
COAL QUALITY SPECIFICATION

Nº ETT_SP_TC



ISO 45001:2018



ISO 9001:2015



ISO 14001:2015



COAL STOCKPILE QUALITY (Weighted average)

Total moisture TM (ar) 6.0% (-3.0; +3.0)	Ash (db) 20.5% (-5.0; +5.0)	Volatile matter VM (daf) 34.0% (max)
Total sulphur S (ad) ≤1.5% max	Calorific value CV (ar) 5500 (-700; +700)	Quantity 320.0 Thousand tons

The following is the result of the laboratory tests.

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



CERTIFICATE OF ANALYSIS
 23E18-TT-23H59-TT

CLIENT: Erdenes Tavantolgoi JSC
ADDRESS: Finance Center, Jigjidjav-8
 1st khoroo, Chingeltei District
 Ulaanbaatar, Mongolia
ATTN: Galtzaya.B
PROJECT NO. xxx
LAB. JOB NO. 23E18-TT-23H59-TT
NO. SAMPLES: 67
Notes/Comments: xxx

SAMPLES RECEIVED: 08/08/2023-4/05/2023
INSTRUCTIONS RECEIVED: 08/08/2023-4/05/2023
DATE OF REPORT: 09/08/2023-5/05/2023
STATUS OF REPORT: FINAL
ANALYSIS COMPLETE: 09/08/2023-5/05/2023
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	ISO 19579	GB/T 213	Total Moisture (TM)	Ash (ASH)	Volatile Matter (VOL)	Fixed Carbon (FC)
		%											%			
		kcal/kg											kcal/kg			
1	WSS-23-6-1tr-1A-106	6.69	14.08	25.13	54.11	0.34	6217	2.21	14.76	26.33	56.70	0.36	6515			
2	WSS-23-6-1tr-1B-122	3.80	17.33	25.42	53.45	0.39	6339	1.18	17.80	26.11	54.91	0.40	6511			
3	WSS-23-6-1tr-1C-123	3.38	16.95	25.63	54.04	0.46	6466	1.05	17.36	26.25	55.34	0.47	6622			
4	ETT_SP_30009-1E	2.77	18.75	25.90	52.58	0.91	6324	0.85	19.12	26.42	53.62	0.93	6449			
5	ETT_SP_30009-1F	5.25	17.84	24.74	52.17	0.44	6158	1.20	18.60	25.80	54.40	0.46	6421			
6	ETT_SP_30009-1G	2.59	17.49	22.10	57.82	0.66	6675	0.96	17.78	22.47	58.79	0.67	6787			
7	ETT_SP_30009-1H	4.98	17.34	19.70	57.98	0.69	6418	1.69	17.94	20.38	59.99	0.72	6640			
8	WSS-23-6-1tr-2A-136	6.06	17.68	24.62	51.65	0.49	6127	2.15	18.42	25.64	53.79	0.51	6382			
9	WSS-23-6-1tr-2B-147	4.79	15.54	26.21	53.46	0.40	6331	1.19	16.13	27.20	55.48	0.42	6570			
10	WSS-23-6-1tr-2C-148	4.85	16.96	25.54	52.65	0.39	6148	1.11	17.63	26.54	54.72	0.41	6389			
11	WSS-23-6-1tr-2D-154	5.59	16.73	25.19	52.48	0.49	6223	1.33	17.49	26.33	54.85	0.51	6504			
12	ETT_SP_30009-2E	4.24	21.63	23.43	50.69	0.42	5922	1.31	22.30	24.15	52.24	0.43	6103			
13	ETT_SP_30009-2F	4.38	21.49	24.97	49.16	0.41	5784	1.35	22.17	25.76	50.72	0.43	5968			

