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# НҮҮРСНИЙ ОВООЛГЫН ҮЗҮҮЛЭЛТ

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№ ETT\_SP\_TC



ISO 45001:2018



ISO 9001:2015



ISO 14001:2015



НҮҮРСНИЙ ОВООЛГЫН ЧАНАРЫН ДУНДАЖ ҮЗҮҮЛЭЛТ

<p><b>НИЙТ ЧИЙГ (ar)</b></p> <p><b>6.0%</b></p> <p>(-3.0; +3.0)</p>	<p><b>ҮНСЛЭГ (db)</b></p> <p><b>21.5%</b></p> <p>(-5.0; +5.0)</p>	<p><b>ДЭГДЭМХИЙ (daf)</b></p> <p><b>≥34.0%</b></p>	
<p><b>НИЙТ ХҮХЭР (ad)</b></p> <p><b>≤1.5%</b></p>	<p><b>ИЛЧЛЭГ (ar)</b></p> <p><b>5500</b></p> <p>(-500; +700)</p>	<p><b>ЖИ ИНДЕКС</b></p> <p><b>&lt;5</b></p>	<p><b>НҮҮРСНИЙ ХЭМЖЭЭ</b></p> <p><b>128.0</b></p> <p>МЯН.ТН</p>

НҮҮРСНИЙ ОВООЛГЫН ШИНЖИЛГЭЭНИЙ ҮР ДҮН

ALS GROUP LLC  
 Mongol National Building, 2nd floor  
 Chinggis Avenue, Khan-Uul District  
 Ulaanbaatar, Mongolia  
 Tel: +976 70 007667



CERTIFICATE OF ANALYSIS  
 23E34, 49, 68, 89, 118, 23F146, G102-TT

CLIENT: Erdenes Tavantolgoi JSC  
 ADDRESS: Finance Center, Jigjidjav-8  
 1st khoroo, Chinggisai District  
 Ulaanbaatar, Mongolia  
 ATTN: Galtzaya.B  
 PROJECT NO.: xxx  
 LAB. JOB NO.: 23E34, 49, 68, 89, 118, 23F146, G102-TT  
 NO. SAMPLES: 26  
 Notes/Comments: xxx

SAMPLES RECEIVED: 8/05/2023-18/07/2023  
 INSTRUCTIONS RECEIVED: 8/05/2023-18/07/2023  
 DATE OF REPORT: 9/05/2023-19/07/2023  
 STATUS OF REPORT: FINAL  
 ANALYSIS COMPLETE: 9/05/2023-19/07/2023  
 PREPARATION CODE: CRUSH-01, 02; MILL-01  
 ANALYSIS CODE: 1.1\_COKING COAL  
 2.1\_THERMAL COAL  
 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.

LAB NO.	SAMPLE NO.	AS RECEIVED BASIS						AIR DRIED BASIS					
		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
		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	ESS-22-59TR-1A-502	6.06	18.88	22.66	52.40	1.94	6005	1.47	19.81	23.77	54.96	2.04	6298
2	ESS-22-59TR-1B-503	6.12	19.82	21.57	52.49	0.58	5992	1.67	20.76	22.59	54.98	0.61	6277
3	ETT_SP_30005-2A	6.26	21.96	22.52	49.27	0.65	5628	2.91	22.74	23.32	51.03	0.67	5829
4	ETT_SP_30005-2B	5.69	17.31	24.43	52.56	0.86	6099	1.90	18.01	25.42	54.68	0.89	6345
5	ETT_SP_30005-2C	3.75	17.54	24.73	53.97	0.77	6432	1.53	17.95	25.30	55.22	0.79	6581
6	ETT_SP_30005-2D	6.14	17.75	23.89	52.23	0.75	6021	2.34	18.47	24.85	54.34	0.78	6265
7	ETT_SP_30005-2E	5.34	19.31	23.70	51.64	0.57	6051	2.01	19.99	24.53	53.46	0.59	6263
8	ETT_SP_30005-2F	6.04	19.54	23.11	51.31	0.48	5910	2.29	20.32	24.03	53.36	0.50	6146
9	ETT_SP_30005-3A	3.23	26.69	22.33	47.74	1.11	5520	1.84	27.08	22.66	48.43	1.13	5600
10	ETT_SP_30005-3B	2.16	20.78	24.74	52.33	0.72		1.16	20.99	24.99	52.86	0.73	
11	ETT_SP_30005-3C	2.39	21.39	24.56	51.66	0.95		1.23	21.64	24.86	52.27	0.96	
12	ETT_SP_30005-3D	2.48	19.81	24.77	52.95	0.87		1.09	20.09	25.12	53.70	0.88	
13	ETT_SP_30005-3E	2.69	20.09	24.91	52.31	0.79		1.29	20.38	25.27	53.06	0.80	
14	ETT_SP_30005-3F	3.08	22.21	24.62	50.08	1.10		1.31	22.62	25.07	51.00	1.12	
15	ETT_SP_30005-4A	3.08	18.23	24.69	54.00	0.53	6566	1.36	18.55	25.13	54.96	0.54	6682
16	ETT_SP_30005-4B	1.40	20.62	24.67	53.31	0.61	6516	0.84	20.74	24.81	53.61	0.61	6553
17	ETT_SP_30005-4C	1.22	20.69	24.48	53.62	0.89	6540	0.69	20.80	24.61	53.90	0.89	6574

