

Challenger Mines Ltd
c/- 'Willowie' Delegate Road
Bombala NSW 2632
Attention: Mike Walcott

Monday, May 25, 2015



NATA Accredited Laboratory
Number: 9597

*This document is issued in accordance with
NATA's accreditation requirements. Accredited
for compliance with ISO/IEC 17025. This
document shall not be reproduced, except in full.*

LABORATORY ANALYSIS REPORT

Report Number:1504-0136

Page 1 of 8

For all enquiries related to this report please quote document number: 1504-0136

<u>Facility:</u>	<u>Order #</u>	<u>Date Received</u>
<u>Sample Type</u>	<u>Collected By</u>	
Water	M. Walcott	30-April-2015

<u>EAL ID</u>	<u>Client ID.</u> Date/Time sample taken	<u>Test</u>	<u>Result (units)</u>	<u>Method Reference</u>	<u>Limit of Reporting</u>
15Apr-0505	1 30.04.15	Alkalinity, Total as CaCO3	94 mg/L	APHA 2320 B	2
		Aluminium (acid extractable)	4.45 mg/L	APHA 3030 E/3120 B	0.03
		Arsenic (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Boron (acid extractable)	0.52 mg/L	* APHA 3030 E/3120 B	0.02
		Cadmium (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Calcium (acid extractable)	12.1 mg/L	APHA 3030 E/3120 B	0.03
		Chloride	7.0 mg/L	APHA 4110 B	0.2
		Chromium (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Cobalt (acid extractable)	<0.003 mg/L	* APHA 3030 E/3120 B	0.003
		Copper (acid extractable)	0.005 mg/L	APHA 3030 E/3120 B	0.002
		Cyanide	0.026 mg/L	* APHA 4500-CN E	0.002
		Conductivity	189 µS/cm	APHA 2510 B	1
		Fluoride	0.1 mg/L	APHA 4110 B	0.2
		Total Hardness as CaCO3	57 mg/L	APHA 2340 B	2
		Iron (acid extractable)	5.28 mg/L	APHA 3030 E/3120 B	0.01
		Lead (acid extractable)	<0.01 mg/L	APHA 3030 E/3120 B	0.01
		Magnesium (acid extractable)	6.01 mg/L	APHA 3030 E/3120 B	0.02
		Manganese (acid extractable)	0.052 mg/L	APHA 3030 E/3120 B	0.001
		Mercury	0.001 mg/L	Analysis by Ecowise, Melbourne (acc no: 992)	
		Molybdenum (acid extractable)	<0.01 mg/L	* APHA 3030 E/3120 B	0.01
		Nickel (acid extractable)	<0.01 mg/L	APHA 3030 E/3120 B	0.01
		Phosphorus	0.17 mg/L	APHA 3030 E/3120 B	0.02

Challenger Mines Ltd
c/- 'Willowie' Delegate Road
Bombala NSW 2632
Attention: Mike Walcott

Monday, May 25, 2015



NATA Accredited Laboratory
Number: 9597

*This document is issued in accordance with
NATA's accreditation requirements. Accredited
for compliance with ISO/IEC 17025. This
document shall not be reproduced, except in full.*

LABORATORY ANALYSIS REPORT

Report Number:1504-0136

Page 2 of 8

For all enquiries related to this report please quote document number: 1504-0136

<u>Facility:</u>	<u>Order #</u>	<u>Date Received</u>
<u>Sample Type</u>	<u>Collected By</u>	
Water	M. Walcott	30-April-2015

