

## Certificate of Analysis MGD0009

### Client Details

<b>Client</b>	Natural Aqua Solutions Pty Ltd
<b>Contact</b>	Olaf Lyche
<b>Address</b>	33 Allenby Avenue, Malvern East, VIC, 3145

### Sample Details

<b>Your Reference</b>	Three Bays full analysis
<b>Number of Samples</b>	1 Water
<b>Date Samples Received</b>	01/04/2025
<b>Date Instructions Received</b>	08/04/2025

### Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.  
 Samples were analysed as received from the client. Results relate specifically to the samples as received.  
 Results are reported on a dry weight basis for soils and on an as received basis for other matrices.

### Report Details

<b>Date Final Results Expected</b>	10/06/2025
<b>Date of Issue</b>	03/07/2025

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**Accredited for compliance with ISO/IEC 17025. Tests not covered by NATA are denoted with \*.**

### Authorisation Details

<b>Results Approved By</b>	Azrin Akram, Senior Chemist Chaminda Gunasekara, Inorganics Supervisor Chris De Luca, Lab Manager Hien Luong, Chemist - FAS Jessica Miller, Microbiological Supervisor Maggie Hu, Organics Supervisor Tara White, Metals Supervisor Travis Carey, Organics Supervisor
<b>Laboratory Manager</b>	Chris De Luca

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## Samples in this Report

Envirolab ID	Sample ID	Matrix	Date Sampled	Date Received
MGD0009-01	B#Z03104ST	Water	01/04/2025	08/04/2025

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## Volatile Organic Compounds (Water)

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Chloroform	µg/L	1.0	<1.0
Bromodichloromethane	µg/L	1.0	<1.0
Dibromochloromethane	µg/L	1.0	<1.0
Bromoform	µg/L	1.0	<1.0
Total +ve THMs	µg/L	1.0	<1.0
<i>Surrogate Dibromofluoromethane</i>	%		<i>107</i>
<i>Surrogate Toluene-D8</i>	%		<i>98.9</i>
<i>Surrogate 4-Bromofluorobenzene</i>	%		<i>94.0</i>

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## Volatile Organic Compounds - Fumigants - Low Level (Water)

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
2,2-Dichloropropane	µg/L	0.10	<0.10
1,2-Dichloropropane	µg/L	0.10	<0.10
cis-1,3-Dichloropropene	µg/L	0.10	<0.10
trans-1,3-Dichloropropene	µg/L	0.10	<0.10
1,2-Dibromoethane	µg/L	0.10	<0.10
<i>Surrogate Dibromofluoromethane</i>	%		<i>107</i>
<i>Surrogate Toluene-D8</i>	%		<i>98.9</i>
<i>Surrogate 4-Bromofluorobenzene</i>	%		<i>94.0</i>

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## Volatile Organic Compounds - MAH - Low Level (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Benzene	µg/L	0.10	<0.10
Toluene	µg/L	0.10	<0.10
Ethylbenzene	µg/L	0.10	<0.10
meta+para Xylene	µg/L	0.20	<0.20
Styrene	µg/L	0.10	<0.10
ortho-Xylene	µg/L	0.10	<0.10
Isopropylbenzene	µg/L	0.10	<0.10
n-Propylbenzene	µg/L	0.10	<0.10
1,3,5-Trimethylbenzene	µg/L	0.10	<0.10
tert-Butylbenzene	µg/L	0.10	<0.10
1,2,4-Trimethylbenzene	µg/L	0.10	<0.10
sec-Butylbenzene	µg/L	0.10	<0.10
4-Isopropyltoluene	µg/L	0.10	<0.10
n-Butyl benzene	µg/L	0.10	<0.10

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## Volatile Organic Compounds - Halogenated Aliphatics - Low Level (Water)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGD0009-01 B#Z03104ST 01/04/2025
Dichlorodifluoromethane (Freon-12)	µg/L	2.0	<2.0
Chloromethane	µg/L	2.0	<2.0
Vinyl chloride	µg/L	0.20	<0.20
Bromomethane	µg/L	1.0	<1.0
Chloroethane	µg/L	2.0	<2.0
Trichlorofluoromethane (Freon-11)	µg/L	2.0	<2.0
1,1-Dichloroethene	µg/L	0.10	<0.10
trans-1,2-Dichloroethene	µg/L	0.10	<0.10
1,1-Dichloroethane	µg/L	0.10	<0.10
cis-1,2-Dichloroethene	µg/L	0.10	<0.10
Bromochloromethane	µg/L	0.50	<0.50
Chloroform	µg/L	0.50	<0.50
1,1,1-Trichloroethane	µg/L	0.10	<0.10
1,1-Dichloropropene	µg/L	0.10	<0.10
Carbon Tetrachloride	µg/L	0.10	<0.10
1,2-Dichloroethane	µg/L	0.10	<0.10
Trichloroethene	µg/L	0.10	<0.10
Dibromomethane	µg/L	0.50	<0.50
Bromodichloromethane	µg/L	0.10	<0.10
1,1,2-Trichloroethane	µg/L	0.10	<0.10
1,3-Dichloropropane	µg/L	0.10	<0.10
Tetrachloroethene	µg/L	0.10	<0.10
Dibromochloromethane	µg/L	0.10	<0.10
1,1,1,2-Tetrachloroethane	µg/L	0.10	<0.10
Bromoform	µg/L	0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	0.10	<0.10
1,2,3-Trichloropropane	µg/L	0.10	<0.10
1,2-Dibromo-3-chloropropane	µg/L	0.10	<0.10
Hexachlorobutadiene	µg/L	0.20	<0.20

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## Volatile Organic Compounds - Halogenated Aromatics - Low Level (Water)

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Chlorobenzene	µg/L	0.10	<0.10
Bromobenzene	µg/L	0.10	<0.10
2-Chlorotoluene	µg/L	0.10	<0.10
4-Chlorotoluene	µg/L	0.10	<0.10
1,3-Dichlorobenzene	µg/L	0.10	<0.10
1,4-Dichlorobenzene	µg/L	0.10	<0.10
1,2-Dichlorobenzene	µg/L	0.10	<0.10
1,2,4-Trichlorobenzene	µg/L	0.10	<0.10
1,2,3-Trichlorobenzene	µg/L	0.10	<0.10

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## Volatile Organic Compounds - Other VOCs - Low Level (Water)

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Cyclohexane	µg/L	0.10	<0.10

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## Volatile Organic Compounds - Surrogates - Low Level (Water)

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
<i>Surrogate Dibromofluoromethane</i>	%		107
<i>Surrogate Toluene-D8</i>	%		98.9
<i>Surrogate 4-Bromofluorobenzene</i>	%		94.0

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## Haloacetic Acids (Water) - Analysed By MPL Laboratories

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Dalapon	µg/L	10	<10
Chloroacetic acid (MCA)	mg/L	0.050	<0.050
Dichloroacetic acid (DCA)	mg/L	0.020	<0.020
Trichloroacetic acid (TCA)	mg/L	0.020	<0.020
Trichloroacetaldehyde (Chloral Hydrate)	mg/L	0.020	<0.020
Surrogate 2-Bromobutanoic Acid*	%		108
Surrogate 2-Bromobutanoic Acid*	%		108

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## Polycyclic Aromatic Hydrocarbons (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Naphthalene	µg/L	0.10	<0.10
Acenaphthylene	µg/L	0.10	<0.10
Acenaphthene	µg/L	0.10	<0.10
Fluorene	µg/L	0.10	<0.10
Phenanthrene	µg/L	0.10	<0.10
Anthracene	µg/L	0.10	<0.10
Fluoranthene	µg/L	0.10	<0.10
Pyrene	µg/L	0.10	<0.10
Benzo(a)anthracene	µg/L	0.10	<0.10
Chrysene	µg/L	0.10	<0.10
Benzo(b,j,k)fluoranthene	µg/L	0.20	<0.20
Benzo(a)pyrene	µg/L	0.10	<0.10
Indeno(1,2,3-c,d)pyrene	µg/L	0.10	<0.10
Dibenzo(a,h)anthracene	µg/L	0.10	<0.10
Benzo(g,h,i)perylene	µg/L	0.10	<0.10
Total +ve PAH	µg/L	0.10	<0.10
<i>Surrogate p-Terphenyl-D14</i>	%		77.7

