

1601-0085



CLIENT:		Macquarie Gold (Challenger Mines)											
CONTACT:		Ramon Atayde / Sandra Burgess											
ADDRESS:		65 Golden Gully Road adelong NSW 2729											
TELEPHONE:		02-6946-2266											
E-mail:		Sandra@challengermine.com.au											
SAMPLE IDENTIFICATION	NATURE OF SAMPLE	DATE SAMPLED	TIME SAMPLED	CONTAINER TYPE	NUMBER OF CONTAINERS	Alkalinity, BOD, CN, Eg, pH	Hardness, SAR	TSS, Turbidity	Al, As, B, Cd, Ca, Cr, Co, Cu	Fe, Pb, Mg, Mn, Hg, Mo, Ni, P	K, Se, Na, S, Zn	Oil & Grease	Cl, F
#1 Sediment pond	Water	10-12-15	9:30	Plastic/glass	2								
#2 Sediment pond	Water	10-12-15	9:30	Plastic/glass	2								
#3 Sample point Woodrow in dam	Water	10-12-15	9:45	plastic	1								
#4 Sample point Woodrow in dam	Water	10-12-15	9:45	glass	1								
#5 Woodrow dam spillway	Water	10-12-15	10:00	plastic	1								
#6 Woodrow dam spillway	Water	10-12-15	10:00	glass	1								
#6 Swept Gully	Water	10-12-15	10:15	plastic	1								

Please supply a brown glass O&G bottle if Oil and grease is required as well as a 1L plastic

RELINQUISHED BY:	NAME	SIGNATURE	ORGANISATION	DATE	TI
Mode of Transport	melanie maher	M Maher	Challenger Mines PL		
Include Consignment Note # if applicable	Pack & send				
RECEIVED BY:					

CLIENT:		Macquarie Gold (Challenger Mines)				ANALYTES REQUIRED Complete & tick as required									
CONTACT:		/Ramon Atayde / Sandra Burgess													
ADDRESS:		65 Golden Gully Road adelong NSW 2729													
TELEPHONE:		02-6946 2266													
SAMPLE IDENTIFICATION		NATURE OF SAMPLE	DATE SAMPLED	TIME SAMPLED	E-mail	CONTAINER TYPE	NUMBER OF CONTAINERS	Alkalinity, BOD, CN, EC, pH	Hardness, SAR	TSS, Turbidity	Al, As, B, Cd, Ca, Cr, Co, Cu	Fe, Pb, Mg, Mn, Hg, Mo, Ni, F	K, Se, Na, S, Zn	Oil & Grease	Cl, F
#6 suspect Gully		water	10-12-15	10.15		plastic/glass	2								

Please supply a brown glass O&G bottle if Oil and grease is required as well as a 1L plastic

RELINQUISHED BY:	NAME	SIGNATURE	ORGANISATION	DATE	TIME
Mode of Transport	Mehere Maher	<i>Mehere Maher</i>	Challenger Mines PL		
Include Consignment Note # if applicable	Pack & send.				
RECEIVED BY:					

Macquarie Gold Ltd  
c/- 'Willowie' Delegate Road  
Bombala NSW 2632  
Attention: Mike Walcott

Wednesday, January 27, 2016



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Number: 9597

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## LABORATORY ANALYSIS REPORT

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<b>Facility:</b>	<b>Order #</b> 167	
<b>Sample Type</b>	<b>Collected By</b>	<b>Date Received</b>
Water	M. Maher	15-January-2016

<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>
16Jan-0337	#1 Sediment Pond 10.12.15 9.30am	Alkalinity, Total as CaCO3	54 mg/L	APHA 2320 B	2
		Aluminium (acid extractable)	1.44 mg/L	APHA 3030 E/3120 B	0.03
		Arsenic (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Biochemical Oxygen Demand	5 mg/L	APHA 5210 B/4500-O G	2
		Boron (acid extractable)	0.44 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)	15.2 mg/L	APHA 3030 E/3120 B	0.03
		Chloride	5.0 mg/L	APHA 4110 B	0.1
		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)	0.023 mg/L	APHA 3030 E/3120 B	0.002
		Cyanide	0.004 mg/L	* APHA 4500-CN E	0.002
		Conductivity	204 µS/cm	APHA 2510 B	1
		Fluoride	0.3 mg/L	APHA 4110 B	0.1
		Total Hardness as CaCO3	67 mg/L	APHA 2340 B	2
		Iron (acid extractable)	1.09 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)	7.04 mg/L	APHA 3030 E/3120 B	0.02
		Manganese (acid extractable)	0.019 mg/L	APHA 3030 E/3120 B	0.001
		Mercury	<0.0001 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

