



PT. GEOSERVICES

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INDONESIA

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E-mail : bdgoff@geoservices.co.id

CERTIFICATE OF SAMPLING AND ANALYSIS

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

Vessel : MV. ORIENT UNION
Cargo : COAL
Shipper : PT. TITAN INFRA ENERGY
JL. SCIENTIA BOULEVARD BLOK U. 02,
GRAHA ANABATIC LANTAI 8, SUMMARECON SERPONG,
CURUG SANGERENG, TANGERANG, INDONESIA.
Description : BAS 4600 STEAMING COAL
Weight : 77,000 METRIC TONNES
From : MUARA BANYUASIN ANCHORAGE, SOUTH SUMATERA,
INDONESIA
To : JIMAH EAST POWER, PORT DICSKON, MALAYSIA
Sampling : Samples on a lot basis were draw from the conveyor system in accordance with ISO
Standards as the consignment of coal was loaded onto the vessel.
Sizing : Size tests carried out in accordance with ISO Standards "Higher rank coal - Size
analysis" showed that 74.52 % were between 3 mm and 50 mm, 9.27 % were above 50
mm, and 16.21 % were below 3 mm.
Analysis : Results of the analysis of the samples withdraw as above and analysed in accordance
with ISO Standards except for HGI which was analysed in accordance with ASTM
Standards and Inherent Moisture which was analysed to ISO Standards.

Property (As Received Basis)

	<u>Units</u>	<u>Basis</u>	<u>Value</u>
Calorific Value	Kcal/Kg	AR	4551
Total Moisture	%	AR	32.23
Ash	%	AR	4.44
Volatile Matter	%	AR	32.32
Total Sulphur	%	AR	0.29
Phosphorus	%	AR	0.007
Chlorine	%	AR	0.009
Sodium in Ash	%	AR	1.96
Fuel Ratio		AR	0.96

Proximate Analysis (Air Dried Basis)

Calorific Value	Kcal/Kg	ADB	5774
Moisture	%	ADB	14.02
Ash	%	ADB	5.63
Volatile Matter	%	ADB	41.01
Fixed Carbon	by Difference	ADB	39.34
Total Sulphur	%	ADB	0.37

Signed for and on behalf of


Reza Ferdiansyah
PT. GEOSERVICES
PALC Manager

Date : March 12, 2020

Job No. : 01220.00380

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were below 3 mm.
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Inherent Moisture which was analysed to ISO Standards.

	<u>Units</u>	<u>Value</u>
Ultimate Analysis (Dry Ash Free Basis)		
Carbon	%	72.71
Hydrogen	%	5.36
Nitrogen	%	0.94
Sulphur	%	0.43
Oxygen	%	20.55
Ash Fusion Temperature (Reducing Atmosphere)		
Initial Deformation	°C	1250
Hemispherical Deformation	°C	1320
Flow	°C	1340
Ash Fusion Temperature (Oxidizing Atmosphere)		
Initial Deformation	°C	1260
Hemispherical Deformation	°C	1340
Flow	°C	1360
Physical Properties		
Hardgrove Grindability Index	Index	53
Abrasive Index	mg metal/kg coal	4.50
Size Distribution		
0 x 50 mm		90.73
0 x 3 mm		16.21
0 x 2 mm		12.51
0 x 0.5 mm		1.43

Signed for and on behalf of
PT. Geoservices

PT. Rivaldo Kurniasyah
PACIFIC Manager

: March 12, 2020
: 01220.00380

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CERTIFICATE OF SAMPLING AND ANALYSIS

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Vessel : MV. ORIENT UNION
Cargo : COAL
Shipper : BAS 4600 STEAMING COAL
PT. TITAN INFRA ENERGY
JL. SCIENTIA BOULEVARD BLOK U. 02,
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Ash Analysis (Dry Basis)

Property	Units	Basis	Value
SiO ₂	%	DB	46.90
Al ₂ O ₃	%	DB	24.24
Fe ₂ O ₃	%	DB	7.09
CaO	%	DB	6.02
MgO	%	DB	1.66
TiO ₂	%	DB	0.91
Na ₂ O	%	DB	3.90
K ₂ O	%	DB	0.68
Mn ₃ O ₄	%	DB	0.088
P ₂ O ₅	%	DB	0.351
SO ₃	%	DB	7.24
BaO	%	DB	0.010
Undetermined	%	DB	0.91

Signed for and on behalf of
PT. Geoservices


Reza Ferdiansyah
PT. Geoservices Manager

Date : March 12, 2020
Job No. : 01220.00380

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CERTIFICATE OF REPORT OF ANALYSIS

