18/11/2014
Company Name:	Fehily Timoney	Date Received:	18/11/2014
Address:	Core House	Date Analysis Started:	18/11/2014
	Pouladuff Road	Sample Location:	Edenderry
	Cork	Sample Type	PML 7
	Ireland	Grab/Composite:	Grab
Purchase Order No:		Page:	Page 2 of 2
Sample ID:	G3377		

TEST REPORT

Parameter	Result	Units	Method
Petrol Range Organics	<1	µg/l	Sub-C
Sulphate	108	mg/l SO ₄ ²⁻	SOP017
Total Oxidised Nitrogen	2.124	mg/l	SOP105

Comments:	
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Signed: Niall Mathews

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WFD Monitoring Results – Surface Water

Location	07B02-0200	Blackwater Br 2009-2013	Environmental Quality Standard
Parameter	Unit	Value	
Alkalinity-total (as CaCO ₃)	mg/l	313.76	
Ammonia-Total (as N)	mg/l	0.096	0.14 (95%ile good status) ^a
BOD – 5 days (Total)	mg/l	1.62	2.6 (95%ile good status) ^a
BOD 5 days with Inhibition (Carbonaceous BOD)	mg/l	1.23	
Chloride	mg/l	18.61	
Conductivity @20Å°C	µS/cm	605.9	>6 ^b
Conductivity @25Å°C	ÅµS/cm	689.08	
Dissolved Oxygen	mg/l	38.36	
Dissolved Oxygen Percent	% Saturation	80.43	
Nitrate (as N)	mg/l	2.07	
Nitrite (as N)	mg/l	0.026	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.046	0.075 (95%ile good status) ^a
pH	pH Units	7.85	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	3	
Sulphate	mg/l	32.85	
Temperature	°C	10.45	
Total Hardness (as CaCO ₃)	mg/l	360.64	
Total Oxidised Nitrogen (as N)	mg/l	1.98	
True Colour	PtCo Units	85.48	

Location	07B02-0300	Br ESE of Longwood 2009-2012	Environmental Quality Standard
Parameter	Unit	Value	
Alkalinity-total (as CaCO ₃)	mg/l	339.57	
Ammonia-Total (as N)	mg/l	0.076	0.14 (95%ile good status) ^a
BOD – 5 days (Total)	mg/l	1.64	2.6 (95%ile good status) ^a
Chloride	mg/l	20.58	
Conductivity @25Å°C	µS/cm	714.84	>6 ^b
Dissolved Oxygen	mg/l	43.68	
Dissolved Oxygen Percent	% Saturation	87.42	
Nitrite (as N)	mg/l	0.029	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.043	0.075 (95%ile good status) ^a
pH	pH Units	7.91	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	3.50	
Temperature	°C	10.73	
Total Hardness (as CaCO ₃)	mg/l	375.25	

Total Oxidised Nitrogen (as N)	mg/l	1.98	
True Colour	PtCo Units	65	

Location	07B04-0600	Ashfield Br 2009-2012	Environmental Quality Standard
Parameter	Unit	2009-2012	
Alkalinity-total (as CaCO ₃)	mg/l	342.26	
Ammonia-Total (as N)	mg/l	0.084	0.14 (95%ile good status) ^a
BOD – 5 days (Total)	mg/l	1.53	2.6 (95%ile good status) ^a
Chloride	mg/l	19.86	
Conductivity @25Å°C	µS/cm	730.07	>6 ^b
Dissolved Oxygen	mg/l	42.077	
Dissolved Oxygen Percent	% Saturation	88.84	
Nitrate (as N)	mg/l		
Nitrite (as N)	mg/l	0.024	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.032	0.075 (95%ile good status) ^a
pH	pH Units	7.94	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	3.5	
Temperature	°C	11.29	
Total Hardness (as CaCO ₃)	mg/l	381.73	
Total Oxidised Nitrogen (as N)	mg/l	2.09	
True Colour	PtCo Units	78.12	

