

Certificate of Analysis

BEL2612
 RENTECH WP CANADA, ULC
 106 Goodwin St.
 Atikokan, ON P0t 1C0

BEL ID Number:	BEL180074-1	Sample Weight (kg):	5.38
Product / Commodity:	Wood Pellets	Sample Received:	1/9/2018
Sample Designation:	Quarterly Aggregate Sample	Report Date:	1/22/2018
Date Sampled:	10/1/2017 To 12/31/2017	Report Code:	RTK-OPG-1
		Purchase Order #:	1700063

Parameter	As-Received	Dry Basis	Analytical Method	ISO 17025
Total Moisture (%)	4.66		CEN/EN 14774-1	Q
Ash (%)	0.82	0.86	CEN/EN 14775	Q
Volatiles (%)	80.39	84.32	CEN/EN 15148	Q
Fixed Carbon (%)	14.12	14.81	By Difference	
GCV (MJ/Tonne)	19444	20394	CEN/EN 14918	Q
NCV cV (MJ/Tonne)	18142	19142	CEN/EN 14918	Q
NCV cP (MJ/Tonne)	18068	19070	CEN/EN 14918	Q
Carbon (%)	48.55	50.93	CEN/EN 15104	Q
Hydrogen (%)	5.80	6.08	CEN/EN 15104	Q
Nitrogen (%)	0.15	0.16	CEN/EN 15104	Q
Sulfur (%)	0.01	0.01	CEN/EN 15104	Q
Oxygen (%)	40.01	41.96	CEN/EN 15104	Q
Chlorine (%)	0.010	0.010	CEN/EN 15289	S
Fluorine (mg/kg)	< 5.0	< 5.0	CEN/EN 15289	S

Parameter	Oxidizing	Analytical Method	ISO 17025
Shrinkage Starting Temperature - SST (°C)	1060	CEN/TS 15370-1	Q
Deformation Temperature - DT (°C)	1520	CEN/TS 15370-1	Q
Hemispherical Temperature - HT (°C)	> 1550	CEN/TS 15370-1	Q
Flow Temperature - FT (°C)	> 1550	CEN/TS 15370-1	Q

Parameter	Result	Analytical Method	ISO 17025
Bulk Density (kg/m³)	685	CEN/EN 15103	Q
Specific Density (g/cm³)	1.29	CEN/EN 15150	
Mean Pellet Diameter (mm)	6.60	CEN/prEN 16127	Q
Mean Pellet Length (mm)	16.83	CEN/prEN 16127	Q
Pellet Length <5x Diameter (Wt.%)	96.8	CEN/prEN 16127	Q
Pellet Length >7x Diameter (Wt.%)	0.0	CEN/prEN 16127	Q



Prepared By: 
 Christopher Cox - Laboratory Manager

Results shown on this certificate represent only the quantity of sample which was submitted for analysis. BEL does not assume responsibility for selection, representation, and/or sample identifications. BEL is accredited by the International Accreditation Service to ISO 17025. Specific test procedures included in BEL's scope of accreditation are identified with a "Q". Test Parameters performed by our sister laboratory, Technical Laboratory Rotterdam (TLR) are designated with an "S". TLR is an ISO 17025 accredited laboratory by the Dutch Accreditation Council RvA.

Certificate of Analysis

BEL2612
 RENTECH WP CANADA, ULC
 106 Goodwin St.
 Atikokan, ON P0t 1C0

BEL ID Number:	BEL180074-1	Sample Weight (kg):	5.38
Product / Commodity:	Wood Pellets	Sample Received:	1/9/2018
Sample Designation:	Quarterly Aggregate Sample	Report Date:	1/22/2018
Date Sampled:	10/1/2017 To 12/31/2017	Report Code:	RTK-OPG-1
		Purchase Order #:	1700063

	Result	Analytical Method	ISO 17025
Pellet Length 5x to 7x Diameter (Wt.%)	3.2	CEN/prEN 16127	Q
Durability Index	98.8	CEN/EN 15210-1	Q
Fines <3.15 mm (%)	0.10	CEN/EN 15210-1	Q
Extraneous Material	None Observed	Visual Inspection	

Parameter	Weight %	Analytical Method	ISO 17025
PIP <4.00 mm (Rd)	99.84	CEN/prEN 16126/15149-2	Q
PIP <2.00 mm	95.85	CEN/prEN 16126/15149-2	Q
PIP <1.00 mm	65.24	CEN/prEN 16126/15149-2	Q
PIP <0.50 mm	32.51	CEN/prEN 16126/15149-2	Q
PIP <0.10 mm	4.04	CEN/prEN 16126/15149-2	Q

Parameter	Dry Basis	Analytical Method	ISO 17025
Aluminum (Al) mg/kg	155.2	CEN/EN 15297	S
Antimony (Sb) mg/kg	< 0.22	CEN/EN 15297	S
Arsenic (As) mg/kg	0.042	CEN/EN 15297	S
Barium (Ba) mg/kg	21.1	CEN/EN 15297	S
Cadmium (Cd) mg/kg	0.147	CEN/EN 15297	S
Chromium (Cr) mg/kg	< 5.0	CEN/EN 15297	S
Cobalt (Co) mg/kg	< 0.10	CEN/EN 15297	S
Copper (Cu) mg/kg	< 2.3	CEN/EN 15297	S
Iron (Fe) mg/kg	78	CEN/EN 15297	S
Lead (Pb) mg/kg	0.12	CEN/EN 15297	S
Magnesium (Mg) mg/kg	275.1	CEN/EN 15297	S
Manganese (Mn) mg/kg	94.3	CEN/EN 15297	S
Mercury (Hg) mg/kg	< 0.020	CEN/EN 15297	S
Molybdenum (Mo) mg/kg	< 0.6	CEN/EN 15297	S
Nickel (Ni) mg/kg	< 3.0	CEN/EN 15297	S
Potassium (K) mg/kg	760.3	CEN/EN 15297	S