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## Organochlorine Pesticides (Water)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGD0009-01 B#Z03104ST 01/04/2025
Toxaphene	µg/L	1.0	<1.0
alpha-BHC	µg/L	0.20	<0.20
Hexachlorobenzene	µg/L	0.20	<0.20
beta-BHC	µg/L	0.20	<0.20
gamma-BHC	µg/L	0.20	<0.20
delta-BHC	µg/L	0.20	<0.20
Heptachlor	µg/L	0.20	<0.20
Aldrin	µg/L	0.20	<0.20
Heptachlor epoxide	µg/L	0.20	<0.20
trans-Chlordane	µg/L	0.20	<0.20
cis-Chlordane	µg/L	0.20	<0.20
Endosulfan I	µg/L	0.20	<0.20
4,4'-DDE	µg/L	0.20	<0.20
Dieldrin	µg/L	0.20	<0.20
Endrin	µg/L	0.20	<0.20
4,4'-DDD	µg/L	0.20	<0.20
Endosulfan II	µg/L	0.20	<0.20
Endrin aldehyde	µg/L	0.20	<0.20
4,4'-DDT	µg/L	0.20	<0.20
Endosulfan sulfate	µg/L	0.20	<0.20
Endrin ketone	µg/L	0.20	<0.20
Methoxychlor	µg/L	0.20	<0.20
Mirex	µg/L	0.20	<0.20
Total +ve OCP	µg/L	0.20	<0.20
<i>Surrogate 4-chloro-3-nitrobenzotrifluoride</i>	%		48.0 [2]
<i>Surrogate p-Terphenyl-D14</i>	%		77.7

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## Organophosphorus Pesticides (Water)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGD0009-01 B#Z03104ST 01/04/2025
Dichlorvos	µg/L	0.20	<0.20
Dimethoate	µg/L	0.20	<0.20
Diazinon	µg/L	0.20	<0.20
Chlorpyrifos-methyl	µg/L	0.20	<0.20
Ronnel	µg/L	0.20	<0.20
Fenitrothion	µg/L	0.20	<0.20
Malathion	µg/L	0.20	<0.20
Chlorpyrifos	µg/L	0.20	<0.20
Parathion	µg/L	0.20	<0.20
Bromophos-ethyl	µg/L	0.20	<0.20
Ethion	µg/L	0.20	<0.20
Coumaphos	µg/L	0.20	<0.20
Disulfoton	µg/L	0.20	<0.20
Fenamiphos	µg/L	0.20	<0.20
Fenthion	µg/L	0.20	<0.20
Methodathion	µg/L	0.20	<0.20
Mevinphos	µg/L	0.20	<0.20
Parathion-methyl	µg/L	0.20	<0.20
Phorate	µg/L	0.20	<0.20
Phosalone	µg/L	0.20	<0.20
Azinphos-methyl	µg/L	0.20	<0.20
<i>Surrogate 4-chloro-3-nitrobenzotrifluoride</i>	%		<i>48.0 [2]</i>

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## Polychlorinated Biphenyls (Water)

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Aroclor 1016	µg/L	2.0	<2.0
Aroclor 1221	µg/L	2.0	<2.0
Aroclor 1232	µg/L	2.0	<2.0
Aroclor 1242	µg/L	2.0	<2.0
Aroclor 1248	µg/L	2.0	<2.0
Aroclor 1254	µg/L	2.0	<2.0
Aroclor 1260	µg/L	2.0	<2.0
Total +ve PCB (1016-1260)	µg/L	2.0	<2.0
Surrogate 2-Fluorobiphenyl	%		40.2 [2]

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## SVOC - PAH (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Naphthalene	µg/L	2.0	<2.0
2-Methylnaphthalene	µg/L	2.0	<2.0
2-Chloronaphthalene	µg/L	2.0	<2.0
1-Chloronaphthalene	µg/L	2.0	<2.0
Acenaphthylene	µg/L	2.0	<2.0
Acenaphthene	µg/L	2.0	<2.0
Fluorene	µg/L	2.0	<2.0
Phenanthrene	µg/L	2.0	<2.0
Anthracene	µg/L	2.0	<2.0
Fluoranthene	µg/L	2.0	<2.0
Pyrene	µg/L	2.0	<2.0
2-Acetylaminofluorene	µg/L	2.0	<2.0
Benzo(a)anthracene	µg/L	2.0	<2.0
Chrysene	µg/L	2.0	<2.0
Benzo(b,j,k)fluoranthene	µg/L	4.0	<4.0
7,12-Dimethylbenz(a)anthracene	µg/L	2.0	<2.0
Benzo(a)pyrene	µg/L	2.0	<2.0
3-Methylcholanthrene	µg/L	2.0	<2.0
Indeno(1,2,3-c,d)pyrene	µg/L	2.0	<2.0
Dibenzo(a,h)anthracene	µg/L	2.0	<2.0
Benzo(g,h,i)perylene	µg/L	2.0	<2.0

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## SVOC - SVCH (Water)

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Pentachloroethane	µg/L	2.0	<2.0
1,3-Dichlorobenzene	µg/L	2.0	<2.0
1,4-Dichlorobenzene	µg/L	2.0	<2.0
1,2-Dichlorobenzene	µg/L	2.0	<2.0
Hexachloroethane	µg/L	2.0	<2.0
1,2,4-Trichlorobenzene	µg/L	2.0	<2.0
Hexachloropropene	µg/L	2.0	<2.0
Hexachlorobutadiene	µg/L	2.0	<2.0
Hexachlorocyclopentadiene	µg/L	5.0	<5.0
1,2,3,5 & 1,2,4,5-Tetrachlorobenzene	µg/L	4.0	<4.0
Pentachlorobenzene	µg/L	2.0	<2.0
Hexachlorobenzene	µg/L	2.0	<2.0

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## SVOC - Phenols (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Phenol	µg/L	2.0	<2.0
2-Chlorophenol	µg/L	2.0	<2.0
2-Methylphenol	µg/L	2.0	<2.0
3/4-Methylphenol	µg/L	4.0	<4.0
2-Nitrophenol	µg/L	2.0	<2.0
2,4-Dimethylphenol	µg/L	2.0	<2.0
2,4-Dichlorophenol	µg/L	2.0	<2.0
2,6-Dichlorophenol	µg/L	2.0	<2.0
4-Chloro-3-methylphenol	µg/L	5.0	<5.0
2,4,6-Trichlorophenol	µg/L	2.0	<2.0
2,4,5-Trichlorophenol	µg/L	2.0	<2.0
2,4-Dinitrophenol	µg/L	20	<20
4-Nitrophenol	µg/L	20	<20
2,3,4,6-Tetrachlorophenol	µg/L	2.0	<2.0
4,6-Dinitro-2-methylphenol	µg/L	20	<20
Pentachlorophenol	µg/L	10	<10
Dinoseb	µg/L	20	<20

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## SVOC - Phthalates (Water)

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Dimethyl phthalate	µg/L	10	<10
Diethyl phthalate	µg/L	10	<10
Di-n-butyl phthalate	µg/L	50	<50
Butyl benzyl phthalate	µg/L	10	<10
Bis(2-ethylhexyl) phthalate (DEHP)	µg/L	50	<50
Di-n-octyl phthalate	µg/L	10	<10

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## SVOC - Haloethers (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Bis(2-chloroethyl) ether	µg/L	5.0	<5.0
Bis(2-chloroisopropyl) ether	µg/L	5.0	<5.0
Bis(2-chloroethoxy) methane	µg/L	5.0	<5.0
4-Chlorophenyl phenyl ether	µg/L	5.0	<5.0
4-Bromophenyl phenyl ether	µg/L	5.0	<5.0

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## SVOC - Nitrosamines (Water)

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
N-Nitrosodi-n-propylamine	µg/L	5.0	<5.0
N-Nitrosomorpholine	µg/L	5.0	<5.0
N-Nitrosopiperidine	µg/L	5.0	<5.0
N-Nitrosodi-n-butylamine	µg/L	5.0	<5.0
Diphenylamine	µg/L	5.0	<5.0

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## SVOC - Nitroaromatics and Ketones (Water)

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Acetophenone	µg/L	5.0	<5.0
Nitrobenzene	µg/L	5.0	<5.0
Isophorone	µg/L	5.0	<5.0
1,3-Dinitrobenzene	µg/L	5.0	<5.0
2,6-Dinitrotoluene	µg/L	5.0	<5.0
5-Nitro-o-toluidine	µg/L	5.0	<5.0
Azobenzene	µg/L	5.0	<5.0
Phenacetin	µg/L	5.0	<5.0
Pentachloronitrobenzene	µg/L	5.0	<5.0

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## SVOC - Anilines and Amines (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Aniline	µg/L	5.0	<5.0
4-Chloroaniline	µg/L	5.0	<5.0
2-Nitroaniline	µg/L	5.0	<5.0
3-Nitroaniline	µg/L	5.0	<5.0
Dibenzofuran	µg/L	5.0	<5.0
2-Naphthylamine	µg/L	5.0	<5.0
1-Naphthylamine	µg/L	5.0	<5.0
4-Nitroaniline	µg/L	5.0	<5.0