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<b>Facility:</b>	<b>Order #</b> 167	
<b>Sample Type</b>	<b>Collected By</b>	<b>Date Received</b>
Water	M. Maher	15-January-2016

<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>
16Jan-0337	#1 Sediment Pond 10.12.15 9.30am	Oil & Grease	3 mg/L	APHA 5520 D	1
		Phosphorus	0.07 mg/L	APHA 3030 E/3120 B	0.02
		pH	7.2 pH units	APHA 4500-H+ B	
		Potassium (acid extractable)	2.2 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)	11.4 mg/L	APHA 3030 E/3120 B	0.05
		Sulphur (acid extractable)	12.1 mg/L	* APHA 3030 E/3120 B	0.06
		Total Suspended Solids	18 mg/L	APHA 2540 D	2
		Turbidity	13 NTU	APHA 2130 B	1
		Zinc (acid extractable)	0.010 mg/L	APHA 3030 E/3120 B	0.002
16Jan-0338	#3 Goodwin Dam Spillway 10.12.15 10.00am	Alkalinity, Total as CaCO3	100 mg/L	APHA 2320 B	2
		Aluminium (acid extractable)	1.88 mg/L	APHA 3030 E/3120 B	0.03
		Arsenic (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Biochemical Oxygen Demand	3 mg/L	APHA 5210 B/4500-O G	2
		Boron (acid extractable)	0.03 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)	35.1 mg/L	APHA 3030 E/3120 B	0.03
		Chloride	5.9 mg/L	APHA 4110 B	0.1
		Chromium (acid extractable)	0.003 mg/L	APHA 3030 E/3120 B	0.002
		Cobalt (acid extractable)	<0.003 mg/L	* APHA 3030 E/3120 B	0.003

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<b>Facility:</b>	<b>Order #</b> 167	
<b>Sample Type</b>	<b>Collected By</b>	<b>Date Received</b>
Water	M. Maher	15-January-2016

<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>
16Jan-0338	#3 Goodwin Dam Spillway 10.12.15 10.00am	Copper (acid extractable)	0.022 mg/L	APHA 3030 E/3120 B	0.002
		Cyanide	0.002 mg/L	* APHA 4500-CN E	0.002
		Conductivity	432 µS/cm	APHA 2510 B	1
		Fluoride	0.5 mg/L	APHA 4110 B	0.1
		Total Hardness as CaCO3	165 mg/L	APHA 2340 B	2
		Iron (acid extractable)	0.89 mg/L	APHA 3030 E/3120 B	0.01
		Lead (acid extractable)	0.02 mg/L	APHA 3030 E/3120 B	0.01
		Magnesium (acid extractable)	18.7 mg/L	APHA 3030 E/3120 B	0.02
		Manganese (acid extractable)	0.028 mg/L	APHA 3030 E/3120 B	0.001
		Mercury	<0.0001 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
		Oil & Grease	2 mg/L	APHA 5520 D	1
		Phosphorus	0.05 mg/L	APHA 3030 E/3120 B	0.02
		pH	7.7 pH units	APHA 4500-H+ B	
		Potassium (acid extractable)	3.2 mg/L	APHA 3030 E/3120 B	0.2
		Sodium Adsorption Ratio	1 Ratio	LTM-W-039	
		Selenium (acid extractable)	0.03 mg/L	APHA 3030 E/3120 B	0.02
		Sodium (acid extractable)	23.8 mg/L	APHA 3030 E/3120 B	0.05
		Sulphur (acid extractable)	37.4 mg/L	* APHA 3030 E/3120 B	0.06
		Total Suspended Solids	18 mg/L	APHA 2540 D	2
		Turbidity	18 NTU	APHA 2130 B	1

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<b>Sample Type</b>	<b>Collected By</b>	<b>Date Received</b>
Water	M. Maher	15-January-2016

<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>
16Jan-0338	#3 Goodwin Dam Spillway 10.12.15 10.00am	Zinc (acid extractable)	0.009 mg/L	APHA 3030 E/3120 B	0.002
16Jan-0339	#4 Sample Point Goodwin Dam 10.12.15 9.45am	Alkalinity, Total as CaCO <sub>3</sub>	100 mg/L	APHA 2320 B	2
		Aluminium (acid extractable)	0.63 mg/L	APHA 3030 E/3120 B	0.03
		Arsenic (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Biochemical Oxygen Demand	7 mg/L	APHA 5210 B/4500-O G	2
		Boron (acid extractable)	0.36 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)	34.2 mg/L	APHA 3030 E/3120 B	0.03
		Chloride	6.3 mg/L	APHA 4110 B	0.1
		Chromium (acid extractable)	0.004 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)	0.026 mg/L	APHA 3030 E/3120 B	0.002
		Cyanide	<0.002 mg/L	* APHA 4500-CN E	0.002
		Conductivity	433 µS/cm	APHA 2510 B	1
		Fluoride	0.5 mg/L	APHA 4110 B	0.1
		Total Hardness as CaCO <sub>3</sub>	159 mg/L	APHA 2340 B	2
		Iron (acid extractable)	0.36 mg/L	APHA 3030 E/3120 B	0.01
		Lead (acid extractable)	0.02 mg/L	APHA 3030 E/3120 B	0.01
		Magnesium (acid extractable)	17.9 mg/L	APHA 3030 E/3120 B	0.02
		Manganese (acid extractable)	0.027 mg/L	APHA 3030 E/3120 B	0.001

