



BUREAU VERITAS
MINERALS PTY LTD
ABN: 30 008 127 802
99 Mitchell Road CARDIFF
NSW 2285 AUSTRALIA
TEL (02) 49024800



Job No: NE85076001

CERTIFICATE OF SAMPLING AND ANALYSIS

THIS IS TO CERTIFY: that we have performed the inspection, sampling and analysis of the coal shipment nominated below:

VESSEL: MV "Lowlands Yellow" **FROM:** NCIG, Newcastle, Australia
CARGO: Coal **REF NO:** 2940091
SHIPPER: BHP Billiton Marketing AG **TO:** Japanese Port(s)

CARGO DESCRIPTION: Newcastle Steaming Coal in Bulk

WEIGHT: 96800 Metric Tonnes

SAMPLING: Samples on a unit basis were drawn from the conveyor system at the Newcastle Coal Terminal in accordance with International Standards as the consignment was being loaded onto the vessel.

ANALYSIS: Samples were analysed according to ISO Standards or equivalent. The following are the shipment composite results of the analyses performed.

Total Moisture	(Arb)	11.6	%
Inherent Moisture	(Adb)	3.5	%
Ash	(Arb)	11.4	%
Ash	(Adb)	12.4	%
Ash	(Db)	12.8	%
Volatile Matter	(Arb)	29.9	%
Volatile Matter	(Adb)	32.6	%
Fixed Carbon	(Adb)	51.5	%
Total Sulphur	(Arb)	0.46	%
Total Sulphur	(Adb)	0.50	%
Net Calorific Value	(Arb)	6007	kcal/kg
Gross Calorific Value	(Arb)	6272	kcal/kg
Gross Calorific Value	(Adb)	6848	kcal/kg
HGI		53	
Fuel Ratio		1.58	
Size	50 x 0 mm	98.4	%
	2 x 0 mm	30.9	%

Dated: 17th October 2023
at Newcastle.

Signed for and on behalf of
Bureau Veritas Minerals Pty Ltd
Issued at Load Port



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Trace Analysis

Chlorine	(Db)	220	ppm
Chlorine	(Adb)	212	ppm
Fluorine	(Db)	77	ppm
Fluorine	(Adb)	74	ppm
Boron	(Db)	40	ppm
Selenium	(Db)	0.5	ppm
Arsenic	(Db)	1.3	ppm
Mercury	(Db)	0.03	ppm
Cadmium	(Db)	0.06	ppm
Lead	(Db)	5.8	ppm
Chromium	(Db)	7	ppm
Hexavalent Chrome	(Db)	<2	ppm
Phosphorus	(Db)	200	ppm

Ash Fusion Temperature (Oxidising Atmosphere)

Deformation	1510	°C
Hemisphere	1550	°C
Flow	1560	°C

Ash Fusion Temperature (Reducing Atmosphere)

Deformation	1480	°C
Hemisphere	1550	°C
Flow	1560	°C

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Ultimate Analysis

		%
Carbon	(Db)	72.1
Hydrogen	(Db)	4.63
Nitrogen	(Db)	1.79
Nitrogen	(DAF)	2.06
Oxygen	(Db)	8.16

Ash Analysis

	(Db)	%
SiO ₂		64.7
Al ₂ O ₃		23.7
Fe ₂ O ₃		4.30
CaO		1.06
MgO		0.91
Na ₂ O		0.39
K ₂ O		1.31
TiO ₂		1.21
Mn ₃ O ₄		0.04
SO ₃		0.50
P ₂ O ₅		0.35
BaO		0.07
SrO		0.06
ZnO		<0.02

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CERTIFICATE OF WEIGHT

VESSEL: MV "Lowlands Yellow" **FROM:** NCIG, Newcastle, Australia
CARGO: Coal **REF NO:** 2940091
SHIPPER: BHP Billiton Marketing AG **TO:** Japanese Port(s)
CARGO DESCRIPTION: Newcastle Steaming Coal in Bulk

STOWAGE: Number 1 to 7 Holds

THIS IS TO CERTIFY that the weight of coal loaded into the above vessel as determined by Actual Surveyed Weight at the loading point was found to be -

Ninety six thousand and eight hundred metric tonnes

(96800 Metric Tonnes) (95271 Long Tons)

VESSEL COMMENCED LOADING

1648 Hours – 14 October 2023

VESSEL COMPLETED LOADING

0717 Hours – 15 October 2023

Dated: 17th October 2023
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CERTIFICATE OF ORIGIN

VESSEL: MV "Lowlands Yellow" **FROM:** NCIG, Newcastle, Australia
CARGO: Coal **REF NO:** 2940091
SHIPPER: BHP Billiton Marketing AG **TO:** Japanese Port(s)
CARGO DESCRIPTION: Newcastle Steaming Coal in Bulk
WEIGHT: 96800 Metric Tonnes / 95271 Long Tons
STOWAGE: Holds 1 to 7

THIS IS TO CERTIFY: that the above cargo is of Australian origin and was mined from collieries operating in the state of New South Wales, Australia.

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at Newcastle.

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