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

Vessel : MV ORIENT UNION
Cargo : COAL
Shipper : PT. TITAN INFRA ENERGY
JL. SCIENTIA BOULEVARD BLOK U. 02,
GRAHA ANABATIC LANTAI 8, SUMMARECON SERPONG,
CURUG SANGERENG, TANGERANG, INDONESIA
Description : BAS 4600 STEAMING COAL
Weight : 77,000 METRIC TONNES
From : MUARA BANYUASIN ANCHORAGE, SOUTH SUMATERA,
INDONESIA
To : JIMAH EAST POWER, PORT DISKON, MALAYSIA
Loading Date : MARCH 06, 2020 UP TO MARCH 10, 2020

NO	LOT	TONNAGE (MT)	GCV		TM		IM		ASH		VM		FC		TS	
			Kcal/Kg	Kcal/Kg	%	%	%	%	%	%	%	%	%	%	%	%
			arb	adb	arb	adb	arb	adb	arb	adb	arb	adb	arb	adb	arb	adb
1	BG. FINACIA 90	7,404.348	4501	5609	31.25	14.33	6.00	7.48	31.82	39.65	30.93	38.54	0.26	0.33		
2	BG. FINACIA 71	7,609.853	4560	5769	32.54	14.66	4.36	5.51	31.73	40.14	31.37	39.69	0.21	0.27		
3	BG. FINACIA 83	7,196.520	4516	5760	32.01	13.28	4.85	6.19	32.40	41.32	30.74	39.21	0.27	0.35		
4	BG. FINACIA 99	7,572.392	4591	5792	32.13	14.38	3.88	4.90	32.88	41.48	31.11	39.24	0.26	0.33		
5	BG. FINACIA 51	7,227.772	4546	5749	31.77	13.71	4.46	5.64	32.34	40.90	31.43	39.75	0.33	0.42		
6	BG. PACIFIC STAR 7801	7,785.511	4564	5905	32.78	13.03	4.15	5.37	31.98	41.37	31.09	40.23	0.22	0.28		
7	BG. PACIFIC STAR 8008	8,601.933	4501	5784	32.42	13.15	5.30	6.81	31.63	40.65	30.65	39.39	0.37	0.47		
8	BG. JAYA AGUNG 02	7,505.819	4608	5795	32.27	14.82	3.56	4.48	33.01	41.51	31.16	39.19	0.26	0.33		
9	BG. PACIFIC STAR 8007	8,823.696	4525	5696	32.29	14.76	4.50	5.67	32.36	40.74	30.84	38.83	0.35	0.44		
10	BG. PACIFIC STAR 7802	7,502.543	4610	5884	32.69	14.08	3.22	4.11	33.22	42.40	30.87	39.41	0.32	0.41		
Cumulative		77,230.387	4551	5774	32.23	14.02	4.44	5.63	32.32	41.01	31.01	39.34	0.29	0.37		

Signed for and on behalf of
PT. Geoservices

Reza Ferdiansyah
PT. GEOSERVICES
PALEMBANG
Coal Lab Manager

Date : March 12, 2020
Job No. : 01220.00380

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CERTIFICATE OF WEIGHT

Consignee : TO ORDER
Cargo Description : BAS 4600 STEAMING COAL
Quantity/Weight Declared : 77,000 METRIC TONNES
Remark : The consignment described above has been loaded into holds of "MV.
Orient Union", whereby the total weight of cargo carried was determined by
draft survey is as follows :
Weight : 77,000 METRIC TONNES
Place of Issue : MUARA BANYUASIN ANCHORAGE, SOUTH SUMATERA,
INDONESIA
Authorised Officer : PT. GEOSERVICES
Name of Marine Surveyor : INDRA M. FIRMANSYAH

Signed for and on behalf of
PT. Geoservices


K. Kentia J. Iriawan
PT. GEOSERVICES
Authorized Signatory

Date : March 12, 2020
Job No. : 01220.00380

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CERTIFICATE OF DRAFT SURVEY REPORT

Vessel : MV. ORIENT UNION
Cargo : COAL
Shipper : BAS 4600 STEAMING COAL
PT. TITAN INFRA ENERGY
Jl. SCIENTIA BOULEVARD BLOK U. 02,
GRAHA ANABATIC LANTAI 8, SUMMARECON SERPONG,
CURUG SANGERENG, TANGERANG, INDONESIA.
Description : BAS 4600 STEAMING COAL
Weight : 77,000 METRIC TONNES
From : MUARA BANYUASIN ANCHORAGE, SOUTH SUMATERA,
INDONESIA
To : JIMAH EAST POWER, PORT DICSKON, MALAYSIA