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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)
		%						%					
14	ETT_SP_30009-2G	3.77	22.55	19.42	54.26	0.60	6013	1.39	23.11	19.90	55.60	0.61	6162
15	ETT_SP_30009-2H	2.39	17.03	20.05	60.53	0.70	6770	1.15	17.24	20.31	61.30	0.71	6856
16	WSS-23-6-1TR-3A-169	4.16	22.56	25.32	47.97	0.93	5814	0.94	23.31	26.17	49.58	0.96	6010
17	WSS-23-6-1TR-3B-170	3.26	18.68	26.13	51.93	0.63	6449	0.68	19.17	26.83	53.32	0.64	6620
18	WSS-23-6-1tr-3C-184	3.27	24.96	23.30	48.47	0.49	5758	0.80	25.60	23.89	49.70	0.50	5905
19	WSS-23-6-1tr-3D-188	3.49	19.59	25.24	51.68	0.68	6295	0.91	20.11	25.92	53.06	0.70	6463
20	ETT_SP_30009-3E	2.70	19.52	26.33	51.45	0.47	6085	0.98	19.86	26.79	52.36	0.48	6193
21	ETT_SP_30009-3F	2.68	23.15	25.43	48.74	0.58	5724	0.97	23.56	25.87	49.59	0.59	5824
22	ETT_SP_30009-3G	1.92	22.68	21.83	53.57	0.58	6331	0.91	22.91	22.06	54.12	0.59	6397
23	ETT_SP_30009-3H	1.85	20.40	23.13	54.63	0.67	6399	1.10	20.55	23.31	55.04	0.68	6447
24	WSS-23-6-1tr-4A-218	6.40	14.48	24.92	54.21	0.35	6280	2.04	15.15	26.08	56.73	0.37	6572
25	WSS-23-6-1tr-4B-229	5.50	19.02	23.59	51.89	1.18							
26	WSS-23-6-1tr-4C-223	3.24	21.48	24.68	50.61	0.40	6016	0.82	19.95	24.74	54.43	1.24	
27	WSS-23-6-1TR-4D-271	4.37	20.03	23.23	52.37	0.66	6132	1.09	20.72	24.02	54.17	0.68	6342
28	ETT_SP_30009-4E	2.90	18.11	25.38	53.61	0.58	6434	0.80	18.50	25.93	54.77	0.59	6573
29	ETT_SP_30009-4F	3.00	18.25	24.47	54.28	0.37	6412	0.82	18.66	25.02	55.50	0.38	6556
30	ETT_SP_30009-4G	1.44	29.74	23.45	45.36	0.61	5501	0.79	29.94	23.61	45.66	0.62	5537
31	WSS-23-6-1TR-5A-329	2.26	14.54	27.27	55.93	0.71	6988	0.73	14.77	27.69	56.81	0.72	7098
32	WSS-23-6-1TR-5B-330	5.72	21.94	22.94	49.40	0.84	5676	1.56	22.91	23.95	51.58	0.87	5927
33	WSS-23-6-1TR-5C-335	9.27	27.71	21.57	41.45	0.69	4631	2.86	29.67	23.09	44.38	0.74	4958
34	ETT_SP_30009-5D	2.59	18.03	24.58	54.80	0.50	6504	0.89	18.34	25.01	55.75	0.50	6618