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## SVOC - Miscellaneous SVOCs (Water)

EnviroLab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Ethyl methanesulfonate	µg/L	5.0	<5.0
Benzyl alcohol	µg/L	5.0	<5.0
Isosafrole (cis + trans)	µg/L	10	<10
Safrole	µg/L	5.0	<5.0
Carbazole	µg/L	5.0	<5.0
Methapyrilene	µg/L	10	<10
p-Dimethylaminoazobenzene	µg/L	5.0	<5.0

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## SVOC - Surrogates (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Surrogate 2-Fluorophenol	%		26.9 [2]
Surrogate Phenol-D6	%		30.5
Surrogate 4-chloro-3-nitrobenzotrifluoride	%		48.0 [2]
Surrogate Nitrobenzene-D5	%		63.2
Surrogate 2-Fluorobiphenyl	%		40.2 [2]
Surrogate p-Terphenyl-D14	%		77.7

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## Carbamates, Thiocarbamates and Phenyl Ureas (Water) - Analysed By MPL Laboratories

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Oxamyl	µg/L	1.0	<1.0 [5]
Fluometuron	µg/L	0.50	<0.50 [5]
Diuron	µg/L	0.50	<0.50 [5]
Surrogate Terbutylazine-d5	%		91.1 [5]

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## Phenoxy Acid Herbicides (Water)

Envirolab ID Your Reference Date Sampled	Units	PQL	MGD0009-01 B#Z03104ST 01/04/2025
Clopyralid	µg/L	0.50	<0.50
3,5-Dichlorobenzoic acid	µg/L	0.50	<0.50
2-Chlorophenoxy acetic acid	µg/L	0.50	<0.50
4-Chlorophenoxy acetic acid	µg/L	0.50	<0.50
Dicamba	µg/L	0.50	<0.50
Mecoprop	µg/L	0.50	<0.50
MCPA	µg/L	0.50	<0.50
2,6-D	µg/L	0.50	<0.50
Dichlorprop	µg/L	0.50	<0.50
2,4-D	µg/L	0.50	<0.50
Bromoxynil	µg/L	0.50	<0.50
Triclopyr	µg/L	0.50	<0.50
2,4,6-T	µg/L	0.50	<0.50
2,4,5-TP	µg/L	0.50	<0.50
2,4,5-T	µg/L	0.50	<0.50
MCPB	µg/L	0.50	<0.50
Dinoseb	µg/L	1.0	<1.0
2,4-DB	µg/L	0.50	<0.50
Ioxynil	µg/L	1.0	<1.0
Picloram	µg/L	1.0	<1.0
Acifluorfen	µg/L	2.0	<2.0
Fluroxypyr	µg/L	1.0	<1.0
Bentazon	µg/L	1.0	<1.0
<i>Surrogate 2,4-DCPA</i>	%		<i>97.0</i>

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## Glyphosate (Water) - Analysed By MPL Laboratories

<b>Envirolab ID</b>	<b>Units</b>	<b>PQL</b>	MGD0009-01
<b>Your Reference</b>			B#Z03104ST
<b>Date Sampled</b>			01/04/2025
Glyphosate	mg/L	0.010	<0.010

# Certificate of Analysis MGD0009

## Diquat/Paraquat (Water) - Analysed By MPL Laboratories

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Diquat	µg/L	0.10	<0.10 [5]
Paraquat	µg/L	0.10	<0.10 [5]

# Certificate of Analysis MGD0009

## LC-MS-MS Oxyhalides (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Bromate	µg/L	0.50	<5.0 [3]

# Certificate of Analysis MGD0009

## Acid Extractable Low Level Metals (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Silver	µg/L	1.0	<1.0
Aluminium	µg/L	10	<10
Arsenic	µg/L	1.0	<1.0
Barium	µg/L	1.0	49
Beryllium	µg/L	0.50	<0.50
Cadmium	µg/L	0.10	<0.10
Chromium	µg/L	1.0	<1.0
Copper	µg/L	1.0	14
Mercury	µg/L	0.050	<0.050
Nickel	µg/L	1.0	8.2
Lead	µg/L	1.0	<1.0
Antimony	µg/L	1.0	<1.0
Selenium	µg/L	1.0	<1.0
Thallium	µg/L	1.0	<1.0
Uranium	µg/L	1.0	<1.0

# Certificate of Analysis MGD0009

## Inorganics - Physical Parameters (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Total Dissolved Solids	mg/L	5.0	1100
Turbidity	NTU	0.10	0.21
Free Chlorine	mg/L	0.10	<0.10
Chloramines (Combined Chlorine) by calc*	mg/L	0.10	<0.10
Total Chlorine	mg/L	0.10	<0.10

# Certificate of Analysis MGD0009

## Inorganics - Miscellaneous and Common Anions (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Fluoride	mg/L	0.10	0.15

# Certificate of Analysis MGD0009

## Inorganics - Nutrients (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Nitrate as N	mg/L	0.0050	0.42
Nitrate as NO3 by calculation	mg/L	0.020	1.9
Nitrite as N	mg/L	0.0050	0.018
Nitrite as NO2 by calculation	mg/L	0.020	0.060
NOx as N	mg/L	0.0050	0.44

# Certificate of Analysis MGD0009

## Inorganics - Cyanide Species and Similar (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Total Cyanide	mg/L	0.0040	<0.0040

# Certificate of Analysis MGD0009

## Microbiological Suite (Water) - Analysed By MPL Laboratories

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Total Coliforms	cfu/100mL	1	<1
Thermotolerant Coliforms	cfu/100mL	1	<1
E.coli	cfu/100mL	1	<1

# Certificate of Analysis MGD0009

## Subcontracted Inorganics - Certificate: 323661 - Analysed By Sydney Water Corporation (Water)

<b>Envirolab ID</b>	<b>Units</b>	<b>PQL</b>	MGD0009-01
<b>Your Reference</b>			B#Z03104ST
<b>Date Sampled</b>			01/04/2025
Chlorite*	mg/L	0.10	<0.1

# Certificate of Analysis MGD0009

## Subcontracted Inorganics - Certificate: RN1461220 - Analysed By National Measurement Institute (Sydney) (Water)

<b>Envirolab ID</b>	<b>Units</b>	<b>PQL</b>	MGD0009-01
<b>Your Reference</b>			B#Z03104ST
<b>Date Sampled</b>			01/04/2025
Endothal	µg/L	1.0	<2

# Certificate of Analysis MGD0009

## Subcontracted Radiological - Certificate: ME371571 - Analysed By SGS Environment Services (VIC) (Water)

Envirolab ID	Units	PQL	MGD0009-01
Your Reference			B#Z03104ST
Date Sampled			01/04/2025
Gross alpha	Bq/L		<0.038 [6]
Gross beta	Bq/L		0.069 [6] [7]
Radium 226	Bq/L		<0.034 [6]
Radium 228	Bq/L		<0.034 [6]

# Certificate of Analysis MGD0009

## Result Comments

Identifier	Description
[2]	Surrogate recovery was outside routine acceptance criteria (60-140%) due to sample matrix effects. This may be due to the presence of carbon and/or other artefacts. An acceptable recovery was achieved for the LCS surrogates.
[3]	PQL has been raised due to matrix requiring dilution
[5]	Sample(s) received outside of recommended Technical Holding Time (THT), however, the analysis has proceeded as requested. Note, analyte(s) integrity and therefore reported results may be affected.
[6]	The sub-contracting laboratory did not provide analysis and/or preparation and/or sample receipt dates. The date(s) the sample(s) was/were received at the sub-contracting laboratory has/have been used to assess holding time(s).
[7]	Result value reported by subcontracting lab was 0.069 ±0.046 Bq/L.

