



Corporate Accreditation No 63
Accredited for compliance with ISO/IEC 17025 - Testing



Analytical Report 285930

Issue Date: 09/06/2023
Issued By : Sydney Water Laboratory Services

Delivery Address: Sydney Water Corporation
[Redacted]
West Ryde NSW 2114

Telephone: [Redacted]
Email: [Redacted]

Attention: [Redacted]
Customer: Department of Planning and Environment
Customer ID: ZOEH_1

Address: [Redacted]
Telephone: [Redacted]
Email: [Redacted]

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Sydney Water Approved Signatory

[Redacted], Phycology Supervisor	[Redacted], Organics Analyst	[Redacted], Organics Senior Analyst
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Where a result is required to meet a compliance limit or specification the associated uncertainty must be considered. Uncertainty estimates are available for all accredited test results.

SAMPLE SUMMARY

<u>Client Sample ID</u>	<u>Sample Number</u>	<u>Sampling Procedure</u>	<u>Date Sampled</u>	<u>Date Received</u>	<u>Date Authorised</u>	<u>Description</u>
233908	L23042194	1	18/05/2023	23/05/2023	29/05/2023	
233909	L23042195	1	18/05/2023	23/05/2023	29/05/2023	
233910	L23042196	1	18/05/2023	23/05/2023	29/05/2023	
233911	L23042197	1	18/05/2023	23/05/2023	29/05/2023	
233912	L23042198	1	18/05/2023	23/05/2023	29/05/2023	
233918	L23042199	1	18/05/2023	23/05/2023	07/06/2023	
233919	L23042200	1	18/05/2023	23/05/2023	07/06/2023	
233920	L23042201	1	18/05/2023	23/05/2023	08/06/2023	
233921	L23042202	1	18/05/2023	23/05/2023	07/06/2023	
233922	L23042203	1	18/05/2023	23/05/2023	07/06/2023	

Sampling procedures

- 1 Samples analysed as received.
- 2 Samples collected as per FS procedures SAWI 070, Excluding Oil & Grease which is collected as per clients instructions.
- 3 Samples collected as per FS procedures SAWI 070.
- 4 Results reported as received from WNSW.

ANALYTICAL RESULTS

Client Sample ID	233908	233909	233910	233911	233912	233918	233919	233920
Sampled Date	18/05/2023 02:30:00 PM	18/05/2023 09:30:00 AM	18/05/2023 12:40:00 PM	18/05/2023 11:40:00 AM	18/05/2023 10:40:00 AM	18/05/2023 02:30:00 AM	18/05/2023 09:30:00 AM	18/05/2023 12:40:00 PM
Sample Number	L23042194	L23042195	L23042196	L23042197	L23042198	L23042199	L23042200	L23042201

ALGAL

MA71CENT : Blue-Green ID & Enumeration, Including ASU & Biovolumes

Blue Green ASU	ASU/mL	-	-	-	-	-	5668	3068	3542
Blue Green Biovol	mm3/L	-	-	-	-	-	3.69	3.32	2.63
Potentially Toxic Blue Green	cells/mL	-	-	-	-	-	9280	11040	12610
Potentially Toxic Blue Green ASU	ASU/mL	-	-	-	-	-	384	530.6	498
Potentially Toxic Blue Green Biovol	mm3/L	-	-	-	-	-	0.388	0.632	0.524
Total Blue Green	cells/mL	-	-	-	-	-	2269000	822100	1133000

MA91 : Individual Species Total Count, Total BioVol, Total ASU

Algae Source*	N/A	-	-	-	-	-	EXTERNAL	EXTERNAL	EXTERNAL
Date of Performance	DD/MM/YY						07/06/23 00:00	07/06/23 00:00	08/06/23 00:00

ORGANICS

TC0049DW : Algal Toxins

* Indicates NATA accreditation does not cover the performance of this service

"-" = Not required or refer to Laboratory comment

Client Sample ID	233908	233909	233910	233911	233912	233918	233919	233920
Sampled Date	18/05/2023 02:30:00 PM	18/05/2023 09:30:00 AM	18/05/2023 12:40:00 PM	18/05/2023 11:40:00 AM	18/05/2023 10:40:00 AM	18/05/2023 02:30:00 AM	18/05/2023 09:30:00 AM	18/05/2023 12:40:00 PM
Sample Number	L23042194	L23042195	L23042196	L23042197	L23042198	L23042199	L23042200	L23042201