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<b>Facility:</b>	<b>Order #</b> 167	
<b>Sample Type</b>	<b>Collected By</b>	<b>Date Received</b>
Water	M. Maher	15-January-2016

<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>
16Jan-0339	#4 Sample Point Goodwin Dam 10.12.15 9.45am	Mercury	<0.0001 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
		Oil & Grease	4 mg/L	APHA 5520 D	1
		Phosphorus	0.04 mg/L	APHA 3030 E/3120 B	0.02
		pH	8.0 pH units	APHA 4500-H+ B	
		Potassium (acid extractable)	2.9 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)	23.1 mg/L	APHA 3030 E/3120 B	0.05
		Sulphur (acid extractable)	35.5 mg/L	* APHA 3030 E/3120 B	0.06
		Total Suspended Solids	7 mg/L	APHA 2540 D	2
		Turbidity	4 NTU	APHA 2130 B	1
		Zinc (acid extractable)	0.019 mg/L	APHA 3030 E/3120 B	0.002
16Jan-0340	#6 Sawpit Gully 10.12.15 10.15am	Alkalinity, Total as CaCO3	218 mg/L	APHA 2320 B	2
		Aluminium (acid extractable)	0.34 mg/L	APHA 3030 E/3120 B	0.03
		Arsenic (acid extractable)	<0.02 mg/L	APHA 3030 E/3120 B	0.02
		Biochemical Oxygen Demand	11 mg/L	APHA 5210 B/4500-O G	2
		Boron (acid extractable)	<0.02 mg/L	* APHA 3030 E/3120 B	0.02
		Cadmium (acid extractable)	<0.002 mg/L	APHA 3030 E/3120 B	0.002

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<b>Sample Type</b>	<b>Collected By</b>	<b>Date Received</b>
Water	M. Maher	15-January-2016

<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>
16Jan-0340	#6 Sawpit Gully 10.12.15 10.15am	Calcium (acid extractable)	33.0 mg/L	APHA 3030 E/3120 B	0.03
		Chloride	7.8 mg/L	APHA 4110 B	0.1
		Chromium (acid extractable)	0.003 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)	0.023 mg/L	APHA 3030 E/3120 B	0.002
		Cyanide	<0.002 mg/L	* APHA 4500-CN E	0.002
		Conductivity	421 µS/cm	APHA 2510 B	1
		Fluoride	0.3 mg/L	APHA 4110 B	0.1
		Total Hardness as CaCO3	150 mg/L	APHA 2340 B	2
		Iron (acid extractable)	0.33 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)	16.5 mg/L	APHA 3030 E/3120 B	0.02
		Manganese (acid extractable)	0.163 mg/L	APHA 3030 E/3120 B	0.001
		Mercury	<0.0001 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
		Oil & Grease	1 mg/L	APHA 5520 D	1
		Phosphorus	0.04 mg/L	APHA 3030 E/3120 B	0.02
		pH	7.9 pH units	APHA 4500-H+ B	
		Potassium (acid extractable)	1.8 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



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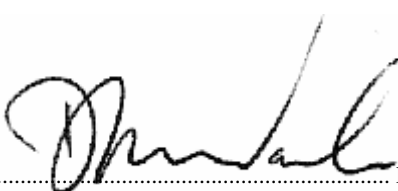
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Water	M. Maher	15-January-2016

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16Jan-0340	#6 Sawpit Gully 10.12.15 10.15am	Sodium (acid extractable)	32.2 mg/L	APHA 3030 E/3120 B	0.05
		Sulphur (acid extractable)	4.06 mg/L	* APHA 3030 E/3120 B	0.06
		Total Suspended Solids	<2 mg/L	APHA 2540 D	2
		Turbidity	2 NTU	APHA 2130 B	1
		Zinc (acid extractable)	0.011 mg/L	APHA 3030 E/3120 B	0.002

Note:

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Signed .....  ..... David Wade, Laboratory Manager.

*All samples analysed as received.  
All soil results are reported on a dry basis.  
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