ERDENES TAVANTOLGOI

# COAL QUALITY SPECIFICATION

№ ETT_SP_100

ISO 45001:2018

ISO 9001:2015

ISO 14001:2015

## COAL STOCKPILES QUALITY (weighted average)

| TOTAL MOISTURE (ar) | ASH (db) | VOLATILE MATTER (daf) |
|---|---|---|
| 2.3% | 20.1% | 32.5% |
| (-1.0; +1.5) | (-5.0; +5.0) | (-2.5; +1.5) |
| **TOTAL SULPHUR (db)** | **G INDEX** | **QUANTITY** |
| 1.1 | 78.0 | 128.0 |
| (-0.4; +0.4) | (-15.0; +10.0) | THOUSAND TONS |

THE FOLLOWING IS THE RESULT OF THE LABORATORY TESTS

ALS GROUP LLC
Mongol Nekhmel Building, 2nd khoroo
Chinggis Avenue, Khan-Uul District
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**CERTIFICATE OF ANALYSIS**
**23I72; 23I122; 23I205; 23I224; 23J31;23J52; 23J82; 23J176; 23J234; 23J243-TT**

**CLIENT:** Erdenes Tavan Tolgoi JSC

**ADDRESS:** Finance Center, Jigjidjav-8
1st khoroo, Chingeltei District
Ulaanbaatar, Mongolia

**ATTN:** Munkhtuul.G

**PROJECT NO.** xxx

**LAB. JOB NO.** 23I72; 23I122; 23I205; 23I224; 23J31;23J52; 23J82; 23J176; 23J234; 23J243-TT

**NO. SAMPLES:** 25

**Notes/Comments:** xxx

**SAMPLES RECEIVED:** 30/Oct-9/Sep/2023
**INSTRUCTIONS RECEIVED:** 30/Oct-9/Sep/2023
**DATE OF REPORT:** 31/Oct-10/Sep/2023
**STATUS OF REPORT:** FINAL
**ANALYSIS COMPLETE:** 31/Oct-10/Sep/2023
**PREPARATION CODE:** CRUSH-01, 02; MILL-01
**ANALYSIS CODE:** 1_COKING COAL, CSN TM, ASH, MOIS, VOL, TSUL, 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 212 | GB/T 212 | GB/T 212 | GB/T 212 | ISO 19579 | GB/T 212 | GB/T 212 | GB/T 212 | ISO 19579 | GB/T 212 | GB/T 212 | ISO 19579 | GB/T 5448 | GB/T 5447 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AS RECEIVED BASIS | | | | | AIR DRIED BASIS | | | | | DRY BASIS | | | | DRY, ASH-FREE BASIS | | | | | |
| LAB NO. | SAMPLE NO. | Total Moisture (TM) | Ash (ASH) | Volatile Matter (VOL) | Fixed Carbon (FC) | Total Sulphur (TSUL) | Moisture (MOIS) | Ash (ASH) | Volatile Matter (VOL) | Fixed Carbon (FC) | Total Sulphur (TSUL) | Ash (ASH) | Volatile Matter (VOL) | Fixed Carbon (FC) | Total Sulphur (TSUL) | Volatile Matter (VOL) | Fixed Carbon (FC) | Total Sulphur (TSUL) | Crucible Swelling Number (CSN) | Coal Caking Index (CKIN) | |
| | | % | | | | | | | | | | | | | | | | | | 5:1 | 3:3 |