Prepared By: 
 Christopher Cox - Laboratory Manager

Results shown on this certificate represent only the quantity of sample which was submitted for analysis. BEL does not assume responsibility for selection, representation, and/or sample identifications. BEL is accredited by the International Accreditation Service to ISO 17025. Specific test procedures included in BEL's scope of accreditation are identified with a "Q". Test Parameters performed by our sister laboratory, Technical Laboratory Rotterdam (TLR) are designated with an "S". TLR is an ISO 17025 accredited laboratory by the Dutch Accreditation Council RvA.

Certificate of Analysis

BEL2612
 RENTECH WP CANADA, ULC
 106 Goodwin St.
 Atikokan, ON P0t 1C0

BEL ID Number:	BEL180074-1	Sample Weight (kg):	5.38
Product / Commodity:	Wood Pellets	Sample Received:	1/9/2018
Sample Designation:	Quarterly Aggregate Sample	Report Date:	1/22/2018
Date Sampled:	10/1/2017 To 12/31/2017	Report Code:	RTK-OPG-1
		Purchase Order #:	1700063

	Dry Basis	Analytical Method	ISO 17025
Selenium (Se) mg/kg	< 1.00	CEN/EN 15297	S
Sodium (Na) mg/kg	< 100.0	CEN/EN 15297	S
Tellurium (Te) mg/kg	< 1.0	CEN/EN 15297	S
Tin (Sn) mg/kg	0.6	CEN/EN 15297	S
Titanium (Ti) mg/kg	3.7	CEN/EN 15297	S
Vanadium (V) mg/kg	< 1.0	CEN/EN 15297	S
Zinc (Zn) mg/kg	20.8	CEN/EN 15297	S

Parameter	Oxides in Ash Wt%	Analytical Method	ISO 17025
Silicon Dioxide (SiO ₂)	23.32	CEN/EN 15290	S
Aluminum Oxide (Al ₂ O ₃)	3.96	CEN/EN 15290	S
Iron Oxide (Fe ₂ O ₃)	2.18	CEN/EN 15290	S
Calcium Oxide (CaO)	39.64	CEN/EN 15290	S
Magnesium Oxide (MgO)	7.22	CEN/EN 15290	S
Sodium Oxide (Na ₂ O)	1.89	CEN/EN 15290	S
Potassium Oxide (K ₂ O)	11.15	CEN/EN 15290	S
Titanium Dioxide (TiO ₂)	0.21	CEN/EN 15290	S
Phosphorus Pentoxide (P ₂ O ₅)	2.94	CEN/EN 15290	S
Sulfur Trioxide (SO ₃)	1.88	CEN/EN 15290	S
Manganese Dioxide (MnO ₂)	2.30	CEN/EN 15290	S
Barium Oxide (BaO)	0.37	CEN/EN 15290	S
Zinc Oxide (ZnO)	0.46	CEN/EN 15290	S
Vanadium Pentoxide (V ₂ O ₅)	< 0.01	CEN/EN 15290	S
Strontium Oxide (SrO)	0.20	CEN/EN 15290	S

Parameter	Dry Basis	Analytical Method	ISO 17025
Benzo-a-pyrene (mg/kg)	< 0.01		S



Prepared By: 
 Christopher Cox - Laboratory Manager

Results shown on this certificate represent only the quantity of sample which was submitted for analysis. BEL does not assume responsibility for selection, representation, and/or sample identifications. BEL is accredited by the International Accreditation Service to ISO 17025. Specific test procedures included in BEL's scope of accreditation are identified with a "Q". Test Parameters performed by our sister laboratory, Technical Laboratory Rotterdam (TLR) are designated with an "S". TLR is an ISO 17025 accredited laboratory by the Dutch Accreditation Council RvA.

Certificate of Analysis

BEL2612
RENTECH WP CANADA, ULC
106 Goodwin St.
Atikokan, ON P0t 1C0

BEL ID Number:	BEL180074-1	Sample Weight (kg):	5.38
Product / Commodity:	Wood Pellets	Sample Received:	1/9/2018
Sample Designation:	Quarterly Aggregate Sample	Report Date:	1/22/2018
Date Sampled:	10/1/2017 To 12/31/2017	Report Code:	RTK-OPG-1
		Purchase Order #:	1700063

Parameter	Dry Basis	Analytical Method	ISO 17025
Pentachlorophenol (mg/kg)	< 0.01		S



Prepared By: 
Christopher Cox - Laboratory Manager

Results shown on this certificate represent only the quantity of sample which was submitted for analysis. BEL does not assume responsibility for selection, representation, and/or sample identifications. BEL is accredited by the International Accreditation Service to ISO 17025. Specific test procedures included in BEL's scope of accreditation are identified with a "Q". Test Parameters performed by our sister laboratory, Technical Laboratory Rotterdam (TLR) are designated with an "S". TLR is an ISO 17025 accredited laboratory by the Dutch Accreditation Council RvA.