Location	07G020400	Clonuff Br 2009-2013	Environmental Quality Standard
Parameter	Unit	Value	
Alkalinity-total (as CaCO ₃)	mg/l	288.85	
Ammonia-Total (as N)	mg/l	0.28	0.14 (95%ile good status) ^a
BOD 5 days with Inhibition (Carbonaceous BOD)	mg/l	1.23	2.6 (95%ile good status) ^a
Chloride	mg/l	33.961	
Conductivity @20Å°C	ÅµS/cm	605.65	
Dissolved Oxygen	mg/l	41.24	>6 ^b
Dissolved Oxygen Percent	% Saturation	87.78	
Nitrate (as N)	mg/l	3.19	
Nitrite (as N)	mg/l	0.032	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.033	0.075 (95%ile good status) ^a
pH	pH Units	7.89	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	3	
Sulphate	mg/l	18.81	
Temperature	°C	9.68	
Total Hardness (as CaCO ₃)	mg/l	335	

Total Oxidised Nitrogen (as N)	mg/l	3.19	
True Colour	PtCo Units	76.11	

Location	07B020100	Br at Johnstown 2009-2012	Environmental Quality Standard
Parameter	Unit	Value	
Alkalinity-total (as CaCO ₃)	mg/l	330.25	
Ammonia-Total (as N)	mg/l	0.086	0.14 (95%ile good status) ^a
BOD – 5 days (Total)	mg/l	1.57	2.6 (95%ile good status) ^a
Chloride	mg/l	16.92	
Conductivity @25Å°C	µS/cm	677.74	
Dissolved Oxygen	mg/l	41.61	>6 ^b
Dissolved Oxygen Percent	% Saturation	92	
Nitrite (as N)	mg/l	0.026	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.034	0.075 (95%ile good status) ^a
pH	pH Units	7.88	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	3.5	
Temperature	°C	11.1	
Total Hardness (as CaCO ₃)	mg/l	362.5	
Total Oxidised Nitrogen (as N)	mg/l	1.78	
True Colour	PtCo Units	98.19	

Location	14F01-0050	Br S of Ticknevin Br 2009-2013	Environmental Quality Standard
Parameter	Unit	Value	
Alkalinity-total (as CaCO ₃)	mg/l	280	
Ammonia-Total (as N)	mg/l	0.56	0.14 (95%ile good status) ^a
BOD 5 days with Inhibition (Carbonaceous BOD)	mg/l	2.61	2.6 (95%ile good status) ^a
Chloride	mg/l	14.59	
Conductivity @20Å°C	ÅµS/cm	542	
Dissolved Oxygen	mg/l	35.94	>6 ^b
Dissolved Oxygen Percent	% Saturation	67	
Nitrate (as N)	mg/l	2.07	
Nitrite (as N)	mg/l	0.034	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.08	0.075 (95%ile good status) ^a
pH	pH Units	7.69	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	2.75	
Sulphate	mg/l	17.48	
Temperature	°C	9.38	
Total Hardness (as CaCO ₃)	mg/l	323	

Total Oxidised Nitrogen (as N)	mg/l	2.13	
True Colour	PtCo Units	135	

Location	14S01-0049	Allenwood 2012	Environmental Quality Standard
Parameter	Unit	Value	
Ammonia-Total (as N)	mg/l	0.2	0.14 (95%ile good status) ^a
BOD 5 days with Inhibition (Carbonaceous BOD)	mg/l	2	2.6 (95%ile good status) ^a
Chemical Oxygen Demand	mg/l	43.33	
ortho-Phosphate (as P) – unspecified	mg/l	0.126	0.075 (95%ile good status) ^a
pH	pH Units	7.68	6.0 < pH < 9.0 ^b
Suspended Solids	mg/l	1.5	
Total N	mg/l	3.67	
Total P	mg/l	0.2	

Location	14S01-0150	E Br Rathangan (Opp Church) 2009-2013	Environmental Quality Standard
Parameter	Unit	Value	
Alkalinity-total (as CaCO ₃)	mg/l	296	
Ammonia-Total (as N)	mg/l	0.059	0.14 (95%ile good status) ^a
BOD 5 days with Inhibition (Carbonaceous BOD)	mg/l	1.17	2.6 (95%ile good status) ^a
Chloride	mg/l	16.15	
Conductivity @20Å°C	ÅµS/cm	589	
Dissolved Oxygen	mg/l	37.85	>6 ^b
Dissolved Oxygen Percent	% Saturation	81.5	
Nitrate (as N)	mg/l	2.19	
Nitrite (as N)	mg/l	0.014	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.037	0.075 (95%ile good status) ^a
pH	pH Units	7.86	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	3.5	
Sulphate	mg/l	19.85	
Temperature	°C	9.83	
Total Hardness (as CaCO ₃)	mg/l	342	
Total Oxidised Nitrogen (as N)	mg/l	2.2	
True Colour	PtCo Units	99.59	