<u>EAL ID</u>	<u>Client ID.</u> Date/Time sample taken	<u>Test</u>	<u>Result (units)</u>	<u>Method Reference</u>	<u>Limit of Reporting</u>
15Apr-0505	1 30.04.15	pH	7.5 pH units	APHA 4500-H+ B	
		Potassium (acid extractable)	9.4 mg/L	APHA 3030 E/3120 B	0.2
		Sodium Adsorption Ratio	1 Ratio	LTM-W-039	
		Selenium (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Sodium (acid extractable)	7.78 mg/L	APHA 3030 E/3120 B	0.05
		Sulphur (acid extractable)	11.5 mg/L	* APHA 3030 E/3120 B	0.06
		Turbidity	58 NTU	APHA 2130 B	1
		Zinc (acid extractable)	0.006 mg/L	APHA 3030 E/3120 B	0.002
15Apr-0506	3 30.04.15	Alkalinity, Total as CaCO3	100 mg/L	APHA 2320 B	2
		Aluminium (acid extractable)	0.07 mg/L	APHA 3030 E/3120 B	0.03
		Arsenic (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Boron (acid extractable)	0.28 mg/L	* APHA 3030 E/3120 B	0.02
		Cadmium (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Calcium (acid extractable)	30.4 mg/L	APHA 3030 E/3120 B	0.03
		Chloride	10.7 mg/L	APHA 4110 B	0.2
		Chromium (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Cobalt (acid extractable)	<0.003 mg/L	* APHA 3030 E/3120 B	0.003
		Copper (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Cyanide	0.014 mg/L	* APHA 4500-CN E	0.002
		Conductivity	563 µS/cm	APHA 2510 B	1
		Fluoride	0.4 mg/L	APHA 4110 B	0.2

Challenger Mines Ltd
c/- 'Willowie' Delegate Road
Bombala NSW 2632
Attention: Mike Walcott

Monday, May 25, 2015



NATA Accredited Laboratory
Number: 9597

*This document is issued in accordance with
NATA's accreditation requirements. Accredited
for compliance with ISO/IEC 17025. This
document shall not be reproduced, except in full.*

LABORATORY ANALYSIS REPORT

Report Number: 1504-0136

Page 3 of 8

For all enquiries related to this report please quote document number: 1504-0136

<u>Facility:</u>	<u>Order #</u>	<u>Date Received</u>
<u>Sample Type</u>	<u>Collected By</u>	
Water	M. Walcott	30-April-2015

<u>EAL ID</u>	<u>Client ID.</u> Date/Time sample taken	<u>Test</u>	<u>Result (units)</u>	<u>Method Reference</u>	<u>Limit of Reporting</u>
15Apr-0506	3 30.04.15	Total Hardness as CaCO₃	185 mg/L	APHA 2340 B	2
		Iron (acid extractable)	0.03 mg/L	APHA 3030 E/3120 B	0.01
		Lead (acid extractable)	<0.01 mg/L	APHA 3030 E/3120 B	0.01
		Magnesium (acid extractable)	26.0 mg/L	APHA 3030 E/3120 B	0.02
		Manganese (acid extractable)	0.005 mg/L	APHA 3030 E/3120 B	0.001
		Mercury	<0.001 mg/L	Analysis by Ecowise, Melbourne (acc no: 992)	
		Molybdenum (acid extractable)	<0.01 mg/L	* APHA 3030 E/3120 B	0.01
		Nickel (acid extractable)	<0.01 mg/L	APHA 3030 E/3120 B	0.01
		Phosphorus	0.02 mg/L	APHA 3030 E/3120 B	0.02
		pH	9.1 pH units	APHA 4500-H+ B	
		Potassium (acid extractable)	4.8 mg/L	APHA 3030 E/3120 B	0.2
		Sodium Adsorption Ratio	1 Ratio	LTM-W-039	
		Selenium (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Sodium (acid extractable)	43.9 mg/L	APHA 3030 E/3120 B	0.05
		Sulphur (acid extractable)	63.9 mg/L	* APHA 3030 E/3120 B	0.06
		Turbidity	<1 NTU	APHA 2130 B	1
		Zinc (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002

15Apr-0507	4 30.04.15	Alkalinity, Total as CaCO₃	100 mg/L	APHA 2320 B	2
		Aluminium (acid extractable)	0.07 mg/L	APHA 3030 E/3120 B	0.03
		Arsenic (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02

Challenger Mines Ltd
c/- 'Willowie' Delegate Road
Bombala NSW 2632
Attention: Mike Walcott

