

**ALS GROUP LLC**

Mongol Nekhmel Building, 2nd khoroo  
Chinggis Avenue, Khan-Uul District  
Ulaanbaatar, Mongolia  
Tel +976 70 007667



**CERTIFICATE OF ANALYSIS**  
**231115-TT**

**CLIENT:** Tavantolgoi LLC  
**ADDRESS:** Umnugovi, Tsogttsetsii  
Tsagaan owoo bag  
Tavantolgoi LLC  
**ATTN:** Javkhlanbayar.B  
**PROJECT NO.** xxx  
**LAB. JOB NO.** 231115-TT  
**NO. SAMPLES:** 1  
**Notes/Comments:** xxx

**SAMPLES RECEIVED:** 15/Sep/23  
**INSTRUCTIONS RECEIVED:** 15/Sep/23  
**DATE OF REPORT:** 16/Sep/23  
**STATUS OF REPORT:** FINAL  
**ANALYSIS COMPLETE:** 16/Sep/23  
**PREPARATION CODE:** CRUSH-01, 02; MILL-01  
**ANALYSIS CODE:** TM, MOIS, ASH, VOL, TSUL,  
GCV, CSN, CKIN

**APPROVED BY:** Laboratory Manager



Quality Manager

**CHECKED BY:** Chief Chemist

*These test results are representative only of the sample received in the laboratory.*

STANDARD METHOD		GB/T 211	GB/T 212	GB/T 212	GB/T 212	ISO 19579	GB/T 213	GB/T 212	GB/T 212	GB/T 212	GB/T 212	ISO 19579	GB/T 213
LAB NO.	SAMPLE NO.	AS RECEIVED BASIS						AIR DRIED BASIS					
		Total Moisture (TM)	Ash (ASH)	Volatile Matter (VOL)	Fixed Carbon (FC)	Total Sulphur (TSUL)	Gross Calorific Value (GCV)	Moisture (MOIS)	Ash (ASH)	Volatile Matter (VOL)	Fixed Carbon (FC)	Total Sulphur (TSUL)	Gross Calorific Value (GCV)
		%						kcal/kg					
1	Coking coal with medium volatile matter	2.14	12.91	22.06	62.89	0.57	7258	0.47	13.13	22.43	63.97	0.58	7382

**QUALITY ASSURANCE/QUALITY CONTROL DATA**

STDALSWS-30/21	ASH	VOL	GCV	TSUL
Certified Value	10.70	20.35	7695	0.606
Standard Deviation	0.059	0.204	17	0.0136
Unit	%	%	kcal/kg	%
Analyzed value	10.67	20.32	7696	0.610

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**CERTIFICATE OF ANALYSIS**  
**23I115-TT**

**CLIENT:** Tavantolgoi LLC  
**ADDRESS:** Umnugovi, Tsogttsetsii  
 Tsagaan ovoo bag  
 Tavantolgoi LLC  
**ATTN:** Javkhlanbayar.B  
**PROJECT NO.** xxx  
**LAB. JOB NO.** 23I115-TT  
**NO. SAMPLES:** 1  
**Notes/Comments:** xxx

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LAB NO.	STANDARD METHOD	SAMPLE NO.	GB/T 212	GB/T 212	GB/T 212	ISO 19579	GB/T 213	GB/T 212	GB/T 212	ISO 19579	GB/T 213	GB/T 5448	GB/T 5447		
			DRY BASIS					DRY, ASH-FREE BASIS					Crucible Swelling Number (CSN)	Coal Caking Index (CKIN)	
			Ash (ASH)	Volatile Matter (VOL)	Fixed Carbon (FC)	Total Sulphur (TSUL)	Gross Calorific Value (GCV)	Volatile Matter (VOL)	Fixed Carbon (FC)	Total Sulphur (TSUL)	Gross Calorific Value (GCV)	5:1		3:3	
1		Coking coal with medium volatile matter	13.19	22.54	64.27	0.58	7417	25.96	74.04	0.67	8544	6.0	70	-	