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.  
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**CERTIFICATE OF ANALYSIS**  
23E34, 49, 68, 89, 118, 23F146, G102-TT

**CLIENT:** Erdenes Tavantolgoi JSC  
**ADDRESS:** Finance Center, Jlgjiddav-8  
1st khoroо, Chingeltei District  
Ulaanbaatar, Mongolia  
**ATTN:** Galtzaya.B  
**PROJECT NO.** xxx  
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**NO. SAMPLES:** 26  
**Notes/Comments:** xxx

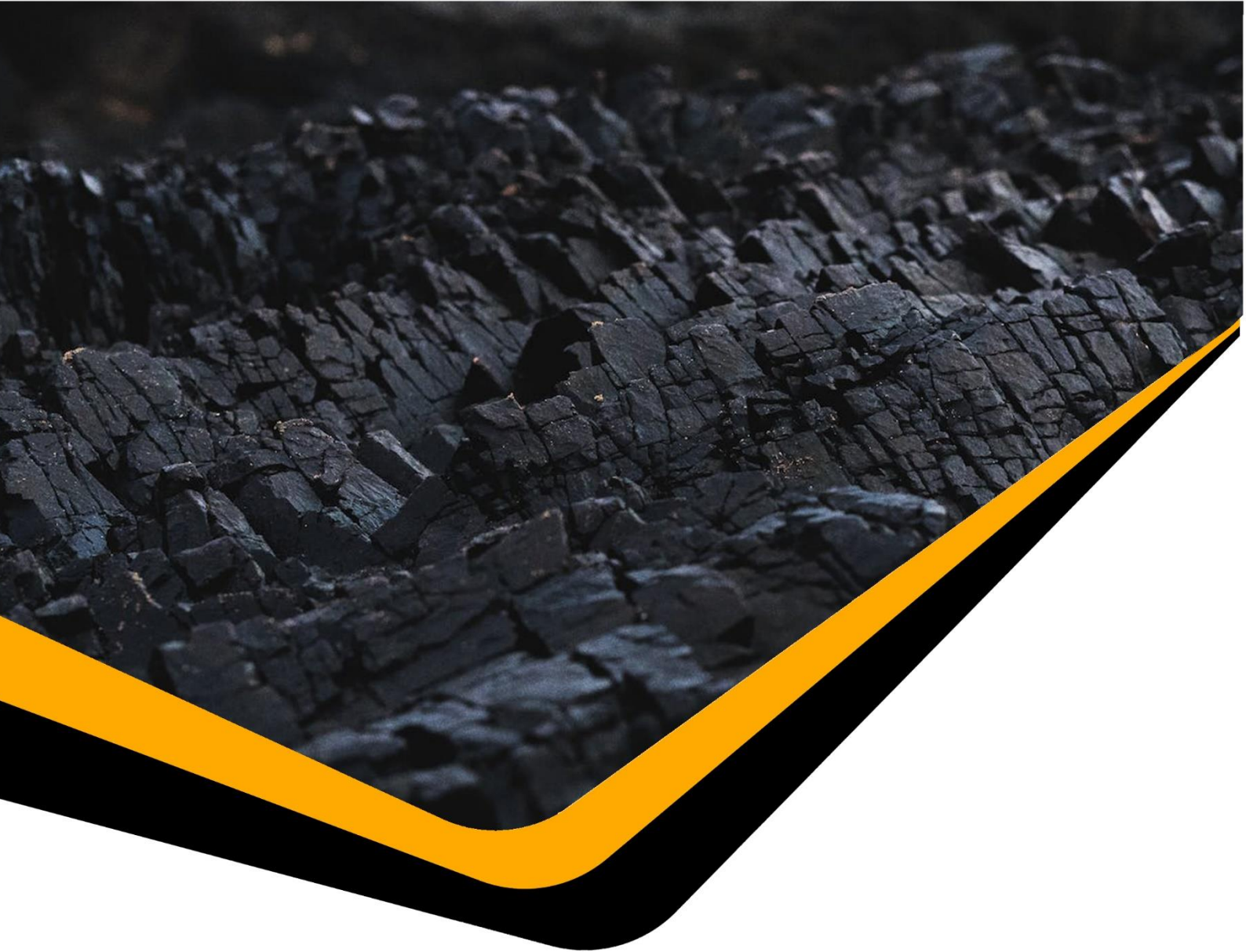
**SAMPLES RECEIVED:** 8/05/2023-18/07/2023  
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2.1\_THERMAL COAL  
TM, MOIS, ASH, VOL, TSUL  
GCV, CSN, CKN