Monday, May 25, 2015



NATA Accredited Laboratory
Number: 9597

*This document is issued in accordance with
NATA's accreditation requirements. Accredited
for compliance with ISO/IEC 17025. This
document shall not be reproduced, except in full.*

LABORATORY ANALYSIS REPORT

Report Number: 1504-0136

Page 4 of 8

For all enquiries related to this report please quote document number: 1504-0136

<u>Facility:</u>	<u>Order #</u>	<u>Date Received</u>
<u>Sample Type</u>	<u>Collected By</u>	
Water	M. Walcott	30-April-2015

<u>EAL ID</u>	<u>Client ID.</u> Date/Time sample taken	<u>Test</u>	<u>Result (units)</u>	<u>Method Reference</u>	<u>Limit of Reporting</u>
15Apr-0507	4 30.04.15	Boron (acid extractable)	0.90 mg/L	* APHA 3030 E/3120 B	0.02
		Cadmium (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Calcium (acid extractable)	29.7 mg/L	APHA 3030 E/3120 B	0.03
		Chloride	10.8 mg/L	APHA 4110 B	0.2
		Chromium (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Cobalt (acid extractable)	<0.003 mg/L	* APHA 3030 E/3120 B	0.003
		Copper (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Cyanide	0.013 mg/L	* APHA 4500-CN E	0.002
		Conductivity	553 µS/cm	APHA 2510 B	1
		Fluoride	0.4 mg/L	APHA 4110 B	0.2
		Total Hardness as CaCO3	180 mg/L	APHA 2340 B	2
		Iron (acid extractable)	0.07 mg/L	APHA 3030 E/3120 B	0.01
		Lead (acid extractable)	<0.01 mg/L	APHA 3030 E/3120 B	0.01
		Magnesium (acid extractable)	25.2 mg/L	APHA 3030 E/3120 B	0.02
		Manganese (acid extractable)	0.005 mg/L	APHA 3030 E/3120 B	0.001
		Mercury	<0.001 mg/L	Analysis by Ecowise, Melbourne (acc no: 992)	
		Molybdenum (acid extractable)	<0.01 mg/L	* APHA 3030 E/3120 B	0.01
		Nickel (acid extractable)	<0.01 mg/L	APHA 3030 E/3120 B	0.01
		Phosphorus	0.05 mg/L	APHA 3030 E/3120 B	0.02
		pH	9.3 pH units	APHA 4500-H+ B	
		Potassium (acid extractable)	4.9 mg/L	APHA 3030 E/3120 B	0.2
		Sodium Adsorption Ratio	1 Ratio	LTM-W-039	

Challenger Mines Ltd
c/- 'Willowie' Delegate Road
Bombala NSW 2632
Attention: Mike Walcott

Monday, May 25, 2015



NATA Accredited Laboratory
Number: 9597

*This document is issued in accordance with
NATA's accreditation requirements. Accredited
for compliance with ISO/IEC 17025. This
document shall not be reproduced, except in full.*

LABORATORY ANALYSIS REPORT

Report Number: 1504-0136

Page 5 of 8

For all enquiries related to this report please quote document number: 1504-0136

<u>Facility:</u>	<u>Order #</u>	
<u>Sample Type</u>	<u>Collected By</u>	
	<u>Date Received</u>	
Water	M. Walcott	30-April-2015