ORGANICS

TC0049DW : Algal Toxins(Continued)

Anatoxin-a(extracellular)	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Anatoxin-a(intracellular)	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Anatoxin-a(total)	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Cylindrospermopsin (extra cellular)	ug/L	0.61	0.68	0.73	1.1	1.00	-	-	-
Cylindrospermopsin (intra cellular)	ug/L	<0.05	<0.05	0.08	0.10	<0.05	-	-	-
Cylindrospermopsin(total)	ug/L	0.65	0.72	0.81	1.2	1.0	-	-	-
Microcystin LR(extracellular)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Microcystin LR(intracellular)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Microcystin LR(total)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Microcystin RR(extracellular)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-

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Client Sample ID	233908	233909	233910	233911	233912	233918	233919	233920
Sampled Date	18/05/2023 02:30:00 PM	18/05/2023 09:30:00 AM	18/05/2023 12:40:00 PM	18/05/2023 11:40:00 AM	18/05/2023 10:40:00 AM	18/05/2023 02:30:00 AM	18/05/2023 09:30:00 AM	18/05/2023 12:40:00 PM
Sample Number	L23042194	L23042195	L23042196	L23042197	L23042198	L23042199	L23042200	L23042201

ORGANICS

TC0049DW : Algal Toxins(Continued)

Microcystin RR(intracellular)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Microcystin RR(total)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Microcystin YR(extracellular)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Microcystin YR(intracellular)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Microcystin YR(total)	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Nodularin (extracellular)	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Nodularin (intracellular)	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Nodularin (total)	ug/L	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Date of Performance	DD/MM/YY	29/05/23	29/05/23	29/05/23	29/05/23	29/05/23			

TC0061DW : Paralytic Shellfish Toxins (PST) Analysis by UPLCMSMS

C1	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-

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Sampled Date	18/05/2023 02:30:00 PM	18/05/2023 09:30:00 AM	18/05/2023 12:40:00 PM	18/05/2023 11:40:00 AM	18/05/2023 10:40:00 AM	18/05/2023 02:30:00 AM	18/05/2023 09:30:00 AM	18/05/2023 12:40:00 PM
Sample Number	L23042194	L23042195	L23042196	L23042197	L23042198	L23042199	L23042200	L23042201

ORGANICS

TC0061DW : Paralytic Shellfish Toxins (PST) Analysis by UPLCMSMS(Continued)

C2	ug/L	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-
dcGTX2	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
dcGTX3	ug/L	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-
dcNeo	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
dcSTX	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
GTX1	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
GTX2	ug/L	<1	<1	<1	<1	<1	-	-	-
GTX3	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
GTX4	ug/L	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-
GTX5	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
GTX6	ug/L	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-
Neosaxitoxin	ug/L	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-

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Sampled Date	18/05/2023 02:30:00 PM	18/05/2023 09:30:00 AM	18/05/2023 12:40:00 PM	18/05/2023 11:40:00 AM	18/05/2023 10:40:00 AM	18/05/2023 02:30:00 AM	18/05/2023 09:30:00 AM	18/05/2023 12:40:00 PM
Sample Number	L23042194	L23042195	L23042196	L23042197	L23042198	L23042199	L23042200	L23042201

ORGANICS

TC0061DW : Paralytic Shellfish Toxins (PST) Analysis by UPLCMSMS(Continued)

Saxitoxin	ug/L	<0.4	<0.4	<0.4	<0.4	<0.4	-	-	-
Date of Performance	DD/MM/YY	25/05/23	25/05/23	25/05/23	25/05/23	25/05/23			

Client Sample ID	233921	233922						
Sampled Date	18/05/2023 11:40:00 AM	18/05/2023 10:40:00 AM						
Sample Number	L23042202	L23042203						

ALGAL

MA71CENT : Blue-Green ID & Enumeration, Including ASU & Biovolumes

Blue Green ASU	ASU/mL	4351	5357					
Blue Green Biovol	mm3/L	5.42	6.05					
Potentially Toxic Blue Green	cells/mL	12750	6830					
Potentially Toxic Blue Green ASU	ASU/mL	489.6	348					