| 1 | ETT_SP_10075-1A | 1.37 | 19.12 | 26.02 | 53.50 | 0.81 | 0.49 | 19.29 | 26.25 | 53.97 | 0.82 | 19.38 | 26.38 | 54.24 | 0.83 | 32.72 | 67.28 | 1.02 | 6.5 | 82 | - |
| 2 | ETT_SP_10075-1B | 1.49 | 20.07 | 25.85 | 52.59 | 1.04 | 0.75 | 20.22 | 26.04 | 52.99 | 1.05 | 20.37 | 26.24 | 53.39 | 1.06 | 32.95 | 67.05 | 1.33 | 6.5 | 78 | - |
| 3 | ETT_SP_10075-1C | 2.45 | 19.59 | 24.94 | 53.02 | 1.12 | 0.98 | 19.89 | 25.31 | 53.82 | 1.14 | 20.08 | 25.56 | 54.35 | 1.15 | 31.99 | 68.01 | 1.44 | 6.0 | 68 | - |
| 4 | ETT_SP_10075-1D | 1.92 | 22.79 | 25.02 | 50.26 | 1.16 | 0.73 | 23.07 | 25.33 | 50.87 | 1.17 | 23.24 | 25.51 | 51.25 | 1.18 | 33.24 | 66.76 | 1.54 | 6.5 | 74 | - |
| 5 | ETT_SP_10075-1E | 1.80 | 22.84 | 24.63 | 50.74 | 0.91 | 0.66 | 23.10 | 24.91 | 51.33 | 0.92 | 23.26 | 25.08 | 51.67 | 0.93 | 32.68 | 67.32 | 1.21 | 6.5 | 78 | - |
| 6 | ETT_SP_10075-2A | 2.30 | 22.56 | 23.94 | 51.20 | 0.68 | 0.79 | 22.91 | 24.31 | 51.99 | 0.69 | 23.09 | 24.50 | 52.41 | 0.70 | 31.86 | 68.14 | 0.91 | 6.0 | 73 | - |
| 7 | ETT_SP_10075-2B | 2.20 | 20.88 | 24.44 | 52.47 | 0.65 | 0.76 | 21.19 | 24.80 | 53.25 | 0.66 | 21.35 | 24.99 | 53.65 | 0.67 | 31.78 | 68.22 | 0.85 | 6.0 | 74 | - |
| 8 | ETT_SP_10075-2C | 2.06 | 20.46 | 24.72 | 52.75 | 0.78 | 0.71 | 20.75 | 25.06 | 53.48 | 0.79 | 20.90 | 25.24 | 53.86 | 0.80 | 31.91 | 68.09 | 1.01 | 6.0 | 77 | - |
| 9 | ETT_SP_10075-2D | 2.13 | 23.26 | 24.05 | 50.56 | 0.65 | 0.76 | 23.59 | 24.39 | 51.27 | 0.66 | 23.77 | 24.57 | 51.66 | 0.66 | 32.23 | 67.77 | 0.87 | 6.5 | 78 | - |
| 10 | ETT_SP_10075-2E | 1.96 | 24.48 | 23.70 | 49.85 | 0.58 | 0.76 | 24.78 | 23.99 | 50.46 | 0.59 | 24.97 | 24.18 | 50.85 | 0.59 | 32.23 | 67.77 | 0.79 | 6.5 | 75 | - |
| 11 | ETT_SP_10075-3A | 1.38 | 20.61 | 25.98 | 52.03 | 1.06 | 0.60 | 20.77 | 26.18 | 52.44 | 1.07 | 20.90 | 26.34 | 52.76 | 1.08 | 33.30 | 66.70 | 1.36 | 6.5 | 81 | - |
| 12 | ETT_SP_10075-3B | 1.69 | 19.53 | 26.46 | 52.32 | 1.23 | 0.68 | 19.73 | 26.73 | 52.86 | 1.24 | 19.86 | 26.92 | 53.22 | 1.25 | 33.59 | 66.41 | 1.56 | 6.5 | 80 | - |
| 13 | ETT_SP_10075-3C | 2.32 | 18.59 | 27.03 | 52.06 | 1.36 | 0.83 | 18.87 | 27.44 | 52.85 | 1.39 | 19.03 | 27.67 | 53.29 | 1.40 | 34.18 | 65.82 | 1.73 | 6.5 | 85 | - |
| 14 | ETT_SP_10075-3D | 2.92 | 22.78 | 25.50 | 48.80 | 1.41 | 0.74 | 23.29 | 26.07 | 49.90 | 1.44 | 23.46 | 26.27 | 50.27 | 1.45 | 34.32 | 65.68 | 1.90 | 6.5 | 77 | - |