# Certificate of Analysis MGD0009

## Method Summary

Method ID	Methodology Summary
INORG-014	Cyanide - free, total, weak acid dissociable by segmented flow analyser (in line dialysis with colourimetric finish). Solids/Filters and sorbents are extracted in a caustic media prior to analysis. Impingers are pH adjusted as required prior to analysis. Cyanides amenable to Chlorination - samples are analysed untreated and treated with hypochlorite to assess the potential for chlorination of cyanide forms.
INORG-018	Total Dissolved Solids - determined gravimetrically. The solids are dried at 180±10°C. NOTE: Where the EC of the sample is <100µS/cm, the TDS will typically be below 70mg/L (as the sample is very likely to be at least drinking water quality). Therefore to ensure data quality for TDS, the TDS is typically calculated as per the equation: TDS = EC*0.6
INORG-022	Turbidity - measured nephelometrically using a turbidimeter, in accordance with APHA latest edition, 2130-B.
INORG-026	Fluoride determined by ion selective electrode (ISE) based on APHA latest edition, 4500-F-C. Solids are reported from a 1:5 water extract unless otherwise specified.
INORG-042	Free and Total Chlorine are analysed using a test kit in accordance with APHA latest edition 4500-Cl- G and in house method INORG-042. Please note that the results for water analyses are indicative only, as analysis is outside of the APHA storage times. The difference between Free and Total Chlorine is defined as combined forms of Chlorine that are typically Chloramines.
INORG-055	Nitrate/Nitrite/NOx/TKN - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils/solids are analysed following a water extraction.
METALS-021	Determination of Mercury by Cold Vapour AAS.
METALS-022	Determination of various metals by ICP-MS. Please note for Bromine and Iodine, any forms of these elements that are present are included together in the one result reported for each of these two elements. Where salts (oxides, chlorides etc.) are calculated from the element concentration stoichiometrically there is no guarantee that the salt form is completely soluble in the acids used in the preparation.
MICRO-001B	E. coli/Thermotolerant coliforms: Microbial Water Analysis - in accordance with MICRO-001 (AS4276.5-latest edition). Recommended maximums based on NHMRC Australian Drinking Water Guidelines. Please note that results for this test derived from counts outside of the range 10-80 are considered approximate as per AS4276.1.
MICRO-001H	Total Coliforms: Microbial Water Analysis - in accordance with MICRO-001 (AS4276.5-latest edition). Recommended maximums based on NHMRC Australian Drinking Water Guidelines. Please note that results for this test derived from counts outside of the range 10-80 are considered approximate as per AS4276.1.
ORG-021/022/025_P CB	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD and/or GC-MS/GC-MSMS.
ORG-022	Determination of semi-volatile organic compounds (SVOCs) by GC-MS. Water samples are extracted by LLE and soils using DCM/Acetone/Methanol.
ORG-022_OC	Determination of semi-volatile organic compounds (SVOCs) by GC-MS. Water samples are extracted by LLE and soils using DCM/Acetone/Methanol.
ORG-022_PAH	Determination of semi-volatile organic compounds (SVOCs) by GC-MS. Water samples are extracted by LLE and solids using DCM/Acetone/Methanol. For PAHs:- Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. 1. 'TEQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'TEQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'TEQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, for Total +ve calculations, the PQL is reflective of the lowest individual PQL and therefore, for example, "Total +ve PAHs" is simply a sum of the positive individual PAHs.
ORG-022B	Determination of Organic Analytes by GC-MS
ORG-023	Determination of volatile organic compounds (VOCs) by P&T-GC-MS. Water samples are analysed directly by purge and trap GC-MS. Soils are extracted with Methanol, diluted and analysed by purge and trap GC-MS.
ORG-023_F1_TOT	Determination of volatile organic compounds (VOCs) by P&T-GC-MS. Water samples are analysed directly by purge and trap GC-MS. Solids are extracted with Methanol, diluted and analysed by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.
ORG-025_HAA	Samples are extracted with solvents and the extracts analysed by GC-MS-MS after derivatisation.

# Certificate of Analysis MGD0009

## Method Summary

Method ID	Methodology Summary
ORG-029	Soil/solid and sorbent samples are extracted with basified Methanol. Waters and soil/sorbent extracts are directly injected and/or concentrated/extracted using SPE. TCLP/ASLP leachates are centrifuged, the supernatant is then analysed (including amendment with solvent) - as per the option in AS4439.3. Analysis is undertaken with LC-MSMS. PFAS results include the sum of branched and linear isomers where applicable. Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.4 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components. Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.
ORG-029_OXYHALIDES	Water Samples for Oxyhalides are filtered through 0.2µm filter prior to analysis on LC-MS-MS.
ORG-029_SVOC_VOC_LCMSMS	Water samples are run directly, soils are extracted using an aqueous buffer and plant material using solvent extraction/cleanup. Further cleanup maybe necessary. Analysis using LC-MS-MS.
SUB-025	Subcontracted to NMI Sydney - Accreditation number 198
SUB-027	Subcontracted to SGS - Accreditation number 2562
SUB-027_GAB1	Subcontracted to SGS - Accreditation number 2562
SUB-031A	Subcontracted to Sydney Water - Accreditation number 63

# Certificate of Analysis MGD0009

## Result Definitions

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Identifier	Description
NR	Not reported
NEPM	National Environment Protection Measure
NS	Not specified
LCS	Laboratory Control Sample
RPD	Relative Percent Difference
>	Greater than
<	Less than
PQL	Practical Quantitation Limit
INS	Insufficient sample for this test
NA	Test not required
NT	Not tested
DOL	Samples rejected due to particulate overload (air filters only)
RFD	Samples rejected due to filter damage (air filters only)
RUD	Samples rejected due to uneven deposition (air filters only)
##	Indicates a laboratory acceptance criteria outlier, for further details, see Result Comments and/or QC Comments

## Quality Control Definitions

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### Blank

This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, and is determined by processing solvents and reagents in exactly the same manner as for samples.

### Surrogate Spike

Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

### LCS (Laboratory Control Sample)

This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.

### Matrix Spike

A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.

### Duplicate

This is the complete duplicate analysis of a sample from the process batch. The sample selected should be one where the analyte concentration is easily measurable.

# Certificate of Analysis MGD0009

## Laboratory Acceptance Criteria

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Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria. Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction. Spikes for Physical and Aggregate Tests are not applicable. For VOCs in water samples, three vials are required for duplicate or spike analysis.

General Acceptance Criteria (GAC) - Analyte specific criteria applies for some analytes and is reflected in QC recovery tables.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% - see ELN-P05 QAQC tables for details (available on request); <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase. Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was typically insufficient in order to satisfy laboratory QA/QC protocols.

## Miscellaneous Information

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When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached. We have taken the sampling date as being the date received at the laboratory.

Two significant figures are reported for the majority of tests and with a high degree of confidence, for results <10\*PQL, the second significant figure may be in doubt i.e. has a relatively high degree of uncertainty and is provided for information only.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS where sediment/solids are included by default.

Urine Analysis - The BEI values listed are taken from the 2022 edition of *TLVs and BEIs Threshold Limits by ACGIH*.

Air volumes are typically provided by customers (often as flow rate(s) and sampling time(s) and/or simply volume(s) sampled or exposure times (determines 'volume' passive badges are exposed to)). Hence in such circumstances the volume measurement is inevitably not covered by Envirolab's NATA accreditation. An exception may occur where Envirolab Newcastle does the sampling where accreditation exists for certain types of sampling and hence volume determination(s). Note air volumes are often used to determine concentrations for dust and/or analyses on filters, sorbents and in impingers. For canister sampling, the air volume is covered by Envirolab's NATA accreditation.

# Data Quality Assessment Summary MGD0009

## Client Details

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**Client** Natural Aqua Solutions Pty Ltd  
**Your Reference** Three Bays full analysis  
**Date Issued** 03/07/2025

## Recommended Holding Time Compliance

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Recommended holding time exceedances exist - See detailed list below

## Quality Control and QC Frequency

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QC Type	Compliant	Details
Blank	Yes	No Outliers
LCS	Yes	No Outliers
Duplicates	No	Duplicate Outliers Exist - See detailed list below
Matrix Spike	No	Matrix Spike Outliers Exist - See detailed list below
Surrogates / Extracted Internal Standards	No	Surrogates / Extracted ISTD Outliers Exist - See detailed list below
QC Frequency	No	QC Frequency Outliers Exist - See detailed list below

Surrogates/Extracted Internal Standards, Duplicates and/or Matrix Spikes are not always relevant/applicable to certain analyses and matrices. Therefore, said QC measures are deemed compliant in these situations by default. See Laboratory Acceptance Criteria for more information