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Client Sample ID		233921	233922						
Sampled Date		18/05/2023 11:40:00 AM	18/05/2023 10:40:00 AM						
Sample Number		L23042202	L23042203						
ALGAL									
MA71CENT : Blue-Green ID & Enumeration, Including ASU & Biovolumes(Continued)									
Potentially Toxic Blue Green Biovol	mm3/L	0.564	0.476						
Total Blue Green	cells/mL	799400	1642000						
MA91 : Individual Species Total Count, Total BioVol, Total ASU									
Algae Source*	N/A	EXTERNAL	EXTERNAL						
Date of Performance	DD/MM/YY	06/06/23 00:00	07/06/23 00:00						

COMMENTS

<u>Sample ID</u>	<u>Comment Level</u>	<u>Method</u>	<u>Test</u>	<u>Comment</u>
L23042199	Method	MA91	-	Debris present in the sample.
L23042200	Method	MA91	-	Debris present in the sample.
L23042201	Method	MA91	-	Debris present in the sample.
L23042202	Method	MA91	-	Debris present in the sample.
L23042203	Method	MA91	-	Debris present in the sample.

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LABORATORY QC RESULTS

N/A - Not Applicable

PQL - Practical Quantitation Limit

LOQ - Limit of Quantification

RPD - Relative Percent Difference

SPIKE/Positive Control - Addition of a known amount and concentration

Duplicate Precision = Accepted - Result 2 within 95% confidence limits of result 1

Duplicate Precision = Outlier - Result 2 outside 95% confidence limits of result 1

Duplicate Precision = Not calculated - Result is outside test range

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LOQ	Blank	Control <i>Acceptance Criteria</i>	Spike <i>Acceptance Criteria</i>	Duplicate1	Duplicate2	RPD <i>Acceptance Criteria</i>
TC0049DW Anatoxin-a(extracellular)						
<0.1 ug/L	<0.1	100 50.0 - 120.0 ug/L	110 % Recovery 50.0 - 130.0 % Recovery	<0.1	<0.1	B 0.0 - 0.0 %
TC0049DW Anatoxin-a(intracellular)						
<0.1 ug/L	F		E	<0.1	<0.1	B 0.0 - 0.0 %
TC0049DW Anatoxin-a(total)						
<0.1 ug/L	F		E	<0.1	<0.1	B 0.0 - 0.0 %
TC0049DW Cyindrospermopsin (extracellular)						
<0.05 ug/L	<0.05	89 50.0 - 120.0 ug/L	91 % Recovery 50.0 - 130.0 % Recovery	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Cyindrospermopsin (intracellular)						
<0.05 ug/L	F		E	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Cyindrospermopsin(total)						
<0.05 ug/L	F		E	<0.05	<0.05	B 0.0 - 0.0 %

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LOQ	Blank	Control <i>Acceptance Criteria</i>	Spike <i>Acceptance Criteria</i>	Duplicate1	Duplicate2	RPD <i>Acceptance Criteria</i>
TC0049DW Microcystin LR(extracellular)						
<0.05 ug/L	<0.05	73 50.0 - 120.0 ug/L	70 % Recovery 50.0 - 130.0 % Recovery	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Microcystin LR(intracellular)						
<0.05 ug/L	F		E	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Microcystin LR(total)						
<0.05 ug/L	F		E	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Microcystin RR(extracellular)						
<0.05 ug/L	<0.05	85 50.0 - 120.0 ug/L	84 % Recovery 50.0 - 130.0 % Recovery	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Microcystin RR(intracellular)						
<0.05 ug/L	F		E	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Microcystin RR(total)						
<0.05 ug/L	F		E	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Microcystin YR(extracellular)						
<0.05 ug/L	<0.05	86 50.0 - 120.0 ug/L	82 % Recovery 50.0 - 130.0 % Recovery	<0.05	<0.05	B 0.0 - 0.0 %

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LOQ	Blank	Control <i>Acceptance Criteria</i>	Spike <i>Acceptance Criteria</i>	Duplicate1	Duplicate2	RPD <i>Acceptance Criteria</i>
TC0049DW Microcystin YR(intracellular)						
<0.05 ug/L	F		E	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Microcystin YR(total)						
<0.05 ug/L	F		E	<0.05	<0.05	B 0.0 - 0.0 %
TC0049DW Nodularin (extracellular)						
<0.1 ug/L	<0.1	77 50.0 - 120.0 ug/L	76 % Recovery 50.0 - 130.0 % Recovery	<0.1	<0.1	B 0.0 - 0.0 %
TC0049DW Nodularin (intracellular)						
<0.1 ug/L	F		E	<0.1	<0.1	B 0.0 - 0.0 %
TC0049DW Nodularin (total)						
<0.1 ug/L	F		E	<0.1	<0.1	B 0.0 - 0.0 %
TC0061DW C1						
<0.5 ug/L	<0.5	110 70.0 - 130.0 ug/L	100 % Recovery 50.0 - 130.0 % Recovery	<0.5	<0.5	B 0.0 - 0.0 %
TC0061DW C2						
<0.3 ug/L	<0.3	110 70.0 - 130.0 ug/L	110 % Recovery 50.0 - 130.0 % Recovery	<0.3	<0.3	B 0.0 - 0.0 %