Location	14C170200	Old River Br (W) 2009-2013	Environmental Quality Standard
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Location	14C170200	Old River Br (W) 2009-2013	Environmental Quality Standard
Parameter	Unit	Value	
Alkalinity-total (as CaCO ₃)	mg/l	327	
Ammonia-Total (as N)	mg/l	0.048	0.14 (95%ile good status) ^a
BOD 5 days with Inhibition (Carbonaceous BOD)	mg/l	1.12	2.6 (95%ile good status) ^a
Chloride	mg/l	14.81	
Conductivity @20Å°C	ÅµS/cm	613.38	
Dissolved Oxygen	mg/l	38.38	>6 ^b
Dissolved Oxygen Percent	% Saturation	76	
Nitrate (as N)	mg/l	2.555	
Nitrite (as N)	mg/l	0.0105	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.017	0.075 (95%ile good status) ^a
pH	pH Units	7.78	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	3.5	
Sulphate	mg/l	16.26	
Temperature	°C	9.61	
Total Hardness (as CaCO ₃)	mg/l	370.11	
Total Oxidised Nitrogen (as N)	mg/l	2.60	
True Colour	PtCo Units	41.70	

Location	09R010100	Balfeghan Br 2009-2013	Environmental Quality Standard
Parameter	Unit	Value	
Alkalinity-total (as CaCO ₃)	mg/l	307.77	
Ammonia-Total (as N)	mg/l	0.058	0.14 (95%ile good status) ^a
BOD – 5 days (Total)	mg/l	2.398	2.6 (95%ile good status) ^a
BOD 5 days with Inhibition (Carbonaceous BOD)	mg/l	1.05	
Chloride	mg/l	30.18	
Conductivity @20Å°C	ÅµS/cm	659.46	
Conductivity @25Å°C	ÅµS/cm	659.71	
Dissolved Oxygen	% Saturation	52.27	>6 ^b
Dissolved Oxygen Percent	% Saturation	89.66	
Nitrate (as N)	mg/l	1.02	
Nitrite (as N)	mg/l	0.01	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.05	0.075 (95%ile good status) ^a
pH	pH units	8.02	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	3.5	
Sulphate	mg/l	25.96	

Temperature	Å°C	10.29	
Total Hardness (as CaCO3)	mg/l	353.29	
Total Oxidised Nitrogen (as N)	mg/l	1.02	
True Colour	Hazen	36.45	

Location	09D040500	Rusk Br 2009-2012	Environmental Quality Standard
Parameter	Unit	Value	
Alkalinity-total (as CaCO3)	mg/l	310.26	
Ammonia-Total (as N)	mg/l	0.07	0.14 (95%ile good status) ^a
BOD – 5 days (Total)	mg/l	2.13	2.6 (95%ile good status) _a
Chloride	mg/l	22.96	
Conductivity @25Å°C	ÅµS/cm	669.75	
Dissolved Oxygen	% Saturation	49.26	>6 ^b
Dissolved Oxygen Percent	% Saturation	92.35	
Nitrite (as N)	mg/l	0.026	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.11	0.075 (95%ile good status) ^a
pH	pH units	8.10	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	3	
Temperature	Å°C	11.22	
Total Hardness (as CaCO3)	mg/l	346.63	
Total Oxidised Nitrogen (as N)	mg/l	0.91	
True Colour	Hazen	34.93	

Location	09C030300	Baltracey Br 2009-2012	Environmental Quality Standard
Alkalinity-total (as CaCO3)	mg/l	348.2	
Ammonia-Total (as N)	mg/l	0.069	0.14 (95%ile good status) _a
BOD 5 days with Inhibition (Carbonaceous BOD)	mg/l	1.411764706	2.6 (95%ile good status) ^a
Chloride	mg/l	18.3	
Conductivity @20Å°C	ÅµS/cm	644	
Dissolved Oxygen	% Saturation	43.61515152	>6 ^b
Dissolved Oxygen Percent	% Saturation	80	
Nitrate (as N)	mg/l	1.0805	
Nitrite (as N)	mg/l	0.0145	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.044375	0.075 (95%ile good status) ^a
pH	pH units	7.92	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	3	
Sulphate	mg/l	15.85	
Temperature	Å°C	9.185	