# Data Quality Assessment Summary MGD0009

## Recommended Holding Time Compliance

Analysis	Sample Number(s)	Date Sampled	Date Extracted	Date Analysed	Compliant
THM   Water	1	01/04/2025	10/04/2025	12/04/2025	Yes
Fumigants LL   Water	1	01/04/2025	10/04/2025	12/04/2025	Yes
VOC - MAH LL   Water	1	01/04/2025	10/04/2025	12/04/2025	Yes
Halogenated Aliphatics LL   Water	1	01/04/2025	10/04/2025	12/04/2025	Yes
Halogenated Aromatics LL   Water	1	01/04/2025	10/04/2025	12/04/2025	Yes
Other VOC LL   Water	1	01/04/2025	10/04/2025	12/04/2025	Yes
VOC - Surrogates LL   Water	1	01/04/2025	10/04/2025	12/04/2025	Yes
Dalapon   Water	1	01/04/2025	09/04/2025	09/04/2025	Yes
HAA   Water	1	01/04/2025	09/04/2025	09/04/2025	Yes
PAH   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
OCP   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
Toxaphene   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
OPP (21 list)   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
PCB   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
SVOC - PAH   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
SVOC - SVCH   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
SVOC - Speciated Phenols   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
SVOC - Phthalates   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
Haloethers   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
Nitrosamines   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
Nitroaromatics&Ketones   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
Anilines&Amines   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
Misc SVOC   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
SVOC - Surrogates   Water	1	01/04/2025	09/04/2025	11/04/2025	Yes
Carbamates/Phenyl Ureas   Water	1	01/04/2025	11/04/2025	14/04/2025	No
Phenoxy Acid Herbicides   Water	1	01/04/2025	09/04/2025	09/04/2025	No
Glyphosate   Water	1	01/04/2025	14/04/2025	15/04/2025	Yes
Diquat & Paraquat   Water	1	01/04/2025	11/04/2025	15/04/2025	No
Oxyhalides   Water	1	01/04/2025	11/04/2025	11/04/2025	Yes
Total Metals (LL)   Water	1	01/04/2025	09/04/2025	10/04/2025	Yes
Total Metals (LL)-Hg   Water	1	01/04/2025	09/04/2025	10/04/2025	Yes
Chloramines by calc   Water	1	01/04/2025	08/04/2025	10/04/2025	No
TDS   Water	1	01/04/2025	07/04/2025	14/04/2025	Yes
Turbidity   Water	1	01/04/2025	09/04/2025	09/04/2025	No
Fluoride   Water	1	01/04/2025	09/04/2025	09/04/2025	Yes
Nitrogen - Nitrate   Water	1	01/04/2025	08/04/2025	10/04/2025	Yes
Nitrogen - Nitrite   Water	1	01/04/2025	08/04/2025	10/04/2025	No

# Data Quality Assessment Summary MGD0009

## Recommended Holding Time Compliance

Analysis	Sample Number(s)	Date Sampled	Date Extracted	Date Analysed	Compliant
Nitrogen - NOx   Water	1	01/04/2025	08/04/2025	10/04/2025	No
Cyanide - Total   Water	1	01/04/2025	07/04/2025	09/04/2025	Yes
E. coli & T.T.coli   Water	1	01/04/2025	03/04/2025	03/04/2025	No
Total Coliforms   Water	1	01/04/2025	03/04/2025	03/04/2025	No
Chlorite   Water	1	01/04/2025	11/04/2025	11/04/2025	Yes
Endothal   Water	1	01/04/2025	03/04/2025	04/04/2025	Yes
Gross alpha & beta   Water	1	01/04/2025	16/04/2025	10/04/2025	Yes
Radium 226 & 228   Water	1	01/04/2025	08/04/2025	12/05/2025	Yes

## Outliers: Duplicates

### METALS-022 | Acid Extractable Low Level Metals (Water) | Batch BGD1682

Sample ID	Duplicate ID	Analyte	% Limits	RPD
BGD1682-DUP2#	DUP2	Aluminium	30.00	50.0[4]
BGD1682-DUP2#	DUP2	Arsenic	30.00	31.7[4]
BGD1682-DUP2#	DUP2	Copper	30.00	77.7[4]
BGD1682-DUP2#	DUP2	Lead	30.00	63.3[4]

## Outliers: Matrix Spike

### INORG-014 | Inorganics - Cyanide Species and Similar (Water) | Batch BGD1071

Sample ID	Analyte	% Limits	% Recovery
BGD1071-MS1#	Total Cyanide	70 - 130	##[1]

### INORG-055 | Inorganics - Nutrients (Water) | Batch BGD2145

Sample ID	Analyte	% Limits	% Recovery
BGD2145-MS1#	Nitrate as N	70 - 130	##[1]

# Data Quality Assessment Summary MGD0009

## Outliers: Surrogate / Extracted Internal Standards

### ORG-021/022/025\_PCB | Polychlorinated Biphenyls (Matrix) | Batch BGD1663

Sample ID	Analyte	% Limits	% Recovery
MGD0009-01	2-Fluorobiphenyl	60 - 140	40.2% [2]

### ORG-022 | Organophosphorus Pesticides (Matrix) | Batch BGD1663

Sample ID	Analyte	% Limits	% Recovery
MGD0009-01	4-chloro-3-nitrobenzotrifluoride	60 - 140	48.0% [2]

### ORG-022 | SVOC - Surrogates (Matrix) | Batch BGD1663

Sample ID	Analyte	% Limits	% Recovery
MGD0009-01	4-chloro-3-nitrobenzotrifluoride	60 - 140	48.0% [2]
	2-Fluorophenol	30 - 100	26.9% [2]
	2-Fluorobiphenyl	60 - 140	40.2% [2]

### ORG-022\_OC | Organochlorine Pesticides (Matrix) | Batch BGD1663

Sample ID	Analyte	% Limits	% Recovery
MGD0009-01	4-chloro-3-nitrobenzotrifluoride	60 - 140	48.0% [2]

## Outliers: QC Frequency

### ORG-022 | Phenoxy Acid Herbicides (Water) | Batch BGD1664

Analysis	QC Type	Expected	Reported
Phenoxy Acid Herbicides	Duplicate	1	0
	Matrix Spike	1	0

# Quality Control MGD0009

## ORG-023 | Volatile Organic Compounds (Water) | Batch BGD1977

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %	Spike %
				BGD1977-DUP1#	RPD %	BGD1977-DUP2#	RPD %		
Chloroform	µg/L	1.0	<1.0	<1.0	<1.0   [NA]	<1.0	<1.0   [NA]	97.3	102
Bromodichloromethane	µg/L	1.0	<1.0	<1.0	<1.0   [NA]	<1.0	<1.0   [NA]	88.4	99.2
Dibromochloromethane	µg/L	1.0	<1.0	<1.0	<1.0   [NA]	<1.0	<1.0   [NA]	88.8	105
Bromoform	µg/L	1.0	<1.0	<1.0	<1.0   [NA]	<1.0	<1.0   [NA]	81.6	94.7
<i>Surrogate Dibromofluoromethane</i>	%		103	109	110	107	108	100	110
<i>Surrogate Toluene-D8</i>	%		98.8	100	99.8	98.4	99.2	101	102
<i>Surrogate 4-Bromofluorobenzene</i>	%		94.1	96.4	96.8	94.6	95.0	95.8	99.6

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## ORG-023 | Volatile Organic Compounds - Fumigants - Low Level (Water) | Batch BGD1977

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %	Spike %
				BGD1977-DUP1#	RPD %	BGD1977-DUP2#	RPD %		
2,2-Dichloropropane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
1,2-Dichloropropane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	85.3	92.9
cis-1,3-Dichloropropene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	81.4	89.7
trans-1,3-Dichloropropene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	78.5	89.0
1,2-Dibromoethane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	94.5	114
<i>Surrogate Dibromofluoromethane</i>	%		103	109	110	107	108	100	110
<i>Surrogate Toluene-D8</i>	%		98.8	100	99.8	98.4	99.2	101	102
<i>Surrogate 4-Bromofluorobenzene</i>	%		94.1	96.4	96.8	94.6	95.0	95.8	99.6

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## ORG-023\_F1\_TOT | Volatile Organic Compounds - MAH - Low Level (Water) | Batch BGD1977

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %	Spike %
				BGD1977-DUP1#	RPD %	BGD1977-DUP2#	RPD %		
Benzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	90.7	92.2
Toluene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	97.2	99.7
Ethylbenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	92.3	88.6
meta+para Xylene	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	<0.20	<0.20   [NA]	93.9	91.0
Styrene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
ortho-Xylene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	93.1	94.0
Isopropylbenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
n-Propylbenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
1,3,5-Trimethylbenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
tert-Butylbenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
1,2,4-Trimethylbenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
sec-Butylbenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
4-Isopropyltoluene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
n-Butyl benzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## Quality Control MGD0009