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LOQ	Blank	Control <i>Acceptance Criteria</i>	Spike <i>Acceptance Criteria</i>	Duplicate1	Duplicate2	RPD <i>Acceptance Criteria</i>
TC0061DW dcGTX2						
<0.5 ug/L	<0.5	99 <i>70.0 - 130.0 ug/L</i>	120 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.5	<0.5	B <i>0.0 - 0.0 %</i>
TC0061DW dcGTX3						
<0.3 ug/L	<0.3	98 <i>70.0 - 130.0 ug/L</i>	100 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.3	<0.3	B <i>0.0 - 0.0 %</i>
TC0061DW dcNeo						
<0.5 ug/L	<0.5	110 <i>70.0 - 130.0 ug/L</i>	76 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.5	<0.5	B <i>0.0 - 0.0 %</i>
TC0061DW dcSTX						
<0.5 ug/L	<0.5	110 <i>70.0 - 130.0 ug/L</i>	100 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.5	<0.5	B <i>0.0 - 0.0 %</i>
TC0061DW GTX1						
<0.5 ug/L	<0.5	110 <i>70.0 - 130.0 ug/L</i>	100 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.5	<0.5	B <i>0.0 - 0.0 %</i>
TC0061DW GTX2						
<1 ug/L	<1	110 <i>70.0 - 130.0 ug/L</i>	130 % Recovery <i>50.0 - 130.0 % Recovery</i>	<1	<1	B <i>0.0 - 0.0 %</i>
TC0061DW GTX3						
<0.5 ug/L	<0.5	100 <i>70.0 - 130.0 ug/L</i>	110 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.5	<0.5	B <i>0.0 - 0.0 %</i>

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LOQ	Blank	Control <i>Acceptance Criteria</i>	Spike <i>Acceptance Criteria</i>	Duplicate1	Duplicate2	RPD <i>Acceptance Criteria</i>
TC0061DW GTX4						
<0.3 ug/L	<0.3	110 <i>70.0 - 130.0 ug/L</i>	120 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.3	<0.3	B <i>0.0 - 0.0 %</i>
TC0061DW GTX5						
<0.5 ug/L	<0.5	80 <i>70.0 - 130.0 ug/L</i>	120 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.5	<0.5	B <i>0.0 - 0.0 %</i>
TC0061DW GTX6						
<0.3 ug/L	<0.3	110 <i>70.0 - 130.0 ug/L</i>	120 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.3	<0.3	B <i>0.0 - 0.0 %</i>
TC0061DW Neosaxitoxin						
<0.3 ug/L	<0.3	110 <i>70.0 - 130.0 ug/L</i>	97 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.3	<0.3	B <i>0.0 - 0.0 %</i>
TC0061DW Saxitoxin						
<0.4 ug/L	<0.4	110 <i>70.0 - 130.0 ug/L</i>	120 % Recovery <i>50.0 - 130.0 % Recovery</i>	<0.4	<0.4	B <i>0.0 - 0.0 %</i>

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Extra Note:

F: Blank is not applicable for this analyte

E: Spike is not applicable for this analyte

DUPLICATE Anatoxin-a(extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Anatoxin-a(intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Anatoxin-a(total) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Cylindrospermopsin (extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Cylindrospermopsin (intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Cylindrospermopsin(total) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin LR(extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin LR(intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin LR(total) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin RR(extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin RR(intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin RR(total) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin YR(extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin YR(intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Microcystin YR(total) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Nodularin (extracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Nodularin (intracellular) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Nodularin (total) B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE C1 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE C2 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE dcGTX2 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE dcGTX3 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE dcNeo B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE dcSTX B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX1 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX2 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX3 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX4 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX5 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE GTX6 B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Neosaxitoxin B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

DUPLICATE Saxitoxin B: Duplicate RPD reject criteria is not applicable, results are <10 times LOQ

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