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

LAB NO.	STANDARD METHOD	SAMPLE NO.	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
			%		kcal/kg		%		kcal/kg					
1	ESS-22-S9TR-1A-502		20.10	24.12	55.78	2.07	6392	30.19	69.81	2.58	8000	-	0	
2	ESS-22-S9TR-1B-503		21.11	22.98	55.91	0.62	6383	29.13	70.87	0.78	8092	-	0	
3	ETT_SP_30005-2A		23.42	24.02	52.56	0.69	6004	31.37	68.63	0.90	7840	-	0	
4	ETT_SP_30005-2B		18.36	25.91	55.74	0.91	6467	31.73	68.27	1.11	7921	-	12	
5	ETT_SP_30005-2C		18.22	25.70	56.08	0.80	6683	31.43	68.57	0.98	8173	75	-	
6	ETT_SP_30005-2D		18.91	25.45	55.64	0.80	6415	31.38	68.62	0.98	7911	-	-	
7	ETT_SP_30005-2E		20.40	25.04	54.56	0.61	6392	31.46	68.54	0.76	8031	-	-	
8	ETT_SP_30005-2F		20.80	24.59	54.61	0.52	6290	31.05	68.95	0.65	7942	-	-	
9	ETT_SP_30005-3A		27.58	23.08	49.34	1.15	5704	31.87	68.13	1.59	7877	-	-	
10	ETT_SP_30005-3B		21.24	25.28	53.48	0.74	6320	32.10	67.90	0.94	8000	1.0	8	
11	ETT_SP_30005-3C		21.91	25.17	52.92	0.97	6323	32.23	67.77	1.24	8000	1.0	12	
12	ETT_SP_30005-3D		20.31	25.40	54.30	0.89	6323	31.87	68.13	1.12	8000	1.5	14	
13	ETT_SP_30005-3E		20.65	25.60	53.75	0.81	6326	32.26	67.74	1.02	8000	1.5	15	
14	ETT_SP_30005-3F		22.92	25.40	51.68	1.13	6326	32.96	67.04	1.47	8000	1.5	14	
15	ETT_SP_30005-4A		18.80	25.48	55.72	0.55	6775	31.38	68.62	0.68	8344	-	-	
16	ETT_SP_30005-4B		20.92	25.02	54.07	0.62	6609	31.63	68.37	0.78	8357	-	-	
17	ETT_SP_30005-4C		20.94	24.78	54.28	0.90	6620	31.34	68.66	1.14	8374	-	-	

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Чингэлтэй дүүрэг,  
Улаанбаатар хот