### ORG-023 | Volatile Organic Compounds - Halogenated Aliphatics - Low Level (Water) | Batch BGD1977

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %	Spike %
				BGD1977-DUP1# Samp   QC   RPD %		BGD1977-DUP2# Samp   QC   RPD %			
Dichlorodifluoromethane (Freon-12)	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	<2.0	<2.0   [NA]	[NA]	[NA]
Chloromethane	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	<2.0	<2.0   [NA]	[NA]	[NA]
Vinyl chloride	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	<0.20	<0.20   [NA]	[NA]	[NA]
Bromomethane	µg/L	1.0	<1.0	<1.0	<1.0   [NA]	<1.0	<1.0   [NA]	[NA]	[NA]
Chloroethane	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	<2.0	<2.0   [NA]	[NA]	[NA]
Trichlorofluoromethane (Freon-11)	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	<2.0	<2.0   [NA]	[NA]	[NA]
1,1-Dichloroethene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
trans-1,2-Dichloroethene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
1,1-Dichloroethane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	90.4	90.5
cis-1,2-Dichloroethene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
Bromochloromethane	µg/L	0.50	<0.50	<0.50	<0.50   [NA]	<0.50	<0.50   [NA]	[NA]	[NA]
Chloroform	µg/L	0.50	<0.50	<0.50	<0.50   [NA]	<0.50	<0.50   [NA]	97.3	102
1,1,1-Trichloroethane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	98.8	98.5
1,1-Dichloropropene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
Carbon Tetrachloride	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
1,2-Dichloroethane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	93.2	108
Trichloroethene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	117	101
Dibromomethane	µg/L	0.50	<0.50	<0.50	<0.50   [NA]	<0.50	<0.50   [NA]	[NA]	[NA]
Bromodichloromethane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	88.4	99.2
1,1,2-Trichloroethane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
1,3-Dichloropropane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
Tetrachloroethene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	108	107
Dibromochloromethane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	88.8	105
1,1,1,2-Tetrachloroethane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
Bromoform	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	81.6	94.7
1,1,2,2-Tetrachloroethane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
1,2,3-Trichloropropane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
1,2-Dibromo-3-chloropropane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
Hexachlorobutadiene	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	<0.20	<0.20   [NA]	[NA]	[NA]

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

### ORG-023 | Volatile Organic Compounds - Halogenated Aromatics - Low Level (Water) | Batch BGD1977

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %	Spike %
				BGD1977-DUP1# Samp   QC   RPD %		BGD1977-DUP2# Samp   QC   RPD %			
Chlorobenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
Bromobenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
2-Chlorotoluene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
4-Chlorotoluene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
1,3-Dichlorobenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
1,4-Dichlorobenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	93.5	97.4
1,2-Dichlorobenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]
1,2,4-Trichlorobenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	91.0	99.2
1,2,3-Trichlorobenzene	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	[NA]	[NA]

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

### ORG-023 | Volatile Organic Compounds - Other VOCs - Low Level (Water) | Batch BGD1977

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %	Spike %
				BGD1977-DUP1# Samp   QC   RPD %		BGD1977-DUP2# Samp   QC   RPD %			
Cyclohexane	µg/L	0.10	<0.10	<0.10	<0.10   [NA]	<0.10	<0.10   [NA]	99.7	102

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

# Quality Control MGD0009

## ORG-023 | Volatile Organic Compounds - Surrogates - Low Level (Water) | Batch BGD1977

Analyte	Units	PQL	Blank	DUP1	DUP2	LCS %	Spike %
				BGD1977-DUP1# Samp   QC   RPD %	BGD1977-DUP2# Samp   QC   RPD %		
Surrogate Dibromofluoromethane	%		103	109   110	107   108	100	110
Surrogate Toluene-D8	%		98.8	100   99.8	98.4   99.2	101	102
Surrogate 4-Bromofluorobenzene	%		94.1	96.4   96.8	94.6   95.0	95.8	99.6

Analyte	Units	PQL	Blank			LCS %	Spike %
				BGD1977-MS1#			
Surrogate Dibromofluoromethane	%					99.1	108
Surrogate Toluene-D8	%					98.8	100
Surrogate 4-Bromofluorobenzene	%					94.2	97.6

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## ORG-025\_HAA | Haloacetic Acids (Water) | Batch BGD1667

Analyte	Units	PQL	Blank	DUP1	LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %		
Chloroacetic acid (MCA)	mg/L	0.050	<0.050	<0.050   <0.050   [NA]	[NA]	[NA]
Dalapon	µg/L	10	<10	<10   <10   [NA]	107	108
Dichloroacetic acid (DCA)	mg/L	0.020	<0.020	<0.020   <0.020   [NA]	106	118
Trichloroacetic acid (TCA)	mg/L	0.020	<0.020	<0.020   <0.020   [NA]	113	120
Trichloroacetaldehyde (Chloral Hydrate)	mg/L	0.020	<0.020	<0.020   <0.020   [NA]	[NA]	[NA]
Surrogate 2-Bromobutanoic Acid	%		91.1	108   104	104	101

## ORG-022\_PAH | Polycyclic Aromatic Hydrocarbons (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1	LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %		
Naphthalene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	80.0	74.8
Acenaphthylene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	[NA]	[NA]
Acenaphthene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	82.8	76.7
Fluorene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	78.4	74.6
Phenanthrene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	87.6	81.0
Anthracene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	[NA]	[NA]
Fluoranthene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	90.1	86.2
Pyrene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	93.1	90.1
Benzo(a)anthracene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	[NA]	[NA]
Chrysene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	89.2	88.1
Benzo(b,j,k)fluoranthene	µg/L	0.20	<0.20	<0.20   <0.20   [NA]	[NA]	[NA]
Benzo(a)pyrene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	90.3	93.9
Indeno(1,2,3-c,d)pyrene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	[NA]	[NA]
Dibenzo(a,h)anthracene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	[NA]	[NA]
Benzo(g,h,i)perylene	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	[NA]	[NA]
Surrogate p-Terphenyl-D14	%		98.7	77.7   86.3	96.0	93.3

# Quality Control MGD0009

## ORG-022 | Organochlorine Pesticides (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Toxaphene	µg/L	1.0	<1.0	<1.0	<1.0   [NA]	[NA]	[NA]
alpha-BHC	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	82.3	79.0
Hexachlorobenzene	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
beta-BHC	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	77.9	84.1
gamma-BHC	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
delta-BHC	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Heptachlor	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	110	91.7
Aldrin	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	100	94.4
Heptachlor epoxide	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	87.1	86.4
trans-Chlordane	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
cis-Chlordane	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Endosulfan I	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
4,4'-DDE	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	86.8	87.5
Dieldrin	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	83.8	89.4
Endrin	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	82.2	72.6
4,4'-DDD	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	93.2	119
Endosulfan II	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Endrin aldehyde	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
4,4'-DDT	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Endosulfan sulfate	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	86.2	78.8
Endrin ketone	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Methoxychlor	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Mirex	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
<i>Surrogate</i> 4-chloro-3-nitrobenzotrifluoride	%		74.9		48.0   60.7	79.2	74.4
<i>Surrogate p-Terphenyl-D14</i>	%		98.7		77.7   86.3	96.0	93.3

## ORG-022 | Organophosphorus Pesticides (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Dichlorvos	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	88.8	83.2
Dimethoate	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Diazinon	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Chlorpyrifos-methyl	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	84.3	79.4
Ronnel	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	85.3	80.5
Fenitrothion	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	103	95.7
Malathion	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	107	101
Chlorpyrifos	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	85.6	86.4
Parathion	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	98.3	94.7
Bromophos-ethyl	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Ethion	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	88.7	84.8
Coumaphos	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Disulfoton	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Fenamiphos	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Fenthion	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Methodathion	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Mevinphos	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Parathion-methyl	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Phorate	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Phosalone	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
Azinphos-methyl	µg/L	0.20	<0.20	<0.20	<0.20   [NA]	[NA]	[NA]
<i>Surrogate</i> 4-chloro-3-nitrobenzotrifluoride	%		74.9		48.0   60.7	79.2	74.4

# Quality Control MGD0009

## ORG-021/022/025\_PCB | Polychlorinated Biphenyls (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Aroclor 1016	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Aroclor 1221	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Aroclor 1232	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Aroclor 1242	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Aroclor 1248	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Aroclor 1254	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Aroclor 1260	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
PCB C103	µg/L				0.00   0.00   [NA]	79.0	76.4
<i>Surrogate 2-Fluorobiphenyl</i>	%		63.1		40.2   46.3 [2]	73.4	66.8

## ORG-022 | SVOC - PAH (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Naphthalene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	80.0	74.8
2-Methylnaphthalene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
2-Chloronaphthalene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
1-Chloronaphthalene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Acenaphthylene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Acenaphthene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Fluorene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	78.4	74.6
Phenanthrene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	87.6	81.0
Anthracene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Fluoranthene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	90.1	86.2
Pyrene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	93.1	90.1
2-Acetylaminofluorene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Benzo(a)anthracene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Chrysene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	89.2	88.1
Benzo(b,j,k)fluoranthene	µg/L	4.0	<4.0	<4.0	<4.0   <4.0   [NA]	[NA]	[NA]
7,12-Dimethylbenz(a)anthracene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Benzo(a)pyrene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	90.3	93.9
3-Methylcholanthrene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Indeno(1,2,3-c,d)pyrene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Dibenzo(a,h)anthracene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Benzo(g,h,i)perylene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]