<u>EAL ID</u>	<u>Client ID.</u> Date/Time sample taken	<u>Test</u>	<u>Result (units)</u>	<u>Method Reference</u>	<u>Limit of Reporting</u>
15Apr-0507	4 30.04.15	Selenium (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Sodium (acid extractable)	43.4 mg/L	APHA 3030 E/3120 B	0.05
		Sulphur (acid extractable)	62.3 mg/L	* APHA 3030 E/3120 B	0.06
		Turbidity	<1 NTU	APHA 2130 B	1
		Zinc (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
15Apr-0508	5 30.04.15	Alkalinity, Total as CaCO ₃	223 mg/L	APHA 2320 B	2
		Aluminium (acid extractable)	0.05 mg/L	APHA 3030 E/3120 B	0.03
		Arsenic (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Boron (acid extractable)	0.28 mg/L	* APHA 3030 E/3120 B	0.02
		Cadmium (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Calcium (acid extractable)	119 mg/L	APHA 3030 E/3120 B	0.03
		Chloride	8.0 mg/L	APHA 4110 B	0.2
		Chromium (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Cobalt (acid extractable)	<0.003 mg/L	* APHA 3030 E/3120 B	0.003
		Copper (acid extractable)	0.003 mg/L	APHA 3030 E/3120 B	0.002
		Cyanide	0.014 mg/L	* APHA 4500-CN E	0.002
		Conductivity	755 µS/cm	APHA 2510 B	1
		Fluoride	0.9 mg/L	APHA 4110 B	0.2
		Total Hardness as CaCO ₃	370 mg/L	APHA 2340 B	2
		Iron (acid extractable)	0.30 mg/L	APHA 3030 E/3120 B	0.01
		Lead (acid extractable)	<0.01 mg/L	APHA 3030 E/3120 B	0.01

Challenger Mines Ltd
c/- 'Willowie' Delegate Road
Bombala NSW 2632
Attention: Mike Walcott

Monday, May 25, 2015



NATA Accredited Laboratory
Number: 9597

*This document is issued in accordance with
NATA's accreditation requirements. Accredited
for compliance with ISO/IEC 17025. This
document shall not be reproduced, except in full.*

LABORATORY ANALYSIS REPORT

Report Number: 1504-0136

Page 6 of 8

For all enquiries related to this report please quote document number: 1504-0136

<u>Facility:</u>	<u>Order #</u>	<u>Date Received</u>
<u>Sample Type</u>	<u>Collected By</u>	
Water	M. Walcott	30-April-2015

<u>EAL ID</u>	<u>Client ID.</u> Date/Time sample taken	<u>Test</u>	<u>Result (units)</u>	<u>Method Reference</u>	<u>Limit of Reporting</u>
15Apr-0508	5 30.04.15	Magnesium (acid extractable)	17.2 mg/L	APHA 3030 E/3120 B	0.02
		Manganese (acid extractable)	2.32 mg/L	APHA 3030 E/3120 B	0.01
		Mercury	<0.001 mg/L	Analysis by Ecowise, Melbourne (acc no: 992)	
		Molybdenum (acid extractable)	<0.01 mg/L	* APHA 3030 E/3120 B	0.01
		Nickel (acid extractable)	<0.01 mg/L	APHA 3030 E/3120 B	0.01
		Phosphorus	0.02 mg/L	APHA 3030 E/3120 B	0.02
		pH	7.9 pH units	APHA 4500-H+ B	
		Potassium (acid extractable)	7.5 mg/L	APHA 3030 E/3120 B	0.2
		Sodium Adsorption Ratio	1 Ratio	LTM-W-039	
		Selenium (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Sodium (acid extractable)	22.8 mg/L	APHA 3030 E/3120 B	0.05
		Sulphur (acid extractable)	66.0 mg/L	* APHA 3030 E/3120 B	0.06
		Turbidity	2 NTU	APHA 2130 B	1
		Zinc (acid extractable)	0.016 mg/L	APHA 3030 E/3120 B	0.002
15Apr-0509	6 30.04.15	Alkalinity, Total as CaCO3	163 mg/L	APHA 2320 B	2
		Aluminium (acid extractable)	0.06 mg/L	APHA 3030 E/3120 B	0.03
		Arsenic (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Boron (acid extractable)	0.40 mg/L	* APHA 3030 E/3120 B	0.02
		Cadmium (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Calcium (acid extractable)	31.3 mg/L	APHA 3030 E/3120 B	0.03

Challenger Mines Ltd
c/- 'Willowie' Delegate Road
Bombala NSW 2632
Attention: Mike Walcott

Monday, May 25, 2015



NATA Accredited Laboratory
Number: 9597

*This document is issued in accordance with
NATA's accreditation requirements. Accredited
for compliance with ISO/IEC 17025. This
document shall not be reproduced, except in full.*