Total Hardness (as CaCO ₃)	mg/l	367.4	
Total Oxidised Nitrogen (as N)	mg/l	1.094	
True Colour	Hazen	26.2	

Location	09L020035	Br NE of Treadstown 2009-2013	Environmental Quality Standard
Parameter	Unit	Value	
Alkalinity-total (as CaCO ₃)	mg/l	332.21	
Ammonia-Total (as N)	mg/l	0.13	0.14 (95%ile good status) ^a
BOD 5 days with Inhibition (Carbonaceous BOD)	mg/l	1.31	2.6 (95%ile good status) ^a
Chloride	mg/l	19.331	
Conductivity @20°C	µS/cm	641.63	
Dissolved Oxygen	% Saturation	48.04	>6 ^b
Dissolved Oxygen Percent	% Saturation	84.33	
Nitrate (as N)	mg/l	1.56	
Nitrite (as N)	mg/l	0.02	<0.05 ^b
ortho-Phosphate (as P) – unspecified	mg/l	0.10	0.075 (95%ile good status) ^a
pH	pH units	8.03	6.0 < pH < 9.0 ^b
Q-Value	Descriptive	3	
Sulphate	mg/l	17	
Temperature	°C	9.93	
Total Hardness (as CaCO ₃)	mg/l	362.62	
Total Oxidised Nitrogen (as N)	mg/l	1.58	
True Colour	Hazen	27.25	

- a) European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended in 2012 (S.I. No. 272 of 2009, S.I. No. 327 of 2012).
- b) European Communities (Quality of Salmonid Waters) Regulations 1988 (S.I. No. 293 of 1988).

Groundwater Monitoring Results – Enfield Bore

Enfield Bore	Units	Average 2008-2013	OTV ¹
Total Coliforms	No./100ml	<1	
Faecal Coliforms	No./100ml	<1	
pH_Laboratory	pH	7.31	
Conductivity_Laboratory	uS/cm (at 25oC)	579.55	800-1875
Alkalinity	mg/l CaCO ₃	272.77	
Total Hardness	mg/l CaCO ₃	299.16	
Colour	Hazen	12.41	
Turbidity	NTU	10.10	
Ammonium	mg/l N	0.23	0.065-0.175
Nitrite as NO ₂	mg/l	0.02	0.375
Nitrate as NO ₃	mg/l	0.42	37.5
Nitrate as N	-	0.10	
Total Phosphorus	mg/l P	0.04	
Molybdate Reactive Phosphorus	mg/l P	0.02	0.035
Total Organic Carbon	mg/l C	4.59	
Chloride	mg/l Cl	12.01	24-187.5
Fluoride	mg/l F ⁻	0.29	
Sulphate	mg/l SO ₄	23.86	187.5
Sodium	mg/l Na	13.54	150
Potassium	mg/l K	1.10	
Magnesium	mg/l Mg	9.57	
Calcium	mg/l Ca	100.70	
Iron	ug/l Fe	793.16	
Manganese	ug/l Mn	335.94	
Boron	ug/l B	31.59	750
Aluminium	ug/l Al	5.50	150
Chromium	ug/l Cr	0.73	37.5
Nickel	ug/l Ni	4.06	1515
Copper	ug/l Cu	2.87	1500
Zinc	ug/l Zn	5.33	
Arsenic	ug/l As	1.97	7.5
Cadmium	ug/l Cd	0.11	0.75
Antimony	ug/l Sb	0.40	3.75
Barium	ug/l Ba	106.04	
Lead	ug/l Pb	0.48	18.75
Uranium	ug/l U	0.31	
Mercury	ug/l Hg	<0.05	

¹ The EQS in the Environmental Objectives (Groundwater) Regulations 2010 is an overall threshold value range which is inclusive of 4 tests. The tests are assessments of: saline intrusion, impacts of chemical impacts from groundwater on surface water bodies, impacts on groundwater intended for human consumption in drinking water protected areas is impacted by pollution etc., and to test the general quality of groundwater in a groundwater body etc.