## ORG-022 | SVOC - SVCH (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Pentachloroethane	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
1,3-Dichlorobenzene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
1,4-Dichlorobenzene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	75.3	71.1
1,2-Dichlorobenzene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Hexachloroethane	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
1,2,4-Trichlorobenzene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	68.9	65.9
Hexachloropropene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Hexachlorobutadiene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Hexachlorocyclopentadiene	µg/L	5.0	<5.0	<5.0	<5.0   <5.0   [NA]	[NA]	[NA]
1,2,3,5 & 1,2,4,5-Tetrachlorobenzene	µg/L	4.0	<4.0	<4.0	<4.0   <4.0   [NA]	[NA]	[NA]
Pentachlorobenzene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]
Hexachlorobenzene	µg/L	2.0	<2.0	<2.0	<2.0   <2.0   [NA]	[NA]	[NA]

# Quality Control MGD0009

## ORG-022 | SVOC - Phenols (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Phenol	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	52.9	46.5
2-Chlorophenol	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	73.2	66.9
2-Methylphenol	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	[NA]	[NA]
3/4-Methylphenol	µg/L	4.0	<4.0	<4.0	<4.0   [NA]	[NA]	[NA]
2-Nitrophenol	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	[NA]	[NA]
2,4-Dimethylphenol	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	[NA]	[NA]
2,4-Dichlorophenol	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	[NA]	[NA]
2,6-Dichlorophenol	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	66.8	66.8
4-Chloro-3-methylphenol	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
2,4,6-Trichlorophenol	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	[NA]	[NA]
2,4,5-Trichlorophenol	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	[NA]	[NA]
2,4-Dinitrophenol	µg/L	20	<20	<20	<20   [NA]	[NA]	[NA]
4-Nitrophenol	µg/L	20	<20	<20	<20   [NA]	[NA]	[NA]
2,3,4,6-Tetrachlorophenol	µg/L	2.0	<2.0	<2.0	<2.0   [NA]	[NA]	[NA]
4,6-Dinitro-2-methylphenol	µg/L	20	<20	<20	<20   [NA]	[NA]	[NA]
Pentachlorophenol	µg/L	10	<10	<10	<10   [NA]	[NA]	[NA]
Dinoseb	µg/L	20	<20	<20	<20   [NA]	[NA]	[NA]

## ORG-022 | SVOC - Phthalates (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Dimethyl phthalate	µg/L	10	<10	<10	<10   [NA]	71.0	67.7
Diethyl phthalate	µg/L	10	<10	<10	<10   [NA]	90.4	83.1
Di-n-butyl phthalate	µg/L	50	<50	<50	<50   [NA]	139	127
Butyl benzyl phthalate	µg/L	10	<10	<10	<10   [NA]	[NA]	[NA]
Bis(2-ethylhexyl) phthalate (DEHP)	µg/L	50	<50	<50	<50   [NA]	[NA]	[NA]
Di-n-octyl phthalate	µg/L	10	<10	<10	<10   [NA]	[NA]	[NA]

## ORG-022 | SVOC - Haloethers (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Bis(2-chloroethyl) ether	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	80.0	75.8
Bis(2-chloroisopropyl) ether	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	117	107
Bis(2-chloroethoxy) methane	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	86.0	81.3
4-Chlorophenyl phenyl ether	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	72.8	69.9
4-Bromophenyl phenyl ether	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	70.1	66.1

## ORG-022 | SVOC - Nitrosamines (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
N-Nitrosodi-n-propylamine	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	85.7	89.8
N-Nitrosomorpholine	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
N-Nitrosopiperidine	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
N-Nitrosodi-n-butylamine	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
Diphenylamine	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	62.3	62.4

# Quality Control MGD0009

## ORG-022 | SVOC - Nitroaromatics and Ketones (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Acetophenone	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
Nitrobenzene	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	83.1	78.7
Isophorone	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	81.0	75.1
1,3-Dinitrobenzene	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
2,6-Dinitrotoluene	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	85.9	80.4
5-Nitro-o-toluidine	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
Azobenzene	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	73.7	66.6
Phenacetin	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
Pentachloronitrobenzene	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]

## ORG-022 | SVOC - Anilines and Amines (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Aniline	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
4-Chloroaniline	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
2-Nitroaniline	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
3-Nitroaniline	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
Dibenzofuran	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
2-Naphthylamine	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
1-Naphthylamine	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
4-Nitroaniline	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]

## ORG-022 | SVOC - Miscellaneous SVOCs (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Ethyl methanesulfonate	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	77.3	82.8
Benzyl alcohol	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
Isosafrole (cis + trans)	µg/L	10	<10	<10	<10   [NA]	[NA]	[NA]
Safrole	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
Carbazole	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]
Methapyrilene	µg/L	10	<10	<10	<10   [NA]	[NA]	[NA]
p-Dimethylaminoazobenzene	µg/L	5.0	<5.0	<5.0	<5.0   [NA]	[NA]	[NA]

## ORG-022 | SVOC - Surrogates (Water) | Batch BGD1663

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %			
Surrogate 2-Fluorophenol	%		63.2	26.9	51.6	67.1	58.8
Surrogate Phenol-D6	%		41.9	30.5	37.4	50.9	46.7
Surrogate 4-chloro-3-nitrobenzotrifluoride	%		74.9	48.0	60.7	79.2	74.4
Surrogate Nitrobenzene-D5	%		93.8	63.2	71.3	97.3	91.1
Surrogate 2-Fluorobiphenyl	%		63.1	40.2	46.3 [2]	73.4	66.8
Surrogate p-Terphenyl-D14	%		98.7	77.7	86.3	96.0	93.3

## ORG-029\_SVOC\_VOC\_LCMSMS | Carbamates, Thiocarbamates and Phenyl Ureas (Water) | Batch BGD2337

Analyte	Units	PQL	Blank	DUP1		DUP2	LCS %	Spike %
				MGD0009-01 Samp   QC   RPD %				
				BGD2337-DUP2#				
				Samp   QC   RPD %		Samp   QC   RPD %		
Oxamyl	µg/L	1.0	<1.0	<1.0	<1.0   [NA]	<1.0   <1.0   [NA]	[NA]	[NA]
Fluometuron	µg/L	0.50	<0.50	<0.50	<0.50   [NA]	<0.50   <0.50   [NA]	103	[NA]
Diuron	µg/L	0.50	<0.50	<0.50	<0.50   [NA]	<0.50   <0.50   [NA]	104	[NA]
Surrogate Terbutylazine-d5	%		97.0	91.1	94.3	107	124	107

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

# Quality Control MGD0009

## ORG-022 | Phenoxy Acid Herbicides (Water) | Batch BGD1664

Analyte	Units	PQL	Blank	LCS %
Clopyralid	µg/L	0.50	<0.50	[NA]
3,5-Dichlorobenzoic acid	µg/L	0.50	<0.50	[NA]
2-Chlorophenoxy acetic acid	µg/L	0.50	<0.50	[NA]
4-Chlorophenoxy acetic acid	µg/L	0.50	<0.50	[NA]
Dicamba	µg/L	0.50	<0.50	80.8
Mecoprop	µg/L	0.50	<0.50	64.9
MCPA	µg/L	0.50	<0.50	67.1
2,6-D	µg/L	0.50	<0.50	[NA]
Dichlorprop	µg/L	0.50	<0.50	[NA]
2,4-D	µg/L	0.50	<0.50	79.5
Bromoxynil	µg/L	0.50	<0.50	[NA]
Triclopyr	µg/L	0.50	<0.50	[NA]
2,4,6-T	µg/L	0.50	<0.50	[NA]
2,4,5-TP	µg/L	0.50	<0.50	[NA]
2,4,5-T	µg/L	0.50	<0.50	83.0
MCPB	µg/L	0.50	<0.50	[NA]
Dinoseb	µg/L	1.0	<1.0	[NA]
2,4-DB	µg/L	0.50	<0.50	[NA]
Ioxynil	µg/L	1.0	<1.0	[NA]
Picloram	µg/L	1.0	<1.0	[NA]
Acifluorfen	µg/L	2.0	<2.0	[NA]
Fluroxypyr	µg/L	1.0	<1.0	[NA]
Bentazon	µg/L	1.0	<1.0	[NA]
<i>Surrogate 2,4-DCPA</i>	%		75.7	78.0