LABORATORY ANALYSIS REPORT

Report Number: 1504-0136

Page 7 of 8

For all enquiries related to this report please quote document number: 1504-0136

<u>Facility:</u>	<u>Order #</u>	<u>Date Received</u>
<u>Sample Type</u>	<u>Collected By</u>	
Water	M. Walcott	30-April-2015

<u>EAL ID</u>	<u>Client ID.</u> Date/Time sample taken	<u>Test</u>	<u>Result (units)</u>	<u>Method Reference</u>	<u>Limit of Reporting</u>
15Apr-0509	6 30.04.15	Chloride	23.8 mg/L	APHA 4110 B	0.2
		Chromium (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002
		Cobalt (acid extractable)	<0.003 mg/L	* APHA 3030 E/3120 B	0.003
		Copper (acid extractable)	0.003 mg/L	APHA 3030 E/3120 B	0.002
		Cyanide	0.014 mg/L	* APHA 4500-CN E	0.002
		Conductivity	457 µS/cm	APHA 2510 B	1
		Fluoride	0.2 mg/L	APHA 4110 B	0.2
		Total Hardness as CaCO ₃	143 mg/L	APHA 2340 B	2
		Iron (acid extractable)	0.06 mg/L	APHA 3030 E/3120 B	0.01
		Lead (acid extractable)	<0.01 mg/L	APHA 3030 E/3120 B	0.01
		Magnesium (acid extractable)	15.2 mg/L	APHA 3030 E/3120 B	0.02
		Manganese (acid extractable)	0.030 mg/L	APHA 3030 E/3120 B	0.001
		Mercury	<0.001 mg/L	Analysis by Ecowise, Melbourne (acc no: 992)	
		Molybdenum (acid extractable)	<0.01 mg/L	* APHA 3030 E/3120 B	0.01
		Nickel (acid extractable)	<0.01 mg/L	APHA 3030 E/3120 B	0.01
		Phosphorus	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		pH	7.9 pH units	APHA 4500-H+ B	
		Potassium (acid extractable)	2.6 mg/L	APHA 3030 E/3120 B	0.2
		Sodium Adsorption Ratio	2 Ratio	LTM-W-039	
		Selenium (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Sodium (acid extractable)	41.8 mg/L	APHA 3030 E/3120 B	0.05
		Sulphur (acid extractable)	17.6 mg/L	* APHA 3030 E/3120 B	0.06

Challenger Mines Ltd
c/- 'Willowie' Delegate Road
Bombala NSW 2632
Attention: Mike Walcott

Monday, May 25, 2015



NATA Accredited Laboratory
Number: 9597

*This document is issued in accordance with
NATA's accreditation requirements. Accredited
for compliance with ISO/IEC 17025. This
document shall not be reproduced, except in full.*

LABORATORY ANALYSIS REPORT

Report Number: 1504-0136

Page 8 of 8

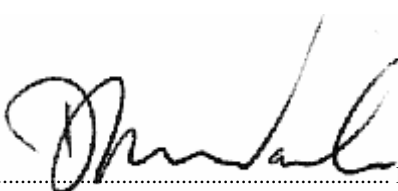
For all enquiries related to this report please quote document number: 1504-0136

<u>Facility:</u>	<u>Order #</u>	<u>Date Received</u>
<u>Sample Type</u>	<u>Collected By</u>	
Water	M. Walcott	30-April-2015

<u>EAL ID</u>	<u>Client ID.</u> Date/Time sample taken	<u>Test</u>	<u>Result (units)</u>	<u>Method Reference</u>	<u>Limit of Reporting</u>
15Apr-0509	6 30.04.15	Turbidity	<1 NTU	APHA 2130 B	1
		Zinc (acid extractable)	0.007 mg/L	APHA 3030 E/3120 B	0.002

Note:

*NATA accreditation not held for tests marked with **

Signed  David Wade, Laboratory Manager.

*All samples analysed as received.
All soil results are reported on a dry basis.
The EAL takes no responsibility for the end use of results within this report.
This report shall not be reproduced except in full.
This report replaces any previously issued report*