Enfield Bore	Units	Average 2008-2013	OTV ¹
Cobalt	µg/l Co	<1	
Molybdenum	µg/l Mo	2.39	
Strontium	µg/l Sr	2,502	
Silver	µg/l Ag	<1	
Beryllium	µg/l Be	<1	
Atrazine	µg/l	<0.01	0.075
Bentazone	µg/l	<0.01	0.1
Chlortoluron	µg/l	<0.01	0.075
Cypermethrin	µg/l	<0.01	0.075
Dieldrin	µg/l	<0.01	0.075
Diuron	µg/l	<0.01	0.075
Glyphosate	µg/l	<0.01	0.075
Isoproturon	µg/l	<0.01	0.075
Lindane	µg/l	<0.01	0.075
MCPA	µg/l	<0.01	0.075
Mecoprop	µg/l	<0.01	0.075
Simazine	µg/l	<0.04	0.075
Total Pesticides	µg/l	<0.05	0.375
(Total) PAHs	µg/l	<0.16	
(Total) Petroleum Hydrocarbons	µg/l	<10	

Groundwater Drinking Water Monitoring Results

Longwood	Units	Average 2008-2013	EQS
Total Coliforms	No./100ml	<1	
Faecal Coliforms	No./100ml	<1	
pH_Laboratory	pH	7.35	
Conductivity_Laboratory	uS/cm (at 25oC)	627.00	800-1875
Alkalinity	mg/l CaCO ₃	307.00	
Total Hardness	mg/l CaCO ₃	331.00	
Colour	Hazen	4.91	
Turbidity	NTU	0.96	
Ammonium	mg/l N	0.02	0.065-0.175
Nitrite as NO ₂	mg/l	0.02	0.375
Nitrate as NO ₃	mg/l	4.84	37.5
Nitrate as N	-	1.09	
Total Phosphorus	mg/l P	0.01	
Molybdate Reactive Phosphorus	mg/l P	<0.015	0.035
Total Organic Carbon	mg/l C	4.60	
Chloride	mg/l Cl	14.13	24-187.5
Fluoride	mg/l F ⁻	0.25	

Longwood	Units	Average 2008-2013	EQS
Sulphate	mg/l SO ₄	28.18	187.5
Sodium	mg/l Na	9.57	150
Potassium	mg/l K	0.93	
Magnesium	mg/l Mg	16.99	
Calcium	mg/l Ca	102.00	
Iron	ug/l Fe	13.12	
Manganese	ug/l Mn	21.94	
Boron	ug/l B	19.16	750
Aluminium	ug/l Al	<5	150
Chromium	ug/l Cr	<1	37.5
Nickel	ug/l Ni	4.44	1515
Copper	ug/l Cu	5.67	1500
Zinc	ug/l Zn	72.49	
Arsenic	ug/l As	0.56	7.5
Cadmium	ug/l Cd	<0.1	0.75
Antimony	ug/l Sb	0.49	3.75
Barium	ug/l Ba	33.84	
Lead	ug/l Pb	0.81	18.75
Uranium	µg/l U	0.98	
Mercury	ug/l Hg	<0.05	
Cobalt	µg/l Co	0.95	
Molybdenum	µg/l Mo	<1	
Strontium	µg/l Sr	505.00	
Silver	µg/l Ag	<1	
Beryllium	µg/l Be	<0.5	
Atrazine	µg/l	<0.01	0.075
Bentazone	µg/l	<0.05	0.1
Chlortoluron	µg/l	<0.01	0.075
Dieldrin	µg/l	<0.01	0.075
Diuron	µg/l	<0.01	0.075
Glyphosate	µg/l	<0.006	0.075
Isoproturon	µg/l	<0.01	0.075
Lindane	µg/l	<0.01	0.075
MCPA	µg/l	<0.01	0.075
Mecoprop	µg/l	<0.04	0.075
Simazine	µg/l	<0.01	0.075
Total Pesticides	µg/l	<0.05	0.375
(Total) PAHs	µg/l	<0.01	
(Total) Petroleum Hydrocarbons	µg/l	<10	