| 15 | ETT_SP_10075-3F | 2.75 | 18.91 | 26.57 | 51.77 | 1.44 | 0.79 | 19.29 | 27.11 | 52.82 | 1.47 | 19.44 | 27.33 | 53.24 | 1.48 | 33.92 | 66.08 | 1.83 | 6.5 | 81 | - |
| 16 | ETT_SP_10075-4A | 2.98 | 23.72 | 24.79 | 48.51 | 1.07 | 0.66 | 24.28 | 25.39 | 49.67 | 1.10 | 24.45 | 25.56 | 50.00 | 1.11 | 33.82 | 66.18 | 1.46 | 6.0 | 75 | - |
| 17 | ETT_SP_10075-4B | 2.82 | 19.50 | 25.53 | 52.15 | 0.85 | 0.62 | 19.94 | 26.11 | 53.33 | 0.87 | 20.06 | 26.28 | 53.66 | 0.87 | 32.87 | 67.13 | 1.09 | 6.5 | 81 | - |
| 18 | ETT_SP_10075-4C | 3.15 | 17.25 | 26.66 | 52.94 | 0.93 | 0.67 | 17.69 | 27.34 | 54.30 | 0.95 | 17.81 | 27.52 | 54.66 | 0.96 | 33.49 | 66.51 | 1.16 | 6.5 | 86 | - |
| 19 | ETT_SP_10075-4D | 2.23 | 17.61 | 26.25 | 53.91 | 1.87 | 0.65 | 17.90 | 26.68 | 54.78 | 1.90 | 18.02 | 26.85 | 55.13 | 1.91 | 32.75 | 67.25 | 2.33 | 6.5 | 85 | - |
| 20 | ETT_SP_10075-4E | 3.22 | 15.11 | 26.42 | 55.25 | 0.97 | 0.62 | 15.52 | 27.13 | 56.73 | 0.99 | 15.61 | 27.30 | 57.08 | 1.00 | 32.35 | 67.65 | 1.19 | 6.5 | 85 | - |
| 21 | ETT_SP_10075-5A | 2.24 | 20.15 | 26.42 | 51.18 | 1.20 | 0.46 | 20.52 | 26.90 | 52.12 | 1.22 | 20.62 | 27.03 | 52.36 | 1.22 | 34.04 | 65.96 | 1.54 | 6.5 | 82 | - |
| 22 | ETT_SP_10075-5B | 2.29 | 21.33 | 25.83 | 50.55 | 1.22 | 0.44 | 21.73 | 26.32 | 51.51 | 1.24 | 21.83 | 26.43 | 51.74 | 1.25 | 33.81 | 66.19 | 1.59 | 6.5 | 81 | - |
| 23 | ETT_SP_10075-5C | 2.47 | 23.89 | 25.24 | 48.40 | 1.23 | 0.40 | 24.40 | 25.78 | 49.42 | 1.25 | 24.50 | 25.88 | 49.62 | 1.26 | 34.28 | 65.72 | 1.67 | 6.5 | 77 | - |
| 24 | ETT_SP_10075-5D | 3.12 | 20.89 | 25.82 | 50.17 | 1.07 | 0.42 | 21.47 | 26.54 | 51.57 | 1.10 | 21.57 | 26.65 | 51.79 | 1.10 | 33.98 | 66.02 | 1.41 | 6.5 | 80 | - |
| 25 | ETT_SP_10075-5E | 2.76 | 20.35 | 26.29 | 50.61 | 1.28 | 0.52 | 20.82 | 26.89 | 51.77 | 1.31 | 20.93 | 27.03 | 52.04 | 1.31 | 34.19 | 65.81 | 1.66 | 6.5 | 80 | - |

**QUALITY ASSURANCE/QUALITY CONTROL DATA**

| STDALSWS-30/21 | ASH | VOL | TSUL |
|---|---|---|---|
| Certified Value | 10.70 | 20.35 | 0.606 |
| Standard Deviation | 0.059 | 0.264 | 0.0136 |
| Unit | % | % | % |
| Analyzed value | 10.67 | 20.33 | 0.606 |

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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