## ORG-029\_SVOC\_VOC\_LCMSMS | Glyphosate (Water) | Batch BGD2640

Analyte	Units	PQL	Blank	DUP1 MGD0009-01 Samp   QC   RPD %	LCS %	Spike % BGD2640-MS1#
Glyphosate	mg/L	0.010	<0.010	<0.010   <0.010   [NA]	93.5	84.3

## ORG-029 | Diquat/Paraquat (Water) | Batch BGD2329

Analyte	Units	PQL	Blank	DUP1 MGD0009-01 Samp   QC   RPD %	DUP2 BGD2329-DUP2# Samp   QC   RPD %	LCS %	Spike % BGD2329-MS1#
Diquat	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	<0.10   <0.10   [NA]	109	105
Paraquat	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	<0.10   <0.10   [NA]	103	104

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## ORG-029\_OXYHALIDES | LC-MS-MS Oxyhalides (Water) | Batch BGD2251

Analyte	Units	PQL	Blank	DUP1 MGD0009-01 Samp   QC   RPD %	LCS %	Spike % BGD2251-MS1#
Bromate	µg/L	0.50	<0.50	<5.0   <5.0   [NA] [3]	98.4	85.9

# Quality Control MGD0009

## METALS-022 | Acid Extractable Low Level Metals (Water) | Batch BGD1682

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %	Spike %
				MGD0009-01	BGD1682-DUP2#	MGD0009-01	BGD1682-DUP2#		
				Samp   QC   RPD %	Samp   QC   RPD %	Samp   QC   RPD %	Samp   QC   RPD %		
Aluminium	µg/L	10	<10	<10   <10   [NA]	917   1530   50.0 [4]			99.4	86.8
Antimony	µg/L	1.0	<1.0	<1.0   <1.0   [NA]	1.10   1.12   [NA]			107	89.7
Arsenic	µg/L	1.0	<1.0	<1.0   <1.0   [NA]	15.5   21.3   31.7 [4]			105	97.5
Barium	µg/L	1.0	<1.0	49.3   49.1   0.407	34.8   41.4   17.3			100	94.1
Beryllium	µg/L	0.50	<0.50	<0.50   <0.50   [NA]	<0.50   <0.50   [NA]			110	116
Cadmium	µg/L	0.10	<0.10	<0.10   <0.10   [NA]	<0.10   <0.10   [NA]			108	101
Chromium	µg/L	1.0	<1.0	<1.0   <1.0   [NA]	2.71   4.46   [NA] [4]			106	96.7
Copper	µg/L	1.0	<1.0	14.2   14.3   0.841	4.58   10.4   77.7 [4]			106	99.7
Lead	µg/L	1.0	<1.0	<1.0   <1.0   [NA]	3.76   7.25   63.3 [4]			108	99.8
Nickel	µg/L	1.0	<1.0	8.15   8.18   0.367	5.12   6.22   [NA]			105	96.2
Selenium	µg/L	1.0	<1.0	<1.0   <1.0   [NA]	<1.0   <1.0   [NA]			106	100
Silver	µg/L	1.0	<1.0	<1.0   <1.0   [NA]	<5.0   <5.0   [NA]			114	107
Thallium	µg/L	1.0	<1.0	<1.0   <1.0   [NA]	<1.0   <1.0   [NA]			108	101
Uranium	µg/L	1.0	<1.0	<1.0   <1.0   [NA]	<1.0   <1.0   [NA]			115	101

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## METALS-021 | Acid Extractable Low Level Metals (Water) | Batch BGD1724

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %	Spike %
				MGD0009-01	BGD1724-DUP2#	MGD0009-01	BGD1724-DUP2#		
				Samp   QC   RPD %	Samp   QC   RPD %	Samp   QC   RPD %	Samp   QC   RPD %		
Mercury	µg/L	0.050	<0.050	<0.050   <0.050   [NA]	<0.050   <0.050   [NA]			102	95.6

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## INORG-042 | Inorganics - Physical Parameters (Water) | Batch BGD0517

Analyte	Units	PQL	Blank	DUP1		LCS %
				BGD0517-DUP1#	MGD0009-01	
				Samp   QC   RPD %	Samp   QC   RPD %	
Free Chlorine	mg/L	0.10	<0.10	<0.10   <0.10   [NA]		115
Chloramines (Combined Chlorine) by calc	mg/L	0.10	<0.10	<0.10   <0.10   [NA]		[NA]
Total Chlorine	mg/L	0.10	<0.10	<0.10   <0.10   [NA]		105

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## INORG-022 | Inorganics - Physical Parameters (Water) | Batch BGD1680

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %
				MGD0009-01	BGD1680-DUP2#	MGD0009-01	BGD1680-DUP2#	
				Samp   QC   RPD %	Samp   QC   RPD %	Samp   QC   RPD %	Samp   QC   RPD %	
Turbidity	NTU	0.10	<0.10	0.210   0.200   [NA]	0.190   0.230   [NA]			99.7

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## INORG-018 | Inorganics - Physical Parameters (Water) | Batch BGD2082

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %
				MGD0009-01	BGD2082-DUP2#	MGD0009-01	BGD2082-DUP2#	
				Samp   QC   RPD %	Samp   QC   RPD %	Samp   QC   RPD %	Samp   QC   RPD %	
Total Dissolved Solids	mg/L	5.0	<5.0	1140   1180   2.59	2080   2180   4.69			116

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## INORG-026 | Inorganics - Miscellaneous and Common Anions (Water) | Batch BGD1681

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %	Spike %
				MGD0009-01	BGD1681-DUP2#	MGD0009-01	BGD1681-DUP2#		
				Samp   QC   RPD %	Samp   QC   RPD %	Samp   QC   RPD %	Samp   QC   RPD %		
Fluoride	mg/L	0.10	<0.10	0.150   0.156   [NA]	<0.10   <0.10   [NA]			102	100

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

# Quality Control MGD0009

## INORG-055 | Inorganics - Nutrients (Water) | Batch BGD2145

Analyte	Units	PQL	Blank	DUP1		DUP2		LCS %	Spike %		
				BGD2145-DUP1#		BGD2145-DUP2#					
				Samp   QC   RPD %	Samp   QC   RPD %						
Nitrate as N	mg/L	0.0050	<0.0050	<0.0050	<0.0050	[NA]	0.0155	<0.0050	[NA]	74.5	##[1]
Nitrate as NO3 by calculation	mg/L	0.020	<0.020						[NA]		[NA]
Nitrite as N	mg/L	0.0050	<0.0050	<0.0050	<0.0050	[NA]	<0.0050	0.0159	[NA]	119	127
Nitrite as NO2 by calculation	mg/L	0.020	<0.020						[NA]		[NA]
NOx as N	mg/L	0.0050	<0.0050	<0.0050	<0.0050	[NA]	0.0155	0.0147	[NA]	96.5	78.6

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## INORG-014 | Inorganics - Cyanide Species and Similar (Water) | Batch BGD1071

Analyte	Units	PQL	Blank	DUP1		LCS %	Spike %	
				BGD1071-DUP1#				
				Samp   QC   RPD %				
Total Cyanide	mg/L	0.0040	<0.0040	<0.0040	<0.0040	[NA]	86.0	##[1]

# The QC reported was not specifically part of this workorder but formed part of the QC process batch.

## MICRO-001B | Microbiological Suite (Water) | Batch BGD1571

Analyte	Units	PQL	Blank	DUP1		LCS %
				MGD0009-01		
				Samp   QC   RPD %		
Thermotolerant Coliforms	cfu/100mL	1	<1	<1	<1	[NA]
E.coli	cfu/100mL	1	<1	<1	<1	[NA]

## MICRO-001H | Microbiological Suite (Water) | Batch BGD1572

Analyte	Units	PQL	Blank	DUP1		LCS %
				MGD0009-01		
				Samp   QC   RPD %		
Total Coliforms	cfu/100mL	1	<1	<1	<1	[NA]

## QC Comments

Identifier	Description
[1]	Spike recovery is outside routine acceptance criteria (70-130%), this may be due to suspected non-homogeneity and/or matrix interference effects. However, an acceptable recovery was achieved for the LCS.
[2]	Surrogate recovery was outside routine acceptance criteria (60-140%) due to sample matrix effects. This may be due to the presence of carbon and/or other artefacts. An acceptable recovery was achieved for the LCS surrogates.
[3]	PQL has been raised due to matrix requiring dilution
[4]	The laboratory duplicate RPD acceptance criteria has been exceeded. Results are accepted due to the inhomogeneous nature of the sample.