35	ETT_SP_30009-5E	1.91	21.58	24.92	51.59	0.50	6157	0.97	21.78	25.16	52.09	0.50	6216
36	ETT_SP_30009-5F	5.51	24.78	22.74	46.97	0.72	5558	0.92	25.99	23.85	49.25	0.75	5828
37	ETT_SP_30009-5G	3.82	25.75	21.52	48.91	0.92	5764	0.81	26.56	22.19	50.44	0.95	5945
38	ETT_SP_30009-5H	3.67	21.03	22.30	53.00	0.56	6180	0.89	21.64	22.94	54.53	0.58	6358
39	ETT_SP_30009-6A	1.36	27.03	22.77	48.84	0.67	5787	0.66	27.22	22.93	49.18	0.68	5828
40	ETT_SP_30009-6B	2.26	21.99	25.30	50.46	0.77	6025	0.81	22.32	25.67	51.20	0.78	6115
41	ETT_SP_30009-6C	1.17	25.98	24.69	48.16	2.23	5743	0.87	26.06	24.77	48.31	2.24	5760
42	ETT_SP_30009-6D	1.37	22.69	25.75	50.19	0.74	6060	0.86	22.81	25.88	50.45	0.75	6091
43	ETT_SP_30009-6E	1.43	25.62	24.01	48.94	1.28	5862	0.62	25.83	24.21	49.35	1.29	5911
44	ETT_SP_30009-6F	1.30	20.97	24.87	52.87	0.53	6289	0.92	21.05	24.97	53.07	0.53	6313
45	ETT_SP_30009-6G	1.80	19.11	24.29	54.81	1.10	6538	0.65	19.33	24.57	55.45	1.11	6615
46	ETT_SP_30009-6H	2.05	15.31	23.51	59.13	0.86	6936	0.61	15.54	23.86	60.00	0.87	7038
47	ETT_SP_30010-1A	3.38	19.59	24.11	52.92	0.43	6288	0.90	20.10	24.73	54.27	0.44	6449
48	ETT_SP_30010-1B	3.16	19.43	24.26	53.15	0.58	6361	0.76	19.91	24.86	54.46	0.60	6519
49	ETT_SP_30010-1C	4.02	12.90	27.53	55.55	0.63	6945	0.85	13.32	28.44	57.39	0.65	7174
50	ETT_SP_30010-2A	5.03	17.64	23.04	54.29	0.59	6371	1.12	18.36	23.99	56.52	0.61	6634
51	ETT_SP_30010-2B	3.60	23.95	22.15	50.30	0.60	6078	0.81	24.64	22.79	51.75	0.62	6253
52	ETT_SP_30010-2C	4.01	14.34	25.98	55.67	0.45	6791	1.31	14.74	26.71	57.24	0.46	6982
53	ETT_SP_30010-3A	5.14	17.86	22.84	54.16	0.50	6304	1.18	18.60	23.79	56.43	0.52	6567
54	ETT_SP_30010-3B	5.67	13.13	21.23	59.98	0.78	6799	1.18	13.75	22.23	62.83	0.81	7122
55	ETT_SP_30010-3C	2.84	21.75	24.01	51.40	0.69	6304	0.60	22.25	24.57	52.59	0.71	6450
56	ETT_SP_30010-4A	5.09	20.17	19.46	55.29	0.48	6069	1.41	20.95	20.21	57.43	0.50	6305
57	ETT_SP_30010-4B	3.13	26.21	21.27	49.40	0.70	5755	1.01	26.78	21.73	50.48	0.72	5881