Date / Time	INITIAL			FINAL		
	March 06, 2020		07.30-08.30	March 10, 2020		01.10-02.40
Draft Reading	Port	Stb.	Mean	Port	Stb.	Mean
Forward	4.29	4.26	4.275	14.40	14.30	14.350
Stern Correction			-0.108			-0.022
Corrected			4.167			14.328
Aft	7.35	7.22	7.285	15.03	14.90	14.965
Stern Correction			0.171			0.035
Corrected			7.456			15.000
Mean Forward & Aft			5.8115			14.664
Midship	5.82	5.60	5.710	14.90	14.70	14.800
Midship Correction			-0.013			-0.003
Corrected			5.697			14.797
Mean of Means			5.75425			14.7305
Quarter Mean			5.706625			14.76375
Corresponding Displacement			33,124.239			94,165.361
Trim by Head / Stern	3.289			0.672		
Trim Correction			-603.651			82.670
Displacement Corrected for Trim			32,520.588			94,248.031
Observed Density	1.020			1.0155		
Density Correction			-158.637			873.518
Displacement Corrected for Density			32,361.951			93,374.513
a. Fuel Oil			857.000			844.000
b. Diesel Oil			128.000			127.000
c. Lubricant Oil			-			-
d. Fresh Water			259.000			207.000
e. Ballast Water			17,300.000			1,378.000
Total Consumable Stores and Ballast			18,544.000			2,556.000
Apparent Constant			566			-
Net Displacement			13,817.951			90,818.513

TOTAL CARGO LOADED ROUNDED TO NEAREST MT = 77,000 MT

Remarks : Keel plate 0.019

Signed for and on behalf of
PT. Geoservices

Kikentyo J. niawan
PT. GEOSERVICES
PALEMBANG Signatory

Date : March 12, 2020
Job No. : 01220.00380

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CERTIFICATE OF ORIGIN

Vessel	: MV. ORIENT UNION
Cargo	: COAL
Shipper	: BAS 4600 STEAMING COAL PT. TITAN INFRA ENERGY JL. SCIENTIA BOULEVARD BLOK U. 02, GRAHA ANABATIC LANTAI 8, SUMMARECON SERPONG, CURUG SANGERENG, TANGERANG, INDONESIA.
Description	: BAS 4600 STEAMING COAL
Weight	: 77,000 METRIC TONNES
From	: MUARA BANYUASIN ANCHORAGE, SOUTH SUMATERA, INDONESIA
To	: JIMAH EAST POWER, PORT DICSKON, MALAYSIA

The undersigned hereby certify that "THE GOODS ARE OF INDONESIAN ORIGIN", produced in South Sumatera, Indonesia.

The inspection was carried out to the best knowledge and this report reflects our findings as at time and place for our inspection only.

Place : Muara Banyuasin Anchorage, South Sumatera, Indonesia

This document is not for custom clearance purposes at destination country.

Signed for and on behalf of
PT. Geoservices

Date : March 12, 2020
Job No. : 01220.00380


Kokentyo Juwawan
PALEMBANG
Authorized Signatory

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HOLD CLEANLINESS INSPECTION CERTIFICATE

THIS IS TO CERTIFY that we have inspection the following cargo holds on board the nominated vessel :

Vessel	: MV. ORIENT UNION
Cargo	: COAL
Shipper	: BAS 4600 STEAMING COAL PT. TITAN INFRA ENERGY JL. SCIENTIA BOULEVARD BLOK U. 02, GRAHA ANABATIC LANTAI 8, SUMMARECON SERPONG, CURUG SANGERENG, TANGERANG, INDONESIA.
Cargo Description	: BAS 4600 STEAMING COAL
Cargo Holds	: NO. 1 UP TO 7 HOLDS
From	: MUARA BANYUASIN ANCHORAGE, SOUTH SUMATERA, INDONESIA
To	: JIMAH EAST POWER, PORT DICSKON, MALAYSIA
Inspection	: We inspected the above mentioned cargo holds prior to the vessel loading and found cargo spaces empty, clean, dry and free from previous cargo, and suitable in all respects to receive the cargo of coal.

Signed for and on behalf of
PT. Geoservices


Kokentyo Juniawan
PT. GEOSERVICES
PALEMBANG Signatory

Date : March 12, 2020
Job No. : 01220.00380

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