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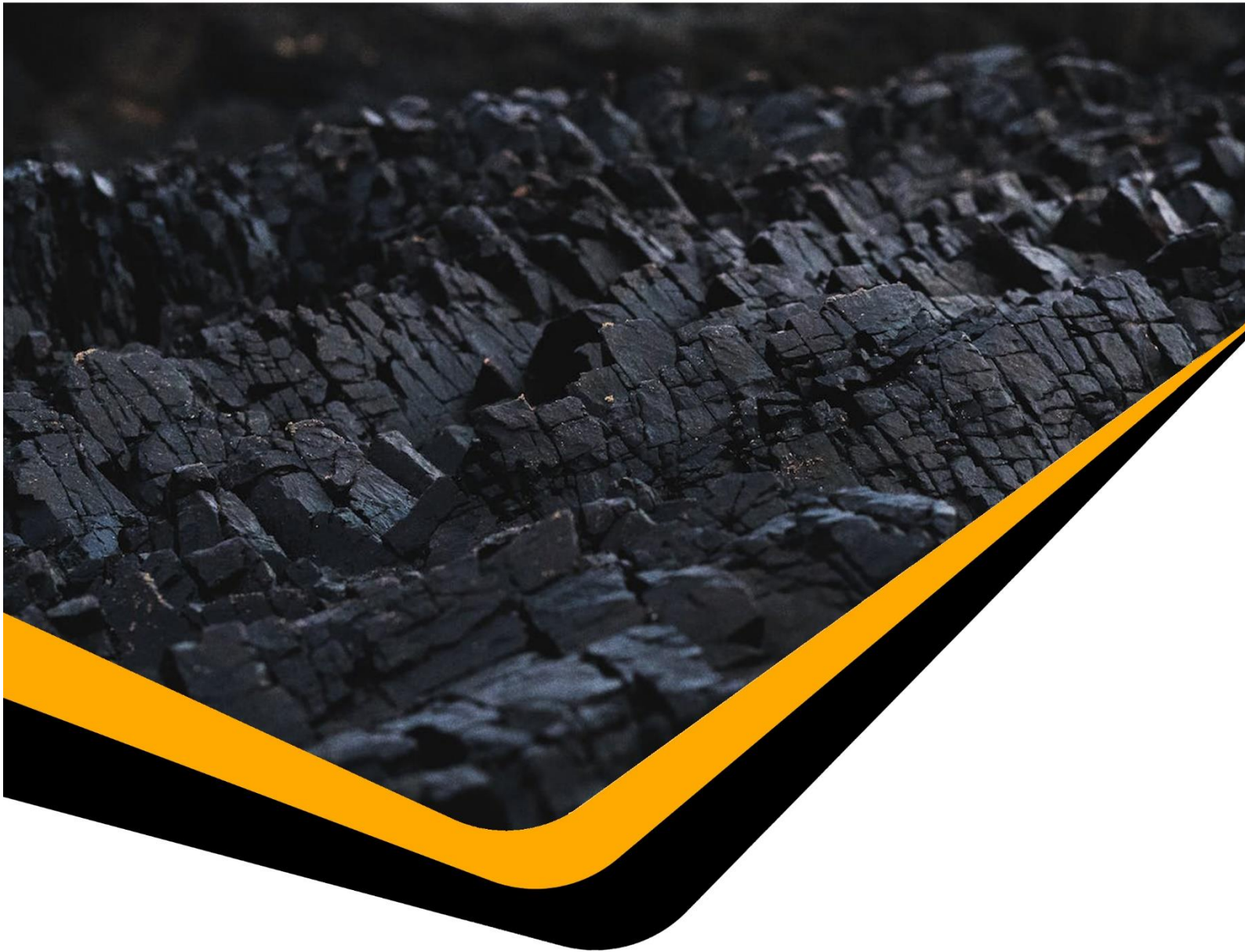
STANDARD METHOD		GB/T 211	GB/T 212	GB/T 212	GB/T 212	ISO 19579	GB/T 213	GB/T 212	GB/T 212	GB/T 212	GB/T 212	ISO 19579	GB/T 213
LAB NO.	SAMPLE NO.	AS RECEIVED BASIS						AIR DRIED BASIS					
		Total Moisture (TM)	Ash (ASH)	Volatile Matter (VOL)	Fixed Carbon (FC)	Total Sulphur (TSUL)	Gross Calorific Value (GCV)	Moisture (MOIS)	Ash (ASH)	Volatile Matter (VOL)	Fixed Carbon (FC)	Total Sulphur (TSUL)	Gross Calorific Value (GCV)
		%						%					
58	ETT_SP_30010-4C	3.89	18.84	24.50	52.77	0.86	6394	0.79	19.45	25.29	54.47	0.88	6600
59	ETT_SP_30010-5A	3.44	25.32	20.80	50.44	0.68	5808	1.15	25.92	21.30	51.63	0.69	5946
60	ETT_SP_30010-5B	2.78	23.74	22.44	51.05	0.74	6121	0.90	24.19	22.87	52.03	0.75	6239
61	ETT_SP_30010-T-5C	4.06	24.72	22.94	48.28	0.84	5829	1.00	25.51	23.67	49.82	0.86	6015
62	ETT_SP_30009-T-6A	2.67	26.41	22.55	48.36	1.47	5820	0.61	26.97	23.03	49.39	1.50	5944
63	ETT_SP_30009-T-6B	3.39	24.75	22.86	49.00	1.30	5868	0.67	25.45	23.50	50.38	1.34	6033
64	ETT_SP_30009-T-6C	2.05	22.69	23.55	51.72	0.88	6257	0.63	23.01	23.89	52.47	0.89	6347
65	ETT_SP_30009-T-7A	2.25	18.36	23.00	56.39	0.69	6651	0.91	18.61	23.31	57.16	0.70	6742
66	ETT_SP_30009-T-7B	2.01	21.72	23.05	53.23	0.69	6335	0.91	21.96	23.30	53.82	0.69	6406
67	ETT_SP_30009-T-7C	1.81	19.78	21.99	56.42	0.79	6583	0.90	19.97	22.19	56.94	0.80	6644

QUALITY ASSURANCE/QUALITY CONTROL DATA

STDALSWS-23/20	ASH	VOL	GCV	TSUL
Certified Value	10.35	18.16	7673	0.616
Standard Deviation	0.15	0.16	17	0.017
Unit	%	%	kcal/kg	%
Analyzed value	10.86	18.24	7660	0.621

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